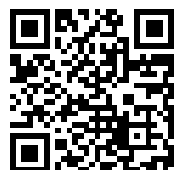

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ON THE
VARIOUS APPLICATIONS
OF
Anastatic Printing
AND
PAPYROGRAPHY.

LONDON,
D. BOGUE,
FLEET STREET,
1849.

47. 144.





ON THE VARIOUS APPLICATIONS
OF
ANASTATIC PRINTING
AND
PAPYROGRAPHY.

With Illustrative Examples

By

PHILIP H. DE LA MOTTE.

LONDON,
DAVID BOGUE,

1849.



Anastatic Printing

AND

PAPYROGRAPHY.

ON THE VARIOUS APPLICATIONS OF ANASTATIC PRINTING.

Anastatic Printing is a peculiar process discovered a few years since in Germany, by which any design made on paper with an oily material, is transferred to a plate of zinc or other metal. From the impression so transferred, any number of copies can be taken on paper by the same process as in ordinary zincography or lithography.

The original design on paper, from which the zinc plate is to receive its im-

pression, may be produced either by printing (from types, copperplate, wood, stone, &c) or by the manual process of writing or drawing. The only requisite is, that the vehicle for this design be of an oleaginous nature.

The general nature of the Anastatic process was explained by Mr. Faraday, in a lecture delivered to the Royal Institution on April 25th 1845. A report of this lecture will be found in the *Athenæum* of May 3rd of the same year. Many new modifications of the art have since been discovered, and it has been thought desirable to publish a small collection of examples in order to shew the variety of useful purposes to which it may be applied.

In transferring letter-press or engravings by the Anastatic process, the operation varies according to the age, and consequent dryness, of the original impression. When

the object to be transferred has been printed only a few weeks or months, so that the ink still retains a portion of its oily ingredients, the process is a very simple one. But when the impression has been made several years, and the ink has become thoroughly dry, the operation is more complicated. We will speak first of

I. THE RE-PRINTING OF OLD LETTER-PRESS OR ENGRAVINGS.

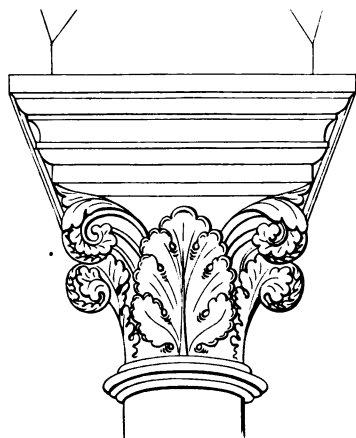
It is this branch of the process, the *invigoration* or resurrection of ancient and expiring products of the press, which has given rise to the name of Anastatic printing.

It was at first expected that the restoration of old letter-press, and the reprinting of exact fac-similes of typographic rarities, would form the most important and useful department of this art. It seemed to offer to the book collector the means of supplying the deficient portions of imperfect copies, and of diffusing to any extent the knowledge which

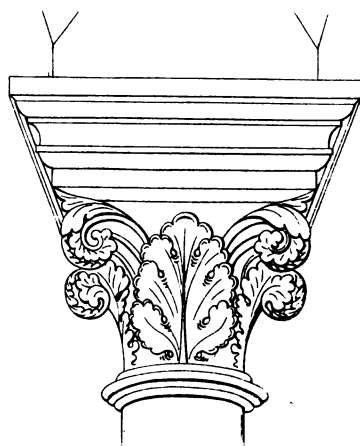
is now locked up in scarce or unique tracts. These expectations however have not as yet been realized. The complicated chemical process necessary to revive ancient letter-press and to transfer it from the paper to a plate of zinc, is uncertain in its results, and sometimes destroys an original without producing a copy. We will therefore pass on to other anastatic operations of more general utility.

2. THE RE-PRINTING OF NEW LETTER-PRESS OR ENGRAVINGS.

When the ink of letter-press or engravings retains sufficient softness to set off, under pressure, on to a piece of blank paper, there is no difficulty in making a perfect transfer, and in striking off impressions which the most practised eye can scarcely distinguish from the original. It is needless to remark that this discovery supplies a power which requires the restraint of the law to prevent its misapplication, but when used for legitimate purposes, it offers the four follow-



Printed from a Copper Plate.



Printed from an Anastatic transfer of the above.

ing advantages. To exhibit at the same time an example of the process, the next page has been printed from type, and by comparing it with the page following, the identity of the anastatic transfer will at once be seen.

Wood-engravings also may be transferred with the same facility as letterpress, and with equally successful results, as the example before us will shew.



ADVANTAGES OF ANASTATIC PRINTING.

a. THE SAVING IN WEAR AND TEAR OF TYPES.

By the anastatic process, the wear and tear of types may be reduced almost to a nonentity, for when the type is set up, it is only necessary to pull from it a single impression, which will serve as the fruitful parent of thousands of anastatic offspring.

b. THE SAVING IN THE WEIGHT AND COST OF STEREOTYPE.

When large editions are required, it has long been the practice to avoid the wear of type, by casting stereotype plates; these plates however are not only very heavy, but the process of making them is complicated, tedious, and costly. But the transfer of the letter-press to an anastatic plate is performed speedily and cheaply, and the plates themselves are equally durable, and far less bulky and weighty than stereotype.

c. THE SAVING IN TIME.

In some cases, especially in newspaper printing, there is not only a large edition of the letter-press required, but the utmost speed is essential in its production. The most elaborate machinery has of late years been employed with this object, but a greater rapidity of printing is still a desideratum. Now it is evident that by the anastatic process we are enabled to transfer any number of impressions of a newspaper, and thus within a few minutes after the paper is ready for printing, any number of presses might be set to work, to reproduce it in duplicate.

d. THE SAVING IN WEAR AND TEAR OF PLATES.

Engraved copper plates deteriorate very rapidly in printing, and are sometimes rendered useless after a few hundred impressions have been taken. This evil may indeed be avoided by the use of steel engravings; but these are very costly; and also by means of electrotype casts, which however, are tedious to make, and consequently expensive. But by the anastatic process we are enabled to transfer the early impressions of a copper plate, and to multiply them indefinitely, without injury to the original engraving. The two following examples will shew the close agreement between a line engraving, and an anastatic copy. See *Plate I.*

(This page is an Anastatic transfer.)

7

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3. MULTIPLYING THE SAME DESIGN ON ONE

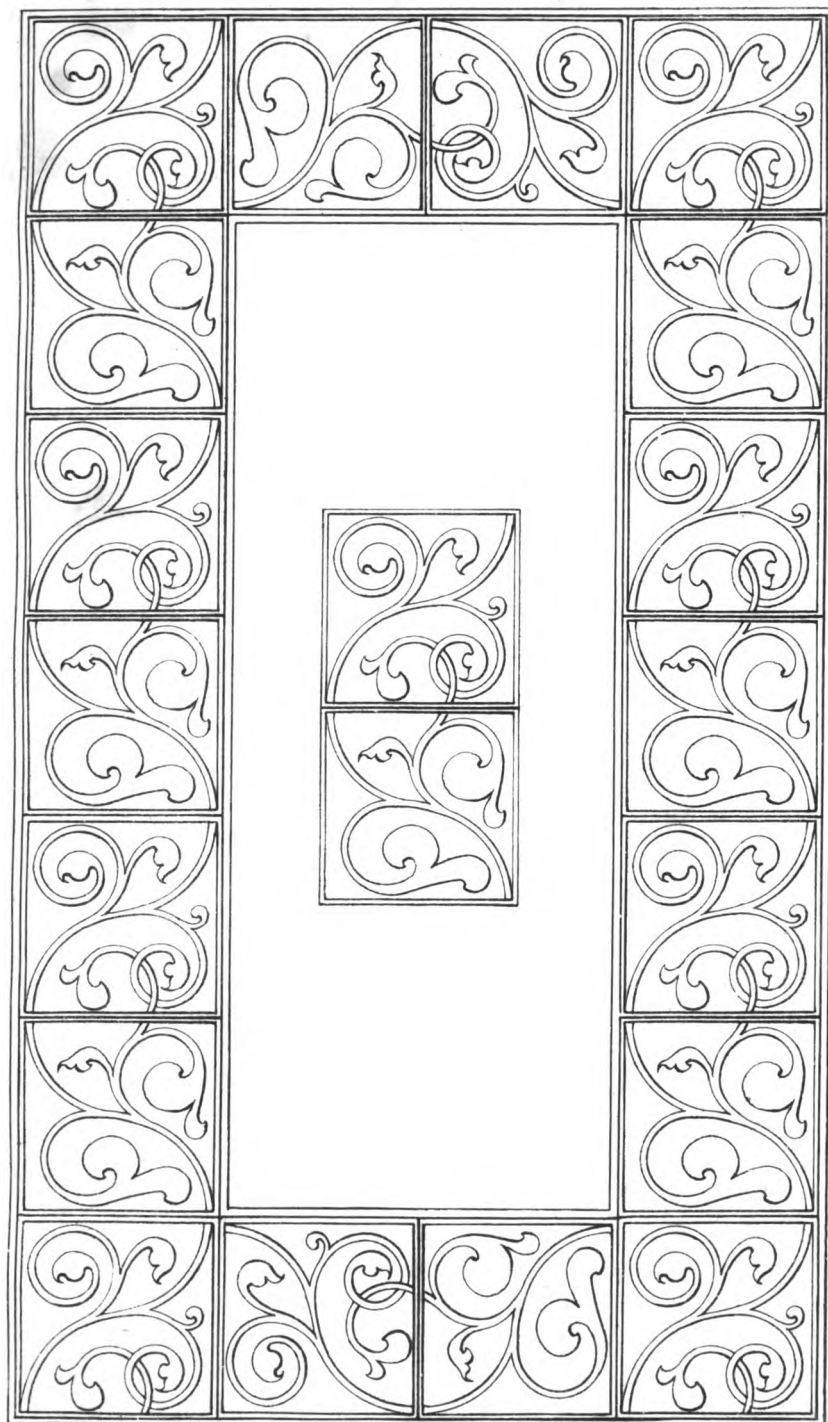
SHEET OF PAPER.

There are numerous instances in the practical and ornamental arts where it is desirable to repeat the same design many times on a single sheet of paper. This object is effected with the greatest ease by the anastatic printer, who has only to lay down a number of duplicate designs side by side on the plate of zinc, arranged according to the purpose intended. See the following plate, N^o 2.

4. INTRODUCING ALTERATIONS INTO SUCCESSIVE

IMPROVEMENTS OF A DESIGN.

It is often desirable to alter or modify a subject after a certain number of impressions have been struck off,



N^o 1



N^o 2.



N^o 1. Before alterations.

N^o 2. After alterations.

by erasing portions of the design and substituting others. In architectural drawings for instance, we wish to judge of the effect of a building with and without a certain feature, or before and after a certain alteration. And in representing upon maps the physical or social statistics of a country it is often advantageous to employ the same geographical outlines in a succession of plates. In such cases the Anastatic process will be found particularly useful, from the ease with which these modifications can be made in the original design. See plate, 3.

5. PAPHYROGRAPHY WITH INK.

The previous part of the subject relates to the transferring and reprinting, by the Anastatic press, of designs which had already been printed on paper by some other process. We have next to consider the means of multiplying copies of original

designs by the same process.

It has before been stated that the material to be used for transfers, must, in all cases, be of a greasy quality. Now in the case of letterpress and engravings, the oily matter is supplied by the printer's ink; but in regard to drawings, there are difficulties in the way of using greasy substances, which are avoided by mixing up the colouring matter, not with grease but with soap. Thus (as is the case also in lithography) the inks used for writing, and the chalks for drawing, are made with a soapy ingredient. In the act of transferring the design to the zinc, an acid is employed, which neutralizes the alkali of the soap, and brings the latter back to its original oily condition.

Anastatic printing was originally applied to the reproduction and multi-

This musical score, labeled "Plate. 4", consists of three systems of staves. Each system includes a single melodic line (likely for voice) and a piano accompaniment consisting of two staves (treble and bass clef). The key signature is D major, indicated by two sharps (F# and C#) at the beginning of each system. The time signature is common time (C). The notation includes various musical symbols such as notes, rests, and dynamic markings. The first system shows a melodic line with a half note rest, followed by a piano accompaniment with a series of chords. The second system features a melodic line with a half note rest, followed by a piano accompaniment with a series of chords. The third system shows a melodic line with a half note rest, followed by a piano accompaniment with a series of chords.

The Lord's Prayer in Arabic

أَبَا الَّذِي فِي السَّمَاوَاتِ . لِيَتَقَدَّسَ اسْمُكَ : لِيَأْتِيَ مَلَكُوتُكَ .
لَكِنَّ مَشِيئَتَكَ عَلَى الْأَرْضِ كَمَا هِيَ فِي السَّمَاءِ : آعِظْنَا الْيَوْمَ
خَيْرَنَا كَمَا تَنَافَا . وَاعْفِرْ لَنَا خَطَايَانَا . كَمَا تَغْفِرُ لِمَنْ آتَاكَ
وَلَا تَهْطِلْنَا الْقَارِبَ . لَكِنَّ خُجَامِنَ الشَّرِّ : لِأَنَّ لَكَ
الْمُلْكُوتَ . وَالْقُوَّةَ وَالْمَجْدَ إِلَى الْأَبَدِ آمِينَ ❖

The Lord's Prayer in Chaldean

ܐܒܐ ܕܝܢ ܕܝܠܐ ܕܝܠܐ ܕܝܠܐ ܕܝܠܐ ܕܝܠܐ ܕܝܠܐ ܕܝܠܐ
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Genesis, Chap. 1 ver 1 & 8. Turkish

ابتدا، الله كوكايد وري يراشدر . ورتي وخال ايدى لجه نك دني
اورزنت فاكلو ايدى وهورك اورزنت الدهن روى دبرنور ايدى .
والله ايدنلعه اولسوه ديك وايدنلعه اولدي . هم الله ايدنلغ كوزل
اولدوغني كوردي والله ايدنلغي قانلقردنه ايدى . والله ايدنلغي
كونه وقانلغي كجه نسيه ايدى واخام وصاج اولنجه اولكي كونه
اولدي . وديني الله ديكه صورك اوتاسنت بر ريق اولسوه كجه
صوري صوزده ايدى . بسه الله رقبى يادى وريبعت السن اولاه
صوري رقبعت اوسنت اولاه صوزده ايدى وبويلم اولدى .

هرز نام

مختصود نطق

plications of impressions only from types or engraved plates. It was afterwards found, that the soapy ink used by lithographers was capable of producing an anastatic transfer; and consequently, that any writing or pen-etching might be multiplied to an indefinite extent by this process. The art thus leads the way to an extensive field of usefulness, of which the following are a few of the most obvious applications.

a. Writing circular letters, music,
oriental characters, &c.

The text of the present work sufficiently shews the perfection with which writing can be transferred, and the close resemblance it bears to genuine M.S. This art is particularly adapted for representing the innumerable characters exhibited in ancient inscriptions and in Chinese, Ethiopic, Arabic, Indian and other exotic alphabets, the cost of which if formed in moveable types would be enormous. See plates, 4 & 7.

b. Pen Etchings.

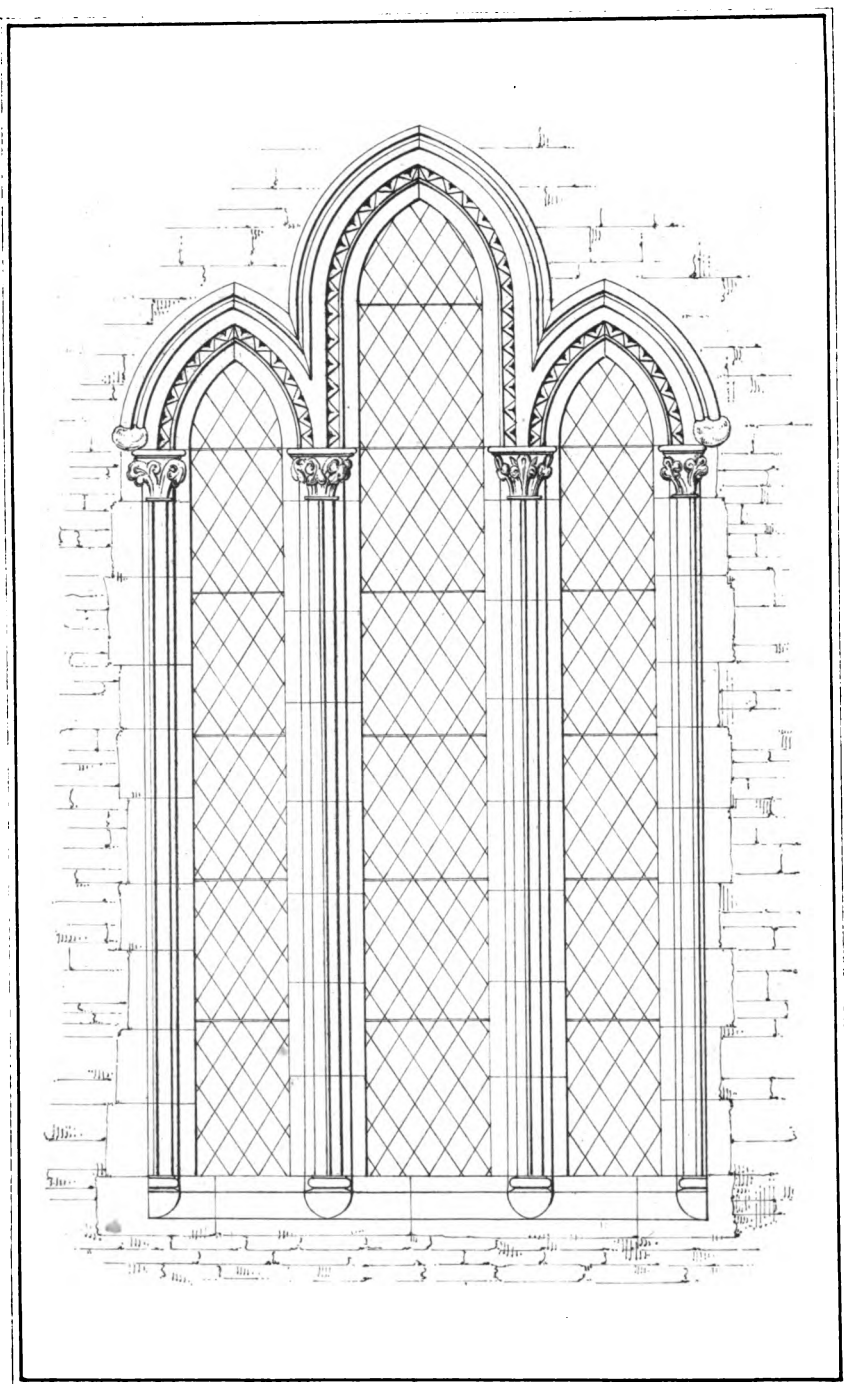
Every description of pen drawings, such as mathematical diagrams, architectural and engineering plans, geographical and railway maps, or picturesque scenery, can be executed as easily on common paper with lithographic as with ordinary ink, and when transferred can be published at once, without the intervention of the engraver. See examples Plates 8, 10, 8 & 13.

c. Tracing fac-similes of Engravings.

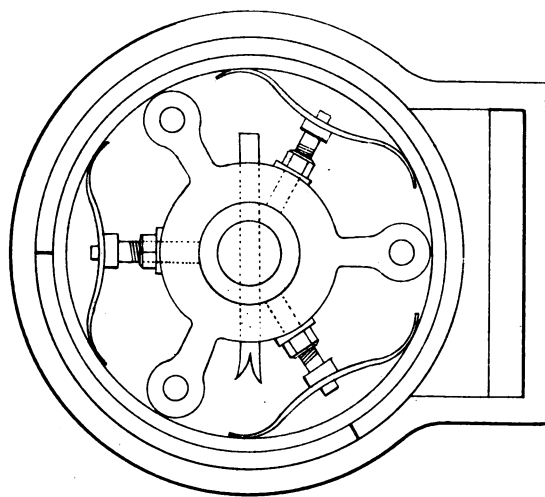
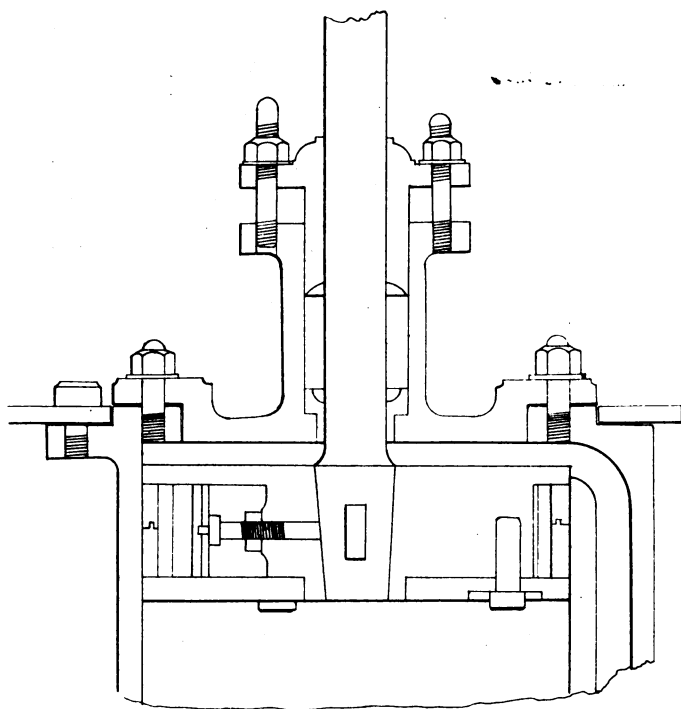
Rare or curious engravings can be traced line for line, with lithographic ink and transparent paper, and reprinted by this method without injuring the originals. See examples. Plate 9.

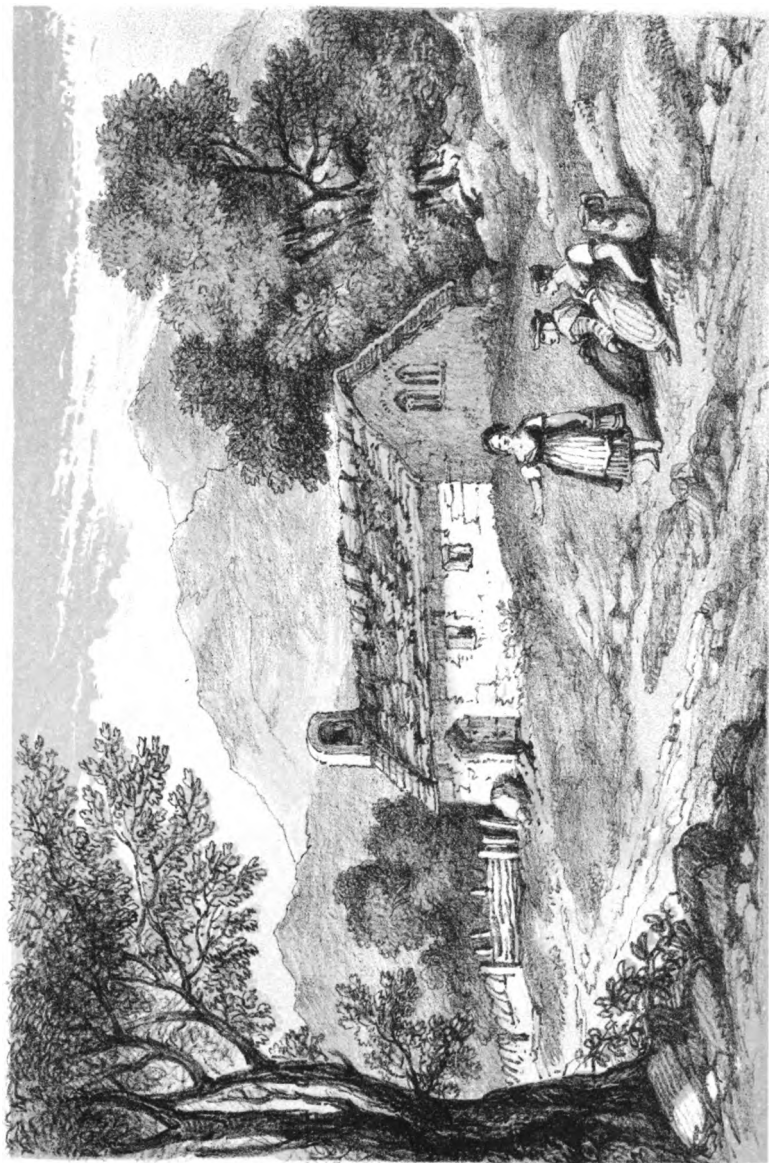
6. PAPHYROGRAPHY WITH CHALK.

This art, which seems adapted to supersede, in many cases, the use of Lithography, is said to have been first discovered by the Bishop of Norwich, about









Buttermere Church, Cumberland.



Scops cristata. (Daud.) var

two years ago, and was also practised by Mr. Jeckell of Wymondham. No notice of these advances in the art was however made public, and Mr. H. E. Strickland of Oxford was quite unaware of them when he arrived independently at the same result. He has published the following account of the process in Sir W. Jardine's "Contributions to Ornithology," No. 2. "It was not until February last that the art of producing anastatic impressions of chalk drawings was attained. (See *Athenæum* of Feb. 12, 1848). My attention being at that time called to the various applications of anastatic printing, I was induced to try the effect of lithographic chalk; and I found that drawings made on paper with this substance could be readily transferred to zinc, and would supply an indefinite number of impressions. These impressions were not only perfect fac-similes of the original drawing,

but were so exceedingly similar in appearance to lithographs, that it required a practised eye to detect the difference.

"This new process, the original design being made on paper, I have distinguished by the name of Papyrography. Although it probably admits of being brought to as great perfection as lithography, yet there is no reason to expect that it will surpass that art. Its advantages are therefore practical rather than artistic; but they are not the less deserving of attention on that ground. These advantages may be thus enumerated:—

"The great size and weight of lithographic stones, or even of zinc plates, are very unfavourable to their general use. A person who wishes to practise lithography or zincography, must either reside in the vicinity of a lithographic printer, or incur great expense in the

packing and transmission of heavy stones or plates.

"But if he adopts the Papyrographic process, he has merely to draw on paper with lithographic chalk instead of a lead pencil, and to send his design by post or otherwise to an anastatic printer, who will speedily strike off the requisite number of impressions.

"If a person is so situated, as to be unable to procure lithographic stones, or to send them to a printer, his only resource, if he wishes to multiply copies of his designs, is to send them to some lithographic artist or engraver, who, however great may be his skill, or however perfect may be the copy which he produces, can never enter into the ideas, or fully realize the spirit of the original designer. No one who has had an opportunity of comparing prints with their

prototypic drawings, when they are the work of different artists, can have failed to be struck by the boldness and originality of the latter. Now by the Papyrographic process, all intermediate assistance is dispensed with, the actual touches of the original artist are transferred to the metallic plate, and are reproduced by the press with unerring fidelity, to an unlimited number of impressions.

Even when an artist possesses a knowledge of the lithographic art, and the requisite facilities for practising it, he still lies under the inconvenience of being obliged to reverse his drawings, in order that they may assume their true aspect when printed. Those who have never tried it, are little aware of the difficulty of drawing backwards—a difficulty which has deterred many artists from the pursuit of lithography. The

Papyrographic process is entirely free from that objection; for the drawing being made direct on the paper becomes reversed by being transferred to the zinc, and the impressions taken from the latter are consequently direct, as in the original.

It is thus evident that Papyrography has great practical advantages from its ease and simplicity, which render it attainable by any person who can use a pencil. A traveller who wishes to preserve for publication the sketches which he may make in foreign regions, is enabled by the mere substitution of lithographic chalk for plumbago, to reprint, without further trouble, the actual drawings made in the field, in all their freshness and originality. I may refer, for examples of the Papyrographic art, to the views of Rodriguez, Plates III.* and IV.* of the History of the Dodo, by D.^r Melville and myself, just published; also to the coloured plate

of the Dodo, Plate III. of the same work.

"Papyrography seems to be more especially adapted for landscapes and for such other objects as admit of a bold style of drawing. It is not, however, unsuited to other subjects, and the present work contains some examples of its use for the illustration of ornithology. As these are the first experiments of the kind which have been made, they must not be severely criticised, but should be regarded rather as guides to further improvements than as being perfect in themselves. See Plates, 6 & 12.

"The artist, who is disposed to try his hand at Papyrography, should endeavour to give to his drawing the effect of a good lithograph. A lithographic stone, properly prepared, presents a hard level surface, apparently smooth to the touch, but not so smooth as to be glossy; for it really consists of small conical elevations. The

crayon used in drawing on the stone, touches
 the summits of these elevations, producing
 on each a small black dot—the aggregation
 of which dots causes the fine soft
 tint which is characteristic of lithography.
 Now, the surface of paper consists, not of
vertical prominences, but of horizontal fibres,
 which receive the impression of the
 pencil; and hence, a drawing on paper,
 when examined by a lens, presents an
 aggregate not of dots as in a lithograph,
 but of short irregular lines. This discrepancy
 of surface in the two materials, has not
 yet been overcome by art, though it seems
 likely, that by pressing damp paper against
 a grained stone, or by mixing some finely
 powdered ingredient (not calcarious) with
 the fibrous material of the paper, a sur-
 face may be produced which shall pos-
 sess the desired structure. In the mean time
 this object may be in some measure at-

tained, by using paper of a hard fine surface, and by sketching it upon a smooth drawing board, a slate, or other level and unyielding material. The best kind of paper for Papyrography, seems to be good drawing paper, smooth, but not glossy, as in the latter case, the chalk rubs over it, without producing a clear definite stroke. The 'metallic paper' used for note books also answers exceedingly well but care must be taken that no calcarious matter is contained in it, as sometimes happens, for in that case the acids used in transferring will cause effervescence and spoil the drawing).

The best lithographic chalk should be used. it ought to be of considerable hardness, and cut to a fine point. The design may first be sketched with a common pencil, so as to admit of alterations and corrections; for the marks produced with

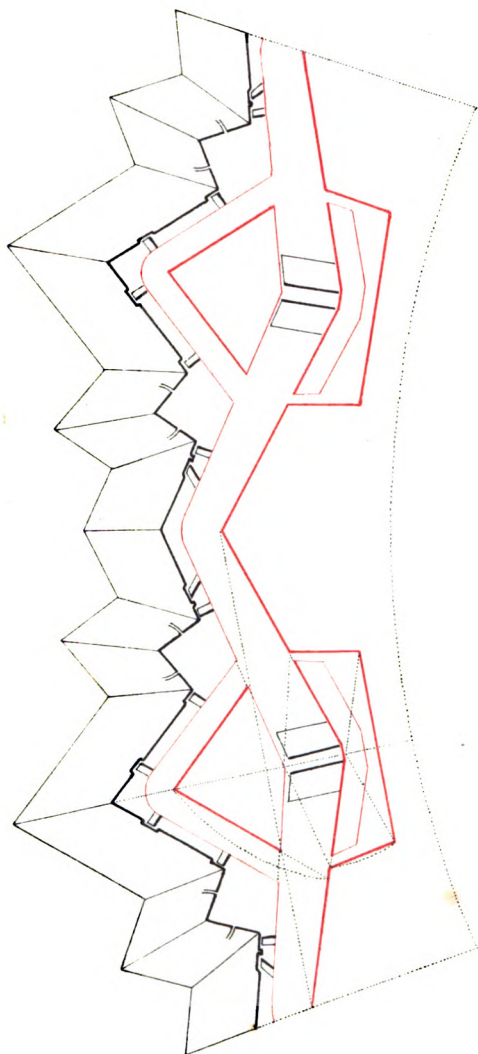
plumbago do not reappear in the anastatic impressions, whereas the lines drawn with lithographic chalk, are nearly indelible. The pencil sketch should not however be erased by Indian rubber or by scratching, as this destroys the surface of the paper. Where large alterations are required, the defective part may be cut out, and a piece of clean paper attached at the back to receive a new outline. In drawing with this chalk, the desired effect should, as far as possible, be produced at once, by means of clear and well defined strokes; for if the darker parts are much and repeatedly worked over, they are apt, in printing, to produce a muddy effect, from the blending together of the minute specks which compose the tint."

"When the drawing is thus prepared, the next step is to get it transferred. Now anastatic printers are very scarce, the art having been only recently introduced into

this country. I may therefore save further trouble by mentioning that Mess^{rs} Joseph Woods & Co. of Barge Yard Chambers, Bucklersbury, are the patentees of Anastatic Printing in this country, and that M^r. Delamotte of Broad St. Oxford, who holds a license under them, is also a skilful performer of this art. M^r. Cowell of Ipswich, and M^r. Truscott of Nelson Square, London; are also licensees. The drawings should, when sent to the printer, have a sheet of smooth paper laid over them, to prevent rubbing, and may be packed either flat, between two boards, or in a roll of sufficient strength to resist compression."

7. PRINTING IN COLOURS.

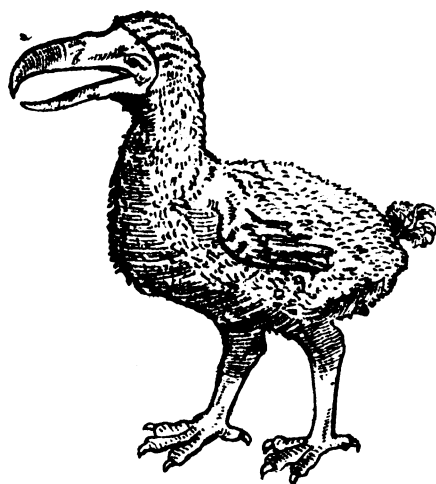
By the use of a succession of plates, one for each colour, the anastatic printer is enabled to publish illuminated designs in great variety, and at far less cost than they can be coloured by hand. See plate 14.



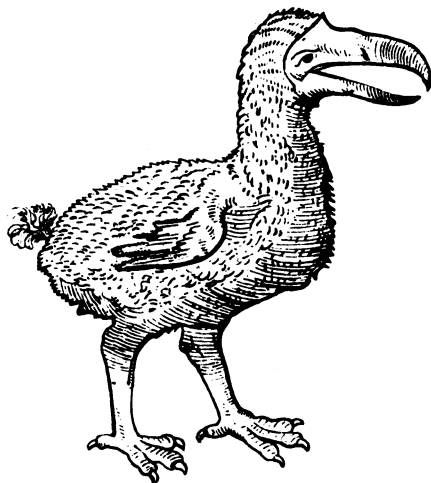
Plan of Fortification, according to the first system of Vauban.



N° 1



N° 2.



N° 3.



N° 1. Steel ball Rubbing from a Woodcut.

N° 2. Impression from a Woodcut.

N° 3. Drawing made with Steel ball.

8. PRINTING HEEL-BALL RUBBINGS.

The substance called "heel-ball" originally used by shoemakers to fill up the cracks in old shoes, has of late been exalted to the more noble office of taking those impressions of monumental brasses which are known by the name of "rubblings". Now this heel-ball being composed chiefly of wax, may be readily transferred to zinc, and we are thus enabled to print and publish exact facsimiles of monumental or other rubbings. See examples. Plate 15.

It may be added that heel-ball, if softened by heat and rolled into sticks, may be used as a crayon with nearly as good effect as lithographic chalk. See Plate 16.

CONCLUSION.

We hope that enough has now been said to prove the great utility of Anastatic printing. Many other applications of it will doubtless suggest themselves.

selves to the ingenious experimentalist,
and we trust that this attempt to exhibit
the capabilities of an art which is
as yet almost in its infancy, will contribute
to that end.

FINIS.

BOUND BY
BONE & SON.
16, FLEET STREET,
LONDON.

