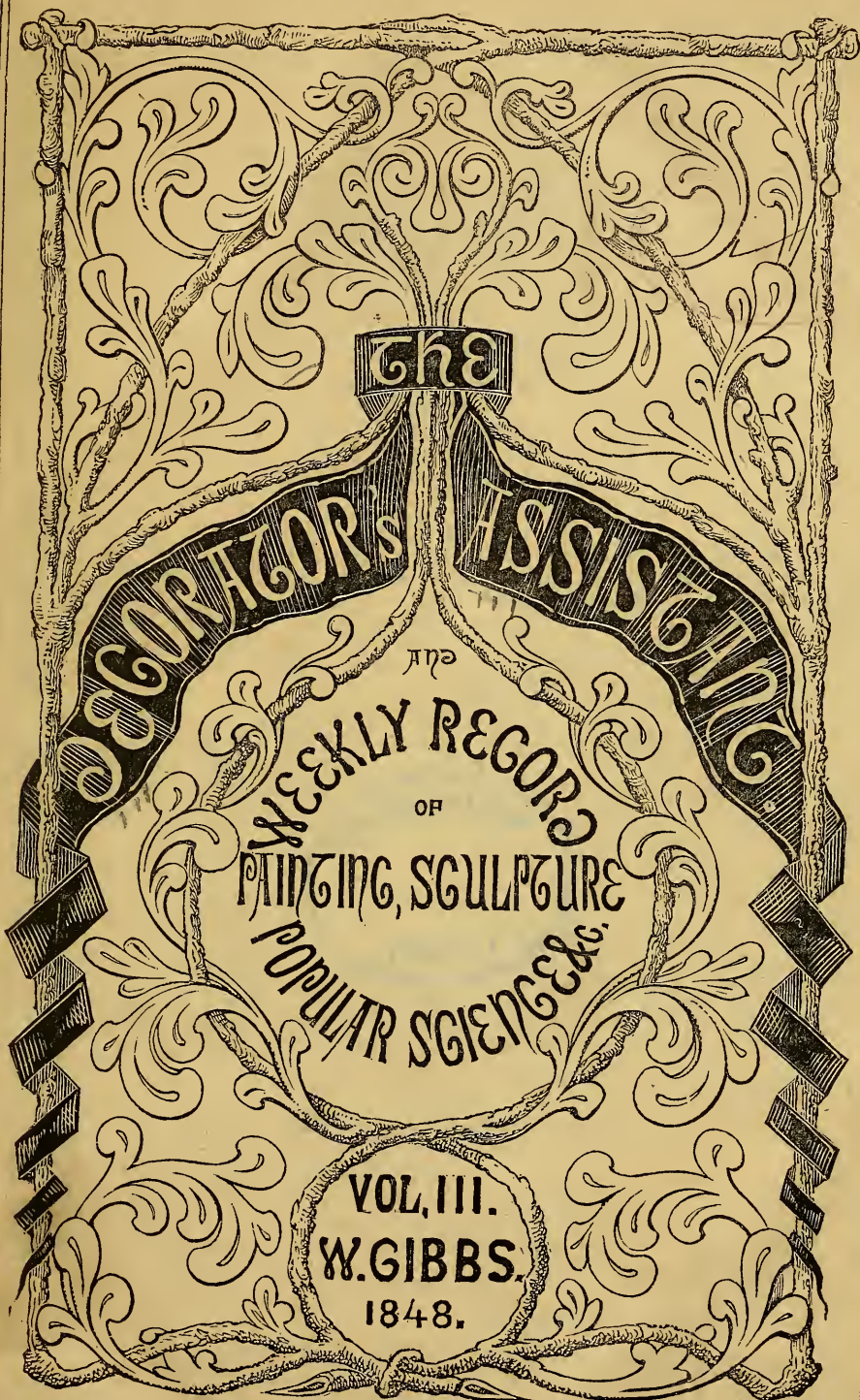






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THE

EDITOR'S

ASSISTANT

AND

WEEKLY RECORD
OF
PRINTING, SCULPTURE

AND
POPULAR SCIENCE &c.

VOL. III.

W. GIBBS.

1848.

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W. GIBBS
1898



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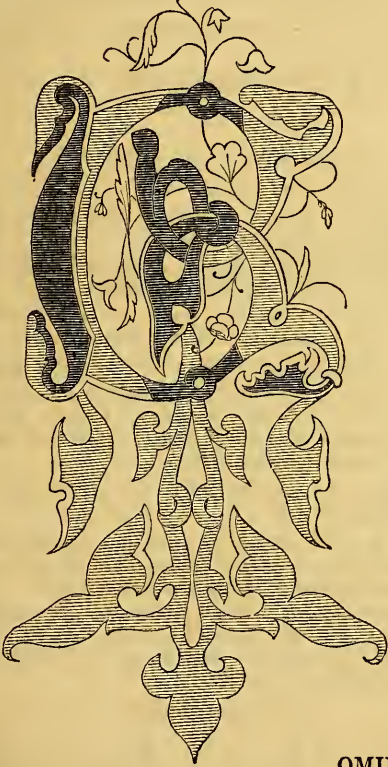
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A DESIGN FOR A CENTRE-PIECE.

THE
Advocates Assistant
 AND
 WEEKLY RECORD OF POPULAR SCIENCE.

French and English Artisans.



OMING

events cast their shadows before—the advice given by the Provisional Government of France to the artisans of that country should not remain unnoticed and unprofited by by the working men of England.

“A deputation of the *employés* in various offices waited on the Provisional Government, to beg that an appeal should be made to the patriotism of employers not to employ fo-

reigners, that the foreigners in the public administrations should be dismissed, that *bureaux de placement* should be immediately abolished, and that they should be authorised to found a society. M. MARRAST replied:—
 “The Government cannot interfere in private affairs; every citizen is, in particular, free to have near him those who merit his confidence. The principles of the Republic did not apply merely to such a territory; they embrace the alliance of nations, like the fraternity of citizens of the same country. One of these principles is liberty, and you would injure it by obliging a citizen to choose the men who are to surround him in one place rather than another. The Provisional Government, therefore, can only express wishes, and hope that *masters will obey sentiments of patriotism*. Any direct intervention of the Government is not possible. *By the simple fact of the proclamation of the Republic you are authorised to constitute a society which should be charged to receive, to recommend, and to place citizens; by this simple measure you would have no need of the intervention of the Government to abolish the bureaux de placement, for it is evident that applications would be made to you in preference. Constitute, therefore, an association, which shall both protect your interests and afford easy means of obtaining information as to the persons whom it is desired to employ.*”

For nearly thirty years, England, besides her extensive importation of foreign goods, has been nearly overran by foreign artisans, who have entered her workshops—divided her wealth—and eaten the bread supplied at her hands, while many a starving Englishman, able and willing to work, has rotted in a jail, or drawn his expiring breath in a union work-house—

That last sad home, where Mis'ry, loath to gaze,
 Reflecting, wav'ring, but by hunger spelled,
 Turns her sad footsteps, enters, and th' final phase
 Of life creeps on, until by Death she's felled.

It is a sad picture to reflect upon, but it is in our power to prevent its repetition, even if we cannot obliterate it from our remembrance;—the advice of the Provisional Government of

France is, we believe, open to all the world—let the artisans of England adopt it; they have now a precedent.

Before we conclude, we beg to offer to the notice of our readers the following extract from MICHELET'S "History of the French Revolution"—leaving them to form their own conclusions:—

"The mixture of two kinds of men [English and French] so dissimilar in our public works is a great injustice, inasmuch as the excessive and confined specialty of the Englishman [his inferiority as a man] tells in his favour as a superiority."

"It is as absurd as cruel to place a Frenchman under the orders of a foreigner who knows little or nothing of our language, and to whom he can neither explain himself nor complain."

"It is immoral to place a sober man under the direction of a thing brutalised by gin. Several of them are never free from intoxication."

"But impious, thrice impious, is it to behold a Frenchman in France under the rod of an Englishman—the son of the Grand Army under a serf whose father made nothing but calico, or something still more trivial."

"The German is a formula, the Englishman a fool. But we can say to the Frenchman, 'Thou art still a man!'"

Railway Sleepers.

WOODEN sleepers for railways, it is well known, possess many disadvantages—they become quickly rotten, and at the best can never sustain for any great length of time much friction and heavy loads, without either being split, crushed, or contracted, each of these circumstances presenting great danger to railway passengers from the increased liability to accidents. We hail, therefore, with gratification, an invention of Mr. FREDERIC BUSSE'S, which, if it fulfil the description given of it, must, when brought into practical use, prove invaluable.

The principle of the invention consists in inclosing a frame of perfectly dry, well-seasoned wood, air-tight, in a substance which is not affected by the influences of wet and air, and which Mr. BUSSE denominates "ter-resin." The result of this proceeding is—as established by practical experience on the Leipsic and Dresden, and the Dresden and Silesia lines—that the wood will not be destroyed at all, or at least, will last considerably longer than usual.

The inventor has taken out no patent; but has, with great liberality, dedicated his plan to the service of the public—at the same time hoping that boards of directors and engineers employing it, will grant him or his assignees, Messrs. Johnson, Cammell and Co., Sheffield, threepence for each laid sleeper. We are afraid, however, that Mr. BUSSE will meet but with very few in England who will so far recognise the validity of a *moral* license as to be inclined to pay him aught but *moral* threepences. Meanwhile we may remark that specimens of the sleepers are to be seen at the offices of the above-named firm; at the "Cyclops" Steel Works, Sheffield; and at 19, Great George-street, Westminster, London.

To Correspondents, &c.

"An Amateur."—Employ saltpetre.

"J. S."—See No. 17, Vol. I.

"Leo."—We will attend to your suggestion shortly;—thanks for the extract.

"C. L. Jones."—Inquire at the office of the Society of Arts, John-street, Adelphi.

"P. P. P."—Such a one-sided view of the matter would be inadmissible to our columns.

"A Subscriber."—Parian marble—not Sienna.

"F. E."—We shall at all times be glad to receive the contributions mentioned in your note. The one sent is now in the engraver's hands and shall be inserted next week.

Received.—"G. M. A.;" "Tyro;" "Regiomontanus;" "R. C."

"Timon."—If you use your eyes you will find them all in their proper places,—as to the arrangement it is as easy for reference as any other.

Communications, Books for Review, Specimens of Invention, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."

NATIONAL ECONOMIC GAS BURNER.—We beg to direct the attention of our readers to a very simple and efficacious gas-burner invented by Paul and Co., of 12, Leather-lane, Holborn, and bearing the above title. Having had one in use for some time at our office, we can bear testimony to its utility and economy; and consider that we are conferring a favour upon such of our readers as employ gas by directing their attention to it. For engravers, artists, &c., it must prove invaluable, as, besides producing a light nearly equal to that of day, it is perfectly shadowless.

Masonry.

WALLING.—In stone walling the bedding joints are usually horizontal, and this should always, indeed, be so when the top of the wall is terminated horizontally. In building bridges, and in the masonry of fence walls upon inclined surfaces, the bedding joints may follow the general direction of the work. The footings of stone walls should be constructed with stones as large as may be, squared and of equal thickness in the same course, and care should be had to place the broadest bed downwards. The vertical joints of an upper course are never to be allowed to fall over those below, that is, they must be made as it is called to *break joint*. If the walls of the superstructure be thin, the stones composing the foundation may be disposed so that their length may reach across each course from one side of the wall to the other. When the walls are thick, and there is difficulty in procuring stones long enough to reach across the foundations, every second stone in the course may be a whole stone in breadth, and each interval may consist of two stones of equal breadth, that is, placing header and stretcher alternately. If those stones cannot conveniently be had, from one side of the wall lay a header and stretcher alternately, and from the other side another series of stones in the same manner, so that the length of each header may be two-thirds, and the breadth of each stretcher one-third of the breadth of the wall, and so that the back of each header may come in contact with the back of an opposite stretcher, and the side of that header may come in contact with the side of the header adjoining the said stretcher. In foundations of some breadth, for which stones cannot be procured of a length equal to two-thirds the breadth of the foundation, the works should be built so that the upright joints of any course may fall on the middle of the length of the stones in the course below, and so that the back of each stone in any course may fall on the solid of a stone or stones in the lower course. The foundation should consist of several courses, each decreasing in breadth as they rise by sets off on each side of three or four inches in ordinary cases. The number of courses is necessarily regulated by the weight of the wall and by the size of the stones whereof these foundations or footings are composed. A wall which consists of unhewn stone is called a rubble wall, whether or not mortar is used. This species of work is of two kinds, coursed and uncoursed. In the former, the stones are gauged and dressed by the hammer, and thrown into different heaps, each containing stones of the same thickness. The masonry is then laid in horizontal courses, but not always confined to the same thickness. The uncoursed rubble wall is formed by laying the stones in the wall as they come to hand, without gauging or sorting, being prepared only by knocking off the sharp angles with the thick end of the scabbling hammer. Walls are most commonly built with an ashlar facing, and backed with brick

or rubble work. In London, where stone is dear, the backing is generally of brick-work; which does not occur in the north and other parts, where stone is cheap and common. Walls faced with ashlar and backed with brick or uncoursed rubble are liable to become convex on the outside from the greater number of joints, and, consequently, from the greater quantity of mortar placed in each joint, as the shrinking of the mortar will be in proportion to the quantity; and therefore such a wall is inferior to one wherein the facing and backing are of the same kind, and built with equal care, even supposing both sides to be of uncoursed rubble, than which there is no worse description of walling. Where a wall consists of an ashlar facing outside, and the inside is coursed rubble, the courses at the back should be as high as possible, and the beds should contain very little mortar. In Scotland, where there is abundance of stone, and where the ashlar faces are exceedingly well executed, they generally back with uncoursed rubble; in the north of England, where they are not quite so particular with their ashlar facings, they are much more particular in coursing the backings. Course rubble and brick backings admit of an easy introduction of bond timber. In good masonry, however, wooden bonds should not be continued in length; and they often weaken the masonry when used in great quantity, making the wall liable to bend where they are inserted. Indeed, it is better to introduce only such small pieces, and with the fibres of the wood perpendicular to the face of the wall, as are required for the fastenings of battens and dressings. In ashlar facing, the stones usually rise from twenty-eight to thirty inches in length, twelve inches in height, and eight or nine inches in thickness. Although the upper and lower beds of an ashlar, as well as the vertical joints, should be at right angles to the face of the stone, and the face, bed, and vertical joints at right angles to the beds in ashlar facing; yet, when the stones run nearly of the same thickness, it is of some advantage, in respect of bond, that the back of the stone be inclined to the face, and that all the backs thus inclined should run in the same direction; because a small degree of lap is thus obtained in the setting of the next course; whereas, if the backs are parallel to the front, no lap can take place when the stones run of an equal depth in the thickness of the wall. It is, moreover, advantageous to select the stones so that a thicker one and a thinner one may follow each other alternately. The disposition of the stones in the next superior course should follow the same order as in the inferior course, and every vertical joint should fall as nearly as possible in the middle of the stone below.

[To be continued.]

To PRESERVE WOODWORK.—Boiled oil and finely-powdered charcoal; mix to the consistence of a paint, and give the wood two or three coats with this composition. Well adapted for water-spouts, casks, &c.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 221, Vol. II.]

DEMOSTHENES, LANTHORN OF (in architecture), a building in Athens, vulgarly and erroneously called by this name from a false tradition, that the celebrated orator, Demosthenes, was accustomed to retire thither in order to exercise himself without interruption in the art of declamation. Its real name is, however, the Choragic Monument of Lysicrates. It is placed upon a raised surbase, built of large freestones, to which the ascent is by four steps.



Above this surbase rises a circular building, composed of six Corinthian columns, the intercolumniations being filled up by a partition,

formed by pieces of marble; above the columns is placed a cupola, in the middle of which is raised a flower, the leaves spreading three different ways, and, no doubt, the tripod was placed upon this which Lysicrates received when he was choragus. The columns project more than half their diameter from the marble facing which forms the partition between them. The bases are Attic, the capitals beautifully composed and wrought with extreme elegance, differing in many particulars of detail from any other known ancient specimen. The slabs of marble which occupy the intercolumniations are plain, with the exception of a tripod in relief, which ornaments the upper part. The architrave, divided into three faciæ, bears a Greek inscription in three lines to the following purport: "Lysicrates Kynyna, the son of Lysitheides, was choragus. The tribe of Akamantis obtained the victory in the chorus of boys. Theon was the performer on the flute. Lysides, an Athenian, was the teacher of the chorus. Evænetus Archon." The frieze of this exquisite monument of Attic taste is enriched with bassi relievi, beautifully sculptured. They represent the adventures of Bacchus with the Tyrrhenian pirates.

DEVICE (in heraldry), a name common to all figures, ciphers, characters, rebuses, mottoes, &c., which by these allusions to the names of persons or families, denote their qualities, nobility, or the like. Device, in another sense, is of a much older standing than heraldry



itself, being that which gave the first rise to armories; thus, the Eagle was the device of the Roman empire, S.P.Q.R. was the device of the Roman people, and still continues to be what they call the escutcheon of the city of Rome.

[To be continued.]

Correspondence.

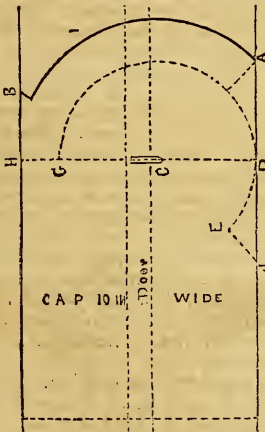
Method of Hanging Doors.

SIR,—In page 220 of your second volume, "C. J. M." wishes to know how he can hang a door with common hinges, the door having a ten-inch cap on the top edge. I have here explained the matter in as concise and practical a manner as possible; wishing it may be of service to your readers, you will, I hope, do me the favour to insert it in your valuable publication.

J. WHITAKER.

Stockport, April 12th, 1848.

CONSTRUCTION:—First lay down the cap full size, then mark upon it the position of the door and hinge, as in the following sketch; then take the distance $c d$ and set it from d to a ; then with the centre c of the hinge, pin, and radius $c a$, describe the arc $a t$. The inside



joint ought to be made as at B ,—if made at H it would be liable to be broken off.—The dotted lines show another method:—With the radius $c d$ describe the circle $G F E$; make $d e$ and $d f$ each equal to one-eighth of the circumference of the whole circle; then from c draw lines through $e j f a$;—if the cap be then cut as shown in the drawing, the door will open square.

THE NEW DUTIES ON TIMBER.—By the Act 9 and 10 Vic., chap. 23, it is enacted that "from and after the 6th April, 1848, all timber or wood *not* being deals, battens, boards, staves, handspikes, oars, lathwood, or otherwise dressed (except hewn), and *not* being timber or wood otherwise charged with duty, be charged for the load of 50 cubic feet the sum of 15s.; and deals, battens, boards, or other timber, or wood, sawn, or split, and *not* otherwise charged with duty, for the load of 50 cubic feet, £1."

The Theory of Painting;

DEDUCED FROM THE "DISCOURSES" OF SIR JOSHUA REYNOLDS.

[Continued from page 232, Vol. II.]

THUS, though to the principal group a second or third be added, and a second and third mass of light, care must be taken that these subordinate actions and lights, neither each in particular, nor all together, come into any degree of competition with the principal: they should merely make a part of that whole which would be imperfect without them. To every kind of painting this rule may be applied. Even in portraits, the grace, and, we may add, the likeness, consists more in taking the general air, than in observing the exact similitude of every feature.

Thus, figures must have a ground whereon to stand: They must be clothed; there must be a back-ground; there must be light and shadow; but none of these ought to appear to have taken up any part of the artist's attention. They should be so managed as not even to catch that of the spectator. We know well enough, when we analyse a piece, the difficulty and the subtlety with which an artist adjusts the back-ground, drapery, and masses of light; we know that a considerable part of the grace and effect of his picture depends upon them; but this art is so much concealed, even to a judicious eye, that no remains of any of these subordinate parts occur to the memory when the picture is not present.

The great end of the art is to strike the imagination. The painter, therefore, is to make no ostentation of the means by which this is done; the spectator is only to feel the result in his bosom. An inferior artist is unwilling that any part of his industry should be lost upon the spectator. He takes as much pains to discover, as the greater artist does to conceal, the marks of his subordinate assiduity. In works of the lower kind, everything appears studied and encumbered; it is all boastful art and open affectation. The ignorant often part from such pictures with wonder in their mouths and indifference in their hearts.

But it is not enough in invention that the artist should restrain and keep under all the inferior parts of his subject; he must sometimes deviate from vulgar and strict historical truth, in pursuing the grandeur of his design.

How much the great style exacts from its professors to conceive and represent their subjects in a poetical manner, not confined to mere matter of fact, may be seen in the Cartoons of Raffaële. In all the pictures in which that painter has represented the apostles, he has drawn them with great nobleness; he has given them as much dignity as the human figure is capable of receiving; yet we are expressly told in scripture they had no such respectable appearance; and of St. Paul in particular, we are told by himself that his *bodily* presence was *mean*. Alexander is said to have been of a low stature; a painter ought not so, to represent him. Agesilaus was low,

lame, and of a mean appearance: none of these defects ought to appear in a piece of which he is the hero. In conformity to custom, I call this part of the art History-Painting: it ought to be called Poetical, as in reality it is.

All this is not falsifying any fact; it is taking an allowed poetical licence. A painter of portraits retains the individual likeness; a painter of history shows the man by showing his actions. A painter must compensate the natural deficiencies of his art. He cannot, like the poet or historian, expatiate, and impress the mind with great veneration for the character of the hero or saint he represents, though he lets us know, at the same time, that the saint was deformed, or the hero lame.

The painter has no other means of giving an idea of the dignity of the mind, but by that external appearance which grandeur of thought does generally, though not always, impress on the countenance; and by that correspondence of figure to sentiment and situation, which all men wish, but cannot command. The painter who may in this one particular attain with ease what others desire in vain, ought to give all that he possibly can, since there are so many circumstances of true greatness that he cannot give at all. He cannot make his hero talk like a great man; he must make him look like one. For which reason, he ought to be well studied in the analysis of those circumstances which constitute dignity of appearance in real life.

As in invention, so likewise in expression, care must be taken not to run into particularities. Those expressions alone should be given to the figures which their respective situation generally produce. Nor is this enough; each person should also have that expression which men of his rank generally exhibit. The joy or the grief of a character of dignity is not to be expressed in the same manner as a similar passion in a vulgar face. Upon this principle, Bernini, perhaps, may be subject to censure. This sculptor, in many respects admirable, has given a very mean expression to his statue of David, who is represented as just going to throw the stone from the sling; and in order to give it the expression of energy, he has made him biting his under-lip. This expression is far from being general, and still further from being dignified. He might have seen it in an instance or two, and he mistook accident for generality.

With respect to colouring, though it may appear at first a part of painting merely mechanical, yet it still has its rules, and those grounded upon that presiding principle which regulates both the great and the little in the study of a painter. By this, the first effect of the picture is produced; and as this is performed, the spectator, as he walks the gallery, will stop, or pass along. To give a general air of grandeur at first view, all trifling, or artful play of little lights, or an attention to a variety of tints, is to be avoided; a quietness and simplicity must reign over the whole work; to which a breadth of uniform and simple colour will very much contribute. Grandeur of effect is produced by two different ways, which seem entirely opposed to each

other. One is, by reducing colours to little more than chiaro-oscuro, which was often the practice of the Bolognian schools; and the other, by making colours very distinct and forcible, such as we see in those of Rome and Florence; but still, the presiding principle of both those manners is simplicity. Certainly, nothing can be more simple than monotony; and the distinct blue, red, and yellow colours which are seen in the draperies of the Roman and Florentine schools, though they have not that kind of harmony which is produced by a variety of broken and transparent colours, have that effect of grandeur which was intended. Perhaps these distinct colours strike the mind more forcibly, from there not being any great union between them; as martial music, which is intended to rouse the nobler passions, has its effect from the sudden and strongly marked transitions from one note to another, which that style of music requires; whilst in that which is intended to move the softer passions, the notes imperceptibly melt into one another.

In the same manner as the historical painter never enters into the detail of colours, so neither does he debase his conceptions with minute attention to the discriminations of drapery. It is the inferior style that marks the variety of stuffs. With him, the clothing is neither woollen, nor linen, silk, satin, nor velvet; it is drapery; it is nothing more. The art of disposing the foldings of drapery makes a very considerable part of the painters study. To make it merely natural is a mechanical operation, to which neither genius nor taste is required; whereas, it requires the nicest judgment to dispose the drapery, so that the folds have an easy communication and gracefully follow each other, with such natural negligence as to look like the effect of chance, and at the same time show the figure under it to the utmost advantage.

Carlo Maratti was of opinion, that the disposition of drapery was a more difficult art than even that of drawing the human figure; that a student might be more easily taught the latter than the former; as the rules of drapery, he said, could not be so well ascertained as those for delineating a correct form. This, perhaps, is a proof how willingly we favour our own peculiar excellence. Carlo Maratti is said to have valued himself particularly upon his skill in this part of his art; yet in him the disposition appears so ostentatiously artificial, that he is inferior to Raffaëlle even in that which gave him his best claim to reputation.

[To be continued.]

TO TRANSFER ENGRAVINGS TO PLASTER CASTS.—Cover the plate with ink, and polish its surface in the usual way; then put a wall of paper round it, and when completed, pour in some finely-powdered plaster of Paris mixed in water; jerk the plate repeatedly, to allow the air bubbles to fly upwards, and let it stand one hour, then take the cast off the plate, and a very perfect impression will be the result.

New Water-colour Society.

CONSIDERABLE apprehensions had been entertained that the exhibition of the "new" society this year would evince something of a falling off. Some two or three of the best members had gone over to the "old" society, and it was feared that they would leave a gap not easy to be supplied. Fortunately those fears have not been realised, and the "new" society comes forward with an exhibition even above the usual level.

For this happy result the society is greatly indebted to two artists. A young gentleman named Vacher, who only commenced his public career last season, and then was not remarkably conspicuous, has this year produced a large drawing, or rather combination of drawings, which is the object of general admiration. The three compartments of his work represent Venice under the three different influences of morning, noon, and evening, and the various effects under these influences are produced with wonderful truth and delicacy. The assemblage of gay multitudes and gaudy vessels about and upon the smooth waters admits of the most brilliant combinations of colour; but the artist has not produced gaiety at the expense of good taste, and the propriety of tone is among the best qualities of the work. His sky is exquisitely finished, the blending tints of the morning view being especially beautiful, while the minute details of the work are executed with the greatest care, and with as much distinctness as is consistent with a regard to the general effect.

The other artist to whom the society is especially indebted is Miss Sarah Setchell, who, after having achieved a great success some years ago by her well-known "Momentous Question," seemed to have retired from public observation. Her drawing this year, has reference to the song "And ye shall walk in silk attire," and represents the vain endeavour of an old maid to induce a heart-stricken young damsel to change her love, is quite in the style of her previous work, being remarkable for simplicity of composition, exquisite propriety of tone, and the intensest expression in the principal figure, who, moreover, has a strong resemblance to her predecessor. In one respect this drawing is superior to the "Momentous Question," a fault in which was a disproportion between the two principal figures.

The permanent leading artists of the society have not, as a whole, equalled their former productions. Mr. Wehnert has certainly not done anything to be compared with his fine, earnest "Captive," though his drawing of "Murillo's Slave at Work" is an effective composition, with brilliant and well balanced colouring. In a pretty, graceful group of a peasant boy carrying a young girl on his shoulders, this artist departs from his usual class of subjects. Mr. Haghe, who adheres to the plan of producing by water those effects which are usually confined to the other vehicle, and who has done so much in imitation of Rubens, has

given several large drawings remarkable for depth and for skill in the distribution of colours, but they are not equal to some of his earlier and very brilliant productions. The "Capuchin Monks," which depends for its effect on the peculiar light of a lantern on a mass of warm browns, is a highly finished work, and catches the eye in a moment, but perhaps this is somewhat of a trick of art. Mr. Henry Warren remains exactly the same as ever. His "Return from Mecca" is distinguished by the largeness of an insufficiently filled surface, high finish of detail, great delicacy of colouring, and general feebleness. Mr. Absolon, an excellent delineator of old peasant life, with its gaieties and picturesque amusements, is this year a bountiful contributor. Mr. Aaron Penley, less striking than usual in the landscape department, has wandered from his course to give in a couple of pictures the story of a convict, which he tells somewhat in Mr. Wehnert's manner, with a certain feeling for expression. A tendency to paint figures rather than landscapes is a feature in the leading members of the "new" society, which distinguishes them from the older institution. Miss F. Corbaux, applying the miniature style to ideal figures, produces two pretty drawings of Leah and Rachel. Mr. Edward Corbould has several works highly finished, but not free from feebleness and formality; and several pleasing peasant groups are given by Mr. A. Taylor, who comes out with some effect in the absence of Mr. Topham. Among the landscape painters perhaps the most remarkable, after Mr. Vacher, are Messrs. M'Kewan and Bennett, both of whom paint in a bold, vigorous manner; which lifts them above the level of ordinary convention. The former seems especially to have taken Mr. David Cox, of the other society, for his model, the affinity being most conspicuous in the skies. The pre-eminence in the flower department is still occupied by Mrs. Margetts.

It is a great thing to say of this exhibition, that there is scarcely a single work which is absolutely bad, and that even the inferior drawings are scarcely below a respectable mediocrity.

Gilding as Applied in Decoration.

WE extract the following account of this process from Mr. D. R. Hay's excellent work on internal decoration:—

"Very fine ochre is ground in linseed oil to an impalpable paste, and then reduced to a thin consistency by the addition of more oil, and placed in a warm temperature for about twelve months, in order to render it viscid, and impart to it the property of retaining a degree of tenacity for several hours after it is dry. This is called oil gold size, and with it all the parts intended to be gilded are painted, and will be ready to receive the gold leaf in from twelve to eighteen hours thereafter. * * * * * Gold leaf, from its extreme thinness, is very difficult to handle, and its proper treatment is the result of much practice and great care on

the part of the workman. It is received from the manufacturer in leaves of about three inches square, which are placed between the leaves of small books, generally, if not always, made from old printed paper, each of which contains twenty-five leaves, and is technically called by painters and gilders a 'book of gold.' But the gold-beater always calculates by the thousand leaves. The leaves of these small books are rubbed with red chalk, to prevent the leaves of gold from adhering to them. The tools by which leaf gold is applied by the decorator are a cushion, a knife, a tip, some cotton wool, and a dusting-brush. The cushion is a small thin board, the upper side of which is covered first with fine cloth, and next with thick leather, with the rough side outwards; one half of the surface of the cushion is surrounded with a screen of parchment about three inches high, and on the under side of the board are fixed two pieces of leather, one to secure the thumb of the workman's left hand, upon which, while in use, it rests, and the other to receive the knife. The knife itself is about six inches long, quite straight and having a smooth but not very sharp edge. The tip is a thin layer of camel-hair, the ends of which are fixed between two cards of about three inches long, leaving about two inches of the hair free; and a dry painting-brush, called a 'sash-tool,' answers the purpose of a duster. The decorator opens a book, and allows the leaves of the gold to fall from between those of the paper, one by one upon the screened half of the cushion, to the number of about ten or twelve, less or more, according to the work to be done, but never more than the full number contained in one book. He then takes the cushion upon the thumb of his left hand, the tip between the same thumb and forefinger, and the knife in his right hand; upon the point of the latter he lifts a leaf of gold from the screened end of the cushion and flattens it on the other end by blowing gently upon it. He then cuts it with the gold knife into such pieces as the work requires, takes the tip between the forefinger and thumb of his right hand, placing the knife between those of the left, and with the former he lifts the pieces of gold leaf from the cushion and lays them upon the parts which have been painted with the gold size. The hair of the tip is made slightly tenacious by being drawn through the hair of the head, and thus it easily lifts the gold-leaf from the cushion. This is called 'oil gilding,' in contradistinction to burnished and 'matt gilding,' and is the only kind practised by the house-painter. It is washable, and when properly done, will last for upwards of a century."

The Chronotypist.

To GILD OR SILVER LEATHER.—Finely-powdered resin, and dust it over the surface of the leather, then lay on the leaf, and apply (hot) the letters or impression you wish to transfer; lastly, dust off the loose metal with a cloth. The cloths used for this purpose become, in time, very valuable, and are often sold to the refiners for from twenty to thirty shillings.

A subscription has been originated by the Sacred Harmonic Society for the purpose of erecting a monument to the late eminent musical composer, Dr. Mendelssohn Bartholdy—it has already reached the sum of £370.—The private view of the exhibition of the New Society of Painters in Water Colours took place on the 15th inst.—The Second Artists' Amateur Dramatic performance, in aid of the Artists' General Benevolent Institution, is announced to take place on the 27th inst., at the St. James's Theatre.—The Conway tube, weighing 1,300 tons, was raised fourteen feet on the 8th instant. Only ten men were employed in the operation. The rising was at the rate of twelve feet per hour.—The Royal Institution is announced to be opened on the 5th of May next.—The committee-rooms in the new House of Commons, says the *Builder*, are, perhaps, in their present state, scarcely open to criticism; but we may as well, while they are incomplete, suggest that, in finishing them, attention should be paid to rendering them well adapted for the auditory which they will often contain. At present, with bare, hard walls, the reverberation of sound in them often renders the loudest and clearest speakers inaudible.—Mr. Ashbury, the eminent railway-carriage builder, of Manchester, has just patented a wheel, so cleverly constructed, that should the tire break in a dozen points, it would be impossible for any portion of it to fly from the wheel. Were the tire altogether removed, the wheel would still remain perfectly sound. By the use, therefore, of this invention, danger arising from a broken wheel or tire, is impossible.—The second annual dinner of the Dealers in the Fine Arts Provident Institution took place on Thursday evening, the 13th instant, at the Freemasons' Tavern. Mr. M. Wilson, M.P., presided on the occasion, and about 100 gentlemen, interested in the objects of the institution, were present. The institution was founded about five years ago, for the purpose of affording aid, temporary or permanent as required to dealers in works of art, and their assistants, being members, and to their widows and children when left destitute. Mr. Henry Graves, Mr. William Smith, and Mr. Lambe, the honorary secretary, are among the most active promoters of the charity, which during the past year has added £200 and upwards to its funded property. Subscriptions to the amount of £250 have been announced by the honorary secretary.—A "Copying Telegraph" has been invented by Mr. F. C. Bakewell, whereby words, traced from the original, are legibly copied on paper by an instrument that has no connection with the one to which the transmitted message is applied, excepting by the voltaic battery. The letters traced on the paper appear of a pale colour, on a dark ground, formed by numerous lines drawn close together. The communications thus traced, we understand, may be transmitted at the rate of five hundred letters of the alphabet per minute of ordinary writing; and were short-

hand symbols employed the rapidity of transmission would be quadrupled. When this means of correspondence is in operation, instead of dropping a letter into the post-office box and waiting days for an answer, we may apply it to the Copying Telegraph, have it copied at the distant town in a minute or less, and receive a reply in our correspondent's handwriting almost as soon as the ink is dry with which it was penned. There are various means, too, for preserving the secrecy of correspondence, the most curious of which is, that the writing may be rendered nearly invisible in all parts but the direction, until its delivery to the person for whom it is designed.

—Arrangements are in progress for raising, by subscription, a monument to the late Mr. John Walter, of the *Times*, "to do honour to his memory; to stimulate others to a similar career of enlightened enterprise; and to originate an act of public respect and gratitude to the press of our country."—At the Government School of Design, Somerset House, Mr. R. W. Billings delivered a lecture, on the 14th instant, on the subject of Gothic tracery.—The annual meeting of the subscribers to the Art Union of London, to receive the report, and distribute the amount subscribed, was held in Drury-lane Theatre, on Tuesday, the 25th instant; H. R. H. the Duke of Cambridge in the chair.—M. Montalari, who has just arrived from Mexico, has brought with him to London a large collection of wax figures representing the citizens and wild Indians of the country in their correct costume—the figures are beautifully executed, and reflect great credit upon their modeller.

—At the Diorama, a private view of a new picture of Mount *Ætna*, painted by M. Diosse, pupil of M. Daguerre, is now open for the season. It is designed to show the various effects of lights and shades by which dioramic views are distinguished.—The Bologne and Amiens Railway is now open; and thus is entirely achieved one vast highway between the metropoli of Great Britain and of France—broken alone by the water communication between Bologne and Folkestone, which is now, however, efficiently performed by the superior steam-packets of the South Eastern Railway Company.—No fewer than four hundred and fifty painters have competed for the symbolical figure of the French Republic demanded by the Provisional Government. The sketches were sent in on the 10th instant; but as the sculptors and engravers had a little more time given for the preparation of the modelled figure and the medal by which they are to commemorate the same subject respectively, the public exhibition of the painters' sketches was delayed that the whole may be exhibited together at the close of the present month.—At a council of the Royal Academy, held on the 31st of March, the following were admitted students, namely:—H. Wallis, J. H. S. Mann, H. Smithers, M. P. Jackson, J. U. Bouvier, R. T. Holmes, J. Clifton, G. Moulting, H. Hughes, A. W. Cooper, W. M. Egley, F. Smallfield, W. H. Fuge, A. T. Allom, R. C. Dudley, W. Boucher, O. Hansard, W. Roe, G. R. Clark, G. P. Boyce, F. Butler. The

following were admitted to study from the living model, namely:—E. Eagles, G. Smith, E. Hughes, H. Gray, C. Compton, E. J. Physisick.—It is announced that a new class is about to be created in the National Institute of Paris, to be called the class of *Arts et Métiers* (useful arts and trades)—and to form a division of the Academy of Moral and Political Sciences.—The throne newly erected in Canterbury Cathedral stands on the south side of the choir, at an angle formed by the upper transept. The design was by Mr. Austen and his sons, and the carving was executed partly by English workmen and partly by men from Belgium and Cologne. The throne is most beautifully enriched, and it may be noticed that it bears a general resemblance to many of the shrines in Italy, particularly to one at Verona. The total height is nearly 40 ft., the width at the base about 8 ft., and the cost of its erection about £1,200. Opposite to the throne, a pulpit of stone has been placed; this is not a very favourable specimen of art, but still is superior to the oak box it superseded.—A numerous meeting of gentlemen, chiefly artists, was held on Wednesday evening, the 19th instant, at the Institute of the Fine Arts to consider the propriety of adopting a petition for presentation to Parliament, praying that no interference be permitted with Mr. Barry's design for completing the Palace at Westminster. Mr. Illidge, who presided, explained that a commission had been appointed with a view to make reductions in the expense of the new palace,—and he believed it was proposed to cut down the height of the Victoria Tower from 220 feet, as originally planned, to 120. The petition, which was adopted, set forth that the work in question is one of great national importance, and of great influence upon the arts of the country as a specimen of the taste and talent of the age; and the petitioners think that no mistaken economy of time or money should be allowed to interfere with the genius of the architect, especially with reference to the Victoria Tower.—The department of the Applied Sciences of King's College, London, reopens on Tuesday, the 2nd of May next.—We have lately inspected several copies on a reduced scale of Danneker's "Ariadne" at Mr. Tennant's in the Strand, and must bear testimony to their great fidelity to the original and their perfect execution.—It has been suggested to us that gutta percha might be very advantageously employed for lithographic printing rollers.—With reference to a rumour respecting Cleopatra's needle, to which we gave insertion in our last, the *Athenæum* remarks as follows:—"Once more there is a talk of bringing over Cleopatra's Needle:—this, like the Nelson Pillar, being one of the periodical topics of the press which, as we have already said, supply the place of remarkable Vegetables among the resources of the penny-a-liner. It might seem a work of supererogation to import ruined columns; but the view, taken by the more hopeful is, we believe, that it is easier to bring from Egypt a monument already covered with hieroglyphics than to make any further attempt at sculpturing our own. Meantime, the news-

paper reporter in changing his object has not changed his manner of treatment. Putting a column for a cucumber, he falls naturally into the old formula—and proceeds at once to give its measurement. 'It has been described,' says the paragraph doing duty to-day, 'as seventy feet in height, 190 tons weight, seven feet square at the base, and the whole richly adorned with hieroglyphics upwards of an inch in depth. The pedestal is nine feet square, and seven in height.'—It would be easier now to obtain credit, with the lovers of newspaper marvels, to a paragraph which should describe an esculent of the same dimensions than to one which should venture to announce the completion of the Nelson monument. There are limits to the daring, if not to the ingenuity, of even the penny-a-liner."

Mediæval Painting of Roofs and Ceilings.

It is to be observed, says Mr. Blackburne, that in the open timber roof, the applications appear in many cases, in some necessarily, perhaps, from their construction, mainly on the principal timbers and mouldings: in others, the colours are introduced on every member. The roof of Aldenham is a very interesting and elaborate example of the latter kind. That of Impington, St. Mary's, Cambridgeshire, is of the former, and shows a simple arrangement of two columns, separated by a waving line, the fillets being white, on the faces of the tie beams, very affective. The cornice also, which has an imitative battlement, produced by the introduction at equal distances simply of spaces of red colour, bordered by narrow white edges or fillets, intended to indicate the crenelled portions, or the naked wood of its fascia, is equally so.

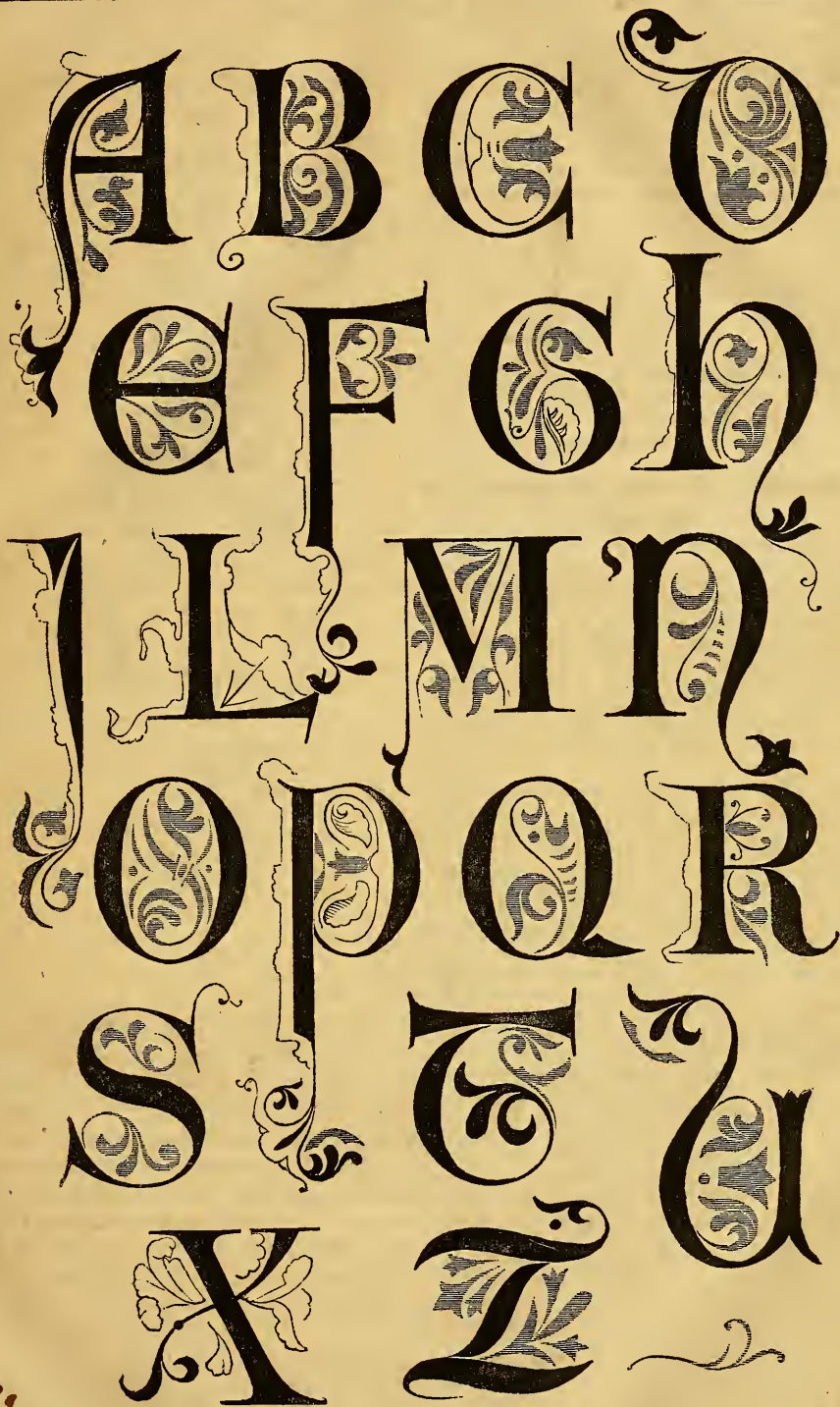
In the ceiled and in the groined roof, whether of wood or stone, the panels and spaces between the ribs received generally the principal decoration: the arched ribs in the one case, and moulded framework inclosing the panels in the other, being more or less ornamented in colour and gilding to accord. In some of the ceiled roofs, the paneled appearance was given solely by painting. This is exemplified both in the nave and transept ceilings in the Abbey Church at St. Alban's, and is a peculiarity apparent in some of the earliest examples, namely, those of the transept and the apse of choir at Peterborough. In the transept at St. Alban's, the ribs or framework are imitated by lines of dark brown and white colour, with yellow flowers as bosses at the intersections of the squares, separating the whole ceiling into two bays corresponding with the number of the main arches of the structure, each of these bays being subdivided into spaces or panels alternately painted with the Holy Name, and angels supporting the emblazoned shields of benefactors. The panneling of the nave ceiling is produced in like manner by lines of red, brown, and white with a kind of purple flower, as a boss, the

square of the panels being cusped or enriched with imitative tracery in red colour, and in the centre the monogram *HC* in white, on a ground of dark brown. In the corresponding ceilings of Peterborough a similar practice is apparent.

Where the ceiling is not thus imitative, but of the more general description, decorations on the mouldings of the framework are, in many cases, very profusely introduced, as in that of the Deanery at Worcester. In others, however, even under a full enrichment of the panels, the mouldings frequently appear decorated to a lesser extent, and are occasionally found altogether devoid of coloured ornament. Both in the richer one of the choir, and the more simply decorated ceiling of the nave, at Great Malvern, the mouldings inclosing the panels; judging from their present appearance, seem never to have been painted, and the same peculiarity is exhibited in St. Michael's Church, Coventry. In the groined roof, the rib mouldings usually show the more enriched character. The ribs of the groining in the choir at St. Alban's are covered with colour, daupered with minute ornaments in gold, &c., on the ogees and hollows, the beads being white, banded alternately red and green; and there are, besides, many other examples, in which similar ornaments are introduced to an equal extent.

FREE EXHIBITION OF BRITISH MANUFACTURES AT THE SOCIETY OF ARTS.—Charmed by the sweet and genial influence of beauty in almost endless variety of form, colour and arrangement, thousands of the inhabitants of the metropolis, its suburbs, and the provinces, now eagerly wend their way to the house of the Society of Arts, at present consecrated to the improvement and advancement of English art, manufactures, and commerce, attracted thither by the second annual exposition of the products of native talent, invention, ingenuity, and industry. Many thanks to the illustrious president, the vice-president, and council of this most valuable institution for their patriotic and praiseworthy labours in converting the great room of their establishment (of which the magnificent pictures by Barry are the principle adornment) into a shrine of imperishable beauty and loveliness* and dedicating it to the pure, the right, the good and the beautiful; to which every admirer of those principles, every lover of his country and philanthropist ought, without delay; (and by frequent visits), to do continual homage, and not only that, but by making every exertion in his power to induce all others within the sphere of his influence to follow so laudable an example. The nation owes a deep and lasting debt of gratitude to the members, friends, and indefatigable secretaries of this admirable association, for their zealous endeavours to promote the onward progress, prosperity, and welfare of all classes of the community.

* "A thing of beauty is a joy for ever,
Its loveliness increases, 'twill never lose its power."
—KEATS.



ALPHABET OF THE TWELFTH CENTURY, TAKEN FROM CARDINAL MAZARIN'S BIBLE IN
THE NATIONAL LIBRARY AT PARIS.

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The London Art Union.



THE general meeting of the Art Union of London, which took place on the 25th ult., although well attended, "the house being crowded in every part," and exhibiting all those outward signs of prosperity, which do not always, however, afford a reliable token of success—has not tended to gladden the hearts of the patrons of the institution.

We present a *resumé* of the report read to the subscribers, which will better explain the present position of the society than all we could write on the subject:—

The total amount subscribed up to the present meeting is £12,857 5s.—being £5,000 less than last year's amount. This falling off is attributed to various concurring causes—the prevailing distress of the country among the rest; but the council are inclined to attribute it, mainly, to the circumstance of the interference

of the Board of Trade, which has thrown several difficulties, of no very pleasurable nature, in their way; and no doubt exerted considerable influence on the public mind to the prejudice of the society.

Passing from this subject, to which we will advert on a future occasion, we now come to the business of the meeting. We extract from the report:—

Two hundred and seventy-three works of art were selected by the prizeholders of last year, and, with the exception of two from Westminster Hall, which could not be removed, were exhibited in the Suffolk-street Gallery, by the kind permission of the Society of British Artists. The collection was open for a month—a part of the time during the evening—and was visited by an immense number of persons.

The exhibition included the finished picture by Mr. H. C. Selous, from his prize cartoon, "Queen Philippa interceding for the lives of the burgesses of Calais." In pursuance of the original intention to engrave the selected work, this picture has been put into the hands of Mr. H. Robinson, to be executed in the mixed style. It is proposed to distribute impressions from this plate as prizes in future years.

Since the date of the last report the prints and outlines due to the subscribers of 1845, and to the subscribers of 1847, have been delivered; so that, at this time, there are no prints in arrear beyond those of the current year.

The council will not shut their eyes to the fact, that the prints last sent out have not been wholly satisfactory. It must be remembered that they are, in this respect, in the hands of the engravers. It is due to themselves to state, as regards the engravings for 1847, that the propriety of refusing to distribute the impressions from the plates when finished, was seriously discussed by the council; but it was thought that such a course would be scarcely consistent with their duty as trustees.

In respect of the engraving for 1845, the council considered that when they had obtained one of the best pictures of one of our most esteemed artists, and had placed it in the hands of an engraver of the highest reputation in England, giving him his own terms and his own time, that they had taken all the means in their power to ensure a perfectly satisfactory result. The engraving for the current year, "The Prisoner of Gisors," by Mr. F. Bacon, after Mr. Wehnert, is at press, and will be ready for distribution in the autumn. Very considerable progress has been made in the preparation of the illustrated edition of "L'Allegro" and "Il Penseroso," also due to the subscribers of this year, and which promises to be a very satisfactory production. Some of the illustrations already completed may be safely pronounced equal to any similar works ever produced. "Sabrina," engraved by Mr. Lightfoot, after Mr. Frost, A.R.A., is nearly completed. It is proposed to appropriate this plate to the subscribers for the next year, who will also receive a series of etchings or wood-

engravings, not yet decided on. Mr. W. Finden is proceeding with "The Crucifixion," after Hilton.

For some ensuing year the council have commissioned the execution of several plates on *steel*, as an experiment to test the advantage of such a course, instead of electrotyping one copper-plate,—the particular print to which each subscriber will be entitled, to be decided by lot. The number of plates required would, of course, depend on the number of subscribers enrolled. The following pictures are already in hand:—

"The Burial of Harold," by Mr. F. R. Pickersgill, A.R.A. (which received the first premium in 1847 from the Royal Commissioners of Fine Arts), to be engraved by Mr. Bacon:

"Richard Cœur de Lion pardoning Godfrey de Bourdon," by Mr. John Cross (which also received a premium from the commissioners), to be engraved in line by Mr. Shenton:

"The Irish Piper," by Mr. F. Goodall, to be engraved by Mr. Edward Goodall.

With a view to the encouragement of lithography, the council have commissioned Mr. H. Maguire to execute a drawing on stone after a picture by Mr. John Tenniel, "St. Cecilia," which has been obtained for that purpose.

The expediency for extending encouragement to mezzotinto engraving has occupied the attention of the council on several occasions, and but for the unnecessary interruption to which they have been subjected, they would have been prepared to take some steps in respect of it.

The statue by Mr. Calder Marshall, A.R.A., "The Dancing Girl reposing," to the model of which the society's premium was awarded, has been executed in marble, and is now at the Royal Academy for exhibition. A reduced copy of it has been made by Mr. Cheverton for the purpose of reproducing it in statuary porcelain. Fifty casts of it in this material will be allotted to-day.

The statuettes of "Innocence," executed in porcelain, and appropriated last year, are in course of delivery to the prizeholders.

The casts from the "First Whisper of Love" have been distributed.

The bronzes allotted at the same time, "Iris Ascending," are nearly all in the hands of their owners.

For the current year it is proposed to produce in bronze a bust of her Majesty Queen Victoria, in commemoration of the grant of the charter. The opinion of his Royal Highness Prince Albert being taken, the bust by Chantrey, deposited in Windsor Castle, was adopted as the best, and a cast having been obtained for the society, with her Majesty's gracious permission, it was reduced, and will be executed in bronze forthwith. Thirty of these busts will form part of the distribution to-day.

The council observe with gratification the impulse which has been given to this branch of art by the operations of the society, as well as the increased connection between art and manufactures now becoming everywhere apparent. The shop windows of the metropolis give striking evidence of the *endeavour* to connect them, if not in all cases of a successful result.

The desire of the council to produce a fine work in cast iron has been frustrated up to this time by delay, attributed to misfortune, on the part of the sculptor who was commissioned to make a reduced copy of the selected figure, "Thalia," in the gallery of antiquities at the British Museum. The model, which was said to be ready at the date of the last report, has but just now come into their hands, notwithstanding repeated efforts on their part to obtain it earlier. It will be forthwith transmitted to the founders, and the casts will be forwarded to the prizeholders as speedily as possible.

A similar delay has occurred in respect of the "Wren" and "Flaxman" medals, distributed in 1846 and 1847. Unable to obtain the satisfactory completion of these medals, they have been compelled to take them from the artist to whom they had been confided, and to place them in other hands. The council regret that those subscribers to whom these medals, and the statuettes in iron, are due, should be kept from the possession of them: it must be seen, however, that in this, as in other branches of art already alluded to, they are wholly at the mercy of the artists employed. In cases where the mind and hand of the man himself are needed, to calculate exactly the time of completion, without the certainty of health and earnest co-operation on the part of the artist, is impossible. The council have at heart only the interest of art. It is only by their love of the fine arts, and their desire to advance them in this empire, that they have been led for so many years, and under considerable difficulties, to devote their earnest exertions in carrying out the objects of the society. It is not too much to expect, then, that they should find amongst artists, personally so much interested, in the extension of a love of art, the warmest sympathy and the most earnest co-operation. This co-operation the council seek anxiously, but, unfortunately, do not always find.

The Wren medal has been intrusted for completion to Mr. Benjamin Wyon, and is being proceeded with. With the view of lessening the cause of complaint on the part of the prizeholders, to whom this, or the Flaxman medal, is due, it is arranged that they shall be allowed to take the Chantrey or Reynolds' medal in lieu, should the desire to do so.

A die for a medal, commemorative of Hogarth, is in rapid course of execution by Mr. Leonard Wyon (son of Mr. Wyon of the Mint). Thirty impressions of this in silver will be allotted to-day.

We conclude with a broad statement of the receipts and disbursements:—

Amount of subscriptions	£12,857	5	0
Set apart for purchase of pictures, busts, statuettes, models, and lithographs	£6,090	0	0
Cost of engravings, &c., of the year	3,899	1	8
Expenses and reserve of 2½ per ct.	2,868	3	4
	£12,857	5	0

The sum of £5,335, set apart, according to the foregoing statement, for the purchase of works of art by the prizeholders themselves, will be thus allotted:—

15 works of ..	£10	each....	£150
21	15	.....	315
18	20	.....	360
18	25	.....	450
14	30	.....	420
14	40	.....	560
10	50	.....	500
8	60	.....	480
6	70	.....	420
6	80	.....	480
4	100	.....	400
2	150	.....	300
1	200	.....	200
1	300	.....	300

To these are to be added—

30 bronzes of "The Queen,"
50 statuettes of "The Dancing Girl,"
30 medals commemorative of "Hogarth," and
300 lithographs of "St. Cecilia;"—making in the whole 547 works of art.

The total sum appropriated to the purchase and production of works of art, including the cost of the engraving and illustrated book is £9,989.

To Correspondents, &c.

NOTICE.—Owing to the great demand for the back numbers of the DECORATOR'S ASSISTANT, several of the early numbers are out of print; but we hope that it will not influence or prevent the other numbers being taken, as those numbers which have been sold out are now reprinting. Those subscribers requiring their sets made up will do well to give immediate orders to their booksellers, as the stock is becoming very scarce.

METROPOLITAN DECORATIONS.—It is our intention shortly to give an Illustrated Description of the Decorations at the various Theatres, &c., showing the Style of Ornament and the manner in which it is introduced.

Vol. II. is now ready in beautifully embossed scarlet cloth, gilt and lettered, uniform with Vol. I., price 5s., to be had by order of all booksellers. Part 12 is ready, price 7d.

"Tyro."—Ornamental design, unlike architecture, cannot be reduced to any fixed number of styles. There are, it is true, some peculiar descriptions of ornament, such as the "Alhambra," "Louis XIV.," "Arabesque," &c.; but these are only singular instances amongst thousands that are phenomena. As to what styles may be legitimately combined in designing, we cannot pretend to distinguish—it is a subject on which

the practical man and the critic often disagree, and it is hard to say whether the critic always maintains the best position. With regard to the rules for distinguishing the various styles we should hardly know how—for the most part—to set about them; we might as well strive to give rules for distinguishing the forms produced in the kaleidoscope.

"R. C."—A line is one-twelfth part of an inch.

"C. C. C."—You must really wait awhile. We are anxious to please our subscribers as far as in us lies; but we must be allowed to suit our own convenience a little.

QUERIES.

1. Required—the method of preparing the paper called "Grecian," used in Grecian or Persian painting.

2. Given two sides and the line bisecting the including angle of a triangle, to determine the other two sides.

3. Required—the best receipt for marking ink for linen.

4. Required—the proper oils for painting on silk (such as banners, &c.), and the description of size employed for laying silver upon the same.

GLASS PAINTING.—The reviving taste for mediæval art is rapidly evidencing its growth. A correspondent of the *Athenæum* in remarking upon this, observes that it is no wonder, therefore, that glass-painting should of late years have been cultivated with considerable assiduity and success. After being at one time supposed to be entirely lost, the processes requisite for it have either been recovered or re-invented. Its proper character as decoration is now far better understood than when it was attempted to produce pictures with it (as in St. George's Chapel, Windsor), and when the mullions and tracery of windows were actually cut out in order to fill in the whole aperture with a gaudy transparency. That that mistake we have since corrected by reverting to genuine models; but have perhaps fallen into another—though far less glaring—in choosing them too indiscriminately and following them too servilely—copying defects of bad drawing and bad general design—faults sanctified in the eyes of a mere archæologist, but faults only in those of an artist or of a man of unprejudiced taste. The real capabilities of the art have not been sufficiently consulted: those who have applied themselves to it resting content with striving to come up to what are considered the best specimens, without aiming at aught further. The very desirable "something further" may, however, now be anticipated, by architects themselves taking up a branch of art that required to be treated with far more regard to architectural than to pictorial effect. I have just seen some windows executed by Mr. E. B. Lamb, for a small private chapel erected by him in Scotland, that appear to me a great improvement upon the orthodox—that is, the archæologically orthodox—system of bad drawing and careless composition.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 4.]

DRAWING MACHINE, an instrument of this nature, of an ingenious construction, has lately been patented under the title "of an improved machine for tracing or engraving from solid bodies or subjects in relief," by Mr. S. Stokes, carpenter, of Monkwell-street. For the following engraving and details of this invention, we have to acknowledge ourselves indebted to our excellent contemporary, the *Patent Journal*. Fig. 1 represents the apparatus in perspective, and as adapted for tracing or engraving on a plate the outline of any group or figure, which would be of a reduced size from the original. The framework here shown is made of wood, the base consisting of six pieces of timber of about five inches by three, scantling, bolted together in the form represented at *a a*, and having four pieces *b b b b* mortised into *a a*, and meeting in a point at *c*; it has also two pieces *d d* similarly secured; these

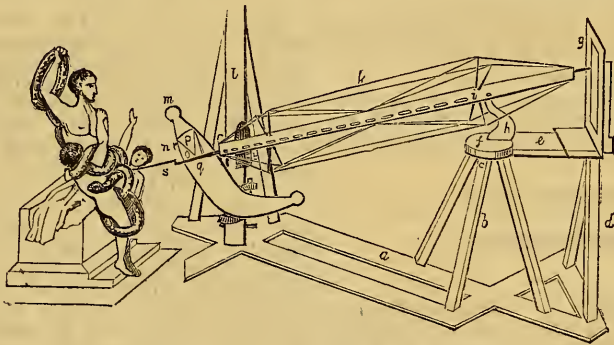


Fig. 1.

are connected at the top by a transverse *e* to the cap *f*; from *e* is elevated a drawing-board *g*, firmly secured in a vertical position, against which is placed the plate of metal or other material on which the subject is to be transferred. From the cap *f* is supported an arm *h*, which carries, by means of an universal joint, the hollow projection bar *i*, so that it will be free to move in any direction on that centre. This projection bar is formed hollow in order to render it light and stiff, the rigidity being still further increased by means of the wire stays *k k*; a triangular bar *l* is secured in a vertical position on the base or framework *a*, and is further stayed by two struts from behind; this is fitted with a poppet *m*, so adjusted as to slide freely up and down on the triangular bar *l*; the poppet *m* is furnished with two centres, by which it carries an apparatus consisting of two cones *o o* placed together on the same base and attached to the trunk *u*; the whole of this is hollow and made of tin plate, so as to render it

as light as possible consistent with the requisite strength; at the apex of the cones *o o* are two centres, which support a double coned piece *p*, one end of which carries an universal joint *g*, by which it is attached to a sliding rod *r*, and the other end is loaded to a balance weight; the rod *r*, to which the tracing blade *s* is fitted, passes up the centre of the hollow projection bar *i*, bearing in four angular rollers, the peripheries of which run in grooves formed in the sides of the rod *r*; thus it is free to be readily withdrawn or compressed without liability of vibration. The whole of this apparatus is moved with the sliding poppet up and down the triangular upright, by means of a cord or chain fixed to the top thereof, being wound round a barrel actuated by a winch and endless screw *t*, similar to that usual for adjusting instruments of this description. The apparatus used for etching on the plate, and which is attached to the opposite end of the projection-bar *i*, is represented in plan at fig. 2; it consists of a system of levers, so arranged that the etching point will always be projected in a straight line from the end of the bar; *i* represents the end of the projection-bar, which at that end is solid, and loaded to counterbalance the weight of the other; a plane *u* is fixed at right angles to the bar *i*, and is stayed by the stretcher *v*;

one end of a lever *w*, is furnished with a roller *e*, which traverses the plane *u*; the other carries the tracing point *x*; this lever is jointed to

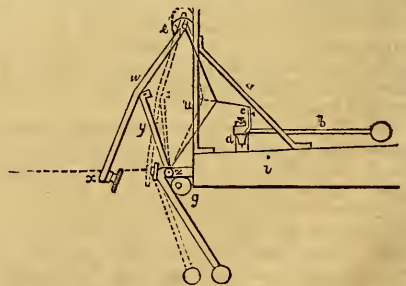


Fig. 2.

another lever *y*, which moves on a fulcrum *z* fixed to the bar *i*; a boss *a*, having two projecting arms or levers *b* *c* is pivoted between

two centres attached to the side of the bar i ; the long lever b_1 , is weighted, and the short one c_1 , has a cord or chain attached, which is divided and carried to the fulcrum z and the roller; the force exerted by the weighted lever will tend to draw the point e_1 , closer to the fulcrum z , and so project the tracing point, which will, by this combination of levers, always be constrained to move in a direct line with the centre of the bar i , and, as represented by the dotted line xz ; the force with which it is projected will be according to the weight on the arm b_1 ; when it is required to remove the tracing point x , from the surface of the plate, this is effected by means of an eccentric g_1 , which bears upon the lever y ,—this being turned by a pulley placed on the same spindle, and having an endless cord or band passing over it, secured to the opposite end of the projection-bar, where it turns over a similar pulley. Thus it is brought immediately under the command of the operator, without his leaving the position where he works the instrument.

DAG or TACKE (in military architecture), a description of pistol having a stock but slightly inclining from the straight line of the barrel, first employed during the reign of Edward



Fig. 1.

VI., and continuing, with some slight alterations during those of Henry VII., VIII., Queen Mary, and James I. Fig. 1 represents a portion of a dag of the reign of Edward VI.;



Fig. 2.

fig. 2, one of the reign of Elizabeth.

DECIMAL SCALE, scales of this kind are used by draftsmen, to regulate the dimensions of their drawings; they are generally of the denomination of quarter inch, in which every quarter of an inch is divided into ten parts, or of half inch, &c. so divided. A pair of proportional compasses may be used for the same purpose, and will always be found more accurate and expeditious.

DEPRESSED ARCH, is when an arch sinks or falls in from its original position. The accompanying engraving is taken from Avington Church, Berkshire, erected 1150; there is also a very remarkable one in Elkstone Church,

Gloucestershire, about the same date; they were evidently not originally built in the form



now in, but a settlement of the work probably soon after their erection, brought them to their present irregular shape.

[To be continued.]

MODERN ART IN ITALY.—Mariotti, in his new work, "Italy, Past and Present," gives the following view of the state of art in Italy:—Painting and sculpture never boasted of greater activity in Italy than they display at the present day. Never were schools of design better endowed than the Italian academies in every town and province; never greater encouragement held out to rising talent. The very materials and implements of his calling are freely supplied to the beginner by those liberal institutions. The wonders of taste, both of Pagan and Christian civilisation, are within his reach. From the marbles to the naked figures, and from this again to the classic works of the great masters, he is made to toil and to plod. Loud ecstatic contemplation begets idolatrous veneration. The youth at the academy have no eyes or taste of their own. They exhaust their energies in mere copies. They grow old, soul and body, in the endless drudgery of their complicate training. They acquire correct ideas of design, consummate skill as colourists; but they lose all power of creation.

* * * * At last the "work" is produced. The exhibition-rooms are crowded to suffocation. Critics and amateurs in rapture. Town and country are proud of the achievement of their *valoroso concittadino*. What is it? Why, a Madonna after Correggio, or a Venus after Titian; a Sacra Famiglia after Rubens, or a Sybil after Domenichino,—always something after somebody. They are original pictures, nevertheless. See, the Madonna holds her divine infant on the right knee, not on the left. The Venus is in a supine, not a recumbent attitude. These trifles, it is grievous to say, too often constitute originality at an Italian academy. The copyist—unheard-of daring!—aims at modification and improvement! Reproduction, with slight variations, is dignified into invention.

On the Use of Ivory for Turning.

[We have already presented some account of ivory in these pages; but the following, extracted from the late Mr. C. Holtzapffel's elaborate work on "Turning and Mechanical Manipulation" contains so much additional information that we think it will prove acceptable to our readers in an unabridged form.]

Ivory, the tusk or weapon of defence of the male elephant, and of which each animal has two, is placed by the chemists intermediately between bone and horn, and its mechanical character corroborate the position. It is generally considered that the male elephant alone possesses tusks, commercially known as elephants' teeth, but this appears questionable, as by many the female is reported to have tusks likewise, but of smaller size, and some consider the latter produce the small solid tusks called "ball ivory," used for making billiard balls.

Ivory has less gelatine than bone; but as it leaves the animal in a state fit for use, without the necessity for removing any of its component parts for its purification; its elasticity and strength are not impaired by such abstraction. Ivory is not therefore so brittle as bone, neither does it splinter so much when broken, but its greater ultimate share of animal matter leaves it more sensible to change of form and size.

The shape of the tusk is highly favourable to its use; as it is in general solid for fully half its length, and of circular or elliptical section, it is entirely free from the vessels or pores often met with in bone, and although distinctly fibrous, it cannot be torn up in filaments like horn, nor divided into thin flexible leaves as for miniatures, otherwise than by the saw.

Its substance appears very dense, and without visible pores, as if beautifully cemented by oil or wax; and notwithstanding that it possesses so large a share of lime, it admits of being worked with exquisite smoothness, and is altogether devoid of the harsh meagre character of bone. It is in all respects the most suitable material for ornamental turning, as it is capable of receiving the most delicate lines and cutting, and the most slender proportions.

The general supply of ivory is obtained from the two present varieties of the animal, the Asiatic and the African; they are considered by physiologists to be distinct species, and to be unlike the extinct animal from which the Russians are said to obtain their supply of this substance; which although described as *fossil* ivory, does not appear to have undergone the conversion commonly implied by the first part of the name, but to be as suitable to ordinary use as the ivory recently procured from the living species. The mammoth teeth are but rarely exposed for sale in this country, I only learn of two, the one weighed 186lb., was 10 feet long, of fine quality, and except the point which was cracked, was cut into keys for piano-fortes; the other also was large, but very much cracked and useless; the sub-

stance of the ivory between the cracks appears of the ordinary character, although the interstices are filled with a dry powder resembling chalk. Both teeth were solid unto within six inches of the root.

The hippopotamus or river-horse supplies the ivory used by the dentists, which is imported from the East Indies and Africa; the animal, in addition to twenty grinders, has twelve front teeth, the whole of which agree in the substance of the ivory, but not in their size or arrangement. The six in the upper jaw are small and placed perpendicularly; in the lower jaw of the hippopotamus, the two in the centre are long, horizontal, and straight, the two next are similar but shorter; but the two external semi-circular teeth are those so highly prized by the dentists on account of their superior size, and which are those usually referred to when the "sea-horse" or hippopotamus tooth is spoken of, although the animal is in reality an inhabitant of rivers and marshy places.

The circular teeth are covered on their outer surfaces with a thick coat of enamel, which entirely resists steel tools, and will even strike fire with that metal; it is usually removed upon the grindstone in order to arrive at the beautiful ivory within, which owing to the peculiarity of its section, is better adapted for the construction of artificial teeth than the purposes of turning; the other teeth are tolerably circular, and fit for the lathe.

The ivory of the hippopotamus is much harder than that of the elephant, and upwards of double the value; in colour it is of a purer white, with a slight blue cast, and almost free from grain. The parts rejected by the dentists are used for small carved and turned works.

In texture it seems almost intermediate between the proper ivory and the pearl shell; as when it is turned very thin, it has a slightly curled, mottled, or damasked appearance, which is very beautiful; the general substance is quite transparent, but apparently interpersed with groups of opaque fibres, like some of the minerals of the chatoyant kind.

The teeth of the walrus, sometimes called the sea-cow, which hang perpendicularly from the upper jaw, are also used by the dentist; the outer part, or the true ivory, nearly resembles the above, but the oval centre has more the character of coarse bone; it is brown, and appears quite distinct. The long straight tusk of the sea-unicorn or narwal, which are spirally twisted, also yield ivory; but they are generally preserved as curiosities. These two are principally obtained from the Hudson's Bay Company.

The masticating teeth of some of the large animals are occasionally used as ivory; those of the spermaceti whale are of a flattened oval section, and resemble ivory in substance; but they are dark-coloured towards the centre, and surrounded by an oval band of white ivory: like that of the aquatic varieties generally, they are not much used.

The grinders of the elephant, &c., are occasionally worked; but their triple structure of plates of the hard enamel, the softer ivory, and

the still softer cement, which do not unite in a perfect manner, render them uneven in texture. Owing to the hardness of the plates of enamel, they are generally worked by the tools of the lapidary; they are but little used, and when divided into thin plates they are disposed to separate, from change of atmosphere, the union of their respective parts being somewhat imperfect. They are made into small ornaments, knife-handles, boxes, &c., which are occasionally imported.

The tusk of the elephant, however, is of far more importance than all these other kinds of ivory, and appears to have been extensively used by the Greeks and Romans. Amongst the former, Phidias was famous for his statues, thrones, and other works of embellishment, made in ivory combined with gold, an art described as the *Toreutic*. In reference to the construction of ivory statues, Monsieur Quatremère de Quincy, in his great work on ancient sculpture, advances some curious speculations of their being formed upon centres or cores of wood, covered with plates of ivory; and also that that the ancients were enabled to procure larger elephants' teeth, or that they possessed the means of softening and flattening out those of ordinary size, from which to obtain the pieces presumed to have been thus employed.

These questionable suppositions, however, particularly the latter, scarcely seemed called for, as solid blocks of ivory of the sizes commonly met with, would appear to be sufficient for the construction of colossal figures. It is much to be regretted that none of these statues have descended to our times.

One of the constituent parts of ivory being animal matter, we should naturally expect it to be less durable than the inorganic materials, in which many fine specimens of ancient art still exist in great comparative perfection. At the present day, Mr. Benjamin Cheverton copies various works sculptured in marble, &c. upon a reduced scale in ivory, by means of mechanism perfected by himself. His miniature busts possess a degree of faithfulness and perfection that leave nothing to be desired. Ivory appears not to suffer very rapid decay, in the lengthened deposition in the frozen earth of Siberia, nor when immersed in water; but various specimens in the British Museum, apparently less favourably situated, and in contact with the air, exhibit the effect of time, the ivory being decomposed and divided into flakes and pieces which exhibit its lamellar structure in a very satisfactory manner. (North Gallery, Room II., Wall case 2.)

Africa is considered to produce ivory in much greater abundance than Asia, and generally of far better quality. The finest transparent ivory is principally collected along the western coast of Africa, within ten degrees north and south of the equator. On this coast the ivory is considered to become more and more inferior in quality and more broken, (apparently from hostile encounters,) with the increase of latitude: that from Mogador being perhaps the worst.

The best white ivory is, for the most part, the produce of the eastern coast of Africa generally, and until recently was imported

almost exclusively from Bombay; of late years this has been partially collected along the coast; and on the Island of Madagascar; very inferior ivory is, however, sometimes received from these localities, and only a small quantity is now obtained from the Cape of Good Hope. The Asiatic teeth shipped from Calcutta, Madras, and part of those from Bombay, are the produce of India generally; they are called Asiatic, East Indian, Siam, Singapore, and Ceylon teeth, &c. The last two are described as ivory of a fine grain, with a "pearly blush" appearance, and seldom large.

It appears that many of the better teeth, and the superior parts of others, are selected by the natives of India for their own consumption, and for exportation to China, as numerous hollow pieces, and other portions of teeth, (the ends of which are generally covered with wax to protect them from the air,) are imported along with the entire teeth; and this selection seems confirmed, as the ivory obtained from Madagascar direct contains generally a larger portion of superior teeth.

Elephants' teeth differ considerably in their size, weight, and appearance. The outsides of the African teeth run through all the transparent tints of light and deep orange, hazel, and brown, and some are almost black. Those from Asia are similar, although generally lighter, and frequently of a kind of opaque fawn, or stone-colour; they have seldom the transparent character of the African teeth; and they commonly abound in cracks of inconsiderable depth from which the others are comparatively free.

Society of Arts.

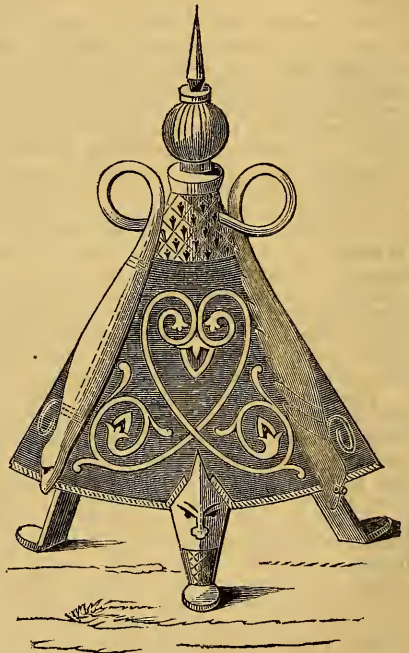
April 12.—Sir J. P. Boileau, in the chair.—Mr. D. Wyatt read a paper "On the Art of Enamel, Ancient and Modern." After a description of the composition of pure enamel and of the nature of the pigments usually employed to colour it, Mr. Wyatt proceeded to enumerate the six leading varieties which had been adopted at various periods in the history of the art to unite the vitreous paste with its metallic base, endeavouring as far as possible to describe each genius in the language of some contemporary authority. The first, or Byzantine process—which obtained throughout the Eastern Empire from probably the time of Justinian down to about the year 1300—was illustrated from the particulars furnished by Theophilus, the celebrated artist-monk of the eleventh or twelfth century; and its chief peculiarity appeared to have been the formation of casements, or cavities, for the reception of the enamel by means of gold filigree. The second, or early Limoges style—which was so much practised in that city from probably the eleventh century until the frightful siege and massacre by the Black Prince—was described from a comparison of the notices of Mr. Albert Way with those of MM. Petit, Dussieux, Pot.

tier, and the Abbé Texier; and would seem to have substituted for the filigree compartments of the Byzantine mode excisions formed in the thick copperplate by the graver. The third, or early Italian mode—practised for probably some fifty years before the days of Ugolino Veri, the artist who executed the celebrated shrine in Orvieto Cathedral, in the year 1338, and carried by subsequent goldsmiths and enamellers down to the end of the sixteenth century—was detailed from descriptions given by Vasari, and Benvenuto Cellini, about the middle of that century. It appears to have held a midway position between the ancient "champ levé" or incised and the painted enamels afterwards produced; consisting in engraving silver after the manner of medallion relief, and then floating over it with variously coloured transparent pastes. Benvenuto was said to have, if not invented, at least been the first to describe the improvement that took place about the beginning of the sixteenth century in the art, which constituted what Mr. Wyatt called jewellers' enamel. It consisted in using as a vehicle with the glass-powder employed to cover small gold or silver objects in the round or in the highest relief, water in which pips of pears had been steeped. This held the paste in its place until vitrification took place, and was yet so delicate a cement as in no degree to interfere with the perfect purity of the enamel. The fifth, or "late Limoges" variety was described as having sprung at once, fully armed from the brain of that Jupiter of enamel workers, Leonard Limousin, under the auspices of Francis the First; and differed from its predecessors chiefly in entirely covering the surface of the metal with an opaque paste, and then painting on that with transparent colours, regaining the effect of a translucent ground by applying silver leaf in particular situations, fastening it with a glass of colourless enamel, and then tinting over it. These peculiarities, as well as the "*peinture grisâtre*" and touching with gold, were illustrated from the manuscripts published by M. Maurice Ardent, of Limoges. This style appears to have dwindled into nonentity under the hands of the Nouaillers, a family who lived (they can scarcely be said to have flourished) during the latter part of the seventeenth century. In connection with the detail of the sixth and last process, the miniature style, honourable allusion was made to the labours of Sir Theodore de Mayerne and his connection with Petitot, the principal and best known of this school of art. The improvements effected in this style would seem to have been a great enrichment of the palette by the addition of new pigments, the power of multiplying the number of firings, and graduating the succession of tints, their hardness and fusibility by the addition of fluxes, &c. Unhappily, the mystery which many selfish artists have thrown over their modes of procedure renders them exceedingly difficult to analyse or describe. Mr. Wyatt then gave a rapid sketch of the history of the art; and concluded by expressing an earnest hope that we may ere long adopt and fully carry out the old practice of the middle ages.

Correspondence.

Candlesticks of the Twelfth Century.

SIR,—Various allusions in old writers show that the use of candles, such as we now understand by that name, is of considerable antiquity. They are exhibited in Anglo-Saxon illuminations at least as far back as the tenth century. At an earlier period, the Anglo-Saxon word "*candel*" had probably a more general signification, and meant anything used to give light. There are some words used by the Anglo-Saxon writers which would lead us to conclude that the earlier candlesticks were made of wood, probably little more than a stick, tapering at the upper end to a point, and



this would explain the origin of the older form of candlesticks, in which, instead of being placed in a socket, the candle was fixed on a long spike. It is difficult to say at what period the candlesticks with sockets first came into use. The oldest examples known are of the time of Edward the Third; but the spiked candlesticks continued to be used, particularly in churches, long after this period. They are still used in Catholic countries. The annexed cut represents a candlestick in the collection of Colonel Bourgeois du Catelet. It is made of copper enamelled.

Your obedient servant,

April 20th, 1848.

F. E.

Masonry.

[Continued from page 3.]

In every course of ashlar facing in which the backing is brick or rubble, *bond*, or, as they are called in the country, *through* stones should be introduced, their number being proportioned to the length of the course; every one of which stones, if a superior course, should fall in the middle between every two like stones in the course below. And this disposition should be strictly attended to in all long courses. Some masons, in carrying up their work, to show that they have introduced a sufficient number of bond stones into their work, choose their bond stones of greater length than the thickness of the wall, and knock or cut off their ends afterwards. But this is a bad practice, as the wall is liable to be shaken by the force used in reducing, by chiselling or otherwise cutting away the projecting part, and sometimes with the chance even of splitting the bond stone itself. In piers, where the jambs are coursed with ashlar in front, every alternate jamb stone should go through the wall, with its bed perfectly level. If the jamb stones are of one entire height, as is often the case when architraves are wrought upon them, and also upon the lintel crowning them, of the stones at the ends of the courses of the pier which are to adjoin the architrave jamb, every alternate stone should be a bond stone; and if the piers be very narrow between the apertures, no other bond stones will be necessary in such short courses. When the piers are wide, the number of bond stones is to be proportioned to the space. Bond stones, too, must be particularly attended to in long courses above and below windows. They should have their sides parallel, and of course perpendicular to each other, and their horizontal dimension in the face of the work should never be less than the vertical one. The vertical joints, after receding about three-quarters of an inch from the face of the work with a close joint, should widen gradually to the back, so as to form hollow wedge-like figures for the reception of mortar and *packing*. The adjoining stones should have their beds and vertical joints filled with oil-putty, from the face to about three-quarters of an inch inwards, and the remaining part of the beds with well-prepared mortar. Putty cement is very durable, and will remain prominent when many stones are in a state of dilapidation, through the action of the atmosphere upon them. The use of the oil-putty is at first disagreeable, from the oil spreading over the surface of the contiguous stones; but after a time this unpleasant look disappears, and the work seems as though of one piece. All the stones of an ashlar facing ought to be laid on their natural beds. From inattention to this circumstance, the stones often flush at the joints; and, indeed, such a position of the lamina much sooner admits the destructive action of the air to take place. Where walls or insulated pillars of very small dimensions are to be carried up, every stone should be carefully bedded

level, and be without concavity in the middle. If the beds should be concave, as soon as the superimposed weight comes to be borne by the pier or pillar, the joints will in all probability begin to flush; and it is moreover better, if it be possible, to make every course in the masonry of such a pier or pillar in one stone. When large columns are obtained in a single block, their effect, from that circumstance alone, is very striking; but as this is not very often to be accomplished, the next point is to have as few and as small joints as possible; and the different stones, moreover, ought to be selected with the view, as much as possible, of concealing the joints, by having the blocks as much of the same colours as possible. It will immediately, of course, occur to the reader, that vertical joints in columns are inadmissible.

[To be continued.]

MULTIPLYING DRAWINGS BY MEANS OF LITHOGRAPHY.—The art of lithography furnishes the artist with an opportunity of multiplying his drawings without the assistance of the engraver. The design is drawn in pencil on the stone and then sprinkled with powdered black-lead, which is spread over all the surface by means of a badger's hair brush. It is then touched over with a brush and ink, or with the printing crayon, and thus the depth of tone or colour required may easily be obtained. The printing crayon enables the artist to obtain the most correct and finished drawings, but it is especially in conjunction with the pencil that its use is so valuable. Coloured lithographic stones have added a great charm to the designs in which they have been employed. The first idea of using them is due to M. Jullien, as by his fine plates of figures, they form part of a style of drawing with two crayons; but the credit of perfectionating them is due to M. Lemercier. By diminishing the strength of the varnish, and increasing the tone of the printing crayon—by printing on several stones or on one stone of two shades of colour, and powdering some parts with prepared colours, very remarkable results are obtained. To M. Lemercier we are indebted for several important improvements in the chrome-lithographic art. The fine stained glass at the church at Dreux, which is so well known, shows what may be done by the process of M. Lemercier; who, while diminishing the number of the stones employed, produces a regularity of tone and colour until now unattainable. The execution is very simple. A grained stone is rubbed with a tablet or cake of lithographic crayon, so as to cover it entirely; the colour thus obtained is softened down by means of a hard brush; it is still further removed with a piece of flannel, and then the design is executed by means of the printing crayons, the ink, and the graver; thus several tones or depths of colour may be obtained on one stone.—*From a Report of a Commission of the Paris Society of Arts.*

NEW USE FOR GUTTA PERCHA.—Gutta percha is now employed for making constables' staffs.

Perpetual Motion.

By perpetual motion is meant the preserving for an indefinite period of time of one original impulse imparted to any system of machinery. By a perpetual motion is not understood the keeping in motion any machine by the help of powers already existing as perpetual; this would be easy enough. The rise and fall of the tides might easily be turned to account in this way, and a machine properly constructed for this purpose would move for ever, or at least as long as tides lasted, or till it got out of repair, or its parts came by degrees to decay. The same may be said of machines set in motion and kept going by changes of temperature resulting from the diurnal revolution of the globe, or of machines moved by electro-magnetic forces, and so on. With these, therefore, we have nothing to do.

It is the impossibility of a perpetual motion *per se* we shall attempt to prove.

In all machines of the kind alluded to above, two antagonist powers so to say, exist—the original motion and the friction. These two are constantly in operation while the machine is in motion, and cease together. If the motion has no power of increasing itself by as much as it loses by friction, that friction must in the end annihilate it.

Now, in all mechanical problems as found in the numerous works on the subject, the resultant or resolution or product whatever of any force or forces is never greater than that which produced it, but always equal to it.

If a body is made to move from one place to another, and by proper arrangements is urged back to where it started from, its motion is not increased unless additional force has been given it during the circuit. If a body by any force is projected upwards, when it falls again to the plane it started from, it has only changed its direction, it has gained no power. If a body falls through a given space, and is permitted to rise again without striking, as in the pendulum, it does not rise higher than before. From these and similar examples we conclude, it is unreasonable ever to expect motion will propagate itself, and increase under any circumstances.

Now, motion given to a machine is limited, of course, as to quantity, but the friction is unlimited, except by the quantity of motion, or in other words, friction continues constantly diminishing the amount of the impulse, and with untrifling and unceasing energy becomes itself nothing only when it has stopped every moment.

Seeing then this is the law, the incontrovertible law of nature, the only hope left to the enthusiast is to annihilate friction itself: this will lead to a few observations on the nature of this troublesome enemy to motion. It may be said to be of three kinds; that of the atmosphere; that arising from irregularity of surfaces rubbing against each other; and that of adhesion of two surfaces so that it requires a small but certain force to separate them. The removal of the first is to remove the cause or

exhaust the atmosphere; but the exhaustion must be perfect, and as far as we know or can hope a perfect vacuum is unattainable. The second kind is only to be got rid of by polishing the surfaces that rub against each other, but the polish must not leave the slightest irregularity; it must be a perfect polish, and who can prove this has ever been attained? The third, is of course impossible, because, if you destroy adhesion, you destroy that without which no solid or fluid can exist.

SALTER LIVESAY.

The Chronotypist.

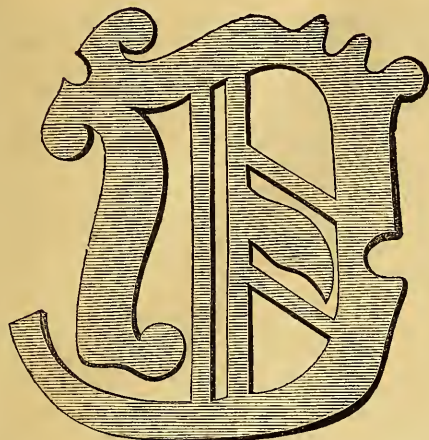
MR. WARRINGTON has just completed a memorial window in St. James's Church, Bury St. Edmund's, and three windows in the church at Caversham, near Reading. He has a triplet also ready for fixing in St. Martin's Church, Hereford; and some windows in hand for St. Lawrence's Church, Reading. It is in anticipation by the dean and chapter to fill with stained glass the great west windows of Norwich Cathedral.—A new process for burning bricks is said to have been invented by a Mr. Wm. Swain, of Westonbury, Pembrokeshire, by means of which a saving of more than half the usual quantity of fuel will be effected. The invention is to be patented.—On Tuesday the 18th ult. the first train passed through the Conway tubular bridge, consisting of an engine and tender, and one carriage crowded with people. Mr. R. Stephenson, in person, with his assistant, Mr. E. Clark, were on the engine, with several other gentlemen. Although an accurate instrument, provided for the purpose, was used, not the slightest vibration or deflection was perceived; the train passing and repassing several times. A train of ballast-waggons, of 106 tons weight, was afterwards run through, and though the wind blew a hurricane outside, no symptom of any motion could be registered within.—The very great falling off in the glass cutting trade has been ascribed, first to the terrible railway losses among the upper classes two years ago; followed up by the commercial panic, and tremendous losses occasioned by the excessive importation of foreign corn. Rich cut glass is an article of luxury, and when the means of the consumers of luxuries are crippled they must cease to purchase.—A *soirée* of the Stamford Mechanics' Institute, which has been established a little more than twelve months, lately took place at the Banqueting Room, Stamford Hotel. R. Newcomb, Esq., the proprietor of the *Stamford Mercury*, in the chair.—At the last meeting of the Paris Academy of Sciences, M. Chapuis announced to the assembly that he had discovered a "perpetual motion," in consormity with the laws and powers of nature, having for motive rowers the principal of universal gravitation with that of electro-magnetism.



A DESIGN FOR CURVILINEAR FOLIAGE.



The School of Design.



ESIGN

is evidently not on its last legs in this country, as some people have had the hardihood to declare—the school at Somerset House is getting on better than ever. The students, it is said, now amount to the number of 440—which is by far a greater number than ever before attended since the opening of the school in 1837.

A yet more promising circumstance, says a contemporary—as marking emphatically that the school is gradually adapting itself to that which was the real object of its institution—is, that the above number is composed of a larger proportion than at any former time of young men practically engaged in manufactures. The differences of opinion as to the propriety of here teaching design—which has always seemed to us a question of means and of relation—have for the present issued in the establishment of such a class; to whom Mr. DYCE has been for some time successfully lecturing. It is proposed, we understand, to associate with him a second master; who will lecture on the History of Art in reference to Ornament, while Mr. DYCE will confine his lectures to the Principles of Ornamental Art. Mr. REDGRAVE'S class has also, we are informed, been found a valuable addition to the teaching at this institution. Lord MORPETH, we may add, has procured for the service of the school the loan of the flower-pieces from the Gallery at Hampton Court:—and application has been made, which

it is hoped may be successful, for the use of plants from the grounds and conservatories at Kew, which, we are certain, would form an inestimable boon to the greatest proportion of the students. Notwithstanding the many botanical gardens which have lately been thrown open for the public use, the young beginner has still several very serious obstacles thrown in his way. Of course it cannot be expected that he, had he even the whole domains of FLORA spread out before him, could avail himself of that means of gathering information were he still destitute of a knowledge of the elements of the science of botany; whereas, by having the specimens shown and explained to him individually, in the school-room, by a competent master, the science would be soon and easily mastered, and we should in time to come, perhaps, be relieved of the painful necessity of viewing a species of *grafting*, which, however well it may look in nature, seems to us, somehow or the other, very ridiculous on the side of a tea-pot or the edge of a butter-boat.

Workmen Abroad and at Home.

WE extract the following from the *Builder*:—

It is announced in respect of the "Drawing-rooms" about to be held, that "Her Majesty the Queen, ever desirous of giving encouragement to the trade and industry of the United Kingdom, and particularly so at this time of commercial depression, would wish to see them in dresses of British Manufacture." This should lead us to doubt the truth of a statement recently forwarded to us, to the effect that much of the furniture required for the new apartments at Buckingham Palace is being made abroad!—The men in the employ of Mr. Thomas Cubitt have resolved, at a general meeting, "that, under existing circumstances, it is desirable to raise a fund, to be called 'Cubitt's Workmen's Philanthropic Fund,' to assist those men who formerly worked in the establishment, but are now out of work." Mr. Cubitt was requested to act as treasurer, and Mr. Dines was appointed secretary. Representatives of the various trades have been elected to form a committee, and a code of rules agreed on. The subscription is to be made for four Saturdays; and on the first of them £91 were raised thus:—Men, including clerks and foremen, £39 9s. 11½.; Mr. Cubitt, £50 per cent. on the sum raised by the men, £19 15s.; Mr. Cuthill, £5 per cent., £2; Mrs. Cubitt, £5; and Mr. J. A. Warre and friends, £25, £27 were distributed to eighty-two applicants. We hope to see this example followed.

To Correspondents, &c.

NOTICE.—*Reissue of the DECORATOR'S ASSISTANT.*—Preparations are now being made for publishing a Reissue of this Work from No. 1 of Vol. I. All the Numbers that are out of Print will be Reprinted, after being subjected to a careful Revision. As this will afford an excellent opportunity for new Subscribers about to take in the Work, either in Parts or Numbers, our Readers are earnestly requested to introduce it to the notice of their Friends.—We will endeavour to have No. 1 ready for Republication against the first week in June next.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

"Bruntsfield."—You may make glaziers' putty by mixing common whiting with linseed oil until it acquires the consistence of thick paste.—With regard to the plaster casts, you will find some receipts in our first and second volumes—we do not fancy virgin wax as it gets cracked so soon.—For diminishing or enlarging drawings, &c., employ the "pantograph."—We will give a rule for drawing the Ionic volute shortly.

"C. N. C."—Address a note to Mr. Weale, Holborn, and he will, no doubt, furnish you with the names of several.

QUERIES.

5. Required—the method of making sensitive paper.

6. Required—the best ground for the green bronze, and also the best for that of a rose-tinted or copper colour.

TEST FOR NITRIC ACID.—M. Berthelot, from Berzelius's An. Rep., states, a few drops of the suspected liquid are placed in a drachm of concentrated sulphuric acid: after stirring, a small piece of brucine is introduced, which, if nitric acid is present (but not otherwise), dissolves and produces a red colour that changes to yellow: 1-10,000th part may be thus detected.

VENTILATION OF EMIGRANT SHIPS.—Bad ventilation in emigrant passage-ships, kills thousands. It has been suggested that if means were provided for cooking the food under deck, and their use made imperative, the fire would necessarily change the air, and prove a most powerful disinfecting agent.

TO DISSOLVE INDIAN RUBBER.—A correspondent asks how this can be effected. The usual and cheapest solvents of Indian-rubber are naphtha or turpentine, and these will keep it in solution so long as they are not exposed to the air; but, of course, being spirits, on exposure in small quantities, the spirit leaves the Indian-rubber. These solutions are used to cement hose and pipes of leather, &c. If Indian-rubber be literally melted in an oven, at about 210 or 220 degrees of heat, it will not return to a solid state.

The Free Exhibition of Modern Art, HYDE-PARK-CORNER.

THE first glance at this gallery will assuredly disappoint the visitor; a feeling which must arise from the entire absence of due arrangement according to the usually prescribed method of picture-hanging, and still more from the imperfect light by which the works are seen. The latter defect ought to be remedied before another season.

Of Mr. Lauder's seven or eight contributions to this gallery we prefer "The Tomb of Shakspeare," a work of an exceedingly interesting character, skilfully executed, in which the figure of Sir Walter Scott is happily introduced.

E. J. Niemann's "Sunset," and "A Study" of a landscape with an evening effect, are works which will add considerably to his reputation. They are painted with great power and feeling.

H. K. Browne in his "Little Paul" has caught the spirit of Dickens's beautiful but overdrawn conception. He is sitting in the window listening to the deep murmurs of the ever-rolling sea. The picture is one which must attract admiration from every lover of the pure and exquisite in art.

A. Corbould is a name we do not recognise: that he is no tyro in the art is fully seen in No. 73, "Trespassers," representing the garden in front of an old mansion, into which a horse and a pony have strayed. We have rarely seen animals better drawn, or painted with more brilliancy.

The few works sent in by Mr. Wingfield make us desirous to see more. No. 74, "Scene in Bushy-park," is an elegant Watteauish composition, replete with cheerfulness and life.

F. Maddox Brown's "Wyckliffe Reading the First Translation of the Bible into English" is an extraordinary performance, which should place the artist in the foremost ranks of his competitors.

Of the several good landscapes by Mr. Percy we prefer No. 321, "A Mill and Lock on the Thames." It is a large performance, executed with great breadth and powerful colouring, which latter quality would be improved by more delicacy in the middle distance. The trees also require more distinct markings and occasional breaks in the masses. No sunshine could ever penetrate such dense foliage.

We have not space to particularise the drawings or the sculptures, but neither possess sufficient importance (though some of the former are creditable productions) to require a detailed notice. In taking leave of the society for the present we must declare our cordial wishes for its success. It has begun well—so well that we fully expect another year will see a large accession of contributors whom apprehensions of the result have hitherto kept back. It requires no deep spirit of prophecy to predict this, if its members prove themselves as wise as they are energetic, persevering, and, in most cases, accomplished in the art they profess.

Exhibition of the Royal Academy.

THE Academy maintains this year the advance made in 1847. The beneficial effect of the public competition in Westminster Hall continues distinctly observable in the direction it has given both to the selection of subjects and their mode of treatment, and among the most striking examples in this respect is a picture by Cope, "Cardinal Wolsey arriving to die at Leicester," which, both from its order in the catalogue and its intrinsic merit, is one of the first to command attention. The utter feebleness of the fallen man under a mortal sickness, wholly unattended by mere physical pain, and which has banished all his ambition, while those qualities of personal kindness which rendered his ambition successful still remain, is profoundly given, and the concentration of real sympathy from the abbot and every actor in the scene—not one of whom is thinking of an attitude—communicates itself irresistibly to the spectator. This picture has been painted for Prince Albert. Uwins has only a single picture, but it is one of his best—"The Vintage in the Claret Vineyards on the banks of the Gironde;" and the peculiar skill of the artist in conveying, from an all-pervading purity of feeling, dignity and refinement to simple and actual peasants, is strikingly observable. This picture is said to have been purchased by Mr. Vernon with the view of its forming part of his bequest to the nation. "St. John the Baptist reproving Herod," by J. R. Herbert, is one which will command universal study and admiration. The words "It is not lawful for thee to have thy brother's wife," fall not only upon the ears, but into the soul of the King. The truth is stifled and feared, but it is received; while in Herodias the animal passion, too big for words, tells at once of its final mastery over the awakened conscience of her husband. Above this picture, and from the wonderful sharpness with which it attracts the attention to the representation of material objects, in striking contrast to it, is one of a colossal kind, "Chivalry," by Maclise. "A Sketch of my Father," by Edwin Landseer, an embodiment of a ripe old age in which everything is subdued but kindness and faith which have gained once more all the strength of childhood, will have a personal interest for ever lover of art. "Italian Peasants Prisoners with Banditti" is faultless in its expression of the individual emotions of the actors, and a dramatic interest is cleverly imparted to the spectator by the appearance of soldiers in the background, of whom both captors and captives are wholly ignorant. "The Butt," by Mulready, will have a constant crowd round it, and will never be forgotten. A lad is shooting cherries into, or rather at, the anxiously-extended mouth of a butcher-boy, whose cheeks are already smeared with unsuccessful

attempts; and so perfect is the drawing, that you expect to see the cherry fly off from the boy's thumb while looking at it, and almost feel disposed to wait to see if this time it will reach its destination. "Country Cousins," by Redgrave, is another picture which will form part of the collection given by Mr. Vernon to the nation, and here again we have one of the most successful examples of the artist's peculiar style. This subject is less painful than many of Redgrave's productions; but the contrast of timid worth with the dead narrowness of worldly assumption is still severely given. Edwin Landseer shines in his familiar manner in "Alexander and Diogenes." The cynical terrier in his tub conveys his moral effectively, and the bull-dog Alexander and his whole courtier tribe of hounds and spaniels evidently recognise the greatness of the philosopher. "Aaron," by Eitty, shows a singular effect of colours. The jewels on the breastplate sparkle each with its own peculiar light. Two pictures by Leslie, "Lady Jane Grey," and "The Shell," are truthful and pleasing, and there is originality and boldness in the "Doubtful Document," by Lear.

In the middle room one of the most attractive pictures is "Euphrosyne," by Frost. The flesh tints are slightly deficient in warmth, but for attitude, grace, and contrast of colour, it commands high admiration. "A Summer Morning," a landscape, by Lee, with cattle, by Cooper, proves a most happy combination for the reputation of each artist. Here also is a touching picture by Edwin Landseer, "A Random Shot," a hind dying on a snow-covered hill, with her calf beside her. The track of the animal's bloody steps, and the effect of sunlight on the snow, possess a magical reality.

In the west room a piece of original humour of the most genuine kind will be found in the "Artist's Portfolio," by P. Williams. "The Contest of Beauty for the Girdle of Florimel" is a graceful composition by F. R. Pickersgill. "Queen Elizabeth discovers she is no longer young," by Egg, and "Catherine appealing to Henry VIII., by H. N. O'Neil, are both pictures of a class now deservedly appreciated. "The Evening Gun," by Danby, gives the true sublimity of repose; and, finally, in the "Eve of the Deluge," by Linnell, we have one of the most magnificent effects of a forboding sunset ever painted. It is palpably the last evening of a condemned world.

Turner this year is absent, and it need hardly be said that the loss is felt. Stanfield has five pictures, the chief of which, "Amalfi" will become universally popular. Lee, Witherington, and Creswick have also been industrious contributors, and Roberts has three subjects of great interest. Portraits are numerous, but, unfortunately, few of them possess much interest.

The great charm of the exhibition, on the whole, is the remarkable number of leading productions which it presents to us from artists scarcely beyond the commencement of their career. It will be impossible for any one to come away from the present collection without an established confidence in the steady growth and permanent elevation of British art.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 14.]

DACTILIOGLYPH, the inscription of the name of the artist on a sculptured gem or cameo.

DACTYLOS, the shortest measure among the Greeks, being the fourth part of a palm.

DAGUE-A-ROELLE, a description of dagger of



the reign of Henry VI.

DAGUERREOTYPE, a species of photogenic drawing, in which the impressions are taken, by means of the camera obscura, on plates of silvered copper, invented by M. Daguerre. The metallic plate is exposed, in a well-closed box, to the action of the vapour of iodine, by which means it becomes covered with an extremely thin layer of ioduret of silver. The plate thus prepared is placed in the dark chamber of the camera obscura, in such a position that the image of the object to be represented is perfectly clear and distinct upon it. In a short time the plate is withdrawn, and is now exposed at an angle of 45 degrees to the action of the vapour of mercury, at 60 degrees Reaumur, and finally plunged into a solution of hyposulphate of soda. The picture is then complete.

DAY OR BAY (in architecture), one of the lights or compartments between mullion and mullion in the great windows of the Gothic style.

DECAMETER, a French measure of length equal to ten metres.

DEMI-HAGUE OR HACKBUT, a sort of pistol. The accompanying engraving represents the



butt-end of one of the reign of Queen Elizabeth.

DEALS OR DEAL BOARDS, a thin sort of fir planks, formed by sawing the trunk of a tree into longitudinal divisions of greater or less thickness. They are imported from Dantzic, and many other parts of the Baltic, and from North America. The Russian standard deal is 12 ft. long, 11 in. wide, and 1½ in. thick; the Christian standard deal is 11 ft. long, 9 in. wide, and 1½ in. thick; at Dram the length is 10ft. and the thickness 1½ in.

DETACHED (in painting), is said of figures when they stand free and disengaged from each other.

DIAGONAL, anything in an angular direction, a right line as *ab* drawn across an equilateral

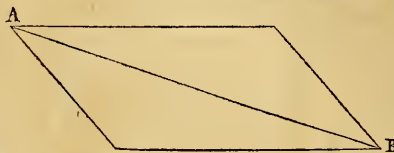
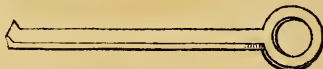


figure from one angle to another, is by some called the *diameter*, by others the *diametral*, but generally the *diagonal* of the figure.

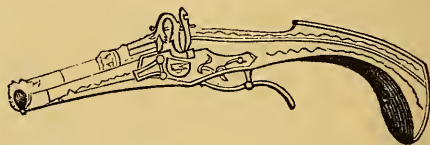
DOG, a sort of iron hook or bar, with a sharp fang at one end, so formed as to be easily



driven into a piece of timber, to drag it by means of a rope, out of the water or ship-board.

DOOKS, in Scotland, flat pieces of wood inserted in walls, called in England *wooden bricks*.

DRAGON, a description of pistol employed in



the reign of Queen Elizabeth.

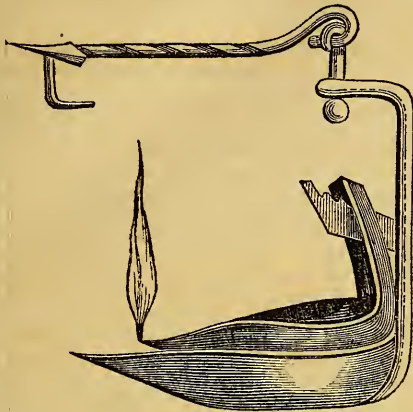
DRAYTON'S PROCESS FOR SILVERING GLASS, a piece of pure virgin silver is dissolved in nitric acid, forming nitrate of silver (lunar caustic),—to this is added the sub carbonate of ammonia, spirit of wine, and distilled water; the glass, having been previously well cleaned, is laid flat in a horizontal position, the above solution, to which is added a few drops of the oil of cassia and cloves, is then taken, and, after being well shaken, poured on the glass. Precipitation of the silver from the solution in which it was held suspended immediately commences. A quarter of an hour is generally sufficient to silver a glass, and at the expiration of that time the remaining solution is poured off, and a coating of varnish applied to protect it from injury.

[To be continued.]

Correspondence.

Antique Lamp.

SIR,—The accompanying drawing represents a lamp of the 15th or 16th century, in the collection of M. Dugué, of Paris. Similar lamps of the same classic form, which appears to have been derived, through a succession of ages, from the Romans, are still used in some parts of



France. The branch with notches serves to raise the hinder part of the lamp as the oil diminishes, so as to throw it forward to the wick; the one end of the horizontal beam or rod was generally inserted into the side of a kind of wooden candlestick.

F. E.

Method of Dividing a Line into two Parts, so that the Square of one Part may be double the Square of the other.

SIR,—In No. 9 of the DECORATOR'S ASSISTANT you gave a method of dividing a line into two parts, so that the square of one part may be double the square of the other;—I forward you a solution of the same algebraically worked.

I am, Sir,

Yours, obediently,

REGIOMONTANUS.

Manchester, April 15th, 1848.

Let x and y be the required parts of the line a ; then

$$\begin{aligned} x + y &= a \quad (1) \\ \text{and } x^2 &= 2y^2 \\ \therefore x &= \sqrt{2}y \end{aligned}$$

Substituting this value of x in (1), we have

$$\begin{aligned} \sqrt{2}y^2 + y &= a \\ \sqrt{2}y^2 &= a - y \\ 2y^2 &= a^2 - 2ay + y^2 \\ y^2 + 2ay &= a^2 \\ y^2 + 2ay + a^2 &= 2a^2 \\ y + a &= \pm \sqrt{2}a^2 = \pm a\sqrt{2} \\ y &= \pm a\sqrt{2} - a \end{aligned}$$

and (1) $x = a - y$.

Review.

An Analysis of Gothic Ornaments, illustrated by a Series of Designs for the Decoration of Churches and their Precincts.—By B. BARRETT. London: Published by the Author, 21, Pulford-street, Thames Bank; also of the Publisher of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand.

Now that the Gothic style of architecture has become so popular in England, such works as the one under notice are of especial importance both to the architect and decorator. But Mr. Barrett's production claims further praise at our hands, and a more general patronage at those of our readers. Its merits are not merely professional, but in an artistic point of view they appeal to all who are capable of



appreciating beauty and intrinsic worth;—this is high praise, but we are fully assured it is no more than just. The annexed illustration of a finial in the perpendicular style is an excellent specimen of the contents of the work, and we earnestly hope that Mr. Barret will meet with every encouragement in his praiseworthy attempt to lay before the public spirited graphic delineations of all that is interesting and useful in Gothic decoration.

BRICK COLUMNS, &c.—The proper way to carry up columns in cement is to cut one course round, and then to gauge no more cement and sand than will lay the same. Occasional bond stones should always be introduced the whole circumference of the column or size of the pillar. The scaffolding should be kept clear of the column.

Manufacture of Indian Ink.

THE best of this manufacture has a shining black fracture; its body is finely compact, and homogeneous when rubbed with water. When dry on the paper it will not yield to the action of water; yet it will give way at once to that action, when it has been used and dried on marble or ivory, which proves that the alumed paper forms a strong combination with the ink.

Nothing is positively known of the method of preparing it except what Duhalde has told us in his "History of China." The receipt which he has given as taken from a Chinese book is as follows:—

The makers of this ink take some of the plants Hohiang and Kansang, the cloves of Tchu-yiatsao-ko, and the juice of ginger; these are to be clarified, and then evaporated to a thick consistency; ten ounces of this electuary is then mixed with four ounces of size made from asses'-skin parchment; this mixture is then incorporated with ten ounces of smoke-black, and then the whole is wrought into a fine paste which is put into moulds; these are covered up in the ashes, where they remain a longer or shorter time, according to the season.

P. Duhalde, being aware that all the plants mentioned in this process, except the ginger, are unknown to our botanists, saw at once that his receipt would be useless, unless he could give some means of substituting, for the Chinese plants, those of our own country which are most analogous to them. He therefore, on this subject, made diligent inquiries, the result of which he has published; we learn from the author, that the pods called *tchu-yia-lsuo-ko* are produced by a bush or shrub, and resemble those of the carob bean, except that they are smaller and nearly round. The Chinese plants inclose cells filled with a pulpy substance of a pungent and unpleasant flavour.

Ho-biang is, according to the Chinese dictionary, an aromatic medicinal plant, to which are attributed the same qualities, as belong to the *sou ho*; another plant from which is extracted a balm similar to liquid storax.

Finally, the Kan-sung is a plant used in the composition of perfumes, and is pleasing to the taste.

The processes used in the arts, are always difficult to describe; yet, even though we should be in possession of the plants employed by the Chinese, it may be doubted whether we should quite succeed in imitating their ink on the first attempt.

Their pods, which resemble the carob, appear to me to belong to the mimosa. The harshness of their scent is a sufficient indication that they contain much of the astringent principle: how is it, then, that their decoction does not precipitate gelatine? have not these vegetable juices need of a new clarifying process?

P. Duhalde speaks of the alkaline properties of the ink; how then shall we reconcile that with the gallic acid contained in juices of the astringent plants? There must, therefore, be

some omission, for the alkaline principle could not exist, or at least no one has yet, by any known means, been able to saturate the acid contained in the vegetable decoction; and it may be added, that this Chinese ink may be dissolved in vinegar, without forming any precipitate.

However imperfect this description may be, it nevertheless points out the way to us, by informing us that the Chinese do not use any pure size in the manufacture of their ink, but that they add some vegetable juices, which give the ink greater brilliancy, and fix it more firmly on paper.

In fact, if fine lamp-black be intimately combined with pure gelatine, it produces an ink of a fine black tint; but in its fracture it will not be glossy, neither will it be indelible on paper, like the good Chinese ink, with the disadvantage of being affected by the frost in winter.

Here then we have obtained two important points—namely, that it is indispensable that the ink shall be fluid in winter as well as summer; and also that it shall resist being washed off the paper. The first of these qualities can be easily obtained. For the purpose of making such an alteration in the gelatine as will insure its fluidity to equal that of gum, it only requires that the ebullition should be carried on to an elevated temperature, but as the caloric would in this action form an ammoniacal soap, which attracts the moisture of the atmosphere, it would be preferable to employ a process, by which the starch or gelatine may be changed into a gummy and saccharine substance. This method consists in boiling this starchy matter in water, acidulated by sulphuric acid, and afterwards saturating the acid with chalk.

To render the ink insoluble on paper, it is requisite to mix with the animal size some juices of astringent vegetables, so carefully combined as not to occasion any precipitate.

The infusion of nut-galls into a solution of gelatine, will cause an abundant precipitation, which will unite in a resinous, elastic, and brilliant mass. This compound, which is insoluble in water, can be dissolved in ammonia (hartshorn), and in a greater quantity of gelatine. The ammoniacal solution of this precipitate is very brown, but transparent; and when dry it will not dissolve in water.

The resinous matter dissolved in gelatine, is still soluble in water after it has been dried, but it dissolves much slower than pure gelatine. It is therefore, to the action of the tannin principle on the animal gluten, that we must ascribe the fixedness of Indian ink upon paper.

The size prepared from parchment made of asses' skin is considered the best, though it is not evident at first sight on what account it should have the preference so decidedly; and I must state, that having tried, by way of experiment, to convert asses' skin into size, by passing it through lime, I have only at last succeeded in dissolving it, by steeping it for several days in lime water.

The Chinese attribute to this animal gluten some peculiar medicinal qualities, and it may be that this idea influences them in preparing it with particular care. I have seen some of

this size which was very transparent, but I have not been able to procure a portion, to compare it with that made from offal of oxen, &c.

The best size is that sort which, when steeped in water, only swells without dissolving; this species is very rarely found for sale, but in place of it, the Flanders size is the next best.

After having steeped this substance for several hours in water, about three times its weight, which has been acidulated by a tenth part of sulphuric acid; that part of the water is to be drawn off which contains the portion of size which is too soluble, and this must be replaced by an equal quantity of water, slightly acidulated. The size is then to be boiled for an hour or two, and the ebullition brings it to such a condition, that it will not when cold return to a state of jelly.

The acid should then be saturated with powdered chalk, with which it is combined by a little at a time, until the resistance of paper shows that the saturation is sufficient. The mixture is then filtered through paper, and it passes quite transparent.

About one quarter of this size is then to be taken away, and upon it should be thrown a solution of the concentrated essence of nut-galls: the gelatine then precipitates, and the elastic resin-like substance already mentioned; this matter is then to be washed in warm water, and dissolved in clarified size; it is again filtered, and it is allowed to draw near to the proper state, for the purpose of incorporating it with the lamp-black, that too much time may not be lost, in waiting until the paste has acquired the proper consistence requisite for its being moulded.

The astringent principle contained in vegetable juices will not form a gelatine precipitate, when the acid contained in it has been saturated. Nut-galls, or any other vegetable containing much of the astringent principle, may then be boiled with magnesia, or lime; and then mixed with the filtered decoction of the size, there will not be any precipitation; and the size thus prepared will be so much less soluble when dry, in proportion to the quantity it may contain of the astringent matter.

It is only by cautiously proceeding, that we can ascertain the most just proportion of the astringent matter which ought to be combined with the size.

By whatever mode the excipient is prepared for being mixed with the black pigment, it must be equally well clarified, by washing it in plenty of water, until it leaves no sediment; whenever this takes place, there is nothing more required than to concentrate its substance to the proper degree of consistency, by evaporation.

It is also by proceeding cautiously, that we can ascertain the relative proportions of black and size, since that size may be more or less strong: but we shall succeed in this object without difficulty, by making the two following trials:—

With a pencil apply a light wash of ink upon a slab of porcelain, and with a pen put some writing on paper; if the ink on the porcelain shines, this is a proof that it has sufficient

size in it; and if, after it is dry on the paper, it cannot be washed off by water, it is clear that there is not too much size in the composition.

The Chinese use wooden moulds to form their ink paste, but these moulds may be made very well of potter's clay, baked; and when they have not been half vitrified by the fire, they will adhere to the tongue, in this state they absorb a portion of the moisture in the paste, and this facilitates the discharge of the moulded ink, in a short time after having been compressed in the mould; the sticks of ink are afterwards covered up in the ashes to prevent their becoming split in the drying; and the moulds may be dried in the sun, or on a stove; and if the pores of the latter, after a long service, should cease to absorb the humidity, they should be boiled in a wash of caustic lye, and then dried as usual, or exposed to a red heat.

The quality of the lamp-black has a great influence upon the quality of the ink. The black of which the "Imperial Ink" is made, consists of extremely light lamp-black, in the preparation of which great care is taken. For this purpose, a metal stove may be employed; into this stove, a lamp with many burners must be placed, and surmounted with a large plate of iron; the opening of the stove should be so arranged as to allow the combustion of the lamp to produce as much smoke as possible; and for this purpose, various oils and fatty substances are tried, to ascertain which will best suit this purpose.

In China, the finest lamp-black is prepared from the oil of *girgelin*, which is the oil of sesame.

M. Proust, in the analysis which he made of some Chinese ink, of the finest quality, found two per cent. of camphor in it. This substance is also pointed out in a receipt, to be found in the Chinese Encyclopedia. From this information, I mixed a little camphor in the ink which I made, and I soon found the good of this addition. When the ink in which it was mixed, was in a state of paste strong enough to be moulded, I have pressed it with the fingers slightly touched with oil, and it did not adhere in the slightest degree; in this state it took perfectly the impression of the seal, and this facility of moulding I attribute entirely to the camphor.

IMITATION OF DAMASK FOR WALLS.—Thoroughly paint the plaster in four or five coats, then impress the outline of the pattern upon it by means of a pounce; cover this over with a thick substance composed of oil, mastic varnish, bees-wax, sugar of lead, amber or other colouring pigments, and white lead; then throw against the wall with some force, and while the above substance remains wet, fine pit or sea sand, prepared by drying and sifting. When this has become quite dry, which will be in the course of a few days, brush off carefully all the loose sand, leaving only what adheres to the pattern. When this has been done paint the whole over with a coat of flatted paint of the same-colour as the ground work.

Masonry.

[Concluded from page 19.]

COLUMNS.—The stones for an intended column being procured, and the order in which they are to be placed upon one another having been determined, we must correctly ascertain the exact diameter for the two ends of each of them. To effect this, draw an elevation of the column proposed to its full size, divide it by lines parallel to the base into as many heights as the column is intended to contain stones, taking care that none of the heights exceed the lengths the stones will produce; the working of the stones to the diameters thus obtained then becomes easy. The ends of each stone must first be wrought so as to form exactly true and parallel planes. The two beds of stone, being thus formed, find their centres, and describe a circle on each of them; divide these circles into the same number of equal parts, which may, for example, amount to six or eight; draw lines across each end of the stone, so that they will pass through the centre and through the opposite divisions of the same end. The extremities of these lines are to regulate the progress of the chisel along the surface of the stone; and therefore, when those of one end have been drawn, those of the other must be made in the same plane, or opposite to them respectively. The cylindrical part of the stones must be wrought with the assistance of a straight edge; but for the swell of a column, a diminishing rule, that is, one made concave to the line of the column, must be employed. This diminishing rule will also serve to plumb the stones in setting them. If it be made the whole length of the column, the heights into which the elevation of the column is divided should be marked upon it, so that it may be applied to give each stone its proper curvature. But as the use of a very long diminishing rule is inconvenient when the stones are in many and short lengths, rules or rods may be employed corresponding in length to the different heights.

Stairs.—Nothing to perplex will occur in carrying up stairs which are supported by a wall at both ends, because the inner ends of the steps may either terminate in a solid *newel*, or be tailed into a wall surrounding an open newel. Where elegance is not required, and where the newel does not exceed 2 feet 6 inches, the ends of the steps may be conveniently supported by a solid pillar; but when the newel is thicker, a thin wall surrounding the newel would be cheaper. In stairs to basement stories, where geometrical stairs are used above, the steps next to the newel are generally supported upon a dwarf wall. In *geometrical stairs*, the outer end of each step is fixed in the wall, and one of the edges of every step supported by the edge of the step below, and formed with *joggled joints*, so that no step can descend in the inclined direction of the plane nor in a vertical direction; the sally of every joint forms an exterior obtuse angle on the lower part of the upper

step called a back rebate, and that on the upper part of the lower step of course an interior one, and the joint formed of these sallyes] is a *joggle*, which may be level from the face of the risers to about one inch within the joint. Thus the plane of the tread of each step is continued one inch within the surface of each riser; the lower part of the joint is a narrow surface, perpendicular to the inclined direction or soffit of the stair at the end next to the newel. With most sorts of stone, the thickness of every step at the thinnest place need not exceed 2 inches for steps of 4 feet in length; that is, measuring from the interior angle of every step perpendicular to the rake. The thickness of steps at the interior angle should be proportioned to their length; but allowing that the thickness of the steps at each of the interior angles is sufficient at 2 inches, then will the thickness of them at the interior angles be half the number of inches that the length of the steps is in feet; for instance, a step 5 feet long would be 2½ inches at that place. The stone platforms of geometrical stairs that is, the *landings*, *half paces*, and *quarter paces*, are constructed of one or more stones, as they can be procured of sufficient size. When the platform consists of two or more stones, the first of them is laid on the last step that is set, and one end tailed in and wedged into the wall; the next stone is joggled or rebated into the one just set, and the end also fixed into the wall, as that and the preceding steps also are; and every stone in succession, till the platform is completed. When another flight of steps is required, the last or uppermost platform becomes the spring stone for the first step of it, whose joint is to be joggled, as well as that of each succeeding step, similarly to those of the first flight. The principle upon which stone geometrical stairs are constructed is, that every body must be supported by three points placed out of a straight line; and therefore, that if two edges of a body in different directions be secured to another body, the two bodies will be immovable in respect to each other. This last case occurs in the geometrical staircase, one end of each stair stone being tailed into the wall so as to be incapable of tilting, and another edge resting either on the ground itself, or on the edge of the preceding stair stone or platform as the case may be. The stones which form a platform are generally of the same thickness as those forming the steps.

On the Scientific Operations of Stone Cutting.

—The operations by which the forms of stones are determined, so as to combine them properly in the various parts of an edifice, are founded on strictly geometrical principles, and require the greatest care and exactness in execution. It is only by a thorough knowledge of the nature of these operations that the master mason is able to cut and carve the parts which, when joined together, compose the graceful arch, the light tracery of the Gothic vault, or the graceful and magnificent dome. In what follows we propose to confine ourselves, first, to the leading operations necessary to set out the simple arch or vault, and the groins formed by it; second, to the forms produced

by vaults with plain and curved surfaces intersecting: third, and lastly, to dome vaulting: giving such examples as will so initiate the student that he may, we trust, have little, if any, difficulty in resolving any case that may occur.—*Gwill.*

Enamel.

[Continued from page 113, Vol. II.]

RED.—We have no metallic oxide capable of giving directly a fused red; that is to say, we have no metallic calces which, entering into fusion and combining, under the form of transparent glass, with fluxes or glass, give directly a red colour. To obtain this colour, it must be compounded different ways, as follows:—Take two parts, or two parts and a half (you may, however, take only one part) of sulphate of iron and of sulphate of alumine, fuse them together in their water of crystallisation, and take care to mix them well together. Continue to heat them to complete dryness; then increase the fire so as to bring the mixture to a red heat. The last operation must be performed in a reverberating furnace. Keep the mixture red until it has everywhere assumed a beautiful red colour, which you may ascertain by taking out a little of it from time to time, and suffering it to cool in the air. You may then see whether the matter is sufficiently red: to judge of this it must be left to cool, because while hot it appears black. The red oxides of iron give a red colour; but this colour is exceedingly fugitive; for as soon as the oxide of iron enters into fusion, the portion of oxygen, which gives it its red colour, leaves it, and it becomes black, yellow, or greenish.

To preserve, therefore, the red colour of this oxide in the fire, it must be prevented from vitrifying and abandoning its oxygen. I have tried (says M. Clouet) a variety of different substances to give it this fixity, but none of them succeeded except alum. The doses of alum and sulphate of iron may be varied. The more alum you add the paler will be the colour. Three parts of alum to one of sulphate of iron give a colour which approaches a flesh colour. It is alum also which gives this colour the property of becoming fixed at a very strong heat. This colour may be employed on raw enamel; it has much more fixity than the purple, but not so much as the blue of cobalt. It may be washed to carry off the superfluous saline matter, but it may be employed also without edulcoration; in that state it is even more fixed and more beautiful. It does not require much flux; the flux which appeared to me to be best suited to it is composed of alum, minium, marine salt, and enamel salt. This flux must be compounded in such a manner as to render it sufficiently fusible for its objects: from two or three parts of it are mixed with the colour. In general three parts of flux are used for one of colour; but this dose may and ought to be varied according to the nature of the colour and the shade of it required. Red calx of iron alone, when it enters into fusion with glass, gives a colour which seems to be black;

but if the colour be diluted with a sufficient quantity of glass, it at last becomes of a transparent yellow. Thus the colour really produced by calx of iron combined with glass is a yellow colour, but which being accumulated becomes so dark, that it appears black. In the process above given for making the red colour, oxide of iron does not fuse; and this is the essential point; for if this colour is carried in the fire to vitrification, it becomes black or yellowish, and disappears if the coat be thin, and the oxide of iron present be only in a small quantity.

[To be continued.]

VERMILLION.—Vermillion is manufactured in England, Holland, and other parts of Europe, but the finest quality is manufactured in China, which, however is often adulterated before it reaches the hands of the painter. Field says of this colour—"It is true that vermillions have obtained the double disrepute of fading in a strong light, and of becoming black or dark by time or impure air; but colours, like characters, suffer contamination and disrepute from bad association; it has happened, accordingly, that vermilion which has been rendered lakey or crimson by mixture with lake or carmine, has faded in the light, and that when it has been toned to the scarlet hue by red or orange lead, it has afterwards become blackened in impure air, &c. Hence the ill-fame of vermilion both with authors and artists."—Real Chinese vermilion is a permanent and a beautiful colour—it is an impalpable powder, possessing great density and opacity when mixed as a paint, but from the ease with which it is adulterated, and the consequent difficulty of obtaining it pure in this country, it is requisite to commission it direct from China in order to insure its being genuine;—it costs in China about 4s. 10d. per lb. Its price in this country varies from 3s. to 6s. per lb.—*Practice of House-painting.*

STATISTICS OF THE NEW HOUSES OF PARLIAMENT.—The original estimate made for the new Houses of Parliament amounted to the sum of £707,104; the sum actually paid up to February, 1848, amounted to £808,864; for embanking and other extras, £378,097.

TO CRYSTALLISE GLASS WINDOWS TO RENDER THEM SEMI-OPAQUE.—Make a hot saturated solution of Epsom salts, or, still better, of sal ammoniac. Wet the glass window with this solution, laid on equally with a paint brush. The moisture will almost instantly be evaporated, and the salt be deposited in a very beautiful radiated form. This deposition will admit the light, yet cannot be seen through; and for rendering windows semi-opaque is infinitely to be preferred to paint, paste, or other materials employed for this purpose.

RECIPE FOR MAKING TRACING PAPER.—The editor of the *Mechanics' Magazine* gives the following recipe for producing a tracing paper "that leaves nothing to be desired." Mix six parts (by weight) of spirits of turpentine, one of rosin, and one of boiled nut oil, and lay on with a brush or sponge.

The Chronotypist.

SILVER medals of the value of 500f. each, have been awarded by the Paris Society of Arts to M. B. Everard and M. Poitevin, and a gold medal of the value of 2,000f. to M. N. St. Victor, for improvements in photography. Two silver medals of the value of 250f. each, three of 500f. each, and a gold medal of the value of 1,000f. have been also awarded to various competitors for improvements in photography.—We have been much gratified, says the *Critic*, by the inspection of some specimens of stained glass by Mr. E. B. Lamb, intended for the windows of a private chapel in Scotland, designed and erected by him. Having given his attention very successfully to a branch of ornamentation now considered almost indispensable for the Gothic style, Mr. Lamb possesses, as an able practical architect, a great advantage over those who are either architects only—and must, therefore, trust to the taste and intelligence of others for embellishment of the kind in their buildings—or else are glass-painters only, and therefore do not sufficiently understand how to make their work contribute to general architectural effect. The windows alluded to are unusually tastefully composed designs, and though rich in brilliant hues are free from anything like gaudiness. The colours are so artistically arranged as to display themselves with peculiar breadth, and mutually relieve each other—a very important point in this species of art, which is seldom sufficiently attended to, and sometimes wholly disregarded.—The Electric Telegraph Company is said to be involved in great pecuniary embarrassments, in consequence of the non-success of the speculation.—The exhibition of the Old Water-Colour Society was opened to the public on the 1st instant.—The number of pictures now exhibiting in the metropolis amounts to 3,723.—A new stone and marble hand-saw has been patented by Mr. Hutchinson, the patentee of the mode of indurating building materials, lately noticed in the DECORATOR'S ASSISTANT. The frame is mounted on a pair of grooved rails, regulated laterally by screws, while the frame itself can be adjusted vertically, and, being balanced by a bob-weight and pulley, can be moved backwards and forwards by hand more easily and smoothly, and with greater effect, by a boy of ten years of age, it is alleged, than the usual hand-saw can by the most powerful and experienced workman. Several saws can be worked and several slabs cut in parallel lines with the same frame, and the work is not so liable to be injured by vibration as with the more expensive steam saw. Provision is also made for the supply and regulation of water and sand, and the machine is covered by a portable shed.—M. Versepuy, has communicated to the Paris Academy of Sciences a notice of a method patented by him, of manufacturing white lead in closed vessels, whence it is extracted and mixed with water. It cannot, consequently, be diffused in dust through the atmosphere of the work-

shops; the workmen neither touches nor breathes it; the only contact which occurs, with some precautions, is to put it in and take it out of the stove, and thus many of the dangerous consequences resulting from the present mode of making white lead are avoided.

—A very powerful, self-acting, slotting machine, for fashioning, polishing, and perfecting the cranks and cross-heads of the largest marine steam-engines, from the rough block out of the forge, is in course of erection for Messrs. Fulton and Neilson, of Lancefield Forge, near Glasgow. The single casting which forms the base of this machine weighs twenty-eight tons, and took four months to mould. It was executed by Messrs. John Goldie and Co., of Hayfield Foundry. Two hundred men and six horses were required to move it; and fears were entertained that one of the bridges by which it crossed the Clyde would not be strong enough for the burden.

ELLERMAN'S PROCESS FOR REMOVING THE REFUSE OF LARGE TOWNS, &c.—Some time since, in noticing Mr. Ellerman's admirable pamphlet on "Sanitary Reform," we expressed our intention of returning at some future time to the subject matter of the treatise, a promise which we now hasten with pleasure to fulfil. Mr. Ellerman's process consists in the following arrangements, which are both simple and effective:—Each house is to be furnished with a pipe, of common material, communicating from the water-closets, sinks, &c., to a large trunk-pipe, formed of very thick glass (which experience has proved to be the best for the purpose, from its non-liability to oxidation, and the ease with which it may be cleaned), placed at some distance beneath the roadway, and with a gradual slope or inclination towards an immense reservoir, situated at the junction of cross-roads, &c. The filth of the houses is all emptied by means of the pipes into this reservoir, where it remains until carted away in the night-time; it being pumped up into covered carts by means of an atmospheric apparatus. Previously to this, however, it is submitted to a process (Ellerman's deodorising) which removes all its noxious qualities, while at the same time it does not injure in the least its value as a manure. Altogether we may describe Mr. Ellerman's process to be the most simple, efficacious, economical, and profitable one that has hitherto been brought before the notice of the public, and our earnest desire is to see it universally adopted.

TO REMOVE GREASE SPOTS FROM DRAWINGS.—If a little magnesia (it will be well to try both the calcined and the carbonate) is powdered over the grease spot, with a piece of clean thin blotting paper laid again on that, and a common laundry iron moderately passed a few times over it, the grease is often readily removed. If it does not come out at once, or if there is a very large spot, it will be well to shake off the magnesia which cakes with the heat, sprinkle a fresh quantity over it, and pursue the same plan.



A DESIGN FOR THE CAP OF A PILASTER—PERPENDICULAR STYLE.

By the adoption of this plan, young artists would have afforded to them an excellent means of instruction, which at present it is utterly out of their power to attain.

[The initial letter at the head of this article is taken from a Church Service Book in the British Museum.—Harl. MS., 2,801.]

To Correspondents, &c.

ADVERTISEMENTS.—All Advertisements for the Wrapper of our next Monthly Part must be sent to our office on or before the 3rd of June, in order to insure insertion.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

Part XIII. is now ready, stitched in a neat wrapper, price 7d.

"J. F."—We shall be happy to receive any of the receipts, &c., mentioned in your letter.

"Jacque."—To lay down a course of study that shall qualify a man for any particular profession is all times a difficult task; but we will endeavour to comply with your request so far as to state that a civil engineer should be practically conversant with geometry, algebra, mathematics, mechanics, natural and experimental philosophy, geology, mensuration, topography, and also possess a knowledge of architecture, building, steam navigation, and chemistry—he should besides be possessed of a liberal education, and a mind disposed to reflect and contemplate on all things by which he is surrounded—for there is nothing in which he may not be interested at some period or the other of his professional career.—Thanks for your good wishes and kind recommendation of our work.

"Regiomontanus."—You invariably address your letters to a Mr. "W. Biggs"—there is no such person at our office, nor in any way connected with the DECORATOR'S ASSISTANT. We wish we could impress it on the minds of our correspondents that letters requiring answer in this publication should be addressed to no other person than the Editor.

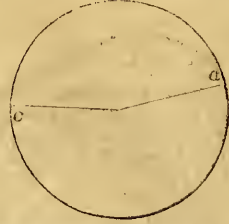
"The Godolphin Arabian." By M. SUE. Translated by HENRY D. MILES, with a Preface by F. B. THOMPSON.—A beautiful tale excellently translated, and published in a very cheap form by Mr. Dipple, of Holywell-street. It is, besides, capitally illustrated.

Communications, Books for Review, Specimens of Invention, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."

QUERIES.

7. Required—the manner in which that appendage to the lathe called the "oval chuck" is made in its simplest form; and also how the cement is made such as turners use in fixing their work to the face chuck, so that it adheres without screws or other fastening.

8. Required—a method of setting off any distance from the periphery of a circle, which shall be equal to the circumference of a smaller circle;



—for instance, on the periphery of the circle a c (10 ft. diameter) it is required, from the point c to set off a distance that shall be equal to a circle of 5 ft. 6 in. diameter.

ERRATUM.—The second query, page 13, ante, should read thus:—"Given, two sides of a triangle, and the line bisecting the included angle, to find the other side."

To DYE HORN.—Horn is easily dyed by boiling it in infusions of various coloured ingredients, as we see in the horn lanterns made in China. In Europe it is chiefly coloured of a rich red-brown, to imitate tortoiseshell, for combs and inlaid-work. The usual mode of effecting this is to mix together pearl-ash, quicklime, and litharge, with a sufficient quantity of water and a little pounded dragon's blood, any boil them together for half-an-hour. The compound is then to be applied hot on the parts that are required to be coloured, and is to remain on the surface till the colour has struck: on those parts where a deeper tinge is required, the composition is to be applied a second time. The process is nearly the same as that employed for giving a brown or black colour to white hair, and depends on the combination of the sulphur, (which is an essential ingredient in albumen,) with the lead dissolved in the alkali, and thus introduced into the substance of the horn.—*Aikin's Dict.*

To RESTORE BURNED STEEL.—When cast-steel has been spoiled by overheating, it may be partially recovered by four or five reheatings and quenchings in water, each carried to an extent a little less and less than the first excess, and lastly, the steel must have a good hammering at the ordinary red heat. Some go so far as to prefer for cutting tools the steel thus recovered, but this seems a most questionable policy, although the change wrought by this treatment is really remarkable; as the fragment broken off from the bar in the spoiled state, and other from the same bar after part restoration and hardening, will exhibit the extreme characters of coarse and fine. The hammering I suspect to be the principle requisite, and in superior tools it should be continued until the work is nearly cold, to produce the maximum amount of condensation before hardening; but no hammering will restore the loss of tenacity consequent upon the overheating, or even the too frequent heating, of steel, without excess.—*Holtzapffel.*

Review.

The Laws of Harmonious Colouring, &c. By D. R. HAY. London: W. Blackwood and Sons. [6th Edit.]

It would, indeed, be gilding refined gold or painting the lily, to strive to award to Mr. Hay any higher meed of praise than he has already received at the hands of our contemporaries and the general public:—as an artist he is well known, and as an author even more so. He has up to the present time published *seven* distinct works, connected in some way or the other with the art of decorative painting, each of which has run through many editions—a fact which speaks—and we mean it not as a pun, contemptible as it would be—volumes for the sterling qualities of the writer's brain. The book now before us is exactly the one for the practical man—it is full of information on every subject that could possibly be of interest to the house-painter; take for example the following on the application of colour in interior decoration:—

“The style of colouring must depend entirely on the use of the apartment. In a drawing-room, vivacity, gaiety, and light cheerfulness should characterise the colouring. This is produced by the introduction of tints of brilliant colours, with a considerable degree of contrast and gilding; but the lightest colours and strongest contrast should be upon the furniture, the effect of which will derive additional value and brilliancy from the walls being kept in due subordination, although, at the same time, partaking of the general liveliness.—The characteristic colouring of a dining-room should be warm, rich, and substantial; but where contrasts are introduced, they should not be vivid. This style of colouring will be found to correspond best with the massive description of the furniture;—gilding, unless in very small quantities for the sake of relief, or to carry off the effect of picture-frames, should be avoided.—Breakfast parlours ought to be painted in a medial style between that of a drawing-room and dining-room.—The most appropriate style of colouring for libraries is rich and grave, and no higher colouring should be employed than is necessary to give the effect of grandeur, and unite the painting with the richness produced by the bookbinder's art. This can scarcely be done by neutral hues; but care should be taken not to disturb the quietness which ought to characterise the colouring of all apartments of this description by any masses of vivid colour.—In bedrooms, a light, cleanly, and cheerful style of colouring is the most appropriate. A greater degree of contrast may be here admitted between the room and its furniture than in any other apartment, as the bed and window curtains form a sufficient mass to balance a tint of equal intensity upon the walls. There may, also, for the same reason, be admitted gayer and brighter colours upon the carpet.—Staircases, lobbies, and vestibules, should all be rather of a cool tone, and the style of the colour should be simple and free of contrast.

The effect to be produced is that of architectural grandeur, which owes its beauty more to the effect of light and shadow than to any arrangement of colours; yet they ought not to be so entirely free from colour as the exterior of a mansion, but should be in colouring what they are in use—a link between exterior simplicity and interior richness. Staircases and lobbies being made cool in tone, and simple in the style of their colouring, will much improve the effect of the apartments which enter from them.—It will be observed, that in the foregoing observations I have taken notice only of such apartments as are to be found in the town or country residences of gentlemen of modern [*moderate*] fortune; and although the general principles I have endeavoured to elucidate are equally applicable to the palace and the cottage, yet in the higher class of edifices, we find grand staircases, corridors, saloons, &c., requiring in every individual case a peculiar mode of treatment for which it is impossible to lay down any general rules.”

Correspondence.

Marking Ink.

SIR,—There is a question asked in the No. 52 of the *Decorator* respecting marking ink, in reply to which I have sent the following:—Dissolve 1 drm. of nitrate of silver in $\frac{3}{4}$ oz. of water. Add to the solution as much liquid ammonia as will redissolve the precipitated oxide, with sap-green to colour it, and gum-water sufficient to make the whole quantity amount to one ounce. Traces written with this liquid should be first heated before the fire, to expel the excess of ammonia, and then exposed in the rays of the sun to blacken. For this liquid, linen requires no previous preparation. 2nd. Imbue the linen first with a solution of carbonate of soda, dry the spot, and write upon it with a solution of the nitrate of silver thickened with gum, and tinted with sap-green.

I remain, Sir,

Yours obediently,

London, May 4th, 1848. J. F.

[The following receipt, by Prof. Soubeiran, is given in the *Pharmaceutical Times*. “Nitrate of silver, eight grammes; nitrate of copper, three grammes; carbonate of soda, four grammes; liquor of ammonia, one hundred grammes. Dissolve, and keep in a well corked bottle. This ink requires no mordant.”—EDITOR.]

TRACTION.—One hundred pounds force of draught, or traction, at four miles per hour, draw 15,000lbs. on a canal; 11,000 on a railway, and 1,400 on a turnpike. At ten miles, 2,500 lbs. on a canal; 11,000 on a railway, and 1,400 on a turnpike. A horse whose traction is 83½ lbs. will, in eight hours, at three miles an hour, draw 240 tons on a canal; 92 on a railway, and twelve on a turnpike: or, in two hours, at six miles, will draw 30 tons on a canal; 48 on a railway, and six on a turnpike.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 24.]

DART, a small description of arrow, thrown



by hand; or through a tube by means of air. See Bolt, "Appendix" *proæ*.

DECARBONISATION (in metallurgy), an operation performed upon cast iron to convert it into steel or soft iron. The articles to be decarbonised are packed in finely-powdered hæmatite, or native oxide of iron, to which iron filings are often added, and exposed for some time to a strong red heat, by which the excess of carbon is abstracted or burned out. The process somewhat resembles annealing or cementation.

DECKED (in heraldry), a term applied to birds when their feathers are trimmed at the edges with a small line of another colour.

DETAILS (of a plan), drawings or delineations for the use of workmen, otherwise called working drawings.—In the fine arts, the parts of a work as distinguished from the whole mass.

DISTEMPER (in painting), a word derived from the French *Détempre*, meaning a preparation of opaque colours ground in water, and fixed by the admixture of size, paste, or gum. Colouring plaster work in distemper differs from fresco-painting, inasmuch as the latter is applied while the plaster is quite wet, and is thereby incorporated with it, whilst the former is applied whilst the plaster is quite dry, and lasts only so long as the animal or vegetable substance which binds it withstands the action of the atmosphere, and this is seldom more than two years, unless when the surface of the plaster has been rendered impervious to absorption by one or two coats of paint.—*D. R. Hay.*

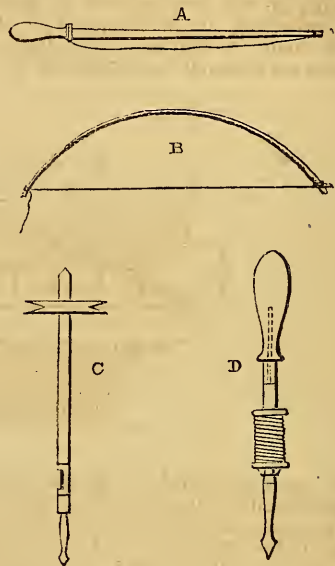
DELFT-WARE is a kind of pottery covered with an enamel or white glazing, which gives it the appearance and neatness of porcelain. Some kinds of this enamelled pottery differ much from others, either in sustaining sudden heat without breaking, or in the beauty and regularity of their forms, or their enamel, and of the painting with which they are ornamented. In general, the fine and beautiful enamelled ware, which approaches the nearest to porcelain in external appearances, is that which least resists a brisk fire. Again, those which sustain

a sudden heat are coarse, and resemble common pottery. This kind of ware has its name from Delft, in Holland, where it is made in large quantities.

DRAGON'S BLOOD, a brittle dark red-coloured resin, imported from the East Indies, the product of *pteroecarpus draco* and *dracæna draco*. It is insoluble in water, but soluble, in a great measure, in alcohol. The solution imparts a beautiful red stain to hot marble. It dissolves in oils.

DRAWING SLATE, chalk of a grayish-black colour employed in crayon drawing.

DRILL, an instrument employed for penetrating various substances, by an action peculiar to itself. A represents the steel-bow; B the



common cane-bow; c drill and stock; d musical instrument maker's drill and stock. See also a description of Moseley's Archimedian drill stock, page 37, vol. i.

DUCTILITY, that property or texture of bodies which renders it practicable to draw them out in length, while their thickness is diminished without any actual fracture of their parts. This term is almost exclusively applied to metals.

[To be continued.]

PERSPECTIVE.—A landscape in perspective should not include more than an angle of sixty degrees, or one-sixth of the horizon. All lines perpendicular to the picture or perspective plane, vanish in the point of sight, and the size of objects is therefore inversely as their distance.

Wright's Cellular Plate Oven,14, GREAT CHARLOTTE STREET,
BLACKFRIARS ROAD.*The first in Great Britain for the Manufacture
and Sale of Bread baked by Hot Water
Circulation.*

It has been justly observed, that even at the present day we are practically unacquainted with one-half of the qualities and appliances of that mighty wonder-worker, steam; its uses multiply so fast upon us, that we might well imagine with the Irishman, that somebody had cut off the end.

The invention now under notice promises fair to produce a complete revolution in our culinary operations, and to aid materially in the improvement of manufactures, answering all the purposes of steam, and in many instances, where high temperatures are required, far surpassing it.

The apparatus is supplied by a hydraulic pump attached, a few strokes of which previous to commencing the labours of the day, suffices to keep it in working order. A valve and cistern is placed at the highest point, regulated by a lever and weight, for the escape of water and air, to relieve any variations of pressure. A thermometer also is introduced by means of a bent tube; the bulb containing the mercury is inserted horizontally into the body of the oven, the precise temperature of which is at all times denoted by a scale of Fahrenheit accompanying, the perpendicular part of the tube on the exterior of the front wall. We also noticed a huge filter and several minor arrangements, which appeared to us to render it a piece of perfect machinery.

Fig. 2 shows the entrance to the oven, which it will be perceived closely resembles that of the one in common use, underneath this is the proofing or drying-room, where the articles are deposited upon racks either before or after they have been submitted to the baking process.

On paying a visit to the establishment a few

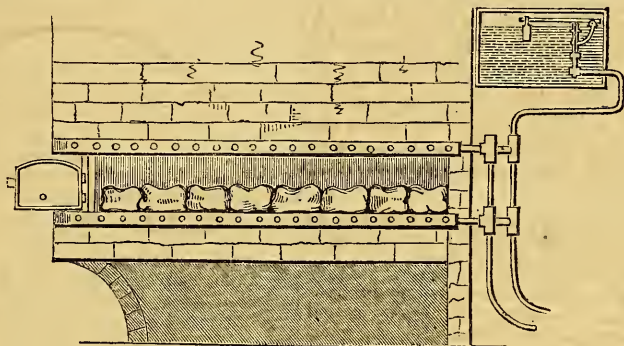


Fig. 1.

The oven is formed of Brown and Co.'s Patent Metallic Cellular Plates, through which heat is conveyed in proportion to the requirements of the articles; thus a temperature of 400 or even 500 degrees is acquired and maintained for any length of time with perfect uniformity, thereby rendering it suitable to the varied purposes of the baker and confectioner, with the additional very important advantage, not possessed by any other oven, of incurring no loss of time in cleansing or re-heating.

Fig. 1 represents a longitudinal view of the oven, the floor and crown of which is formed of peculiarly constructed metallic plates, two inches in thickness, having 600 feet of cells, three-quarter inches in diameter, running through them. A boiler is placed about ten feet below, where water is heated and ascends through the flow pipes, displacing that in the cells, thus keeping up a rapid circulation until the required temperature is obtained; the draft is then shut off by a damper. A very slow combustion, with an occasional piece of coke only, just to keep the water moving, is all that is required for the preservation of a solid heat, and to enable the baker to continue his operations without intermission.

days since, we were struck with the applicability of the system to the short-time move-

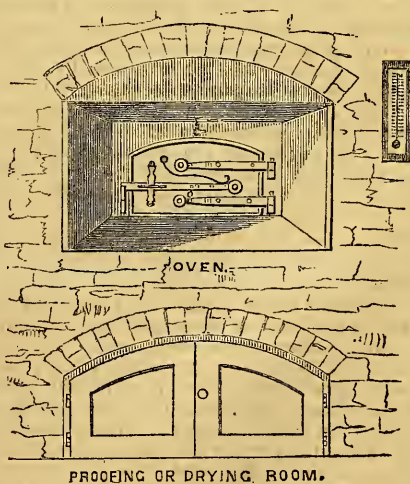


Fig. 2.

ment, now so popular with the journeymen bakers; we were informed the patent oven will bake in a superior manner in twelve hours as much as can be done in twenty-four, upon the old principle. By the introduction, therefore, of this admirable system, night-work may be abolished, and that neglected and injured class of men rescued from their degraded and servile condition.

The above is in constant operation, and certainly deserves the attention of all persons interested in baking, whether for trade or domestic purposes, as well for its utility and economy as for its cleanliness and the dispatch with which it performs its necessary duties; and judging from the specimens of bread, biscuits, &c., exhibited for sale in the window, we must pronounce it a most perfect system.

On the Use of Ivory for Turning.

[Concluded from page 17.]

THE choice of ivory in the tooth is admitted by the most experienced to be very uncertain; of course, for the purpose of turning, a solid cone would be the most economical figure, but as that form is not met with, we must be satisfied with the nearest approach that we can find to it, and select the tooth as nearly straight, solid, and round as possible, provided the other prognostics are equally favourable.

The African ivory, when in the most perfect condition, should appear when recently cut of a mellow, warm, transparent tint, almost as if soaked in oil, and with very little appearance of grain or fibre; it is then called transparent or green ivory, from association with green timber; the oil dries up considerably by exposure, and leaves the material of a delicate, and generally permanent tint, a few shades darker than writing paper.

The Asiatic is of a more opaque dead white character, apparently from containing less oil, and on being opened it more resembles the ultimate character of the African, but it is the more disposed of the two to become discoloured or yellow. The African ivory is generally closer in texture, harder under the tools, and polishes better than the Asiatic, and its compactness also prevents it from so readily absorbing oil, or the colouring matter of stains when intentionally applied.

Preparation of Ivory, &c.—On account of the great value of ivory, it requires considerable judgment in its preparation, from the three circumstances of the form of the tusk; first, its being curved in the direction of its length; secondly, hollow for about half that extent, and gradually taper from the solid state to a thin feather edge at the root; and thirdly, elliptical or irregular in section. These three peculiarities give rise to as many separate considerations in cutting up the tooth with the requisite economy, as the only waste should be that arising from the passage of the thin blade of the saw: even the outside strips of the rind,

called spills, are employed for the handles of penknives, and many other little objects; the scraps are burned in retorts for the manufacture of ivory black, for making ink for copper plate printers, and other uses; and the clean sawdust and shavings are used for making jelly.

Those amateurs, who may be desirous to produce either one large specimen of ivory work, or several pieces forming a set, as of chessmen, &c., endeavour if possible to make the whole of the work from one tooth; as although the colour of ivory may be considered as yellowish white, and therefore, like writing paper, pretty much alike, such is not the case, and it is often extremely difficult, or almost impossible, to match pieces from two different teeth, so that the colour, transparency, and fibre, shall exactly agree.

Ivory requires a similar drying, or seasoning to that recommended for wood; as when the pieces cut out of the tooth are too suddenly exposed to the hot dry air, they crack and warp after the same manner, and the risk is the greater the larger the pieces; and on this account ornaments turned out of ivory or wood, especially those composed of many parts, should not be placed upon those chimney-pieces which, from their size, are so close to the fire as to become heated thereby in any sensible degree. Notwithstanding the difference between the component parts of wood and ivory, and that the latter does not absorb water in any material degree, it is subject to the changes of size and figure experienced by the woods, and in one respect it exceeds them, as ivory alters in *length* as well as *width*, whereas from the former change wood is comparatively free. The change, however, is very much less in the direction of the length than the width; this is particularly experienced in billiard balls, which soon exhibit a difference in the two diameters, if the air of the apartment in which they are used, differ materially from that in which the ivory had been previously kept. The balls are usually roughly turned to the circle for some months before they are used, to allow the material to become thoroughly dry before being turned truly spherical; and in some of the clubs they even take the precaution of keeping the rough balls in their own billiard-room for a period, to expose them to the identical atmosphere in which they will be used. Ivory agrees likewise with wood, in shrinking unequally upon the radius and tangent when cut out of quarterings; on this account, billiard balls are always made out of teeth only so much larger than them, as the thickness of the coat or bark, and which sized teeth procure an advanced price.

It may be asked, what means there are of bleaching ivory which has become discoloured, I regret to add that I am unacquainted with any of value. It is recommended in various popular works to scrub the ivory with Trent sand and water, and similar gritty materials; but these would only produce a sensible effect by the removal of the external surface of the material, which would be fatal to objects del.

cately carved, or those worked with the cutting instruments applied to the lathe.

Perhaps it may be truly advanced that ivory suffers the least change of colour when it is exposed to the *light*, and closely covered with a glass shade. It assumes its most nearly white condition when the oil with which it is naturally combined is recently evaporated; and it is the custom in some thin work, as the keys of piano-fortes, &c., to hasten this period, by placing them for a few hours in an oven heated in a very moderate degree, although the more immediate object is to cause the pieces to shrink before they are glued upon the wooden bodies of the keys. Some persons boil the transparent ivory in pearl-ash and water to whiten it; this appear to act by the superficial extraction of the oily matter as in bone, although it is very much better not to resort to the practice, which is only employed to render that ivory which is partly opaque and partly transparent, of more uniform appearance.

It is imagined by some that ivory may be softened so as to admit of being moulded like horn or tortoiseshell, its different analysis contradicts this expectation; in thick pieces it suffers no change in boiling water, although thin shavings give off their jelly, which substance is occasionally prepared from them; truly the caustic alkali will act upon ivory as well as upon most animal substances, yet it only does so by decomposing it; ivory, exposed to the alkalies, first becomes unctuous or saponaceous on its outer surface, then soft if in thin plates, and it may be ultimately dissolved provided the alkali be concentrated; but it cannot in either case be made to resume its first condition.

Ivory is not in all cases used in solid pieces, to which the foregoing remarks principally apply; but it is frequently cut into thin leaves and glued upon fabrics of wood, for the manufacture of small ornamental boxes, and works of various kinds, after the manner of the veneers of wood, or the plates of tortoiseshell; it is also used in buhl works, combined with ebony, &c.

Such thin plates are usually cut out of the solid block, with a fine feather edge veneer saw, parallel with the axis of the tooth: but the mode introduced in Russia for cutting veneers spirally from a cylindrical block of wood, with a knife of equal length, (as if the veneer were uncoiled like a piece of silk or cloth from a roller,) has been latterly applied to the preparation of ivory into similar veneers, converting the cylinder of ivory into one ribbon, probably by the action of a reciprocating saw. Monsieur H. Pape, of Paris, piano-forte manufacturer, has taken out patents for this method of cutting ivory spirally into sheets. A specimen, 17 in. by 38 in., and about one-thirtieth of an inch thick, glued upon a board, may be seen at the Polytechnic Exhibition in Regent Street, and M. Pape advertises to supply sheets as large as 30 by 150 in. He has veneered a pianoforte entirely with ivory.

The ivory thus divided must be necessarily very thin to be sufficiently pliant; and as ivory is admitted to be more transparent than writing paper of the equal thickness, this introduction promises to be of more use for the artists in water colours than for veneering, as from their transparency such thin leaves are apt to show the colours of the wood or glue; on this account the ivory for veneering should not be extremely thin; and the woods and glue should be selected of very light colours.

White-fish glue, or "*Diamond cement*," as it is sometimes called, which is very often used for ivory-work, both in attaching ivory to ivory, and ivory to wood, is made of isinglass, (which is prepared from the sound or swimming bladder of the sturgeon,) dissolved in diluted spirits of wine, or more usually in common gin. The two are mixed in a bottle corked and gently simmered in a vessel containing boiling water; in about an hour the isinglass will be dissolved and ready for use; when cold, it should be an opaque, milk-white, hard jelly; it is remelted by immersion in warm water, but the cork should be at the time loosened; it may be found necessary, after a time, to add a little spirit to replace that lost by evaporation. When the isinglass is dissolved in water alone, it soon decomposes.

Factitious ivory, and also factitious tortoiseshell, have been prepared in France in thin plates of veneers. I have procured some pieces about a foot square, of the so called ivory; it looks exactly like a dull opaque cement, the tortoiseshell like a piece of stained horn; neither of them at all approach the beauty of the true substances.

MACADAMISED ROAD.—Stones for roads are broken to six ounces, but rounded pebbles do not imbed. Ten inches depth of well-consolidated materials are sufficient, whatever the substratum, and better soft than hard or rocky. Five tons of sized stones on a morass last as long as seven on a hard bottom.—*M'Adam*.

ANGLES.—Seven or eight degrees is the greatest angle for carriages, fifteen degrees for beasts of burden; and thirty-five degrees cannot be ascended by a man without steps, and even with steps forty-four degrees is very difficult.—*Saussure*.

Redgrave's trial fresco of "Catherine Douglas barring the door with her arm," has been made the subject of a paper-hanging for rooms.

At Seacombe, a No. 1 pilot boat, built of gutta percha, has been shipped. It is 17½ feet long, and though nearly filled with water, and having four men on its gunwale, kept its buoyancy. It weighs 190lbs., and sustains a pressure of 15 cwt. It not only answers the purpose of a pilot boat, but is also convertible into a life boat.

The Manufacture of Shell Cameos.*

THE ancients formed cameos by engraving figures, in low relief on different kinds of silicious stones, generally selecting for their purpose those which had layers of different colours, so that the figures, or the different parts of the same figures, were of divers colours. Such cameos are now made in Southern Europe, and also in France, where this art has lately been attempted to be revived; but the hardness of the materials requires so much labour to be employed in the fabrication that the *cameo dur* (the name given to this imitation in France) is too expensive to come into general use. Many attempts have been made here, and in other parts, to introduce substitutes for the ancient cameos, such as different kinds of porcelain and glass. Their great inferiority has, however, caused them to be neglected, and the best and now most usual substitutes are the shells of molluscous animals; several kinds of these animals afford the necessary varieties of colour, and are at the same time sufficiently soft to be worked on with ease, and hard enough to resist wear, and to last for a long period of time. It was formerly the custom, especially in Holland, to use for this purpose the pearly nautilus, and several kinds of turbines or wreath shells, which have an opaque white external coat over an internal pearly one. These have now almost entirely gone out of fashion, and are rarely to be met with, except in the cabinets of the curious; but they must have been much esteemed formerly, for Seba and Rumphius figure many specimens which were contained in their collections. The shells now used are those of the Flesh-eating Univalve (*Gastropoda ptenobranchiata zoophaga*) which are peculiar for being all formed of three layers of calcareous matter, each layer being composed of three perpendicular laminae, placed side by side; the laminae composing the central layer being placed at right angles with one of the inner and outer ones; the inner and outer being placed longitudinally with regard to the axis of the line of the shells, while the inner laminae are placed across the axis, and concentrically with the edge of the mouth of the cone of the shell. This structure, as proved in the paper before referred to, gives great strength to the shell, and thus affords more protection to the animal; it also furnishes the cameo-cutter with the means of giving a particular surface to his work; for a good workman always carefully puts his work on the shell in such a manner that the direction of the lamina of the central coat is longitudinal to the axis of his figure. In cameos the central layer forms the body of the bas relief, the inner lamina being the ground, and the outer one the third or superficial colour which is sometimes used to give a varied appearance to the surface of the figures. The cameo-cutter selects for his purpose, first, the shells of this kind which have the three coats

or layers composed of different colours, as these afford him the means of relieving his work; and, secondly, those which have the three layers strongly adherent together; for if they separate, his labour would be lost. The kinds now employed, and which experience has taught them are best for their purpose, are—the bull's mouth, *Cassis rufum*—which has a red inner coat, or what is called, a sardonyx ground; the black helmet, *Cassis Madagascariensis*, which has a blackish inner coat, or what is called, an onyx ground; the horned helmet, *Cassis cornutum*, with a yellow ground; the queen conch, *Strombus gigas*, with a pink ground. The bull's mouth and the black helmet are the best shells; as the horned helmet is apt to separate from the ground, or "double," as the French workmen call it; and the last, or queen conch, has the two colours seldom distinctly marked from each other, and the pink of the ground colour easily flies by exposure to the light. The red colour of the bull's mouth only extends a slight distance in the mouth of the shell, becoming paler as it proceeds backwards, as may be observed by the pale side which is generally to be observed in each red-grounded cameo. The dark colour extends further in the black and yellow kind; hence the bull's mouth affords only a single cameo large enough to make brooches, and several small pieces for shirt studs; and the black helmet yields on an average about five brooches, and several pieces for studs; and the queen conch only one good piece. The manufacture of shell cameos has been carried on in Rome for upwards of forty years; it was confined to Italy until the last twenty years, at which period an Italian commenced the making of them in Paris. Little progress was, however, made until the last ten or twelve years; but, at the present time, a much greater number are made in Paris than in Italy. About 300 persons are now employed in Paris in this branch of trade, earning wages which vary from three to twenty-five francs per day, according to their talent and skill. Thirty years ago, very few cameos were made from any but black helmet, and the number of shells then used amounted to about 300 annually, nearly the whole of which were sent from England, being all that were then imported. At that period, the average price of each shell in Rome was thirty shillings. Not more than a hundred of the bull's mouth, sufficiently thick for the purpose of cutting, could be annually obtained, and their average price in Rome was ten shillings. To show the rapid increase of this trade, the number used in France last year was nearly as follows:—

	Aver. Price.	s.	d.	Value.
Bull's Mouth ... 80,000	2 francs, nearly	1	8	£6,400
Black Helmets... 8,000	6	5	0	1,920
Horned Helmets 500	3	2	6	60
Queen Conch ... 12,000	1½	2½		725

100,500 shells.

Sterling, £9,105

Of the bull's mouth half are received from the island of Bourbon, to which they are brought from Madagascar; and the other half are the produce of the island of Ceylon, part of which are received from the English dealers, and some, via Calcutta, are imported direct to

* From the Transactions of the Society of Arts for 1846-7. (See also page 177, vol. 1.)

Havre; hence, though originally from Ceylon, they are called by the French cameo-cutters, "Calcutta shells;" no shell of the kind is, however, found in the fresh water rivers of that city. The black helmets are supplied entirely from England, being the produce of Jamaica, Nassau, and New Providence. They are not found in Madagascar, though naturalists have for a long period called them the Madagascar helmet, by which name they are known to the cutters. The average value of the larger cameos made in Paris will be about five francs each, making, in the whole, a sum of £32,000 sterling; and the small cameos may amount to £8,000; forming a total of about £40,000 for the last year. In England not more than six persons are employed in this trade. Nearly half of the cameos made in France are sent to England; many of them are mounted as brooches in Birmingham, and exported to America and the British Colonies. This trade has materially increased since the reduction of the import duty on cameos, which was, until lately, twenty per cent on the value, and is now only five per cent.

Old Water-colour Society.

In noticing a collection comprehending 346 productions, the majority of them the works of tried men, it is most unsatisfactory that we cannot record advance. The exceptions to the general tameness are few.

The President, Mr. Copley Fielding, is conspicuous in "Mont Blanc from Sallenche, after a sketch by G. S. Nicholson, Esq." (No. 162). The subject is one possessing all the elements of a grand combination—the majestic mountain whose summit is covered with eternal snow, forming a valuable apex to the whole. The lowness given to the horizon, while it confers altitude on the main feature, make Mr. Fielding's merit the greater in having expressed between it and the foreground so much of space and distance. This is aided by the variations in the colour; the foreground being one of great richness, and the lofty trees coming in at the left-hand corner combining with those scattered about on the right in most useful directions of line and mass.

"Storm on the Coast of Mull, with a view of Ben-More in the distance; taken from near the Isle of Staffa" (120), is one of those grand effects which Mr. Fielding knows so well how to produce, where wind and water are at strife.

The few and small drawings which Mr. Cattermole offers, only increase our desire for something of more import from his pencil. There is always a charm in what he does. If he be not a delineator of actualities, he is a poet. He has the suggestive faculty strong within him; and this it is that has often carried his generalisations into vagueness. His works this year, however, would seem to indicate that he has now hit the happy medium. In the "Refectory—Grace" (259) he is sufficiently definite; and has attributed to the various personages assembled in the interior the due variety of action and gradation, sentiment and feeling—as expressed in the forms of head and hand and limb and drapery. The proper minutiae are all given with full attention to the requirements of the scene. As regards the expression appropriate to the ceremony in progress, this picture is a high manifestation of what Mr. Cattermole can do if he puts himself out. It is also very rich in colour and in masterly handling.

Mr. Alfred Fripp's principal drawing here is a "Pilgrim at Clonmacnoise approaching the Altar-site" (193); and a well-intentioned design it is,—but not carried out in detail with due attention to nature and to taste. There is careful working, but the care is of execution and detail. The picture is careful in the minute elaboration of heads and hands and feet—but not in the sense of truth in good average form, or in the local colour or shadows of the flesh.

Mr. De Wint has two oblong view of Nottingham (28)—broad and simple and daylight-looking in its effect—and Lincoln (147)—the cathedral and city being seen in the distance.

Mr. Topham, has sent two drawings. One

METALLIC SAND.—This sand is produced by grinding copper slag by means of powerful machinery, and consists of iron, zinc, arsenic, and silica, the iron predominating; the slag is procured in abundance in Swansea. In chemical analysis, it is very similar to the pozzolano, and in point of durability is found to be equal to the latter. With blue lias lime, which is used for hydraulic works, the metallic sand readily enters into combination; and these having been used together for external works, exposed to all the changes of the atmosphere, have proved the indurating qualities of the metallic sand, after an experience of eight years. Specimens were laid on the table:—1st, brick-work of a fresh-water tank, which had been erected six years, was removed by a pickaxe, the bricks yielding to the strokes of the axe, but the cement remaining solid; 2nd, imitations of marble executed by a painter on the face of succeeded work, formed of metallic cement, in conjunction with common chalk, lime, and putty, and afterwards polished; 3rd, a specimen of fresco painting also executed on a face similar to the above; 4th, a vase, the figures on which retain their original sharpness, although it has been exposed to the atmosphere for many years.—*Dyer.*

BOTANY.—The Horticultural Society's garden at Turnham-green, five miles from London, containing fifty acres, may now be viewed by parties free of expense by a member's order. These may be obtained also of the Messrs. Loddiges, of the London Arboretum, Hackney, and of the Editor of the *Gardener's Gazette*, at the office of that paper, Charles-street, Covent-garden. Respectable persons desirous of visiting these most delightful grounds may apply to the above through a post-paid letter enclosing a stamped envelope, and an order of admittance will be returned them at the earliest convenience of those gentlemen.

(88) is an illustration of Lover's ballad of 'Rory O'More'—"Arrah, Kathleen, my darlint, you've teased me enough." In many respects this is an advance on the artist's former works. In "Near Capel Cúrig, North Wales" (100)—where peasants with a calf are crossing a bridge—Mr. Topham displays his powers as a painter of external nature to great advantage.—*Athenaeum*.

The Chronotypist.

It is intended to have the spire of Salisbury cathedral church newly pointed in the course of the ensuing summer. We are told that a period of nineteen years has elapsed since any similar repairs were made.—A rich mine of black lead has been opened in Jeffrey, N.H., United States, at the foot of the Monadnock mountain. It brings about seventy-five dollars per ton. The mine was purchased for the sum of fifty dollars.—Mr. Bryson has proposed a composition for lubricating machinery, consisting of oil, sulphur, and vulcanised caoutchouc, which he considers to possess properties superior to any now in use.—The Dover Refuge Harbour has been commenced.—The greatest number of letters or signs which have yet been conveyed by telegraph in the United States is stated to have been 25,000 in 1 h. 30 m., being at the rate of 277 and a fraction per minute, while in England Mr. Bain has accomplished 1,000 per minute.—A scheme has just been put forth relating to aerial navigation, which has one merit—that it is a complete novelty, and can be compared in no respects to its predecessors of any kind. The proposed machine is to be composed of a stout horizontal frame formed of faggots of bamboo, containing within itself a long silk balloon tapering to a point at each end. On each side of the frame are two pairs of boxes, made of sheet iron, supplied with moveable lids, which are connected with the main rods of four wings. The wings are to be formed of long and narrow silk planes or feathers, one to be circular in form, twenty feet in diameter, and so connected with the frame by joints and springs, as to make the upward movement in an oblique direction, while in the downward action the whole under surface will be exposed to the resistance of the air. On the under surface of the whale-like balloon is to be a car twenty-five feet long; and at one extremity a conic shield is to guard the balloon from injury; while at the other a rudder or tail, twenty-seven feet long, is to direct its flight. It will be asked, what is the moving power? The answer will be heard with surprise: the successive explosions of a mixture of gas and air in the boxes at the root of the wings, by which means they will be made to flap about twelve times a minute! The balloon, says the inventor, is not to be depended upon for its assistance; it is a mere reservoir for gas. The explosion is to be effected in the four boxes by the electric spark. The inventor calculates on thus attaining a power equal to

eighty horses! The weight is placed at 2,000lbs. The velocity he prudently declines to conjecture. "Judging from the analogy of our model aéronauts" [the birds] "we may expect a rate of progress almost unknown on earth."—An American has invented a process by which glass is made to perfectly resemble and answer all purposes of marble, and that, too, at fifty per cent. less than the cost of the real marble.—Alternate plates of zinc and cast iron have been discovered, by Dr. Ailam, of Maynooth, to constitute a cheap and effective galvanic battery. The difference is at £40 to £2,000. This battery is three times as powerful as any other now in operation.—The issue of orders for the admission of the public to view the state apartments in Windsor Castle is resumed.

CRUCIBLES.—In the manufacture of various kinds of pottery employed in the chemical laboratory, and especially in regard to crucibles, many difficulties occur; and many requisites are necessary which cannot be united in the same vessel. To the late Mr. Wedgwood we are indebted for vast improvement in this as well as in other branches of the art. Crucibles composed of one part of pure clay mixed with about three parts of coarse and pure sand, slowly dried and annealed, resist a very high temperature without fusion, and generally retain metallic substances; but where the metals are suffered to oxidise, there are few which do not act upon any earthen vessel, and some cause its rapid fusion, as the oxide of lead, bismuth, &c. Where saline fluxes are used, the best crucibles will always suffer, but platinum may often be employed in these cases, and the chemist is thus enabled to combat many difficulties which were nearly insurmountable before that metal was thus applied. Whenever siliceous and aluminous earths are blended, as in the mixture of clay and sand, the compound softens, and the vessel loses its shape when exposed to a long-continued white heat, and this is the case with the *Hessian* crucibles. The most refractory of all vessels are those made entirely of clay—coarsely powdered burned clay being used as a substitute for the sand. Such a compound resists the action of saline fluxes longer than any other, and is therefore used for the pots in glass furnaces. A *Hessian* crucible lined with pure clay is rendered more retentive; and a thin china cup, or other dense porcelain, resists the action of saline matters in fusion for a considerable time. Plumbago is a very good material for crucibles and applicable to many purposes; when mixed with clay it forms a very difficultly-fusible compound, and is protected from the action of the air at high temperature: it is well calculated for small table furnaces. Wrought iron, and the best cast iron crucibles, are used for the fusion of several metallic substances which melt at a bright red heat. The latter are used in the Mint for the fusion of silver; the gold is melted in black lead or plumbago pots.—*Brande's "Manual of Chemistry."*

SKETCHES FROM NATURE.—No. I.



THE LABURNAM.

Rural Architecture.



ornamental taste of the age is not confined to the metropolis alone—in our suburban rambles we often, now-a-days, come across some very pretty specimens of rural architecture; but while we feel inclined to praise the meritorious spirit to which they owe their origin, we cannot, at the same time, shut our eyes to many defects which such edifices most glaringly exhibit. It is not our intention on the present occasion to compose an elaborate list of grievances, and to bring to light minute errors which it would require a microscopical eye to discover; our object is to instruct rather than to censure, and, where possible, to correct rather than to condemn. It seems to be the prevailing taste of the architects of the present day to *concentrate* even to the point of absurdity; and, accordingly, we find Lilliputian residences, comparatively speaking, adorned with all the sombre massiveness and heavy grandeur of the castellated edifice;—thus, the plan of a mansion designed to cover a hundred square yards of ground is unthinkingly adopted with regard to one designed to cover, perhaps, scarcely as many feet. This exposes a sad want of judgment. Such buildings can never look well to the eye, nor pleasing to the imagination of the spectator; but, like some dwarf attired in the garments of a giant, only produce a ridiculous effect. These remarks

we believe to be just, and we doubt not but that few will be found opposed to our opinion. An edifice constructed faithfully according to the pure and simple principle of any style of architecture is always to be commended; but when we find a six-roomed house constructed as a castle, with battlements and turrets, it positively becomes too bad to let pass unnoticed.

Again, with regard to the chimney-pots, we cannot at all see what there is to be ashamed of in them, and why they should be uniformly converted into such odd-looking unmeaning masses. Everybody is aware that they are very useful if not necessary appendages to a house, unless the inmate chooses to be smoked out,—then why are they constructed as turrets? It certainly seems more odd to see smoke issuing from a sort of dwarf sentry-box, than a genuine old English chimney-pot, which has so long presided over our fireside.

Another objection which we have to urge is one against the preposterous manner in which hall-doors are often placed—sometimes at an immense distance above the level of the foot-path. The reason for this we know not, except it is for the saving of a slight expense in digging the foundation deeper, and which is by no means adequate to the inconvenience thus created.

One more stricture and we have done:—It is no uncommon circumstance to see houses erected in the Elizabethan style, furnished with railings ornamented either with the acanthus or gothic foliage; such patchwork as this is abominable in the extreme—it is not *variety* but *contrast*, and that not of the best description. The fact is that such matters as this generally escape the notice of the architect, and the error is only left to be detected by the critic.

Hoping that these few desultory remarks may meet with some degree of attention, and that our advice may be instrumental in creating something like congruity, we for the present, lay down our pen.

GILDED THREAD.—“Gold thread” is merely a thread of yellow silk covered with a very thin flattened wire of gold, by means of a properly arranged revolving wheel.

Busse's Terresin Sleepers.

HAVING lately noticed this invention, we now proceed to present an account of it in Mr Busse's own words:—

"My sleepers are manufactured by hand, just on the spot where they are wanted. They are easy to make, are cheap and solid, and promise a duration for a period of time not to be calculated; supposing only thirty years, it greatly exceeds that of wooden sleepers. I have cast sleepers, according to my invention, 8 ft. long, 14 in. broad at the base, at an outlay amounting to less than 1 Prussian dollar (3s.) the piece. The yet good pieces out of the old worn sleepers may advantageously be cut for frame top pieces. The method after which I build and compose the said sleepers is as follows:—I take two pieces of wood, dried to the highest degree by artificial heat in a stove. Immediately after drying, I dip those pieces in a boiling compound of 10lbs. of brimstone and 100lbs. of coal tar, to which I add 80lbs. of very fine powder of caustic lime. This done, I scratch or take off with a knife the superfluous compound, leaving only a thin coating on the wood. The pieces of wood thus prepared are now brought anywhere along the line of the railway where coarse gravel is to be found, it may be taken out of the soil or from a river. The latter is to be preferred, containing less earthy matter. The gravel mixed with fine or coarse sand or small stones—the latter till to an inch diameter—ought to be dried or rather heated before used. The wooden frame is placed, the top side to the bottom, in a conical iron or wooden mould—the latter material is to be preferred—which is to be filled up with the compound which I call 'terresin,' and which is prepared as follows:—I take an iron vessel, large enough to hold a quantity of terresin, sufficient to cast three sleepers: I melt 10lbs. of brimstone, add 75lbs. of stiff coal-tar, and mix it by stirring with it 100lbs. of fine powder of well dried, fresh-burnt, caustic lime, which is slaked in the air or with a little water. Where powdered chalk or plaster are cheaper, these materials may be used as well. The exact quantity of lime, chalk, or plaster for a given quantity of brimstone and coal-tar is dependent upon the quality of the said materials, and the choice of the right proportion must be left to the best judgment of the manager. In case the tar should not be of good quality, a little resin and grease may be added. To this compound add, always stirring and turning the mass over a gentle fire, 10 to 12 cubic feet of that before mentioned dried and heated gravel, and fill or rather ram the thick hot compound into the moulds in which the frames are placed. The moulds must beforehand be well coated with clay, and afterwards sifted over with fine ash, to prevent the compound adhering to the mould. Before the compound is cooled it is advisable to pierce

one or two holes through the top part of the sleepers, vertically to the bottom, with an iron bar. By these means the sleepers and rails may be levelled or balanced as accurately as possible, by pressing dry sand into the holes, which will leave the sleepers spreading under the bottom part. The sleeper being completely cooled, it is taken out by overturning the mould. The top pieces, where the rail or chair is to be screwed (which is by far the better process) or nailed down, must be left free from the compound, and are only coated with the thin hot compound, without the gravel, which may be repeated after having fastened the chair, to secure the top pieces against the influence of air and water.

"By this contrivance we get a very cheap sleeper, as hard as stone, and extremely heavy—400lbs.—without losing the elasticity which is wanted to a certain degree, and allows, what is a matter of importance, that the rails or chairs are situated directly on wood. Here I feel obliged to remark that we have found it in Germany a good practice to support the sleepers only on the two extremities, leaving the gravel or sand loosely underneath the middle part, an experience undoubtedly made likewise in England. It is a matter of importance that any kind of wood may be employed, and that the construction of the frame and the size of the sleepers may be altered according to circumstances. The sleepers may be made much wider with a proportionate small increase of expense. The thin terresin, without gravel, can be used with great advantage to cover the wooden sleepers already laying, which after that preparation will last longer. In case of using the terresin for this purpose, I expect a commission of £1 for every 1,000 pieces thus covered, and if it is employed for covering roofs, bridges, viaducts, houses, pavements, floors, &c. 2d. for the square yard. For those different purposes it is advisable to add about 3 to 10 per cent. of animal grease, tallow, train oil &c. For floors, pavement, &c. the same compound is used as for sleepers, without any grease.

"Regarding the resistance against pressure, it is to be observed that sleepers on the Leipsic and Dresden Railway have undergone, without the least alteration, the pressure of the heaviest trains, with 20-ton locomotives. Their firmness and compactness is beyond all doubt, and their cohesion so great, that it was only with great difficulty that a sleeper of this kind could be broken up with iron chisels and hammers.

"I should be extremely pleased if Boards of directors and engineers would give the invention a fair chance, by trying 200 or 300 sleepers."

ZINCING.—Copper and brass vessels may be covered with a firmly adherent layer of pure zinc, by boiling them in contact with a solution of chloride of zinc—pure zinc turnings being at the same time present in considerable excess. The same object may be obtained by means of zinc and a solution of sal ammoniac or caustic potassa.

To Correspondents, &c.

ADVERTISEMENTS.—*All Advertisements for the Wrapper of our next Monthly Part must be sent to our office on or before the 3rd of June, in order to insure insertion.*

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

Part XIII. is now ready, stitched in a neat wrapper, price 7d.

"Marcus."—*Apply to the Secretary of the Decorative Art Society.*

"E. O."—*We are very much obliged for the extract—it shall be made use of. We shall always be happy to hear from you.*

"An Inquirer."—*West, optician, West Strand.*

"Claude Lorraine."—*We endeavour to be as punctual as we can in replying to our correspondents; but they increase so fast that we cannot answer them all the same week in which they arrive. The DECORATOR'S ASSISTANT always goes to press on the Monday, so as to be ready for publication on the Wednesday, which will sufficiently explain the reason why we cannot answer letters received on the Tuesday in the current week's number.*

Received.—"A Painter," "Morton," "F. L.," "A Subscriber," "T. B."

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."

Royal Institution.

DR. FARADAY'S LECTURES.

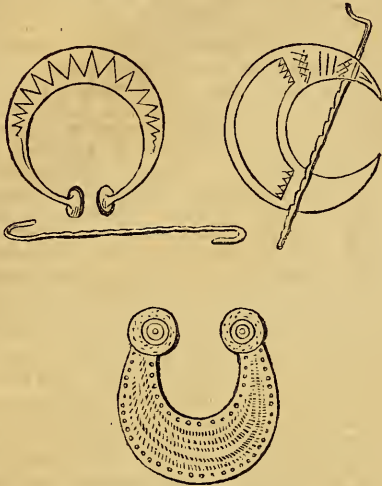
DR. FARADAY commenced his annual course of lectures on the 6th instant, to a numerous and fashionable audience. The subject for the present year is "On the Allied Phenomena of the Chemical and Electrical Forces," wherein he will pursue the investigation into the connection of all the physical forces which he entered on last year. The lecture on Saturday was devoted to preliminary explanation and illustrations of chemical force, in which was shown the distinction between the actions of particles of the same substances on each other, which constitutes mechanical force, and the mutual actions of the particles of different substances, wherein the science of chemistry depends. While making this distinction, Dr. Faraday pointed out the close assimilation of the two forces, and how intimately their phenomena are connected. Mechanical force produces molecular action, and the aggregation of particles—of two drops of water on a rose-leaf, for example—is the result of chemical action; the

same in kind, though different in degree, as decomposition and combustion. Numerous experiments were performed, with Dr. Faraday's usual skill in manipulation, to exemplify different kinds of chemical action, beginning with the feeblest, and proceeding to the most energetic. The contraction of the volume of given quantities of spirits of wine and water, when mixed, was shown, by putting the two fluids into a glass vessel so constructed that they were kept separate until inverted, and when the mixture took place, the vessel, which was previously quite full, exhibited an empty space. The decomposition of æther by nitric acid, resulting in the evolution of an inflammable gas, was contrasted with the opposite effect of producing a solid white substance, by mingling together ammoniacal gas and muriatic acid gas and by the solidification of limpid solutions of muriate of lime and carbonate of potass. Dr. Faraday particularly impressed on his auditors that the results of chemical actions are not mixtures, but that they form compounds distinct from, and often possess properties directly opposite to those of the combined substances. Notwithstanding these changes, however, and the apparent annihilation of the component parts by the process of chemical action, one of the most important facts which chemistry teaches is, that matter is indestructible. Lavoisier, by employing the balance in chemical investigations, was enabled to prove that, even during combustion, there is no particle of the original matter destroyed, nor is it even changed. The products of combustion are found to weigh exactly the same as the combustible and the gas with which it unites during the process, and the original elements may be reproduced unchanged. As an easy illustration of the apparent destruction of a substance by chemical combination, and its subsequent restoration. Dr. Faraday adduced the combination of iodine with zinc. A small quantity of iodine was heated in a glass flask, when the beautiful violet-coloured vapour peculiar to that substance was copiously emitted. A little zinc and spirit of wine were then added, and, after the combination, all the properties of the iodine seemed to be lost, and was heated without the emission of the least vapour. The addition of sulphuric acid, however, liberated the iodine, and then its violet-coloured vapour again filled the flask. Thus, as Dr. Faraday observed, the particles of iodine which had been floating unperceived on the water since the creation of the world, after having been extracted from the sea-weed by the chemist, and placed on the lecture table, were again lost to sense in combination with zinc, and were once more restored by chemical agency. As there is no destruction nor creation of matter by chemical action, so also there is no destruction nor creation of power, though some philosophers still cling to the notion that the excitement of electricity forms an exception to this law of nature. The consideration of the development of electricity in the voltaic battery, by chemical force, was, however, reserved for the next lecture.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 34.]

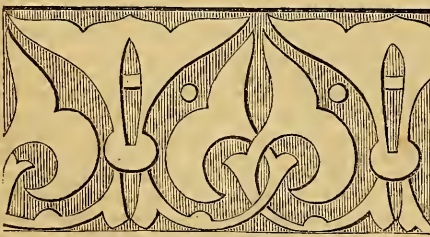
DRUIDICAL ORNAMENTS, these were ornaments worn by the Druids, or priests of the



ancient Britons, symbolical of their mystic rites.

DECORATION, STYLES OF, we here append specimens of such styles of ornament as have become established by long usage:—

1. Alhambra.



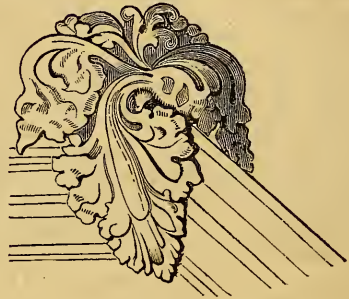
2. French.



3. Elizabethan.



4. Gothic.



We will conclude these specimens next week.

[To be continued.]

FACTITIOUS DRAGON'S BLOOD.—Shell-lac 4lbs.; melt, remove from the fire, and add Canada balsam, 5 oz., and coarsely powdered gum benzoin, 2 oz.; when well mixed, stir in red Sander's wood and Venetian red (both in fine powder), of each 1lb.; blend well together, and form into sticks. The above preparation may be distinguished from genuine dragon's blood by its partial solubility in alcohol. It makes, however, a very fine-coloured powder, but for varnishes is better without the Venetian red.

CEMENT FOR JOINING BROKEN MARBLE.—Melt yellow resin, or equal parts of yellow resin and bees'-wax; then stir in half as much finely-powdered plaster of Paris. Apply hot, previously warming the pieces.

SPECULUM METAL.—Copper, 64 parts; pure tin, 29 ditto. Melt the metals separately under a little black flux; incorporate thoroughly by stirring with a wooden spatula, then run the metal into the moulds, so that the face of the intended mirror may be downwards; cool slowly.



Shoes.

It is difficult to determine the period at which shoes were first worn; the earliest notice of them occurs in *Genesis*, c. 14, v. 23, "I will not take from a thread, even to a shoe-latchet" (B.C. 1913); and in *Exodus*, c. 3, v. 5, "Put thy shoes from off thy feet" (B.C. 1490). Shoes appear to have been made by the Egyptians at a very early date (as discovered in mummies, &c.) of papyrus linen, &c. The shoes, or sandals of the ancient Romans, were originally of rude, untanned leather, the favourite colour being red. The shoes most worn by the Romans were the "*calceus*" (fig. 1), which covered the whole foot, something like our present shoes, and the "*solea*" or slipper (fig. 2), which covered only the sole of the foot, and was fastened above with leathern thongs. The military shoe (fig. 3) was termed the "*caliga*," and to the circumstance of Caius Cæsar wearing these when a child—being born in a camp and reared amongst the soldiers—is owing his surname of *Caligula*. At this date, about A.D. 40, the shoes of the wealthier classes were beautifully enriched with precious stones, the patricians wearing ivory crescents on the instep to distinguish them from the lower ranks of the people. The actors at this time had a thick soled boot invented denominated "*colthurnus*" or "*buskin*" (fig. 4).

From the time of William the Conqueror to the twelfth century, the shoes were much after the form of fig. 5. The effigy of King John represents him as wearing black boots, approaching the pointed form, and golden spurs, tied with coloured ribands (fig. 6). On the effigy of Henry III., in Westminster Abbey, the boots are very beautiful, being embroidered in squares, each of which contains a lion or a leopard (fig. 7). The hose of noblemen in the

fourteenth century were richly ornamented in gold and various coloured silks (fig. 8). A very fine specimen of the embroidery worn on the shoes is seen on the monument of Edward III. (died 1377) in Westminster Abbey (fig. 9), and on those of his William of Hatfield, seen on his effigy in York Cathedral (fig. 10).

W. T. R.

[To be continued.]

THE ELECTRIC TELEGRAPH.—Electricity is traceable to the *electron* of the Greeks; and some four-and-twenty centuries ago, the roving old bachelor Thales, whilst strolling along the sea-shore, may have picked up a piece of amber, and from it produced the first electric power; though it is hard to associate the philosopher with a spark. Nevertheless, the glass tube and silk handkerchief phenomena belong to the moderns. Franklin identified lightning with electricity about a hundred years since; but the adaption of this mysterious power—the writing on the line—to the conveniences of every-day life, belongs to our own century, nay, almost to the present decade.—*London Anecdotes*, Vol. I., *The Electric Telegraph*.

TO ETCH ALABASTER.—Cover every part of the surface of the model or cast, except the portion to be etched, with a mixture of one part of white wax dissolved in four parts of oil of turpentine, thickened with finely powdered white lead. When this coating has set immerse the article in pure water, and allow it to remain from twenty to fifty hours, according to the effect intended to be produced. Then take it out, remove the superfluous water, wash off the varnish with oil of turpentine, and carefully brush the etched parts over with powdered gypsum.

Varnishes.

[Continued from page 107, Vol. II.]

71. Brunswick Black.

Foreign asphaltum, forty-five pounds; drying oil, six gallons; litharge, six pounds. Boil for two hours; then add dark gum amber (fused), eight pounds; hot linseed oil, two gallons. Boil for two hours longer, or till a little of the mass when cooled may be rolled into pills, then withdraw the heat, and afterwards thin down with twenty-five gallons of oil of turpentine. [Used for iron-work, &c.]

72. Italian Varnish.

Canada balsam and clear white resin, of each six ounces; oil of turpentine, one quart, dissolve. [Used for prints, &c.]

73. Lacquers.

a. Seed-lac, three ounces; tumeric, one ounce; dragon's blood, a quarter of an ounce; alcohol, one pint. Digest for a week, frequently shaking,—decant and filter. [Deep gold coloured.]

b. Ground tumeric, one pound; gamboge, one ounce and a half; gum sandarach, three pounds and a half; shell-lac, three quarters of a pound; all in powder; rectified spirit of wine, two gallons. Dissolve, strain, and add one pint of turpentine varnish. [Gold coloured.]

c. Spanish annotto, three pounds; dragon's blood, one pound; gum sandarach, three pounds and a quarter; rectified spirit, two gallons; turpentine varnish, one quart. Dissolve and mix as the last. [Red coloured.]

d. Gamboge, cut small, one ounce; Cape aloes, ditto, three ounces; pale shell-lac, one pound; rectified spirit, two gallons. Dissolve and mix as *b*. [Pale brass coloured.]

e. Seed-lac, dragon's blood, annotto, and gamboge, of each a quarter of a pound; saffron, one ounce; rectified spirit of wine, five quarts. Dissolve and mix as *b*.

[Lacquers are used upon polished metals and wood to impart the appearance of gold. As they are wanted of different depths and shades of colour, it is best to keep a concentrated solution of each colouring ingredient ready, so that it may at any time be added to produce any desired tint.]

74. Superior Green Transparent Varnish.

The beautiful transparent green varnish employed to give a fine glittering colour to gilt, or other decorated works, may be prepared as follows:—Grind a small quantity of Chinese blue with about double the quantity of finely-powdered chromate of potash, and a sufficient quantity of copal varnish thinned with turpentine. The mixture requires the most elaborate grinding, or incorporating, otherwise it will not be transparent, and therefore useless for the purpose to which it is intended. The "tone" of the colour may be varied by an alteration in the proportion of the ingredients.

A preponderance of chromate of potash causes a yellowish shade in the green, as might have been expected, and *vice versa* with the blue under the same circumstances. This coloured varnish will produce a very striking effect in japanned goods, paper-hangings, &c., and can be made at a very cheap rate.

[To be continued.]

The Chronotypist.

In Paris, a report made by the Director of the National Museums has revealed the existence in the Louvre of a number of concealed repositories filled with objects of art, of various kinds, thrown together in waste confusion. A commission has been appointed to examine these treasures.—A Commission of Reform, composed of artists, has been likewise instituted in the same capital to examine into the constitution and condition of the School of Fine Arts there and those of the Academy at Rome, and to propose measures for their improvement.—Mr. George Petrie has recently specified a patent for an apparatus that shall enable the telegraphist, or any public person who employs the telegraph, situated at any station, in a line of telegraphs, or system of telegraphs, to operate upon any distant part or parts of the general telegraphic apparatus, so as to connect, into one long circuit, any number of consecutive circuits or branch circuits, so as to divide any circuit, or circuits, into any number of smaller circuits; also, so as to cut off from, and introduce into, any of the main, or branch circuits, any number of conversing telegraphs, recording telegraphs, alarums, or any other kind of telegraphic apparatus, in order that intelligence may be transmitted privately from one place to any other place or places; and, in order that the intelligence may be signalled, or recorded, at the distant place or places, or signalled at some places, and recorded at others, as may be required; also, in order that different kinds of intelligence may be transmitted from any place to any other place or places, or to all places simultaneously, throughout the whole system of main lines and branches. This invention, it appears, can be advantageously applied either to Morse's, Davy's, or Bain's telegraphic apparatus.

OIL COLOUR CAKES.—Grind the colours with oil of turpentine, in which has been dissolved, in the cold, about one-sixth of its weight of powdered mastic; let them dry, then place the stone over a slow charcoal fire, so as to soften the colour, and add of a warm solution of spermaceti in half of its weight of poppy oil, q. s. to make the mass into a proper paste; remove the heat, work till it begins to harden, then form the mass into pieces and mould them into cakes, which are employed by artists, rubbed down with poppy, nut, or linseed oil, and turpentine as required.

Locomotive Boilers.

LOCOMOTIVE boilers consist of three portions—the barrel containing the tubes, the fire box, and the smoke box; of which the barrel, smoke box, and external fire box are always of iron, but the internal fire box is generally made of copper, though sometimes also it is made of iron. The tubes are sometimes of iron but generally of brass fixed in by ferules. The whole of the iron plates of a locomotive boiler which are subjected to the pressure of steam, should be Lowmoor or Bowling plates of the best quality; and the copper should be cross grained, rather than rich or soft, and be perfectly free from irregularities of structure and lamination. The thickness of the plates composing the barrel of the boiler varies generally from five-sixteenths to three-eighths of an inch, and the plates should run in the direction of the circumference, so that the fibres of the iron may be in the direction of the strain. The diameter of the barrel commonly varies from 3ft. to 3ft. 6in.; the diameter of the rivets should be from eleven-sixteenths to three-fourths of an inch, and the pitch of the rivets or distance between their centres should be from seventeen-eighths to two inches. The thickness of the plates composing the external fire box is in general three-eighths of an inch if the fire box is circular, and from three-eighths to one-half inch if the fire box is square; and the thickness of the internal fire box is in most cases seven-sixteenths if copper, and from three-eighths to seven-sixteenths of an inch if of iron. Circular internal fire boxes, if made of iron, should be welded rather than rivetted, as the rivet heads are liable to be burnt away by the action of the fire; and when the fire boxes are square each side should consist of a single plate, turned over at the edges with a radius of three inches, for the introduction of the rivets. The space between the external and internal fire boxes forms a water space, which must be stayed every four and a half or five inches by means of copper or iron stay bolts, screwed through the outer fire box into the metal of the inner fire box, and securely rivetted within it: iron staybolts are as durable as copper, and their superior tenacity gives them an advantage. The tube plates are generally made from five-eighths to three-fourths of an inch thick, but seven-eighths of an inch thick appears to be preferable, as when the plate is thick the holes will not be so liable to change their figure during the process of feruling the tubes; the distance between the tubes should never be made less than three-fourths of an inch, and the holes should be slightly tapered so as to enable the tubes to hold the tube plates together. The ferules are for the most part made of steel at the fire box end, and of wrought iron at the smoke box end, though ferules of malleable cast-iron have in some cases been used with advantage; malleable cast-iron ferules are almost as easily expanded when hammered cold upon a mandril, as the common wrought-iron ones are at a working

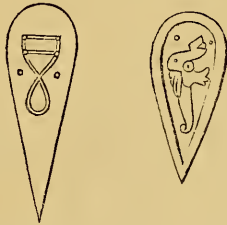
heat. Spring-steel, rolled with a feather edge, to facilitate its conversion into ferules, is supplied by some of the steel-makers of Sheffield, and it appears expedient to make use of steel thus prepared when steel ferules are employed. The roof of the internal fire box, whether flat as in Stephenson's engines, or dome-shaped as in Bury's, requires to be stiffened with cross stay-bars but the bars require to be stronger and more numerous when applied to a flat surface. The ends of these stay-bars rest above the vertical sides of the fire box; and to the stay bars thus extending across the crown, the crown is attached at intervals by means of stay-bolts. There are projecting bosses upon the stay-bars encircling the bolts at every point where a bolt goes through, but in the other parts they are kept clear of the fire-box crown so as to permit the access of water to the iron; and, with the view of facilitating the ascent of the steam, the bottom of each stay-bar should be sharpened away in those parts where it does not touch the boiler. The internal and external fire boxes are joined together by a \sphericalangle shaped iron, and round the fire door they are connected by means of a copper ring one and a quarter inch thick, and two inches broad—the inner fire box being dished sufficiently outwards at that point, and the outer fire box sufficiently inwards, to enable a circle of rivets three-fourths of an inch in diameter passing through the copper ring and the two thicknesses of iron, to make a water-tight joint. To find the proper length of bar requisite for the formation of a hoop of any given diameter, add the thickness of the bar to the required diameter, and the corresponding circumference in a table of circumferences of circles is the length of the bar. If the iron be bent edgewise the breadth of the bar must be added to the diameter, for it is the thickness of the bar measured radially that is to be taken into consideration. In the tires of railway wheels, which have a flange on one edge, it is necessary to add not only the thickness of the tire, but also two-thirds of the depth of the flange; generally, however, the tire bars are sent from the forge so curved that the plain edge of the tire is concave, and the flange edge convex, while the side which is afterwards to be bent into contact with the cylindrical surface of the wheel is a plane. In this case the addition of the diameter of two-thirds of the depth of the flange is unnecessary, for the curving the flange edge has the effect of increasing the real length of the bar. When the tire is thus curved, it is only necessary to add the thickness of the hoop to the diameter, and then to find the circumference from a table; or the same result will be obtained by multiplying the diameter thus increased by the thickness of the hoop by 3.1416.

[To be concluded in our next.]

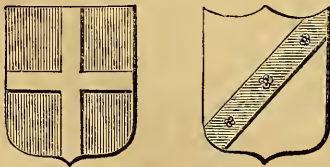
FLEXIBLE PAINT FOR CANVAS.—Cut one pound and a half of yellow soap into slices, and dissolve it in one gallon of boiling water, and while hot mix with one cwt. and a quarter of the oil paint required.

Decorative Art Society.

April 12th.—Mr. Partridge read a paper on "The forms of Heraldic Shields." He introduced the subject by observing that heraldry may be appropriately applied to many other purposes in private life than decorating carriages, plate, and buttons, as from its peculiar significance and interesting picturesque effects, it might with advantage become an integral portion of every important embellishment. Heraldic shields, he said, should have relation to the style of architecture or decorations with which they are associated; but, nevertheless, they possess individual and periodic characters in form, which must frequently be borne in mind. The earliest form of shields, it was said, is circular, and which subsequently gave place to the oval. Both shapes were adopted by the Greeks, and consequently heraldic blazonings may be appropriately applied, he thought, within the Acanthus scroll-work and wreaths peculiar to the ornaments of their era. Instances supporting this statement were adduced, such as Medusa's, Jupiter's thunder-bolt, &c. Various forms of shields were used by the Romans, and several were described. The Saxons carried the primitive circular shield, having a boss or spike in the centre; but an elongated shape, called the "kite" shield,



became prevalent in the Norman period of our history. Reference was made to the Bayeux tapestry. Shields, during the Crusades were reduced in length, and assumed the form now called "Heater," and sometimes "Gothic;"



and this change afterwards gave place to various other shapes, and more particularly to the tiling shield, having scalloped edges, and a peculiar notch or opening to receive a strap fastening. Both of the last named shields may be seen placed alternately on the panelling in Henry VII.'s chapel. During the Tudor and Elizabethan periods the gothic shape was more

or less strictly adhered to in the practice of heraldic mountings; but a fanciful bordering or back-ground was added, partaking of the characteristic expression of those times in all matters of ornament. An oval shield, it was said, was usually met with in Italian palaces, and is mounted on a ground-work exhibiting a border of over and under-lapping enrichment, peculiar to that style of embellishment. Modern instances, on the gates to the Royal Exchange, and in the University Club-house, were described as properly characteristic; but the heraldry displayed upon the ceilings of the ambulatories in the Royal Exchange were alluded to as not being expressed with proper heraldic *gusto*, nor upon appropriate shields, for they, at least, should have had relation to the characteristic form of the arabesque embellishments with which they are associated. The manner of introducing shields upon cornices in lofty apartments was noticed, and the mode of placing two shields obliquely to the face of the wall was pointed out as forming an effective enrichment—a variety being obtainable by adopting badges, crests, or coronets; offer other vehicles for variety in such decorations. Some explanations were given respecting the heraldic embellishments of the Houses of Parliament. It was remarked that the royal badges, such as the red or white rose, &c., ought to be used by private families only, as expressive of a period when particular honours were obtained by the ancestors of those adopting them. Mr. Partridge concluded with some observations on the absurd way in which crests are occasionally introduced upon furniture, such as chairs, &c. In the course of a discussion by the members, it was contended that, for the Houses of Parliament, it would have been more correct and picturesque to have varied the shields, in accordance with the period in which the cognisance had been respectively adopted.

PLATINA WIRE.—Dr. Wollaston obtained very fine wire, for the object-glasses of his telescopes, for observing the relative planes of the stars, by inserting platina wire in a cylinder of silver, wire-drawing the whole, and then melting the silver coating. Now, silver wire may be drawn to the three-hundredth of an inch diameter; so that if the platina wire was originally one-tenth of the thickness of the silver, it then became only the three-thousandth part of an inch. Dr. Wollaston procured some only an eighteen-thousandth, which did not intercept the smallest star. Platina wire has, in some instances, superseded hair, wigs being made of it. It is calculated that a piece of platina the size of the tip of a man's finger could be drawn across Europe.

BRONZE FOR ORNAMENTAL WORK TO BE GILDED.—1. Copper, 82 parts; zinc, 18 parts; tin, 3 parts; lead, 2 parts. 2. Copper, 83 parts; zinc, 17 parts; tin, 1 part; lead, one-half part.

Mortar.

[Continued from page 60, Vol. II.]

TERRAS, OR DUTCH MORTAR.—No nation in Europe has had so much occasion for water-cement as the Dutch, and the substance called *terras*, or *trass*, was first used by them. This substance which is also called *wakke*, is a species of basalt, which has proved extensively used in forming mounds, and various aquatic works, in the Low Countries. This celebrated *terras* mortar is made by covering a previously prepared mass of quicklime, of about a foot thick (and sprinkled with water), with an equal quantity of powdered *terras*. The whole is then left at rest two or three days; after which, what is wanted is taken each day, and beat up for use.

One measure of quicklime, and two of slacked, in powder, with one of *terras*, the whole well beaten to the consistence of paste, with as small a portion of water as can be made sufficient, forms the *terras* mortar commonly used in England. A cheaper kind is made by mixing two parts of slacked lime, and one of *terras*, with three of coarse sand.

Pebble mortar is used when cavities occur in walls, between the unequal projections of unhewn stone: it was much used by the Romans, and is yet of great utility, where large quantities of mortar are required. For this purpose, take one part of *terras*, or of puzzolana, two of coarse sand, two of fine sand, eight of small pebbles, screened and washed, and four of slacked lime. Mix the whole together. The lime termed argillaceous, from its containing a portion of clay, is preferred for this purpose.

It is only under water, or with the exclusion of air, that *terras* mortar acquires its usual degree of hardness; for, when exposed to the action of the atmosphere, it will not become as hard as common mortar.

Though the experiments of Morveau have proved that common *compact basalt* will, when previously burnt, make nearly as good a water-cement as the cellular species (the *terras* of the Dutch), yet it has rarely been used for that purpose. This mineral abounds in Great Britain, and the expense of its importation might be saved to the country. Calton-hill, in the vicinity of Edinburgh, and near the port of Leith, is almost one entire mass of basalt.

The *centre de Tournay* is used in the Low Countries; this article is procured from the lime-kilns bordering the Scheldt: the lime of this district contains a considerable portion of clay mixed with iron; and the pit-coal, with which it is burnt, contains a large quantity of an argillaceous schist impregnated with iron. After the lime is taken out of the kilns, there remains the *centrée*, about one-fourth of which consists of burnt lime-dust, and three-fourths of coal-ashes. This material is sprinkled with water, to slack the lime, and well mixed together, and put into a proper vessel, and covered over with wet earth. In this state it is

kept for a considerable time, and, when taken out, and strongly beaten up for half-an-hour with an iron pestle, in a wooden mortar or trough, it is reduced to a soft pasty consistence; it is then spread out in a shady place several days, and the operation of beating repeated; the oftener this is done, the better, except it should become unmanageable from being too much dried. In a few minutes, this cement, when applied to brick or stone, adheres so firmly, that water may be immediately poured over it; and if kept dry twenty-four hours, it will receive no injury even from the most violent action of a flowing stream.

In London, a blue mortar of cinders and lime is used for covering some parts of buildings much exposed to the weather; and if this were prepared with the same labour and attention, it might be expected to possess, in a great degree, the valuable properties of the *centrée* mortar of the Scheldt.

Common mortar of ashes is made by mixing together two bushels of newly slacked lime, and three bushels of wood ashes, which when cold is well beaten; in which state it is usually kept for a considerable time, and, if beaten two or three times previous to using it, will be found to be improved by keeping. In resisting the effects of alternate moisture and dryness, this mixture is superior to *terras* mortar, but not nearly equal to it under water.

Mr. Smeaton has ascertained, by a course of experiments, that the scales (the grey oxide of iron) that fly off under the forge hammer from red-hot iron, pulverised and sifted, and mixed with lime, form a valuable cement, equal to that of puzzolana. In pursuing these experiments, roasted iron ore produced an efficacious water-cement, by using a greater proportion of it than either *terras* or puzzolana. Equal quantities of iron scales and argillaceous lime, with half the quantity of each of these of sand, produced a cement in every respect equal to *terras* mortar. If pure carbonate of lime be used, equal parts of each of the ingredients ought to be incorporated.

About forty years ago, M. Lorient believed he had discovered the true process of making the celebrated cement of the Romans. His supposed discovery is merely the adding of the powder of dry burnt lime to common mortar, of a consistence rather thinner than usual. The lime powder, when of a right proportion, and well worked together, sets without cracking, acquires the consistence of plaster of Paris, and is as dry in two days as common plaster is in several months. The proportion of quicklime powder in the Lorient mortar varies as the other materials vary in quality; one-sixth of the other materials is frequently too little, and one-fourth not too much; experience alone can determine. As a water cement it is of inferior utility, and very little better than common mortar dried before the admission of water upon it.

Brick or tile powder, and forge scales, are added, to improve this composition, as in the following receipt:—Take of bricks, in fine powder, one measure, of fine river sand two

measures, old slacked lime to make a mortar in the usual manner, and, lastly, add one measure of dry powder of quicklime. About the time of M. Lorient's discovery, Mr. George Semple published a treatise on building, in Ireland, in which a similar mode of preparing a water cement was given, as follows: "Get your lime brought to you hot from the kiln, and immediately pound or grind it with a wooden maul, on a smooth large stone, or a dry boarded floor; till you make it as fine as flour; then, without loss of time, sift it through a hair or wire sieve; and to a quantity of a hod of your setting mortar (which on this account should be poorer than ordinary), put in two or three shovelfull of this fine flour of lime, and let two men, for expedition's sake, beat them together with such beaters as plasterers make use of, and then use it immediately."

Plaster of Paris, with a proportion of one-tenth of rust of iron, makes a water cement, which sets almost instantly, and is of great hardness, and if boiled potatoes be incorporated with mortar of lime and sand, or with mortar containing burnt clay, these compositions will be much improved.

M. Vicat has, by numerous experiments, found that calcareous stones, slightly or imperfectly calcined, will produce a Roman cement; and, in the 83rd volume of "Annales de Chimie," it is stated that powdered chalk, heated from six to thirty minutes on a red-hot iron plate, acquires the property of setting in water, when slacked stiff like plaster of Paris. Yet the result of these experiments seems only to have established the generally received opinion that no Roman or hydraulic cement of a sufficient hardness can be obtained from purely calcareous stones.

[To be continued.]

Pottery and Porcelain.

THE best kind of pottery, called in this country "Staffordshire ware," is made of an artificial mixture of alumina and silica; the former obtained, in the form of a fine clay, from Devonshire chiefly; and the latter, consisting of chert or flint, which is heated red-hot, quenched in water, and then reduced to a powder. Each material, carefully powdered and sifted, is diffused through water, mixed by measure, and brought to a due consistency by evaporation. It is then highly plastic, and formed upon the potter's wheel and lathe, into various circular vessels, or moulded into other forms, which, after having been dried in a warm room, are enclosed in baked clay cases resembling band-boxes, and called *seggars*; these are ranged in the kiln so as nearly to fill it, leaving only space enough for the fuel; here the ware is kept red-hot for a considerable time, and thus brought to the state of *biscuit*. This is afterwards *glazed*, which is done by dipping the *biscuit* ware into a tub containing a mixture of about 60 parts of litharge, 10 of play, and 20 of ground flint, diffused in water to a creamy

consistence, and when taken out, enough adheres to the piece to give an uniform glazing when again heated. The pieces are then again packed up in the *seggars*, with small bits of pottery interposed between each, and fired in a kiln as before. The glazing mixture fuses at a very moderate heat, and gives an uniform glossy coating, which finishes the process when it is intended for common white ware.

The patterns upon ordinary porcelain, which are chiefly in blue, in consequence of the facility of applying cobalt, are generally first printed off upon paper, which is applied to the plate or other article while in the state of *biscuit*; the colour adheres permanently to the surface when heat is properly applied.

The manufacture of porcelain is a most refined branch of art; the materials are selected with the greatest caution, it being necessary that the compound should remain perfectly white after exposure to heat. It is also required that it should endure a very high temperature without fusing, and at the same time acquire a semi-vitreous texture and a peculiar degree of translucency and toughness. These qualities are united in some of the oriental porcelain or "China," and in some of the old Dresden, but they are rarely found coëxistent in that of modern European manufacture. Some of the French and English porcelain, especially that made at Sèvres, and at Worcester, is extremely white and duly translucent, but it is more apt to crack by sudden changes of temperature—more brittle, and consequently requires to be formed into thicker and heavier vessels—and more fusible than the finest porcelains of Japan and China.

The colours employed in painting porcelain are the same metallic oxides used for colouring glass, and in all the more delicate patterns they are laid on with a camel hair pencil, and generally previously mixed with a little oil of spike-lavender, or of turpentine. Where several colours are used they often require various temperatures for their perfection—in which case those that bear the highest heat, are first applied, and subsequently those which are brought out at lower temperatures. This art of painting on porcelain or in enamel is of the most delicate description—much experience and skill are required in it, and with every care there are frequent failures, hence it is attended with considerable expense. The gilding of porcelain is generally performed by applying finely-divided gold mixed up with gum-water and borax; upon the application of heat the gum burns off, and the borax vitrifying upon the surface, causes the gold firmly to adhere;—it is afterwards burnished.

GLASS GRINDERS' CEMENT.—Melt pitch and add thereto one-fourth of its weight each of finely-powdered wood-ashes and hard tallow. This is for coarse work whilst grinding; but a composition for that of a lighter description is employed consisting of 4lbs. of black resin, to which is added 1lb. each of bees'-wax and whiting, previously heated red hot and still warm; or shell-lac melted and applied to the pieces previously warmed.

CHINESE ORNAMENT.—(Fig. 1.)



SKETCHED FROM THE ENTRANCE TO THE SALOON OF THE CHINESE JUNK, "KEYING" (BY THE PERMISSION OF THE PROPRIETOR),
NOW LYING IN THE EAST INDIA DOCKS, BLACKWALL.

The Rights of Labour.



N

entering upon a subject which has already engaged the attention of the learned, the great, and the wise, we must confess that we experience a degree of diffidence which would entirely prevent our launching fresh notions upon the turbulent sea of contention, did not the exigencies of the times imperatively demand the thoughts of the multitude to be attentively directed towards one great and necessary object, namely, the amelioration of the present condition of the working man, which is universally allowed to have reached the lowest point to which it can possibly attain, unless we rest contented with having the workhouses the only places in which the mechanic can find active employment.

The theory of labour is extremely simple, and may be explained in a few words, thus:—One man, who is the representative of capital, agrees with another, who is the representative of labour, to exchange his money for the other's produce. This is simply a system of exchange analagous to the buying and selling of merchandise, and, being so, of course it is liable to the same fluctuations in value from various causes, as is a bale of goods or a barrel of oil. But while we admit labour to be a system of exchange, obnoxious to the same effects from the state of the market as a quantity of goods, we by no means enter into the views of matter-of-fact political economists, who treat a *man* as they would a machine, and expect him either

to regale or starve, according as the amount of demand or supply of his commodity preponderates. We consider that in this case, at least, some fixity should be observed, so that the living image of God may be saved from the horrors of starvation or the workhouse. To effect this, something more is required than legislative influence has hitherto afforded: it is advisable, we will readily admit, to keep CAPITAL from being an absentee from the land, by giving him the greatest possible degree of protection; but is it *justice*, we would ask, to let LABOUR—and he, too, is a man—suffer unnoticed, and almost uncared for in the land of his birth?—Who is it that populates this country?—not CAPITAL, surely; who is it that renders its treasures available? not CAPITAL; who is it that makes the goods that produce wealth?—not CAPITAL; then who is it that does these things? one would think that LABOUR did not—for LABOUR starves by the road-side and dies in a ditch!

LOUIS BLANC, with whose ideas we do not wholly agree, is certainly right in his general conclusion, which amounts to this, “that remunerative labour can and ought to result from all well-constituted social institutions, and that where it does not, we may rest assured that nefarious and underhand practices are at work.” This is a principle founded upon the tenets of justice and reason; but how far it has been hitherto carried out in this country it needs not our efforts to show.

The fact is that the government attaches so much importance to the protection of the interests of wealth, that it forgets entirely the interests of labour, which is, after all, the *bonâ fide* capital of the nation—seeing that without labour all the wealth would be useless. Every workman among us represents in his own person a certain amount of *real* value, which he pits against a certain amount of the contents of the capitalist's *pocket*—and who is to decide which is the buyer, and which the seller? The workman has as much right to say that he *buys* his master's money, as the master has to say that he *buys* the workman's labour. Yet government proceeding entirely upon the hypothesis that CAPITAL is the purchaser of LABOUR, awards all its protection to the former, while it leaves the latter at the mercy of th

winds, and the uncertain justice of his employer.

Such a state of things as this cries aloud for reform—not merely as a politic measure, but in obedience to the dictates of common sense and common honesty.

To Correspondents, &c.

NOTICE.—Next week we intend commencing an *Illustrated Description of the Decorations at the various Places of Public Amusement, showing the Style of the Design and manner of treating it. We shall be happy to receive Communications from any of our Subscribers relating to the subject.*

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

Part XIII. is now ready, stitched in a neat wrapper, price 7d.

"Q."—There are, we believe, several books published on the subject;—apply to Mr. Weale, architectural bookseller, Holborn, who will, no doubt, supply you with the desired information. With regard to your second interrogation, we will insert an article on the subject shortly.

"An Artisan."—Provincial papers are filed at several coffee-houses: try Bishop's, 20, Berwick-street, Soho—we believe most of them are taken in there.

"J. Nicholls."—Address a note to some architectural bookseller. We have searched through the advertisements of several files of professional periodicals, but cannot discover the required information. If you can give us a hint as to the probable date of the publication of the book, we may succeed better.

"J. H. Thomas."—Your design is in our engraver's hands;—we shall always be happy to receive similar favours.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."

TO DISCHARGE IMPURE AIR.—There is a very simple plan by which we may get entirely rid of the deleterious and destructive products of animal effluvia and carbonic acid gas, &c., and emanations. A pipe, having a funnel mouth, and imbedded in the wall, near the ceiling, should eventually be carried into a chimney where a constant fire is maintained, as that of the kitchen; but as chimnies sometimes smoke, or have an imperfect "draught," it will be necessary to carry the pipe to the summit of the chimney, lest otherwise smoke enter the pipe. The pipe being constantly heated by the high temperature of the chimney it traverses, will certainly discharge all the impure air lingering in contact with the ceiling; and the rush of air entering the funnel is remarkably evident by bringing near the orifice a lighted candle.—*Dr. John Murray.*

Carbing.

CARVING differs but very little from sculpture except in the material on which it is employed—the one being executed on wood the other on stone. It is a very ancient art, and it was frequently employed to represent the figures of gods and heroes, even at a very early period. We extract the following account of its history and practice from one of Mr. C. Knight's excellent "Guides to Trade:"—

The use of carving, as a means of producing representations of fruit, flowers, and other ornamental subjects, has been continued from very early ages to our own time. The choirs of cathedrals, the ancient mansions of some of our nobility, and many other places, afford evidence of the extent to which carving was carried in by-gone days. There was an eminent carver named Gibbons, who, in the reigns of Charles the Second and James the Second, executed many specimens of carving which still remain as proofs of his ability: some of these specimens are at Windsor Castle.

The great pitch of excellence to which the art of painting arrived in the sixteenth and seventeenth centuries, and the number of pictures which were produced at that period, must have given a great impetus to the business of the carver; for nearly all the frames made for those pictures were carved previously to being gilt. The elaborate richness of the old frames, which are now being imitated by the composition-ornament maker, shows that the art had attained considerable perfection.

At a later period, the frames were made of broad deep mouldings, which had carved leaves, trelliswork, &c., laid upon them in different parts. This gradually led the way to the introduction of composition ornaments, which have now, to a large extent, superseded the use of carved ornaments. But still, for very large frames, the latter are much used both on account of their superior lightness and boldness, and because the ornaments can be made to any style and form which the purchaser may require; whereas composition ornaments must depend for their patterns upon the moulds which the ornament maker may happen to possess.

A professional carver ought to possess some taste for drawing or modelling, or both. The ease and elegance of the foliage and flowers which the carver has to imitate, cannot be produced by one who does not possess a natural taste for drawing, and, we may add, some knowledge of botany; since it very frequently happens that the fruit, flowers, and foliage, upon fancy work generally, whether it be the lace veil of a lady, or the ornaments of a looking-glass, are but poor imitations of nature. It excites regret to see good workmanship thrown away, as it often is, upon bad design, which a little knowledge of botany might convert into a tasteful production, simply by making it natural. A carpenter can make his mouldings and his sashes, and a joiner can make his frames, without requiring

any particular exercise of taste, because he has a rule, a square, and compasses to guide him in every part of his work. But a carver can derive but little assistance from such guides; for if his taste cannot tell him how to make a leaf of foliage appear light and easy, all the rules and compasses in the world would not be sufficient for that purpose. * * * *

When a piece of carved ornament is to be afterwards gilt, a soft and cheap wood, such as American pine, is generally employed; but when the veins of the wood are intended to be seen, without either paint or gold, such wood as box, oak, pear-tree, maple, lime-tree, &c., is employed, according to the purposes to which the ornament is to be applied.

The soft wood, then, which is used by the carver for ornaments afterwards to be gilt, is sawed out of planks of various thicknesses, according to circumstances, and pieces are glued one upon another at these parts which are to be most raised or prominent. This is an easier plan than that of cutting the ornament out of a solid block of wood equally thick in every part.

The carver is, in most cases, furnished with a pattern of the ornament which he is required to imitate, which is drawn upon paper. When he has selected a plank of the proper thickness, he lays the drawing down on the plank, having previously cut out the paper to the exact outline of the drawing. He then marks this outline on the wood, according to the drawing; and any holes which are to be cut entirely through the wood, are marked in the same manner. He then, with a bow-saw, which is particularly adapted for sawing in curved directions, cuts out the plank according to the pencil marks, and also cuts the holes. This gives him the requisite outline, and he has next to fill up details.

For this purpose, he screws the piece of wood (or glues it, if thin) down to his bench, by means of a screw which passes from beneath through the bench and into the lower surface of the wood; by which means the wood is held firm, without making screw or nail holes in the upper surface, which is to be carved.

Having now sketched the details of his ornament on the piece of wood, he proceeds to cut the wood into the proper form by means of very sharp tools, the greater part of which are gouges of various sizes and shapes. A gouge is a sort of chisel, with one surface round and the other hollow; and a tool of this form is much more useful to the carver than a flat chisel, since the sharp corners of the latter would be apt to dig into the parts of the wood which are not required to be cut. A carver has seldom to produce a perfectly-flat surface, so that gouges are used for almost every kind of ornament; they are, therefore, made of different widths and different degrees of curvature of surface. Some of them are bent at the end, in order to work out the details of the deep parts of an ornament, which could not be effected by a straight tool. The whole of these tools must be very sharp, or the carver would make but little progress at his work. The sharpening is performed by rubbing the

edge obliquely on a soft stone moistened with sweet oil, and requires some care to avoid altering the shape of the edge.

When a piece of ornament is carved, and the proper effect produced on a front view, it is necessary to chamfer or undercut the edges, to give an appearance of lightness. To effect this, the ornament is held in the left hand, and the wood is cut away in the proper places by the tool held in the right hand.

The foregoing details apply to pieces of ornament, such as those which were placed on the corners of glass frames a few years ago. But, when a frame is carved nearly all over, a somewhat different process is necessary. The joiner must precede the carver, and make the groundwork on which the latter is to be employed; he must, in fact, make the frame.

This is a part of the carving trade which, as may be judged from our preceding remarks, has undergone much fluctuation. In the early part of the last century, such frames were very common; in the latter part of the same century, and the beginning of the present, they were comparatively rare; while at the present day, their use has again revived.

In preparing such frames as these, and before the carver commences his work, the joiner, in putting the frame together, must regulate the thickness of the wood at different parts, by the nature of the ornaments which are to be situated at those parts; in order that the carver may have to cut away as little as possible of the wood.

Much tact is necessary in regulating the motion of the carving tools with reference to the direction of the grain of the wood: a piece of wood would be presently split, were it not for precaution in this matter. No written description will suffice to show how to attain success in this particular, since, like the details of carving generally, personal inspection and personal instruction will alone give a clear idea on such matters.

Notwithstanding the extent to which composition ornaments are used on frames, the lightness and durability of carved frames, and the facility with which any required pattern may be produced, will probably always prevent them from getting quite into disuse.

The chair-carver, and those who carve for cabinet-makers, &c., are seldom the same as those who serve the gilder. They have to use harder wood and sharper tools, and have to finish up their work more neatly, because any roughness in ornaments that are to be gilt may be easily removed by the processes which the gilder afterwards employs; but no such process is employed by the cabinet-maker on his ornaments; so that they must be made smoother in the first instance. All carvers, however, are accustomed to use bent files and rasps to smooth the surface of their ornaments after the cutting has been performed.

A DIFFICULT SUBJECT.—It is a remarkable fact that the greatest painters have failed in portraying his Satanic majesty. Raphael, Guido, and West were all deficient in the figure of Satan.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

[Continued from page 44.]

DECORATION, STYLES OF. [Concluded from
our last.]

5. Arabesque.



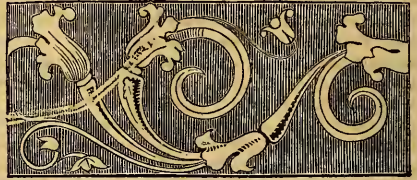
6. Grecian.



7. Basso Relievo (Italian).



8. Integlio.



There are other styles used occasionally, such as the Egyptian, Turkish, Chinese, &c., but those given are in general use; a specimen of the last-mentioned appears in the front page.

DISCHARGE (in carpentry), a post trimmed up under a beam, or part of a building which is weak or overcharged by weight.

DRAGING (in joinery), a depression or lowering of a door, so as to make it rub on the floor—occasioned by the loosening of the hinges, or the settling of the building.

DUTCH CLINKERS (in bricklaying), a peculiar description of bricks, about 6in. in length, by 3in. in breadth, employed for paving yards and stables. They are extremely hard, and of a brimstone colour. When laid herring-bone-ways they have a very pretty effect.

DRAG (in masonry), a thin plate of steel indented on the edge, like the teeth of a saw, used in soft stone which has no grit for finishing the surface. A piece of a joiner's handsaw makes a good drag.

DRIFT (in masonry), the horizontal force of an arch, by which it endeavours to overset the piers.

DERBY (in plastering), see *float*.

DIE (in plastering), is when plaster loses its strength.

DOTS (in plastering), patches of plaster put on to regulate the floating rule in making skreeds and bays.

DRAW (in smithing), the act of lengthening a bar of iron by hammering; also wire reduced from any size to a smaller is said to be drawn.

[To be continued.]

SPEED ON RAILWAYS.—A speed of 53 miles in 50 minutes, with a train of 50 tons weight, was lately attained by one of the new class eight-feet driving-wheel engines, "The Emperor," on the Great Western. The greater part of the run between the fourth mile-post from Paddington and Reading was made at the rate of nearly seventy miles an hour, and several miles were gone in forty-nine seconds per mile. This speed is said to be the greatest ever maintained with a train, whether on broad gauge or narrow.

The Chinese Junk, "Keying," IN THE EAST INDIA DOCKS AT BLACKWALL.

THE arrival of this vessel in England affords much matter for contemplation to the philosopher and the political economist as well as to the man of science: it speaks, as it were, of a time yet to come in which even the semi-mystical inhabitants of the celestial empire will be awakened from their apathy and induced to tread in the path of commerce across the ocean's broad highway. If any person had been bold enough three years since to have predicted that we should have had within the walls of the East India Docks a Chinese junk, with her crew and rigging, the predictor would have been everywhere scouted as a visionary;

ought but the home trade, by Capt. Kellett, the present commander, and three other gentlemen, for the purpose of bringing her to England. Various stratagems had to be put into practice in order to avoid suspicion being aroused as to her destination; but these in a great measure proved fruitless, and it was only by repeated administrations of bribes that Captain Kellett—to whose skill, perseverance, and courage, all tried in no ordinary manner, we owe the present interesting exhibition—succeeded in putting fairly out to sea with a crew consisting of thirty natives and twelve English seamen, with the officers.

The *Keying* carries three masts. The mainmast is 95ft. in length, and is made of one large piece of teak, 10ft. in circumference at the bottom; but not perfectly straight. This which we should consider a defect, is, by the



Fig. 2.

and yet here is one, open to our inspection, after having passed over, in a voyage of nearly seventeen months' duration, from China to England, a course equal in length to the entire circuit of the globe.

The *Keying*—so named in compliment to the Chinese commissioner at Canton—is built entirely of teak, and is supposed to have seen nearly a century's service. It was purchased, after much opposition on the part of the Chinese, who entertain a decided aversion against allowing their vessels to be used for

Chinese, esteemed as a beauty, it being supposed by them that the bend adds to the strength, and is conclusive evidence of the goodness of the spar. This mast is hooped round in consequence of being cracked, while undergoing the process of hardening. The mode adopted for this purpose by the Chinese is to bury the timber for a considerable time in marshy ground—and teak, after being thus treated, is said to become as hard as iron.

The sails are formed of closely woven matting—a substance much lighter than canvas,

holds the wind far better, and rarely splits, because it never shakes in the wind. The mainsail of the *Keying* weighs 9 tons, and covers a surface of 1,100 yards.

The rudder is, perhaps, the most singular part of the vessel. It is made of iron-wood and teak, bound with iron, and its weight is from 7½ to 8 tons. It is perforated with rhomboidal holes, and in deep water is 12 feet below the bottom of the vessel. The great elevation of the stern enables the rudder to be elevated or depressed according to the depth of water; and by this means the draught may be made to vary from 12 to 24 feet. When the rudder is raised up, as must be the case in shallow water, the vessel is steered by a short tiller on the second poop. When let down to its greatest depth, it requires occasionally the strength of 15 men to work the large tiller, and even then the aid of a luff tackle purchase and the best patent blocks, otherwise it would require thirty men. Instead of braces and pintles, two immense ropes, made of bamboo and grass, pass under the bottom and come over the bows on the upper deck, where they are fastened; these serve to confine the rudder to the stern.

The vessel is strikingly rude in its construction: the whole of the work is of the roughest kind; the sides of the timbers are not squared, but left just as they grew. No artificial means has been resorted to for any bends; wherever a branch has been found with the natural requisite curvature, it has been employed without further adaption. The Chinese allege, in explanation, that fine work is ridiculous where it is not necessary; that it is absurd to make the boards of the hold very level and smooth, when only goods or ballast is to be put there; and that the timbers on the sides or the deck, if it be a war junk, are quite good enough to be shot at, without bestowing any pains upon them.

The appearance of the deck strongly reminds one of the prints and pictures of the large early English men-of-war, such as the *Great Harry*, with its lofty fore-castle and aft-castle. Her immense poop has three galleries rising one above the other; and her bow, which is square and without bowsprit is also of great height. The stern is elaborately painted with birds, &c., of real and imaginary forms. Coming from the bow to the afterpart of the vessel, we find a series of water-tight compartments, such as we have adopted in our steam-vessels. On the bows are placed two large eyes: a similar ornament was used by most of the ancients, and is supposed to denote vigilance and activity. The Chinese, however give a different explanation of it, and say, "Have eye, can see; can see, can savey; no have eye, can not see; no can see, no savey."

The saloon is entered beneath a sort of skylight, the sides of which are filled with prepared oyster-shells, commonly used in China, instead of glass, which is too costly for general purposes. This saloon is 32 feet long, 28 broad, and 15½ in height. The sides and ceiling are covered with a lively pattern paper. Upon the former are hung whole-length portraits by

Chinese "Sir Joshuas," alternating with tablets inscribed with moral precepts in Chinese characters. From the ceiling hang lanterns of various forms and sizes, made of horn, glass, silk, and paper; the frames carved and richly gilt; and the transparent panes embroidered or painted with landscapes, flowers, or animals, existing or imaginary. Among the paintings on the walls, too, are flowers, fruit, insects, birds, and monkeys, dogs and cats; all, as well as the other ornaments of the ship, painted by a good-natured native of Canton, named Sam-Sing, who is on board, and who left his country and his family, to accompany the *Keying* wherever she goes, as her painter in ordinary. Right and left of the saloon ladder are two curious portraits of the Emperor, well worth inspection.

Our artist has given two specimens of the internal decorations of the junk. Fig. 1 (see front page) represents a piece of elaborately carved work placed over the entrance to the saloon. In the original it is gorgeously coloured and gilded. Fig. 2 is a selection from the paper-hangings on the walls inside the saloon. In the original the ground is of a somewhat dingy yellow colour, the leaves of the foliage being painted green and the stems blue, although on the ceiling we observed that the latter were painted red.

In conclusion, we recommend our readers, gentle and simple, to go and see a wonder which has never been seen before, at least, not in England.*

FREE EXHIBITIONS, IN OR NEAR THE METROPOLIS, NOW OPEN.—British Museum, Mondays, Wednesdays, and Fridays; East India Company's Museum, Saturdays; Missionary Museum, Tuesdays, Thursdays, and Saturdays; Geological Museum, Craig's-court, Charing-cross, daily; Soane's Museum, Lincoln's Inn Fields, Tuesdays and Fridays; United Service Museum, Scotland-yard, daily, by member's order; Society of Arts, daily, by member's order; Dulwich Gallery, every day except Friday, orders to be had of the London print-sellers; National Gallery, all the week, except Fridays and Saturdays; Woolwich Dockyard and Arsenal, ditto; Deptford, ditto; Mint, daily, by application to the deputy master.

PAINTER'S CREAM.—Take six ounces of pale nut oil, one ounce of mastic—dissolve and add a quarter of an ounce of sugar of lead, previously ground in the least possible quantity of oil; then add water gradually until it acquires the consistence of cream, working it well all the time. Used by painters to cover their work when they are obliged to leave it some time. It may be washed off with a sponge and water.

* Captain Kellett having very kindly granted us permission to take drawings of the various ornaments, &c., in the junk, we will seize the opportunity and present our readers with several engravings of a novel and useful description with regard to the interior decorations of the Chinese.—In our next we shall give an engraving of the side of the entrance to the saloon, which is of pierced carved work.

Method of Detecting Adulteration in Oils.

To M. Heidenreich, pharmacien of Strasburgh, it was some years since proposed to decide, whether the adulteration of different oils could be ascertained by definite chemical tests. It then became an object of research with him to find out some method of proceeding which would enable those who are not *au fait* at chemical experiments to detect these adulterations, by furnishing some accurate characteristic test which might be employed without much trouble, or requiring nicety of manipulation; and he therefore directed his attention to the three following series of experiments:—

1. By observing the peculiar odour evolved by each oil when gently heated.

For this purpose he suggested that a few drops only of the oil under examination be exposed for some moments, in a small porcelain basin, to the flame of a spirit-lamp. The odour which is evolved immediately suggests that of the plant or animal from which it has been obtained; and this characteristic is valuable if observed in conjunction with the genuine oil, and furnishes accurate indications of the presence of linseed and train oils in any mixture.

2. By the action of concentrated sulphuric acid on oils.

By mixing a small quantity of concentrated sulphuric acid with some oil, (in the proportion of about 1 to 2 parts of the former to 100 parts of oil,) very intense action immediately ensues, the temperature increases, and the mixture becomes coloured. A plate of white glass being laid over a sheet of white paper, if we place on the former from 10 to 15 drops of oil, and then add thereto one small drop of sulphuric acid of $66^{\circ}=1.632$, sp. gr., a colour will soon be produced without stirring, differing according to the oil employed. In the case of rape oil, there will gradually form, at a certain distance from the drop of sulphuric acid, a greenish blue ring; whilst towards the centre, where the action is more violent, light yellow brown streaks may be observed.

The expressed oil of black mustard seed likewise assumes a tinge of bluish green; but the quantity of oil must, in this case, be increased to 25 or 30 drops. In train oil, obtained from the whale or stock-fish, a very peculiar motion occurs, commencing at the centre and extending to the outside, whilst a red colour is observed, which grows more and more vivid, until after ten or fifteen minutes, when the margin assumes a violet tinge, which, in the course of about two hours, becomes uniform throughout the mixture.

Olive oil instantly assumes a pale yellow colour, which afterwards becomes yellowish green. In poppy oil, and that obtained from sweet almonds, the colour approaches to that of the greenfinch, and afterwards becomes of a dead yellow hue. In linseed oil a drop of acid produces a beautiful dark brownish red

web, which is gradually converted into a brownish black. Tallow oil (called by the trade "oleic acid") is rendered brown. If, instead of allowing the sulphuric acid to act on the oil undisturbed, both fluids be stirred up with a glass rod after adding the drop of sulphuric acid, the phenomena mentioned appear in different order. Rape oil then assumes a uniform brown colour, without a tinge of red; and if, instead of one drop of acid, five or six are added, and mixed with oil, the whole mass becomes of a dead brown red colour, not very intense, remaining green only on the edges.

By doubling or tripling the expressed oil of black mustard seed, the quantity tested gives rise to similar action, with the exception that the colour is somewhat less bright. Train oil instantly assumes, when stirred, a lively brown red colour, which finally passes into dark brown and violet, without a hue of green. If mixed with five or six drops of acid, the colour is much more intense, and the violet colour sooner appears. Seal oil assumes a yellowish gray colour. If, however, thirty drops of oil are taken instead of ten, a colour slightly approaching to green blue also appears, so that one drop more changes into gray. On the addition of five or six drops of acid, it receives a lively orange yellow tint. The oils from the olive, poppy and sweet almonds, all assume a yellow colour, more or less dingy or gray; and, by the addition of more acid, the action is rendered far more violent.

If linseed oil is stirred with the rod, as before mentioned, a brownish black lump forms, and, by adding five or six drops of acid, the whole forms a resinous, black, and persistent mass. It is true that the other oils likewise become plastic by the addition of greater or smaller quantity of acid; none, however, to a similar degree; and with a colour so black as linseed oil. The oil obtained from tallow assumes a dark dirty brown colour, which does not vary in tint by the addition of more acid. In trade it seldom occurs that a better oil is mixed with an inferior. Oil of almonds, olives, and codfish oil, will, therefore, never be used adulterating rape oil, but probably train, or perhaps linseed oil, and sometimes poppy oil. If we are led, therefore, by the odour to infer an adulteration—for instance, by train oil, which occurs the most frequently—it is only necessary to place from ten to fifteen drops of rape oil, the purity of which is undoubted, together with as much train oil, and an equal quantity of the oil whose purity is suspected, and to add to each of them a small drop of sulphuric acid. From the colour produced an inference may be drawn as to the purity of the oil, and by the difference of tinges from the vivid red of the train oil, and the bluish green of the rape oil, the extent of adulteration may be ascertained. In this manner have been detected adulterations made with half the quantity of an inferior oil; and the aræometer bore further testimony to the precision of my observations.

In undertaking an experiment, the commencement of the re-action must be accurately observed, with the several oils placed beside each other; for the colours, after a quarter of

an hour has elapsed, are less distinct, and the mixture should, for the purpose of attaining to greater certainty in the first experiment, be left undisturbed; in a second stirred with the glass rod. It is likewise necessary to avoid employing more than one drop of acid to ten drops of oil, since otherwise the re-action which ensues is too violent. If the presence of linseed oil be suspected in train oil, this will be discovered if the mass is left undisturbed, by a rather intense brownish red colour; if disturbed, by a brownish black colour. The intensity of the latter is increased by the increased addition of acid, and also the consistence of the moisture.

The adulteration by poppy oil, is seldom met with in commercial rape oil, because it is commonly much dearer than the latter; but when it is done the colour produced is of a very slight bluish green, approaching somewhat to yellow, but sufficiently distinct to admit of an inference being drawn, as to the adulteration, with perfect certainty. In such cases, the specific gravity of both oils must be received as the sole criterion for identifying them.

It has been reported that tallow oil has several times been mixed at Paris with rapeseed oil: besides the brownish colour produced by sulphuric acid, the tallowy smell, the brown colour, the acid re-action, and last, although not least, its density, which is less than any other of the fixed oils, are such decisive characteristics that we must be blind indeed if we do not instantly discover this fraud.

Gout.—This term is generally explained a *drain*, and Ray gives it as a Somersetshire word, “*gows, canales, cloacæ, seu tentine subterraneæ.*”—“*English Words;*” 1674, p. 67. It is still retained in use in Lincolnshire, not merely in that sense, but also applied to a sliding door at the extremity of a drain, by means of which the water is retained in the drain in a dry season, and let off in a time of flood. “*Goutes, sinks, vaults: Bristol in eminent for these goutes or subterraneous vaults, by reason of which they draw all things on sledges, for fear the shaking of cart wheels should loosen these arches.*”—“*Kennet’s MS. Glossary.*” Kennet also informs us that a “wide ditch or water-course that empties itself into the sea, is called in Romney Marsh a *gut.*” These terms are doubtlessly connected with each other, and with the word as it occurs in the *Prompt. Parv.*, “*Gote or water schetelys, aquagium.*” Dugdale, in his “*History of Imbanking,*” 1662, p. 243, mentions “the erecting of two new *gotes* at Skirbek and Laugare, for drayning the waters out of South Holland and the fens.”—*Journal of the Archaeological Association.*

COLOSSAL PORTRAIT.—Pliny informs us that in his days portrait painting was carried to such extravagance, that Nero ordered himself to be painted under the figure of a colossus upon canvas a hundred and twenty feet in height. This painting when finished was placed in the royal gardens, where it was eventually destroyed by lightning.

Locomotive Boilers.

[Concluded from page 47.]

THE upper portion of the external fire box is usually formed into a steam chest, which is sometimes dome-shaped, sometimes semi-circular, and sometimes of a pyramidal form, and from this steam chest the steam is conducted away by an internal pipe to the cylinders; but in other cases an independent steam chest is set upon the barrel of the boiler, consisting of a plate iron cylinder, 20 inches in diameter, 2 feet high, and three-eighths of an inch thick, with a domed-shaped top, and with the seam welded and the edge turned over to form a flange of attachment to the boiler. The pyramidal dome, of the form employed in Stephenson’s locomotives, presents a considerable extent of flat surface to the pressure of the steam, and this flat surface requires to be very strongly stayed with angle irons and tension rods; whereas the semi-globular dome of the kind employed in Bury’s engines require no staying whatever. The man-hole, or entrance into the boiler, consists of a circular or oval aperture, of about 15 in. diameter, placed in Bury’s locomotive at the apex of the dome, and in Stephenson’s upon the front of the boiler, a few inches below the level of the rounded part; and the cover of the man-hole in Bury’s engine contains the safety-valve seats. In whatever situation this man-hole is placed, the surfaces of the ring encircling the hole, and of the internal part of the door or cover, should be accurately fitted together by scraping or grinding, so that they need only the interposition of a little red lead to make them quite tight when screwed together. Lead or canvas joints, if of any considerable thickness, will not long withstand the action of high-pressure steam; and the whole of the joints about a locomotive should be such that they require nothing more than a little paint or putty or a ring of wire-gauze smeared with white or red lead to make them perfectly tight.—There must be a mud-hole opposite the edge of each water space, if the fire box be square, to enable the boiler to be easily cleaned out, and these holes are most conveniently closed by screwed plugs made slightly taper. A cock for emptying the boiler is usually fixed at the bottom of the fire box, and it should be so placed as to be accessible when the engine is at work, in order that the engine driver may blow off some water if necessary, but it must not be in such a position as to send the water blown off among the machinery, as it might carry sand or grit into the bearings, to their manifest injury. To save the steam which is formed when the engine is stationary, a pipe is usually fitted to the boiler, which on a cock being turned conducts the steam into the water in the tender, whereby the feed water is heated, and less fuel subsequently required. This method of disposing of the surplus steam may be adopted when the locomotive is descending inclines, or on any occasion where more steam is produced than the

engine can consume. The fire-bars in locomotives have always been a source of trouble, as from the intensity of the heat in the furnace they become so hot as to throw off a scale, and bend under the weight of the fuel. The best alleviation of these evils lies in making the bars deep and thin; 4 inches deep by five-eighths of an inch thick on the upper side, and three-eighths of an inch on the under side, are found in practice to be good dimensions. In some locomotives a frame carrying a number of fire-bars is made so that it may be dropped suddenly by loosening a catch, but it is found that any such mechanism can rarely be long kept in working order, as the molten clinker by running down between the frame and the boiler will generally glue the frame into its place.—*Bourne on the Steam Engine.*

Returned Shop-Fronts.

THE very common practice in all large towns of omitting or of removing the outer walls throughout the ground-floor storey on two or more of the sides of corner houses, to admit of returned shop fronts, is so fraught with danger, as to make it matter of wonder to all who know upon what a thread such buildings hang; that casualties from this cause are not of more frequent occurrence. Commonly a doorway is made upon a canted or diagonal line cutting off the corner where two fronts intersect, and leaving the quoin or outer angle of the building above to overhang a void; whilst the support given to the brestsummers placed under the walls of the upper storeys is generally either slight fir storey-posts, or even slighter iron columns, and which supports are not unfrequently placed over openings in the walls below, and almost always over timber in some form or other, in situations and under circumstances most liable to induce decay. Plastering and joiners fittings cover up the parts upon the soundness of which so much is made to depend, and consequently danger will hardly appear unless accident develop it in such manner as to attract attention in time to avert it, until the wretched fabric falls upon the heads of the in-dwellers, and of those persons who may be otherwise within reach of the ruin.

Connected in some degree with the practice of removing outer or front walls at the street level, and substituting mere posts as stilts to the walls above, is that of cutting away chimney-breasts from side and party walls for the same purpose of fitting the ground-floor storey of a house for a shop, and, as commonly performed, it is both destructive and dangerous. The overhanging upper parts of the breast and the super-imposed chimney-shaft are too commonly left dependent upon inadequate or otherwise improper supports, and almost invariably the wall from which the breast projects, and which it overhangs, is pulled over to one side, and so as to render the early condemnation of the wall imperative, whilst it is always to be considered in a greater or less degree dangerous.

In the Metropolitan district the operation of the Metropolitan Buildings' Act has stopped the practice of cutting away chimney-breasts without proper precautions, and to some extent the stilting of buildings upon posts is checked but it is not stayed; the operations to that effect upon corner buildings being almost free from controul.

Another modern practice which brings with it a hitherto almost unchecked source of danger is the use of bearing beams and girders of cast-iron. Accidents from this source are of frequent occurrence, and as the practice extends itself daily, the danger is, of course, increasing. Used in brestsummers to carry walls, and in storey-posts, cast-iron is a dangerous ingredient in the structure of a building in the event of fire, because of its liability to break when dashed with water, as well as to soften and even to fuse when acted upon by intense heat; but cast iron is less dangerous, nevertheless, in brestsummers and storey-posts, which are not generally exposed to concussive action, than in beams and girders to carry floors upon which movement takes place.—*Professor Hosking.*

BURNISHING GILDED PICTURE FRAMES.—

There is a particular state or degree of dryness known only by experience, in which the moulding is in a fit state for *burnishing*. A large share of the elegance which a gilded picture frame presents is due to the judicious admixture of *burnish* and *mat* (or dead) gold; and the gilder determines what members of the moulding shall be burnished. The burnishers used by the gilder are either of flint or agate, generally the former;—the steel burnishers employed by the jeweller would not do for the gilder. It frequently excites surprise that the burnisher can be rubbed briskly over the gold without injuring it, or rubbing it off. The reason seems to be, that the whitening and gold size under the gold, form a yielding foundation into which the gold is pressed more firmly by the burnisher, and that the brilliancy attained is derived from the levelling of the little asperities in the gold, and the gold size beneath it. If gold were laid on wood, or even on whitening, it would not receive a burnish.

PORTRAIT OF GEORGE STEPHENSON, ESQ., C.E.—We have inspected a portrait of the celebrated George Stephenson, at the Messrs. Graves's, Pall Mall, and have much pleasure in recording our testimony as to its faithfulness and beauty of execution. The portrait is a full-length one, and represents Mr. Stephenson standing on "Chat Moss." It was painted, we understand, by Mr. John Lucas for Mr. Robert Stephenson.

AMALGAM.—1. *Electrical*.—Melt $1\frac{1}{2}$ drachms of zinc, and add 4 drachms of mercury; afterwards pound up with a little tallow.—2. *Amalgam for Silvering Glass Globes*.—Melt 1 part of tin, 1 of lead, 1 of bismuth, and 2 of mercury. When nearly cold, pour into the globe, and turn it about.—3. *Amalgam of Gold*.—Heat until it fumes, 2 ounces of mercury, then add 1 ounce of gold, (or silver). Used for water gilding.

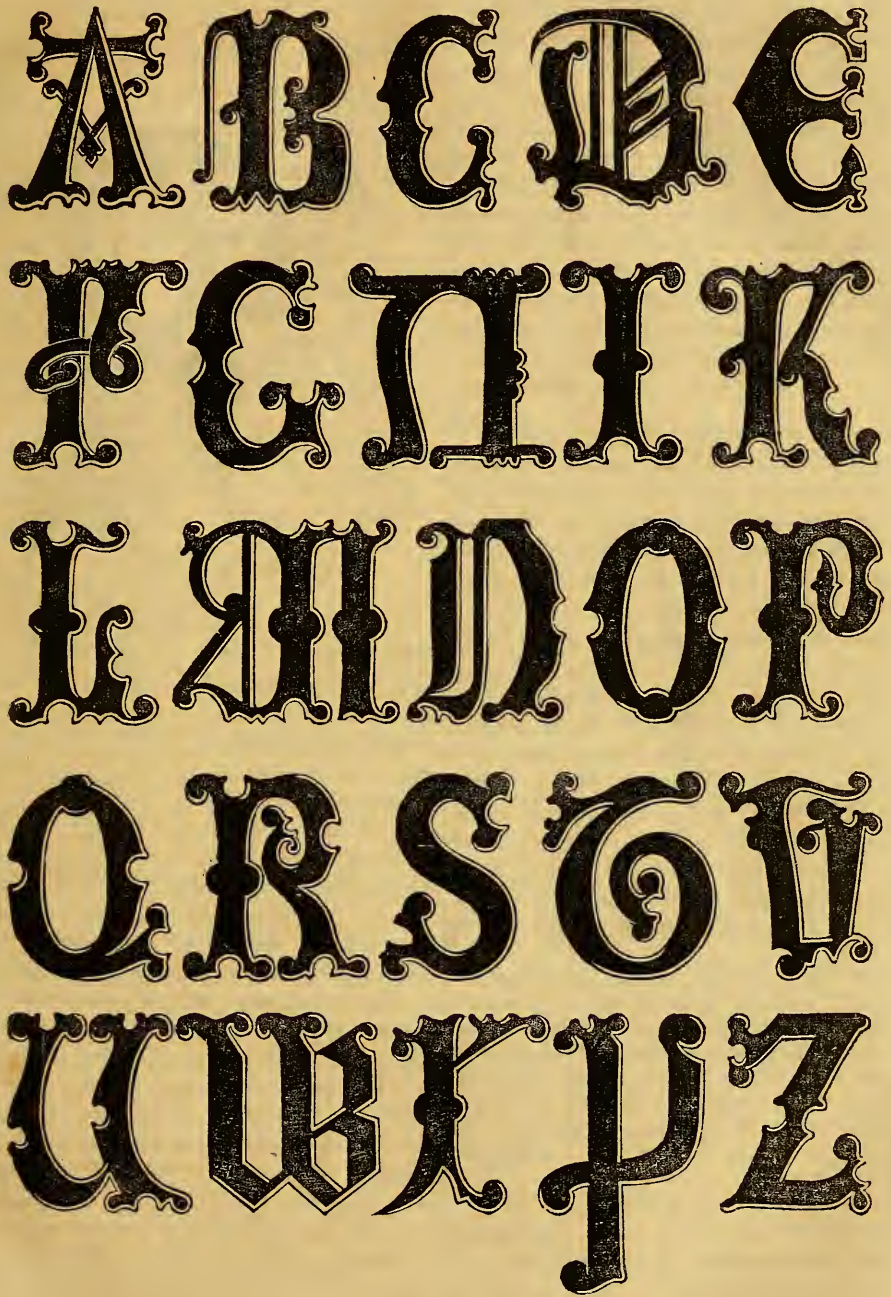
The Chronotypist.

WE are happy to state, says the *Cork Examiner*, that government has resolved to make a yearly grant of £350 to the school of design about to be established in Cork—The *Border Advertiser* says:—"We are glad, to observe that the operations which, during winter, had been suspended, are again resumed, in restoring partially the dilapidated parts of Jedburgh Abbey, one of the most entire specimens in the kingdom.—It has become a reality, says the *Western Canadian*, that people and parcels are conveyed by the "wires"—at least over the Niagara river. The engineer writes to a friend in this city that his iron basket is constantly plying 200 feet in the air between the American and Canadian shores.—A statue is, we hear, to be erected to the memory of the late Mr. Liston, the eminent surgeon.—An interesting question has lately been mooted as to whether electricity is ponderable.—Among the multitude of Fine-Art exhibitions which just now divide the attention and confuse the sense of the sight-seer, one is particularly deserving of notice for the excellence of its intention. For the purpose of increasing the funds devoted to the establishment of soup kitchens in the poorer districts of the metropolis, M. Soyer has opened at the Cosmorama. Rooms in Regent-street, an exhibition of the paintings of his deceased wife—who, as Miss Emma Jones, was a contributor to the Exhibitions of the British Institution—under the title of the Philanthropic Gallery. The pictures are 136 in number—and their range and variety of subject render them a very remarkable collection as the work of a single hand. The catalogue, written by M. Soyer himself, exhibits a portrait of the deceased artist, engraved after a picture by herself in the collection,—and is interspersed with lively anecdotes. M. Soyer's plan is at once a graceful tribute to his deceased wife and a generous effort for the living poor—and as both deserving of honourable mention and public patronage.—Mr. Taylor, of Bow-road, the winner of the Art-Union Society's £300 prize, has, we hear, selected, from the Octagon Room of the Royal Academy, the picture entitled "Blowing Bubbles—the Past and the Present," by Mr. G. Harvey, of Edinburgh.—We hear, too, that Mr. Lough has sold his statue of *Ariel* (not exhibited at the Academy) to the Duke of Sutherland.—The journey-men masons of Newport, have "unanimously resolved that no master-builder in the town shall be allowed to contract for any other than mason's work."—We must confess that we cannot see the drift of this. If any of our Newport readers will enlighten us on the subject, we shall feel obliged.—The *Sheffield Iris* states upon authority that the celebrated gardens and mansion of Alton Towers will be opened from the 1st of June till the end of October, on Tuesdays and Thursdays. Tickets to be had of Mr. Orrell, Shrewsbury Arms Hotel, Farley.—In an official document presented to Parliament, and lately printed, it is

stated that the quantities of British glass exported in the year ending the 5th of January last, were as follows:—Flint glass, 17,858 cwt.; window glass, 29,804 cwt.; plate glass, 41,879 superficial feet: common glass bottles, 227,844.

LAWS OF ART.—The laws of art are nothing else than the conditions under which alone the sensibility of the soul can be excited to agreeable emotions by external forms; they determine the artistic form according to the demands of sensibility, and have their foundation, therefore, in the constitution of the sensitive faculty. The artistic form must, in the first place, in order to excite a connected emotion in the sensitive faculty, possess a general conformity to laws, which is manifested in the observance of mathematical relations or organic forms of life; without this regularity, it ceases to be artistic form. But this conformity to law is not in itself capable of expressing an internal life; it is only a condition of representation, the boundary of the artistic forms which range to and fro within, modifying, but on the whole preserving, this conformity. Whilst this regularity is the first requisite in the artistic form generally, beauty is a more immediate predicate of the artistic form in reference to sensation. We call those forms beautiful which cause the soul to feel in a manner that is grateful, truly salutary, and altogether conformable to its nature, which, as it were, produce in it vibrations that are in accordance with its inmost structure. As the soul naturally strives after the salutary emotion in its sensitive life, so the beautiful is certainly a principle of art, without, however, being even in itself an object of representation, artistic idea in the above sense, as the latter is always an absolutely particular idea and sensation. On the contrary, beauty carried to the highest point, even stands in direct hostility against every endeavour to produce something particular. The sublime and the graceful may be regarded as opposite points in the chain of sensations which is denoted by the beautiful; the former demands from the soul an energy of feeling wound up to the limits of her power, the latter draws her of itself, without any exaltation of her force, into a circle of agreeable sensations. It lies in the notion of a work of art as an intimate combination of an artistic idea with external forms, that it must have a unity to which everything in the work may be referred and by which the different parts whether successively or simultaneously existing, may be so held together, that the one, as it were, demands the other and makes it necessary. The work must be one and a whole.—*Müller*.

A HINT TO TYPEFOUNDERS.—We wish our typesetters would make asterisks of two sizes in every fount: one, from which to refer, as large as the capitals, the other the usual size. Frequently one looks from a foot-note to find the asterisk in a long close column, but it is like looking for a needle in a bundle of hay. *Liverpool Mercury*.



GOTHIC ALPHABET FROM HENRY THE SEVENTH'S CHAPEL, WESTMINSTER.

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Mr. Vernon's Gift to the Nation.



ARE as angels' visits proverbially are, the are pretty nearly rivalled in their scarcity by donations of property made during the lifetime of the owners; and for this reason we

think that, with regard to the latter, when they *are* made, a greater degree of eagerness to receive, and thankfulness for, the gifts should be exhibited than we have observed evinced respecting Mr. VERNON's munificent present to the country of his extensive and valuable collection of the works of British artists. But we entertain a shrewd doubt as to whether this singular indifference arises from real apathy on the part of the people, or from the fact that they are, generally speaking, ignorant of the gift altogether.—Lord MONTEAGLE seems to hold the first opinion when we find him declaring that the public are generally very indifferent to the favours bestowed on them, and that they (the favours) are apt to be soon forgotten. To this view we cannot readily subscribe, while we know it for a fact that the names of many of the real benefactors of the people are still treasured and preserved as almost household remem-

brances in the breasts of the multitude. Take, for instance, the BIRKBECKS, the BRIDGEWATERS, the HOWARDS, the FRYS, and the COUTTS's, individuals who have contributed towards the happiness and prosperity of the nation by fostering education, promoting improvement, and dispensing charity with an earnest zeal and holy purpose—take them, we say, and mention them to the hard-working mechanic who has experienced the fruits of their exertions or their bounty, and you will soon discover whether gratitude, deep and fervent, has yet departed from the heart of the Englishman.

The fact is that *delay*, which has ever proved itself the bane of this country, has hitherto prevented our having a proper place in which to exhibit the splendid gift to the multitude; and even now the presenter, almost in his own defence, we may say, is forced to convert his own house into a public gallery. To allow of such a course as this savours strongly of meanness on the part of our government, particularly after all that has been done by Mr. VERNON to do away with any inconvenience that might attach itself to the receipt of his pictures by the nation. Few persons would have acted, under similar circumstances, as this gentleman has done. To use the words of Sir ROBERT PEEL, who bore testimony not only to the munificence of the gift but also to the delicacy with which it was made—

“Apprehending that several of his [Mr. Vernon's] pictures might not be thought worthy of a place in the National Gallery, he had allowed the trustees to make their choice from the whole collection, at the same time submitting his own opinion as to those which he considered most desirable to appropriate to the public.”

This is kindness and modesty to the letter, and fully proves to the world that Mr. VERNON is a man of sincere purpose and unaffected generosity, while at the same time it serves still further to excite our grief and indignation at the almost cruel treatment, which, indeed it must be to a man of his feelings, to which he has been subjected by those whom one might have naturally expected to have known and acted better.

Anastatic Printing.

THE philosophy of anastatic printing rests on a few known properties of the articles employed. Thus, water attracts water, and oil, oil—though each mutually repels the other. Metals are much more easily melted with oil than with water, but they will be readily moistened with a weak solution of gum; and, finally, this property of their becoming wet by water is greatly increased by phosphatic acid. To these properties of oil, water, and the metals may be added, as one of the principles of anastatic printing, the readiness with which part of the ink of any newly printed book or engraving can be transferred by pressure to any smooth surface beneath. If, for example, a corner of a newspaper be fixed on a white sheet of paper, and then pressed or rubbed with an agate burnisher, or any other hard and smooth substance, the letters will distinctly appear, reversed, on the paper. This effect is known to bookbinders; and our readers may have seen, especially in the case of books bound soon after publication, pages disfigured by the “setting off,” or transfer of the ink of the opposite page. Such being the properties of the matters concerned in anastatic printing, the process is simple. The printed paper, whether letter-press or engraving, is first moistened with dilute nitric acid, and then pressed with considerable force by a roller, on a perfectly clean surface of zinc. By this means every part of the sheet of paper is brought into contact with the plate of zinc. The acid with which the unprinted part of the paper is saturated, *etches* the metal, and the printed portion sets off on it in the manner already described, so that the zinc surface presents a complete reverse copy of the work. The principles before specified are now brought into operation. The zinc plate, thus prepared, is washed with a solution of gum in weak phosphatic acid. This liquid is attracted by the etched surface, which it freely wets, while it is repelled by the oil of the ink in which the writing or drawing on the plate is traced. A leathern roller, covered with ink, is then passed over the plate, when a converse effect ensues. The repulsion between the oily ink and the watery surface over which the roller passes, prevents any soiling of the unfigured parts of the zinc plate, while the attraction between oil and oil causes the ink to be distributed over the printed portions. In this condition the anastatic plate is complete, and impressions are pulled from it by the ordinary lithographic process. When it is required to copy old engravings, &c., which do not set off their ink on pressure, the page or print is soaked in a solution, first of potass and then of tartaric acid. This produces a perfect diffusion of minute crystals of bitartrate of potass through the texture of the unprinted part of the paper. As this salt resists oil, the ink-roller may now be passed over the surface without transferring any of its contents except to the printed parts. The

tartrate is washed out of the paper and the operation proceeded with as before, commencing by the moistening with nitric acid.

Review.

An Essay on the Roman Denarius and English Silver Penny, &c. By WILLIAM TILL.—
London: Published by the Author.

A curious and valuable little contribution to archæological lore, well worthy the perusal of every one who takes an interest in such matters as that on which it treats. Mr. Till seems to have employed considerable research in the preparation of his pamphlet, and an agreeable style of writing serves to shake the mustiness off of his subject so effectually as actually to impart a new charm to antiquity.

We have not room for a long extract, so that we must content ourselves with stating, on the authority of Mr. Till, to whose work we refer the reader for further particulars, that the penny is a coin of vast antiquity, and that its familiar copper shape is a comparatively modern alteration of the silver form in which it was known to our forefathers. Mr. Till shows the silver penny to have been derived from the Greek *drachma* of *Ægina* (an island in the Saronic bay, twenty miles from the Piræus, and now sometimes called *Egina*), which has been traced to a date 600 years years antecedent to the Christian æra. The drachma was afterwards coined not only in Greece, but in Sicily, Syria, and Persia. The same coin under the name of *denarius*, was struck by the high consular families during the Roman republic and by the emperors. Mr. Till is of opinion that it must have been a denarius of Tiberius to which Christ drew the attention of the Jews when answering their question as to the lawfulness of paying tribute. From Rome the denarius was transferred to Saxon England in A.D. 750, being there coined by the Kings of Kent, Mercia, and the other departments of the heptarchy. Under the name of *penny*, and comparatively rudely executed, it was kept up by the Saxon, Danish, and Norman dynasties, in succession, and was the chief coin in circulation down to the reign of John. David I. was the first king of Scotland who is known to have issued the penny. In this kingdom it continued to be coined till the reign of James IV. In the course of its existence from the Roman times to the present, the penny has been gradually reduced much in bulk. In the days of the Republic it weighed from 2 dwt. 10 grains, to 2 dwt. 13 grains. In the reign of the Emperor Trajan, it weighed barely 2 dwt. 2 grains. The later emperors reduced it nearly one-half; and the earliest Saxon specimens weigh less than 1dwt. The penny of Edward IV. was 15 grains; that of Henry VIII., 10 grains; and that of William IV., only 7 grains.

The Daguerreotype.

THE Daguerreotype process consists in exposing a plate of copper coated with pure silver, and previously covered with the vapour of iodine, in a camera obscura, by which means a faithful copy is produced, on a reduced scale, of any object which the operator desires to represent. The plates employed are sold of various sizes by philosophical instrument makers, and great care should be taken to examine them well previous to purchasing, as any defects upon their surface, however minute, must inevitably spoil the effect of the picture produced. The silvery surface of the plate intended for use is, according to Dr. Ure (Sup. to Dict. p. 65), polished and cleaned by friction with cotton fleece imbued with olive oil, and previously dusted over with very finely-ground dry pumice-stone out of a muslin bag. "The hand of the operator should be moved round in circles of various dimensions. The plates should be laid upon a sheet of paper solidly supported. The pumice must be ground to an impalpable powder upon a porphyry slab with water, and then dried. The surface is next to be rubbed with a 'dossil' of cotton, slightly moistened with nitric acid, diluted with sixteen parts of water, by applying the tuft to the mouth of the phial of acid and inverting it for a moment. Two or three such dossils should be used in succession. The plate is lastly to be sprinkled with pumice powder or Venetian tripoli, and rubbed clean with cotton. The next step is to heat the plate by placing it in a wire frame," which is of the shape of the plate, generally oblong, with arms extending from three of its sides in order to secure it properly, "with the silvery surface uppermost, over a spirit lamp, meanwhile moving it so as to act equally on every part of the plate. In about five minutes a whitish coating will indicate that this operation is completed. The plate must now be laid on a flat metal or marble slab to cool it quickly. The white surface is to be brightened by rubbing it with cotton and pumice powder. It must be once more rubbed with the cotton imbued with acid and afterwards dried by friction with cotton and pumice—avoiding to touch the plate with the fingers, or with the part of the cotton held in them, or to breathe upon the plate, since spots would thereby be produced. After cleaning with cotton alone, the plate is ready for the next operation"—which is that of *iodising*. This process is effected by placing a small quantity of the chloride of iodine in a trough, and then hanging the plate over it, with the polished surface downwards, so that it may receive the vapour which immediately begins to ascend from the iodine. In a short time the plate becomes completely coated with the vapour, which may be known by observing that it possesses a yellow tinge, which quickly changes into a golden colour. The troughs employed for this purpose have a screen of fine gauze interposed between the iodine and the plate. As this effect of the iodine is extremely transient, it is not safe to

expose the plate at this stage to any strong light; and, therefore, it is best to examine it by the light of a candle placed at some distance. If a purple colour be produced by inattention to the above injunction, the plate must be repolished and the whole process repeated. The plate may now be said to possess all the sensitiveness necessary for ordinary purposes, but for that of taking portraits a much greater degree is required. This is obtained by again exposing the plate to the action of bromine. The plate being hung over a trough, as before, in which a quantity of bromine has been placed, receives the vapour, and a red colour becomes imparted to its surface. In examination, the before-mentioned rule respecting the light must also be followed exactly. The plate is now ready for the camera, previous to transferring to which it is placed along with the board placed at its back during the exposure to the iodine and bromine, in a frame made for the purpose. During the introduction into the camera the light must not be suffered to strike upon the surface of the plate; on which account the camera obscura may be lighted briefly with a small wax taper.

[To be continued.]

To Correspondents, &c.

Re-Issue of the Decorator's Assistant.

On Saturday, July 1st, will be ready, No. 1 of the DECORATOR'S ASSISTANT, with which will be presented, gratis, an ORIGINAL DESIGN FOR A PANEL. The Numbers will be continued weekly. We are induced to re-publish in consequence of the great demand for the early Numbers, the First Volume being nearly out of print. As this will afford an excellent opportunity for New Subscribers about to take in the Work, either in Parts or Numbers, our Readers are earnestly requested to introduce it to the notice of their Friends.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

"B. B."—The DECORATOR'S ASSISTANT can now be had complete in two volumes. The numbers now publishing form a portion of the third.

"A Reader."—Forward the MS. and we will decide.

"F. G."—We cannot undertake to supply information privately.

"F. B. M."—We are unacquainted with the ingredients for making a colourless ink to turn black after use. We know that an invention of the sort was announced a few years back, but we heard no more of it.

"Memnon."—The London Mechanic's Institution, Southampton-buildings, Chancery-lane.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."

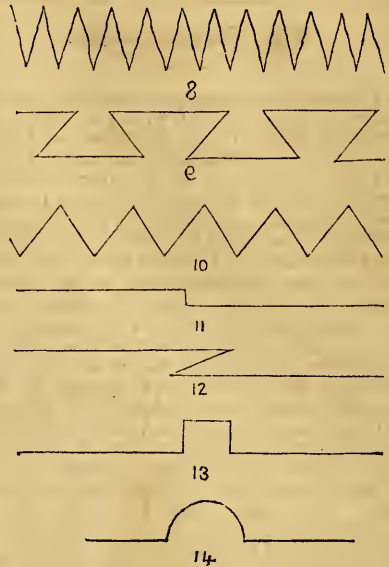
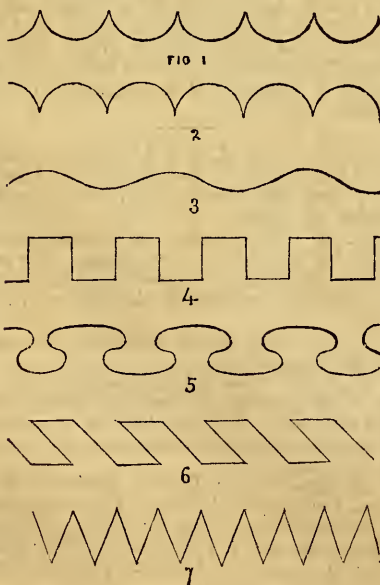
An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 54.]

DAMASCUS STEEL.—The excellence of Damascus steel, and its superiority over most kinds employed in the manufacture of weapons, have long become proverbial. Notwithstanding all the research and inquiries of scientific men, the oriental process for manufacturing this material still remains a mystery into which it is impossible to penetrate far. In France, however, there is a process carried on by means of which steel is produced of a very similar quality to the original; it consists of scooping out with a graving tool the faces of a piece of stuff, composed of thin plates of different kinds of steel. These hollows are, by a subsequent operation filled up and brought to a level with the external faces, upon which they afterwards form tress-like figures. By adopting this system an important advantage is gained over the oriental method, as figures, devices, &c., may be readily produced on the surface of the metal thus prepared.

DECK (in ship-building), a kind of flat flooring extending from the stem to the stern of any vessel. The number of decks in a ship are generally regulated by its size.

DIVISIONAL LINES (in heraldry), lines marking the division of a coat of arms into distinct and separate portions. These are fourteen in number, namely:—



- | | |
|---------------|-----------------|
| 1. Engrailed. | 8. Rayonné. |
| 2. Inverted. | 9. Dovetail. |
| 3. Wavy. | 10. Dancetté. |
| 4. Embattled. | 11. Angled. |
| 5. Nebulé. | 12. Bevelled. |
| 6. Ragulé. | 13. Escartellé. |
| 7. Indented. | 14. Nowy. |

DOLF (from the Saxon *delfau* to *delve* or dig), a quarry, or coal mine.

DEFICIENT HYPERBOLA (in geometry), a curve having only one asymptote and two hyperbolic legs running out infinitely towards the side of the asymptote, but contrary ways.

DIAMOND (in glaziers), an instrument employed by glaziers, &c., for cutting glass. It acts by scratching the glass which is extended to a fracture by force. There are two sorts of diamonds, that used for looking-glasses, &c., being set in an iron ferule, two inches in length and a quarter of an inch in diameter. The rest of the cavity of the ferule is filled with melted lead, which keeps the diamond secure in its place. The glazier's diamond has a handle of box, &c., of about five inches in length, fitted into the ferule. When used the diamond is drawn steadily and smartly along the glass, guided by a rule.

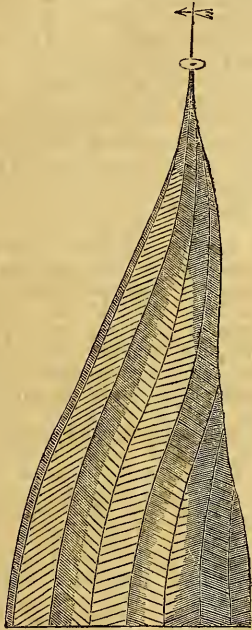
[To be continued.]

IMITATION MOROCCO LEATHER FOR WALLS, &c., may be produced by laying upon a thickly painted wall a coat of thick tenacious paint, and giving it the peculiar effect of the surface of morocco, by means of a toothed instrument made either of ivory or steel, and finishing it with another coat of paint and of varnish.—*Hay.*

Correspondence.

*Curious Steeple of Chesterfield Church,
Derbyshire.*

SIR,—Chesterfield Church is a spacious and handsome building, but more particularly remarkable for the appearance of its spire, which rises to the height of 230 feet, and is so singularly twisted and distorted, that it seems to lean in whatever direction it may be approached.



The church is said to have been dedicated in the year 1232, and is built in the form of a cross. In the chancel is the burial place of the ancient family of the Foljams; two large altartombs, and several inscriptions to the memory of its members are still remaining.

Yours, &c.,

London, May 7th, 1848.

W. T. R.

Sensitive Paper.

SIR,—I reference to a query on this subject which has appeared in the DECORATOR'S ASSISTANT, I beg to state that "sensitive paper" is formed by cutting horn into extremely thin slips, which curls up on the application of the slightest heat, such as that of the human hand, &c.

Your humble servant,

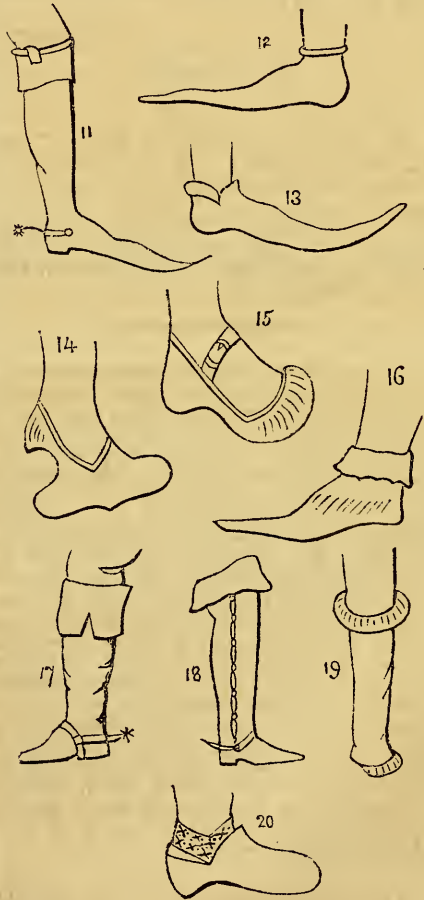
JOHN ATKINSON.

Chatham, May 24th, 1848.

Shoes.

[Continued from page 45.]

In the reign of Henry VI. long tight hose were worn with boots or galoches coming up to the middle of the thigh: and short boots or buskins, or shoes with high fronts and backs that turned over each way, all of them long-toed, (some in the extremity of the fashion being fastened to the knee by a chain) and these were called "*Poulaines*" (figs. 11, 12, 13). Paradin says, "When men became tired of these pointed shoes, they adopted in their stead others, denominated 'duck-bills,' having a bill or beak before of four or five fingers in length." Edward IV. in the fifth year of his reign, issued a proclamation that the beaks or pykes



of shoes and boots should not be more than two inches in length, any shoemaker or cobbler making them longer, forfeiting twenty shillings, to be paid, one noble to the king, another to the cordwainers of London, and the third to the chamber of London. This had the effect of widening the shoes and to

such a degree that "they wore slippers so very broad in front as to exceed the measure of a good foot" (fig. 14). In the reign of Henry VIII. shoes slashed in various patterns and buskins of velvet and satin, with very broad round toes, were much worn (for these and other boots of this time see figs. 15, 16, 17, 18, and 19); but these increased so much in size, in this and the next two reigns, that Mary, by a proclamation, prohibited them from being worn wider than six inches. About the latter end of the sixteenth century, roses and ornaments were worn on the shoes, which though of small size at first, went on increasing until the reign of Charles I. when they became so large as to cover the shoes almost from sight. To protect these from dirt, *pantoffles* or slippers were much worn (fig. 20). About the close of this century the shoes were completely covered with slashes as seen in (fig. 20).

W. T. R.

[To be concluded.]

[ERRATA.—In the article on "Shoes," page 45, *ante*, 1st column, 9th line from top, a *comma* should have been inserted between the words "papyrus" and "linen;" and again, 2nd column, 2nd line from bottom of article, instead of "and those of his William of Hatfield," &c., read "and those of his son, William of Hatfield," &c.]

COLOURING OF GOTHIC DECORATIONS.—In the colouring of Gothic decorations the positive colours were invariably used in their fullest intensity, and with the richest and most harmonious effects. Sometimes they were used sparingly, at others profusely; the structure glowing from floor to ceiling with red, blue, and gold. The painted glass in the windows gave the key-note to the general harmony, and its power and brilliancy required that the walls, ceiling, and floors should either be studded or entirely covered over with the most vivid colours. This necessity, doubtless suggested the introduction of those ornamental tiles, so many specimens of which have been from time to time discovered in ancient Gothic churches, and the manufacture of which is now carried on so extensively in England. In the colouring of the ornamental decorations, care was always taken that prominence should be given to the chief points and features of the edifice, the receding and minor portions being painted in subdued tints, or in a less obtrusive manner.—*Leith*.

ADULTERATION OF CARMINE.—This valuable pigment is frequently adulterated with starch, which may be detected by placing a portion of the suspected mass in water of ammonia. If adulterated, the pure carmine dissolves, leaving the starchy matter, as well as most other sophisticating substances. Such debased carmine is apt to spoil with damp.

Brickwork Bonds.

In brickwork there are two kinds of *bond*, one in which a row of bricks laid lengthways in the length of the wall is crossed by another row laid with their breadth in the said length, and thus proceeding to work up the *courses* in alternate rows, which is called "English bond." The courses in which the length of the bricks are disposed in the length of the wall are called "stretching courses," and the bricks themselves are called "stretchers." The courses in which the length of the bricks run in the thickness of the wall are called "heading courses," and the bricks thus disposed are called "headers." The other kind of brickwork is the placing of header and stretcher alternately in the same course; this disposition of the bricks is called "Flemish bond." This latter mode, though esteemed the most beautiful, is attended with great inconveniences in the execution, and in most cases is incapable of uniting the parts of a wall with the same degree of firmness as the English bond. * * * It may be proper to observe, in general, that whatever advantages are gained by any disposition of placing the bricks in Flemish bond in any particular direction is lost in another; thus, if an advantage is gained in tying a wall together in its thickness, it is lost in the longitudinal bond, and the contrary. In order to remedy this inconvenience in thick walls, some place the bricks in the core at an angle of forty-five degrees, and parallel to each other throughout the length of each course, so as to cross each other at right angles in the succeeding course; but even the advantages obtained by this disposition are not satisfactory, for though those bricks in the middle of the core have sufficient bond, yet where they join to the bricks on the sides of the wall, they form triangular interstices, and therefore, the sides must be very imperfectly tied to the core.—*Peter Nicholson*.

MEGYLPH.—The following has been lately recommended in the pages of a contemporary: To each pint of cold-drawn linseed oil, purified by exposure to sunlight for a few months, add one ounce of powdered sugar of lead; place the jar in a sand-bath, and boil over a clear fire, stirring until the sugar of lead is dissolved. Two parts of this boiled oil to three of mastic varnish produces meglyph that works well and does not separate, although it will not dry quite so rapidly as some that is prepared by the colour makers, yet quite sufficiently so for the safety of any work. It is a great improvement to put it into collapsible tubes as soon as made.

TO DESTROY THE ELASTICITY OF INDIAN RUBBER.—The elasticity of Indian rubber is destroyed by cutting it into long slips, passing it through cold water, and then winding up tightly on reels, in which state it must be left for about three weeks. This is the method employed by the manufacturers of Indian rubber fabrics.

Robertson's Improvements in Architecture.*

THE improvements herein specified have for their object the amending the present system of rectilinear construction in architecture, by the adoption of a true system of curvilinear formation, as the patentee describes it, which system admits of various gradations of projection, and is perfectly analogous in simplicity to the simplicity of rectilinear formation. His principle is founded on the known properties of the circle, and not only is it intended to lay down simple and defined rules for the proportions of the various members, but also for all lateral developments and projections. The data upon which he sets out, and which having resolved itself into a geometrical figure, the patentee designates the primary capital, is that of a circular figure, having its base and summit an horizontal plane, and the side or circumferential boundary forming an arc, one limb springing from the base, and the other uniting to a circle which bounds the plane of the summit, and which is less the diameter of the base, in the proportion 70·71 to 100. The greater circle being given, the first inner or reduced circle is found by constructing a square within the larger circle, the angles touching the arc, and then describing a circle within that square, its sides forming tangents to the circle when produced. This system of defined diminution is to be proceeded with in forming the various figures constituting the capitals, bases, &c., and also in cupolas, pediments, &c. The system is also to be made available in fixing the distances of columns when intercolumniated. The principle is as follows:—Commencing at the base of a pillar by describing a circle, whose diameter shall be 100; within this circle is produced another, whose diameter is 70·71; then produce the directional diameters, which run horizontally and vertically through the centre of the circles; afterwards draw the diagonal diameters, which will be produced through the centre also, forming angles of 45 degrees, with the directional and diagonal diameters. From the upper faces of the ends of the two arcs, which spring from the horizontal diameter (where they are intersected by the diagonals), concave and convex curves are produced, having a greater radius, and which join another circle placed above the one described, whose diameter is equal to the inner one of the basement. Within this upper circle an inner one is produced, being in the same proportion as to diminution; and this method can be carried on until the figure terminates in a point. This is the system to be adopted in cupolar formations. The patentee proposes making the architraves (as he terms them), connecting the columns curved, that they may appear lighter to the eye than if made straight; at the same time it is more in

keeping with the system here adduced, which has for its fundamental principles a continuous formation of curves of variable radii. The system extends to the construction of roofs of various pitches, provided they spring square from the walls. The formation of the building having been completed, with its bases, shafts, and capitals, having entablatures engrafted thereon, the cores of the shafts forming the curtain of the wall are next filled in, leaving the necessary rectangular space for windows, doors, &c. Its further applicability for the harmonisation of architectural and ornamental formation, is illustrated in the outlines of urns and vases. Following the same system of construction as applied to bases, capitals, &c., the various undulations are given to the profile of an urn or vase, which becomes one continuous and systematically decreasing curve forming the body, stem, and foot of the vase. One uniform principle of curvilinear formation constitutes the foundation of the column, the cupola, and the urn, and it is to produce these advantages that the patentee has devoted much time, he concludes by stating he is unable to go further into the detail, being obliged to close his specification.

PATENTS.—I observed a statement in some newspapers, a few days ago, that within the last three years 2,405 patents have been granted, for which £304,000 was paid. As patents are obtained free in this country, perhaps some of your correspondents would give an explanation regarding the above large sum. You will find it a system of plundering, carried on, disgraceful to the Government, and most oppressive in every way to those who wish to bring forward improvements.—In the United States of America a citizen obtains a patent for all the states for thirty dollars, including all the expenses of correspondence to and from the patent office. In this country, if you wish a patent for England, Scotland, and Ireland, it will cost nearly four thousand dollars! although the Government gives it free. The taxes we pay are understood to be for the benefit of the country; we ought to know for whose benefit the above large sum is paid, and for what object.—*Correspondent of "Douglas Jerrold's Newspaper."*

TOUCHES OF LIGHT.—A correspondent of the *Art Union* gives the following as "an easy method of preserving sharp touches of light amidst half tint or shadow in pencil drawings:—"The outline being made, the leaves, blades of grass, streaks in water, &c., as required, are to be touched in with a hair pencil and moderately strong gum-water, and when dry pencil shading is to be carried across those touches. The drawing completed is passed through a vessel of hot water, when the gum immediately dissolves, leaving the lights perfectly well defined. This is an application, slightly varied, of a plan long ago recommended, and, I believe, long since given up, for producing similar touches of light in water-colour drawings, but has not, I think, been hitherto made use of in pencil drawings."

* Patent dated November 9th, 1847; enrolled, May 9th, 1848. We are indebted for the above to the *Patent Journal*.

The Religion of Beauty.

THE devout mind is a lover of Nature. Where there is beauty it feels at home. It has not then to shut the windows of the senses, and take refuge from the world within its own thoughts, to find eternal life. Beauty never limits us, never degrades us. We are free spirits when with Nature. The outward scenery of our life, when we feel it to be beautiful, is always commensurate with the grandeur of our inward ideal aspirations; it reflects encouragingly the heart's highest, brightest dreams; it does not contradict the soul's convictions of a higher life; it tells us that we are safe in believing the thought, which to us seems noblest. If we have no sense of beauty, the world is nothing more than a place to keep us in. But when the skies and woods reveal their loveliness, then Nature seems a glorious picture, of which our own inmost soul is the painter, and our own loves and longings the subject. It is the apt accompaniment to the silent song of the beholder's heart.

The greatest blessing which could be bestowed on the weary multitude, would be to give them the sense of beauty; to open their eyes for them, and let them see how richly we are here surrounded, what a glorious temple we inhabit, how every part of it is eloquent of God. The love of Nature grows with the with the growth of the soul. Religion makes man sensible to beauty; and beauty in its turn disposes to religion. Beauty is the revelation of the soul to the senses. In all this outward beauty,—these soft swells and curves of the landscape, which seem to be the earth's smile;—this inexhaustible variety of form and colours and motion, not promiscuous, but woven together in as natural a harmony as the thoughts in a poem; this mysterious hieroglyphic of the flowers; this running alphabet of tangled vine and bending grass studded with golden paints; this all-embracing perspective of distance rounding altogether into one rainbow-coloured sphere, so perfect that the senses and the soul roam abroad over it unsated, feeling the presence and perfection of the whole in each path; this perfect accord of sights, sounds, motions, and fragrance, all tuned to one harmony, out of which run melodies inexhaustible of every mood and measure;—in all this, man first feels that God is without him, as well as within him, that Nature, too, is holy; and can he bear to find himself the sole exception?

Does not the season, then, does not Nature, does not the spontaneous impulse of an open heart, which has held such sublime worship through its senses, more than justify an attempt to show how the religious sentiments may be nourished by a cultivation of the sense of duty?

This should be a part of our religious education. The heart pines and sickens, or grows hard and contracted and unbelieving, when it cannot have beauty. The love of nature ends in the love of God. It is impossible to feel

beauty, and not feel there is a spirit there. The sensualist, the materialist, the worshipper of chance, is cheated of his doubts, the moment this mystery overtakes him in his walks. This surrounding presence of beautiful nature keeps the soul buoyed up for ever into its element of freedom, where its action is cheerful, healthful, and unwearied; where duty becomes lovely, and the call to worship, either by prayer or self-sacrifice, is music to it. He, in whom this sense is open, is put, as it were, in a magnetic communication with a life like his own, which flows in around him, go where he may. In nature we forget our loveliness. In nature we feel the same Spirit, who made it and prevades it, holding us up also. Through the open sense of beauty, all we see preaches and prophecies to us. Without it, when no such sensibility exists, how hard a task is faith! how hard to feel that God is here! how unlovely looks religion! As without the air, the body could not breathe; so without beauty, the heart and religious nature seem to want an element to live in. Beauty is the moral atmosphere. The close, unseemly school-house, in which our infancy was cramped,—of how much natural faith did it not rob us! In how unlovely a garb did we first see Knowledge and Virtue. How uninteresting seemed Truth, how unfriendly looked Instruction; with what mean associations were the names of God and Wisdom connected in our memory! What a violation of Nature's peace seemed Duty! what an intrusion upon the mind's rights! What rebellion has been nurtured within us by the ugly confinements to which artificial life and education have accustomed us! How insensible and cold it has made us to the expressive feature of God's works, always around us, always inviting us to high, refreshing converse?

I hold, then, that without a cultivation of the sense of beauty, chiefly to be drunken from the open fountains of nature and art, there can be no healthy and sound moral development. The man so educated lacks something most essential. He is one-sided, not of a piece with nature; and, however correct, however much master of himself, he will be uninteresting, unencouraging, and uninviting. To the student of ancient history, the warm-hearted, graceful Greek, all alive to nature, who made beauty almost his religion, is a more refreshing object, than the cold, formal Jew. And here around us, resist it as we may, our hearts are always drawn towards the open, graceful children of impulse, in preference to the stiff, insensible patterns of virtue. The latter may be very unexceptionable, but at the same time very unreal. The former, though purposeless and careless they play through life, yet have trusted themselves to Nature, and been ravished by her beauty, and Nature will not let them become very bad.

Consider a few of the practical effects upon the whole character of a growing love of beauty in the young mind.

It disposes to order. It gives birth in the mind to an instinct of propriety. It suggests imperceptibly, it inclines gently, but irresistibly, to the fit action, to the word in season,

The beauty which we see and feel plants its seeds in us.—Gazing with delight on nature, our will interceptibly becomes attuned to the same harmony. The sense of beauty is attended with a certain reverence; we dare not mar what looks so perfect. This sense, too, has a something like conscience contained in it; we feel bound to do and be ourselves something worthy of the beauty we are permitted to admire. This feeling, while it makes alive and quickens, yet is eminently conversative, in the best sense. He, who has it, is always interested on the side of order, and of all dear and hallowed associations. He, who wants it, is as destructive as a Goth. The presence of beauty, like that of nature, as soon as we feel it at all, overcomes us with respect, and a certain sensitive dread of all violence, mischief, or discord. The beautiful ideal piece of architecture bears no mark of wanton pen-knife. The handsome school-room makes the children neat. The instinct of obedience, of conciliation, of decorum, reverence and harmony, flows into the soul with beauty. The calm spirit of the landscape takes possession of the humble, yet soul-exalted admirer. Its harmony compels the jangling chords within himself into smoother undulations. Therefore "walk out," like Isaac "at even-tide to meditate," and let Nature with her divine stillness, take possession of thee. She shall give thee back to thyself better, more spiritual, more sensible of thy relationship with all things, and that in wronging any, thou but woundest thyself.

Another grace of character, which the sense of beauty gives the mind, is freedom—the freedom of fond obedience, not of loose desire. The man, whose eyes and soul are open to the beauty there is around him, sees everywhere encouragement. To him the touch of nature's hand is warm and genial. The air does not seem to pinch him, as it does most narrow-minded ones, who can see no good in anything but gain; to whose utilitarian vision most that is natural looks hostile. He is not contracted into himself by cautious fear and suspicion, afraid to let his words flow freely, or his face relax in confidence, or his limbs move gracefully, or his actions come out whole and hearty. He trusts Nature, for he has kissed her loveliness; he knows that she smiles encouragement to him. Now think what it is that makes virtue so much shunned. Partly, our depravity, if you please. But partly, also, her numerous ungraceful specimens. For it is the instinctive expectation of all minds, that what is excellent shall also be beautiful, lovely, natural, and free. Most of the piety, we see about us, is more or less the product of restraint and fear. In stands there in spectral contrast with nature. Approve it we may; but we cannot love it. It does not bear the divine stamp, it chills, nor converts. The love of nature make in us an ideal of moral beauty, of an elevation of character which shall look free and lovely, something that shall take its place naturally and as a matter of course in the centre of nature, as the life of Jesus did.

Again, the love of beauty awakens higher

aspirations in us. He, who has felt the beauty of a summer like this, has drunk in an infinite restlessness, a yearning to be perfect, and by obedience free. He can never more rest contented with what he his. And here is the place to attempt some account of the true significance of beauty, and of what is its office to the soul.

Beauty always suggests the thought of the perfect. The smallest beautiful object is as infinite as the whole world of stars above. So we feel it. Everything beautiful is emblematic of something spiritual. Itself limited, its meanings and suggestions are infinite. In it we seem to see all in one. Each beautiful thing, each dew-drop, each leaf, each true work of painter's, poet's, or musician's art seems an epitome of the creation. Is it not God revealed through the senses? Is not every beautiful thing a divine hint thrown out to us? Does not the soul begin to dream of its own boundless capabilities, when it has felt beauty? Does not immortality, for the first time, cease to be a name, a doctrine, and become a present experience? When the leaves fall in autumn, they turn golden as they drop. The cold winds tell us of coming winter and death; but they tell it in music. All is significant of decay; but the deep, still, harmonious beauty surpasses all felt in summer or spring before. We look on it, and feel that it cannot die. The Eternal speaks to us from the midst of decay. We feel a melancholy; but it is a sweet, religious melancholy, lifting us in imagination above death—since above the grave of the summer so much real beauty lingers.

The beautiful, then, is the spiritual aspect of nature. By cherishing a delicate sensibility to it, we make nature preach a constant lesson of faith; we find all around an illustration of the life of the spirit. We surround ourselves with a constant cheerful exhortation to duty. We render duty lovely and inviting. We find the soul's deep inexpressible thoughts written around us in the skies, the far blue hills, and swelling waters.

But then to this desirable result one stern condition must be observed. If the sense of beauty disposes to purity of heart; so equally purity of heart is all that can keep the sense of beauty open. All influences work mutually. "One hand must wash the other," said the poet. The world is loveliest to him, who looks out on it through pure eyes.

Sweet is the pleasure,
Itself cannot spoil!
Is not true leisure,
One with true toil?

Thou that wouldst taste it,
Still do thy best;
Use it, not waste it,
Else 't is no rest.

Wouldst behold beauty
Near thee? all round?
Only hath Duty
Such a sight found.

Rest is not quitting,
The busy career;
Rest is the fitting
Of self to its sphere.

'T is the brook's motion,
Clear without strife,
Fleeing to ocean
After its life.

Deeper devotion,
Nowhere hath knelt;
Fuller emotion,
Heart never felt.

'T is loving and serving,
The Highest and Best!

'T is ONWARD! unswerving,
And that is true rest.

D.

JOHN OF FIESOLE.—Among the painters who where mystics, and who where thence confidently believed to work under a higher inspiration, John of Fiesole, who died at Rome in 1455, is the most celebrated. He, the most creative artist of his time, belonged to the Dominican order. Ingenious at once and holy, and withal animated with the most glowing love for his brethren, he so walked in all his ways that he received the appellation of the "angelic." When he was called to Rome to paint the Papal Chapel, he lived at the Roman court, as he had formerly done at his monastery, with the same abstemiousness, and in the exercise of the like penitential works. As at last the attention of Pope Nicholas V. was drawn to this circumstance, and he perceived that the artist never intermitted the fasts of his order, the Pontiff said to him one day, "I wish you to-day to eat meat, for otherwise your body will be worn down by your great labours." John intrepidly replied, "Most Holy Father, my superiors have never commanded me this." "Well," said the Pope, "I commanded it to you, and dispense you from your rule; for I am the superior of all superiors." He never painted the Crucifixion without shedding abundance of tears; and the pictures of the Blessed Virgin and the sign of the Cross he executed always in a kneeling posture. The virtues and examples which he depicted, he strove to stamp upon his soul: so his representations were again a reflection of what he inwardly beheld in himself. No wonder if, after having painted on one occasion the Annunciation of the Blessed Virgin with consummate art, and beauty, and singular grace, Michael Angelo declared it was humanly impossible to portray so gracious an image of the Virgin, unless the painter had beheld the original. In that amenity and lovable tenderness which is the peculiar characteristic of all his creations, the reflection of a higher beauty cannot be mistaken. Of many of the other elder painters, whether Italians or Germans, who worked in the same spirit as Angelico di Fiesole, we may believe that their productions, which bear clearly the character of visions, were wrought out under the inspiration of higher beauty.—Görres.

Representation in Art.

THOSE arts which represent by the organic natural forms derived from life, are essentially imitative, and depend on the artistic study of nature, as only the actual, organic, natural form stands in that necessary and intimate connexion with spiritual life, possesses that universal significance from which Art takes its rise. But the artist is capable of attaining a conception of the organic form which shall stand above individual experience and find therein the fundamental form of the most exalted ideas.—Now these arts are distinguished from one another in this, that the one, sculpture or the plastic art, places bodily before us the organic forms themselves (only that the difference of material often makes change of form necessary, in order to attain a similar impression)—and that the other, design or the graphic art, merely produces by means of light and shade the appearance of bodies on a surface, inasmuch as the eye only perceives corporeal forms by means of light and shade.—Colour, so far as regards possibility, can indeed be combined with both arts, but in sculpture, it operates with so much the less advantage the more it tries to approach nature; because, in this endeavour to represent the body completely, the want of life only strikes us the more disagreeably. On the other hand, it enters quite naturally into combination with design, which, in itself, represents more imperfectly, and does not represent bodies, but merely the effects of light upon them, to which colour itself belongs, and elevates design to the art of painting. Colour in its nature, effects, and laws has a great resemblance to sound.—The relation of sculpture and painting, as regards their capabilities and destination, is already hereby defined in its main features. The plastic art represents the organic form in its highest perfection, and justly holds by its apex, the form of man. It must always represent completely and roundly, and leave nothing undefined; a certain restrictedness in its subjects, but, on the other hand, great clearness belongs to its character. Painting which immediately represents light (in whose wonders it rightly shows its greatness) and in exchange is satisfied with the appearance thereby produced in the corporeal form, is capable of drawing much more into its sphere and making all nature a representation of ideas; it is more suggestive but does not designate so distinctly. The plastic art is in its nature more directed to the quiescent, the fixed; painting more to the transient; the latter can also, in that it combines far and near, admit of more movement than the former. Sculpture is, therefore, better adapted for the representation of character (*ethos*), painting for expression (*ta pathé*). Sculpture is always bound to a strict regularity, to a simple law of beauty; painting may venture on a greater apparent disturbance in detail, because it has richer means of again neutralising it in the whole.—Müller.



AN ORIGINAL DESIGN FOR A CONSOLE, SHOWING THE FRONT AND SIDE VIEW. (GRECIAN.)

Art Expositions.



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all parts of the country having flocked to the hall in the Adelphi during the brief space of time it remained open.

A NATIONAL EXPOSITION in Trafalgar-square on a more extensive scale would attract visitors in a tenfold proportion, and the rent which manufacturers would pay for the use of the use of the space necessary for the display of their goods would more than cover the expenses, even if the admission were entirely gratuitous. Such a project is worthy the combined efforts of the Society of Arts, the various Schools of Design, and the Government (through the medium of the Board of Trade) in its favour. They would, we are well assured, be nobly supported by the country, and the "Temple of British Industry"—as it might be appropriately denominated—would equal, if not surpass, anything of the kind which this world has ever witnessed.

We look upon the establishment of such an exposition, if carried out, as forming an important part of the exertions now making in favour of national education: specimens of art of beautiful conception and correct execution cannot be contemplated without elevating and improving the mind. The exhibition of the Society of Arts afforded plentiful proof of the display of the true and beautiful: no one could avoid feeling a personal interest in the continued prosperity and advancement of those who produced such triumphs of ingenuity, taste, and intelligence, as were displayed. A more perfect National Exposition of the products of British industry would surely lead to the display of high and noble feelings with greater intensity and a wider extent; and it is for this reason chiefly that we so strenuously urge the project. We value taste, we esteem industry, and we love every form in which intelligence embodies ideality;—but above all we estimate the influence of artistic beauty in developing notions of moral loveliness and the influence of the triumphs of Britain's industrial prowess in strengthening every interest in the prosperity of the British nation. The long night of darkness in which nations fought for vain shadows and derived their dreams of glory from violence and bloodshed has gone down the sky; "the day sprung from on

have already noticed in terms of warm commendation the second annual exhibition of select specimens of British Art Manufactures at the Society of Arts: we have now to announce that it was closed on the 3rd ultimo by an evening promenade, under the patronage of twenty ladies of the very highest distinction, and attended by three hundred visitors of the first rank and standing.

The exposition has been eminently successful—more than seventy thousand persons from

high has visited us," and taught us that "glory to God in the highest" is blended and identified with peace on earth and good will towards men! COMMERCE must bind together the nations which war dissociated, and TRADE unite the races which blood and selfish jealousy dissevered. The soothing influences of art, superadded to the usefulness of manufactured products, will give force and efficacy to those lessons of civilisation which it is the proud destiny of Britain to preach to the whole human race. In this career we see no goal fixed to our country's march of progress, prosperity, greatness, and happiness: her benefits to humanity will be co-extensive with the wants of mankind, and her high reward will be a recognised supremacy in intelligence—more glorious than the sway of the proudest empire that ever existed.

To Correspondents, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

"H. C."—*The frontispiece you write about was never published, as it was found to involve a larger outlay than the limited circulation of this work would return to us. The ordinary title page forms No. 26.*

"Wm. Bristow."—*You must surely labour under a mistake in addressing us—we have no connection with Mr. Henderson; very probably your letter was mis-directed.*

"J. B." and "Regiomontanus."—*The questions are inadmissible—we must not get too far out of our line.*

"A Joiner's Apprentice."—*The measuring line or chain of the ancient Jews, was 48 yards 1 ft., 11'04 in., in length; the reed or "cammel" was 3 yards, 1 ft., 11'328 in.; the fathom was 2 yards, 1 ft., 3'552 in.; the cubit was 1 ft., 9'888 in.; the span was 10'944 in.; and the hand-breadth or span 3'648 in. The Grecian foot was as near as possible 13 in. of our measure, while that of the Romans was about 1 ft., 11'6 in.—With regard to your second question we should certainly not adopt the course which you seem inclined to pursue; you have your legal remedy, and for what reason would you take the law in your own hands?*

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."

The Daguerreotype.

[Continued from page 63.]

THE following remarks by G. S. Cundell, Esq., which originally appeared in the *Philosophical Magazine*, "On a combination of lenses for photographic camera obscura," are equally applicable to the camera employed for Daguerreotypic purposes:—To render the instrument available the principal object is to obtain what is called "a flat field," or a picture which shall be in focus throughout, in the margin as well as in the centre; but along with a flat and focal field, it is necessary to obtain a vivid and well-defined picture, with sufficient light to act energetically: and this last condition is especially required when living figures are to form any part of the picture. It has been shown by Dr. Wollaston that a lense of the *meniscus* figure [convex on one side and concave on the other, thus] , under certain conditions, will give a picture which, although not absolutely flat, is much more so than can be obtained by any other means; and had he contemplated the adaptation of the instrument to photography, he would probably have made a small addition to it, similar to that about to be described. All that his instrument [Dr. Wollaston] was the inventor of the camera obscura] requires to make it a very perfect one, is a higher intensity of light; and, without impairing its other properties, it will be found that that may be very efficiently given by the following arrangement. Instead of using a single lense, as thus:—

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with the concave side towards the radiant object, represented by the obelisk in the above example, let a second and similar lense be placed before it, with the convex side outwards, and at a distance equal to one third of its focus, thus—

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That such a combination will be, in a great degree, free from the aberration caused by the oblique rays coming from the extreme parts of the picture, will be evident to all acquainted with optical science. It is scarcely necessary to point out that the second lens will also increase the intensity of the light. This plan might perhaps be improved by filling the space between the lenses with a blue-coloured medium, of the same refraction as the glass—the focus would be shortened and the photographic power increased; and the photographic rays associated with the red and yellow end of the spectrum, being absorbed, would cease to interfere with the unity of the focus.

For taking portraits the sitter should be placed in an easy natural position, in a chair which has an iron rod, with a ring at the end, affixed to the back of the chair, to be raised or lowered at pleasure, for supporting the head. Portraits are taken with great rapidity in the open air: from five to twenty seconds being usually sufficient, with a good lens, and a clear sky. The direct rays of the

sun must be carefully avoided, and it is often desirable to place the sitter under a kind of canopy, or roof of stuff, or glass, which should be blue, that colour intercepting fewer of the chemical rays than any other. One side of the model should be rather more illuminated than the other; indeed the position, attitude, arrangement of the dress, all require attention, with a view to artistical effect. If the portrait is taken in a room, the sitter should be placed in front of a door or window, through which there is a strong and uninterrupted light; the time of sitting must of course be extended: a minute to a minute and a half will generally be required. The perfect illumination of the model may be assisted by mirrors, or white linen cloths arranged so as to reflect the light when it is most needed. A short focus lens is best for portraits, as it operates more quickly, but care must be taken to keep the whole of that part of the person appearing in the plate as much in the same plane as possible, otherwise any projecting part, as a hand or leg, will be represented greatly out of proportion. The position of the camera must be determined by circumstances; generally, it should be placed nearly on a level with the face, as the most important point of view. With respect to backgrounds, some persons use painted scenes, representing terraces, balconies, gardens, &c.; but they are seldom so correctly managed as to appear well in focus, and certainly rather take off the attention from the main figure. A background of an even colour is preferred by many, and may be dark or light according to taste, and the dress or complexion of the model. In the former case, a drab or slate colour suits well; in the latter, an old blanket answers better than anything else. A table with books, vases of flowers, &c., may be arranged by the side of the sitter, if care be taken that they come nicely in the focus. Too much white in the dress should be carefully avoided.

With regard to views, the points from which buildings or views can be taken with the best advantage, vary so greatly, that the operator must be left pretty much to his own discretion in choosing a position. As a general rule in taking a building, monuments, &c., it is advisable to place the camera at a distance of about twice its greatest dimensions, and, if practicable, at about one-third its height. If the whole of the building or buildings be not in the same plane, select the most important portion to be most clearly defined, or take several views, in each of which certain points are brought out more distinctly. If an old and new building are to be introduced in the same picture, which should, if possible, be avoided, a black screen or handkerchief, or some other opaque body, should be placed over the lens for a moment or two, so as to cut off the rays of light reflected from the brighter portions of the object, the position of which may be previously observed on the ground glass. The same precaution should be taken when the sky is very blue, or strongly illuminated by the sun. The best time for taking views, is undoubtedly the

earlier part of the day, though good pictures are often taken in the afternoon. The time required to obtain a good impression, varies so much according to the lens, the weather, the hour, &c., that no certain rules can be given on the subject,—experience will prove the best guide.

Engravings, drawings, &c., may be copied very beautifully with a little care; the whole of the model being in the same plane, there is little difficulty in producing a good effect. The object to be copied must be placed in a good light, taking care to have every part equally illuminated. To secure sharpness, the model is placed in the open daylight, in which case a proof may generally be procured in about fifteen seconds; in the full sunshine, the impression is made almost instantaneously.

Machinery, statuary, and articles of vertu require to be arranged in suitable positions, so that the light may fall upon the object most effectively. The light may be reflected from mirrors, white linen, &c.

[To be continued.]

USEFUL INVENTION IN CLOCKS.—An invention has just been made in clocks which will indicate the day of the week, the month, the day of the month, and the year, thus—"Monday, May 22, 1848;" and at twelve o'clock at night, the clock will alter the indications all at once, and exhibit "Tuesday, May 23, 1848," and so on, day by day, for hundreds of years. All the attention required is to keep the clock in motion, by winding it up regularly as usual. Whether the month has thirty or thirty-one days, or, as in February, twenty-eight, and in leap year twenty-nine days, the indications will be found to be always correct. This newly-invented piece of machinery is at present contained in a small box, which may be attached to any ordinary clock; or it may be constructed so as to be placed behind the face or dial of a clock, and make the above indications through an aperture in the face or dial as above described. The invention is that of an individual in a humble walk of life. We have seen it, and can bear testimony to the accuracy with which all the operations and changes are effected.—*Leeds Mercury.*

SECRETS OF VENTILATION.—Let the air enter the house freely by a large aperture, like a common window, and capable of regulation in the same way. Let it enter a stove room, and be there completely warmed, and let it pass freely through the whole house, and enter all the apartments either at the doors or by express channels. Take off the used air by the chimney and an open fire; or for crowds, provide larger and express openings—there is no more to be done. Houses that we have seen ventilated in this simple, unpretending, unmysterious manner, are the best ventilated we have ever entered. It is too often the fate of the mysterious little pipes, funnels, tubes, and valves by which ventilation is frequently symbolised, rather to indicate ventilation than to effect it.—*Illustrations of the Theory of Ventilation.*

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 64.]

DRAWING, the art of delineating any ma-



Fig. 1.



Fig. 2.

terial or immaterial object, contra-distinguished from painting by being executed with dry sub-

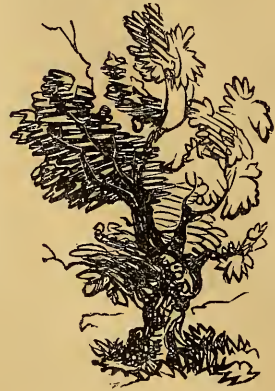


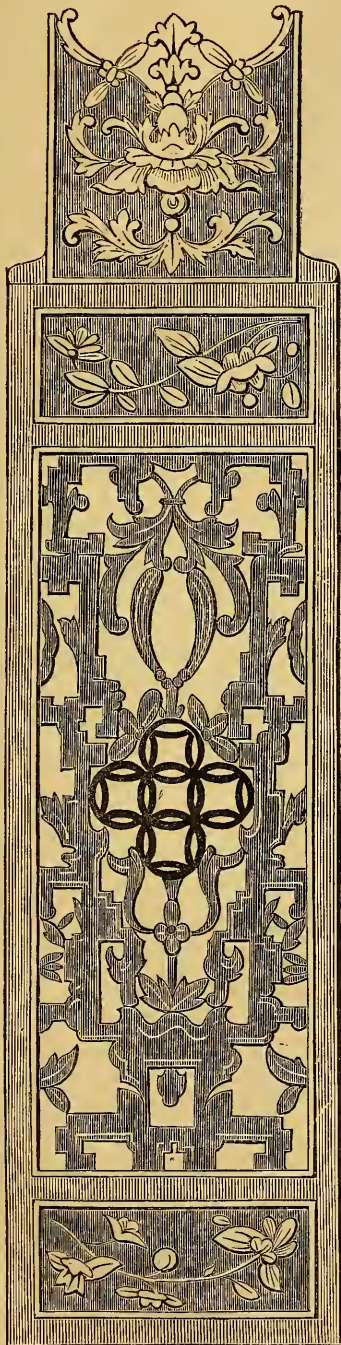
Fig. 3.

stances, such as pencils, chalks, crayons, &c. Fig. 1 represents a drawing in outline. Fig. 2 represents the same shaded. Fig. 3 is an engraved specimen of the broad or "Persian" style of drawing.

[To be continued.]

GOLD.—The following are the principal localities in which gold is worked or found:— It occurs in small quantities in the Wicklow mountains in Ireland, at Leadhills in Scotland, and in some parts of Wales. In France, there is a true gold mine, that of Gaudette, in the valley of Oysans. It yields native gold in a vein of quartz. It was worked, before the revolution, by Louis XVIII. then Comte de Provence. The vein being too poor, the working was abandoned. The auriferous rivers are very numerous. We may mention the Ariège, the Gondu, the Ceze, the Rhone, near Geneva the Rhine, near Strasbourg, the Salat, the Garonne, near Toulouse, and the Herrault, near Montpellier. Piedmont contains gold mines, which are worked at the present day with profit. At Macugnaga, at the foot of Mount Rosa, veins of auriferous sulphuret of iron are worked with great activity. In Germany, Salzburg furnishes gold. Hungary and Transylvania possess very important gold mines. The gold mines of Siberia are also very important. The gold is accompanied by the same minerals as are found in the auriferous deposits of the new world. Asia contains many gold mines. Africa possesses numerous and important auriferous deposits. America furnished, in modern times, the largest amount of gold. North America produces little, and only in South Carolina; Southern America, and especially Brazil, Choco, and Chili, are most productive portions. It is also found in Virginia. Mexico, Peru, and Columbia furnish gold, but that of Mexico is principally drawn from the silver mines.—*Mining Journal.*

The Chinese Junk, "Keying."



The above engraving is a view of one of the

sides of the entrance to the saloon of the Chinese junk, "Keying" (for particulars, see No. 56). We are glad to hear of the great patronage bestowed upon this Eastern curiosity, and hope the indefatigable proprietors will reap a commensurate reward. For those of our readers who wish to study Chinese ornament and decoration, an excellent opportunity is now afforded.

Correspondence.

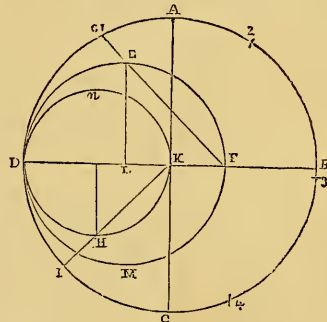
Sir,—In No 54, Query 8, a correspondent wishes to know how to cut the circumference of a large circle, a portion equal in length to the circumference of a smaller circle. I enclose the following solution, which I believe will stand good in all cases. I have stated it in as short a way as possible, but I think it will be quite clear to any one.

I am, Sir,

Your obedient servant,

J. WHITAKER.

George's-road, Heaton Norris, June 1st, 1848.



Construction :—Let the circle $A B C D$ be any size; set the radius of the smaller circle from D to L ; then, with the same radius $D L$, describe the semicircle $D E F$; then erect the perpendicular $K E$, join $F E$, and produce it to G ; then shall the perimeter of the arc $D G$ be equal to the arc $D E$ of the smaller circle; or the arc $D G$ shall equal one quarter of the circumference of the whole circle $D E F M$. The other example is constructed similar, but its diameter $D K$ is but one half of $D B$ —consequently, the semicircle $D C B$ would just reach round the circle $D H K n$, and the intercepted arc $D I$ is equal to $D H$, and $D H$ is one-quarter of $D H K n$, so also is $D I$ equal to one-quarter of $D C B$. In the first case $D L$ shall equal the circumference of $D E F M$.

ELECTRO-BRONZING. — Metals may be bronzed electro-chemically in a water solution composed of 500 parts of carbonate of potash, 20 of chloride of copper, 40 of sulphate of tin, and 250 of azotate of ammonia. For a brass deposit, zinc is substituted for tin.

Government School of Design.

MR. BURCHETT'S LECTURE ON FREE-HAND DRAWING.

ON the 26th ult., Mr. Burchett, the master, delivered a lecture on free-hand drawing to a large auditory. After a brief introduction, in which he stated that the object of the Government in founding Schools of Design was not to support seminaries for builders' clerks, nor inaugural institutions for the Royal Academy, but to foster the study of *ornamental art*, and to aid the studies of *designers*, Mr. Burchett proceeded as follows:—

"Geometry being the basis of all form, and a practical acquaintance with at least its rudiments being indispensably necessary to the designer, this branch of science is the introductory study to the class of form. In conjunction with geometry is perspective, necessary in various measures, to the designer of chintzes, to the decorative painter, and to ornamentalists of every species. Next in order follow the studies of free-hand drawing, and at this division of his labours is the future course of the student's abilities naturally determined. If the productions of the loom are to be enriched and adorned with the labours of his pencil, by the special study of floral and vegetable productions of his own and other countries, he must seek to perfect his knowledge, and to accumulate stores of appropriate ideas, both of form and colour, by which to add artistic value to the productions of mechanical industry.

"If the student, on the other hand, devote his attention to design requiring a knowledge of the human form, to him the studies of the figure class both in drawing and painting, based upon a systematic and thorough knowledge of anatomy, including the study of drapery, present all their attractions. While the class for the study of modelling furnishes to students so prepared, that manipulative power and special education which is requisite to enable them to embody their own imaginations, and become original designers. Beyond this, the special study of ornament and the practice of applied design complete the course of studies; and by nothing short of this can the objects of the Government be achieved, with nothing less than this can the student's education be complete."

Mr. Burchett then explained the nature of those geometrical elements of form, which are the root of all forms of grace and beauty, the circle, the ellipse, and the varieties of the sections of the cone, together with all the variations which result from the combination of portions of the same and varying curves in the same or different directions. He reminded the students, at the same time, that in drawing the designs for decorations many forms will not appear on paper the same as when actually executed and fixed in peculiar positions. All the circumstances of different angles of vision, from which alone these productions will be visible, and the height from the eye at which

they are placed, must be taken into consideration in the composition of the designs. For instance, a frieze, decorated with scroll ornaments perfectly true in their curves, would, if seen from below at an acute angle of vision, appear compressed by the superincumbent weight. The noble piece of frieze from the forum of Trajan affords an example of the care with which the ancients guarded against this apparent change in their compositions. In this instance the curves are compressed vertically, because, the ornament being seen from below, the angle of vision would modify the abruptness of the curve, and produce an agreeable form.

"It is evident (proceeded the lecturer) that the training of the eye to understand and appreciate the regularity of curves as produced by *geometrical* means, whether simple or complex, is the readiest way for preparing the student to enter upon the study and practice of curved lines formed by the hand alone. My experience in this school has given me frequent opportunities of observing this; for while young students, who for the first time attempt to describe curves of a simple character, have been involved for a short time in perplexing confusion, and have produced *anything* rather than curves, I have frequently found that young men in the practice of mechanical avocations (such as carpenters, &c.) which have familiarised them with regular forms, have at once felt, and very soon succeeded in reproducing, the same lines. But you must not, therefore, for a moment, regard the study of geometrically formed curves as other than the means to an end; for it is with that wonderful production of the Omnipotent Creator's power—the hand—which in his physical organisation places him far above the inferior animal, and which, when directed by the cultivated mind, shew, that he is made in the image of God, that we have most to do.

"Without the powers of the hand, capable as they are of a most wonderful development, what an imperfect being must man have been! How many a glorious emanation of the divinity in man—the mind—which has been transmitted through ages for the instruction and delight of mankind, must have sunk into dust with the teeming brain which gave it birth! What an untranslatable language must *thought* have remained! Without the wonderful and perfect mechanism of the hand, man must have been the most miserable of beings, condemned to lead a life of unsatisfied longings and unfulfilled desires. Let us for a moment survey some of its productions. The temples of the Pagan and the Christian worlds, from the pyramids of Egypt to the glorious productions of mediæval art and science in our own land, arise to our view; while every age discovers long buried trophies of its skill, in barren sands and mountain ravines; and by its aid we are enabled to mark the flight of time, the dread enemy of its choicest productions.

"Of what cultivation, indeed, is the human hand *not* capable? what precision, what amount of excellence are we not justified in expecting from the careful development of its powers? Curved geometrical lines are

produced generally by mechanical means, and consequently encumbered with a considerable amount of scaffolding. To the educated hand, however, these preliminary foundation-lines are, in connexion with ornamental art, unnecessary; guided by a refined perception of beauty, its lines undulate in exquisite variety, combining and modifying circles, ellipses, or scrolls, in never-ending change; adapting them readily to every conceivable necessity of form and space, and presenting combinations that would almost defy the most patient geometrical analysis, and certainly all mathematical invention.

"The education of the hand to the attainment of beauty and precision of line is, then, one of the important objects of the studies of the class of free-hand drawing.

"I have already observed that a refined appreciation of the beautiful is necessary to enable the student to produce beautiful forms. A slight departure from our more immediate subject will therefore be advisable, in order that we may inquire as briefly as possible into the nature of beauty; and I shall confine myself to its relations with the subjects which form the principal materials of study in the class of free-hand drawing, with the view of furnishing you with a few salient points, which I must leave to your study and observation to connect with one another.

"The mind of man, ever eager to investigate, and anxious to define the causes of the emotions he experiences, has endeavoured for two thousand years to define the producing causes and constituent qualities of beauty. Socrates appears to have erected the standard of fitness, and instanced, we are told, his own nasal organ as a beautiful one, on account of its capacity for smelling. David Hume and others assert that beauty is no quality in things themselves, but exists solely in the mind that contemplates them, and that each man is an *arbiter elegantiarum* to himself, without any right to interfere in the opinions of others. Hogarth alone, in that part of his analysis of beauty which treats of the waving line, has placed before us beauty, as we must view it, abstractedly from fitness or expression, and merely as produced by the combination of *lines* and *curves*. That it has often been supposed to be produced by many and various causes, and that because the contemplation of beauty gives pleasure, therefore objects which produce pleasing emotions have been falsely called beautiful, is evident upon a cursory examination of many works written on the subject."

[To be concluded in our next.]

A patent has been obtained for an improved mode of making rough plate glass, the cost of which is considerably diminished by this new method, as the molten glass is transferred directly from the melting pot to the table, without using a cistern or heating it a second time, and the plates are annealed in the same manner as crown of sheet glass, without employing the usual costly furnaces.

Review.

A Ramble About Hastings, St. Leonard's, and their Neighbourhood. By ALEX. CRUX.
Hastings: John Moor, Royal Pelham Arcade.

Hastings and St. Leonard's present but few attractions for the superficial observer, but for those who love to dip deep below the surface and admire the varied beauties which art and nature suggest, they afford many points of more than transitory interest, such for instance as the Battle Abbey at Crowhurst, Galley Hill at Bopeep, and the castle of Hurtsmoncieux. Mr. Crux, in the pretty little work now before us, has evidently bestowed much pains and attention to the history of its subjects: it is clear, concise, and lively. The following remarks are characterised by much good sense:—

"There is a great want, in the immediate neighbourhood [of Hastings], of a class of houses known as cottages ornée, or villas. Whoever may be induced to build such tenements, will have the satisfaction of seeing that it is not a speculation, in the ordinary sense of the word, but merely a safe and lucrative investment of capital. There exists a *demand*, only waiting for the *supply*. It will be necessary for the architect to have this 'special observance,' that he must not 'o'erstep the modesty of nature,' by usurping the rules of good taste. In the midst of lovely valleys, where all is pleasing to the eye and dazzling to the view, we do not want any of those pert, staring, impudent-looking retreats, that come forward so boldly in all our metropolitan villages. Oh! it offends me to the soul, to look upon a range of Alpha and Omega Villas, full of cunning devices, abounding in sphynxes and obelisks, enormous porticos, and large brass plates, dedicated to the Joneses, Brownus, and Smiths. 'Pray you, avoid it altogether, and rather remain in *statu quo* for ever, than allow, for one moment, such aberrations and emanations to exist, all being out of 'the builder's brain.'"

We may remark that the little tome is admirably got up, and is a fair specimen of the progress which the provincials are daily making in the art of typography.

SLAB HUTS.—Slab huts are built of wood split into broad pieces like boards, and about two inches thick; a frame is made, and the slabs are nailed to a wall plate at the top, and either let into the ground or fastened to a sleeper laid on the surface; such houses are quickly made, cheap, and comfortable. The covering is either thatch, paling, or shingles; even slates are sometimes used, but these last are liable to the objection of being too hot.—*Wilkinson's "South Australia."*

Society of Arts.

DISTRIBUTION OF PRIZES FOR THE YEAR 1848.

ON Monday, the 29th ult, the annual distribution of prizes for 1848, took place at the Society's rooms, John-street Adelphi. In consequence of the decease of H. R. H. the Princess Sophia, Prince Albert could not attend as chairman, and his place was supplied by the Marquis of Northampton. A complete list of the subjects selected by the society for competition will be found in page 167, vol. i., of the DECORATOR'S ASSISTANT. Mr. Scott Russell, the secretary, read a short address, and then proceeded to announce the prizes and names of the recipients, to whom the chairman delivered the awards. On the reception of each award, Mr. Russell read from the report of the committee, their observations on the work obtaining it, and describing its merits in point of beauty or utility.

The principal successful candidates, and the prizes bestowed, were:—Isis medals to Ald. Copeland, M.P., for the combination of fine art with manufacture exhibited in porcelain and china; to Messrs. Minton and Co., for the novelties in fine art produced in their various exhibited manufactures. The silver medal and sums of £20, £5, and £2 respectively to Mr. T. Seddon, jun., for the best drawings of an original design for an ornamental carved sideboard; to Mr. S. Bendixen, for the best monochrome drawing for a circular compartment; to Mr. W. Smith, for the best model of a bracket to support a figure two feet high; to Mr. B. Farmer, for the best cartoon of an arrangement of the white lily for a decorative purpose. The silver medal alone to Mr. Batsford, for his specimen of hand carving of the hawk and butcher-bird; to Messrs. Collmann and Davis, for the ornament and workmanship of their marqueterie table; to Mr. J. A. Hatfield, for his bronze chasing of the figure of Dorothea and other works; to Mr. F. Hunt, for his reduced model of the Laocoon; to Mr. Magnus, for his application of enamel colours to slate; to Messrs. Minton and Co., for the best specimen of turquoise blue on china, not affected by acids; to Mr. Pratt, for producing a fine work of very large size in pottery; to Messrs. H. B. and J. Richardson, for the beauty and purity of their glass, and for the merit of their works in engraved glass.—Prizes of £15, £10, £5, £3, and £2 respectively: to Mr. T. C. Hyne, for his design for a labourer's cottage; to Mr S. J. Nicholl, for the plan and arrangements of a labourer's cottage; to Mr. J. Colson, for his design for an intermediate railway station; to Mr. C. B. Allen, for the merit of the designs on the panels of a pair of folding doors; to Mr. L. W. Collmann, for his design of an ornamental carved sideboard. The Isis medal and £33s. to Mr. Milton, for his improved drill for miners. The Isis silver medal: to Mr. Heley, for his flexible floating cylinder for the preservation of life from shipwreck; to Mr. Woods,

for his chess-board for the blind. The testimonial: to Mr. Jennings, for his improved water tap; to Mr. Cracknell, for his improved wrench. A prize of £2: to Master Bursill, for his improved soldering iron.—At the conclusion of the ceremony a vote of thanks to the chairman was proposed by Mr. Bancroft, the American minister, and seconded by Sir John Boileau. The assembly then broke up.

On the Manufacture of Black-Lead Pencils.

THE best black lead pencils of this country are formed of slender parallelopipeds, cut out by a saw from sound pieces of plumbago, which have been previously calcined in close vessels at a bright red heat. These parallelopipeds are generally enclosed in cases made of cedar wood, though of late years they are also used alone in peculiar pencil-cases, under the name of "ever-pointed pencils," provided with an iron wire and screw to protrude a minute point of the plumbago beyond the tubular metallic case, in proportion as it is wanted. Pure clay, or clay containing the smallest portion of calcareous or siliceous matter is the substance which is employed to give aggregation and solidity not only to plumbago dust, but also to all sorts of coloured powders. The plumbago is reduced to a fine powder in an iron mortar, and then put into a crucible, and calcined at a heat approaching to whiteness. The action of the fire gives it a brilliancy and softness which it would not otherwise possess, and prevents it from being affected by the clay, which it is apt to be in its natural state. The less clay is mixed with the plumbago, and the less the mixture is calcined, the softer are the pencils made of it; the more clay is used the harder are the pencils. The process is as follows:—the materials having been carefully sifted, a little of the clay is mixed with the plumbago, and the mixture is triturated with water into a perfectly uniform paste. A portion of this paste is then tested by calcination. If on cutting the indurated mass particles of plumbago appear, the whole must be further levigated. The remainder of the clay is now introduced, and the paste is ground with a muller upon a porphyry slab until it becomes quite homogeneous and of the consistence of thin dough. It is now made into a ball, put upon a support, and placed under a bell glass inverted in a basin of water, so as to be exposed merely to the moist air. Small grooves are made in a smooth board, similar to the pencil parallelopiped, but a little longer and wider, to allow for the contraction of volume. The wood is boiled in grease to prevent the paste from sticking to it. The above described paste being pressed with a spatula into these grooves, another board, also boiled in grease, is laid over them very closely, and secured by means of screw clamps. As the atmospheric air can get access only to the ends of the grooves, the ends of the pencil pieces become dry first, and by their contraction in volume get loose in the

grooves, allowing the air to insinuate further, and to dry the remainder of the paste in succession. When the whole piece is dried, it becomes loose, and might be turned out of the grooves. But before this is done, the mould is put into an oven moderately heated in order to render the pencil pieces still drier. The mould is now taken out and emptied upon a table covered with cloth. The greater part of the pieces are found to be entire, and only a few are broken if proper care has been taken. They are all, however, perfectly straight, which is a matter of the first importance. In order to give solidity to these pencils, they are set upright in a crucible until it becomes filled with them, and then surrounded with charcoal powder, fine sand, or sifted wood-ashes. The crucible, after having a luted cover applied to it, is put into a furnace, and exposed to a degree of heat regulated by the pyrometer of Wedgewood—which degree is proportional to the intended hardness of the pencils. When they have been thus baked, the crucible is removed from the fire and allowed to cool with the pencils in it.—Should the pencils be intended for drawing architectural plans, or for very fine lines, they are immersed in melted wax or suet nearly boiling hot before they are put into the cedar cases. They acquire by this means a certain degree of softness, are less apt to be abraded by use, and preserve their points much better. When the pencils are intended to draw ornamental subjects, with much shading, they are not dipped as above.—*Dr. Ure.*

GERMAN SILVER.—1. *Common* :—

	parts.
Copper	8
Nickel	2
Zinc	3½
	13½

This compound forms the commonest that can be made with any regard to the quality of the article produced. It might do for wire for common purposes. If the quantity of the nickel be reduced much below this, the alloy will be little better than pale brass, and will tarnish quickly.—2. *Good* :—

	parts.
Copper	8
Nickel	3
Zinc	3½

This is a very beautiful compound. It has the appearance of silver a little below standard; by some persons it is even preferred to the more expensive compound. We strongly recommend manufacturers not to use a metal inferior to this.—*From a pamphlet by Messrs. Topping.*

BLACK PIGMENT.—A fine lamp-black is obtained by the combustion of a thick torch of coal gas, supplied with a quantity of air adequate to burn only its hydrogen. In this case, the whole of its carbon is deposited in the form of a very fine black powder of extreme lightness. This black is used in making the better qualities of printer's ink.

The Chronotypist.

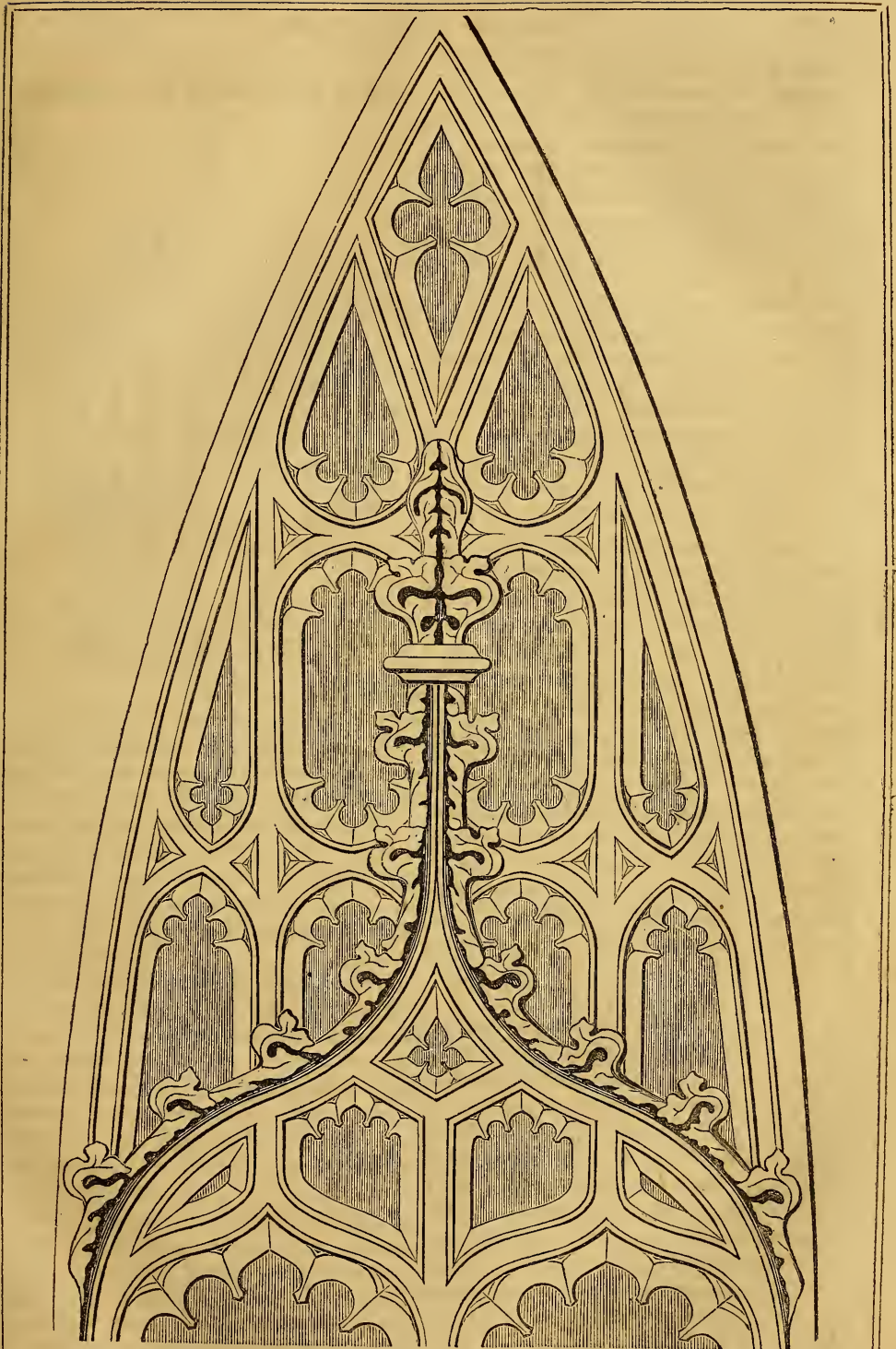
A very handsome silver vase, intended for presentation to the Bishop of Manchester, from the scholars of King Edward's School, is now on view at the manufacturers', Messrs. Edwards and Ball, High-street, Birmingham. The vase was designed by Mr. T. Clark, head master of the Society of Arts and Government School of Design, and is a very fine specimen of that gentleman's talents as a designer. It is Roman in character, and is very highly ornamented. On the edge is the egg and tongue moulding, and on either side are groups of figures, emblematical of Truth directing the Sciences, and Genius guiding the Arts. The handles are formed of intertwined winged serpents. The vase stands on a triangular pedestal, decorated on each side by very finely chased wreaths of bay leaves, executed in frosted silver, and supported by a winged lion, a griffin, and a winged sphinx, also frosted. These figures are remarkable for the delicacy, and yet the force of their modelling. Every detail, though they are only about four inches high, is given with distinctness, while the effect of the whole, especially of the sphinx, is very striking. The figures rest upon a broad, massive base, ornamented by a rich border of the bay leaf. The whole is raised upon a step of about an inch in depth. The design is original in character, and displays great taste; the workmanship is excellent, and reflects credit upon Messrs. Edwards and Ball. The height of the piece is about twenty-four inches; its weight is 230 ounces; and it cost £200.—The foundation stone of the temple for Dr. Jephson's statue has been laid in the gardens at Leamington, as has also that of the pillar to commemorate the visit of her Majesty and consort at Ramsey, in the Isle of Man.—We learn from the *Manchester Examiner* that the navigation of the River Amazon has at length been attempted with success by a steam-boat of light draught.—The Government School of Design, at Somerset House, is, we hear, now constantly well attended; and understand that the continuance of able and diligent students is to be encouraged by the distribution of prizes for their best productions, and by giving to them a preference in filling up vacancies of masterships in the provincial schools. Government is manifesting a vigilant interest in the efficient agency for this nationally important Institution. The President and Vice-President of the Board of Trade have recently become Chairmen of the Committee of Management, and sanction by signature all its proceedings. The Committee holds its meetings at the Board of Trade; and consists, as now arranged, of the following members:—The Right Hon. Henry Labouchere, president,—Earl Granville, vice-president,—G. R. Porter, Esq., and Sir Denis Le Marchant, secretaries,—Stafford H. Northcote, Esq., law assistant,—J. G. Shaw Lefevre, Esq., Sir R. Westmacott, Ambrose Poynter, Esq., and G. Richmond, Esq.—The Senate of the University of

London have lent to the school, for the delivery of class lectures, one of their spacious rooms in the building; and Mr. Redgrave and Mr. Townshend are about to commence a series of lectures on Botany and Anatomy.—Mr. Redgrave has been appointed by the Committee at the Board of Trade to coöperate with Mr. Dyce in carrying out the objects of the class of Applied Design,—including flower-painting and the treatment of plants and foliage in ornamentation; and arrangements are in progress for the commencement of courses of lectures on the History and Principles of Art in relation to ornament.—Mr. Jackson, of Leicester, has registered an ingenious table for finding the day of the week or month at sight from the year 1840 to 1900. It is very useful in many cases.—Mr. Woodington has completed his model for one of the compartments of the base of the Nelson column in Trafalgar-square. The incident the artist has chosen for representation is one that occurred at the battle of the Nile, where Nelson, being wounded in the forehead by a musket ball and carried down into the cock-pit, declined the immediate care of the surgeon, directing that officer to attend to the rest of the wounded, and to take him in his turn.—The suggestion thrown out by us a few weeks back (see page 1, *ante*), has, we see, been in some measure adopted by the stone-masons of London who have issued an address (agreed to at a public meeting of the body) to the trades of Metropolis and the country generally. The address embodies two principles, namely, that of the people's charter, and the protection of labour. The first is too well known to need repetition; with regard to the second, after stating that they have long seen the necessity for a powerful and cordial organisation among the trades of this country, and particularly those of London; the projectors submit the following propositions, as the basis of a union, which they really believe is best calculated to ensure the undivided support and co-operation of the trades of London, and the country generally, and which they feel certain can alone better their condition. They therefore propose that a great "Metropolitan Trades Political and Social Union" should be formed upon the principles above stated. With regard to the protection of labour, it is proposed that a "Board of Labour" should be formed, consisting of the most practical and intelligent members—delegates from the different branches of the proposed union, part of whom the projectors would recommend should have seats in the Legislature, whose duties it should be to watch over the interests of the trades, to make the necessary arrangements with the Government for a new organisation of labour, by self-supporting home colonies, and other industrial establishments.—At Crosby Hall, on the 8th instant, the Right Hon. W. E. Gladstone presided as chairman at the anniversary meeting of the subscribers and friends to the Spitalfields School of Design. The report of the local committee represented the state and progress of the school to be highly satisfactory—and mentioned several instances of pupils being engaged by the silk manufacturers as

draughtsmen and designers. Prizes, of books and money, were distributed to the students for drawings and paintings which were exhibited, and the chairman and many of the principal manufacturers and merchants of the district addressed the assemblage.—A subscription has been proposed and active measures taken for its furtherance, for the purpose of placing a full-length portrait of Mr. Vernon amongst his pictures when finally deposited in the New National Gallery. We would, however, suggest a marble statue instead, as being more conspicuous, and more likely to excite the attention of visitors.

Interior Decoration.

WITH regard to interior decorations certain principles may be laid down, which, if recognised and applied, would make our dwellings much more cheerful and comfortable, which might make them comparatively beautiful, not only without any additional cost, but would make the keep of them more economical, by rendering them, to an equal degree, independent of the caprices of fashion. It is the absence of correct principles which causes decoration and furniture to be out of fashion, tiresome, palling to the eye, and subject to constant change! whereas, what is really beautiful, being based on everlasting principles, is subject to no change. We think the greater part of the painting of a house might be a work to last for life, with benefit even to the journeymen painters, and infinite satisfaction to the house inhabitant. A truly melancholy suspension of comfort is the work of painting a house. Your whole little world so turned upside down that it hardly rights itself before the work has to be done again. What a comfort it would be to undergo the penance only once in a life, instead of every seven years! It seems to us quite a mistake, though a very common and popular one, to imagine that beauty is necessarily costly in its production. Nothing could be cheaper in material and manufacture than the earthenware pots of the ancient Etrurians—yet they have perfect and everlasting beauty in their forms. The preference of one colour to another, within a very wide range of colours, is not at all a thing of greater or lesser cost. So far from beauty being costly, it would more often happen that in a given number of existing specimens of decoration, the greater beauty and harmony would be obtained at a smaller cost of labour and material than what are expended to produce ugliness and confusion. Take at random a dozen patterns of paper-hangings, of various colours and devices, and in the majority of them we believe it could be shown that their cost of production might be materially lessened, whilst their beauty would be greatly enhanced.



GOTHIC TRACERY FROM HENRY THE SEVENTH'S CHAPEL, WESTMINSTER.—(See page 82.)
No. 59.—Vol. III.

Ugliness and Monstrosity in Art.



UGLINESS

and Monstrosity are not identical, but may be regarded as step-brothers. Creation has called them both forth—the one from Nature, the other from Art. Between the two there exists the same barrier that divides the spiritual from the material world: ugliness partakes, in some measure, of system, but monstrosity is wholly of fancy; we can, at least, appreciate the one, but the other is incomprehensible.

REMBRANDT is generally noted for the excessive ugliness of his portraits, yet none can accuse him of being an unfaithful delineator; the grand secret of this was, that he knew where to stop: one step either above or below a certain limit renders the portrait of a human being either that of an angel or a demon—thus beauty may be extended to spiritualism and ugliness to monstrosity.

However distorted the countenances of particular individuals may appear to the observer, there is invariably present some redeeming expression of intellect, which makes up for their disadvantageous appearance, in the same manner that a gleam of sunlight falling upon a rugged and barren rock imparts to it something more than any material qualification

could present to the eye. It is in the proper observance of this that some of our best painters have so eminently succeeded, and it is likewise, in the want of such observance that so many have failed. By portraying ugliness without its accompanying animation, we create monstrosity—a thing without individual character, loathsome alike to our sight and understanding.

There is no living creature on earth, instinctive or reasoning, which may not be represented, with perfect good taste, in such a manner as to harmonise with our best ideas of moral beauty. Art should never be regarded as a mere delineator of substance; she has still a higher and more noble aim, namely, that of embodying the spirit—of imitating the work of God in all save actual animation.

It is well known that RAFFAELLE could no more have drawn the portrait of a living man of ordinary beauty, than REMBRANDT could have drawn that of an archangel—the one was a painter of imagination, the other a painter of Nature; but even REMBRANDT did not go so far as SALVATOR ROSA, with regard to ugliness, for the latter presented us with moral ugliness as well as physical deformity—yet even *he* did not create monsters. We can look upon his bandits and recognise in them human beings, notwithstanding all the gloominess (which as he made it, is infinitely more terrible than actual darkness) of the surrounding scenery and those awful effects of light and shade, in the production of which he stood and still stands unrivalled.

In the National Gallery, there is a small painting on panel, by JOHN VAN EYCK, of a Flemish man and wife, which affords an excellent study to the young artist. The features of both man and woman are excessively ugly, added to which the imperfective perspective, the grotesque style of painting, and the singular costume of the period to which it belongs, all conspire to a singular *tout ensemble* of ugliness; yet monstrosity nowhere exhibits itself in these portraits. The countenances of both figures represented bear expression, and we feel that we are looking at the representations of human beings merely disguised in the conventionalty of Art.

These facts and statements all contribute to

the establishment of two incontrovertible points, namely, that the human form can never by any possible *natural* circumstance become monstrous, and that physical ugliness interferes not with characteristic expression in the human countenance.

[Our initial letter this week is derived from the same source as that in No. 54, namely, the Harleian MSS. in the British Museum, which afford a capital idea of the state of decorative art during the middle ages.]

Gothic Tracery.

We have this week presented our readers with an example of Gothic tracery from Henry the Seventh's Chapel, Westminster Abbey. To descant upon its beauty in proportion and detail would be superfluous, we will, therefore, content ourselves with remarking that in our next we shall give the necessary dimensions of, and rules for drawing the several portions.

To Correspondents, &c.

ERRATA.—In our leading article last week (see p. 71), 2nd col., 7th line from top, dele a double of three words; and in same col., 24th line from bottom, instead of "plentiful proof of the display of," &c., read "afforded plentiful proof of the effects of the display of," &c. Also in Mr. Whittaker's letter, p. 75, 2nd line from top, instead of "how to cut the circumference," &c., read "how to cut from the circumference," &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

"E. C."—We know of no preparation for colouring which will not peel off under the intense rays of the sun, unless well varnished. Common size will prevent lime-wash from rubbing off, and than a mixture of the two nothing could be better adapted for the interior of stables, &c. We have not seen any small work published on the subject of cements and colours, but the second edition of a large one by Gen. Pasley has, we believe, been lately published by Weale, of Holborn, on the first subject, while on the second we know of none better than Hay's "Laws of Harmonious Colouring," published by Black, of Edinburgh and London.

"R. S. McKenny."—If you are discontented you have your remedy.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

PARLIAMENTARY GRANTS.—The Miscellaneous Estimates for the year ending March 31, 1849, have been laid before Parliament. No. 1 comprehends "Public Works and Buildings," to which it is proposed to appropriate a sum of £483,976, against £589,253, in 1847-48; of this sum, £120,923 will be appropriated to public buildings and Royal Palaces, £30,000 to the enlargement and improvement of Buckingham Palace, £8410 to the palm-house at Kew, £4234 to the expenses of the temporary Houses of Parliament, £120,000 to those of the new Houses of Parliament, £21,300 to the Insolvent Debtors' Court, £4050 to courts of law in the Isle of Man, £12,792 to Holyhead harbour, £131,000 to harbours of refuge, £23,167 to public buildings, &c., in Ireland, and £8100 to Kingstown harbour. No. 4 includes the sums applied to the encouragement and promotion of education, science, and art, the estimate of which for the current year amounts to £397,520, against £351,243 in 1847, and £325,908 in 1846. Of this sum £125,000 is to be appropriated to public education in Great Britain, £120,000 to the same purpose in Ireland, £10,000 to Schools of Design, £4178 to the University of London, £7480 to the Universities in Scotland, £6600 to the Irish Academies, £3442 to the Belfast Academical Institution, £99,249 to the British Museum, £1500 to the National Gallery, £10,788 to the Museum of Practical Geology and Geological Survey, £5627 so scientific works and experiments, and £2000 to the completion of the Nelson Monument.

COMPOSITION FOR PLASTERERS' WORK.—The composition used by the plasterer is a ground-work of lime and hair, on which, for the finish, a coating of finer material is laid. The sorts of it are various; as, for instance, white lime and hair mortar on bare walls; the same on laths as for partitions and plain ceilings; for renewing the insides of walls, roughcasting on laths; plastering on brickwork with finishing mortar, in imitation of stone work, and the like upon laths. For cornices and the decorations of mouldings, the material is plaster of Paris, one which facilitates the giving by casts the required form and finish to the superior parts of his work. The plasterer uses it also for mixing with lime and hair, when the work is required to dry and set hard in a short time. For inside work, the lime and hair, or coarse stuff, is prepared, like common mortar, with sand; but in the mixing, hair of the bullock, obtained from the tanners' yards, is added to it, and worked in with the rake, so as to distribute it over the mass as equally as possible.—*Gwilt.*

Society of Arts.

EXHIBITION OF MR. MULREADY'S PICTURES.

Want of space has hitherto prevented our noticing the intention of the Society of Arts to collect and exhibit as many as possible of the paintings of that distinguished academician, Mr. Mulready, as the commencement of a series of such exhibitions of the works of different British artists to take place annually. We will now, however, endeavour to make up for the omission.

"It is proposed, says the Society's prospectus, to collect once a-year (the month of June is suggested), and exhibit in the Society's Great Room as many as possible of the paintings of some *one eminent living artist*, and to couple with the collection of pictures an exhibition of all the engravings from them. Perhaps it may be possible to add some of the drawings and studies of the artist, so that we shall thus concentrate in one spot annually the completest exhibition of the powers of one of our great painters. Such an exhibition would afford a useful lesson to ourselves, and teach both foreigners and ourselves duly to value the present state of British art. * * * * There are many advantages in exhibiting the works of an artist during his lifetime, rather than after his death. Obviously, the collection through his aid might be more completely made. The works exhibited are thus stamped with the artist's own guarantee for their genuineness. Moreover, it seems to me more useful to honour a great man in his lifetime, when he can value it, rather than when he is gone, and cannot value it at all. * * * * The principal object, then, of this exhibition is to amass a fund, for the purpose of forming the *nucleus* of a gallery of the best works of British artists; to be thus enabled to give to the artist whose works are exhibited a commission for a picture without dictation as to subject or size—to give him a commission in such a mode, and in such terms, as shall be calculated to obtain from him a picture which he would feel a pride in showing to his countrymen as his best work, on which he would rest his fame, and which he would offer to posterity as the best specimen of his genius and ability. An incidental advantage in this course will be that we shall be thus enabled to test whether works of art cannot be procured better by giving direct commissions to artists who have established their fame, than by an open competition, which addresses itself to everybody, and nobody in particular. When this picture is painted, it is proposed to present it to the National Gallery, assuming that the building is capable of receiving such a collection. In any case the pictures will become the property of the nation. * * * * It is proposed that the charges for admission should be on a graduated scale, so as to enable all classes to become voluntary contributors, and thus share the merit of founding a National Gallery of British Artists. But in order to give an op-

portunity to those parties who may be willing to promote this object more directly, it is proposed to receive special subscriptions of £1 and upwards per annum. The name of each subscriber will be registered as one of the donors of the picture; each subscriber will receive an original etching of the picture, painted for that particular year, and a free admission to the annual exhibition."

The plan we have no hesitation in declaring to be sound in principle, and patriotic in its direction. Few, comparatively speaking, of the British public are acquainted, even in the remotest degree, with the merits of our native artists, and at the present time, when Mr. Vernon's munificent gift has paved the road, as it were, it reflects great credit on the Society of Arts as a body, to have been the first to have used the thoroughfare thus newly created—they could not have chosen a better path.

So much of the project, now let us turn to the first gem of its development.

Mr. Mulready, the artist chosen for the first exhibition, is well-known to connoisseurs by his valuable contributions to that art of which he is so distinguished a practitioner. Mr. Mulready's style is evidently founded on that of the Dutch School, at the period when Ostade reigned super-eminent as a delineator of Nature; but no pupil could have succeeded better in rendering himself a master; indeed, he is by many competent judges esteemed as being even superior his prototype. He has improved by practice, and the lapse of years has not destroyed but mellowed his vigour.

The pictures of Mr. Mulready, now exhibiting at the Society of Arts, include nearly all his best performances from the year 1805 to 1847—a period of forty-two years! Truly such a sight as this is calculated to produce something more than a mere evanescent feeling in the breast of the observer:—the proofs of nearly half a century's devotion to art—a long life-time spent in contributing to the pleasure and improvement of his fellow men, should surely entitle Mr. Mulready to a crown of laurels, preserved fresh and verdant by a nation's patronage and sympathy.

CONGREVE, OR LUCIFER MATCHES.—Berzelius gives the following as the best composition for these matches:—

	parts.
Powdered chlorate of potassa	30
Powdered brimstone	10
Sugar	8
Gum arabic	5
Cinnabar	1
	54

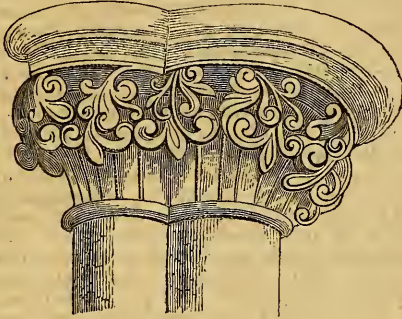
The sugar, gum, and salt are first rubbed together into a paste with a sufficiency of water; the sulphur is then added, and the whole being thoroughly beaten together, small brimstone matches are dipped in, so as to retain a thin coat of the mixture upon their sulphuretted points; they should be quite dry before they are used. These matches inflame by friction against any rough surface.

An Illustrated Glossary of Technical Terms used in Architectural and Exterior Decoration, &c.

[Continued from page 74.]

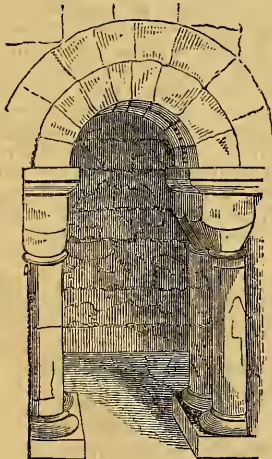
DIAMOND PAVEMENT, a pavement having the stones laid diagonally.

EARLY ENGLISH STYLE OF ARCHITECTURE, the general style employed in England during the 13th century. The accompanying speci-



men is a representation of a capital from the nave of Romsey Abbey Church, Hants; built A. D. 1220.

EARLY NORMAN STYLE OF ARCHITECTURE, the style employed in England from the mid-



dle of the 11th to about the beginning of the 12th century. The accompanying specimen is from Westminster Hall.

ENGRAVING.—This term is derived from the German word *Grüben* or *Graben*, which means to dig or to mine. The essential idea of it, therefore, is a hollow formed by the application of a cutting tool. All solid substances are capable of being engraved, but when the word is used as a term of fine art, it means the

act of cutting out a representation of the form of any object on a surface of hard stone, metal, or wood. The art, in this, its most extensive signification, dates from the highest antiquity—the engraved tables of the Jewish law, the sculptured gems set in the breastplate of their high priest, the cylinders of agate engraved with arrow-head characters that have been found in the ruins of Babylon, and the hieroglyphics sculptured on the temples and obelisks of Upper Egypt, are examples which it is only necessary to name in order to prove the assertion. But engraving, at the present day, is far more extended in its operations, being employed for the purpose of copying drawings, &c., and afterwards transferring impressions of them to paper. The various methods of engraving are too numerous to be mentioned in this place, so that we shall reserve a full account of them for a series of articles to be shortly presented to our readers.

[To be continued.]

HOW TO LAY SHEET LEAD.—The method most commonly adopted in laying sheet lead for terraces or flats, is to place it on a surface as even as possible, either of boarding or plastering. If boards are employed, they should be sufficiently thick to prevent warping or twisting, which, if it occur soon, causes the lead to crack or to become unsightly. As sheets of lead are not more than about 6 feet in width, when the area to be covered with them is large, joints become necessary, which are contrived in various ways to prevent the wet from penetrating. To do this, the best method is that of forming *rolls*, which are pieces of wood 2 inches square extending in the direction of the joint, planed and rounded on their upper side. These being fastened under the joints of the lead between the edges of the two sheets which meet together, one is dressed up over the roll on the inside, and the other over both of them on the outside, whereby all entry of the water is prevented. No fastening is required other than the adherence of the lead by close hammering together and down on the flat: indeed, any fastening would be injurious, as by it the lead would not have free play in its expansion and contraction from heat and cold. If rolls are not employed, which from their projection are in some cases found inconvenient, *seams* are substituted for them; but they are by no means equal to the roll either for neatness or security. They are formed by merely bending up the two edges of the lead, and then over one another, and then dressing them down close to the flat throughout their length. Though some solder the joints, it is a bad practice, and no good plumber will do it, for the same reason as that just given in respect of fastening in flats. A leaden flat, as well as a gutter, should be laid with a fall to keep it dry. A quarter of an inch in a foot is sufficient inclination for lead, if the sheets be 20 feet long, so that in this case they will be 5 inches at one end higher than at the other. This *giving a current*, as it is called, is usually provided for by the carpenter previous to laying the lead.—*Gwilt*.

Design for a Dolphin Finial. (GOTHIC.)

BY JAMES H. THOMAS.



[We again beg to direct the attention of our readers to the excellent series of designs for Gothic ornaments, drawn by Mr. BARRET. To stone-masons, carvers, and indeed all professions connected with ornamental art, they will prove invaluable.]

M. BABINET'S ATMIDSCOPE.—At a late sitting of the Paris Academy of Sciences, M. Babinet exhibited an atmidoscope, constructed by M. Lerebours, which indicates the degree of dryness of the atmosphere, its temperature, its agitation, and the quantity of evaporation which takes place in any given locality. Like Leslie's instrument, it is a reservoir of porous clay, filled with water, the consumption of which is noted by the sinking of the level of the water in a bent tube connected with the reservoir. M. Babinet compared his atmidoscope with Leslie's instrument, and pointed out several applications of its use to sanitary purposes, as well as in meteorology, agriculture, and natural philosophy, and as a requisite to the builder in the choice of residences. This instrument has the advantage over the ordinary hygrometer that it is influenced by the agitation of the air, and registers the total effect produced from the moment it is set in action.

Walker's Method of Decorating Articles of Earthenware or China.

[Patent dated Nov. 20th, 1847; enrolled, May 20th, 1848.]

This specification relates to the decoration of various articles manufactured of earthenware or china, and the object of the patentee is to give such articles the appearance of marble or granite. The materials employed by the patentee are the ordinary slop clays or colours, as usually employed. The process is as follows:—A bat, slice, or slab of the ordinary clay of which such articles are usually made, is taken in a soft state; the size of the bat or slab being in proportion to the article to be manufactured; a portion of the slop clays or colours are now sprinkled, poured, or otherwise placed and distributed over the surface of the bat or slab of clay; it is then moulded into the requisite shape to form the article. The clay may be pressed also and formed and shaped by means of blocks, or stamps of wood, or other material. Also in the manufacture of tiles, quarries, and other similar articles; although the patentee is aware that such articles have hitherto been made with slop clays or colours, he does not, therefore, claim that manufacture simply, but he does when in combination with afterwards bringing the article in process of manufacture to a level surface, or by pressing and forming the clay by blocks or stamps. The patentee prefers the use of oil or other oleaginous fluids, to the employment of water, for the purpose of mixing with the slop clays or colours in the above processes of manufacture, as producing finer surfaces; and also he prefers the use of oil or other oleaginous fluids in the process of stamping, or pressing, or moulding to be applied to the block or stamp. Although the slop clays or colours will dry gradually and sufficiently at the ordinary temperature of the atmosphere, yet they may be with advantage dried by artificial heat, to facilitate the manufacture, such heat being applied to the surface. The patentee claims as follows:—First, the application of slop clays or colours for the purpose of decorating articles of earthenware or china, made of soft clay. Secondly, the application of slop clays or colours with stiff clay, for the making of tiles, quarries, and various other articles, and pressing the same. Thirdly, the construction and use of blocks or stamps for stamping and shaping articles made from slop clays or colours. Fourthly, the employment of oil or other oleaginous substance in lieu of water in combination with slop clays or colours, for decorating articles of earthenware or china, and in stamping and shaping such articles. Fifthly, the application of heat to dry the articles, made as above, applied to the surface only.—*Patent Journal.*

TO CLEAN ARTICLES OF GOLD.—Dissolve sal ammonia along with American potash, and boil the article in the liquid.

Decorative Art Society.

At a recent meeting of this society, a paper "On Decorations in Tempera" was read by Mr. Dwyer, V.P. The evils resulting from the present partial system of education in the arts, were alluded to as being generally evident in the professional practice of our artists, and it was contended that more ample and varied means for study should be made accessible to all who require to understand the subject. He desired to have a general system of education in arts, as in literature, for all who require to understand the variety of means by which to best attain a given end. A knowledge of different materials must, he said, increase the powers of expression; for by simply extending an acquaintance with the materials, facilities for correct and forcible expression must occur, and the artist of general acquirements would ordinarily adopt that method which is the most suitable for his purpose.

The manner of applying colours in the arts has varied much in the different epochs of history, and it is not difficult to trace therefore those distinctive qualities in which may be recognised relative fitness of purpose. Mr. Dwyer described the method of colouring "in tempera," and the various vehicles or media used for rendering the colours adhesive and permanent. Some useful details respecting the practical management of the colours were mentioned, and the treatment of them in application with gums, &c., to produce certain glazed effects, was explained. Among the advantages assumed for painting in tempera, that of readily and economically producing upon a large surface an even colour and texture, was especially adverted to, and its application, as seen in the form of paper-hangings, was said to equal in effect that of any other medium whatever. The scenery of theatres (always painted in tempera), it was observed, illustrated the power and richness of effects obtainable, as well as the rapid facility with which decorations, of a refined and picturesque character might be produced for domestic interiors. It was contended that the opportunities for introducing artistic refinement through such simple and economical additions to our ordinary wall decorations, ought not to be any longer overlooked, as vignettes, landscapes, &c., can be produced easily, quickly, cheaply, and well, in this manner. He did not wish to have coarseness mistaken for boldness, but to recognise that spirit which evinces the vitality of art, by imparting to decorations in tempera the fire and soul-inspiring vigour of the best and time-honoured frescoes of Italy. He remarked that the artist's labour might advantageously be employed on walls in combination with borders and enrichments printed upon paper, and that elevated and important results would thus ensue from displacing much of the insipidity in the general aspect of paper-hangings. It was mentioned that with the present available resources arising from the

Schools of Design, our house decorators might safely venture upon undertakings which would be readily appreciated by the public. He referred to the now well-known decorations of Pompeii, as illustrating in a modified degree the proper starting point; and to the Vatican, and works in Italian palaces, for specimens for emulation of a loftier range. A greater amount of attention to the importance of colour upon our walls, it was said, was certainly necessary when we find the same mistaken for the chaste, and artistic energies are being as it were dried up, through the prevalent use of tints (stimulative in the name only), such as lemon, salmon, sage-green, &c. It was further observed that painting in tempera being absorbent of light, admits with great freedom the broad style of treatment which is essential to the decorations of the walls in large rooms, and the necessity for greater breadth and force in the designs for such purposes was strongly urged. Stencilling, although despised by many, owing to the imperfect manner in which it has usually been applied in this country, was described as a very useful medium, and, it was said, that effects in borders, after the manner of Tessera, would, if judiciously wrought, be duly appreciated. The reader wished it to be understood that he regulated his suggestions with equal regard to economy as to the advance of artistic achievements. He regretted the decorative painters have rarely the opportunity of seeing walls in tempera executed by men of superior attainments,—as he felt assured that, if they saw the exceptions to their customary practice which artists, such as Stanfield, Danson, and others, had produced upon the walls of a few private mansions, their mental powers of appreciation would induce them to exercise that description of art. Watteau had, he said, last imparted to this manner of painting a popularity in this country; but there was little in those works beyond the ability of many ornamental painters of the present day. The absurdity of painting in oil and varnishing the walls, and often the ceilings, in small rooms, was mentioned in contrast to the light and agreeable result of colouring in tempera, while the general absence of gloss permits perspective and other details to be properly represented at any angle to the surface; and, with reference to durability, that it is quite possible to produce works of enduring brilliancy, as illustrated by Egyptian antiquities in the British Museum, and the series of cartoons for a frieze by A. Montegna, now at Hampton Court. It was remarked, respecting the latter examples, that the manner of laying on the colours in washes showed that care was taken to prevent the peeling off which a careless method gives rise to.

To REMOVE "IRON MOULDS" FROM MARBLE.
—Mix equal quantities of spirit of vitriol and lemon-juice, shake it well; wet the spots with the mixture, and in a few minutes rub with soft linen until they are completely effaced.

Government School of Design.

MR. BURCHETT'S LECTURE ON FREE-HAND DRAWING.

[Concluded from page 77.]

"MANY endeavours have been made to establish some universal standard of beauty, by those who have sought to erect a material one. The female form has thus been chosen. Yet though we of course admit that the female form in its perfection, is exquisitely beautiful, consideration would prove that it is possessed of certain qualities which exist in a greater or less degree in all organic forms; and according as it possesses more or less of these forms, is it more or less beautiful. Some theorists erroneously define beauty as being simply that which is pleasing, overlooking the fact, that things are not beautiful because they please, but please because they are beautiful. Beauty has also been said to consist in fitness; but on such a view it would appear that it is the excellence, completeness, or perfection of the object which excites our admiration, and not any presence of the quality of the beautiful. The principle of association has also been the source of much error, for objects which we love wind themselves so closely round our hearts, that our admiration too easily induces us to confound the causes of our emotions, and to assert that to be beautiful which is pleasing to us individually.

"Apart, however, from all such ideas, let us examine some of the forms of the animal and vegetable kingdoms, which all agree in pronouncing beautiful. Let us select woman, the Arab horse, the greyhound, and a leaf. Now if we find that all these instances possess certain qualities in common, and that when any of these qualities are absent, the sense of beauty is either diminished or destroyed, are we not justified in concluding that these common qualities are the source of our pleasing emotions? and if further we find, that by regulating our artistic productions by the same laws, we are enabled to produce other forms similarly pleasing, have we not discovered the source of what we agree to call beauty of form, analysed its nature, and applied its laws to our own use?

"In the admission and appreciation, however, of this standard of beauty in form (to which point alone our attention must be directed), is involved the question of perception, sensibility, and its cultivation. In other words, beauty is both objective and subjective. We know that, in the physical nature of man, the various senses vary in every possible degree, from absolute abnegation to the most exquisite degree of perfection; and that by cultivation, their perfectness may be almost indefinitely increased. And we cannot doubt that the mental æsthetic sensibility, which we call *taste*, with which every man is more or less endowed, is capable of being increased in intensity and perfection to a very surprising extent. The correct predication of

beauty will therefore depend upon the competence of the observer. As the short-sighted man cannot say that the beauties of landscape which lie beyond his powers of vision do not exist except in the imagination of those who are blest with better eyesight, so neither can it be truly said that beauty exists only in mind, and that every individual ought to acquiesce in his own sentiments regarding it, without pretending to regulate those of others.

"As exemplifying the powers of perception acquired by habit and education, the celebrated Baron Dupan remarks, that the copper-smith, the tinsmith, and the cooper, distinguish with great facility whether surfaces are cylindrical or conical, but are not so capable of judging of other forms. The turner and the potter can tell at a glance whether any surface is a surface of revolution, or flattened or elongated in any part. The architect will judge easily of the varied forms of cylinders and cones, as well as of surfaces of revolution. And so on in all branches of art and mechanical action.

"From an examination of the various lines of beauty producible from different geometric forms, we find, that to produce that aggregate quality of line which we agree to call beautiful, *variety, continuity, contrast, gradation, and symmetry*, are absolutely necessary, and that without these qualities, no high degree of beauty of line can exist. Let us then apply these principles to the instances of beauty in form which we before instanced.

"In that normal form of female beauty, the Medicean Venus, we find the qualities in question combined in a pre-eminent degree. Its contour exhibits exquisitely *varied* elliptical curves of unbroken *continuity*, melting into each other by subtle and refined *gradation*, the various parts *contrasting* with each other most harmoniously, and in perfect *symmetry*. If we substitute for the graduated curves of the Venus, parts more strongly pronounced, curves abutting upon each other sharply, and with little gradation, or broken lines and angles of attenuation, or the unvaried and unsymmetrical forms of obesity, we shall find that we have exchanged gratification for aversion, and elegance for vulgarity.

"So also in animals like the horse and greyhound, in proportion as their contour possesses the qualities before enumerated, we concur in calling them beautiful, apart from any idea of use or fitness. Though the race-horse possesses in a transcendent degree one quality of his species—fleetness—no one would prefer his bony and tendonous form, all whalebone and whip-cord, to the flowing and elliptical lines of the Arab; or deem that the Arab would suffer in comparison with the Flemish dray-horse, because the latter possessed double the strength of the former. Such also is the case in the beautiful forms of the vegetable world. These views are also confirmed by the high authority of Father André, who defines beauty to be "variety reduced to unity, by symmetry and harmony." The same principles are maintained in the philosophic works of Hutcheson, Cronzas, Mendelssohn, St. Augustine, and others, who

have only re-asserted and amplified the doctrine first enunciated by Aristotle himself.

"Let me now add a few words on the subject of *grace*, which may with propriety be said to be beauty in *motion*. Thus says Milton of Eve:—

'Grace was in all her steps, heaven in her eye,
In every gesture, dignity and love.'

Grandeur, again, less important to the ornamentist than beauty and grace, is produced by an increase of the scale to which the lines of a beautiful object are drawn, with a consequent diminution of the number of parts; *contrast* being restrained by *simplicity*, and *variety* by *severity*.—The grandeur of the Venus of Milo, as compared with the beauty of the Medicean, owes its origin to these causes. The works of the early masters of Christian art afford many striking instances of this quality; for by the noble simplicity of their draperies, they have often, notwithstanding much imperfection and conventional peculiarity of drawing, presented us with figures which the greatest of their successors have never surpassed in solemnity and *grandeur*."

Mr. Burchett then went on to impress upon his audience the extreme importance of those elementary studies, which to the young pupil often appear most purposeless and useless, and which he generally finds least attractive and agreeable, urging them to trust to the unanimous opinion of those who know by experience the vast importance of a power of drawing with perfect freedom and power of hand. In enforcing this point, he showed the manner in which the various properties of the chief geometrical curves are all employed with more or less fidelity in every beautiful form, illustrating his words with numerous diagrams. Then advancing to the point of study when lines are connected so as to produce definite form, he said:—

"It will be found that the contrasting the opposite sides of forms conduces to their beauty in a greater degree than a mere opposition. It may be necessary also to define that *contrast* is modified opposition, while *opposition* is taken to mean mere absolute reversed repetition; and upon examination it appears that what we call contrast is the distinctive mark of vitality and animated nature, and opposition of inanimate forms and absolute fixity. The two halves of the human body are, indeed, exact repetitions, but they are so only when in a state of perfect quiescence; the moment vitality asserts itself in motion, opposition gives place to contrast. In the vegetable, where vitality is manifested not in mobility but in development, we find the law of contrast substituted invariably for that of bare opposition. In the works of architecture and other similar works of man, opposition on the other hand, bears sway almost unlimited; in classical architecture the principle of contrast being even less frequently called in than in the more highly decorated and varied forms of mediæval art. The geometrical form of ornament also prevails in the former; in the latter the forms of the vegetable kingdom are the frequent types on which the artist has modelled his compositions."

After various illustrations of the truth of these positions, drawn from the structure of the acanthus, the olive, the oak, the thistle, the vine, and the convolvulus, and the works of antique sculpture and Italian painting, Mr. Burchett concluded by an earnest exhortation to the students of the school to follow up the advantages they derived from the institution by a zealous co-operation on their own part, not only by a diligent attendance upon the actual instructions of the masters, but by a perpetual cultivation of their sense of beauty during every hour they live, assuring them that each day would then reveal to them new sources of pleasure and delight, every object which surrounded them would possess a charm, and they would become cosmopolites of the animate and inanimate worlds.—*The Rambler*.

CHINESE ORNAMENT.—Chinese ornament partakes somewhat of the nature of the Morescan, or arabesque, without its grotesqueness, and in some measure, of that of the Alhambra without any of that gorgeous massiveness by which the latter style is distinguished. From their exceedingly limited knowledge of perspective, the Chinese painters excel more in decoration than in any other branch of delineative art, as they are celebrated for their fidelity of execution as copyists of natural forms on flat grounds. Of light and shade they know absolutely nothing more than that the former cannot penetrate opaque bodies, or, in other words, that stone, metal, or wood is not transparent. The designs of the Chinese are usually very pretty and graceful, and, in a very great degree, make up, by their pleasing effect, for the lack of creative genius which they exhibit. The knowledge of geometry evidenced by the works of Chinese designers is truly surprising, considering the comparatively poor resources which they possess in their own country for obtaining it. If the reader will just take the trouble to refer to the piece of Chinese ornament engraved by us last week [see page 75, *ante*], he will readily perceive that nothing but a most intimate knowledge of the science could possibly produce such a design—there is a gracefulness and accuracy about it which would rival the productions of the Italians of the 16th, and the English of the 16th and 17th centuries, to whose styles it bears some analogy.

WOOD BLOCKS FOR FLOORING, &c.—It seems very surprising to us that wood-blocks are not more generally laid down for flooring on ground stories, at least, than the common deal boarding usually employed. We are not sure that the expense would be *very* alarming, but we are certain that in durability and comfort they would stand unrivalled. Common elm logs laid down, with the grain perpendicular, on a good concrete foundation would last for ages.

TO TAKE INK STAINS OUT OF MAHOGANY.—Put a few drops of nitric acid in about a teaspoonful of water, touch the spot with a feather dipped in the mixture, and on the ink disappearing, rub it over immediately with a rag wetted in cold water, or a white mark will remain which it will not be easy to efface.

Chinese Paints.

THE peculiar beauty of Chinese drawings is owing not to the particular nature of the colouring substances employed, but merely to their being mixed with glue or size instead of gum-water, as is the common practice in Europe. With regard to the preparation, two things must be observed: firstly, that the beauty depends, in a very great measure, upon the fineness of the particles of the colouring substance—a Chinese painter employs a man for three or four days to grind a small quantity of vermilion in a porcelain mortar, and it is from this that they derive their fine reds; secondly, it must be taken into consideration that most mineral colours are prepared with acids, alkalies, or other salts, and that a small superabundance of those saline substances generally remains with them, which sooner or later produces considerable alteration in their brilliancy, and often entirely changes their colour. In order to obviate this inconvenience, the paint after having been ligivated must be repeatedly washed in distilled or very clean water. To effect this properly, put half an ounce of the paint in a half-pint glass phial, and fill it nearly to the top with water, shake it well and let it stand awhile, so that the coloured powder may settle at the bottom; then pour off the water by inclining the phial gently, so as not to disturb the sediment; fill it again, and so on for five or six times, after which the colour being gently dried must be re-ground, when it is fit for use. The glue or size to be mixed with the paints is extracted from parchment in the following manner:—Take about four ounces of clean parchment, cut it into shreds, and put it to soak in a quart of clean water for about twelve hours—then boil the whole on a gentle fire, and carefully skim off the scum that rises to the top. The vessel must remain always uncovered, and the liquor must be stirred occasionally. After boiling about an hour, take off the pot from the fire, and strain the liquor while hot through a coarse sieve. The liquor must be again put over the fire in a clean pot and gently boiled until half evaporated; the remainder is then spread very thinly upon panes of glass, which being kept in a warm place for a day or two, the size will dry and become very hard. When it is required for use, put a small quantity of it into a cupfull of lukewarm water, and dip the hair pencil in it. The properties of this glue, which render it much superior to gum-water, are the following:—It does not deaden, nor otherwise alter the colours with which it is mixed; it does not crack like gum; and it becomes so soon hard as not only to defend the colours from being affected by smoke and other vapours, but even to allow of the surface of the drawing being cleaned by means of a wet sponge.

TO SEPARATE THE METALLIC PORTION FROM EITHER GOLD OR SILVER LACE.—Immerse the lace for a short time in nitric acid.

FISH OIL PAINTS.—*Prep.* dissolve white vitrol and litharge, of each 14lbs. in vinegar 32 galls.; add whale, seal, or cod oil, one ton; and boil to dryness, continually stirring during the ebullition. The next day decant the clear portion, add boiled linseed oil, 12 galls.; oil of turpentine, 3 galls., and mix well together. The sediment left is well agitated with half its quantity of lime-water, used for some inferior paints, under the name of "Prepared Residue Oil." This oil is used for various common purposes as a substitute for linseed oil, of which the following paints are examples:—1. (*green*)—*a.* Lime-water, 6 galls.; whiting and road-dust, of each 1 cwt.; blue-black, 30lbs.; yellow ochre, 28lbs.; wet blue (previously ground in prepared residue oil), 20lbs.; grind well together. For use, thin with equal parts of prepared residue oil and linseed oil. Pale.—*b.* Yellow ochre and wet blue, of each 1 cwt.; road dust, 1½ cwt.; blue black, 10lbs.; lime-water, 6 galls.; prepared fish oil, 4 galls.; prepared residue and linseed oil, of each, 7½ galls. Bright green.—2. (*Lead colour*)—Whiting, 1 cwt.; blue-black, 7lbs.; white-lead (ground in oil), 28lbs.; road-dust, 56lbs.; lime water, 5 galls.; prepared residue oil, 2½ galls.—3. (*Reddish-brown*)—lime-water, 8 galls.; Spanish-brown, 1 cwt.; road-dust, 2 cwt.; prepared fish, prepared residue, and linseed oils, of each, 4 galls.—4. (*Yellow*)—substitute yellow ochre for Spanish-brown in the last receipt.—5. (*Black*)—substitute lamp or blue-black for Spanish-brown in No. 3.—6. (*Stone-colour*)—lime-water, 4 galls.; whiting, 1 cwt.; white-lead, (ground in oil), 28lbs.; road-dust, 56lbs.; prepared fish, linseed and prepared residue oils, of each, 3 galls.—7. (*Chocolate*)—Nos. 3 and 5 mixed together so as to form a chocolate colour.—*Remarks.*—All the above paints require a little "driers." They are well fitted by their cheapness, hardness, and durability, for common out-door work.—*Cooley's Encyclopædia of Practical Receipts.*

TO PRODUCE NIELLO-METALLIC ORNAMENTS.—[*German method.*]—Cover the object to be ornamented with an etching ground, similar to that employed by copper-plate engravers; draw the ornament with a needle, and etch it by means of a corrosive acid: then carefully remove the etching ground with the proper dissolving fluids (such as oil of turpentine, æther, &c.); and afterwards wash the object quite clean and set for a moment with a weak acid. Place it now in a galvano-plastic apparatus and leave it until it becomes galvano-plastically covered, that is, all the etched lines filled up. When all the lines and cavities are completely filled up in this way and the deposit in them is equally high as, or yet higher than, the plain surface, the object must be taken out of the galvano-plastic apparatus, and the metallic layer, which has been raised by the operation, ground or planed off until brought to the same level with the metal of the object, leaving the etched lines, or cavities, full. Of course the metal of the object to be ornamented and the metallic deposit must be different. The effect produced is extremely pretty, and the means cheap and simple.

The Chronotypist.

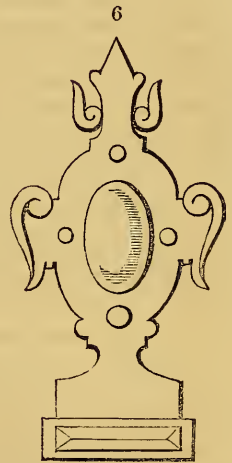
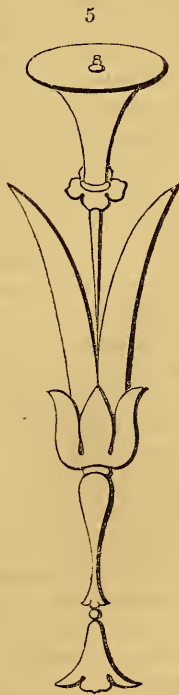
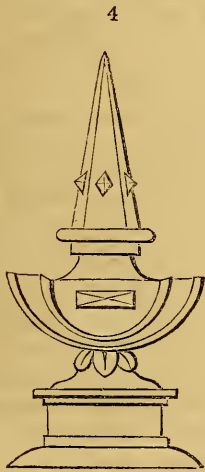
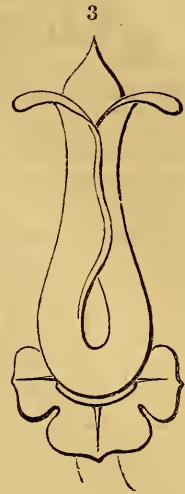
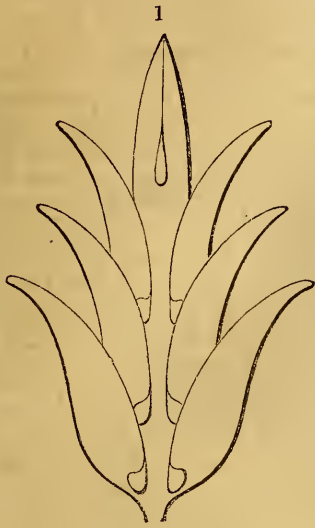
MR. BAIN, the celebrated electro-telegraphist, who has just returned from America, has addressed a letter to a contemporary stating that Mr. Bakewell's "copying telegraph," [see *Chronotypist*, page 8 *ante*] is not of that gentleman's invention. "The 'Copying Telegraph,' says Mr. Bain, was invented by me in 1842, and patented in England in the year following. Patents were also obtained for the invention in Scotland, France, and Belgium. The English patent is now the property of the Electric Telegraph Company, who purchased it from me. The foreign patents are still in my own hands. The specification of my English patent is deposited at the Inrolment Office, in Chancery-lane, where it is accessible to all inquirers. The 'Copying Telegraph' is capable of transmitting the *fac-simile* of any communication in writing or printing, or of any other figure, including a profile of the 'human face divine,' so that the physiognomy of a runaway could be sent to all the outposts of the kingdom in two or three minutes. This telegraph has not yet been put in practice, from the circumstance of its requiring greater accuracy in the machinery, and more perfect insulation of the wire, than has yet been attainable for great distances; but these difficulties are not insurmountable, and daily progress is making towards the necessary perfection in this department of the yet infant science of electric communication."—The following is a practical corroboration of the axiom which declares that "Knowledge is Power."—In the course of the pacification conference of Sir Harry Smith with the Kaffirs at King William's Town, a voltaic battery was fired on the opposite slope about a quarter of a mile distant. Here the waggon had been placed at 300 yards' distance from the battery, communicating in the usual manner by means of wires. The object of his Excellency was to convey to the Kaffir mind an idea of sudden and irresistible power. Accordingly, on a given signal from him—the waving of a small flag—the discharge instantly took place. The explosion shattered the carriage of the waggon,—canting up the body of the vehicle, so that it remained fixed by one end on the ground, at an angle of 45 degrees. The action was so sudden as scarcely to afford time to his Excellency to direct the attention of the Kaffirs to the experiment—but in those who were looking towards the spot and saw the power exercised on a distant object, the surprise manifested was amusing. "There," exclaimed his Excellency, "is a lesson to you not to meddle with waggons;—as you now see the power I possess, should you do so, to punish you."—The Paris Society for the encouragement of arts and manufactures have offered a prize of 1,500 francs for the discovery and practical working of new quarries of lithographic stone in France.—The *Port Philip Herald* gives the following scale of wages now obtainable in New South Wales:—"Mechanics—watchmakers, £2 10s. per week; beam-men,

£2 10s.; carpenters and joiners, 6s. and 7s. per day; bricklayers, 7s. and 8s.; stone-masons, 7s. and 8s.; stonecutters, 7s. and 8s.; plasterers, 6s. and 7s.; bricklayers' labourers, 5s.; blacksmiths, 7s. and 8s.; painters and glaziers, 6s. and 7s.; cabinet-makers, 6s. and 7s.; sawyers, £2 2s. per week. The prices of provisions are very low, most articles of food being, in fact, "dirt cheap."—Baron Von Ruthven is said to have invented a compressed air locomotive, which will be entirely free from all drawbacks.—The aspect of the timber trade this year is very discouraging.—It may be convenient to some of our readers, says the *Athenaeum*, to be informed that a portion of the rooms commonly shown to the public in Windsor Castle are for the present closed, in consequence of the works there going on. The remainder are open to visitors as usual.—A committee of *litterateurs* has just been formed at Paris for the purpose of pointing out such works on the subject of Fine Art as are deserving of ministerial encouragement.—Westminster is at length about to be cleared of its "rookery," in order to form a new street, to be called Victoria-street, extending from the Broad Sanctuary to Vauxhall-Bridge-road.—A small railway carriage, says the *Stafford Mercury*, worked by hand, capable of carrying a dozen persons, has been brought for use on the Lincoln and Nottingham line.—In a lecture at the Manchester Mechanics' Institute, Mr. F. Warren said: "The first cotton cloth was made in Derby in 1773 by Messrs. Meed and Strutt, and it was then prohibited by law from being sold in the market."—The *Hants Telegraph* states that the cost of the new steam basin at Portsmouth was £242,000—the basin only!—The day after to-morrow [we publish on Wednesday] is that appointed for the distribution of the prizes of the Irish National Art Union.—According to the *Suffolk Chronicle*, a two-storied brick house, at Ipswich, has been moved, entire and uninjured, a distance of 70 feet. The building was moved by mechanical means, along greased timber at the rate of about a foot in five minutes.

TO POLISH VARNISH.—Take two ounces of tripoli powdered, put into an earthen pot or basin with water to cover it; then take a piece of fine flannel, folded four times, lay it over a piece of cork, and after wetting it with the tripoli and water, proceed to polish your varnish. You will know when the process is done by wiping a part of the work with a sponge, and observe whether there is a fair even gloss, then take a bit of mutton suet and fine flour and clean off the work.

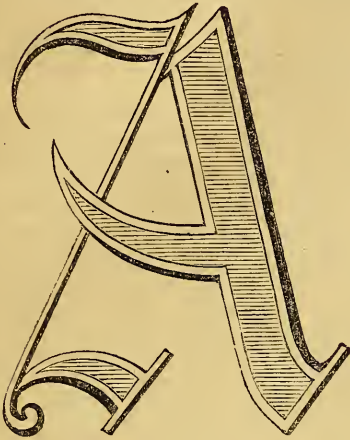
WATER GILDING UPON SILVER.—Take copper flakes on which pour strong vinegar; add alum and salt in equal quantities; set them on a fire, and when the vinegar is boiled to one-fourth part of its original quantity, throw into it the metal you intend to gild and it will assume a copper colour; continue boiling it, and it will change to a fine gold colour.

SCRAPS.—No. I.



FIGS. 2, 4, 6, PINNACLES (ELIZABETHAN STYLE). FIGS. 1, 3, 5, 7, 8, STARTING-POINTS (GRECIAN.)
No. 60.—Vol. III. 13d.

Appreciation in Art.



APPRECIATION

is generally the result of matured judgment, and is always the basis upon which opinion—whatever may be its tendency—is formed. This being the case, our appreciation of a work of art, or of any other object, assumes an important character, it being neither more nor less than a verdict delivered by a jury composed of taste, sympathy, and reason—three intellectual elements invariably brought into action by ordinary operations of the mind. But besides these mere attributes, of which every one is in some degree possessed, we require some artificial assistance to make them work in unison, and to preserve one element from preponderating over another, and this assistance can only be obtained by education, study, and experience—respectively the chart, compass, and rudder of our efforts; thus, education exposes to us the beaten tract, study informs us in what direction it leads, while experience enables us to steer our way safely through those narrow straits and dangerous breakers by which the Temple of Art is surrounded.

Of course, in the above recapitulation, we have avoided mentioning prejudice, as although, let whatever will be said to the contrary, it forms an unavoidable component of opinion, it is not usually looked upon as such.

Nevertheless, so important an agent should not be wholly passed over unnoticed. However much enthusiasm may warm into rapture at the idea of fair and impartial judgment, it must be obvious to every one who has had experience of mankind, that strict impartiality is a moral impossibility, that our very nature operates against it, and that the person who could resist such influence acting directly upon his most susceptible feelings must be something more than a *DIAGENES*, in fact—

A thing of clay—yet so imbued
With adamant power,
As to resist when Nature wooed,
And fight her from his tower!

But, to our thinking, partiality bears two distinct characters—one description being produced by over sympathy, and the other by a politic desire to misjudge. With regard to the first, we are all well aware that the *prestige* of a great name, unison of subject, or method of execution, with our own individual ideas of beauty, and various other concurring causes, all tend to render us partial in our judgment, while, with regard to the second, it would be unnecessary to explain further than by stating that disinterestedness is in these days so rare a commodity, that one must think and ponder well on the character of a man ere he receives his opinion with confidence on matters relating to art.

The Duty on Bricks.

UNJUST and oppressive taxes, by a strange anomaly, are generally those that survive the longest. Looking back over a long course of years, it is truly astounding to call to mind the manner in which our home trade has suffered and our immense natural resources been wasted by the restrictive policy of the government. And it has not been manufacturers only that have suffered, but also the labourer, the man of genius, and thousands of others, upon whose labours a clog is placed by the enormous duties levied upon certain articles produced in this country. Let us take bricks as an example of this. Towards the latter end of the last century, when warfare was abroad in Europe and on the American continent, a tax of two shillings and sixpence per thousand was levied upon these articles as a tem-

porary measure intended to relieve the exigencies of the State, but like the income tax and several others which we could easily adduce, mere promises were soon forgotten, and besides extending the tax to a permanent one, Government thought fit to increase it gradually in amount, until, at the present time, we suffer under a burthen as cruel as it is impolitic—a duty of five shillings and tenpence per thousand! Truly there is much for us to lament in this, operating, as it obviously does, most disastrously against our best interests, and but too often inducing the poor man, who has succeeded in saving sufficient money to build a house in his own country, to forego his intention and emigrate to some other clime where he can mould his own bricks in safety, secure from the lynx eye of the exciseman. Besides, this tax operates in another manner against the very spirit of the age in which we live, preventing us, as it does, from casting those materials of which we form our houses, into any shape we think proper, and compelling us still to adhere to the tasteless oblong bricks of our ancestors, or, as a remedy, to have recourse to stone, an article which but very few can find the means to purchase.

Surely such a state of things as this should not be allowed to continue, and the best exertions of our reformers should, most decidedly, be immediately directed towards the alleviation of the sufferings of their prototypes—the bricks.

LONDON STONE.—A correspondent of the *Athenaeum* has directed attention to a long forgotten memento of "old London:" on the bank of the Thames, he remarks, near Staines, at the very extremity of the County of Middlesex, close to Shire ditch, which divides that county from Bucks, stands "London Stone"—marking the western boundary of the city of London on the River Thames. The stone itself is very small, and appears to have been placed on the pedestal where it now stands in 1781, by Sir Watkin Lewis, Knight, Lord Mayor. On the north side of the pedestal is this inscription—

THE ANCIENT STONE ABOVE
THIS INSCRIPTION IS RAISED
UPON THIS PEDESTAL EXACTLY
OVER THE SPOT WHERE IT
FORMERLY STOOD, INSCRIBED—
"GOD PRESERVE YE CITEY OF LONDON.
A.D. 1285."

To Correspondents, &c.

No. 1 of the Decorator's Assistant is Re-Issued this Week.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

"John Leech."—Mr. Couch's process for preparing the "Stone Embalming Liquid" is, we believe, a secret known only to himself; therefore, we cannot supply you with the desired information. All the numbers of the DECORATOR'S ASSISTANT are not in print, but will be re-issued weekly, commencing with this week. Your friends by ordering the numbers of their bookseller can now have them regularly supplied. Cases for binding Vols. I. and II. may be had in the same manner, price 1s. 3d. each. The coloured designs will be continued at intervals, but there is so much difficulty attending their production, that we cannot, after trial, fulfil our promise of bringing them out monthly, for which we must throw ourselves upon the kind indulgence of our readers. We are extremely obliged to you for your friendly exertions on our behalf.

"Mennon."—We cannot say exactly, but we think about five shillings—at any rate, it cannot be much more.

"J. M."—Partington's.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

TO COLOUR PAPER-HANGINGS BY MEANS OF NITRATE OF SILVER.—M. Lerocque proposes to produce coloured designs upon paper by the following process:—Take of pure nitric acid (sp. gr. 1.50), 2 parts, and of distilled water, 1 part. Place the mixture in a porcelain capsule, and heat it; throw in from 50 to 60 grains of silver, and continue to apply heat until the action of the acid on the metal has ceased. By exposure to the vapour of this mixture 700 or 800 sheets of paper may be coloured by the above quantity. In this operation but a very small loss of silver will be found, for the residue can be formed into nitrate of silver and sold; or, if calcined at a red heat in a crucible, with carbonate of soda, the metallic silver may be obtained and employed for a new operation. In order to obtain good designs it is necessary to operate in a place well lighted and out of currents of air.

Ancient Roman Art.

ROME acquired her art through conquest; she imitated the buildings of countries subjected by her arms, and transported statues, pictures, and works of gold and silver, to adorn her capital. The produce of Athens, Delphi, and Elis, filled Rome with the rarest productions of the fine arts. The increasing power, when Julius Cæsar and Augustus held supreme sway, was auspicious to the general interests of Fine Art; the emperors made great efforts to increase the splendour and magnificence of Rome, and their policy extended a similar course throughout the empire, considering that it tended to fix authority, give general security, and contribute to the happiness of the people. This example was universally followed by their subjects, who had spirit to conceive and wealth to accomplish the noblest undertakings. The opulent senators of Rome and the provinces esteemed it an honour, and almost an obligation, to adorn the splendour of their age and country; the influence of fashion very frequently supplying the want of taste or generosity. It was within a period of 300 years that the luxurious adornment of Rome took place. The sculptors were universally Greeks, and though wealth and honour drew men of talent to Rome, and somewhat revived Grecian excellence, the creative spirit, the spark of vitality, infusing life and soul, originality and thought into their productions, could not be recalled. In the best age of Roman art the demand was chiefly for statues of personal representation, in which a vitiated taste often required the embellishment of colour, by the admixture of coloured marbles or bronze. The same departure from simplicity pervaded their architecture. The most extensive and magnificent structures were erected, but in heavier proportions than the elegant Greek. Every member in the cornice of temple or public edifice became encumbered with a profusion of ornament, and an imposing heaviness of enrichment was the result. The interior of their buildings was decorated by sculpture and painting, and manufacturing design entered freely into their general domestic service.

The splendid and colossal edifices which adorned their cities, temples, palaces, and baths, were crowded with works of art. Trajan's Basilica was most magnificent: its forum, temple, and approaches, crowded 12 acres; the hall, 540 by 168 feet, would have contained our St. Paul's; and its column was enriched by sculpture descriptive of the Roman victories over the Dacians. The Theatre of Marcellus was arranged in three tiers of columns, the lower of marble, the next of vitrified glass and the upper of gilded wood: it contained 3,000 statues in bronze. The palace of Diocletian at Spatro was very celebrated; his baths accommodated 18,000 persons at one time. Those of Caracalla covered thirteen acres. These baths were a sort of vast club, in which every exercise of body or mind might be taken, every delight of the senses indulged,

and the whole people met there. Gardens were raised about 30 feet above the general level, adorned with pavilions, and a great central building having an immense hall obelisks and fountains, fragrant shrubs, flowers, and the finest statues. During the first 300 years of the Christian æra seven of these baths were erected, well calculated to indulge that love of luxury which rapidly corrupted the Roman manners under the emperors, gratifying the constant love of excitement in novelty and splendour, which then gave popularity to the government. The number and beauty of their villas were amazing; built on the model of the Persian palaces, their interior decorations were full of choice designs, chiefly executed in fresco, and by artists of eminence. The luxurious description given of the furnishing of these villas, their richly wrought plate, &c., convey certain intimation of the encouragement given to manufacturing design. Hadrian's villa, at Tivoli, enclosed by a wall ten miles in circuit, contained the most magnificent embellishments. Pliny's villa and that of Lucullus were very celebrated; each had a garden of great splendour.

We must not overlook Palmyra, built by Dionysius, whose magnificent ruins, replete with elegant design, attracted the traveller's attention. Balbec, not less celebrated, boasts of the well-known Temple of the Sun—

"Whose lonely columns stand sublime,
Flinging their shadows from on high,—
Like dials which the wizard Time
Had raised to count his ages by."

Everything appertaining to this enterprising nation of conquerors was upon a mighty scale. They lived constantly in public, assuming an excess of vast magnificence in their habits, public exhibitions, and triumphal processions; and I may also add, in their arts and manufactures. They held tribute all the civilised world, and have left monuments of their greatness at the utmost confines of their empire.—Crabb.

WEIGHT OF A SUPERFICIAL FOOT OF CAST IRON FROM $\frac{1}{4}$ TO $2\frac{1}{2}$ INCHES IN THICKNESS.—
 $\frac{1}{4}$ in., 9lb. 6oz.; $\frac{3}{8}$ in., 14lb. 1oz.; $\frac{1}{2}$ in., 18lb. 12oz.; $\frac{5}{8}$ in., 23lb. 7oz.; $\frac{3}{4}$ in., 28lb. 2oz.; $\frac{7}{8}$ in., 32lb. 13oz.; 1in., 37lb. 8oz.; $1\frac{1}{8}$ in., 42lb. 3oz.; $1\frac{1}{4}$ in., 46lb. 14oz.; $1\frac{3}{8}$ in., 51lb. 9oz.; $1\frac{1}{2}$ in., 56lb. 4oz.; $1\frac{5}{8}$ in., 60lb. 15oz.; $1\frac{3}{4}$ in., 65lb. 10oz.; $1\frac{7}{8}$ in., 70lb. 5oz.; 2in., 75lb.; $2\frac{1}{8}$ in., 79lb. 11oz.; $2\frac{1}{4}$ in., 84lb. 6oz.; $2\frac{3}{8}$ in., 89lb. 1oz.; $2\frac{1}{2}$ in., 93lb. 12oz.

WEIGHT OF A SUPERFICIAL FOOT OF LEAD FROM 1-16TH OF AN INCH TO ONE INCH IN THICKNESS.—1-16in., 3 $\frac{1}{2}$ lb.; 1-12in., 5lb.; 1-10in., 6lb.; 1-8in., 7 $\frac{1}{2}$ lb.; 1-6in., 10lb.; 1-5in., 12lb.; 1-4in., 14 $\frac{1}{2}$ lb.; 1-3in., 19 $\frac{1}{2}$ lb.; $\frac{1}{2}$ in., 29 $\frac{1}{2}$ lb.; $\frac{3}{4}$ in., 44 $\frac{1}{2}$ lb.; 1in., 57lb.

To SOFTEN IVORY.—Slice half a pound of mandrake and put it into a quart of the best vinegar, into which immerse your ivory; let it stand in a warm place for 48 hours, and you will then be enabled to bend the ivory into any required form.

Gothic Tracery.

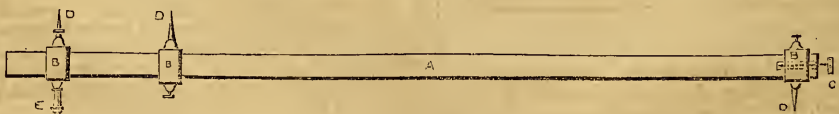


THE above engraving shows the method of striking the tracery given in No. 59. To represent the form of the window it is first necessary to ascertain the breadth required; the engraving is drawn to the breadth of four feet, which having marked, draw a horizontal line and lay off 20ft. 6in. inclusive. From the extreme point on either side place the leg of the compass and strike the external line of the window; then divide the extreme width into 10 equal parts, one of which will give the centre of the principal ogee moulding as dotted (marked 4). Divide the space from 4 to the centre line into two equal parts (marked 1 and 3) then from the point 1 at A strike the dotted line at B (it is necessary that the dotted line should be first struck, as it gives a facility for measuring the mouldings on each side and produces a greater accuracy than could be otherwise obtained); then place the leg of the compass at the top point A, strike the reverse curve B, terminating it at the centre line, the shape of the ogee will then be obtained; then take a third on the base between the parts marked 2 and 4, from the point, as at E, strike

the dotted line E, from the point C, strike the dotted line D to meet the lower arc.

A lengthened description of the other portions is unnecessary, as the diagrams of the various portions show; after determining the width of the moulding of the top window at A, form the dotted triangular lines; for the inner shape of window take half of each on the dotted line, and strike the semicircles or arcs required.

The length of radius necessary to produce the exterior line of window prevents the use of the compass, but to enable it to be struck with precision we here give an illustration of an improved trammel, the sketch having been forwarded by a correspondent under the signature "C. B. W." The description for making and using it is as follows:—A the beam or shaft made of mahogany or other suitable wood to any length. B B B three metal slides with screw on the top of each to fix it when placed in the required position. C an adjusting screw, working through the slide. D D D three steel points, the point at the screw end acting as a centre. E a pencil or pen as required.



An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

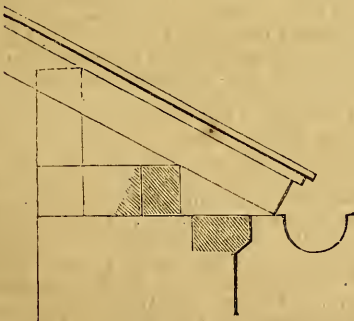
[Continued from page 84.]

EAR (in painting, drawing, and sculpture), that part of the organ of hearing which stands prominent. The human ear is perhaps the most difficult part of the whole figure to draw well, and to affix in its proper situation. Much of the character and expression of the head depends upon it, particularly as concerns beauty or deformity. *Ælian*, in depicting the beauty of *Aspasia*, describes her ears as small and well-shaped; and *Martial* places large ears



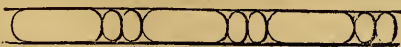
among marks of deformity. *Agostino Caracci* considers the ear as the most difficult to represent of the whole human form. He therefore modelled one in relief much larger than nature as a study, which he drew from in every position. It was from this model that were made those casts well known in the continental academies as the *Orecchione d' Agostino*.

EAVES (in architecture), the edges of the



roof which overhang the house.

EGG AND REEL, an ornament used in archi-



ture.

ECHINUS (in architecture), a moulding or ornament in the shape of a chesnut, used in the ancient Doric entablature and capital. Its

form is eminently beautiful, and of infinite superiority to the ovolo or quarter round of the



Roman Doric. The above engravings represent the ovolo and quarter round enriched with the egg and tongue ornament.

ENCAUSTIC PAINTING.—Painting in encaustic is executed with the operation of fire. Ancient authors often mention this species of painting, which, if it had been described simply by the word *encaustic*, which signifies *executed by fire*, might be supposed to have been a species of enamel painting, but the expressions *encausto pingere*, *pictura encaustica*, *ceris pingere*, *picturam inurere*, by *Pliny* and other ancient writers, show that another species of painting is meant. We have but few ancient pictures of this description, and, therefore, the precise manner adopted by the ancients is not completely developed, though many moderns have closely investigated the subject, and described their processes. This species of painting appears to have been practised in the 4th and 5th centuries. *Count Caylus*, and *M. Bachelier*, a painter, were the first of modern times who made experiments in this branch of art, about the year 1749. *Pliny*, in a passage relating to encaustic painting, distinguishes three species; 1. that in which the artists used a style, and painted on ivory or polished wood (*cestro in ebore*), for which purpose they drew the outlines on a piece of the aforesaid wood or ivory, previously imbued with some colour; the point of the style or stigma served for this operation, and the broad end to scrape off the small filaments that arose from the outlines: and they continued forming outlines with the point till they were finished. 2. The next manner appears to have been one in which the wax, previously impregnated with colour, was spread over the surface of the picture with the style, and the colours thus prepared were formed into small cylinders for use. By the side of the painter was a brasier for keeping the styles continually hot, with the points of which they laid on the colours when the outlines were finished, and spread them smooth with the broad end; and thus they proceeded till the picture was finished. 3. The third manner of painting was with a pencil, in wax liquefied by fire. By this method the colours acquired a considerable hardness, and could not be damaged, either by the heat of the sun or the effects of sea water. In this manner ships were painted, with emblems and other pictures, and therefore obtained the name of *ship painting*. Few, of late years, have made more experiments in this mode of painting

than an English lady, Mrs. Hooker, who, for her very successful exertions in this branch of the polite arts, was presented with a gold palette by the Society for the Encouragement of Arts, &c. Her account is printed in the 10th volume of the Society's Transactions, for 1792, when she was Miss Emma Jane Greenland. This subject has also been deeply investigated by the Chevalier Lorgna, in a small but valuable tract, called *Un Discorso sulla Cera Punica*. As the thing chiefly regarded in encaustic painting was the securing of permanence and durability, by the application of fire, the word *encaustic* has been applied, in a very general sense, to other processes, in which both the material and the mode of applying the heat are entirely different from the ancient materials and modes. The word has been used, not only of wax-painting on wood, stone, and ivory, but also for painting on earthen vessels, of works in metal, where gold and silver were inlaid, melted, or laid on, and of everything which was gilt or silvered by fire; which was called *gold* or *silver encaustic*. The moderns have also used the term for painting on porcelain, and work in enamel; and in the same way it was given to the painting on glass of the middle ages, such as is now seen in the windows of some Gothic churches. It is evident, that all these have nothing to do with the wax-painting of the ancients. Professor Reinagle has a painting of Cleopatra executed in encaustic, which is valued at two thousand pounds.—*Partington's Cyclo.*

[To be continued.]

TO STAIN MUSICAL INSTRUMENTS FORMED OF WOOD.—1. *A fine crimson stain:* Take 1lb. of ground Brazil wood and boil in three quarts of water for one hour; strain, and add ½oz. of cochineal, boil it again gently for half an hour and it will be fit for use. [Should more of the scarlet tint be required, boil ½oz. of saffron in one quart of water, and brush it over the work previously to applying the red stain. Observe, the work must be very clean, and of air-wood or good sycamore without blemish. When varnished it will bear a very rich appearance.]—2. *A purple stain:* Take 1lb. of chip logwood, soak in 3 quarts of water, boil well for an hour, and then add 4oz. of pearlsh and 2oz. of indigo powdered.—3. *A fine black:* In general, when black is required for musical instruments, it is produced by jappanning—the work being well prepared by size and lamp-black; take some black japan and lay on two coats, after which varnish and polish.—4. *A fine blue:* Take 1lb. of oil of vitriol in a clean glass bottle, into which put 4oz. of indigo, and proceed as directed for No. 3.—5. *A fine green:* Take 3 pints of the strongest vinegar, to which put 4oz. of the best verdigris powdered, ½oz. of sap-green, and ½oz. of indigo.—6. *A bright yellow:* There is no occasion whatever to stain the wood, as a very small bit of aloes put into the varnish will make it of a good colour, and produces the desired effect.

Correspondence.

SIR.—I forward you an algebraical solution to the question asked by Mr. J. Whitaker, in Vol. II., page 200, which may be of service to some of your readers, if you think proper to insert it in your valuable publication.

I am your obedient servant,

ROBERT HATCH.

Stockport, June 18th, 1848.

The given line to be divided is 10.

Let x = the side of the

[greater square,

and $10-x$ = the side of the

[lesser square,

∴ per question $2(10-x)^2 = x^2$ or by squar-

$2x^2 - 40x + 200 = x^2$ [ing,

Transposing $x^2 - 40x = -200$

Squaring $(20)^2 = 400$

Adding $(x - 20)^2 = +200$

Extracting $x - 20 = \pm 14 \cdot 1421356$

Transposing $x = 5 \cdot 8578644 =$

[the side of the

[greater square.

∴ $10 - x = 4 \cdot 1421356$ the

[side of the les-

[ser square.

MINERAL WEALTH OF SOUTH AUSTRALIA.—The whole colony is a mass of mineral wealth—copper, lead, zinc, and, silver are known, and there is little doubt that quicksilver, gold, and precious stones abound. Quicksilver has been found in small quantities, the opal and garnet are found, and there is every reason to infer the presence of gold. Copper and lead are the only mines worked at present. The Burra Burra mine is the wonder of the world; it exceeds the celebrated Pargo mines in the ratio of a million to one. The ore is seventy-five per cent. of metal, a pure oxide, requiring no flux to smelt it; a common blacksmith's forge producing sufficient heat to run the metal. The lode is seventeen feet wide, of vast extent, and is quarried out like stone, in immense masses. Ten weeks working have sufficed to produce £1,700 value of ore. It is impossible to exaggerate when speaking of the minerals of this country. Iron is quite as plentiful as copper. In one district it is collected on the surface, and so pure, that the fracture of the ore resembles that of cast-iron. Copper is likewise frequently found cropping out of the ground in large rock-like masses; silver is obtained in considerable quantities; and the existence of tin is something more than suspected.

TO MAKE A CEMENT OF A MAHOGANY COLOUR.—Take 2oz. of bees' wax, and ½oz. of resin, melt them together, then add ½oz. of Indian red and a small quantity of yellow ochre to bring the whole to the desired colour. Preserve in a pipkin for use.

Royal Institution.

MAY 26.—The Duke of Northumberland, President, in the chair.—Mr. Faraday read a paper "On two recent Inventions of Artificial Stone," in which he explained the process adopted and the object aimed at, first in Mr. Ransome's and afterwards in Mr. Buckwell's invention. Mr. Ransome's manufacture having been already noticed in this journal, vol. ii., p. 116, needs to be but briefly adverted to now. Broken flints are dissolved in a solution of caustic alkali at a temperature of 300 degrees Fahr. When this solution is sufficiently evaporated, siliceous sand, or the flint grit of roads, and a little clay are worked with it, till the whole is of the consistence of putty. It is finally pressed in moulds, dried, fired for 48 hours, and then slowly cooled. The impression produced is very sharp; the stone resembles white sandstone, and is said to resist all atmospheric changes, and even acids. Philosophically considered, this artificial stone is a mass of sand cemented together by glass. The glass, at first containing excess of alkali, is diffused in a fluid state throughout the particles of flint and alumina. These particles absorb the superabundant alkali when the stone is fired, and the resulting vitreous cement resembles, in hardness and resisting power, the portion of glass which, in the common manufacture of the hardest kinds of that substance, is found in immediate contact with the sides of the pots. To show the unstable nature of ordinary glass, Mr. Faraday exhibited green bottles in which diluted sulphuric acid had been kept. In the glass of these bottles the lime had been separated from the silica by the sulphuric acid, and the insides were in consequence studded with multitudes of regular-formed cones of sulphate of lime. Mr. Faraday then entered on Mr. Buckwell's manufacture. As the artificial stone invented by Mr. Ransome is chiefly applicable for ornamental purposes, so Mr. Buckwell's invention, termed by him *artificial granite*, appears exclusively designed to supply the place of blocks brought from the quarry for large works, whether walls of houses or of aqueducts, sewers, &c. Mr. Buckwell uses the following simple process:—Fragments of a suitable stone (Portland stone for example) are gauged and sorted into sizes. These are cleaned and carefully mixed on a board with cement in the proportion of 5 parts of large fragments, 2 of smaller ones, 1 of cement, and a portion of water,—but the water is in *no greater quantity* than will bring it to the dampness of fresh deal saw-dust. This being done, the materials are put into a strong mould to the depth of about 1½ inch at a time; they are then *driven together by percussion*, more materials are now put in, these in turn hammered together till the water has escaped by holes pierced for that purpose in the moulds,—and this process is continued till the block or pipe has attained the required magnitude. It is then taken out of the mould, and now found to be so hard as to ring when struck, and in

ten days is fit for service. It is affirmed to harden under the influence of moisture, to bear, when moulded in the form of girders, a greater transverse pressure than any rock except slate, and to be only one-sixth of the cost of brick-work. It will be noticed that this process is characterized by the use of fragments, by the small quantity of cement employed (not one-fourth of the proportion used in common *grouting*), and by water, instead of fire, being made the means of bringing the fragments into close union. Mr. Faraday then noticed two scientific principles on which the success of Mr. Buckwell's process greatly depends:—1. *The use of water in effecting the approximation of the particles and the exclusion of air.* It had been ascertained by Dr. Wollaston (Bakerian Lecture, 1828), that in order to bring the particles of platina into close contact, it was best to bring them together in water. When a freshly made road is watered to make the materials bind together, the same principle assists in the result. Having filled a measured glass with sand, Mr. Faraday showed that when the glass was first filled with water and then the sand added with agitation, it occupied less space than it did when dry.—2. *The effect of percussion in bringing particles together.* Mr. Faraday noticed, that simple pressure will not displace interstitial air or water, but that a blow will. Water contained in a small cylinder of wire-gauze was shown remaining in the open network when subjected to the pressure of a column of the same fluid, though it freely ran through the meshes when the cylinder was gently struck. On the same principle the moistened sand on the sea shore gives way and leaves a footmark under the impact of the limb which strikes it.—In conclusion Mr. Faraday noticed the remarkable fact that the sedimentary matter in sewers, &c., does not accumulate on Mr. Buckwell's artificial granite as it does in glazed pipes.

TO TAKE A PLASTER OF PARIS CAST FROM A PERSON'S FACE.—The person must lie on his back, and his hair be tied behind, then put a conical piece of paper, open at each end to allow of breathing, into each nostril. The face is to be lightly oiled over, and the plaster being properly prepared, it is to be poured over the face (taking particular care that the eyes are shut) until it is a quarter of an inch thick. In a few minutes the plaster may be removed. In this a mould is to be formed, from which a second cast is to be taken that will furnish casts exactly like the original.

THE ORGAN IN YORK MINSTER.—There are in this magnificent organ (unquestionably the largest in the world) 80 stops and 8,000 pipes. The great manual contains 4,818 pipes; the swelling organ, 1,586; the choir organ, 1,399; and the pedal organ, 200 pipes. It has eight elbows, eight couplers, eight composition pedals, and eight wind trunk valves. The compass, including the pedal organ, is seven octaves from CCCC (32 feet) to C in alt.—*Novello's "Musical Times."*

Roof-Coverings.*

TILES and slates are the materials most commonly used for covering the roofs of buildings; and they are, upon the whole, the best adapted for the purpose when economy is to be regarded, and when a sufficient pitch or slope can be obtained to render them effectual by the ordinary mode of applying them. Whether tiles or slates are the better in any case, will depend upon the quality of the article obtainable,—well-formed and well-burned tiles being preferable to soft and rough-faced, or to thin and brittle slates;—whilst in some places the one kind of material, and in some places the other will be found to be the cheaper, according to the circumstances of the locality.

Tiles for the purpose of covering roofs are made of different forms, and are susceptible thereby of different modes of arrangement in use; and slate is, in like manner, applied in more than one form and more than one manner: but when tiling and slating are spoken of without any term of qualification, plain-tiling, and slating with slates brought to the shape of a plain tile, and applied as plain tiles are applied in roof-covering, are understood.

As between these two familiar kinds of roof-covering, tiling with tiles of the best quality is preferable to slating in one particular only, and that is, that the material conducts or transmits heat less freely than slate does; and consequently, other things being the same, a plain tiled house is warmer in winter and cooler in summer than a slated house, whilst slates are obtainable of so much larger size than tiles can be conveniently made, and require thereby fewer joints in the same space to be covered; and, at the same time, so much thinner, that they allow of the lap without tilting as tiles tilt, and so lie closer, course upon course, than tiles can be made to lie; and, as a material, slate is less absorbent of water than tile material, and may therefore be laid flatter; and because of the more compact bedding of slate upon slate than tiles can be laid, slating will admit of a flatter pitch than tiling.

The principle upon which tiles and slates are laid to cover roofs is the same, however. Whether tiles or slates, they are laid side by side, but not lapping over, nor, indeed, touching one another sidewise; and so in a long straight row, to the extent of any side or face of a roof.

In the case of the lowest or eaves-course, the slates first laid, are not of the whole length of the slates employed, for a reason to be explained, though it be tolerably obvious; that is to say, the second course of slates must cover down to their lowest edge, or drip, the slates of the course first laid, to prevent the water from passing through between their sides or edges, and this process is called doubling;

but to prevent the doubling of the eaves-course from tilting up the drips of the slates of the next course above, the first slates laid should be no longer than the gauge and bond united of the work to be executed. The eaves-course being laid and doubled, the second course is laid above it, to cover and break joint with that below, and so on, course after course, to the ridge or other termination of the side or face of the roof, when the imperfect breaking off of the tiling or slating is rendered harmless by a ridge or saddle-tile or by lead laid over a ridge-roll and extending down on both sides to produce the same effect.

But the placing of slates, side by side, in courses, the course above curing the defect in the course below, by covering the open side joints which they all exhibit, requires to be regulated carefully, so that every side joint shall certainly have a slate below as well as a slate above it, and not only to the extent of the drip of the slate above, but so much further up as to provide against the effect of driving rain and snow as well as to cover and protect the pin or nail, as the case may be, by which the tile or slate is hung up or otherwise kept in its place upon the roof. Take slates, of the size known in the London market as Duchesses. These are considered to run 2 feet long each, and when they are of such length in every part, they may be laid with a $10\frac{1}{2}$ inch gauge, that is to say, $10\frac{1}{2}$ inches of every course may be left uncovered by the course next above it, by which means there would be a bonding tail of 3 inches, in about the middle of which length the nail holes ought to fall, leaving in such case, however a true bond or overlap upwards of not more than $1\frac{1}{2}$ inch. But if the length of the slates be, as it commonly is, less than 2 feet, by 1 or even 2 inches, a $10\frac{1}{2}$ inch is more than they will bear, so that the arrangement of slates ought to be always determined by the bond or overlap upwards, and not by the gauge, whilst with tiles which are of certain length, it is indifferent whether gauge or bond is specified. The doubling eaves course, that is to say, the first course laid, ought to be in length equal to the gauge and the bond, and consequently always more than half the length of a slate.

STENCILLING.—Stencilling is performed either upon papered or plastered walls in the following manner:—a sheet of thin brass or vellum is first taken and perforated with the required pattern; and in doing this it should be observed that in cutting or punching out circles, squares, &c., small bands must be left to join the various portions, otherwise, the pieces will tumble out. The sheet is then laid flat against the wall, and your colour, which must be mixed with size, being handy, it is brushed evenly over the pattern, when the colour penetrating the interstices, attaches itself to the wall. Patterns of two or more colours are produced by employing different stencil-sheets.

* From a paper read by Professor Hosking at King's College, London.

On the Materials Employed in Housepainting.

White lead, besides forming a white oil paint in itself, when diluted with oil, is employed as the basis of all paints possessing a light colour. It is simply a carbonate of lead, and is prepared in various manners; but that called the *Dutch process* is most generally adopted by the manufacturer. In this process, according to Professor Brande, lead in various forms is subjected to the action of acetic acid, which gradually corrodes the surface of the metal, upon which a crust of subacetate is successively formed and converted into carbonate. This carbonate is then collected, and being washed and ground up to a thin paste with water, is finally submitted to grinding with linseed oil—100lbs. of the carbonate, or white lead, being formed into a proper consistence with eight pounds of oil. White lead is sometimes very much adulterated, being mixed either with chalk or sulphate of baryta. When mixed with chalk, the adulteration may be detected by the comparative weight of the real and artificial material, and when the presence of barytes is suspected, the plan is generally adopted of proving the solubility of the whole mass in dilute nitric acid, when, if such be the case, the sulphate of barytes will remain undissolved. When employed as a paint, the white is reduced to a convenient consistence with linseed oil and oil of turpentine.

Litharge, or protoxide of lead, is formed by exposing the grey powder which gradually collects upon the surface of melted lead, to the further action of heat and air, until it acquires an uniform yellow colour. It is employed by painters as a "drier" for first coats and rough outside work.

Sugar of lead, or acetate of lead, is prepared by gradually sprinkling oxide of lead into strong vinegar or pyroligneous acid, contained in a copper boiler, heated and rendered negative-electric by having a large flat piece of lead soldered within it, constant stirring being employed until the acid is saturated, when the whole is allowed to settle till cold. This is also employed as a "drier."

Red lead and *orange lead*, according to Hay, are other oxides of lead produced from litharge, and are converted into paint by being mixed with linseed oil and reduced to a smooth paste by the painter.

Chrome yellow is produced by adding a filtered solution of nitrate or acetate of lead to a like solution of neutral chromate of potash and collecting the precipitate, washing it well, and drying it out of the reach of sulphuretted vapours. This substance is the beautiful pigment employed by painters. Four shades are usually met with in the shops, namely, *pale yellow*, or straw colour; *yellow*; *full yellow*; and *orange*. The former are made by adding a little alum or sulphuric acid to the solution of the chromate before mixing it with the solution of lead; the latter by the addition of a little subacetate of lead. The darker colour

appears to arise from a little dichromate being thrown down intimately mixed with the neutral chromate, and the paler shades from a *slight* excess of acid. Mr. Cooley states that in some samples of pale chrome yellow, analysed by him, he found a little alumina, and, in one instance, a little sulphate of lead.

[To be continued.]

FURNITURE WOODS OF NEW ZEALAND.—We learn from the *New Zealand Journal* that the furniture woods of New Zealand are daily becoming more widely appreciated.—Like all new articles in the market the furniture woods of New Zealand met with much opposition in their introduction into this country, and it is solely owing to the perseverance of Mr. Levein, and the countenance shown to him by the New Zealand Company, that they have become so favourably known. Now almost any price might be obtained for really fine specimens. Some two or three years ago, a specimen of *totara* and *inau* was shown by the Editor of this paper to a cabinet maker of celebrity. He was struck by the beauty of the wood, but dogmatically pronounced that it would not retain its colour. This is the general impression with regard to new woods from most countries, and it is generally true; but experience has now shown that not only do the New Zealand woods retain their colour, but that they increase in richness with age, like the finer specimens of mahogany and other woods in ordinary use. The cabinet-maker of whom we have just spoken would give a high price for the article could he now obtain it. We trust that this wide appreciation of the furniture woods of New Zealand will make the colonists alert as to a highly valuable export, and anxious to preserve what must eventually become of great importance to the colony, instead of indiscriminately destroying the magnificent forest trees which supply a material of so great value. They must resort to the same method as was practised by Mr. Levein himself when in the colony, viz., to select with great care only the most valuable specimens of wood, and to export it in the log, not in the slab. It is the latter practice, together with the want of care in the selection, which has led to disappointment in the woods which have been thus carelessly exported from the colony. Many specimens are now lying in the docks which cannot find a purchaser, and no wonder, for they are not worth half the amount of freight for bringing them from New Zealand. This alone has been a serious injury to the reputation of the woods. It does not follow that because wood comes from the colony it must be of fine quality; there is as much inferior timber there as elsewhere. We should have mentioned that Mr. Levein has opened an establishment for the sale of cabinet work from New Zealand woods, at the west-end of London, in Davies-street, Grosvenor-square, in the immediate vicinity of Mivart's Hotel.

The Chronotypist.

It is stated that the expense of the great trigonometrical survey now in progress will be rather under 10d. an acre—including the expense of engraving the maps on copper-plates on a scale of six inches to a mile.—It has been resolved at a public meeting in Birmingham to establish a model lodging-house for the poor there.—A scheme on an extensive scale for providing dwellings for the working classes of Edinburgh is in contemplation. It is said that about £20,000 will be invested in the undertaking.—A considerable number of operative masons of Glasgow have struck on their employers attempting to reduce their wages about 10 per cent.—An invention promising important results in the speedy annihilation of fires in buildings has been introduced to the parish authorities of St. Pancras, but as its use is not at present legal, measures have been adopted to obtain a revision of the act of parliament which operates against its employment. The fire annihilator, as it is called, is a small machine of about the size of a common pail, containing several iron encasements, and in the middle 7lbs. of nitre, carbon, and gypsum, in the proportions of 6, 2, and 2, and also 1 quart of water; at a touch of the finger on a small piston charged with a small quantity of chlorate of potash and sugar, the compound is in a moment converted into steam to an amount so enormous, that it equals the quantity produced by a five-horse steam-boiler, and is equivalent to a brigade fire-engine. The whole machine can be made for £1, of which the combustible spent is worth only 1s. 2d. Its mode of extinguishing a fire appears to be by the steam emitted in a dense column on the lower part of the flame, or on the ignited combustibles, cutting off instantly the supply of oxygen, and the momentary vacuum being followed by a rush of cold air. The proportion of heat is thus reduced below the flame temperature, and if the quantity of heat be not very intense, scarce a spark will escape being smothered. Experiments to the extent of the debris of several tar-barrels sprinkled with turpentine have been made with good effect—a flame thirty feet high being put out, as if by magic. A further test will soon determine its powers, for the result of which we will watch with great interest.—We learn from a New York paper that Mr. D. Isham, a machinist of Hartford, Connecticut, has invented a process by means of which a ton of iron can be converted into steel of the best quality in twenty minutes, in place of from six to ten days as formerly.—The Exhibition of Paintings at Knightsbridge was opened to the public gratuitously on Monday, the 26th ultimo, and will remain open for a month.—The Vernon Gallery, No. 50, Pall Mall, is open on Tuesdays and Thursdays, by tickets obtainable on Mondays and Wednesdays, at the National Gallery. The number of persons assembled to obtain them is usually very great, and they are all disposed of instantly on opening the door at 10 o'clock a.m.

British Institution.

THE annual exhibition of paintings by the old masters has recently been opened at the above institution. To expend criticism upon works which have been before the world for centuries would be entirely useless, so that we shall content ourselves merely with a few remarks upon the *ensemble* which the society has this year produced. In the first place we have a great deal more of variety than heretofore—diligence and taste have been alike freely expended in the task of collection and arrangement, and the result is that we have a perfect chronology of art in all its stages, from the time of Giotto down to that of the latest masters of our school. The term *perfect* must not, however, be understood as implying that the best works of each master are selected for exhibition, as such is not the case, but that the series is complete, so far as it is necessary for the purpose of comparison.

That such an exhibition as this is of the highest importance to the art student, no one can for a single moment doubt, as it places within his reach, *in his own land*, the same facilities for study for which he is often forced to seek abroad on the continent.

Among the most celebrated artists represented in the present exhibition, we may mention Giotto, John Fouquet de Tours, Giovanni da Fiesole, Fra Filippo Lippi, Francisco Ubertini, Lorenzo da Credi, Lucas Cranach, Raffaële, Michael Angelo, Hemlinck, Giovanni Bellini, Van Eyck, Vasari, Quintin Matsys, Zwoll, Piero della Francesca, Verrochio, and Dominico Campagnola.

WATCHES.—At a recent meeting of the Society of Antiquaries, Mr. Morgan, M.P. read a paper on watches. It was full of information regarding the original construction and gradual improvement in what are still called in Germany pocket-clocks. Nuremberg was, as far as can now be ascertained, the place of their invention; and several of the specimens shown by Mr. Morgan, in his own collection and in that of the Clock-makers' Company (which were all upon the table), were what are known by the name of "Nuremberg eggs." The claim of Nuremberg reaches as far back as 1479,—whereas no other part of Europe can produce any evidence earlier than 1494, when a notice of these watches occurs in a sonnet by Gaspar Visconti. The spring, as a substitute for weights, was the great improvement which led to the manufacture of pocket-clocks or watches,—and this was not employed until near the latter end of the fifteenth century. Matters afterwards remained stationary for about 150 years, when the minute-hand was introduced by Quayne; and finally Facio inserted jewels, to facilitate the action of the wheels, and about the year 1700.



ALPHABET OF THE SIXTEENTH CENTURY. (ITALIAN.)

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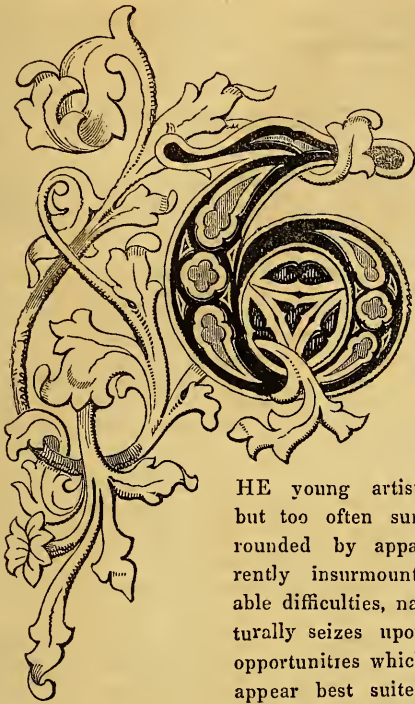
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Enthusiasm and Discretion.



HE young artist, but too often surrounded by apparently insurmountable difficulties, naturally seizes upon opportunities which appear best suited to his purpose, rather than wait until time and experience shall, in some measure, have qualified him for making a judicious selection, with regard to his present capabilities and future prospects; but this principle is erroneous, nay, injurious. Enthusiasm, though a good leader, is, at the best, but a sorry tutor, and though it may succeed in arriving at the wished-for goal, it generally carries in its track evident marks of haste, inattention, and carelessness. Art is essentially the product of deep and earnest study, and not of mere superficial observation; therefore, we can never hope to attain its highest pinnacle unless we first, by our own labours, well pave the road that is to lead to it. Like the traveller that wends his way across the Arabian Desert, the young artist is acquainted with a certain prescribed route which others have traversed before him, but, still, he has to carefully avoid, by his own prudence and forethought, the fatal blast of

those scorching winds, which otherwise, coming unawares, would utterly exterminate him. With regard to such accidental but looked-for occurrences, he must be well prepared by knowledge, perseverance, and skill; he must have learned that to bend is not necessarily to be conquered, but to be saved.

At the outset of his career, of course, he cannot be expected to entertain other than the brightest hopes as to his future success; and to a certain extent, this is commendable, but he should never allow his mind to be so far carried away by glittering prospects as to induce him to mistake the too fervent aspirations of his own brain for realities, and, fostering his error, indulge in rhapsody when practice is required. Such vagaries lead merely to instability of purpose, inaction, and ultimate disappointment; and the person who gives himself wholly up to day dreaming, like the opium eater, who at first first charmed by those delicious reveries which the pernicious drug occasions, finds after considerable time has elapsed, that he has entirely lost that natural impulse which is the real characteristic of the man of genius, and that his only resource consists in the artificial and by no means adequate assistance with which his early folly so unfortunately made him acquainted.

The poet has stated that "discretion is the better part of valour," and although this avowal was made in a satirical vein, yet the truth of the axiom may be as successfully tested in the arena of our daily existence as upon the field of battle. Discretion should ever be present in our minds and the regulator of our actions—without it we become mere creatures of impulse and fancy, in fact no better than brute animals devoid of their natural instinctive faculties. But many, too apt to entertain false views of genius, declare that to be exhibited in perfection, it should be entirely untrammelled by laborious operations of the mind. This is a mistake: true genius never yet denied itself the opportunity of profiting by experience and advice,—otherwise the world would have long since been tired of it and its productions.

Daily do we see men of consummate ability, artists whose labours, properly directed, would

probably create for them riches and fame—so bolstered up by egotistic feeling and overweening pride, that they assign to themselves a higher standing than they are entitled to take. They forget that, after all, Nature is their superior, and that what they in their paintings represent in an abortive manner—the effect of their self-sufficient course of reasoning—she represents in the eye of man in a more graceful form; and that mere conventionality of style, or, with some, downright obscurity of delineation, can never obtain for them a niche in the Temple of Fame.

Let us hope that the rising generation of Artists will lay these facts well to heart; and that, at any rate, they never will allow their enthusiasm to get the better of their judgment.

Art Expositions.

THE number of persons, happily, is daily increasing who entertain a full appreciation of the delight derivable from the fine and decorative arts. It is with much pleasure that we chronicle the increase and success of institutions for the encouragement of the ornamental arts, the cultivation, contemplation, and love of the *beautiful* in connection with our manufactures, and the moral and social improvement, refinement of taste, and mental enjoyment of the masses. The numerous provincial expositions recently closed and those still remaining open have this season been decidedly successful. In our opinion the "ornamental" may be considered as so important a feature in connection with human existence and happiness as to render these progressive attempts at its wider extension worthy the approbation and patronage of all classes of the community. The CREATOR OF ALL THINGS would not have made his own works so lovely—would not have adorned all Nature, animate and inanimate, with so much beauty had HE not intended that man should take ample draughts of pleasure from all that tends to charm his refined senses during his brief sojourn here below. On the other hand, on what is not innocent and pure HE has so laid His seal of condemnation that the distinction

between right and wrong cannot be mistaken. That man, therefore, should imitate, and, as far as he can, create beauty, is alike to be expected, approved, and fostered, for to assume a poetical metaphor—what comes by instinct comes from God.

To Correspondents, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

"J. F."—We are much obliged for the article sent, which we will carefully peruse and insert next week. We always answer the inquiries of our correspondents as soon as possible after receiving their letters. The one you refer to we first received under the signature of "J. B.," and we replied, as you will own, on reflection, very justly, that it was inadmissible to our columns—relating as it did to a medical subject. We have, however, since received the same query under the signature "A. B. C." With regard to the designs, see answer to "John Leech," last week.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

TO MAKE INVISIBLE GOLD INK.—Put as much gold in as small a quantity of nitric acid as will dissolve it, and when this is done dilute with two or three times the quantity of distilled water. Next dissolve, in a separate vessel, fine pewter in nitric acid, and when well impregnated, add an equal quantity of distilled water. Write your characters with the first solution, and let the paper written on, &c., dry in the shade. To make them appear, draw a hair pencil or sponge dipped in the same solution over the paper.

KUMPTOLITE.—The court-yard of the Admiralty, Whitehall, has been covered with a paving of Indian rubber. It is laid down in pieces about twelve inches square and one-in thickness. The quadrangle at Buckingham Palace formed by the erection of the new wing will also be covered with this material, which its projectors have named "Kumptolite." Its chief recommendation is, that it deadens all sound, rendering the passage of a vehicle or horse perfectly noiseless.—*Morning Herald.*

Jennings's Patent Joints, Water-closets, Shop-shutter Shoes and Fasteners, and Hermetic Cocks.

A FEW days since we paid a visit to the establishment of that prolific inventor, Mr. George Jennings, of No. 29, Great Charlotte-street, Blackfriars-road, in order to inspect some of those useful novelties which he, from time to time, introduces to the notice of the public, and were certainly gratified beyond measure at their ingenuity, simplicity, and adaptability to all the purposes to which they are intended to be applied. The old-fashioned method of fastening shop-shutters with iron bars has long been voted a clumsy and by no means efficient expedient, but it is now, we are happy to say, entirely superseded by the patent shutter-shoes and fasteners of Mr. Jennings. Neatness, durability, and protection are obtained in a greater degree than by any other means, while the comparative cheapness of these elegant articles must surely obtain for them, in a short space of time, almost universal patronage. The water-closets being entirely divested of all cumbersome apparatus, are most decidedly the best and most economical of any that we have heretofore seen. They are without pan or valve, and perfectly air-tight and innocuous. Of the joints we can only speak in terms of unqualified approbation. They entirely supersede the former process of plumbing, and ensure perfect security from leakage, &c. Moreover, they may at any time be removed without involving any necessity for cutting the connected piping, as the latter is merely united by means of a screw which may be either fastened or unfastened with the greatest ease. The hermetic cocks are perfect marvels of ingenuity. In external appearance they do not vary in the slightest respect from those in common use; internally, however, there is a most essential difference. Inside the external metal casing of the cock is a lining or tube of vulcanised Indian-rubber, one end of which is secured by flanges. Lying above and directly across this elastic tube, is a cylindrical V-shaped wedge of metal, prevented from turning by two projecting ribs, which slide up and down in grooves on each side of the cock. The upper part of this wedge is formed into two inclined planes or horns, on opposite sides of the cylindrical part thereof. Within a cap-piece there is a corresponding pair of inclined planes attached to and turned by the handle. When the cock is open, the projections of the upper pair of inclined planes fit into the hollows of the lower pair, but on turning the handle the upper pair are carried round, and force down the lower ones to the extent of the projections of each, which causes the wedge to press upon the elastic tube and squeeze it together, thereby effectually closing the passage through it. There are two neutral points on the summits of the upper and lower projections which are perpendicular to each other when the cock is shut, and prevent it flying open by any internal pressure; but on turning

the handle, the wedge piece is drawn up, the elastic tube restored to its cylindrical form, and a free way afforded for gas or fluids—the passage through being the full and unobstructed size of the tube. In conclusion, we intreat all our readers residing in or near the metropolis, and who feel interested in such matters as we have been at pains to describe, to pay a visit to Mr. Jennings's establishment, where they will find practical proof that we do not flatter when we designate him an exceedingly useful member of society, and one who has done much, and promises to do still more, towards obviating many difficulties and inconveniences, which, however grievous, are not deemed worth the notice of more pretentious, though decidedly not more ingenious inventors. In our eyes, an invention tending in the least degree to increase our comfort, assumes as much importance as one to increase our wealth: we may manage without the latter, but the former is indispensable.

JAPANING.—First provide yourself with a small muller and stone to grind any colour that you may require; secondly, provide yourself with white hard varnish, brown varnish, turpentine varnish, japan gold size, and spirit of turpentine, which you may keep in separate bottles until required; thirdly, provide yourself with flake white, red lead, vermilion, lake, Prussian blue, King's and patent yellow, orpiment, spruce and brown ochre, mineral green, verditer, burnt umber, and lamp-black. Observe that all woodwork must be prepared with size and some coarser material mixed with it, in order to fill up and harden the grain of the wood—such, indeed, as may best suit the colour intended to be laid on,—which must be rubbed smooth with glass-paper when dry; but in case of accident it is seldom necessary to re-size the damaged places unless they are considerable. With the foregoing colours you may match always any one in use for japaning—always observing to grind your colour smooth in spirit of turpentine, add a small quantity of turpentine and spirit varnish, and lay it carefully on with a camel-hair brush, then varnish with brown or white spirit varnish according to colour. For a *black*, mix up a little good size and lamp-black, and it will bear a good gloss without varnishing over. To imitate *black rosewood*, a black ground must be given to the wood, after which take some finely livigated red lead, mixed up as before directed, and lay on with a flat, stiff brush in imitation of the streaks in the wood; after which take a small quantity of lake, ground fine, and mix it with brown spirit varnish, carefully observing not to have more colour in it than will just tinge the varnish; but should it happen on trial to be still too red, you may easily assist it with a little umber ground very fine, with which pass over the whole of the work intended to imitate black rosewood, and it will have the desired effect. We have seen work done by a good japanner, according to the foregoing rule, which, when varnished and polished, was scarcely to be distinguished from the real wood.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 96.]

EASEL (in painting), a frame used to support a picture while it is being painted. They are of



various forms and sizes, according to the size of the picture and the habits of the painter.

EGYPTIAN ARCHITECTURE.—The characteristics or elementary principles of Egyptian architecture are walls of great thickness, roofs generally of a single block of stone, which reached from wall to wall, a multitude of columns of various forms, proportions, and ornaments; seldom with bases, and when with that addition, they are mostly simple plinths. The capitals vary considerably, as may be seen in the works of Denon, Dr. Pococke, Belzoni,



and other travellers. In some instances they are ornamented with foliage, in others they resemble a vase, and again in others a bell reversed. In Egyptian architecture there is no frieze, nor, correctly speaking, any cornice or architrave, and their substitutes may be called by either name, for something resembling them may be traced in the epistylia, or beams of stone which reach from column to column. Another characteristic of Egyptian architecture is a peculiar narrowness of intercolumniation, being often not more than three feet and a half in width. The absence of arches, which are supplied by epistylia or stone beams, or lintels, is also another and peculiar characteristic of this original and singular style. Dr. Pococke thinks that the ancient Egyptians were not ignorant of the construction of the arch, but does not give satisfactory proofs of the cause of his conviction. And the president De Goguet, in his learned dissertation on the origin of laws, arts, and sciences, assumes from their not using it that they did not understand it. The proofs which he gives of this ignorance might with as great propriety be adduced of their contempt of this mechanical means of covering apertures. The nearest approach to the principle is to be seen in the entrance of the great pyramid at Memphis; of which an engraving is given in that work. Belzoni agrees in opinion of their knowledge of the arch, and found specimens at Thebes and at Gournon, under the rocks which separate that place from the valley Babel el Malook. However conjectural the origin of the Egyptian style may be, thus far at least is certain, that it is the fountain whence all succeeding people have drawn their most copious draughts, and is deserving of minute investigation. This style bears all the marks of freshness of invention drawn from native materials and national symbols. It is in the country of its origin that those colossal wonders, those architectural monsters, the pyramids, are situate. It is needless to dwell upon a long description of these structures. They have been the theme of literati and travellers for centuries, and bear authentic testimony to the truth of history.

[To be continued.]

“THE MOTHER'S BLESSING, AND YOUNG NURSE'S CONSTANT FRIEND.”—London: F. L. Smith, 2, Princes-street, Westminster.—An interesting little pamphlet containing a detailed description of Dr. John Davies's remedy for those serious evils with which mothers are often afflicted when suckling infants, namely, sore nipples, excoriations, eruptions, &c. Everyone who has committed matrimony ought to provide this tract for the perusal of his wife. The preparation recommended we can safely denominate the best for the purpose that has ever been brought before the notice of the public. The “Mother's Blessing” is also recommended for inflamed eyelids, scurfy heads, irritation of piles, &c.

Correspondence.

Ancient Drinking Cups and Brain Cap.

SIR,—The annexed drawings (figs. 1 and 2) represent two ancient drinking-cups in the

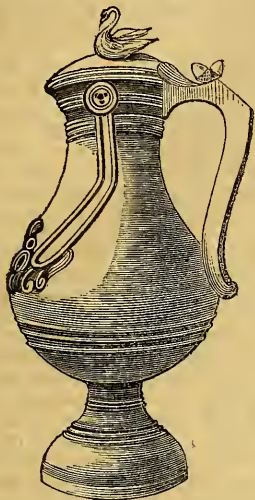


Fig. 1.

Museum at Boulogne, which the authorities of that place were anciently accustomed to use when they received the visits of distinguished persons. Fig. 1 has the arms of the town, a

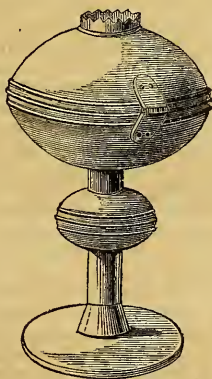


Fig. 2.

swan, and three pellets on it. Fig. 2 is of the fashion of the 14th century.

A curious relic of antiquity (fig. 3) may also be seen in a case at the same place. It is formed of a few stout bars of iron crossing each other in a peculiar manner, and which are fixed together by a number of iron studs. Your readers will, in all probability, take some length of time to guess the use to which this uncouth looking article was applied; but, dissimilar as it is in form to the helmets of our

Life Guards, it appears to have been worn by the ancients for a similar purpose, namely, to

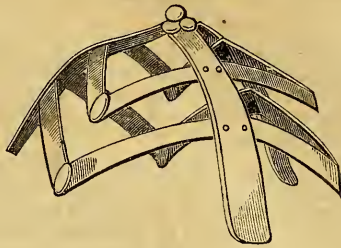


Fig. 3.

defend the head from the blows of an enemy; and if we imagine this iron *Brain Cap* (as it is termed) surmounting the head of a warrior, we may readily conceive that it would afford no slight obstacle to the blow of an antagonist's sword.

Yours, &c.,

London, June 30th, 1848.

W. T. R.

ARTISTS' MILL-BOARD.—It is a fact that many artists cannot afford to pay the high price charged by artists' colourmen for prepared mill-board, and they, therefore, purchase the rough mill-board at a wholesale stationer's and prepare it themselves. The mill-board commonly sold by stationers is made from old tarry ropes, consequently there are to be observed on the surfaces a great number of black spots, which the artists remove by sizing with thin glue and water, and subsequently spreading a coat of white-lead over it. At first the mill-board so prepared will look very well, but in about six months the whole picture will be destroyed by the reappearance of the black spots, which this time cannot be got rid of without rubbing out the drawing. The best plan to be adopted to prevent this evil is to size the board with thin glue as usual, and when dry to brush it over with a solution of one ounce of shell-lac in eight ounces of wood naphtha; let this dry and then lay on the white-lead. On mill-board prepared in this manner no spots will ever come out. This process can also be applied with advantage in "renovating pictures." The artist before retouching should apply a film of the above varnish, when the spots will disappear.

THE PACKET SHIP.—The packet ship is a curious triumph of modern times. We are domiciliated upon the ocean. I hear the notes of a piano, the lowing of a cow, the cackle of hens, indeed all the noises of a barn-yard! We have fresh meat and milk, warm bread, &c. Sea travelling, however, is capable of being yet more improved upon. Warm baths might be introduced, and stoves to destroy the effluvia of bilge-water. Cabins might be so constructed as to admit the air through a small side window to each. The berths, sofas, and dinner tables, with their seats, might be hammock-swing.—*Fay.*

Review.

Homes for the Working Classes; or, Hints to those about to Select House Property either for Investment or Occupation. By FRANCIS CROSS, Surveyor.—Islington: J. K. Starling, Upper-street.

This is a well-timed little pamphlet devoted to an important subject. In his preface the author remarks that his object has been to lay before the members of different Building Societies, in a clear and concise form, a collection of remarks for their guidance in the selection of house property—and in it he has eminently succeeded.

Mr. Cross's instructions to the purchasers of houses are of the most valuable description; there is something beyond mere technicality in the following passage—there is sound friendly advice:—

Speaking of a certain class, alas, too many, he observes that, "The old maxim holds good, 'fools build, wise men buy.' They, therefore, buy a house of the extreme value, which has been built by some speculative builder for immediate sale; it is let for a series of years, until, as it were, it has purchased itself. Then and then is the time, it ought to become the home without expenses—the shelter for old age—and asylum for those to whom the cares and troubles of this world are lessened, and themselves the happy owners of premises adapted either for trade or private occupation; instead of this, however, sundry serious repairs show themselves as wanted—cracks in plastering without apparent cause. Inconveniences begin now to strike the owner of the property, and he becomes dissatisfied;—now, if not before, the woodwork has shrunk, the rooms are filled with draughts; the chimneys smoke, the walls are so thin that on a winter's night it makes one miserable to hear the wind whistle; the floors are so weak, and the vibration so great, that you are almost afraid to let the children run about for fear of the ceiling underneath. The joints of the floor boards are so wide apart, through their shrinking, that the space between the floor and the ceiling becomes the receptacle for dust, dirt, pins, needles, and halfpence; and, may be, worse than all the preceding evils, the drains, when the weather is warm, in a state to produce fever.

"He becomes convinced that, had he seen that house built, he could have prevented many of the grievances, and that to have real comfort, that house must be constructed accordingly.

"The smaller the dwelling the more simple should be its form, and the greatest consideration should be given to the relative position of the doors and chimneys; and in small rooms this should never be lost sight of, or the poor dwelling becomes a wretched habitation."

With regard to the receptacles for water in dwelling houses, Mr. Cross gives some useful information:—"The supply of water to a

dwelling-house forms at once an important item of comfort and cleanliness; and this generally depends upon (at least in London) a quantity supplied twice in a week, when the turncocks are busy. It is therefore requisite, when the main is on, that the cisterns or reservoirs to the house should be filled.

"The materials of which the cistern is composed, and the situation in which it is placed, form important considerations, as often the impurity of the water may be entirely owing to one of these points having been neglected; and, whatever inconvenience it may be, the occupier must patiently wait the next supply, before any remedy can be applied.

"Most small houses have but one cistern, and upon this only has the house to depend for a constant supply; and this cistern often situate in the kitchen, which frequently serves as sitting-room for one family, and as cook-shop and wash-house for the house, it will not surely require one to arise from the dead, to say the water will be lukewarm and unfit to drink. Again, sometimes we find it just outside in the yard, like a water-but with its mouth open to catch the rain that falls. This has not so many objections as the preceding, had it a proper covering to prevent stray bricks, pieces of mortar, dust, rubbish, and insects, forming a conglomeration of sand at the bottom. In selecting a place outside the premises, great attention should be given to a shaded corner; for the cooler the situation, the more pleasant, pure, and refreshing will be the water. The cistern should be of easy access, both for the periodical cleansing and convenience in the performance of the necessary repairs.

"The supply is often regulated by a ballcock. It sometimes becomes necessary to see that the same is acting properly.

"The materials generally employed for cisterns are deal, lined with lead or zinc; stone, or slate. Lead cisterns were the most used in the good old houses erected a century ago, and certainly has proved its durability; while zinc is of but modern introduction, and, without it is of the very best description, we should be sorry to run the risk of exposing it to the weather during frost; the only recommendation being cheapness. In the first instance, it is so; but then old zinc is worth nothing, while in changing the old lead for new, whether in the lining of cisterns or gutters, a liberal allowance is made by the builder. Stone is cumbersome, and but little used; slate is a very successful modern introduction, and has been found durable, not at all affected by the weather, if properly made, and is more cleanly than any other material.

"Those persons whose residences are situated beside some mountain stream, cannot sufficiently appreciate both its purity and cheapness, and, more than all, its constant supply; forming a wide contrast to the monopoly that exists in our large towns. Take London, for instance, with its different water companies; one of which imposes an annual tax that nearly, if not quite, exceeds the original capital, yielding a per centage surely unknown even to the clutch-alls of Houndsditch; in fact it

seems as though they considered it would be most unfair to supply an abundance of pure and wholesome water, at a small fraction of cost of the present stinted and miserable supply."

This little work ought to be in the hands of every one who is about to erect a house, and is particularly useful to such as have not had the advantage of a professional education. It is clearly written, and devoid of technicalities.

MOVING HOUSES.—In the "Chronotypist," a week or two back [see page 90, *ante*] we spoke of a house having been removed from its original foundation; we now present a statement of the details of the operation, on the authority of the *Suffolk Chronicle*. It appears the removal was performed upon a two storey brick-built house, measuring 26 feet by 18, at Messrs. Ransome and May's, Orwell Foundry, Ipswich. The edifice was moved to a distance of 70 feet, and raised 2½ feet, without sustaining the slightest crack in the walls or ceiling, or even in the papering of the rooms. The removal was accomplished under the direction and superintendence of Mr. Worby, the manager of the works. A series of holes, six inches square, was first made through the brickwork, close to the ground, at intervals of three feet all round the house. Through these holes were inserted cantalevers, or pieces of timber about four feet long, and the earth inside and out, having been cleared away, the ends were made to rest on blocks of wood; so that during the removal of the foundation, the superstructure would rest entirely on them. The next operation was to remove the foundation, and to lay in its place long pieces of timber, 11 inches square; these had a coat of mortar laid on as a bed for the brickwork, and were then lifted up to the walls, forming a kind of frame-work, on which, the cantalevers and blocks being removed, the house stood as firmly as it did on its original foundation. The building was then raised to the required height, one side being elevated at a time, and a number of longitudinal timbers of great strength laid underneath, and continued along the ground as far as the new foundation. As a precautionary measure, the sides of the house were bound in by means of stout planks run up at the angles, and fastened together with iron rods. The whole of this preliminary work occupied some time to complete, the workmen only turning to it when they had nothing else to engage them. The timbers, along which the house was to slide, having been well greased, three bottle-jack screws were brought to bear upon one end of the framework, and the process of locomotion commenced. The rate of travelling was about one foot in five minutes, but as a long delay occurred each time the screws were refixed and got into play, not more than 25 feet could be accomplished in a day. The house is now standing on its second foundation, none the worse for the experiment to which it has been subjected.

TRANQUILISING EFFECT OF PICTURES.—Every good picture, by which I mean every picture that has something good in it, is not mere surface and colour; it has a countenance, like the countenance of a friend or lover, of which extent certain expressions are revealed only to certain eyes at certain moments. These are the associations of long acquaintance; accidental gleams of lamp or sunshine have lighted up the shadowy nooks, and startled the eye with revelations of hidden beauty and meaning; or, in hours of lassitude and sorrow, hours when the "fretful stir unprofitable" of this painful actual world, has hung heavy on the spirit, the light breaking from behind the trees of far-off distance, stretching away, and leading the fancy after it, till it melts into Elysium, or rural groups, revels of satyrs, or clouds, or face of pure-eyed virgin or serene saint, has arrested the troubled course of thought and stamped a consecration on certain pictures which it would be a pleasure to see commemorated, but which no accidental visiter can enter into. "I cannot express to you," said a distinguished statesman of the present day, as we stood in the midst of his beautiful pictures, "I cannot express to you my feelings of tranquility, of restoration, with which, in an interval of harassing official business, I look round me here." And while he spoke in the slow quiet tone of a weary man, he turned his eyes on a forest scene of Ruysdaal, and gazed on it for a minute or two in silence—a silence which I was careful not to break—as if its cool dewy verdure, its deep seclusion, its transparent waters stealing through the glade, had sent refreshment into his very soul.—*Mrs. Jameson's Companion to Picture Galleries of London.*

LORD BACON'S DEFINITION OF ART.—Art is usually considered as a thing very different from Nature; and artificial things from natural ones: whence arises another more grievous error, that Art is supposed a different principle built upon Nature, and of such power as to be able either to perfect what Nature had begun, to rectify and amend her when disordered, or to free her when confined—though not utterly to divert or transmute her, but the truth is, *artificial things do not differ from natural ones in nature or form, but only in the efficient: man has no power over nature beside what he has in motion—in virtue wherof he can apply natural bodies or to remove them from one another. Where such application or joining of active things to passive ones is practicable, there may be men do anything—where it is not nothing. Gold we sometimes see purified by the chemist's fire, and sometimes find it perfectly pure in the sands—Nature, herself, having done the business: so in the rainbow is sometimes formed on high in the water of a cloud, and sometimes here below by a sprinkling of water. Nature, therefore, governs all things; under this subordination of the course of Nature, the latitude or evagation of Nature and art, or man superadded to her other works.*—*De Augmen. Scient., lib. ii.*

Anti-Inflammable Substances.

M. GAY-LUSSAC some years ago stated that if paper be dipped in a solution of phosphate of ammonia and dried, the inflammability of such paper is destroyed.

We were induced by this observation in the winter of 1836 to prosecute this subject; and at that period, calico, wood, and paper were kept immersed in various saline solutions for days together, in order to ascertain the comparative energy of such solutions in destroying inflammability. As the object of these experiments was altogether practical, those saline solutions only were tried which could be obtained at a sufficiently low rate for general use. Accordingly, for the phosphate of ammonia proposed by M. Gay-Lussac, the muriate was substituted; and this was found to have the greatest effect in destroying the inflammable property of wood, calico, or paper. Wood should remain a week or ten days immersed in a saturated solution of it; for calico and linen twenty minutes; and for paper two or three hours at furthest is sufficient. If either of these be dried after such immersion, and then put into the flame of a candle they turn black, but do not take fire, and on being removed from the candle they do not continue to keep alight like tinder, ignited as it were, but without flame.

But as neither the muriate of tin nor the muriate of ammonia is sufficiently cheap for extensive use, we are now to examine the fixed alkalies, in reference to the property under consideration.

The subcarbonate of potass, or soda, seems sufficiently efficacious, though not to an equal degree with the salts first mentioned. There is little or no difference in the efficacy of either of these alkalies. They both prevent inflammability; but neither of them prevents ignition. If we may so speak, that is to say, when paper or linen is prepared by them and held in the flame of a candle and then removed, no flame is communicated, but the ignited part or spark continues to spread slowly until the whole of the material is consumed. And this it does, whether the substance be held in one direction or another; though of course the ignited margin extends most quickly when it is held in such a position that it can rise upwards. It is to be observed that whether calico, linen, or paper, be soaked twenty-four hours or a week, in solutions of the alkaline subcarbonates, makes a little or no difference in reference to this power of ignition. It is hence obvious, that the muriates of tin and ammonia are more decidedly anti-inflammables than the subcarbonates of potass or soda; but it seems not improbable that these latter may retain their powers longer.

As there is little or no difference in the power of these alkalies, and as the latter is now very considerably cheaper than the former, we give it the decided preference.

For practical purposes, the subcarbonate of soda will, except in very particular cases, be found sufficiently anti-inflammable; for no

sudden destruction of property which had been prepared by its solution could take place. Fire falling on one of the leaves of a book in a library so prepared, could scarcely be able to extend itself even through the book on which it fell; and certainly could not communicate to other volumes: and whether a child's dress, or the scenes of a theatre so prepared were set on fire, there would be little difficulty in extinguishing it. Although, therefore, the muriate of ammonia is a more complete anti-inflammable, its great expense compared to subcarbonate of soda is a formidable objection to its general use. Papers saturated with it might sometimes be used instead of parchment, where it was the wish to give the greatest degree of security to the documents or productions.

In reference to wood, muriate of ammonia seems to have no advantage over the subcarbonate of soda. When wood, although cut in the thinnest form, is prepared by the solution of this alkali, the ignited part will not extend, as we have observed is the case with paper or linen under the same circumstances. The subcarbonate of soda then is what we recommend for the preparation of all articles composed of wood.

But it is fair to consider the grand objection to preparing wood by immersion in the saline solutions (for muriate of ammonia is equally liable to this objection with subcarbonate of soda. The objection alluded to is, that all these saline impregnations are completely removed by immersion in water, or perhaps still more quickly by immersion in solution of soap and water. This was the case equally with muriate of tin, and some other solutions that were tried.

The objection then, just mentioned, will apply to wood that may necessarily be exposed to the rain, or which may require cleaning by soap and water. This is the case with the deck of a ship and the floors of dwelling houses, as at present constructed.

But such seem the principal, or the only exceptions to the general advantage to be derived from the adoption of anti-inflammable wood. A great part of the wood used in building is placed *between* the floors, or on the sides of houses, which are usually painted. In either of these cases wood prepared by subcarbonate of soda will retain its anti-inflammable properties unimpaired.

Of course the preceding remarks, though applicable to all structures of wood, or partially of wood, are more particularly so to all offices and premises in which, from the trade pursued, or the number of documents kept in paper, the risk of fire is increased. And not only are they applicable to public and private buildings, but also to ships, and particularly to steam-boats.—*Phil. Trans.*

ORNAMENTS FOR OAKEN DOORS.—Our ancestors used to give a very pretty and harmonious effect to their oaken doors by employing plates of sheet iron, cut into various devices, and simply secured by nails. These plates may be either painted black or rubbed bright.

The Chronotypist.

WE (*Salisbury Herald*) understand it is intended to erect batteries at the Weymouth harbour, and also on the Nothe; the necessary surveys have already been made.—“The correspondence,” says the *Athenæum*, “that passed between the Trustees of the National Gallery and the Lords of the Treasury respecting the gift made by Mr. Vernon to the British nation has just been printed, pursuant to an order of the House of Lords. There is not much in it that is new. The selection of the pictures was made by Lord Monteagle and Sir Robert Peel: and an application and plans ‘for enlarged accommodation for the public pictures and an improved Sculpture Gallery at the Royal Academy’ were laid, it appears, before the Lords of the Treasury in the summer of last year;—but their lordships signified to the trustees, in their reply, ‘that they do not feel themselves justified in authorising so large an expenditure as would be required for the proposed alterations of the National Gallery without the previous sanction of Parliament.’ Their lordships go on to say, ‘they will be prepared to take into consideration, before the time arrives for submitting to Parliament the estimates for the ensuing year, a matured plan for affording such additional accommodation as may be required for the National Gallery, and, in connection with that object, for improving the Sculpture Gallery of the Royal Academy.’ This was written on the 20th of August, 1847; and now we are past the longest day in the middle of 1848 without hearing a word about ‘a matured plan’ or finding a penny in the estimates for making good empty promises to too easy trustees.”—A correspondent of the *Darlington Times* recommends a vigorous system of operations to effect some amelioration in the condition of the mining population of the north of England; mechanics’ institutes, literary societies, and the like having not been sufficiently extended into the hearts of collieries to produce, as yet, much change.—Lord Ingestre has written to the *Morning Post* to express his sense of the responsibility incurred by ministers in not having Captain Warner’s inventions “thoroughly sifted and examined, instead of allowing themselves to be deceived by others, instigated either by self-interest or vulgar prejudice.” We think Lord Ingestre had better let well alone, else most likely the stink, if raised a second time, will be effectually deodorised.—We learn with pleasure that it is the intention of Father Mathew to finish the beautiful church on Charlotte Quay, Cork, as soon as possible. The erection of that building was, at one time, the dearest object of Father Mathew’s; but, like many other cherished objects, it was sacrificed for the promotion of that glorious work, which has given to this country an undying reputation, and to himself a world-wide fame.—The testimonial to John Bright, Esq., M.P. is now ready to be presented. It consists of a library and bookcase, which were on view at the Public Hall, Ballie-street,

Rochdale, on the 16th, 17th, and 19th ult., to the subscribers and friends. The bookcase is of oak, and has been made at Chester. On the doors are beautifully carved the initials of Cobden, Villiers, and Bright, besides many devices upon various subjects, such as ships laden with grain, emblems of plenty, &c.—Letters from Alexandria state that Ibrahim Pacha intended gradually abolishing the manufacture of cotton-cloths in Egypt, and had discharged the chief superintendent of his cotton-mills.—“The committee for superintending the arrangements connected with the visit of the British Associations,” says the *Swansea Herald*, “have made an appeal to the public of Wales for additional pecuniary means of securing for the Association not only a proper but a hospitable reception.”—The present season has been more than commonly abundant in sales of old pictures—chiefly of the Dutch school.—Prince Albert has sent a contribution of £25 towards the erection of the monument of Mrs. Siddons, in Westminster Abbey.—A grand fancy and full dress ball is announced to take place on Friday, the 7th instant, at the Theatre Royal, Drury-lane, the proceeds of which are to be devoted to the advancement of the Spitalfields School of Design. The entertainment will take place under the immediate patronage of the Queen, H.R.H. the Duchess of Cambridge, H.R.H. the Duchess of Gloucester, H.R.H. the Duchess of Kent. And above eighty-three of the wives of the principal nobility and gentry, including the Duchesses of Norfolk, Somerset, Richmond, Grafton, Beaufort, Bedford, Marlborough, Montrose, Northumberland, Leinster, Sutherland; Marchionesses of Downshire, Ely, Londonderry, Ailesbury, Clanricarde, Westminster, Kildare; Lady G. Codrington; Countesses of Chesterfield, Jersey, Eglinton, Kinnoull, Dartmouth, Tankerville, Hardwicke, Malmesbury, Sefton, Clanwilliam, Kenmare, Craven, Wilton, Grey, Brownlow, Morley, Eldon, Howe, Litchfield, Granville; Lady C. Egerton and M. Alford; Viscountesses Sydney, Palmerston, Dungannon, Beresford, Combermere, Canning, Mahon; Lady Ashley; Viscountesses Jocelyn and Seaham; Ladies Mary Stanley, L. Moncreiffe, S. Cholmondely, C. Sandford, D. Duncombe, A. G. Hallyburton, M. Hill, A. Paget, Ernest Bruce, Robert Grosvenor, Willoughby de Eresby, Southampton, Carrington, Rokeye, Wharnccliffe, Feversham, Cowley, Stanley, Strathe-den; the Hon. Mesdames Cadogan, Heathcote, and Ferguson; Ladies Foulis, Dymoke, Clay; the Lady Mayoress, the Baroness de Rothschild, Mrs. Sheriff Cubitt, Mrs. Sheriff Hill, and Mrs. Matheison.—Committee of Management: Visct. Cranley, Hon. H. Fitzroy, M.P., Lieut. Col. Malcolm, S. De Hornsey, Esq., G. E. H. Vernon, Mr. Garner. The audience part of the theatre, including the private boxes, will be separated from the ball room. It is stated that the majority of the ladies will be attired in silk of Spitalfields manufacture.—The British Museum estimate for parliamentary grants this year, provides for the following purchases, &c., relating to the fine arts:—Drawings from the collection

of the Baron Verstoek de Soelen, £566 16s.; purchase of a collection of etchings and engravings from Messrs. Smith, £4,200; estimate for the expense to be incurred for continuance of excavations in Assyria, and for the transport of antiquities to England, £500.

—By the liberality of the council of the Manchester Botanical and Horticultural Society, the teachers and pupils of all schools, without distinction—including those of the various parochial unions, are admitted free on stated days in each week, an example worthy of imitation elsewhere. In the recent Whitsun week, the gross number that availed themselves of this treat amounted to 13,215.

—The hall and permanent gallery of the Royal Manchester Institution, containing casts, bronzes, paintings, and statuary, and other works of art, is now open to the industrious classes at a charge of twopence each for admission.—I. F. Marsh, Esq., has munificently presented that now valuable institution, Warrington Museum and Library, with 800 volumes of books in various departments of literature.—We learn from the *Builder* that the City of London is about to be excluded from the Great Metropolitan Survey, and the space it should occupy on the map is to be represented by 24 square feet of blank paper.—The dock-works (New North) at Liverpool, in course of construction for several years, are drawing to a close. The docks are to be opened the end of July or beginning of August.—A Mrs. Mathewman has left about £30,000 for the purpose of building and endowing churches in Leeds, of which place she was a native.—The *Chester Courant* says: "It is rumoured that, as soon as the works in Holyhead Harbour are completed, the Admiralty intend that port to be the station for the West Indian mail steamers, as being the most central in the kingdom, instead of Southampton.

—We learn from the *Hants Independent* that the bottom of an ancient vessel supposed to have been under water for many centuries, was lately dug out of the mud, off the American Wharf, Chapel, and landed at Cross House Hard, where it was to remain a week, and then be broken up. It is supposed to be of Danish build, is about 66 feet long by the keel, very sharp, with a great rake at the bow, all close timber, and the outside plank from three to four inches thick. There are no signs of any iron-work found about her. It appears that she had but one mast, which stood in the middle; her timbers and planks are perfectly sound.—The last number of the *Bombay Times* states that some of the Nimroud marbles have been despatched to England from thence on board the *Junna*.

TO CLEAN AND RESTORE THE ELASTICITY OF CANE CHAIR BOTTOMS, COUCHES, &c.—Turn up the chair bottom, &c., and with hot water and a sponge wash the cane-work well, so that it may become completely soaked; should it be very dirty you must add soap; let it dry in the open air, if possible, or in a place where there is a thorough draught, and it will become as tight and firm as when new, providing that it has not been broken.

Obituary.

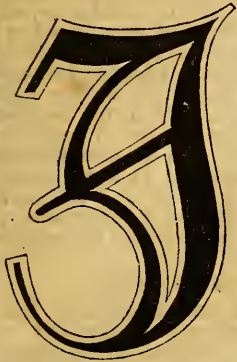
WE learn with sincere regret the demise, which took place last month, of James Watt, Esq., the last surviving son of the illustrious improver of the steam-engine. His name will long be remembered in association with that of the late Mr. Boulton; as they were for nearly half a century successfully engaged in carrying out those inventions and improvements by which the genius of his father was immortalised. The deceased gentleman was born on the 5th of February, 1769, and was, therefore, in his 80th year. Inheriting a large share of the powerful intellect of his distinguished father, to the extension of whose fame he had for the last thirty years shown the most zealous and truly filial devotion, he united to great sagacity and a masculine understanding the varied acquirements and literary tastes of a well-cultivated mind. For the last eight years of his life, he had comparatively retired from active business, and had devoted much time and attention to the improvement of his extensive estates in the counties of Radnor and Brecon, where his tenantry will have to lament the loss of a kind, energetic, and liberal landlord.

GOVERNMENT SCHOOL OF DESIGN.—On the 23rd ultimo Mr. Redgrave delivered to the scholars of the Government School of Design the second of a course of lectures on Artistic Botany, in the spacious apartment in Somerset House formerly the Council-room of the Royal Academy. He first treated of the advantages of the study of plants and flowers as supplying a knowledge of the natural sources and true types of ornament; and especially of its value in correcting the tendency of the student to reproduce only the antique conventionalities of Art—noticing the great propensity of manufacturers to perpetuate a merely mechanical treatment of ornament. He adverted to the diligent study of ornament by the celebrated masters of the middle ages; and to the manner in which the designers of the arabesques of the Vatican made use of natural objects, with due attention to the seasons and to their poetical suggestions. Upon this the lecturer largely descanted; illustrating the associative influence of the plants and flowers of our native land on our sentiments and affections, and hence their peculiar fitness as materials of ornament. He adduced many instances of beautiful allusions to the well-known wild flowers of our hedgerows and meadows by our great descriptive poets; and exhorted the students to peruse their works, with the view of enriching their faculties of illustration, refining their sentiments, and developing a national style of ornament. In proceeding with these remarks, introductory to a more minute exposition of the structure of plants, he directed attention to the three principal classes of the vegetable kingdom—indicating their essential differences of structure and growth, in regard to stems, leafage, and efflorescence.



PILASTER END, FROM THE TEMPLE OF APOLLO.

Lowell.



UST now when an awful monotony has taken the place of a frightful disturbance, in this country, it may not be uninteresting to take a trip across the Atlantic and see how Brother Jonathan is getting on amid his pine-wood forests, and maple sugar estates.

Everybody has, of course, heard of Lowell—that romantic workshop, where young ladies go for a season to work hard and earn money as willingly and joyfully as our boarding school misses betake themselves to the seaside to bathe, and study conchology; and every one, no doubt, entertains his own individual notion of the place; thus, some might suppose it a seminary for females on a large scale, while others would have an indistinct idea of an amazonian colony; but such thoughts as these can hardly give us a conception of the wonders and curiosities of Lowell. In the first place it is a city of remarkable growth: thirty-six years since the traveller would have encountered on the spot where it now stands nought but a solitary wilderness, now it possesses the greatest number of cotton factories in the United States. The origin and progress of this prosperity is thus described by a recent writer:—

The war between Great Britain and the United States, depriving the latter of the necessary manufactures, induced two speculators to erect a small cotton factory at Lowell, where the water-power given by the falls of the Merrimack and Concord rivers might be readily made use of. After changing hands once or twice, this factory was purchased by a company in 1826—one of the firms formed on the principle of limited partnership. The success of this factory in the new hands was so

marked, that it led to the formation of other associations on the same principle and for the same purpose. Mr. BUCKINGHAM, who visited Lowell in 1841, writes, there “are now ten companies or corporations, with a capital of about 10,000,000 dollars, occupying or working thirty mills, giving employment to more than 10,000 operatives, of whom 7,000 are females, and paying out 150,000 dollars a month in wages, for the manufacture of more than 8,000,000 dollars’ worth of goods in the year. There are upwards of 52,000,000 yards of cotton cloth worked here in the year, 14,000,000 yards of which are dyed and printed, and about 18,000,000 lbs. of cotton are used for this purpose, besides a large quantity of wool.” This represents Lowell seven years ago. Since then, her manufactures have very largely increased, particularly during the year 1847. The mills at Lowell are worked by water-power. It is produced by a canal, completed in 1823, which is a mile and a half long, sixty feet wide, and eight feet deep. A portion of the water of the Merrimack river is forced through this canal by a dam at the head of Pawtucket Falls, and is distributed in various directions by channels branching off from the main canal, and discharging into the Merrimack and Concord rivers. The entire fall is thirty feet, and the volume of water which the canal is capable of carrying is estimated at 1,250 feet per second, furnishing fifty mill powers of twenty-five cubic feet per second. Mr. BUCKINGHAM says, “This water power is held to be of sufficient force to carry 286,000 spindles with all the necessary machinery; but as there are only as yet 150,000 spindles employed in 4,800 looms, there is yet power sufficient for 136,000 spindles more, or enough to turn ten large mills more than the present number, making forty in all, before the present water-power shall be exhausted, or it may be necessary to have recourse to steam.” In 1848 these anticipations of 1841 have been realised; and as the water-power of Lowell is now fully employed, a new cotton-city to be called Lawrence, situated on the Merrimack, about eight miles above Lowell, is now being built; and the intention is to make it the metropolis of the cotton manufactures—the Manchester of America.

Lacquering.*

LACQUERING is a process by which a glossy golden appearance is given to various metallic articles by means of a more or less pale yellow varnish. Its object is chiefly to prevent such goods from becoming oxidated or tarnished by exposure to the atmosphere or immersion in water. If made well, lacquer is exceedingly durable; and if laid on and burned with attention and care, it adds much to the beauty of the brass or other metal to which it is applied.

The art of lacquering, like all others of a similar character, requiring practical knowledge to insure facility of manipulation and complete success as a result, consists in a number of minute operations not easy to describe in writing; but the following remarks and receipts will, we trust, assist, if not perfect, those who may wish to attain an intimate acquaintance with the process.

To Prepare Brass-work, &c.—As the object of lacquering is not to impart a brilliancy, but to preserve one already obtained, it will be evident that the brighter the surface of the article intended to be operated upon is, the better. Some goods are turned in the lathe and then polished, and sometimes, as is the case with philosophical instruments, &c., burnished also, which latter process renders them sufficiently bright. Other goods, as, for example, those having chased surfaces, which, therefore, cannot be turned with a cutting tool, are held against a "scratch brush"—formed of wire, which is fixed to the lathe like a chuck, and made to revolve rapidly. This removes all asperities, and renders the surface fit to receive the lacquer. A third and more common process consists in, after the surface is rendered by other means as clean as possible, putting the goods into "pickle," *i. e.*, into aqua fortis diluted with water, and there suffered to remain for several hours. The acid eats away the surface of the articles to a certain distance, leaving a perfectly bright appearance. The goods are then put into bran, and shaken about until dry, when they are cleaned and made ready for use.

To Re-lacquer old Brass-work.—First boil a strong lye of wood-ashes, which you may strengthen with soap lees; put in your brass-work, and the lacquer will immediately come off, then have ready a pickle of aqua-fortis and water, strong enough to take off the dirt, dip in the article, and wash it immediately after in clean water, dry it well and lacquer it.

Laying on the Lacquer.—This is performed in two ways, called respectively *cold* and *hot lacquering*. By the first process, the brush, which should be a common camel-hair one, similar to those used for laying on varnish, is dipped in the lacquer and rubbed carefully

and evenly over the work, which is then placed in an oven or on a hot stove, and exposed to the heat for a minute or two, by which time the lacquer will become set and the work be finished. By the second method, the article is first heated to about the temperature of a flat iron as used by laundresses, and the lacquer quickly brushed over it before it cools. The work may afterwards be subjected to heat as above; but this is often dispensed with. However, if the article be very small it will require this, as most of the heat will have been lost during the time required for laying on the lacquer. The greatest difficulty attending this process is, to know exactly the degree of heat required, and this knowledge can only be obtained by experience, as the mixtures often vary greatly in their proportions.

1. Lacquer for Brass.

Amber or copal, ground on porphyry, 2oz.; dragon's blood, 40grs.; watery extract of red sandal wood, 30grs.; oriental saffron, 36grs.; pounded-glass, 4oz.; very pure alcohol, 40oz. To apply this lacquer to articles of brass: expose them to a gentle heat, and dip them into the lacquer. Two or three coats may be applied in this manner if necessary. This lacquer is durable and has a beautiful colour. The articles may be cleaned with water and a bit of dry rag.

2. Lacquer for Philosophical Instruments.

This lacquer changes or modifies the colour of those bodies to which it is applied. Gum guttæ, ½oz.; gum sandarach, 2oz.; gum elemi, 2oz.; dragon's blood, of the best quality, 1oz.; seed lac, 1oz.; terra merita, ½oz.; oriental saffron, 2grs.; pounded glass, 3oz.; pure alcohol, 20oz. The tincture of saffron and of terra merita is first obtained by infusing them in alcohol for twenty-four hours, or exposing them to the heat of the sun in summer. The tincture must be strained through a piece of clean linen cloth, and afterwards subjected to pressure. This tincture is poured over the dragon's blood, gum elemi, seed-lac, and gum guttæ, all pounded and mixed with the glass. The lacquer is then applied according to the directions before given. It may be applied with great advantage to philosophical instruments, and its use might be extended to coat many of those moulded ornaments with which furniture is often decorated. If the dragon's blood be of the finest quality it may give too high a colour; in this case the proportion may be lessened, and this remark applies equally to the other colouring matters. It is with a similar kind of lacquer to the above that the artists of Geneva give a golden-orange colour to the small nails employed to ornament watch cases, but they keep the process entirely secret. A beautiful bright colour might be easily communicated to this mixture, but they prefer the orange colour produced by certain compositions, the preparation of which has no relation to that of lacquer, which has been successfully imitated with saline mixtures in which orpiment is a principal ingredient. The nails are heated before they are immersed in

* Under the heading "Varnishes," we lately gave some receipts for lacquers, but as this article contains much valuable additional information we have thought proper to insert it entire.—ED.

the lacquer, and they are then spread out on sheets of dry paper.

3. Gold Coloured Lacquer for Brass-work, Watch-cases, Watch-keys, &c.

Seed-lac, 6oz.; amber, 2oz.; gum guttæ, 2oz.; extract of red sandal wood, in water, 24grs.; dragon's blood, 60grs.; oriental saffron, 36grs.; pounded glass, 4oz.; pure alcohol, 36oz. Grind the amber, seed-lac, gum guttæ, and dragon's blood on a piece of porphyry, then mix them with the pounded glass, and add the saffron, after forming with it an infusion of the alcohol and an extract of the sandal wood. The preparation must then be completed as before. The metal articles which are destined to be covered with this lacquer are heated, and, where they will admit of it, immersed in packets. The tints of the lacquer may be varied by altering the proportions of the colouring substances.

4. Lacquer of a less drying quality.

Seed-lac, 4oz.; sandarach or mastic, 4oz.; dragon's blood, 1oz.; terra merita, 36grs.; gum guttæ, 36grs.; pounded glass, 5oz.; clear turpentine, 2oz.; spirit of turpentine, 32oz. Extract, by infusion, the tinctures of the colouring substances, and then add the resinous ingredients according to the directions given for compounding mastic varnish [see page 127, vol. i]. Lacquers of this kind are called "changing," because, when applied to metals, such as copper, brass, or hammered tin, or to wooden boxes and other furniture, they communicate to them a more agreeable colour. Besides, by their contact with the common metals, in consequence of peculiar intrinsic qualities, or certain conventional laws, a much greater value becomes attached to the articles. It is by means of these "changing" varnishes that the artists are enabled to communicate to their leaves of silver and copper those shining colours observed in foils. This product of industry becomes a source of prosperity to the manufacturers of buttons and work formed with foil, which, besides, in the hands of the jeweller, contributes with so much success to produce the rays of light which double the lustre and sparkling quality of precious stones. It is to lacquer of this kind that we are indebted for the manufacture of gilt leather, which has, however, lately become superseded by papier mâché. In theatres, it is by the effect of a foreign tint, obtained from the colouring part of saffron, that the scales of silver disseminated in *confection d'hyacinthe* reflect a beautiful gold colour. The colour transmitted by different colouring substances require tone suited to the object for which they are destined. The artist has it in his own power to vary them at pleasure by the addition of annatto to the mixture of dragon's blood, saffron, &c., or some alteration in the proportions of the colouring ingredients; it is, therefore, impossible to give limited formulæ.

5. Lacquer for various tints.

Mix separately 4oz. of gum guttæ in 32oz. of spirit of turpentine; and 1oz. of annatto and 4oz. of dragon's blood, also in separate

doses of turpentine. These infusions may be easily made in the sun. After fifteen day's exposure pour a certain quantity of the liquors into a flask, and by varying the doses different shades of colour will be obtained. They may be employed also for changing alcoholic lacquers, but in this case the use of saffron, as well as that of red sandal wood, which does not succeed with essence, will give the tone necessary for imitating with other tinctures the colour of gold.

J. F.

MR. FILLANS' STATUE OF SIR JAMES SHAW.—This colossal statue in marble is worthy of notice on several accounts. First, as it is a work of considerable merit and very great labour. It is of colossal proportions, being eight feet in height. Sir James is habited in the mantle of his mayoralty, and the rest of the dress—though indicating the costume of the period—is so managed as to permit of that freedom of attitude and contour so necessary to the grace and dignity of art. The pose of the figure is firm and judicious, and there is a freedom and boldness in the whole conception which give an air of much dignity to the statue. The artist has been so far fortunate that Sir James had a fine figure, and while the likeness is well preserved, it is at the same time agreeable as a work of art. The face is expressive, and the whole animated and peculiarly natural, being perfectly free from any taint of mannerism or affectation. It is pleasing to see such a statue, not only on its own account, but as a mark of the appreciation of a man most useful and respected in his sphere. The erecting such a monument in the birthplace of an individual, who alike distinguished himself by his success in life and his benevolence, is an admirable application of art, and more likely to kindle beneficial impressions than in the midst of a crowded city, like the metropolis. If every distinguished man was thus to be made the means of adorning his native place, it would both disseminate a love of the arts and multiply wholesome incentives to exertion. Mr. Fillans' studio contains also some characteristic and interesting busts of modern northern worthies, amongst which we observed those of Motherwell, Kennedy, Professor Wilson, and Cunningham: and one or two groups that bespeak considerable powers of conception and execution.—*Douglas Jerrold's Newspaper.*

GREEN BRONZE LIQUIDS.—Take one quart of strong vinegar, half an ounce of mineral green, half an ounce of raw umber, half an ounce of sal ammoniac, half an ounce of gum arabic, two ounces of French berries, half an ounce of copperas, and about three ounces of green oats, if these can be procured, although if they cannot, the preparation will succeed perfectly well without them. Dissolve the whole in a strong earthen vessel, adding the berries and the oats, over a gentle fire; bring the compound to boil, then allow it to cool, and filter it through a flannel bag, when the bronze will be fit for use.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 104.]

ELECTRO PAINTING, a new process recently invented by Dr. F. Branson of Sheffield. Its object is to engrave in copper the very touches of an artist's brush, so as to produce a *fac-simile* of the drawing. The *modus operandi* is as follows:—Obtain a perfectly smooth, unburnished metal plate (German silver answers capably for the purpose) the exact size of the intended drawing, and on this, by means of an ordinary painting brush, draw whatever is to be represented with a pigment composed of two parts of tallow and one of wax, mixed together in a melted state, blackened with the finest lampblack, and previous to using, rub bed down with turpentine, by the aid of a palette knife, to the consistency of oil paint. The paint will flow readily from the brush, and from raised touches on the smooth plate—the touches intended to print the darkest being raised the highest. "Various methods of working," says the inventor, "will suggest themselves to artists. A leather pad is very useful in producing broad flat tints, and good effects may also be obtained by using a leather stump. Even the palette knife may occasionally lend its aid. The artist can judge of the effect of the print from the colour of the drawing; the tints of the one corresponding very closely with the tints of the other. The highest lights are obtained either by leaving the German silver plate bare or by wiping out portions of the paint. When the drawing is finished, the finest French bronze powder (the same as that used for printing gold letters) must be freely dusted over its surface with a large soft camel's hair brush, care being afterwards taken to brush away all the bronze which does not adhere to the drawing. A drawing with a metallic surface is thus obtained; on which an electrotype copper plate, a perfect cast of the original drawing and of sufficient thickness to bear the pressure of printing, may be readily deposited." The inventor proposes that the term "Electro-painting" be given to this process. The electrotype plate when taken off the drawing must be carefully washed with turpentine to remove any bronze or paint which may adhere to it, the edges must be cut square, and the back of the plate filed smooth:—and it is then ready for the printer. The prints thus produced have all the richness and depth of etching, and at the same time distinctly show the touch of the artist's brush." This process is extremely simple, the cost of the materials trifling, and the only skill required is that necessary for painting in oil or water colour. The artist has the power of making alterations in his design if necessary; the finest touches may be given, the finest lines can be executed and any depth of

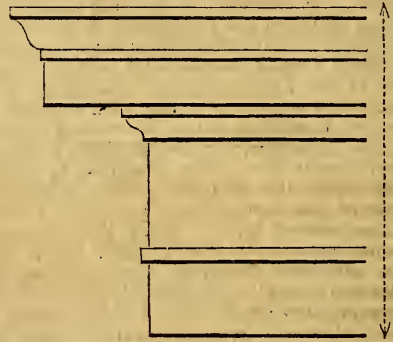
tint produced; and the drawing has the great advantage of not being reversed in the print.

ELEVATION (in architecture), the height of a building above the ground. The word eleva-



tion technically means the geometrical representation of an edifice measured vertically to the horizon, without regard to projections.

ENTABLATURE (in architecture), the horizontal part of an order that is supported by the column, and consists of the cornice, frieze, and



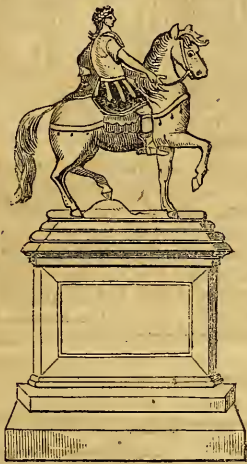
architrave, which differ in all the orders. (See order, capital, column, cornice, architrave, frieze.)

ETRUSCAN ART. The Etruscan style of art is that which prevailed in that school from its foundation down to a certain epoch, which the



Latins distinguished by the word Tuscanicus. This style, according to Strabo, resembled the Egyptian, or rather the early Greek style. Quintilian calls it *dry*, and Cicero *hard*.

EQUESTRIAN STATUE (in sculpture), the statue of a man on horseback. Pliny, in the beginning of the thirty-fourth book of his *Natural History*, attributes the invention of equestrian statues to the Greeks, and if their success in single and isolated figures was equal to those in their alti rilievi of the metopes of



the Parthenon, they must have surpassed all succeeding ages. The Greeks erected equestrian statues, says Pliny, in honour of those who obtained the prizes at their public games, in the horse races, or with chariots. The Romans adopted equestrian statues in their commemorative statues very early.

[To be continued.]

MASTER CARPENTERS' SOCIETY.—The anniversary dinner of the Master Carpenters' Society was held on the 28th ult. at Blackwall; Mr. H. Biers, president, in the chair. Mr. Stephens, in proposing the health of the chairman, took occasion to animadvert upon the present defective state of the Metropolitan Buildings' Bill, which he declared to be most unsatisfactory and discreditable. He said they all knew that a Committee was selected by Lord Morpeth in October last, but up to this period (the end of June) they were, as regarded the Metropolitan Buildings Bill, precisely in the same state that they were in this time last year.

TO BRONZE WITH OIL COLOUR.—First give the work a coat of white or red lead, ground in oil, and when this is perfectly dry, apply another coat consisting of the colours before named ground in oil and mixed with a small quantity of japan varnish; this is to be suffered to dry until it becomes tackey, when a bronze powder is to be applied to it.

To Correspondents, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

"J. Atkins."—You may make razor pastes in different ways: the snuff of a candle mixed with grease; diamond dust mixed with chalk or red ochre; emery mixed with spermaceti ointment; and jewellers' rouge, suet, and black-lead, are varieties.

"Leonard."—We will not forget your request.

"W. Tyler."—You will much oblige us by informing us of the exact date of the alphabet.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

TO TAKE PLASTER CASTS OF FOLIAGE.—Mr. Deeble recommends the following process:—Lay the leaf as soon as convenient after gathering, upon fine grained moist sand, in a perfectly natural position—having that surface uppermost which is to form the cast, banking it up with sand in order that it may be perfectly supported. Then by means of a broad camel hair brush covered over with a thin coating of wax and Burgundy pitch rendered fluid by heat, carefully brush it over. The leaf must now be removed from the sand and dipped in cold water, when the wax becomes hard and sufficiently tough to allow of the leaf being ripped off without altering its form. This being done the wax mould is to be placed on moist sand and banked up as the leaf itself was. It must then be covered with plaster of Paris, made thin, care being taken that the plaster is accurately forced into all the interstices by means of a camel hair brush. As soon as the plaster is set, the warmth thus produced will soften the wax, which, in consequence of the moisture is prevented from adhering thereto; and with a little dexterity it may be rolled up and parted completely from the cast without sustaining the least injury. Casts thus obtained are very perfect, have a high relief, and are excellent models either for the draughtsman or the moulder of architectural ornaments.

Review.

Sanitary Ramblings: being Sketches and Illustrations of Bethnal Green—a Type of the Condition of the Metropolis and other large Towns. By HECTOR GAVIN, M. D., &c., London: John Churchill, Princes-street, Soho.

For twenty years or more people have talked a great deal about Sanitary Reform—have pointed with admiration to splendid terraces and squares, the houses in which would put many royal palaces to shame, that is, were bricks and mortar capable of blushing—and have asked triumphantly if *those* were not signs of improvement. “Certainly not,” has invariably been our reply; “these fine mansions which you point out to us bear as much relation to the advancement of the poor man in the scale of civilised existence as the establishment of a new bank would bear to his future prosperity. The fact is that these splendid buildings are not for the poor but the rich—the pigs, reason the purse-proud ones, ‘can very well continue to wallow in the filth to which they have always been accustomed.’”

Of late we have seen many public meetings convened for the avowed purpose of endeavouring to improve the homes of the working classes, and of building them excellent habitations in lieu of their former wretched hovels; and sometimes a large sum of money is expended in comparatively magnificent erections, which are to be let out to poor persons at exactly double and, in some cases, treble the amount which they could possibly afford to pay. Many benevolent-hearted but mistaken individuals would, no doubt, be surprised to learn that there are thousands in the metropolis alone, who had they not the opportunity of hiring apartments—wretched and loathsome though they be—at a rental of from ninepence to one shilling per week would be compelled to become inmates of the parish work-house! Long personal experience has enabled us to put forth with a sorrowful confidence this fact, and we cannot help lamenting that a movement founded upon a good principle should be led in a wrong direction by want of actual knowledge and sober forethought.*

The work now before us, which has elicited the foregoing remarks is an heart-rending portraiture of the physical debasement of the greater part of the labouring population of London, located in a quarter which has long been noted as the abode of misery, destitution, and crime—whence hundreds are annually drafted to the pauper's grave, the workhouse, the prison, and the hulks,

Of one particular portion of this locality, denominated, it must be confessed very aptly, “the Botany Bay of Bethnal Green,” Dr. Gavin remarks that, “The houses are situated

eighteen inches below the level of the roadway, and are, therefore, very damp.

“The drainage is most imperfect, and unworthy of the name. There are dust-heaps and garbage collections near most of the houses, and reeking dung-heaps close by the windows. One stand-tap supplies every three or four houses. This row is the most abominable state of dirt and filth that can well be imagined. The path is most unequal, full of puddles of mud and filth, and nearly impassable. The centre gutter or surface drain is full and most filthy. The miserable yards in front of these houses are abominably filthy; the privies are full and offensive. The yards themselves are covered with open surface drains and shallow pools, full of offensive and foetid slimy mud. All kinds of slops and garbage are strewn on the surface. The houses are very wretched.”

The houses *are* very wretched, truly; Imagine within this place a rising generation, youth of both sexes, who know not even the virtue of cleanliness, let alone that of morality, and ask then whether our magnificent edifices which strike the foreigner with wonder and admiration have not contributed to the physical advancement of the masses!

Another little picture, however, and we have done—

“Hepworth-place, Fountain-alley, 43.—This court is in a most disgraceful and disgusting condition. It is below the level of the alley which leads to it; there is no drainage whatever. The foetid fluid which ever covers its surface (receiving the soakage of the dust-heaps in the centre, and dissolving the vegetable and animal refuse lying about), whenever the rain falls, pours itself into the houses on the northern side and inundates them.”

In conclusion we earnestly recommend Dr. Gavin's work to all who would be better acquainted with the actual condition of the metropolis. It is true that the descriptions are almost revolting, but were they not so they would not be truthful:—the vapour which rose above the dark waters of the Styx could hardly have been more deleterious, physically and morally, than the polluted atmosphere of Bethnal Green.

OIL OF BRICK.—This peculiar oil, employed by lapidaries as a vehicle to hold the diamond dust which they use for polishing precious stones, is prepared by immersing a portion of red hot porous brick in olive oil. The vessel in which both are contained is immediately covered over with a still or alembic head, and fire being placed beneath, the oil is distilled. When thus treated, it possesses very peculiar and valuable properties. It is extremely limpid, almost like water, is colourless, and does not dry up readily, nor clog when drying—nor is it fat and greasy like the fixed oils.

SOLDER FOR GOLD.—Pure gold, 12 dwts.; silver, 2dwts.; copper, 4dwts.; fuse together.

* In Westminster and St. Giles's it is no unusual thing for four individuals to club three-pence each together per week in order to pay the rent of an apartment in which they all reside.

Royal Institution.

JUNE 9.—Admiral Sir E. Codrington, V.P., in the chair.—Mr. J. Fergusson “On Progress in Architecture.”—Mr. Fergusson commenced by defining the fine art architecture as the art of building ornamentally, or of elaborating beauty out of the corresponding useful art of building—which all the countries of Europe anterior to the Reformation in the 16th century, and in all other countries down to the present hour, was accomplished by a gradual, steady perseverance towards a well-defined aim:—though in modern Europe the art had degenerated, instead of this, into mere correct copying of the details of Greek or Gothic or some other style of extinct exotic art; and as a consequence of this that all other nations, however inferior they might be in all other matters, had been able to elaborate for themselves an appropriate and beautiful style of architecture, perfectly suited to their wants and purposes; while in modern Europe alone men gave up all hope of inventing anything new. He proceeded to illustrate what he conceived to be the process by which architecture had been invented and perfected by other nations, by showing that it was the identical process by which we invented or perfected any of the sciences or arts which have been successfully cultivated in this country;—dwelling more particularly on ship-building as the most distinct series and parallel instance. He proceeded to show how, by following the same process during one thousand years men had elaborated the perfect mediæval cathedral—such as Cologne—out of the Roman basilica; and from a series of plans of English abbey-churches showed by what gradual bit-by-bit improvement this had been effected. He referred to a diagram to show how a concealed arch of construction in a Roman portico had grown, by a like process, into the universally arched architrave of Christian architecture; and then taking a series of windows, from the plain round-headed window of the Norman period, showed how that was gradually elaborated into such a splendid work of art as the celebrated nine-light window at the east end of Carlisle Cathedral. Lastly, taking a series of views from Indian architecture arranged chronologically, he showed how out of a very rude original a perfect style of art had been produced by a people infinitely inferior to ourselves in every respect. Mr. Fergusson then taking an ordinary design for a Protestant church attempted to show how he conceived a perfect model of the kind might be produced by gradually altering and improving the original through a series of successive erections, rejecting whatever was found in an earlier one to be either useless or hurtful, and in approving of anything that was either appropriate or beautiful,—always bearing in mind that the object in building the church was to erect the best possible edifice for the performance of the Protestant form of worship which should accommodate the greatest num-

ber of people at the least possible expense and at the same time be the most beautiful and most expressive of the sacred purposes for which it was erected. To show that the faculty of invention is not dead in us, Mr. Fergusson adduced the instance of the sister art of civil engineering; and from the examples of the London bridges showed that within the last hundred years we had progressed from the very clumsy structure of Westminster Bridge to the perfect one of new London Bridge:—and he contended that if we cultivated architecture with the same earnestness and in the same manner in which we had cultivated the art of bridge building, we might as easily surpass the mediæval cathedral as we had surpassed their contemporary the old London Bridge.

THE WATCH DIAL IN THE QUADRANGLE IN SOMERSET HOUSE.—To many of our metropolitan readers the following extract, from Mr. Weld’s “History of the Royal Society,” recently published, may be interesting, particularly as it tends to settle, authoritatively, what has long been a moot subject:—“During the first months of my residence in Somerset House, I was considerably surprised by invariably seeing the visitors cross the quadrangle in a straight line, and planting themselves within a convenient distance of the opposite wall, gaze eagerly upwards, pointing always to one spot which presents no architectural decoration, and, in fact, only forms part of the plain wall. Utterly unable to solve this riddle, I applied to an older resident for an explanation. He smiled at my query, and asked had I never heard of the watch. On my answering in the negative, he told me the following traditional story. When the wall, to which I have alluded, was being built, a workman had the misfortune to fall from the scaffolding, and was arrested in his descent by his watch-chain catching some portion of it. Thus wonderfully preserved, his gratitude led him (he must have been a Milesian) to insert his watch in the face of the wall as a memento of his escape. So runs the story; how traditional in its origin, may be judged by the fact, that the watch-face was placed in its present situation, some years ago, by the Royal Society, as a meridian mark for a portable transit instrument in one of the windows of the ante-room.” Mr. Weld adds, in a note, that Captain Smyth informed him that he assisted in mounting this instrument, and perfectly recollected seeing the watch-face placed against the opposite wall.

TO MAKE CRAYONS FOR DRAWING ON GLASS.—Melt together equal quantities of asphaltum and yellow wax; add lamp-black, and pour the mixture into moulds for crayons. The glass should be well wiped with leather, and in drawing be careful not to soil the glass with the fingers. In trimming these crayons, if the edge be bevelled, like scissors, the point may easily be rendered very fine.

Chlorine Gas as a Disinfectant or Deodoriser.

Mr. F. L. Smith, of No. 2, Princes-street, Westminster, has lately submitted to us for inspection a very ingenious apparatus for creating and liberating chlorine gas in sufficient abundance to entirely disinfect apartments pervaded by an unwholesome atmosphere arising from various causes. It is, at once, simple, effective, and economical, and, besides, portable enough to allow of its employment in all cases. Fig. 1 is a representation of the exterior of the apparatus, and fig. 2 a vertical section of the same. The apparatus is divided into three portions, two

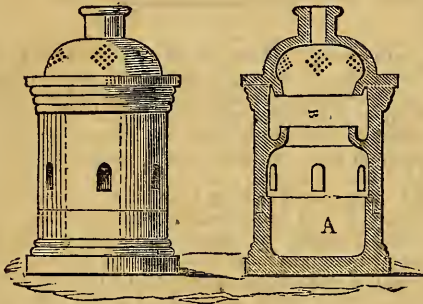


Fig. 1.

Fig. 2.

of which serve as receptacles for the chemical ingredients to be hereafter described. It is formed of unglazed stoneware and is moulded in a very pretty pattern. In the first portion (A) is placed three ounces of black oxide of manganese mixed with eight ounces of common salt, dried; the centre part (B) is made with an interior shallow ring, to hold five ounces by weight of sulphuric acid, mixed with four fluid ounces of water. The acid is slowly combined with the manganese and salt by means of a few threads of common cotton wick that should be moistened in water, and then immersed in the acid so as to hang over the side of the interior ring or trough, the lower ends of the threads reaching beyond the bottom of the ring, by this arrangement they act as syphons by their capillary attraction, and a supply of chlorine gas is kept *continuously* and effectually generated.

Of the great value of chlorine gas as a disinfectant we can have no doubt.

Dr. A. T. Thompson, in his "London Dispensatory," page 740, says;—"But the most important use of chlorine is in its gaseous form, as a fumigation for neutralising putrid miasmata, and correcting the infectious atmosphere of hospital wards and rooms in which have been cases of contagious fevers;" and several other eminent chemists have borne equal testimony to its wondrous efficacy.

It may be interesting to many of our readers, especially such as take an interest in chemistry, to briefly describe the chemical decomposition

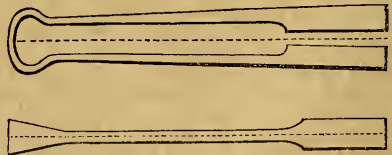
that occurs in the before-mentioned process:—

One equivalent of sulphuric acid expels a portion of the oxygen of the protoxide of manganese, and uniting with the protoxide, forms a proto-sulphate of manganese. The disengaged oxygen of the manganese unites with the sodium, forming soda, which, combining with the sulphuric acid, forms sulphate of soda, and the chlorine of the decomposed chloride of sodium is evolved.

The sulphuric acid and black oxide of manganese may be had at a cost of threepence per pound each, and the gas may be generated at an expense of one penny for twenty-four hours.

HOW TO MAKE WORKS IN TORTOISESHELL.

—The treatment of tortoiseshell is essentially the same as that of horn, but on account of its very much greater expense, it is economised as far as possible. Before the shells are worked they are often dipped in boiling water to temper them; three or four minutes commonly suffices, but they require a longer period when they are either thicker or more brittle than usual: excess of boiling spoils the colours of the shells, renders them darker, and covers the outside with an opaque white film. Others flatten and temper the shells with hot irons, such as are used by laundresses; the shell is continually dipped in cold water to prevent its being scorched; but as a general rule, the less tortoiseshell is subjected to heat, or to being pulled about, the better, as from its apparent "*want of grain*," or fibre, it becomes in consequence very brittle. Many of the works in tortoiseshell are made, partly by cutting them out of the shell, and partly by joining or adhesion, called by the French *souder*. Thus in the "*Manuel du Tourneur*," the artist is directed to form the ring of tortoiseshell for the rebate of a box, by cutting out a long narrow slip of the shell; the ends are then to be filed, with a clean rough file, to thin feather edges to the extent of three-quarters of an inch of their length, the one on the upper and the other on the lower surface, to constitute the lap or joint; the slip is dipped into boiling water, and when softened it is bent into an oval form with the intended joints on the flat side; the ends are held in firm and accurate contact with the finger and thumb, and the piece is dipped into cold water to make it



retain the form. A pair of tongs is required, such as those in fig. 1., with flat ends measuring about one inch wide and three or four long, and that spring open when left to themselves, but fit perfectly close and even when compressed: these are made warm.—*Holtzapffel*.

The Daguerreotype.

[Continued from page 73.]

THE tints of the picture produced in the camera are fixed and enlivened by the application of chloride of gold. According to Dr. Ure "A small grate being fixed by a clamp to the edge of a table, the plate is laid upon it with the image uppermost, and overspread evenly with solution of chloride of gold, by means of a fine broad camel hair brush, without letting any drop over the edge. A spirit lamp is now brought under the plate, and moved to and fro till a number of small steam bubbles appear upon the image. The spirit lamp must be immediately withdrawn. The remainder of the chloride solution must be poured back into the phial, to be used on another occasion. It is lastly to be washed and examined. This operation has been repeated three or four times with the happiest effect, of giving fixity and force to the picture. It may then be wiped with cotton without injury.

Coloured Daguerreotype portraits, views &c., possessing a beautiful and natural appearance are produced in various ways, but the utmost care and attention are required in order to insure success. The simplest process consists in employing "dry colours ground to a fine powder and mixed with a fine camel hair pencil, taking up very little colour at a time, and will adhere to the plate by breathing over it; the picture must be well set. The best colours for this purpose are carmine, rouge, chrome yellow, and ultramarine, by combining which any tint may be obtained."—*Willat's Practical Hints on the Daguerreotype*. Mr. Claudet effects the same end by mixing the colour with spirit of wine, and applying it thinly to the plate. Mr. Page, of Yale College, has, however, thrown out some very excellent suggestions with regard to this subject, which we give entire:—

"As copper assumes various colours, according to the depth of oxidation upon its surface, it follows, that if a thicker coating than the first mentioned can be put upon the plate, without impairing the impression, various colours may be obtained during the fixation. It is impossible for me to give any definite rules concerning this last process; but I will state, in a general way, that my best results were obtained by giving the plate such a coating of copper as to change the tone of the picture, that is, give it a coppery colour, and then heating it over a spirit lamp until it assumes the colour desired. I have now an exposed picture treated in this way at the same time with the two above mentioned, and it remains unchanged. It is of a beautiful green colour, and the impression has not suffered in the least by the oxidation. Should this process be perfected, so as to render it generally available, it will be greatly superior to the present inartificial mode of stippling dry colours upon the impression; for the colour here is due to the surface of the picture itself. For pure land-

scapes, it has a pleasing effect, and by adopting some of the recent inventions for stopping out the deposit of copper, the green colour may be had wherever desired. In some pictures, a curious variety of colours is obtained, owing to the varying thickness of the deposit of copper, which is governed by the thickness of the deposit of mercury forming the picture. In one instance, a clear and beautiful ruby colour was produced, limited in a well defined manner, to the drapery, while all other parts were green."

[To be continued.]

SOCIAL IMPORTANCE OF THE WORKING CLASS.—The three elements of the resources of the great commonwealth are labour, intelligence, and capital—the last is gathered and administered by the wealthy; the second is contributed by the gifted and studious; but that first great contribution of endless toil is supplied by the working classes. There are they in your fields and your mines, your factories and your ships, your warehouses and your workshops, giving an amount of manual and physical effort which no nature, no patience, but that of men bred to labour, could sustain. Hardly less consumers than producers, they form that great elastic power in the community which endures privation and adjusts demand and supply. Amidst scarcity and high prices, their unavoidable privations diminish consumption; and amidst plenty and cheapness, their increased enjoyments restore the remuneration of capital and the profits of trade. In national policy their judgment, once enlightened would have immense force and equal value—their voice, raised in favour of religion, peace, rational liberty, and just government, would be irresistible. These multitudes, once enlightened and virtuous, would render the social fabric immovably secure and peaceful.—*Wells's Crosby Hall Lecture*.

A NEW MINERAL USEFUL IN THE ARTS.—We learn that Mr. Blake, of Akron, Ohio (U.S.), has discovered a mineral, in the neighbourhood of the latter place, which promises to be of great value. He has visited Washington, and obtained a patent for it. "When first dug up, it is of the consistence of tallow, and gradually hardens in a few days, so as to resemble slate, and finally it becomes as hard as rock. It is of the colour of indigo. It is impervious both to water and fire, and admits of the finest polish. When reduced to powder, and mixed up with linseed-oil, it has the appearance of black paint, and may be spread over wood, canvas, &c. Roofs have been guarded by it against fire; and as it does not absorb the rain, it protects the rafters from decay. It consists of about one-half of silica, one-fourth of alumina, with less proportions of magnesia, black oxide of iron, sulphate of iron, lime, and carbon."—*Sheffield Iris*.

The Chronotypist.

THE *Railway Chronicle* says:—"Mr. Brunel is reported to have determined, after a survey of the ruins, on the re-construction in timber of the late bridge of the Usk, which was destroyed by fire. Appliances will, however, be adopted to obviate the inflammability of the material."

—Australasia, with a population of 280,000 souls, is stated to be consuming more British manufactures than America did in 1774 with a population of 2,000,000.—Building societies are on the increase, the number registered up to the 24th of June was 1,455.—It has been decided in the Court of Queen's Bench that bricks employed for the purpose of erecting bridges passing over newly made drains, parapet walls, and other small erections for the public safety are to be exempt from duty.—A telegraph has been erected at the Portobello station, Edinburgh, for the purpose of announcing the arrival of trains. It consists of a tall pillar up which a ball ascends slowly, and begins to fall ten minutes before the trains from Edinburgh are due so that it may reach the base by their arrival.—The entire length of the telegraphic line between Newhaven and Toronto, in Upper Canada, is 900 miles.—Complaints are beginning to be made respecting the gradual encroachment on the rights of footway in nearly all parts of the kingdom.—The Bank of England is about to undergo considerable improvement, ornamental and defensive.—The bill which was about to be introduced for rating Mechanics' Institutions has been abandoned and withdrawn.—The members of the Builders' Benevolent Institution will partake of their anniversary dinner on the 19th instant.—A surveyor lately brought an action against one of the provisional directors of a railway for the sum of £3,321, odd, being at the rate of ten guineas per diem, for surveying expenses, and recovered £500.—Mr. Jeffrey, the inventor of the "marine glue," has been very badly requited by Government for his services—they having only offered him a low price for every ton of the material used.—It is stated that several very important improvements are about to be effected in the neighbourhood of Holborn-hill.—Railway calls are much on the decrease this year.—Mr. Ternouth has completed another of the alto-relievos intended to decorate the base of the Nelson Monument, the subject being the battle of Copenhagen.—An agreement has been entered into with the Board of Ordnance for an entire survey of the country, and if the weather continues clear, the survey will be completed in about six months at a cost of £19,945 for the block-plan—the cost being only one-tenth more than that of the civil engineers' tender, while the work done will be more than double. The cost of the survey will be entirely defrayed out of the rates.—The *ateliers nationaux*, or national workshops, in France, have been dissolved.

PEARL GLASS.—Within the last few days we have inspected, at the *papier mâché* works of our townsman, Mr. Lane, in Great Hampton-street, Birmingham, several very striking and elaborate specimens of what he denominates "Patent Pearl Glass," executed in combination with his patent method of gem painting on glass, which are intended to be forwarded to Buckingham Palace for the inspection of her Majesty and her royal consort. In an article which appeared in the *Herald* of the 12th of December last, giving an account of a visit to the establishment of Mr. Lane, we endeavoured to describe some of the results which had then been obtained by both those processes, but they have since been carried to a much higher degree of perfection—particularly that of gem painting. In the one first named a number of novel and brilliant effects are produced by the execution of landscapes and architectural subjects in inlaid pearl of various hues and colours attached to plate glass. To understand these effects it is necessary that they should be seen. Some of them, indeed, are more brilliant and successful—especially in representing sunlight, or moonlight—than could be obtained by any other means. In many instances, however, there is want of attention to local colour, and the general effect is too glaring to please an educated and artistic eye. The pervading tone of the majority of subjects requires to be subdued and chastened, and when this is attained, and the very great resources of the material employed under skilful adaptation shall have been more fully developed, the result will be to attract and gratify the most fastidious eye. As we have already intimated, Mr. Lane is successfully labouring to improve the process. The "gem painting," as it is termed, is effected by the combination of various and different coloured substances, under plate glass, and generally on a black velvet ground. In this manner representations of gems, flowers; fruit, and other objects are produced, the brilliance of colour, novelty of arrangement, and richness of effect being very surprising; so much so, as to make any adequate description of it appear overcharged. The articles which we were invited to inspect were produced by a combination of both the methods spoken of, and are highly beautiful as well as costly in appearance. They consist of two panels for a cabinet or chifferonere, and the tops for two boudoir tables. They are most creditable to Mr. Lane's taste, skill, and perseverance in the improvement of his patent processes, and have elicited the approbation of the numerous parties who have been invited to inspect them.—*Midland Counties' Herald*.

TO ERASE CRAYON MARKS.—This is much more difficult than to erase those of the black-lead pencil—Indian-rubber smearing instead of cleaning. A piece of the crumb of bread is the best material to erase crayon marks; water will occasionally clean a paper thus marked, though rarely with certainty.

Fig. 1.

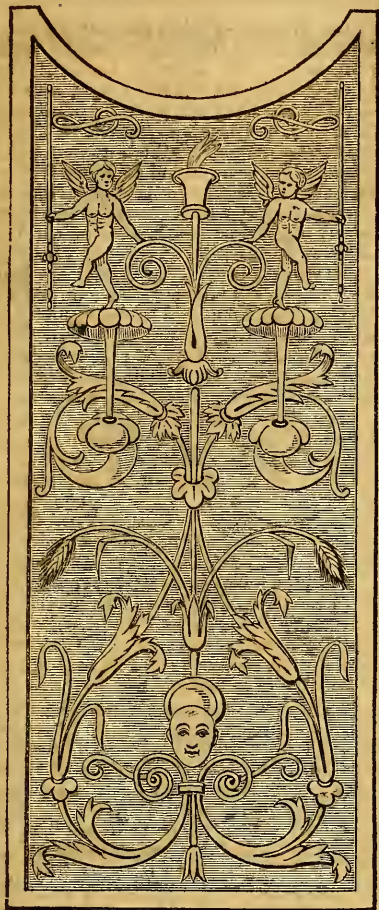


Fig. 2.



Fig. 3.

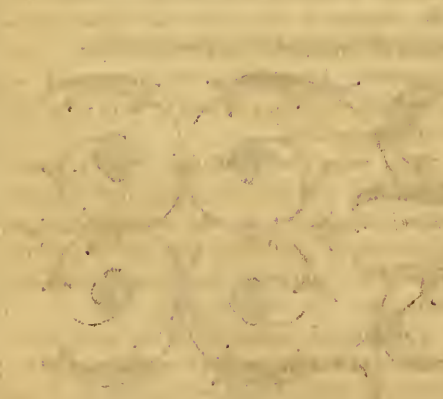


ITALIAN ORNAMENT.

FIGS. 1 & 2, FROM THE PALACE DEL TE. FIG. 3, FROM THE DUCAL PALACE, MANTUA.
No. 63.—Vol. III.

The first part of the paper is devoted to a
 description of the various species of
 plants which are found in the
 country. The author has been
 very particular in his
 descriptions, and has given
 many interesting details
 of their habits and
 uses. The second part
 of the paper is devoted
 to a description of the
 various species of
 animals which are found
 in the country. The
 author has been very
 particular in his
 descriptions, and has
 given many interesting
 details of their habits
 and uses. The third
 part of the paper is
 devoted to a description
 of the various species
 of minerals which are
 found in the country.
 The author has been
 very particular in his
 descriptions, and has
 given many interesting
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 minerals which are
 found in the country.
 The author has been
 very particular in his
 descriptions, and has
 given many interesting
 details of their habits
 and uses.



Government School of Design.



CONSIDERABLE improvement has lately been effected by the committee of management of this school in filling up a vacancy by the appointment of Mr. R. N. WORNUM, author of "The Epochs of Art," to the office of Lecturer on the History of Art in Relation to Ornament. His position, it is stated, will be independent of the masters:—"An arrangement," says the *Athenæum*, "that need not be disadvantageous to coöperation and unity of purpose." His course is to consist of ten lectures, one to be delivered every month—commencing on the reöpening of the school in October.

Some minor circumstances are also worthy of note. We learn that the class of *form* superintended by Mr. Townsend has been rendered complete by restoring to it the section of Figure Drawing from the Antique, which, as a temporary arrangement, had hitherto been included in the Class of Colour.

Prizes are announced for the best specimens of the productions of the students—the exhibition of subjects and distribution of the prizes to take place at the close of the school before Christmas.

It is reported than the long complained of

deficiency of space for the business of the school is under the consideration of Government—with the view of remedying this serious disadvantage.

The Exhibition at the London Mechanics' Institution.

It surely does not require a messenger from the grave to inform us of the extension of feeling in favour of the progress of the Fine Arts in this country when we find our very mechanics—men more used to the work-bench and the anvil than the studio or the easel—pursuing as a branch of education the art of Drawing and Design. When we see such tokens as these of national sympathy and attention, the natural enthusiasm with which we regard the cultivation of the pure and beautiful soars even above the common-place observation of every-day life, and expands with a warm glow of admiration into a feeling somewhat akin to rapture, albeit, we are not ordinarily given to forget the character which we are expected by our readers to maintain, namely, that of fair and impartial critics.

About this time last year, as near as we can remember, we received a polite note from Mr. JOSEPH ASH, the promoter of the drawing classes at the London Mechanics' Institution, Southampton-buildings, requesting our attendance to inspect the various specimens of ornamental drawing executed by the members. Unavoidable circumstances, however, did not permit us then to avail ourselves of the opportunity.

This year, the exhibition is on a larger scale, and comprehends many new features chiefly introduced by the assiduity of the above-named gentleman, such as the productions of the classes for drawing and modelling from life.

The general appearance of the whole exhibition is of a high order of merit, and individual instances of talent and genius are by no means wanting to impress upon the mind of the observer the fact that *all* our great painters and designers are not Royal Academicians—however much the latter may plume themselves with the gilded feathers of royal patronage.

Such an Institution (or rather *part* of an institution) as the one now under notice is not merely valuable to the parties immediately concerned, but to society at large, and if that society do but foster it now in its infancy, its rapid growth we may safely predict will ultimately advance both the fame and resources of the British Empire in extending abroad along with the products of native industry those of a native genius.

Copyright of Designs.

"BORROWING A SUGGESTION."

IN a case lately tried in the Court of Exchequer*, it was decided that ornamental goods being registered under the act gave to the proprietor not only the copyright of the actual design, but also that of the style in which it was executed! If this eccentric precedent is to be carried out, people must be on their guard against even receiving a suggestion from a registered pattern. Of course, we have no right to suspect that the twelve individuals who formed the jury on this occasion, and who delivered so sapient a verdict, knew anything at all about the matter, or were in the remotest degree acquainted with any rules which might have assisted them in judging where originality ended and imitation commenced; but, certainly, that seems to us a palpably unjust decision which would prevent a man's receiving a "suggestion" from a previous work of art. We suppose that were MICHAEL ANGELO, and Sir CHRISTOPHER WREN contemporaries, and living in these days, we should have the former bringing an action against the latter—and gaining his cause, too—for receiving a "suggestion" from St. Peter's at Rome; or HERO of Alexandria prosecuting, under similar circumstances, JAMES WATT of Greenock, for the latter's availing himself of the principle of the *eolipile* in the construction of his steam engines!

SUMS VOTED BY THE COMMITTEE OF SUPPLY, JULY 7th.—British Museum, £20,000; on account of Public Buildings, £30,000; works at Buckingham Palace, £10,000; expenses connected with the New Houses of Parliament, £15,000; School of Design, £3,000; Royal Dublin Society, £3,000; Geological Survey of Ireland, £6,000; Steam Communication to India, £12,500. Total, 99,500.

* Holdsworth versus M'Alpine.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECFYPERED BY THE RECIPIENT OF THY COMMUNICATION.

"J. S."—*We hardly know how to advise you. You say you have a little influence, but we think that unless you can count upon a certainty of employment resulting from it, you had better remain at home for awhile, until things take a change for the better, which circumstance we will be among the first to announce.*

"Merthyr."—*Gwill's Encyclopædia of Architecture.*

"L. M. S."—*We cannot say just at present.*

QUERIES.

Required—A receipt for making the black paint used for marking the letters on marble monuments, &c.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

Part 15 is now ready, price 7d.

COVERINGS OF THEATRES IN THE OLDEN TIME.—The following memorandum occurs in Pepy's Diary, bearing reference to old Drury Lane Theatre, builded on the site of the present one—"Before the play was done, it fell such a storm of hayle that we, in the middle of the pit were fain to rise, and all the house in a disorder." This passage may be explained by stating that in the time of that celebrated autobiographer the plays being chiefly performed during the middle of the day, any other light than that of the sun was thought unnecessary, so that the pit lay either open to the weather (as in ruder times) or was glazed in; and it is easy to conceive that a storm of hail would easily penetrate through sky-lights composed of the thin glass of Mr. Pepy's period (reign of Charles II.). "The middle of the pit," immediately under the sky-light, was necessarily most exposed. Lord Braybrooke, in a note on this subject, remarks that, "the Blackfriar's Theatre was entirely roofed over, and had a pit instead of a mere enclosed yard, whilst the stage portion alone of the public play houses were protected from the weather."

The Rights of Labour and Relief.

[The following remarks by M. Thiers, extracted from a speech delivered in the National Assembly, are characterised by so much good sense and sound argument, bearing directly upon the moot question of the day, that we cannot refrain from giving them a place in our columns.—Ed.]

“I think we should do all we can for the people, keeping in view at the same time what is possible, but I do not think we should promise them what is impossible. To promise that which is impossible is to deceive them, for which they will afterwards take vengeance by insurrection. Let the right to relief be proclaimed. I see no great danger in this; for, with charitable institutions well administered, more loyally developed, and better endowed than those which exist, this promise may to a certain extent be realised. Besides, society does its duty in succouring old age, in tending sickness, and assuaging the infirmities which render labour impossible. But to proclaim the right to employment is not to make an absolute engagement to furnish at all times and at all seasons occupation to those have it not. If we can possibly fulfil this engagement I will not oppose its being entered into; but is there one whom I address who will assert that it can be fulfilled? I have reflected a great deal upon what is now called ‘the organisation of labour’ (a new name for an old thing), and I have deplored the imprudence with which questions have been raised that are incapable of solution. It is indispensably necessary that in the assembly we should have a calm and deliberate discussion on this subject, with all the principal chiefs and supporters of this sect, in which all respect shall be shown to men and opinions; for we must ascertain if any one possesses the secret of remedying all the miseries of the people. If any one possesses such secret he must impart it; but if no one possesses it, then by none must such a promise be made—for to promise and not to perform in such a case is to ensure the effusion of blood. Of this the horrible scenes we have lately witnessed are the unanswerable proof. Doubtless an able government can, by legislation, by good financial measures, contribute to favour production, and increase employment; but in the richest and most industrious countries can any one prevent the industrial crises which arise from over production, and which are followed by a suspension of labour? Can any one in these cases, which happen too frequently, assure employment to the operatives? Would not to promise it be to renew the recent and unhappy experiment of the *ateliers nationaux*. The draining the marshes and agricultural colonies have been proposed as a means of furnishing employment at these crises for the unoccupied. But this would be a sorry resource to offer to the unemployed *ouvriers*. How could you offer to weavers or engineers to go into a distant pro-

vince to dig the earth. Their removal, their inability, their inexperience, would render this resource more cruel than misery. I do not, however, renounce, I confess, the possibility of proposing some means, which, to a certain point, may satisfy the double condition of occupying the unemployed in periods of industrial crisis, and of furnishing them with various employments befitting their several callings. Without becoming a manufacturer or an agriculturist, the state manufactures linen, cloth, shoes, and arms, for the troops; it builds walls of fortresses, carriages for artillery, and steam-engines. Now, in creating these establishments, the principle of which should be to work little in times of industrial prosperity, and much in times of distress, it would not be impossible to provide for times of suspension of labour. I have thought much and laboured much, on a system which would tend to reserve the works which the state must perform for such times as throw many operatives out of employ; but this system, which would require a corresponding financial system, would be difficult to establish, and very costly, and the state would, as usual, do its work well, but at great cost. I am, however, of opinion that a trial of this kind should be made; for it would be well thus to reserve the works of the government to offer to the operatives when private establishments could not find them occupation. As, however, we cannot make any certain promises, I think we may express the earnest desire of the state, and guard ourselves against any positive engagement. To make any positive engagement as to the right of employment is an imprudence, a false principle; in brief, to speak plainly, a lie thrown in the face of the people.”

ART-UNION OF LONDON AND THE BOARD OF TRADE.—On Wednesday, the 12th instant, a deputation of gentlemen, representing various bodies of metropolitan artists, had an interview with the Right Hon. H. Labouchere, at the office of the Board of Trade, to present a memorial agreed upon at a general meeting of artists in May last, deploring the intention of depriving the prizeholders of the right of selecting the prizes, and praying the Board of Trade to withdraw any interference in this respect with the Art-Union of London, and to permit it to carry out its objects according to its original and vital principle. The deputation consisted of the following gentlemen:—Mr. C. Lushington, M.P.; Mr. J. Jackson, M.P.; Sir W. C. Ross (Royal Academy); Mr. J. H. Illidge, Mr. G. R. Ward, and Mr. F. Gush (Institute of Fine Arts); Mr. J. Fabey (New Water Colour Society); Mr. G. Fripp (Old Water Colour Society); and Mr. E. T. Niemann (Free Exhibition). The Society of British Artist had previously sent a deputation for the same purpose. The memorial was signed by more than 300 artists, including half the members and associates of the Royal Academy. Mr. Labouchere said it was a very weighty document, deserving the most serious consideration of the Board, and should certainly receive it.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 114.]

ELGIN MARBLES, (in the archæology of architecture and sculpture), a series of ancient sculptured marbles, named after Thomas Earl of Elgin, by whom they were rescued from the barbarous hands of the Turks, brought to England, and finally sold to the British Government, who have deposited them in the British Museum for the use of the public.



These miracles of ancient art belonged originally to the temple of Minerva Parthenon, and to some other edifices on the Acropolis at Athens. Their ancient history is well known; they were imagined and directed by Phidias, and executed in parts by his chisel, were for more than seven hundred years the admiration of the ancient world; and have been regarded by all competent judges as inimitable for their perfection in art. During the period of Lord Elgin's embassy to the Porte, some eminent artists in England recommended the object of this collection as one of the highest importance to the fine arts. It was proposed as such to the English government who declined the undertaking, which appearing of doubtful issue, his lordship engaged in the pursuit entirely at his own risk and expense.

Lord Elgin, in pursuit of this patriotic scheme, took six of the first artists from Rome, and employed them several years upon the undertaking, and continued his establishment at Athens for sixteen years, and succeeded, by unconquerable exertion and perseverance, in achieving what powerful and favoured sovereigns had, in successive ages, attempted

in vain; what Canova would have been contented to have come to London alone to have seen.*

It is to be considered among the difficulties of Lord Elgin's undertaking that he had to remove the enormous and ponderous pieces of marble a distance of nearly five miles from Athens to Pieræus, the port of maritime Athens, in a country without roads, without machinery, and without any other resources than manual exertion. He had to convey them to England, to bring them from the out ports to London, and to keep them there at a considerable expense. His lordship had also the misfortune to lose a valuable vessel of his own employed in the service, that was wrecked off Cerigo, while having on board a number of these marbles, which he afterwards recovered with infinite labour, perseverance, and cost. Besides these, it is well known that no operations can be conducted in Turkey without the distribution of presents; which are always proportioned to the rank of the parties, and the eagerness or difficulty of the pursuit. And that, while Lord Elgin negotiated as ambassador with the officers of the empire at Constantinople (the city of Athens being the jointure of the Sultan's mother), his artists had to purchase the good will of the persons in authority on the spot, on every occurrence, wherever any assistance was required.

EMBELLISH, EMBELLISMEHNT. (From *embellir*, Fr.) In all the arts. Ornaments, adventitious beauty, decoration.—This word, though applicable to all the arts, is more particularly used in architecture, which is embellished by sculpture, painting, and other ornaments, to make it more beautiful. Embellishments are more extensive than ornaments, and if used profusely, or with bad taste, will mar the finest composition. The embellishments of exterior architecture are its sculptures and carvings, and of interior architecture pictures, statues, and bassi rilievi, furniture, mirrors, gilding, &c.

EMPLECTON (in ancient architecture), a mode of construction of walls used by the Greeks, and so named by their ancient architects and by Vetruius. The front stones of this manner of building were wrought, and the interior left rough and filled in with stones of various sizes or rubble. The implection of the Romans was an inferior kind of masonry to that of the Greeks, for they mostly omitted the *diatonoi* or bond stones, which the Greeks never did.

SEATS IN THE PARKS.—By order of the Woods and Forest upwards of 200 chairs have been placed in Hyde Park, and a proportionate number in St. James's Park, for the public accomodation.

* See Canova's letter to Lord Elgin of the 10th November, 1815, often reprinted; and which has already produced the most beneficial effects upon the fine arts of the country.

Public Amusements.



VAUXHALL GARDENS.

THIS delightful place of rational recreation is now open, and affords a pleasing *ensemble* of taste, harmony, and general amusement. The fittings up are on an unprecedentedly magnificent scale.

We select as a specimen of these a pretty little bit *à la Watteau*, taken from the end of one of the boxes on the left hand side of the orchestra. The ornamental portion is painted in a purple tint, and the flowers, &c., in their natural colour—the ground being white encompassed by a broad blue line. The sides and roof of the box are coloured with a delicate pink tint, and altogether have a very pleasing effect.

The walls of the supper room in the prince's gallery are divided off with pilasters and ornamented with landscapes, round which is tastefully placed an ornamental border. The appearance by night is of a gorgeous description, it being the room where the *élite* of the visitants regale themselves between the various amusements.

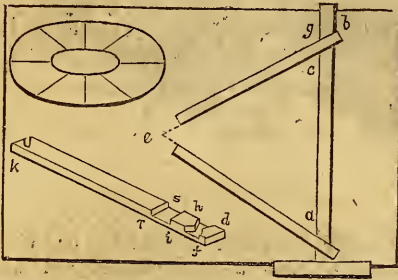
We should like to see other portions of the gardens more liberally decorated. The boxes on the right side of the orchestra being of a very plain description, having merely a plain tint washed over them. We think that the public would appreciate the change; and we hope ere long to see the royal property one of the most decorative as well as one of the most pleasant places of public amusement in the metropolis.

PRESENT SANITARY CONDITION OF WESTMINSTER.—[From a Correspondent].—I have lately had an opportunity of inspecting several of the habitations of the poorer classes in this densely packed locality, and I may well describe what I saw as loathsome and horrible in the extreme. The houses are mostly old and rotten, and the passages are not covered with boards but with dirt, which in wet weather becomes quite as sloppy as the mud in the streets. The yards which are extremely circumscribed, are generally filled up by a privy, a water-but, and a dust-bin—the two former being in close proximity. Curiosity urged me to glance into one of these privies, but one of the most revolting stenches that ever saluted my, or any other person's, olfactory organ, instantaneously compelled me to retreat in disgust, but not, however, before I saw a mass of human exuviae floating within a foot of the seat! This pestinential closet, too, be it remembered, was situated within four feet of the window of an apartment in which dwelt a labourer, his wife, and five children, while underneath this very window was an unoccupied cellar which had not been cleaned out for years, and which was chock full of decayed vegetable matter, filth, and garbage of every description. The apartments in this edifice were most miserable: the walls were broken and the ceilings continually falling in. I learned from a lodger, as I was departing, that there resided in this habitation (if such it could be called) no less than thirty individuals, of whom twenty-one were young children—the eldest scarcely above eleven years of age.

Isometrical Perspective.

A new process for drawing in perspective, under this title, has been introduced by Professor Farish of Cambridge. It is preferable to the common perspective on many accounts, especially for the exhibition of machinery. It is both easy and simple in its principles. It is effected by the help of a common drawing-table, and two rulers; so that there is no difficulty in giving an almost perfectly correct representation of any object adapted to this perspective, to which the artist has access, if he has a very simple knowledge of its principles and a little practice.

It is unnecessary to describe the accompanying drawing-table any further than by observing that it ought to be so contrived as to keep the paper steady on which the drawing is to be made.



There should be a ruler in the form of the letter T, to slide on one side of the drawing table. The rulers should be kept, by small prominences on the under side, from being in immediate contact with the paper, to prevent its blotting the fresh drawn lines as it slides over them; and a second ruler, by means of a groove near one end on its underside, should be made to slide on the first. The groove should be wider than the breadth of the first ruler, and so fitted that the second may at pleasure be put into either of the two positions represented in the engraving, so as to contain with the former ruler, in either position, an angle of sixty degrees. The groove should be of such a size that, when its shoulder *a* is in contact with and resting against the edges of the first ruler, the edges of the second ruler should coincide with *e*. When the shoulders *b c* rest against the edges of the first ruler, the edge of the second should lie along *a e*, the other side of the equilateral triangle. The second ruler should have a little foot at *k*, for the same purpose as the prominences on the first ruler; and both of them should have their edges divided into inches and tenths, or eighths of tenths.

It would be convenient if the second ruler had also another groove, *r s*, so formed that when the shoulders *r* and *s* are in contact with the edges of the first ruler the second should be at right angles to it. For representing circles in their proper positions, Professor Farish made use of the inner edge of rims cut

out from cards into isometrical ellipses, as represented in the figure; of these he had a series of different sizes, corresponding to his wheels.

The Professor states that "by this apparatus we may represent the straight lines which lie in the three principal directions, all on the same scale. The right angles contained by such lines are always represented either by angles of sixty degrees, or the supplement of sixty degrees: and this, though it might look like an objection, will be understood on the first sight of a drawing on these principles by any person who has ever looked at a picture; for he cannot for a moment have a doubt that the angle represented is a right angle, on inspection.

And we may observe further that an angle of sixty degrees is the easiest to draw of any angle in nature. It may instantly be found by any person who has a pair of compasses, and understands the first proposition in Euclid. The representation, also, of circles and wheels, and of the manner in which they act on one another, is very simple and intelligible. The principles of this perspective, which, from the peculiar circumstance of its exhibiting the lines in the three principal dimensions on the same scale, which the Professor denominates "isometrical," will be understood from the following detail:—Suppose a cube to be the object represented, the eye placed in the diagonal of the cube produced, the paper on which the drawing is to be made to be perpendicular to that diagonal, between the eye and the object, at a due proportional distance from each, according to the scale required. Let the distance of the eye, and consequently that of the paper, be indefinitely increased, so that the size of the object may be inconsiderable in respect of it. It is manifest that all the lines drawn from any points of the object to the eye may be considered as perpendicular to the picture, which becomes, therefore, a species of orthographic projection; and the projection will have for its outline an equi-angular and equilateral hexagon, with two vertical sides, and an angle at the top and bottom. The other three lines will be radii drawn from the centre to the lowest angle, and to the two alternate angles; and all these lines and sides will be equal to each other both in the object and representation; and if any other lines parallel to any of the three radii should exist in the object, and be represented in the picture, their representations will bear to one another, and to the rest of the sides of the cube, the same proportion which the lines represented bear to one another in the object.

If any one of them, therefore, be so taken as to bear any required proportion to its object, as in the representation of models, the others also will bear the same proportion to their objects; that is, the lines parallel to the three radii will be reduced to a scale.

By the use of the simple apparatus already described, the representation of these lines in the objects may be drawn on the picture, and measured to a scale with the utmost facility: the point at the extremity being first found or assumed. The position of any point in the

picture may be easily found by measuring its three distances; namely, first its perpendicular distance from the *regulating horizontal plane* (that is, the horizontal plane passing through the regulating point); secondly, the perpendicular distance of that point where the perpendicular meets the dexter line; and, thirdly, of the point where that perpendicular meets the dexter line from the regulating point; and then taking those distances reduced to the scale, first along the dexter line, secondly along the sinister line, and thirdly along the vertical line, in the picture. These three may be called the *dexter distance* of the point, its *sinister distance*, and its *altitude*. And it is manifest they need not be taken in this order, but in any other that may be more convenient to the artist, there being six ways in which this operation may be performed.

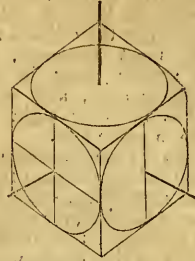
If any point in the same isometrical plane with the point required to be found be already represented in the picture, that point may be assumed as a new regulating point. If it is in the same isometrical line with the point, it is found by taking only one distance. And this last simple operation will be found in practice all that is necessary for the determination of most of the points required. Thus any parallopiped, or any frame-work or other object with rafters, or lines lying in isometrical directions, may be most easily and accurately exhibited on any scale required. But if it be necessary to represent lines in other directions, they will not be on the same scale, but may be exhibited, if straight lines, by finding the extremities as above, and drawing the line from one to the other; or sometimes more readily in practice by the help of an ellipse, as hereafter described.

If a curved line be required, several points may be found, each being sufficient to guide the artist to that degree of exactness which is required.

The method of exhibiting the representations of any machines or objects the lines of which lie as they generally do, in the isometrical direction, that is, parallel to the three directions of the lines of the cube, has been already shown; and likewise the mode of representing any other straight lines by finding their extremities, or curved lines by finding a number of points. But in representing machines and models, there are not only isometrical lines, but also many wheels working into each other to be represented. These, for the most part, lie in the isometrical planes. And it is fortunate that the picture of a circle in any one of these planes is always an ellipse of the same form, whether the plane be horizontal, dexter, or sinister; yet they are easily distinguished from each other by the position in which they are placed on their axle, which is an isometrical line, always coinciding with the minor axis of the ellipse.

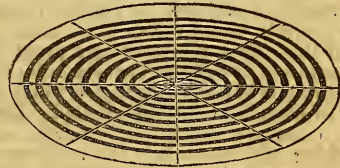
The fact above alluded to will be obvious from considering the figure of a cube with a circle inscribed in each of its planes, and considering the circles as wheels on an axle. The two other lines, (or spokes of the wheel) in the ellipse, which are drawn respectively through the opposite points of contact of the

circle with the circumscribing figure, are isometrical lines also; for the points of contact bisect the sides of the circumscribing parallelogram,



and therefore the lines are parallel to the other sides. They likewise give the true diameter of the wheels, reduced to the scale required.

The ellipse itself may be drawn by an elliptic compass, as that instrument may be properly set, if the major and minor axes are known. If it be intended to represent a wheel on an axle, care must be taken to make the minor axis lie along that axle. In the absence of the instrument, it may be drawn from the concentric ellipses annexed, which may be placed under the paper, in the position above



described, and seen through it if the paper be not too thick; and in this method the smaller concentric circles of the wheel may be described at the same time, as they may be seen through the picture; or, if they should not be exactly of the right size, it would be easy to describe them by hand, between the two nearest concentric ellipses; and thus also the height of the cogs of a wheel in the different parts of it may be exhibited, longer and narrower towards the extremities of the major, and shorter and wider at the extremities of the minor axis. Their width may be determined from the divisions of the ellipse. In most cases, this may be done with sufficient accuracy from the circumference of the ellipse being divided into eight equal divisions of the circle, by the two axes and two isometrical diameters, each of which parts may be subdivided by the skill of the artist; and not only the face of the wheel in front may be thus exhibited, but the parts of the back circles also which are in sight may be exhibited by pushing back the system of concentric ellipses on the minor axis, or axle, through a distance representing the breadth of the wheel, and then tracing both the exterior and interior circles of the wheels, and of the socket on which it is fixed, as far as they are visible. Care should be taken to represent the top of the teeth, or cogs, by isometrical lines, parallel to the axle, in a face-wheel, or tending

to a proper point in the axle in a bevil-wheel. And nearly in the same way may the floats of a water-wheel be correctly represented. If a series of concentric ellipses, such as have been described, be not at hand, it will still be easy for an artist to draw the ellipses with sufficient accuracy for most purposes, by drawing, through the proper point in the axle, the major and minor axes, and two isometrical diameters, thus marking eight points in the circumference to guide him.

If in any case it should become necessary to represent a circle which does not lie in an isometrical plane, we may observe that the major axis will be the same in whatever plane it lies; and it will be the picture of that diameter which is the intersection of the circle with the plane, parallel to the picture, passing through its centre; and the major axis will bear to the minor axis the proportion of radius to the sine of the inclination of the line of sight to the plane of the circle. The representation of every other line parallel and equal to any diameter of the circle may be exhibited by drawing it equal and parallel to the corresponding diameter in the ellipse.

To describe a cylinder lying in an isometrical direction, the circles at its extremities should be represented by the proper isometrical ellipse, and two lines touching both should be drawn; and in a similar way a cone, or frustum of a cone, may be described. A globe is represented by a circle whose radius is the semi-major axis of the ellipse representing a great circle.

It would not be difficult to devise rules for the representation of many other forms which might occur in objects to be represented. But the above cases are sufficient to include almost everything which occurs in the representation of models, of machines, of philosophical instruments, and indeed of almost any regular production of art. Buildings may be exhibited by this perspective as correctly, in point of measurement, as by plans and elevations, under the advantage of having the full effect of a picture.

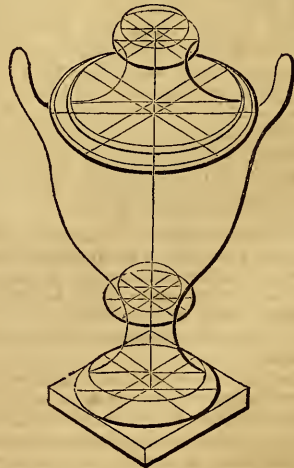
A bridge, or any circular or Gothic arch, consisting of portions of circles lying in isometrical planes may be represented by portions of isometrical ellipses, which will easily be adapted and drawn, upon the principles already explained by which wheels are exhibited on their axles. The centres of these circles must be found, with which the centres of the ellipses must be made to coincide, their minor axes lying along the lines drawn from those centres perpendicular to the planes of the circles.

The shaft of a pillar consists of a frustum of a cone and a cylinder united; or perhaps of a cylinder alone, or a congeries of cylinders: and we have already shown the method of exhibiting these, as well as their bases. And on the same principles the position and size of the volutes and ornaments of the capital may be found, and such guiding points as will make it easy to trace their forms. Thus the different courts and edifices of a cathedral, a college, or a palace, may be correctly depicted; and even the rooms, and internal structure, though less in the form of a picture, may be exhibited in such a way as to enable an architect, or his employer, to contemplate their situation, their ornaments, furniture, or any other circumstance

belonging to their appearance; and to mark down exactly what he would have done, in such a way as could hardly be misunderstood by an attentive agent, though at a distance.

In the instances which have been given, most of the lines are isometrical: but the art is applicable to many cases where there are few or none such. It may be necessary, in many of them, to draw isometrical lines, or isometrical ellipses, by way of a guide, to determine the position of certain lines and points, to enable the artist to describe with accuracy what he has in view: and there is scarcely any form so anomalous as to preclude the artist from taking advantage of these methods of ascertaining such lines or points in it as will give him much assistance in representing it with precision. If the intention be merely to make a picture, the guiding lines may be obliterated as soon as they have served the purpose designed, or they may be retained, in some cases, and their lengths or diameters noted down in figures, if it be wished to give ready information. And often, if the artist wishes to provide materials to enable him, at his leisure, to give accurate descriptions, or exact drawings, the rudest exhibition of such lines may completely serve his purpose, provided he notes down on the spot such measurements with accuracy, however unexact the lines may be on which they are recorded. In many cases it may be expedient to take liberties with this perspective, or with the picture, which will make it suit the purpose designed. And this will produce no confusion, provided those liberties are explained: for instance, it may be often expedient to make the scale in the vertical direction considerably larger than in the horizontal. It may in some cases be necessary to represent on paper what is hid in nature, and what has been said on the internal structure of buildings is an instance of this fact. We shall proceed to give some examples of these observations.

To give such a representation of an Etruscan



vase as would enable an artist to model it exactly

would be exceedingly easy. Let a vertical line be drawn to represent the axis of the vase, and let points be taken in that axis, corresponding to the centres of the principal circles of the vase, through which the horizontal isometrical lines may be drawn, representing the radii of those circles, by the help of which the isometrical ellipses representing them are easily drawn. These will become a complete guide to the artist. He may assist himself by looking at the object along the line of sight, and then, if he has any skill in drawing, he will find no difficulty in tracing the outline from one of these to the other, with a sufficient degree of correctness. If he be unskilled in the art, of course he must be at the trouble of finding a large number of ellipses to guide him. And, in a similar manner, any solid, formed by the revolution of a plane figure round one of its sides, may be represented.

The laying down the timbers of a ship, or making a picture of one, may be adduced as another example. Let a vertical isometrical plain be conceived to pass through its keel, and to be intersected by the perpendicular planes passing through the ribs, and by planes parallel to the decks. The isometrical lines which are the intersections of these may be measured in the ship, and represented, with their proper measures noted down, in the picture, which will afford the means of representing the ribs, and laying them down in their proper places. If this should be designed for the purpose of constructing a ship from a given model, it might be sufficient to represent the ribs only on one side; those on the other side being the exact counterparts. If the purpose should be to make use of these lines for a drawing, they need be marked but very faintly, and the artist will have little difficulty, when guided by them, to fill up the representation by hand.—*The British Cyclopaedia*.

GUTTA PERCHA A FIXTURE FOR DRAWINGS. &c.—M. Vogel states that gutta percha dissolved in sulphuret of carbon in all proportions, and without the aid of heat, when placed on the surface of any object, the carburet of sulphur evaporating with great rapidity, leaves a thin layer of gutta percha, which acts as a preservative against the influence of water and air. From this he is led to infer that the solution offers a great advantage for fixing in the paper, pencil, chalk, or charcoal drawings in such a manner that it is impossible to injure them by friction.

ARTISTS' INCENTIVES.—Without a public voice, knowingly guided and directed, there is nothing which can raise a true ambition in the artist; nothing which can exalt the genius of the workman, or make him emulous of after fame and of the approbation of his country and of posterity; for with these he naturally, as a freeman, must take part; in these he has a passionate concern and interest, raised in him by the same genius of liberty, the same laws of government, by which his property, and the reward of his pains and industry, are secured to him and to his generation after him.—*Lord Shaftesbury*.

Government School of Design.

On Friday the 16th instant Mr. Townsend delivered a lecture to the students "On the Chief Markings of the Antique in reference to their Anatomical causes." The "Antique," he remarked, is not alone the guide to considerations of taste and of true beauty, but, if anatomically considered, will confer a knowledge of the essential divisions of the muscular and bony framework. The grand object of students of Ornamental Design is to acquire the power of rapid composition of the figure, so as to execute with facility and truth the various attitudes and groupings required in their special department of Art. To accomplish this, the most beautifully finished copies of ancient statues will afford very insufficient means, if unaccompanied by an intimate knowledge of the anatomical relations of parts of the structure of the joints and the balance of the figures in movement. The student must be able, even without the model, to make sufficiently faithful approximation to the truth, so as to find no difficulty in original composition and rapid execution. Nature is the unerring guide to study,—and if observed with analytic method, will lead to a ready estimation and adoption of all the varied phases of animal forms. Our ideas of "the antique" are the result of contemplating certain eminent examples which, saved amid the ravages of barbaric wars and other accidents of time, have given to our age a clear evidence of the culminating powers of Greek art. But the same fortune which furnished to us these wonderful developments of human art and skill has also left us the more incipient efforts—and it is by a comparison of the products of different nations, and of the same countries at different periods, that we are enabled to see the steps of study through which the practice of the ancients gradually advanced to the climax. The treasures of the British Museum show us that, whilst in Egyptian art the elements of beauty early made a manifestation, there was little progress, while in the after attempts of the Greeks they advanced far towards perfection. But it was many centuries before the great æra arrived; and then we recognise an evident connexion between the works of the sculptor and the painter and the concurrent science of their time. In the times of Dædalus the markings were few, though full of meaning; and it was not until the age of Phidias that tendons and veins were first expressed by Leontius. It was Phidias himself who carried to the highest development the essential distinctions of parts and the particular indication of muscle, bone, and tendon. Though imitation of structure was afterwards carried further, his was the first perfect union of science with sentiment. It was the peculiar education of the Greeks, as well as their special aptitude for Art, that led to these results. Careful observation, the love of perfectionating, and the application of inductive reasoning, led them to the true philosophy of Art. Their artists were the

constant companions of the philosophers and poets; and receiving among the academic groves the teachings of their first sages, they were familiar with the theory and practical application of the sciences. The wounded warrior, the sacrificial victim, and the gymnastic exercises of the athletes gave them a continual practical demonstration of anatomy. What peculiarly strikes the unlearned observer in looking at the finest ancient statues, is the regularity of occurrence and almost geometrical accuracy of the various demarcations of the body and limbs,—which, whilst they consort with his general idea of the human frame, present many deviations from the correspondent markings of an ordinary model. This combination of markings was the result of endeavours to derive from observation the essential condition of structure with regard to the fullest development of health and vigour of intellect and will. By following a similar method of study we shall duly comprehend the works of the ancients—and the power of originating will thus find the surest assistance. Observing that all these lines and markings were founded on the strictest consideration of the structure—not as witnessed in every model, but as ascertained by a comparison of the best portions of the best figures—the lecturer proceeded to notice *seriatim* the masses of the figure as given in the antique; demonstrating on Houdon's figure of the muscles, on a coloured anatomical statue, and by various plates and diagrams, the bony and muscular forms and divisions on which such appearances were dependent. He also drew attention to the importance of recognising with care, and marking with accuracy, the distinction of the *tendonous* from the fleshy portions of the same muscle; and pointed out various arrangements connected with the movements of the body at the hips and in the loins;—referring for further illustration and examination to special examples.

CONVERSION OF THE DIAMOND INTO COKE.

—At a late meeting of the Royal Institution, Mr. Faraday gave a lecture on the above subject, in which he adverted to the researches of M. Jacquelin, who last year succeeded in converting the diamond into a substance possessing the appearance, physical character, and electrical properties of coke, by attaching a piece of hard gas retort carbon to the positive wire of Bunsen's battery of 100 elements, then placing on it a small piece of diamond, and, after arming the negative wire with a cone of the same carbon, by dexterous manipulation enveloping the diamond with electrical flame, when, after a short interval, the diamond underwent a sort of ebullition, became disintegrated, softened, and was actual coke.

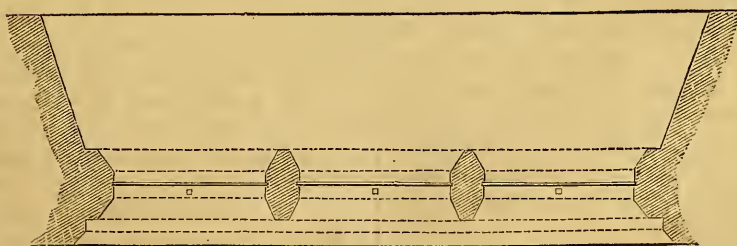
ENGINEERING PRIZES: UNIVERSITY COLLEGE.

—1st year, prize and 1st certificate, G. B. Smith. 2nd year, prize and 1st certificate, S. S. Blackmore. *Surveying*.—Prize and 1st certificate, J. Young. *Mechanical principles of Engineering*.—Prize and 1st certificate A. Warren.

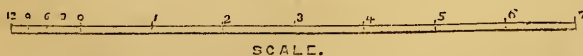
The Chronotypist.

THE Grand Fancy Ball in aid of the funds of the Spitalfields School of Design took place on Thursday, the 13th instant, and was attended by a most numerous and brilliant assemblage. The receipts amounted to £2,900, and the expenditure to about £1,600, leaving a balance for the school of £1,300.—The ancient castle of Newcastle is in a rapid process of restoration by the local Society of Antiquaries.—The new church of St. Peter's, Rock Ferry, has been closed in consequence of the instability of the roof.—A singular and ridiculous protestation against electric telegraphs made by the German farmers, states that the electric wires when passing through lands are injurious to life and property, and pernicious to the crops.—“A good street,” says the *Morning Herald*, “from Islington to Blackfriars-bridge is of all things the most wanted. An act of parliament for making such a street was passed seven years ago. £200,000 or £300,000 have already been spent, or, for all purposes thrown away, in purchasing property and pulling down houses; but the whole business sticks fast.”—An electric telegraph has been established in Jersey.—We learn from the *Hants Telegraph* that thirteen different forms of screw propelling have been tested by the *Minx* steamer: the result was that Woodcroft's screw propelled the *Minx* at nine knots an hour, and when at its greatest velocity the engines performed about three evolutions per minute more than with any of the other screws.—We read in *Douglas Jerrold's Newspaper* that the number of goods waggons belonging to the North Western Railway exceeds 11,500, and if these carriages be supposed to be worth £50 each, they represent a capital of nearly £600,000.—It is stated that if stone-masons would be contented with the same profit upon gravestones that they obtain upon other descriptions of work, they would be more extensively adopted.—The exhibition of the Royal Academy closes on Saturday, the 22nd inst, and the exhibitors are requested to send for their works on Wednesday, the 26th, or Thursday, the 27th.—The Liverpool council intend to apply to the Treasury for permission to raise £25,000 for the purpose of erecting more baths and washhouses.—The *Boston Chronotype* of the 24th ult. states that the wires on the Morse's Philadelphia line of telegraph, in New York, have been placed across the Hudson—being sunk in the bottom of the river. They were operated for the first time on the 22nd of June and worked well.

ARCHITECTURAL PRIZES: UNIVERSITY COLLEGE, LONDON.—The following is a list of the students who have received prizes in architecture. As a *Fine Art*, 2nd year, 1st prize: J. Norton; 2nd prize, J. G. Hall; as a *Science*, 1st prize, C. Poland; 2nd prize, J. G. Hall. *Fine Arts*, 1st year, 1st prize: E. W. Tarn; 2nd prize, T. Hill. *Science*, 1st year, 1st prize: T. Hill; 2nd prize, E. W. Tarn.



PLAN OF WINDOW



SCALE.

EAST WINDOW IN SOUTH AISLE, NORTHFLEET CHURCH, KENT.

Protection from Fire.



MONG

the many engrossing subjects which occupy the public mind, that of protection from fire forms one of the most interesting—as while the slightest danger *does* exist, everyone, be he high or low, equally shares the risk either of a horrible maiming or an awful death.

In comparing the number of fires and property lost in London, and in the old country towns, though of equal extent, we find both the frequency and loss far greater in the capital than in the country; though in the capital there is an abundant supply of water and engines, and in the country usually a want of both. These facts lead to the conclusion that the old buildings are safer than the new, and this conclusion may be strengthened by more extended observations. Compare the yearly number of fires and property destroyed in Paris, where the new buildings bear but a small proportion to the old, with the same in London, and the result will be fearfully against ourselves. The provincial cities of France, of the Netherlands, and of Germany, all tend to prove the greater security of the ancient buildings. Almost all the ancient edifices are in stone, their outer and inner walls are of great thickness, their stories are formed by arches, their floors are flagged, and in some instances the roofs themselves are vaults of masonry. In buildings so constructed fire

found no fuel. The old edifices of a later age preserve in parts the ancient manner, while in others they approach to the new. Their walls and partitions are still massy, the lower stories still vaulted, but the upper floors and the roofs are constructed of timber. But then the wood was oak, which to its durability adds this precious quality, that in fire it smoulders rather than flames. Now, with this contrast our modern buildings. Even if of stone, their walls are rarely a half—generally not more than a third—of the thickness of the old. If of brick, the common material, the outer walls are thinner still, and the partitions of lath and plaster. The floors are of timber, the roofs of timber, the walls pierced with windows cased with timber, and this timber, the pine, the most inflammable of all the woods used in building. From the old, every inflammable material was excluded; in the new, the four walls are filled with that which is the aptest to catch fire, the readiest to spread it, and the soonest to be consumed.

Another cause of those destructive fires has been charged to the new method of heating by flues, which have come lately into use, and in almost all instances have been added to buildings not originally fitted for them, nor has experience yet discovered those guards against this danger, nor that skill in their management, which time and habit only can teach. Flues wind within walls, through and under floors, unseen throughout their course. They cannot, therefore, be watched and kept under control like chimney fires. In their common form they are fed by one stove, whence runs one connected tunnel of pipes. The pipes, again, are in general of iron, which itself heats rapidly, imparts it readily to surrounding objects, and the heat may be secretly, unknown to all, accumulating during many days, until flames burst forth in twenty places at once, and then follows immediate, inevitable, and total destruction.

Ere we conclude, we must draw attention to a method of warming the air of buildings, and preserving it at an even temperature independent of artificial heat. This method was well known to the ancient architects, and applied by them to several classes of edifices, though

now overlooked, perhaps unknown, certainly not practised. It was accomplished by simple means. The building was so constructed that the heat accumulated during summer could not be lowered by the winter's cold under a certain temperature, according to the climate.

Buildings constructed on this design have their walls commonly of from four to six feet thick. The windows are few and narrow, and they always face the south-east, south, or south-west. The northern aspects present blank walls, chimneys are excluded, and but one door allowed to one chamber, and the more spacious it is, the more equal will the heat be within. Thus in St. Peter's, at Rome (the largest covered temple in Europe), though not built upon this plan, the air has never been known to vary beyond four degs.—namely, from 60 to 64 F. This is in the climate of Rome. In our own, the temperature in chambers constructed as above may range from 44 to 55 degs.; that is, nearly a mean between the average heat of April and of May.

In England there are still some ancient buildings upon this plan, and in France many more. The ancient Castle of Carrickfurgus offers an example. No chimneys, stoves, nor flues are found within the ancient walls; yet the temperature of the hall varies little throughout the year, being agreeably warm in winter as in summer.

This simple plan of warming the air in buildings by the solar rays alone, without artificial heat, though not fitted for dwellings, is perfectly adapted to all edifices built for conservation, as archives, libraries, museums, arsenals, and the like. In a word, to all where fire is most to be dreaded. The winter's cold may yet farther be excluded, and the summer's heat preserved, by double casements, placed at the end of autumn, and kept close shut until the return of spring as it is practised universally in Russia.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"Gas."—Our correspondent pays us a flattering

compliment for which we are truly obliged, and hope that our succeeding efforts will not tend to deteriorate his good opinion. Fluoric acid is made by placing pure Derbyshire spar (which may be obtained at any chemist's) in a retort of lead or silver, with a receiver of the same metal adapted, and then pouring on it its weight of sulphuric acid, by which means, and the application of a moderate heat, the fluoric acid will be disengaged. This acid readily combines with water—for which purpose it is necessary that the receiver should previously be half filled with that fluid. "If" says Dr. Ure, "the receiver be cooled with ice, and no water put in it, then the condensed acid is an intensely hot liquid, first procured by M. Gay Lussac." It has the appearance of sulphuric acid, but is much more volatile, and sends off white fumes when exposed to the air. Its specific gravity is only 1.0609. It must be examined with great caution, for when applied to the skin it instantly disorganises it, and produces very painful wounds. A retort is a kind of bottle, employed in distillations requiring a high degree of heat, and has a long neck, so bent that it makes with the belly of the retort an angle of about sixty degrees. The receiver is a chemical vessel adapted to the neck of the retort. Both of these may be obtained of nearly all chemist's. We shall at all times be happy to hear from "Gas," and hope that he will exert his influence in extending our sale among his friends and acquaintances.

"J. H. N." (Leamiugton).—Yours is the first letter we have received upon the subject, but your suggestion will be complied with. The series of articles on architecture are only deferred in consequence of serious indisposition of the professional gentleman by whom the drawings have been hitherto made, but they will be resumed shortly.

"W. R."—Mr. Barrett's work on Gothic ornament is published at the office of the DECORATOR'S ASSISTANT, in monthly parts at 1s., or on Indian paper 6d. extra. It is issued in monthly parts, each containing four steel engravings.

Mr. Cruix's enclosure has been received, for which we are very much obliged, and will be happy at any time to return the favour.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 15 is now ready, price 7d.

Notes upon Glass Painting.

For the following valuable memoranda, we must acknowledge ourselves indebted to a splendid volume on Ancient Glass Paintings, by an "Amateur," lately published by Mr. Parker of Oxford:—

"There are three distinct systems of glass-painting, which, for convenience sake, may be termed the *mosaic method*, the *enamel method*, and the *mosaic enamel method*. Of these the most simple is the mosaic method. Under this system, glass paintings are composed of white glass if they are meant to be white, or only coloured with yellow, brown and black, or else they are composed of different pieces of white and coloured glass, arranged like a mosaic, in case they are intended to display a greater variety of colours. The pieces of white glass are cut to correspond with such parts of the design as are white, or white and yellow—and the coloured pieces with those parts of the design which are otherwise coloured. The glass painter in the mosaic style uses but two pigments—a stain which produces a yellow tint, and a brown enamel called *enamel brown*. The main outlines of the design are formed, when the painting is finished, by the *leads* which surround and keep the various pieces of glass together; and the subordinate outlines and all the shadows, as well as all the brown and black parts, are executed by means of the enamel brown—with *which colour alone* a work done according to the mosaic system can be said to be *painted*. The yellow stain is merely used as a colour. It therefore appears that under the mosaic method each colour of the design, except yellow, brown, and black, must be represented by a separate piece of glass. A limited number of colours may, however, be exhibited on the same piece of glass by the following processes:—Part of a piece of blue glass may be changed to green by means of the yellow stain. The coloured surface of coated glass may be destroyed by attrition, or the application of fluoric acid, and the white glass beneath it exposed to view. This may, of course, be wholly or in part stained yellow like any other white glass. Two shades of yellow may also be produced on the same piece of glass by staining some parts twice over. But unless he adopt one or other of the above-mentioned processes, the glass-painter under the mosaic system cannot have more than one colour on the same piece of glass. A variety of *tint* or *depth* may often be observed in the same piece of coloured glass, arising from some accident in its manufacture. Of this a skilful glass-painter will always avail himself, to correct as much as possible the stiffness of colouring necessarily belonging to this system of glass-painting."

Of course it is not necessary to repeat the author's description of enamel painting, as we have already given, or rather are in process of giving, one.

"The mosaic enamel method consists in a combination of mosaic and enamel painting—

white and coloured glass, as well as every variety of enamel colour and stain, being employed in it. The practical course of proceeding under each of these three methods is nearly alike. A cartoon of the design is made, upon which are also marked the shapes and sizes of the various pieces of glass. The glass is cut to these forms and is afterwards painted, and burned, *i. e.*, heated to redness in a furnace of *kiln*, which fixes the enamel colours, and causes the stains to operate. The number of burnings to which the glass is subjected varies according to circumstances. It is general, sufficient to burn glass painted with only one enamel colour once or twice—the selfsame operation sufficing also to give effect to the stain, if any is used. Where several enamel colours are employed, it is necessary to burn the glass more frequently—each colour, in general, requiring to be fixed by a separate burning. It only then remains to *lead the glass together* and to put it up in its place.

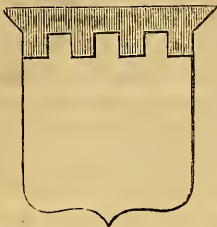
[To be concluded in our next.]

ASPHALTE.—Mr. James Wyllson, of Glasgow, writing in a professional contemporary, with regard to Asphalte, remarks that, "It is known that much of the material used is nothing but coal tar; and as there are variations in quality, from that which softens with in-door warmth until casks and table feet make deep impressions in it, or under the influence of the summer sun becomes adhesive underfoot to the toiling pedestrian, to that other extreme which comes off in black dust, ready for conversion, by moisture, into a dirty mud, it appears to me that the cause of these opposing conditions lies in the under or overboiling of the aforesaid coal tar. We know that in preparing tar for use as a protective coating to woodwork, &c., it takes some three or four hours boiling to "pitch" it; and that if it is too much boiled it loses its elastic quality, and becomes crusted and perfectly effete. Here appears the risk in regard to the so called "Asphalte;" what with the mixture with the other ingredients, the partial emptying of the boilers, and the cooling of the residue in them at the completion of one job, and the re-heating, or making up, of the same at the commencement of another, the due amount of boiling seems liable not to be attended to. The blocks of "Asphalte" which are prepared at manufactories, for the purpose of paving, are, generally, too much impoverished: in the first place, a black varnish is obtained from the tar, which is used by boiler makers and others; and the tar is then subjected to a process of distillation in order to separate the spirit or naphtha; the residue is then boiled up again with an admixture of ground chalk, and formed into blocks, and this, as far as I am aware, completes its preparation as an article of commerce. It appears, therefore, that in using the tar in its natural state, as it comes from the gas-works, a less economical, but a much better article is employed, more liable to soften, but less liable to crumble away."

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 124.]

EMBATTLED (in heraldry), when the outline of any ordinary is notched after the manner



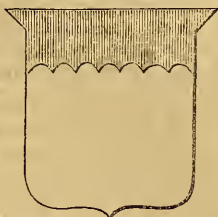
expressed in the accompanying illustration, representing the battlements of a wall or castle.

EMBLEMS (in all the arts), correctly speaking emblems are inlaid work, enamel, &c.; but in its modern and more extensive application,



the word is used for any occult representation, allusive pictures, or sculptures, and the like. Emblems and attributes belong to art, allegory to poetry.

ENGRAILED, or INGRAILED (in heraldry), is when a thing is represented with its edges



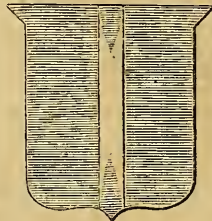
ragged or notched circularly, as if broke by something falling on it.

ENCARPUS (in ancient architecture), festoons



of fruit or flowers in friezes or capitals.

ENDORSE (in heraldry) an ordinary, contain-



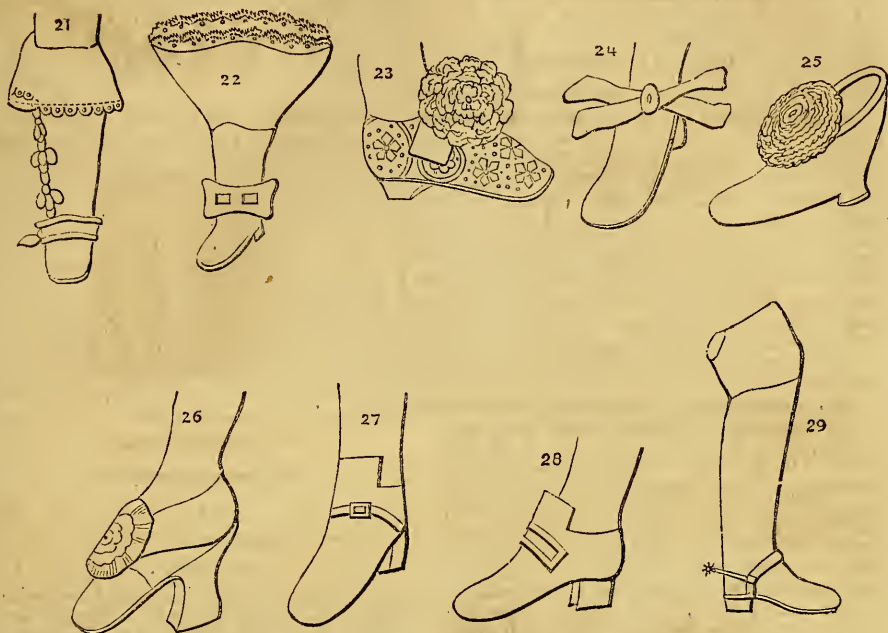
ing the eighth part of a pale.

[To be continued.]

CHILDREN AND PICTURES.—To gaze at pictures is the first amusement of childhood. Before the untutored tongue can lisp the rising thought, the dimpled finger is pointed to the gaudy colours arranged expressly to attract infantine attention. Pictures are particularly useful in the instruction of youth, from the lively impression which they convey to the imagination, and more lively and permanent than any that can be communicated by speech. The parents and masters of families would do well to hang in the apartments allotted to their children, representations of graceful forms, and of noble actions. Then, instead of bare walls, or unmeaning patterns of form, their rooms would be hung round with thoughts. I was astonished on one occasion by the knowledge of the New Testament evinced by a little girl, who could scarcely speak, till I found that engravings from the cartoons of Raffaëlle had adorned her nursery, and that by incessantly questioning the nurse, she had made out the subjects of each. All caricatures, all distortions, or disproportions of body should be avoided. The eye should be educated to admire that which is physically correct, as well as the mind to appreciate that which is morally beautiful—to love the purest spirits animating the most admirable forms—the noblest actions performed by the noblest creatures. If to infancy and youth this art is valuable, it is well worth the occupation of manhood, and the appreciation of mature intellect; and in age, when the pleasures and amusements of youth have become insipid, or unattainable amidst infirmities and debility, the failing eye may yet turn with pleasure to those delineated forms which recal to the mind ideas and objects half effaced from the memory by the lapse of years.—*Sir J. Page.*

Shoes.

[Concluded from page, 65.]



IN the latter part of the reign of Charles I. and during that of Charles II., Spanish leather boots were principally worn, with very large tops, ruffled with lace or lawn. These were frequently very tastily ornamented and tied at the sides (figs. 21 and 22). Charles I. in the early part of his reign, wore shoes with large roses (fig. 23); but towards its close, the roses were dispensed with, and large wide strings substituted (fig. 24). The ladies in the reign of Charles II. wore high heels to their shoes (fig. 25), which they seem to have adopted from the Venetian "Ciappines," or "Choppines." Something of the kind is at present worn by the lower classes in Italy (fig. 26). Buckles succeeded large ribands on shoes about 1680, although they had been used to fasten the strap which passed over the instep much earlier (fig. 27). The heels of the shoes at this period were often coloured red, &c., the buckles gradually increasing in size (fig. 28), till the reign of George III. Long boots, also with coloured heels, were besides much in vogue at this time. Hessian boots were introduced about 1787, and soon afterwards short boots were also worn. Having thus noticed the principal variations in the forms of shoes in England to the end of the eighteenth century, we con-

clude, as everybody must be well acquainted with the boots and shoes of our own æra.

W. T. R.

LAPIS-LAZULI.—The Petersburg Academy of Sciences has published the following particulars relative to lapis-lazuli and mica:—"Both these minerals are found in the vicinity of Lake Baikal, especially in the river Hindianka, and in all the rivers which fall from Mount Khamardaban. Mineralogists have not, however, yet succeeded in finding the flow of the lapis-lazuli, notwithstanding the minute researches which have been made in divers points of these localities. Mr. Moor, the mineralogist, who spent two summer on the banks of the Hindianka, succeeded only in discovering the flow of glaucolithe, or calcareous blue spath,—and every attempt since made to ascertain the place of the formation of the lapis-lazuli has been unsuccessful. The natives affirm that this precious stone is met with after the heavy rains have washed down the pebbles found in the beds of the rivers. With regard to mica, it is found in great abundance in the neighbourhood of Hindianka, even with the ground, in the form of not very thick flakes, lying upon a bed of soft clay, as if it had been deposited upon it. The inhabitants frequently resort to these places to carry off the mica—which they put into their window-frames in place of glass."

Nottingham School of Design.

At the fifth annual meeting of the friends and subscribers of this institution on the 16th ult. the mayor, J. Heard Esq., read the report, which said that the school had been enlarged in its dimensions, and a separate apartment thus obtained devoted to a print and book room, which addition had been attended by the most gratifying results. Another department rendered available by the alteration of the premises was appropriated to modelling, several students having been anxious to pursue this branch of art. The female classes were stated to have got on very prosperously, and the students worked with the most praiseworthy assiduity. During the year £20 were bestowed in prizes for the best productions in each department. The committee had been earnestly desired to establish a class for mechanical drawing—classes for simple geometry having for some time previously existed, and it was proposed to form immediately a class for the study of machinery; a proposition which it will be remembered we made some time ago as one worthy of general adoption. After the report was read Mr. Wilson addressed the meeting and stated that he had derived much pleasure from an inspection of the specimens that adorned the walls—particularly the flowers. He recommended the scholars, however, to study nature more. He observed that many of the drawings were from garden flowers—all of which were more or less unnatural. Even the most beautiful roses were more or less monstrosities—as indeed all double flowers were. He advised the ladies, therefore, occasionally to draw from natural—that was, from wild flowers: and they would find them well worth their attention. With respect to the higher branches of art—he thought the specimens exhibited would instantly commend themselves to the notice of all. When they looked at that fine centaur (pointing to one opposite to him) and then to the copy which had been taken of it (by Mr. M'Cullum) they could not fail to be struck with the spirit and accuracy of the latter. He had never seen a centaur, and probably never should; but they could at any rate bear testimony to the skill with which the ancient conceptions had been embodied by the students. He considered that this proved not only the aptitude and industry of the pupils but the talent and assiduity of the masters.

The following were the principal works exhibited on this occasion:—

In the ladies' class—

Miss Lewis, an original oil painting (flowers) and ornamental designs; Miss Adcock, a chalk drawing of the figure; Miss Leighton, a painting of flowers (original); Miss Coleman, a landscape in oil; Miss Cripps, ditto; Miss Sutton, a copy (in oil) of Redgrave's "Decayed Gentleman's Daughter;" Miss Bridges, a chalk drawing of figure; Miss M. A. Cripps, water colour landscapes; Mrs. Enfield, oil landscapes; and Miss Bennett, a water colour View of Peter Gate.

In the other classes the following deserved commendation:—

W. Foster, drawings in chalk, figure and ornamental; W. Hind ditto ditto, figure; Orange, geometrical drawings; A. M'Callum, large charcoal drawing and original paintings in oil; S. D. Walker, Sepia architectural drawings; L. Pott, a chalk drawing and drawing from nature; H. Redgate, geometrical drawing; B. Heald, original designs; Betteny, an oil composition; Garland, an enlarged outline; Butler, an elementary drawing; Seymour, a chalk drawing; Oskroff, an elementary drawing; G Meakin, an original design and oil painting; Wilkie, an outline from cast; Moir, ditto; Fox, a drawing from nature; Hammond, a chalk drawing; Hackett, ditto; Forman, a chalk drawing; Maycock, an original architectural design in oil; Turton, a composition in oil; Yates, a copy of cast in oil; Cooper, ditto; T. Herbert, a Sepia architectural drawing; T. Moore, a composition in oil; Birkin, a geometrical drawing; C. Bolton, a chalk drawing; Heazle, copies of cast in Sepia; and Cramp, a chalk drawing.

Correspondence.

On Architectural Exhibitions.

TO THE EDITOR.

SIR,—If not their actual intention, the desire of getting up an Exhibition that should consist of Architectural Drawings has been intimated by some connected with the Society of Architectural Draughtsmen. I much approve of the scheme itself, but feel doubtful whether it would not meet with as much opposition as encouragement from those, whom it might be considered would be the most interested in its formation, namely, Architects, unless, indeed, it emanated from themselves. Were it brought forward by other parties than themselves, it would, in some degree, throw reproach upon the profession for their inactivity and the *not very* meritorious patience with which they endure the slight put upon them at the annual exhibitions of the Royal Academy, who apparently select a few architectural drawings for the convenience of filling up the spaces allotted for the encouragement of the *sister art* to painting. Instead, therefore, of opposition to an establishment of a National Exhibition of Architectural Drawings, the Royal Academy would be much disposed to encourage it, as it would by this means be enabled to relieve itself of that portion of the exhibition which must be considered as a burthen. There would certainly be no jealousy on its part towards a new Architectural Exhibition any more than towards the Water Colour Institutions; neither would there on the part of the originators of this movement appear the slightest semblance of opposition to the Academy; it being but reasonable that they should endeavour to help themselves, as the opportunity of gaining public applause in Trafalgar-square, is of the most limited nature, admitting only such draw-

ings as are pictorial and highly embellished. No plans, no drawings of detail, and but few sections, find a resting-place on the walls of the academy. The room, in fact, devoted to this branch of art is an useless appendage, seldom visited with interest either by the professional or student from its want of completeness, or by the casual visitor from his or her attention being so engrossed with the paintings and sculpture.

The comments of the press as each succeeding year appears, brings complaints and brief descriptions, so that it would seem that the appeal to the public on behalf of architecture will eventually die a natural death. But supposing that an exhibition be devoted to architecture alone, then *alone* would this fine art be spoken of, talked, noticed, or written about.

The question as to whether such an Exhibition would be sufficiently attractive as to be worth engaging in as a mere speculation may be readily disposed of; for with those who become concerned in its formation, pecuniary profit would form, I trust, the last consideration, and the immediate regeneration of architecture and the establishment of permanent advantages to this *art* their prime mover.

When the Institute of Architects was first formed, it was thought that one of its first objects would be an annual exhibition devoted to their own art. Hardly could they have *overlooked* such a step, or if they had—they have received hints enough to rouse their dormant faculties and engage their serious consideration—the object being two-fold: 1st, as one likely to benefit architecture; 2nd, to promote a taste for it among the public. A growing taste there certainly has been diffusing itself more and more every day, but no thanks to the house of the architects of Great Britain, or to any exertions on their part, either to implant it in the first instance, or foster it afterwards. No doubt but that some members of the profession individually entertain a sincere love for their art, but the same cannot be said of them as a body, or else, like *Viola*, it

“Never tells its love”

to the public, or does anything that openly betrays its secret, and, perhaps, deeply *hidden* affection. All the more desirable is it, then, that some other body should do what the Institute, if left alone, will never attempt; nor is it the less desirable, because it might have the effect of rousing the Institute itself. I shall be happy to receive the communications of any such gentlemen as may be willing to enlist in this cause, and hope to receive the support of your useful publication in the attempt.

I am, Sir,

Your obedient servant.

GEORGE JOHN RHODES.

2, Lower-road, Islington.

[Our correspondent's letter contains a correct avowal of facts and a sound suggestion, which could not have been possibly better timed. We shall be happy, as far as lies in our power, to render every assistance which such a laudable attempt so eminently deserves, and undertake not only to record progress, but also to insert such communications from profes-

sional men as bear upon the subject—being fully convinced that no effort to ameliorate or destroy an evil can be successfully made without the assistance and earnest coöperation of that class upon whom it most directly bears.—Ed.]

IMPROVEMENTS IN THE BOTANIC GARDEN, CHELSEA.—This is, perhaps, one of the oldest gardens in England, and it gives us much pleasure to learn that the Society of Apothecaries has given up all intention of removing it from its present site. It was founded nearly 200 years ago, and has been kept up at considerable annual expense for the benefit of the various medical schools and hospitals in the metropolis. The society has now come to the determination of making it still more useful by improving and adapting it to the present state of botanical science. On paying the garden a visit a few days ago, we found that numerous instructive additions had been made to the collections during the past year. The plants in the houses were clean and healthy; the young ones, in particular, are becoming extremely interesting. The improvements about to be commenced in this garden are of the following description:—The hardy plants are to be re-arranged upon the grouping system, numbering is to be done away with, and each plant is to have its name affixed to it. This will, without doubt, prove a great boon to medical students, who have often little time to consult printed lists; besides, it will bring more readily under their notice many of those fine medicinal plants which this garden contains. A new range of span-roofed hothouses and greenhouses are to be built in the centre of the garden, and these are planned so as to have the fine old marble statue of Sir Hans Sloane in the centre of the range. A new entrance will be made in Swan-walk, at the east end of the range of houses, and a pond for water plants is to be formed at the bottom of the garden, in connection with the Thames, and which will be filled at every flood tide.—*Gardener's Chronicle*.

ANCIENT *versus* MODERN CHIMNEY POTS.—I may remark that the principle of the common old-fashioned chimney-pot and cap appears to me to be fully as philosophical as that of any of the tortuous contrivances of the present day, by which smoke is endeavoured to be wheeled into a rebellion against natural laws. The cap is usually put on for the mere purpose of lengthening the funnel, or, perhaps, as a finish to it: the more subtle consideration that the course of the ascending column will be accelerated by the current created in the cylindrical space preserved between them by the stubs, forming no part of the argument. That, however, we may consider of minor importance, if benefit be derived from the practice; only, it is remarkable that, in practice, we find many things done on philosophical principles for a long while before the fact of their being so is detected. In many cases these principles have been set out with by the inventor, and afterwards get completely overlooked, and allowed to lie dormant, like the symbolism and geometry of the middle-age architects.—*J. Wylson*.

Art in the Middle Ages, and its Progress Downwards.

THE dismemberment of the Roman empire obscured the arts; and in the thirteenth and fourteenth centuries we find the church its only patron. During the middle ages Gothic architecture was extensively adopted; its singular and beautiful ornaments are exceedingly interesting, and frequently display very considerable talent in the principles of design. The Jesuits studied the arts, especially architecture, and have produced some of the finest perspective effects in the world; their noviciate, extending to thirty years, gave ample time and leisure for deep research, and they are considered to have produced greater benefits and greater evils than any other ecclesiastical body.

Early in the fifteenth century, immense efforts were made to restore classical architecture and ornamental embellishments, and consequently all the extensive ramifications of manufacturing design. Art quickly became the idol of the people, and there appeared some of the greatest names that ever graced the annals of art; powerful princes were patrons, and the utmost encouragement was afforded by the illustrious merchant family of Medici, the Pope's Leo X., Julius II. and Clement VII. Architecture, painting, and general decorative art, pressed forward with amazing success; all the minor discoveries had been gradually developed, and art reached its most distinguished eminence before the close of the fifteenth century. The splendid talents of Leonardo da Vinci distanced all former excellence; naturally possessing the very highest attributes of genius, and favoured by education and circumstances, he became as great in sculpture as in painting. The musician, poet, and man of science, his genius kept unceasingly creating, but his perseverance failed before completion. The Battle of the Standard, a cartoon for decorating the great council chamber at Florence, is one of the noblest inventions of art, full of felicity and picturesque energy; it displays each attitude of body, and active passion of mind, with profound skill; the horses are treated with surpassing vigour; and it stood alone in art, until Rubens imagined from this text, his magnificent equestrian groups of the Battles of the Amazons. Contemporaneous was Michael Angelo, the Prince of art; one of those mighty geniuses, who but at distant intervals are found upon the earth. He sublimely conceived, attempted and succeeded in uniting magnificence of plan with wonderful execution and endless variety; his style was broad, his line uniformly grand; whatever he touched received the impress of his genius, and he rendered character and beauty subservient to the highest attributes of design. He showed to what sublime purpose decorative painting could be applied, by his adornment of the Sistine Chapel; there depicting sacred history with all the wonders of art. In the "Last

Judgment," every attitude, and the master trait of every passion which sways the human heart, was called to his assistance. The depth of thought and power of meditation he expressed in the prophets and sybils of the chapel of Sixtus. His sculpture appears to have a vitality about it, and his powers as an architect were exhibited in the skilful adjustment of the vast number of jarring parts in St. Peter's, and combining them in one magnificent whole.

Raffaële was the mild and delightful painter of nature: his works in the Vatican, &c., prove him to have entertained the same thoughts as Michael Angelo upon applying the highest quality of art to decorative purposes; their ornamental portions, arabesques, borders, and numerous addenda, will be found, however beautiful in themselves, to be subservient to the great principles of design,—*harmony and repose* being essential to the ultimate effect of the whole work. To these eminent characters, who practised decorative painting in its highest walk, others, second only to such mighty names, lent their best assistance to adorn the palaces and villas of Italy, where they produced works of infinite beauty; galleries and apartments in which the richest architectural arrangements were embellished with skilful dispositions of colouring, beautiful arabesques and gilding; fine distinctive effects were produced through different combinations and proportions, harmony and rich solidity of magnificence, only to be obtained by a thorough knowledge and skilful adaption of the sound, unerring rules of art.

Design, resulting from the full appreciation of fine art, was lavishly used during the fifteenth and sixteenth centuries, upon every kind of manufacture. The terra cotta of Faenza, of exquisite design and great variety. The Limoges enamel upon copper, forming cups, plates, tazzas, and various ornaments, were often painted by artists like Parmegiano. Richly coloured marbles were freely used in unity with beautiful mosaics, for interior embellishment. The dress of the period was rich in the extreme, in fashion, colours and material. The missals and psalters of the church were illuminated;—medalling carefully practised; engraving on steel, crystal, and precious stones, in intaglio, and inlaying with gold and silver, upon the sumptuous designs for armour and offensive weapons, cups, vases, chalices, and sculptured plate, were eagerly sought. The superb setting of jewels, intermixed with enamelling, became a passion; and the liberality and demand for large and small goldsmith's works; produced a great body of the finest manufacturing artists, medallers, and engravers, celebrated in an age rich in every species of excellence depending upon the arts. Benvenuto Cellini was of most distinguished eminence, of elegant person, great vivacity; bold and full of intelligence, he lived amongst the most noble princes and dignified ecclesiastics of that turbulent age; sometimes soldier, musician, engraver, sculptor, or medallist; he produced coins for the mint, both at Rome and Florence, so fine as

to be preserved as medals; he was ennobled; and dying at Florence, in 1570, was buried with great funeral pomp. He had lived in intimacy with Michael Angelo, Titian, and all the great painters, sculptors, and architects of Italy; courted and esteemed by princes; these illustrious men were supported in great splendour, and held in the highest estimation.

Such being the treatment of artists by a Charles V. or Francis I., the celebrated ecclesiastics of the period, and the minor States of Italy, can we wonder at the success of art under encouragements so flattering, or be surprised that our Harry VIII. was unable to prevail upon these great artists to visit him?

Louis the XIV. was a magnificent patron of the arts, and also first instituted an academy in France, for the purpose of teaching art upon systematic principles, subdividing the instruction under the heads of drawing after the antique and after the living model, anatomy, painting, perspective, the laws of taste, colouring and composition. The plan of education previously pursued was that of apprenticeship, where the youth gradually learned the craft, assisted his master, and set up for himself; and in this manner the noblest artists had been produced. Notwithstanding the advantages which an academy presents in providing able teachers, and collecting the great examples of art, without the study of which the strongest intellect may be deviously employed. Academies have never succeeded in sustaining a period of declining art: few are taught to much purpose, unless in a great measure their own teachers; and we find that art sunk rapidly after the time of Francis the First.

It continued thus depreciated for nearly two centuries; and although many of the castle palaces of Germany, were erected during that time, and command attention from their massive and often impressive grandeur, there is not that purity of style which will stand the test of time. Contemporaneous in England, the Elizabethan was paramount, and in the next age, a debased use of the style of Louis XIV. was the favourite. Beauties may be found in both; each is extremely picturesque, and when chosen with due regard to fitness of purpose, may be tolerated by the lover of fine art, and most assuredly will please the painter. The Italians, naturally a refined people, and accustomed to fine sculpture and painting in their churches, first returned to the right path; France and Germany have followed, and England has now the opportunity.—Crabb.

Cement for Wood and China.

COMMON GLUE is well known to be soluble in water, and that after any length of time has elapsed since its first application; those articles, therefore, which are glued together are only such as are ordinarily to be kept dry, lest the moisture to which they may be exposed

should dissolve the glue which unites their various joints, and they, consequently, fall to pieces. The only preventative of this effect has hitherto consisted in laying on a coat of varnish in order to keep off the wet. There are very many cases in which glue would be used were it not for this solubility, such, for example, as vessels to hold hot or cold water, furniture for sea use, where it may be exposed to a damp atmosphere, show-boards for houses, external shutters and doors, and numerous other pieces of workmanship. It is somewhat surprising, therefore, that no attempt should have been made in this country to bring into general use the famed "Cheese glue" which is employed on the Continent in most of the before-mentioned cases with complete success. It is known, indeed, as a cement for joining china, glass, and, we believe, is the same as Vauconvier's cement which is sold at a very high price for that purpose. It is certain, at least, that such articles may be joined together with it, so as to have a neat joint, and to resist the ungenial degrees of temperature to which they are generally exposed, as well as the action of water, acid &c. From this latter property it may also be useful for joining broken galvanic troughs, &c. Applied to wood it is extremely tenacious and equally resisting. The following is the receipt:—

Take some fresh cheese, made with rich, creamy milk (Cheshire cheese will do); pound it and wash it in warm water, until all the soluble parts are carried off by the water; this latter process may be performed in a sieve or linen cloth, through which the cheese must be afterwards passed, in order to get rid of the water. When quite drained it crumbles like stale bread, and is then dried upon unsized paper, in which state it will keep fresh a very long time.

This material, which is caseum mixed with a small proportion of butter, is not soluble in water except by the addition of quicklime, but by pounding this with the mixture it becomes transformed into a very viscous sort of cheese which can be diluted with water to the consistency required for the work. It dries quickly, and when dry it cannot again be dissolved, therefore no more should be prepared at any one time than can be immediately used. This is one of the reasons why it has hitherto been so little used. The trouble and difficulty would be greatly diminished by keeping in a well closed vessel some powdered quicklime to mix with the caseum at the time of pounding. It would be still better to soften the caseum in hot water, and, for expedition's sake, the two substances should be kept in a close vessel, being previously mixed dry and reduced to a fine powder. It is applied in the same manner as common glue.

The above receipt was known to the ancients, even, it is supposed, in the time of the Greeks; and during the flourishing age of the Italian School of painting it was commonly employed to join together the various parts of panel boards.

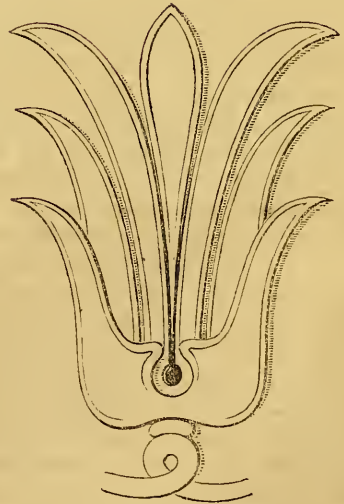
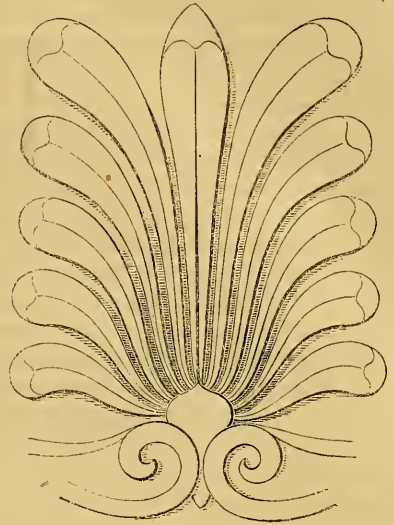
J. F.

The Chronotypist.

ON the 18th instant the Royal South London Floricultural Society held its fourth miscellaneous show at the Royal Surrey Zoological Gardens, when a most splendid collection of fuschias, carnations, picotees, roses, antirrhinums, &c., were exhibited. The gardens were thronged and everything passed off as well as could be desired.—30,000 persons visited Derby on the recent anniversary of the Arboretum.—The Birmingham Botanic Garden is open to the working classes on Mondays, on payment of one penny each person. On Monday, the 10th inst., there were admitted 2,900 persons.—The painting recently bequeathed to the Grantham Philosophical Institution by the late Charles Cope Earle Welby, Esq., was painted by Francesco Albano, born at Bologna in 1578. It was the practice of this painter to take for his models his wife and family of boys, who were very beautiful, and to whom he was greatly attached; and it is not improbable that the "Io" in the painting is a picture of the former, and the cupids of the latter.—The first anniversary dinner of the Builders' Benevolent Institution took place on the 19th instant. The company were numerous, and nothing could exceed the delight and harmony experienced by those who partook of the good cheer. Lord R. Grosvenor took the chair, and was supported by several eminent professional gentlemen. The donations received up to the present time were stated to amount to £1,000.—A wholesale reduction in the price of copper is said to have taken place at Birmingham.—A cargo of gun-stocks have been shipped to England from New York.—The Tower of London is about to be put into a state of defence.—The bust of Luther has at length been admitted into the Bavarian Walhalla at Munich.—A marble statue of Chateaubriand is to be placed in the *Academie Française*.—The Colonial papers state that the silver and lead mines in South Australia are yielding abundantly a constant supply of precious ore.—A public museum and library at Warrington is in course of establishment.—It has been stated that, allowing 21in. for each member in the House of Commons now erecting, the number of sittings on the ground floor would be 318. In the present house the allowance is only 19in., and the number of sittings 229. The number of sittings in the galleries of the new house will be 130. In the galleries of the present house the number is somewhat larger, namely 154. The whole number of sittings in the new house will be 448—the number in the present being only 380.—On the 19th instant, the first weekly return of the Westminster Working Man's Institute, Pare-street., Westminster, was made. 70 members have joined, at one halfpenny per week. The reading-room is furnished with the daily papers, and instruction is given to adults in writing and arithmetic.—The Statue of the Republic, which was used for the *fête de la Concorde* in the Champ-de-Mars, and which, as a work of art, did not

meet with much favour in the opinion of connoisseurs, has been removed.—At Ghent, the sculptors, painters, and other artists, are stated to have their studios crowded with their productions, which no one will purchase at any price.—We learn that the mad scheme of employing locomotives on common roads is about to be revived once more by its original projector, Sir John Anderson;—the bubble will "live its day" and then burst.—A large manufacturing firm in Birmingham has discharged all its English hands and put on Frenchmen.—The Newcastle School of Design has been abolished—we shall have something more to say upon the matter next week.—The repairs, &c., of Drury Lane Theatre, made by M. Jullien during his lease-ship, are said to have cost £2,000.—Some very pretty extempore decorations were got up by Mr. Gye, on the occasion of Her Majesty's late visit to the Royal Italian Opera: the royal box being removed to the centre of the house, and the hangings, &c., beautifully arranged.—The National Gallery owes nearly all its treasures to private munificence.—A new Polytechnic Institution is spoken of.—The streets of London, during the last eighteen years, have increased on the average at the rate of a mile a month.—It is stated that the new House of Commons will positively be ready for the occupation of members in the next session. The last portion of the old House, called the Speaker's House, the adjoining Committee-rooms, and those forming the centre of the cloister, have just been removed. The entrance hall to the new house, and the Western window to Westminster Hall, have attained their elevation, and are rapidly approaching to completion. Orders, it is said, have been issued for the removal, forthwith, of all the temporary erections at the east entrance to Westminster Hall.—The Rev. Mr. Pepper, of Albany, N. Y., has invented a compound of clay, called *Argillo*, which resembles, in structure and appearance, the richest, variegated agate. It is to be used for door knobs, pavement, table tops, and other ornamental articles. It surpasses in brilliancy any known variety of marble, and is equally cheap. One million of dollars have been offered for the entire patent.—Her Majesty has given directions that the State apartments at Windsor Castle be thrown open on Mondays in addition to those days already granted.

FEAST OF LANTERNS IN CHINA.—A celebrated feast held on the fifteenth day of the first month, and thus denominated from the immense number of lanterns hung out of the houses, and in the streets, the number of which has been reported even to exceed two hundred millions. On this great occasion lanterns of all prices are exhibited, some of which have been estimated at the value of two thousand crowns. Several of their mandarins retrench somewhat daily out of the expenses of their dress, equipage, table, &c., to appear the more showy and magnificent in this favourite embellishment. They are adorned with gilding, painting, japing, sculpture, &c.



CENTRE-PIECES (GRECIAN).

The Newcastle School of Design.



RAVITATION

and good sense incline ordinary men to *terra firma* and reasonable actions—with ministers, however, the case is far different: mud seems to be their element, and paltriness the climax of their efforts. With them nearly everything is performed in opposition to justice and common honesty. In order to make up for deficiencies in the revenue, poor USEFULNESS is assailed, and his income cut down, while pampered, pensioned IDLENESS is allowed still to stalk and strut “in robes of purple and fine linen,” wrung from the product of the ceaseless toil and labour of many a broken dejected spirit and hungry belly; wrung with a remorseless hand from the orphan's meal, and the widow's scanty pittance.

These remarks have been called forth by a recent contemptible act on the part of government in abolishing the Newcastle School of Design, which absorbed the enormous sum of *one hundred and fifty pounds per annum!* Yes! £150 per annum—less than one-twentieth part of the pension paid to the heir of General SCHOMBERG, who fought for WIL-

LIAM III. at the Boyne, more than a century and a half since—less than is paid to the illegitimate offspring of our late King—less than is paid to a groom in waiting—less by one-fiftieth than the sum allowed for Prince ALBERT's dog kennels—less than the sum paid for the education of one Royal baby—a little more than the pensions paid to HER MAJESTY's drawing, writing, and singing masters—less than the sum paid to ALFRED COPS, keeper of the lions in the Tower—less by one-half than the salary allowed to the deputy house-keeper of the House of Commons—less by one half than the pension awarded to Madlle. AUGUSTA EMMA D'ESTE—and more by one hundred pounds than the expense incurred for the education of the second son of the late King of the Musquito Indians!!!

Here we pause to take breath;—but a whole number of our magazine would scarcely contain all the facts that we could readily bring forward in support of the consistency of our preliminary remarks.

It was NAPOLEON, we believe, who held it as a maxim that “the sciences which honour the human understanding—the arts which embellish life and transmit great actions to posterity, ought to be specially patronised by an independent government.” Despot and hypocrite as he was, BUONAPARTE evidently understood the science of legislation better than either Lord JOHN RUSSELL or the Chancellor of the Exchequer; he understood the grand secret of winning love by making concessions—of gaining respect and admiration as much by clear-headed enactments in the council as by prowess in the field.

The idea of abolishing an educational establishment merely because it is required to effect a saving of a paltry £150 per annum, would almost seem improbable as emanating from the ministry of a country, whose progress both in wealth and civilisation, depends entirely upon the dissemination of knowledge among its industrial classes, were we not, alas, but too well acquainted with the character of the men who at present occupy the highest offices in the State: weakness, indecision, and ignorance are their sole recommendations—and the most glaring acts of injustice, form, what in these days is called (God save the mark!) *legislation!*

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"L."—You will see that we have given an article on isometrical perspective in our last—the others are now in hand, and we are merely delaying them in order to render them more perfect. We would be particularly obliged to you if you will particularise the "barren" portion of our work, as your letter does not do so. We must confess that we are not sufficiently versed in astronomy as to be able to inform you respecting the time of the sun's rising and setting at Port Philip and Sydney, and even if we were, as it must vary daily, we should scarcely be able to devote a page of our periodical to such matter. You had better try and borrow or buy the "Nautical Almanac," the price of which is 6s. We are obliged to you for introducing our work to your friends.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 15 is now ready, price 7d.

Marbling Paper and Book-edges.

THE first thing required is a wooden trough, made of inch deal, about one inch and three-fourths in depth, and half an inch in length and breadth larger than the sheets of paper that are to be marbled. This proportion between the size of the trough and paper should always be observed, to prevent waste of colour; of course troughs of various sizes will be required, where paper of various sizes is to be marbled. The trough must be water-tight, and the edges of the sides of it must be sloped or bevelled off on the outside, to prevent any drops of colour which may fall on them, from running into the trough and sullying its contents.

A skimmer or clearing stick must be provided for each trough: this is a piece of wood two inches and a half wide, half an inch thick,

and as long as the trough it belongs to is wide inside: the use of this will be explained hereafter.

A stone and muller of marble, or some other hard stone, the size according to the quantity of colour required to be ground. Also, a flexible knife for gathering the colour together,

A dozen or two of small glazed pipkins to hold colours in. The pots being furnished with

Brushes, made as follows:—Take a round stick about as thick as your finger, and cut a notch all round one end of it, next, take some bristles, four or five inches long, and place them evenly round the stick, at the notched end, letting them project one inch and three-fourths beyond the wood; fasten the bristles to the stick by several turns of stout thread; cut away the ragged bristles, and tie up the brush firmly with fine cord.

The use of the notch round the end of the handle is to make the bristles spread out, when firmly tied up, so that when used, the colour may be scattered about more abundantly.

Rods for drying the paper on when marbled are better than lines; they should be round, at least the upper side should, and about an inch and a quarter in breadth and thickness. 12 rods 11ft. long will hang 3½ quires of demy, or 4½ quires of foolscap.

Colours: of these the following assortment: Red Vermillion, droplake, rose-pink, Venetian red, red ochre.—Blue: Indigo blue, Prussian blue, verditer. Orange: Orange-lead, orange-orpiment. Black: Ivory, blue-black. Yellow: Dutch pink, yellow ochre, king's yellow, English pink.

With respect to grinding your colours, observe the finer the colours are ground the better and the cheaper will your work be. First, your colours should be finely pounded, then mixed with water to the consistence of paste, and put in a colour pot with the knife. From the pot, the colour must be taken out a little at a time and levigated very fine with pure water.

Compound colours are made by mixing the colours mentioned in the foregoing paragraph in certain proportions. The following may be particularised:—To make red colour, mix three parts of rose-pink, with one of vermilion. A finer red: four parts of rose-pink, two parts of vermilion, and one part of droplake; for very fine work use droplake alone, but use it sparingly, for it is a dear article. Yellow: Two parts of Dutch pink, and one part each of king's yellow and English pink. Green: made by mixing blue and yellow. Dark blue: Indigo; which may be made lighter by the addition of verditer. Orange brown: two parts of Venetian red, and one part of orange lead. Fine orange: put some yellow ochre in a ladle over a fire, and keep it there till it assumes a dark red colour. Take of this red ochre (finely pounded) and of Venetian red equal quantities, and add a little orange-orpiment or rose-pink, mix altogether. Umber colour: equal quantities of Venetian red, orange-lead, and ivory-black; this can be lightened with orange-lead, or darkened with ivory-black. Cinnamon colour: Venetian red with a little Prussian blue. All

other colours which may be wanted can be made by mixing together those already described, in a manner that will be dictated by experience.

In addition to the articles already mentioned obtain the following: a bottle of ox-gall, a bottle of good oil of turpentine, and some pure water.

Supposing you to be provided with the materials for marbling, the next thing is to show you how to set about the operation. In the first place, the trough, already described, must be filled (at least to the eighth of an inch of the top) with a solution of gum tragacanth, which is to be prepared as follows:—gum of a pale white, semi-transparent appearance, (gum of a pure white or of a brownish colour is often bad) is to be soaked in water for at least forty-eight hours, in the proportion of half a pound to a gallon and a half; this should make a gum water as thick as that used in miniature painting. Pass this solution through a hair sieve or linen cloth, and pour it into the trough. In all cases when the trough is to be used, the solution should be stirred with a few quills, and the surface of it cleared from film, &c., by the skimmer previously described.

Colours intended to represent veins, are made by adding a small quantity of gall to the various colours, and stirring each well up with a brush, in order that they may be properly mixed. Previous to use, these mixtures of colour and gall are to be thinned with water to the consistency of cream, and are to be well stirred up.

Colours for making spots like lace-work.—Take some dark blue, or other colour, add some gall to it, and about as much, or a little less, oil of turpentine; stir all well together, and dilute with water.

Your trough being prepared, and your colours all at hand, it will now be proper to try if the latter are in a proper state. To do this, throw on the solution, by shaking the various colour brushes over it, some spots of colour. If the spots spread out larger than a crown piece in size, the colours have too much gall: if the spots, after spreading out a little, contract again, there is too little gall in them. In the one case more colour must be added, in the other, more gall.

If the colours are in good order, and paper is to be marbled, the whole surface of the solution in the trough must be covered by colours, in spots, streaks, or curls, according to the pattern required, and laid on according to directions which will be given presently. (The paper should be previously prepared for receiving the colours, by dipping it overnight in water, and laying the sheets on each other with a weight over them. The sheet of paper must be held by two corners, and laid in the most gentle and even manner on the solution covered with the colours, and there softly pressed with the hand that it may bear everywhere on the solution; after which it must be raised and taken off with the same care, and then hung to dry over the rods.

The following directions will serve to show how the various patterns are made:—1. Throw on red till the solution is nearly covered, then some yellow, black, and green. You may add if you please a little purple with plenty of gall and water in it; you may twist the colours into any shape you choose by means of a quill. 2. Throw on red, yellow, black, and green, as before; but for a last colour, add some of the bark blue mixed with turpentine. —3. Throw on red, yellow, black, and green, in the proportion that you choose; then with a quill draw lines through the colours; after which, throw on a greater or less quantity of blue, green, pink, or purple, much diluted, and containing plenty of gall and turpentine. —4. Throw on very fine red for veins; then plenty of the turpentine blue. If your clours are good this produces a handsome pattern in a short time. —5. Throw on some dark blue mixed with turpentine, and take this up with a paper previously stained of a yellow, light blue, red, pink, or green colour. To obtain a good green for this purpose, boil French berries in water, add a little spirit or liquid blue, and carefully brush over the paper (which must be good and well sized) with this mixture.

A few general and recapitulatory observations may not be useless here. Let your materials be of the best quality. Grind your colours finely, and keep them clean. When your colours become too thick for use, add fresh ground colour with water and a little gall to them, and stir them up well. Be particular in getting good turpentine. When the solution of gum gets dirtied throw it away and make a fresh one.

The neatest and most convenient method of marbling the edges of books is to dip one volume at a time, doing the ends first, and throwing back the boards to do the fore edge: observing to hold the book tight with both hands and not to dip deeper than the surface, to prevent the solution from spoiling the book. It is the safest way, probably, to tie the book between boards before dipping. For the sake of convenience and economy, when only a few books are to be marbled, a small trough should be used.

Marbled paper is glazed by a machine similar to that with which cottons are glazed, a sight of which may easily be obtained at any calenderers. But a machine of this kind would only be required by such as might marble very largely. Book-edges are polished by the agate burnisher, and so might small pieces of paper be polished, which were required for any particular purpose. Good common pressing, or at most hot-pressing, might serve instead of glazing. For any fancy work it would have a fine effect to varnish the marble paper after it had been put to its destined purpose and had become dry. Paste, and all moisture, it is well known, chase all the glaze away. The application of a coat of varnish subsequent to the application of paste would double the beauty of the best marble paper made, and much improve the common kind, at a trifling expense.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 134.]

EMBATTLED FRET MOULDING, a moulding



used in Saxon architecture.

ENRICHED TRIANGULAR MOULDING, a mould-



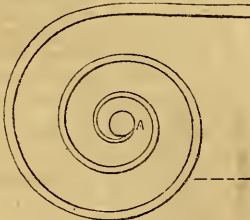
ing used in Saxon architecture.

ESCUTCHEON (in heraldry), signifies the shield or field upon which the distinctive bearing of a coat-of-arms are inscribed (see *Coat-of-Arms*). In architecture the term is



applied to various ornamental slabs, &c., either of stone, wood, or iron, used for various decorative purposes. Our engraving represents one of these employed for a door-ring.

EYE OF THE IONIC VOLUTE (in architecture),



that portion of the volute marked A in the engraving.

[To be continued.]

Bridge Across the Danube.

WE are glad to learn that the magnificent works of this suspension bridge are progressing in the most satisfactory manner, under the sole direction of Mr. T. Clark. The difficulties attending the construction of a permanent bridge across the Danube have hitherto been generally considered insurmountable. One of the greatest difficulties the engineer has had to contend with has been the construction of the coffer-dams in this deep and rapid river, which at Pesth runs six to seven English miles an hour. The depth of water at its lowest state is twenty feet. At the same time the river is liable to serious overflowings. The continual fluctuations of such a river was not the only difficulty the engineer has had to contend with, for in the winter the river is generally frozen over several feet thick, and which, when broken up by a sudden thaw, is carried onwards with an inconceivable force, sometimes forming whole fields of ice, an English mile in length, of great width and immense thickness, and icebergs, some as high as eleven feet. To resist this tremendous violence, the coffer-dams, with proportionable ice-breakers, were constructed at an immense cost, and they have nobly done their work. The dimensions of the bridge are as follows, viz. :—distance between points of suspension, 665 feet; two side openings, each 297 feet; width of platform, 42 feet, to be supported by cast iron beams, in one piece; height of platform above low water, 50 feet. The suspension piers, or towers, are 150 feet in height from the foundations, of solid masonry, being faced with granite to the level of the roadway. The stone is brought from the granite quarries of Manthausen, in the neighbourhood of Lintz, and distant from Pesth about 300 English miles. Many of the stones weigh from ten to twelve tons. The coffer-dam for the second suspension tower, which had been the most difficult to accomplish, has just been completed, and when cleared there will be a clear depth of 60 feet. The piles which have been necessary to construct this dam were all in one length, from 75 to 80 feet long, and 15 inches square, while of these piles nearly 2,000 have been required; and some extraordinary fine specimens of oak measured 110 feet. The oak came from the forest of Salvonia. The total length of the bridge, with approaches, will be about 600 yards, and will produce from its peculiar situation amidst some of the finest buildings in Europe, a most imposing effect. This will be the first permanent bridge with stone piers built between Ratisbonne and the Black Sea since the time of Trajan, A.D. 103, when a bridge was built across the Danube at the Eixen Thor, or Iron-gate, situate on the confines of Hungary and Servia, and where travellers performed quarantine before entering the Austrian dominions. The foundations of the above bridge are still in existence, and are pointed out to the traveller, as well as the remains of a road hewn out of the solid rock, and which, constructed in part of timber, overhangs the river.

Gothic Tracery.



ARCH MOULDINGS OF WINDOW ON AN INCH SCALE.

DIAGRAM SHOWING THE METHOD OF STRIKING THE TRACERY OF WINDOW FROM NORTHFLEET CHURCH (GIVEN IN No. 64).

Notes upon Glass Painting.

[Concluded from page 133.]

"The mosaic system of glass painting is admirably adapted to the nature of the material. It is, however, unsuited for mere picturesque effect owing to the nature of its colouring, which being produced by broad pieces of glass, whose tints can scarcely be varied either in the lights or shadows (the latter being represented by means of the enamel brown), imparts to works executed in this style the flat and hard, though brilliant, character of an ancient oil painting. The revival of art in the sixteenth century, and the extraordinary efforts then achieved in oil-painting, by which the hard and dry illumination of the middle ages was transformed into a beautiful picture glowing with the varied tints of Nature, and expressing to the eye, by a nice gradation of colouring, the relative position of near and distant objects, seem to have excited the ambition of the glass-painters. Not content with carrying mosaic glass-painting to the highest pitch of perfection it has hitherto attained, and with borrowing the excellent drawing and composition of the oil and fresco painters, they strove to render their own art more completely an imitation of Nature, and to produce in a *transparent* material the atmospheric and picturesque effects so successfully exhibited by the *reflective surfaces* of oil and fresco paintings. The facility of applying colour to glass with the brush, at the pleasure of the

artist, afforded by the discovery of the various enamel colours, about the middle of the sixteenth century, soon led to their extensive employment. It was not, however, until the eighteenth century that they entirely superseded the use of coloured glasses in large works. The introduction of enamels, though it certainly occasioned a great extension of the scale of colour in glass painting, was not without its disadvantages. The paintings lost *transparency* what they gained in variety of tint; and in proportion as their picturesque qualities were increased by the substitution of enamel colouring for coloured glass, their *depth* of colour sensibly diminished.

The varieties of glass painting have been arranged under five styles, or classes: viz., The Early English, which extends from the date of the earliest specimens extant, to the year 1280. The Decorated, which prevailed from 1280 to 1380. The Perpendicular, from 1380 to 1530. The Cinque Cento, from 1500 to 1550. And the Intermediate, comprehending the period which has elapsed from the end of the Cinque Cento style down to the present day.

Early English painted windows are in general almost entirely composed either of coloured glass, or of white glass. The coloured windows are nearly exclusively appropriated to pictures, and the white ones to patterns. Both are usually surrounded with a wide coloured border, returning along the bottom of the window. The coloured windows are perfect mosaics, of the most vivid, intense, and gem-like tints. Their tone of colouring

is deep, harmonious, and rich, but not gay: they exclude more light than perhaps any other painted windows, and their general effect is extremely solemn and impressive. Some windows of this description, from the smallness and number of the pieces of glass they contain, present at a distance only a rich and confused assemblage of various colours; their design being as little defined as that of a Turkey carpet to which they have often been likened. The white windows have a remarkably brilliant and silvery, though cold appearance, owing to the greenish blue tint of the glass. Their effect is grand and imposing, especially when the window is of considerable magnitude. There are three principle classes of *coloured* windows in this style, which for the sake of convenient reference may be termed, *Medallion windows*, *Figure and canopy windows*, and *Jesse windows*.

“One of its most distinctive features of the second style is the natural form of its foliated ornaments: in these the leaves of the ivy, maple, oak, and other trees and plants may be easily recognised. These more exact imitations of Nature were rather sparingly used at the commencement of the style, and did not, at least in white patterns, wholly supersede the older and more conventional forms until the end of the reign of Edward I., or a little after. It is principally in works executed between 1280 and the end of the reign of Edward I., that the test of style afforded by the presence of the naturally formed leaf is most valuable; for they bear in general so close a resemblance in other respects to the *later* early English glass paintings, that without this mark it would be difficult in many cases satisfactorily to distinguish them from each other. This resemblance principally arises from the early decorated glass paintings being composed of glass of the same texture as the *later* early English glass paintings. Hence the general appearance of early decorated coloured windows, though extremely rich is by no means gay; and that of white windows is grey and cold. The grandeur of each sort is enhanced by the great width sometimes given to the lower lights of early decorated windows. Towards the end of the reign of Edward I., and afterwards, many other points of difference between the two styles are observable; amongst which should be particularly noticed the employment of the *yellow stain*, which seems to have been introduced soon after the commencement of the fourteenth century. The colour thus produced is in general easily distinguishable by its lemon-like tint, from the more intense and golden *pot-metal* yellows, to which it affords an agreeable contrast. In many instances, however, especially during the latter part of the reign of Edward the III., the stain yellow is almost as deep as the *pot-metal* yellow. Its facility of application soon brought it into general use. By its means the former coldness of white pattern windows was speedily corrected, and artists soon discovered in the richness and power of the stain an efficient substitute for many of the *pot-metal* colours. Thus a broader and less mosaic style of colouring was

gradually introduced, white and yellow glass entering more largely into the composition of coloured designs. The presence of so much yellow had also the effect of imparting to the later decorated glass paintings a gay and lively appearance.

The substitution of ornaments of a peculiarly flat delicate, and conventional character, for the more decided and naturally-shaped leaves, of which so much of the detail of decorated glass paintings is composed, constitutes a striking feature of the perpendicular style, though one which was by no means fully developed until the fifteenth century. The increasing use of the yellow stain, and of white glass, in lieu of *pot-metal* colours, and the gradual adoption of a less mosaic and broader style of colouring, may be traced throughout the interval between 1380 and 1400; but the predominance of white and yellow stained glass over the other colours is perhaps more strikingly manifested after the beginning of the fifteenth century. The *stipple method* of shading, which so materially increased the pictorial resources of the art of glass painting, appears to have been introduced about the commencement of the fifteenth century. It is true that glass paintings did not display the full powers of stipple shading until upwards of a hundred years afterwards, but it was immediately discovered that this system of shading afforded remarkable facilities for imparting a *highly finished* appearance to glass paintings. The introduction of stipple shading may also be regarded as having sensibly affected the colouring of glass paintings; for the ancient artists appear to have soon perceived that mosaic arrangements of stiff and powerful colours were unfavourable to a display of the more minute gradations of light and shade in pictorial compositions; and that the very shadows themselves tended to correct the coldness of white glass and to increase the richness of the lighter kinds of coloured glass. These considerations may serve to account both for the introduction of large masses of white glass relieved with the yellow stain into the richest picture windows even of the commencement of the fifteenth century; a practice which involved the general adoption of a broader style of colouring; and also for the diminished intensity of tint in the different kinds of white and coloured glass, as well as the greater harmony, liveliness, and gaiety of their hues, and evenness of colour, in proportion as the style advanced, and the new principle of colouring was carried out. The taste for broad and soft colouring, and delicacy of execution, manifested in perpendicular picture windows naturally, or rather necessarily, extended itself to perpendicular pattern windows also, which display these qualities in as remarkable a manner as the former class of windows. Owing to these circumstances, perpendicular glass paintings in general, when contrasted with decorated glass paintings, are apt to appear paler, and less rich in colour; in their general effect, however, they are more brilliant, softer, more silvery and delicate; and what they seem to lose in power they gain in refinement. The earlier perpendicular picture glass paintings

are more bright and sparkling than the later examples, in which the powers of stipple shading are more perfectly developed; but the deeper shadows, which detract in a certain degree from the lustre of the glass paintings of the sixteenth century, sensibly add to their warmth and richness; and besides render them less flat in appearance and more effective and distinct when seen from a distance.

Fifty years, namely, from the beginning of the sixteenth century, until the introduction of the "mosaic enamel mode" of glass painting; about the middle of the sixteenth century. For a short time, therefore, the Perpendicular and Cinque Cento styles were concurrent. And if it were not for the peculiar character of the Cinque Cento ornamental details, it would be a matter of considerable difficulty to distinguish the perpendicular glass paintings of the first thirty years of the sixteenth century, from the contemporaneous Cinque Cento glass paintings. These examples of the two styles, especially those of the early part of the sixteenth century, often bear a considerable resemblance to each other, not only in their general arrangements, but sometimes even in the drawing of the figures: there may also be remarked in these paintings the same gradual change from comparative poverty to richness of colour; and from hardness and flatness to softness and roundness of effect. The Cinque Cento style reached its perfection between the years 1525 and 1535, a period which may be termed the golden age of glass painting. During this time, Cinque Cento glass paintings display in general the most gorgeous effects of colour, and the greatest contrasts of light and shade that have hitherto been attained in painted glass without sacrificing the transparency of the material, whilst they often possess at the same time considerable merit both in their drawing and composition. Cinque Cento glass paintings executed soon after 1535, begin to lose their transparency and brilliancy, and to become black and opaque in their deeper shadows, an evil which increased as the style advanced, and was doubtless occasioned by the anxiety of the artists to give greater force and effect to their pictures, by imitating the deep shadows of oil paintings. In point of richness of colour, design, and composition, the latest Cinque Cento glass paintings are, however, not inferior to the earlier specimens.

Thus we see the causes of decline rapidly doing their work, until we reach the period of the almost obliteration of the art,—constituting what is called the fifth style, or Intermediate between its decadence and (may we hope? its revival in) our own time. This style seems to have consisted chiefly in using painting on glass with enamel colour as a substitute almost entirely for coloured glass.

To STAIN IVORY YELLOW.—Put a quarter of a pound of alum in a pint of water, boil the ivory in the solution, then boil it in a decoction of turmeric.

Cornish Steam Engines.

IN order to give an idea of one of these enormous machines, we quote an account of one at the Consolidated Mines, constructed by a Cornish engineer, Mr. Davey, and pumping directly from a depth to the adit of 1,600 feet; the weight of the pumping apparatus being 507 tons 1 qr.: the cost £5,236. It burned 2,859 bushels only, or 120 tons of coal in thirty days, and made in that time 269,200 lifts of 8.75 feet in the shaft, pumping up the 1,600 feet, 33½ gallons each lift, discharging them at the adit, and delivering forty-five gallons more to the surface at each stroke: to effect which a weight of more than three hundred tons is set in motion and balanced, except the weight of the column of water in the shaft, which last weighs 38 tons 3 cwt. The main pump-rod is 290 fathoms, or 1,740 feet long; formed for 390 feet, of two 12-inch squares of Riga balk timber, each piece from 50 to 70 feet long, and afterwards of 15-inches, decreasing to 14 and 12 in descending the mine; the whole is in height more than one-third of a mile perpendicular, connected by iron straps, and kept in a proper place by forty guides fixed to the sides of the shaft. Here is a Cyclopæan engine, almost without parallel in the history of machinery. The steam pressure on the piston is 80 tons, diminishing to 18 at the end of the stroke; and the leverage of the main beam balancing the friction, or resistance of the engine, the above steam pressure overcomes the resistance in the pit, and elevates the load of 38 tons every lift. In Cornwall, nearly thirty years ago, there were engines of between 1,000 and 1,100 horse power. Even to an eye practised in machinery of magnitude, the first sight of one of these engines, and a due examination of the enormous power it wields, without noise, as was observed by a London engineer, "with none of the noise and clash of a steam at the London water-works, and so easy to be managed, that a child of ten years of age may stop or set it working," is truly surprising. Elsewhere the ingenuity of the steam-engine may be contemplated, but the full development of its power is as yet to be seen only in Cornwall. Still further to evince the truth of this remark, we may add that a counter is kept locked, attached to each engine, which returns the work it performs monthly; and the coals being measured from what have been consumed in that time, the result is published in what are called "duty papers." In one case, at the Consolidated Mines, there is an engine of Mr. Taylor's, with an 85-inch cylinder, having a load of 11.46 on the piston, a length of stroke in the cylinder of 10.33, and of 7.75 in the pump, lifting 73,160,000 lbs. a foot high, with the consumption of a bushel of coals. Some of the cylinders are 90 inches. Austen's Fowey Consols is a celebrated engine for duty, having an 80-inch cylinder; 10.97 load on the piston, and the length of stroke in the pump 9.25, lifting 87,065,000 lbs. a foot high, by the consumption of one bushel of coals. "This," says Mr. Wickstead, "is a most splendid

engine, and does greater duty than any other engine in Cornwall. The construction of the valves and other parts of the engine is so perfect, that, though its load was equal to about 51,000 lbs., the hand gear might be worked by a boy of ten years of age, as far as strength was required. I worked it with perfect ease; whereas, although a load upon one of our engines of 36 inches cylinder is only about 12,000 lbs., it requires not only a strong but also a weighty man to work it. I was very much struck with the ease with which the engine in question appeared to work; there was scarcely any noise, the greatest was that of the steam in its passage through the expansion valve. To one who had been used to the noise of one of the pumping engines in London it appeared remarkable."

The greatest quantity of water discharged from any of the Cornish mines per minute, in 1837, was from the United Mines in the month of March, 1634·49 imperial gallons; and from the Consolidated Mines 1657·18 per minute. Sir C. Lemon ascertained, by the duty paper, that the whole quantity of water pumped out of the earth by 60 Cornish engines in 1837 reached the amazing aggregate of just 37,000,000 tons! The enormous quantity of 43,500 hogsheads has been pumped up in 24 hours at one mine, Huel Abraham, from 1,440 feet of depth.

MISUSE OF THE TERMS STATUARY, SCULPTOR, AND CARVER— If we look at the derivation of these terms, and the manner in which they are now applied, we cannot but be astonished at the departure from their original meaning, showing how necessary it is that the sense of words should be attended to. A statuary (from *statuarius*) was anciently understood to be a designer and maker of statues, and a statue to be a figure or bust, &c., either standing free of any back-ground, or in bold relief. But we scarcely find it used in this sense now; statuaries disclaim it, and masons use it to signify a worker in statuary marble. The next term, sculptor, has taken the place statuary should occupy. Our statuaries think it presumptuous for an ornamental sculptor to use the term at all; they call him a carver; whereas sculpture (from *sculptura*) is a general term, including all kinds of figure and ornamental work, cut in hard substances in relief. This appears to be the true sense, although it formerly had a wider meaning, and included engraving, &c. The term carver (from *carptor*) ought to be entirely rejected, as unsuitable for any kind of sculptor, and, in accordance with its original meaning, let it be applied to a cutter of meat. How, then, it may be asked, shall we distinguish the various kinds of sculptors?—by some suitable adjunct, if any particular branch be followed, or without any, when all branches are included, as portrait sculptor, architectural sculptor, ornamental sculptor, and sculptor, let the statuary call himself a statuary, and shame the usurper. We should then have terms somewhat more definite and suitable than we have at present.—*Correspondent of the "Builder."*

HARMONY OF COLOURS.—To understand the just harmony of colours, in the decoration of the different parts of our edifices, is an essential art to the painter. Colours that do not harmonise in the least, are mal-associated daily; and to modify these incongruities the following ascertained facts will be useful. In the decorations of the interiors of theatres, where as much light as possible is wanted, light colours ought to prevail; blue or crimson should never be used; white ought to prevail in the fronts; and a rose colour should never be used for the backs of the boxes, because that colour gives a green tint to the complexions of the audience. A light green, on the contrary, is the best colour to use, this making the complexion more rosy than it really is. To the interior of houses, similar observations also apply. All reds, orange-tints, and violets, are extremely disadvantageous to the complexion; dark colours are difficult to light up. Among the light colours, the best are yellow, or light green, or light blue; all these being favourable, not only to the woods used for furniture, but also to the complexion of females. After these, whites, whitish tints, and greys, are not disadvantageous. Those colours that produce moderate contrasts are best for use. Thus, for opposition to very light tints sky-blue is very becoming, because it approaches the nearest to the colour which has for supplement an orange tint, which is the foundation of the tint of the opopoe. Yellow and orange-tinted red are becoming to black on account of their brilliant contrast; and again the supplementary colours of these two, viz., violet and bluish green, are also becoming, because they harmonise with blackness. Rose-coloured things should never be put in absolute contact where one is of superior value to the other, because the former is sure to lose by the comparison; but they should be separated by white. Pale green is exceedingly becoming to white, because it makes it appear warmer, but it is unfavourable to red because it increases its intensity. Violet should never be used with white except of a very deep tint, so as to make a strong contrast. A violet colour will make white look green and a yellow orange.

SCHOOL OF DESIGN, SOMERSET HOUSE.— On Friday, in last week, Mr. C. J. Richardson delivered a lecture to the students and their friends on perspective, and, although it was a bad night, had a fair audience. First alluding to optics and the nature of vision in relation to perspective, he exhibited the *horizontorium* and some curious examples of Catoptric projection; then illustrated isometrical projection,—then perspective projection; the first as exhibiting real form, the latter apparent form. He then gave a general description of linear perspective, explaining the station point, horizontal line, vanishing point, &c., and for interior perspective illustrated the subject by sketching the room we were in. A large number of drawings were exhibited.

The Marble Quarries of Carrara.

THE Magra safely crossed in the ferry boat—the passage is not by any means agreeable, when the current is swollen and strong—we arrived at Carrara, within a few hours. In good time next morning, we got some ponies, and went out to see the marble quarries. They are four or five great glens, running up into a range of lofty hills, until they can run no longer, and are stopped by being abruptly strangled by nature. The quarries, or “caves,” as they call them there, are so many openings, high up in the hills, on either side of these passes, where they blast and excavate for marble; which may turn out good or bad; may make a man's fortune very quickly, or ruin him by the great expense of working what is worth nothing. Some of these caves were opened by the ancient Romans, and remain as they left them to this hour. Many others are being worked at this moment; others are to be begun to-morrow, next week, next month; others are unbought, unthought of; and marble enough for more ages than have passed since the place was resorted to, lies hidden everywhere: patiently awaiting its time of discovery. As you toil and clamber up one of these steep gorges (having left your pony soddening his girths in water, a mile or two lower down) you hear, every now and then, echoing among the hills, in a low tone, more silent than the previous silence, a melancholy warning bugle,—a signal to the miners to withdraw. Then, there is a thundering and echoing from hill to hill, and perhaps a splashing up great fragments of rock into the air; and on you toil again until some bugle sounds, in a new direction, and you stop directly, lest you should come within range of the new explosion. There were numbers of men, working high up in these hills—on the sides—clearing away, and sending down the broken masses of stone and earth, to make way for the blocks of marble that had been discovered. As these came rolling down from unseen hands into the narrow valley, I could not help thinking of the deep glen (just the same sort of glen) where the Roc left Sinbad the Sailor; and where the merchants from the heights above, flung down great pieces of meat for the diamonds to stick to. There were no eagles hear, to darken the sun in their swoop, and pounce upon them; but it was as wild and fierce as if there had been hundreds. But the road down, the road down which the marble comes, however immense the blocks! The genius of the country, and the spirit of its institutions, pave that road: repair it, watch it, keep it going! Conceive a channel of water running over a rocky bed, beset with great heaps of stone of all shapes and sizes, winding down the middle of the valley; and *that* being the road—because it was the road five hundred years ago! Imagine the clumsy carts of five hundred years ago, being used to this hour, and drawn as they use to be, five hundred years ago, by oxen, whose ancestors were worn

to death five hundred years ago, as their unhappy descendants are now, in twelve months, by the suffering and agony of this cruel work! Two pair, four pair, ten pair, twenty pair, to one block, according to its size; down it must come, this way. In their struggling from stone to stone, with their enormous loads behind them, they die frequently upon the spot; and not they alone; for their passionate drivers, sometimes tumbling down in their energy, are crushed to death beneath the wheels. But it was good five hundred years ago, and it must be good now; and a railroad down one of these steeps (the easiest thing in the world) would be flat blasphemy. When we stood aside, to see one of these cars drawn by only a pair of oxen (for it had but one small block of marble on coming down), I hailed, in my heart, the man who sat upon the heavy yoke, to keep it on the neck of the poor beasts—and who faced backward, not before him—as the very devil of true despotism. He had a great rod in his hand, with an iron point; and when they could plough and force their way through the lose bed of the torrent no longer, and came to a stop, he poked it into their bodies, beat it on their heads, screwed it round and round in their nostrils, got them on a yard or two in the madness of intense pain; repeated all these persuasions, with increased intensity of purpose, when they stopped again; got them on, once more; forced and goaded them to an abrupter point of the descent; and when their writhing and smarting, and the weight behind them, bore them plunging down the precipice in a cloud of scattered water, whirled his rod above his head, and gave a great whoop and halloo, as if he had achieved something, and had no idea that they might shake him off, and blindly smash his brains upon the road, in the noon-tide of his triumph.—*Dicken's "Pictures from Italy."*

TO FIX PENCIL AND CHALK DRAWINGS.—For pencil drawings a thin solution of isinglass answers the purpose. It should be allowed to run over the drawing, or be very carefully applied with a soft camel's-hair pencil. For chalk drawings, make a thin solution of size, put it in a flat dish, pass the drawing from one side to the other under the liquid, taking care that the liquid comes in contact with every part of it. The friction of a camel's-hair pencil would injure the drawing. When it is completely wetted, fasten it to the edge of a table or to a string, by means of two or three pins until dry. Crayon or charcoal drawings would be spoiled by this process, and for fixing them the paper should be washed over with a solution of size in the first instance. When quite dry, the surface is in a good state for making the drawing—after which it should be inverted and held horizontally over steam. The steam melts the size, which absorbs the charcoal or crayon, and when it has again become dry the drawing is fixed. This process may be repeated several times during the progress of a drawing, the effect being increased each time.

The Chronotypist.

A Parliamentary paper shows that the total number of letters patent for inventions granted in the United Kingdom in 1847 amounted to 740, against 761 in 1846, and the total fees received thereon to £32,977, against £34,103 in the preceding year.—A reduction of wages has taken place in some of the iron-work districts.—The Midland Counties Company have fitted up a lecture and reading-room at Rugby station. Upwards of 150 of the *employés* of the different companies have become subscribers.—In France £12,000 has been voted for the encouragement and aid of the fine arts and literature.—The Sheffield Master Builders' School of Architecture was opened on the 17th instant.—From what we can glean from the passing occurrences of the day, trade seems likely to be soon restored to its wonted briskness: many new works have been projected lately.—There are employed on the canals in the State of New York, more than 30,000 men, 7,000 boys, and 4,000 women, in all more than 41,000 persons.—The "ill wind" blowing "good," says the *Athenæum*, is exemplified in a recent case amongst our artists. A robbery which took place some time since at the house of Mr. Egg, the author of "Queen Elizabeth Discovering that she is no Longer Young," now exhibiting, has furnished the painter with a subject for a forthcoming picture. He is, we learn engaged on the representation of the revelation of the robbery the morning after its perpetration. The subject is new and promising.—The *Bath Journal* mention that a portrait of the famous Admiral Blake has been purchased by subscription, and is about to be presented to the municipality of his native town, Bridgewater.—The medal, upon which Mr. Wyon has been for some time engaged, commemorative of the services of the army from the year 1793 to 1814, has on the obverse one of those tasteful resemblances of Majesty which that artist always succeeds in obtaining: while on the reverse the Queen, in graceful and dignified action, is crowning with laurel the British army personified in a kneeling figure of the Duke of Wellington—with the inscription, "To the British Army 1793 to 1814." The combination of the two figures is very successful—the draperies are well cast. The relief, which is low, contributes to give much refinement; and the general execution is successful.—We learn from the *Athenæum* that the first of the new coins of the decimal kind, in conformity with the plan of the present Master of the Mint, is just now completed. It is a two-shilling piece—bearing a profile of the Queen on the obverse, which resembles in the character and costume that on the new crown. The distribution of details on the reverse, after the true Gothic disposition of the Pugin school, is less successful—and can be regarded only as a recurrence to mediæval conceit. The design will not, we think, be popular with Englishmen.—London, which extends its intellectual if not its topographical identity

from Bethnal Green to Turnham Green (ten miles), from Kentish Town to Brixton (seven miles), whose houses are said to number upwards of 200,000, and to occupy twenty square miles of ground, has a population of not less than 2,000,000 of souls. Its leviathan body is composed of nearly 10,000 streets, lanes, alleys, squares, places, terraces, &c. Its rental is at least £7,000,000 a year. It has 537 churches, 207 dissenting places of worship, upwards of 5,000 public-houses, and 16 theatres.—The report that the Parisian mob had taken possession of the Jardin des Plantes and destroyed its contents has turned out to be incorrect.—The exhibition of Mr. Mulready's pictures at the Society of Arts has turned out a failure;—we shall have something to say on the matter next week.—The foundation stone of the monument to the memory of General Washington was laid at Washington on the 4th ult.—The state and prospects of the fine arts in Paris are represented as being in the most deplorable condition—while at the same time, the cannon-ball has succeeded in destroying much that was beautiful and valuable.—The Palace of the Louvre, it is reported, is about to be finished.—A very good though incomplete specimen of a canoe, says the *Perthshire Courier*, was recently taken out of the bed of the Tay, at Sleepless Island.

COPYING MAPS, PLANS, &c.—The method which we generally adopt for this purpose, where the colour of the ink does not signify, is as follows:—Take a sheet of carbonic paper (that employed for "Manifold Writers'"), but with only *one side*-blackened. Lay this with the black side downwards on the paper to which it is required to transfer the maps, &c., then placing the original drawing with the blank side downwards on this, go over all the lines, &c., using a moderate pressure, with a metallic point fixed in a handle. The sheets lying thus—

— Drawing, with the subject *upwards*.

— Carbonic paper, with the blackened side *undermost*.

▲ — Copying paper.

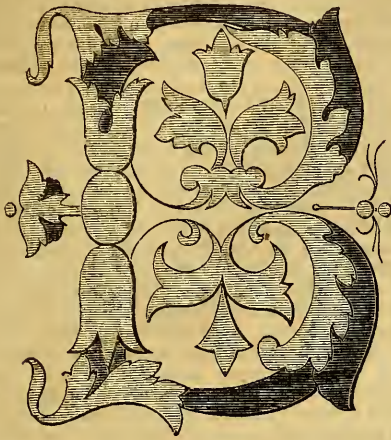
and the pressure being exerted *on* the drawing, the subject will be transferred, by means of the carbonic paper, to ▲.—This is a very simple and inexpensive operation, as the carbonic paper will suffice for at least two or three dozen tracings. The carbonic paper may be made as follows:—Take three parts of lampblack and one of olive oil, mix, and rub the compound evenly over a sheet of paper, afterwards rubbing it with a cloth until it is capable of being placed on a sheet of paper, and spread evenly with the hand without transferring any black-mark. For common purposes soot and yellow soap, mixed are sometimes employed; and we ourselves, have used them on many occasions. Of course the number of copies may be increased by increasing the number of sheets of carbonic and copying paper and placing them in the same order as above.



TARZIA, OR WOOD-MOSAIC, OF THE FIFTEENTH CENTURY, BY FRA GIOVANNI, IN THE CHURCH OF SANTA MARIA, IN ORGANO, AT VERONA.



Exhibition of Mr. Mulready's Pictures at the Society of Arts.



ITTER were the feelings that rose within our breast when we learned that the first practical attempt to implant native genius upon its own soil, in this country, had turned out a failure—a failure sad and disheartening to all true lovers of the pure and beautiful in art, and consequently, of an increased enlightenment diffused among all classes of the community.

Many of our readers will probably remember a circumstance which took place but a very few years back, when a distinguished artist, named HAYDON, took into his own hands the prerogative of God, and despatched his soul, as a witness against his fellow mortals, to the heavenly tribunal. But this man also left behind him a record of the inhumanity of his fellow beings, in which occurs a passage stating that he exhibited a picture in the Egyptian Hall, in a room contiguous to that in which General TOM THUMB was going through his *entertaining* performances: the consequence was, that while crowds flocked from all quarters, paying down their admission money as readily as a Chinaman would sacrifice his last meal before the shrine of his idol, in order to inspect the juvenile monstrosity—poor HAYDON was forgotten, and left to ruminate over an empty purse with whatever degree of complacency he could command on such an occasion.

The same scene has recently been enacted,

and with scarcely less disastrous effects—the *locale* and the man have only been changed—the mind of the public still remains the same as it did when it consigned BARRY to starvation and HAYDON to a suicide's grave. MULREADY, the picture moralist, whose works have pleased us in infancy, and imparted many a useful lesson to us in our more mature years, has been shunned, despised, and forgotten—yet let there be but placed before the coquettish eye of that public that has been so often praised for its discriminating abilities and good taste (!), a man-monkey or a sea-dog, and it immediately becomes the god of its idolatry—the *multum in parvo* of its ideas of the pure and beautiful.

Enamel.

[Continued from page 29.]

YELLOW.—Though yellow may be obtained in a direct manner, compound yellows are preferred because they are more certain in effect, and more easily applied, than the yellow which may be directly obtained from silver. The compound yellows are obtained in consequence of the same principles as the red colour of iron. For this purpose we employ metallic oxydes, the vitrification of which must be prevented by mixing with them other substances, such as refractory earths or metallic oxydes difficult to be fused. The metallic calces which form the basis of the yellow colours are generally those of lead; as minium, the white calx of lead, or litharge, the white calx of antimony, called diaphoretic antimony; that called "crocus metallorum" is also employed. This regulus pulverized, and mixed with white oxyde, gives likewise a yellow. The following are the different compositions used: one part of the white oxyde of antimony, one part of the white oxyde of lead (or two or three), these doses are exceedingly variable; one part of alum, and one of salammoniac. When these matters have been all pulverised and mixed well together, they are put in a vessel over a fire sufficient to sublimate and decompose the salammoniac; and when the matter has assumed a yellow colour, the operation is finished. The calces of lead mixed in a small quantity either with silice or alumine, also with the pure calx of tin, exceedingly white, gives likewise yellows. One part of the oxyde of lead is added to two, three, or four of the other substances abovementioned. In these different compositions for yellow you may use also oxyde of iron, either pure or that kind which has been prepared with alum and vitriol of iron; you will then obtain different shades of yellow. From what has been said, you may vary these compositions of yellow as much as you please. Yellows require so little flux that one or two parts, in general, to one of the colour are sufficient. Saline fluxes are improper for them, and especially those which

contain nitre. They must be used with fluxes composed of enamel sand, oxyde of lead, and borax, without marine salt. A yellow may be obtained also directly from silver. All these mixtures may be varied, and you may try others. For this purpose you may use sulphate of silver, or any oxyde of that metal mixed with alumine or silex, or even with both, in equal quantities. The whole must be gently heated until the yellow colour appears, and the matter is to be employed with the fluxes pointed out for yellow. Yellow of silver, like purple, cannot endure a strong heat; a nitric solution of silver may be precipitated by the ammoniacal phosphate of soda, and you will obtain a yellow precipitate which may be used to paint in that colour with fluxes, which ought then to be a little harder. Besides the methods abovementioned, the best manner of employing the oxyde of silver is, in my opinion, to employ it pure: in that case you do not paint but stain. It will be sufficient then to lay a light coating on the place which you wish to stain yellow, and to heat the article gently to give it the colour. You must not employ too strong a heat: the degree will easily be found by practice. When the article has been sufficiently heated, you take it from the fire, and separate the coating of oxyde, which will be found reduced to a regulus. You will then observe the place which it occupied tinged of a beautiful yellow colour without thickness. It is chiefly on transparent glass that this process succeeds best. Very fine silver filings produce the same effect: but what seemed to succeed best in this case was sulphate of silver well ground up with a little water, that it may be extended very smooth. From what has been said, it may readily be seen that this yellow must not be employed like other colours; that it must not be applied till the rest have been fused; for, as it is exceedingly fusible and ready to change, it would be injured by the other colours; and as the coating of silver, which is reduced, must be removed, the fluxes would fix it, and prevent the possibility of its being afterwards separated. Working on glass is not attended with this inconvenience, because the silver yellow is applied on the opposite side to that on which the other colours are laid.

GREEN.—Green is obtained directly from the oxyde of copper. All the oxydes of copper are good; they require little flux, which even must not be too fusible: one part or two of the flux will be sufficient for one oxyde. This colour agrees with all the fluxes, the saline as well as the metallic, which tends to vary a little the shades. A mixture of yellow and blue is also used to produce greens. Those who paint figures or portraits employ glass composed in this manner; but those who paint glazed vessels, either earthenware or porcelain, employ in general copper green. Independently of the beautiful green colour produced by oxydated copper, it produces also a very beautiful red colour. This beautiful red colour, produced by copper, is exceeding fugitive. The oxyde of copper gives red only when it contains very little oxygen, and approaches near to the state of a regulus. Notwithstanding the difficulty of employing this oxyde for a red colour, a method has been found to stain transparent glass with

different shades of a very beautiful red colour by means of calx of copper. The process is as follows: you do not employ the calx of copper pure, but add to it calx of iron, which, for that purpose, must not be too much calcined; you add also a very small quantity of calx of copper to the mass of glass which you are desirous of tinging. The glass at first must have only a very slight tinge of green, inclining to yellow. When the glass has that colour you make it pass to red, and even a very dark red, by mixing with it red tartar in powder, or even tallow. You must mix this matter well in the glass, and it will assume a very dark red colour. The glass swells up very much by this addition. Before it is worked it must be suffered to settle, and become compact; but as soon as it has fully assumed the colour, it must be immediately worked, for the colour does not remain long, and even often disappears while working; but it may be restored by heating the glass at the flame of a lamp. It is difficult to make this colour well, but when it succeeds it is very beautiful, and has a great deal of splendour. By employing the calx of copper alone for the processes abovementioned, you will obtain, when you succeed well, a red similar to the most beautiful carmine. The calx of iron changes the red into vermilion, according to the quantity added. If we had certain processes for the making this colour, we should obtain all the shades of red from pure red to orange, by using, in different proportions, the oxyde of copper and that of iron. The calx of copper fuses argil more easily than silex: the case is the same with calx of iron. If you fuse two or three parts of argil with one of the oxyde of copper, and if the heat be sufficient, you will obtain a very opaque enamel, and of vermilion red colour. The oxyde of copper passes from red to green, through yellow, so that the enamel of copper, which becomes red at a strong heat, may be yellow with a weaker heat. The same effect may be produced by deoxydating copper in different degrees: this will be effected according as the heat is more or less violent. The above composition might, I think, be employed to give a vermilion red colour to porcelain. The heat of the porcelain furnace ought to be of sufficient strength to produce the proper effect. The calx of iron fused also with argil, in the same proportions as the calx of copper, gives a very beautiful black. These proportions may, however, be varied.

[To be continued.]

VALUE OF IRON.—Bar iron worth £1 sterling, is worth when worked into horseshoes, £2 10s.; tableknives, £36; needles, £71; penknife blades, £657; polished buckles and buttons, £897; balance springs of watches, £50,000. Cast iron worth £1 sterling is worth when converted into ordinary machinery £4; larger ornamental work £45; buckles and Berlin work £600; neck-chains &c., £1,386; shirt buttons, £5,896. Thirty-one pounds of Shropshire iron has been made into wire upwards of 111 miles in length, and so fine was the fabric, that a part of it was humorously converted, in lieu of the usual horsehair, into a barrister's wig!

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECRYPTED BY THE RECIPIENT OF THY COMMUNICATION.

"Thomas Hopkins."—If you address a note to Mr. Weale, architectural bookseller, Holborn, London, stating the description of work you require, that gentleman will forward you a list of several, from which you can make your choice.

*** We shall be happy to hear from "F. E.," "Blucher," and "Lignarium"—the former would much oblige by informing us whether he intends to resume the *Antiquarian Specimens* shortly—he will add to the favour by forwarding (in confidence) his name and address.

"H."—Address a note to Mr. Gibbs at our office.

"A. S."—Anything of the sort will always prove acceptable to us.

"Mr. T. A. B**r" is thanked, we will send a private note.

QUERIES.

Required—The method of preparing and colouring sheep-skin rugs, used for door-mats, carriages, &c.
A. Mills.

Two school-rooms, conducted on the British system, have lately been erected (one above the other) for boys and girls; the committee now wish to make the girls' school into two, so that one part may be used for infants. Can any of your correspondents inform me of the cheapest and best moveable partition that can be used? Would a sailcloth partition be suitable? I have heard that it deadens the sound, and the cost is small.

Rochester. A. B.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 15 is now ready, price 7d.

MODERN FRENCH ARTISTS.—A collection of modern French pictures is being exhibited at No. 106, New Bond-street, and will doubtless be visited by every one interested in the arts. The proprietor, Mr. Arrowsmith, has brought

over this selection from Paris, on account, we believe, of the complete stop put by the late political circumstances to any dealing in articles of taste in that disturbed capital. The principal exhibitors are Decamps, Isabey, Muller, Hoguet, Troyon, Diaz, and Dupré; and there are some very exquisite specimens of these masters, all of whom have achieved a deserved celebrity. Decamps is well known here, from engravings from his paintings of children, being very apt in the expression of childhood in all its varieties. He has a large picture here of an Arab school breaking up, which is charmingly characteristic. Isabey, hitherto known principally as a marine painter, has an admirable picture of the "Marriage of Henry IV." It is a work of great merit. Muller has a very fine picture, admirably painted, and full of genuine pathos and character, delineating that passage in "Don Juan" (Canto IV.), where the harper for a brief interval recalls the wandering senses of Haidee. It is a noble specimen of the modern French historical school, and proves how completely they have abandoned the frigidity of the sham classical, which so long kept them from that direct study of nature, that now has done so much to place them in the first rank of draughtsmen. Nor will the English spectator be less struck with the rapid progress made by their artists in landscape. They have evidently diligently studied the English and Dutch schools, and have learnt to appreciate and represent those out-door effects of atmosphere and scenery which have lent so great a charm to these schools. Two landscapes by Hoguet almost entitle him to rank as the French Callcott, and Dupré has much that reminds one of Ruysdael and Linnell, though it is not a first-rate specimen of him that is here exhibited. Diaz is a remarkably versatile painter, and is certainly very spirited in his style. We, however, prefer Troyon, probably because he seems to us more nearly to approach to the freshness and nature of the English school. There are specimens of other masters that we have not space further to notice, but earnestly recommend every one to visit this collection, which is not only very creditable to the state of French art, but offers an easy opportunity of studying it, not often placed within the reach of the English connoisseur.—Douglas Jerrold.

VALUE OF MINERAL PROPERTY.—Mineral property on the hills, which, when the Monmouthshire Canal and its tramroads were constructed, was only worth 5s. an acre surface rent, soon increased in value to £1,500 an acre, or more, underground. The area of the Monmouthshire coal-field exceeds 89,000 acres, and the various seams of coal that can be profitably worked are said to average 50 feet, which produce a gross yield per acre of nearly 73,000 tons. The total quantity now worked annually is estimated at about 2,200,000 tons; at which rate there is sufficient supply left for the next 1,500 years. The net quantity available for export has been estimated at about 3,000,000,000 tons! Great Britain now annually consumes from all her collieries about 21 million tons.—Cliffe's Book of South Wales.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Concluded from page 144.]

ENRICHED LOSENGE, or ENRICHED FRETTE



MOULDING, a moulding used in Saxon architecture.

ENRICHED QUATREFOIL MOULDING, a mould-



used in Saxon architecture.

ENTASIS (in architecture), the slightly curved line that forms the outline of the shaft of a column, which is so beautifully graceful in the Grecian Dorics as to be just suspected and scarcely sensible. Were these profiles conical, they would appear hollow in their outlines and fragile; and when too gibbous or swoln like the Tuscan and some bad examples of the Romans and modern Italians, like a bursting barrel, that had lost all its hoops but the top and bottom, or, as Sir Henry Wotton observes "as if they were sick of some tympany or dropsy." This contraction or comely diminution is to be found in all the best Greek examples, although many draughtsmen have represented them as being straight from the apolyge to the colarino.

EPISCENIUM or **EPISCENOS** (in ancient architecture), the upper part of the scene in ancient theatres. As the scene had sometimes three tiers of orders, the episcenium was formed of the upper order, with sometimes an attic or some other similar finish.

EPITAPH (in architecture and sculpture), an inscription engraved on a tomb, mausoleum, sarcophagus, cenotaph, or other funereal monument intended to preserve the memory of the deceased, and to inform posterity of those actions which embellished their lives.

ERECT (in architecture), to raise an edifice, to build, to place perpendicular to the horizon.

EXOSTRA (in ancient architecture), a machine or engine of timber, wherewith such things as are acted within or behind the stage in the ancient theatres were shown to the spectators. Also a bridge thrust out of a turret by pulleys on to the walls of a town, by which the besiegers entered. The dramatic stage

of the ancients never represented the interior of a building, but always an open space; and when the action required that they should exhibit to the spectators or the actors what was passing inside of a house or palace, it was performed by the machine called *exostra* or *ekklyklema*.

[To be continued.]

SAVING OF FUEL IN GAS-WORKS.—At the last meeting of the Royal Scottish Society of Arts, Mr. W. Kemp stated that he had made a valuable discovery in economising fuel at Galashiels gas-works. Where coal-tar is burned, it has an injurious effect on the furnace bars and retorts, the greatest annoyance arising from the rapid clinking up of the furnace bars, to remove which the firemen had frequently to throw water into the furnace, which caused the rapid destruction of the bars. To prevent this, the idea occurred to Mr. Kemp of using the exhausted tan-bark of the tan-works, which had the desired effect. The force-pump for injecting the tar into the furnace was next thrown aside, as it was found that the dry bark absorbed tar equal to its production at the works. His method is as follows:—The bark is dried, and mixed with the coke of the gas-coal, bulk for bulk; a pailful of tar is thrown upon it, not quite so much as it will absorb, and it is then turned over. The mixture burns with a fine clear flame, attended with less smoke than formerly; the furnace bars, by remaining unclinkered, admit the oxygen freely for the combustion of the fuel. Where tan-bark cannot be had, peat moss, loose and dry, makes a good substitute. Mr. Kemp stated that in one year £126 was saved in furnace coal.—*Pharmaceutical Times*.

THE OLD CLOISTERS AT WESTMINSTER.—The removal of the lath and plaster rubbish which has long encumbered the old cloister on the east side of Westminster Hall, has let in the light on their great and manifold beauties. The minute and elegant sculptured decorations which are carried web-like over the whole surface, make the so-called excess of decoration on the new parts appear positive plainness by comparison. The little chapel offers many points deserving of study. In the course of the operations, some of the old Norman work forming the side of the hall has become exposed; it shows two semi-circular headed windows, with a hatched string course underneath. The object of the clearance is to effect the communication between the new Houses and Westminster Hall.

THE ART UNION.—The following is a statement of the number of works of art selected by the prize-holders of last year from each exhibition, and the amount paid:—39 from the Royal Academy, £2,188; 32 from the Society of British Artists, £1,109; 24 from the Free Exhibition, £650; 17 from the New Water-Colour Society, £550; 15 from the Old Water-Colour Society, £377 3s.; and 11 from the British Institution, £415. Total, 138 works=£5,289 3s.

Public Amusements.

CREMORNE GARDENS.



WE this week present our readers with an engraving of a pretty piece of ornament from that excellent place of entertainment, Cremorne Gardens. Of course all our metropolitan readers must be acquainted with the nature of the varied amusements there presented, so that it would be unnecessary for us to speak in the laudatory terms of that which has already received its full meed of public approbation; but to our professional subscribers, we would offer a suggestion to avail themselves of the opportunity now afforded to inspect those beautiful decorations for which Cremorne Gardens is so justly celebrated.

Unquestionably the most prominent feature in the Gardens is the Banqueting-room, the decorations of which are of the most superb description, and when seen by night convey to the mind of the spectator the idea of some scene of fairy enchantment, raised up by magic on the sward—which feeling is still further increased by the delightful harmony of an excellent band.

The above illustration represents one of the panels on the side of this room, the same description of ornament being used for all the other panels; the only difference consisting in the substitution of fruit and a variety of flower-grouping at the base or on the top of the ornament. The ornament is painted in delicate tints, composed chiefly of green, brown, and grey. The ground is of a stone colour enclosed in a frame consisting of a broad red

line, with a green one on either side—also by a fine red line terminating with a neat corner of the same colour.

The room is lighted up by four chandeliers in the Louis Quatorze style. The portions of the ceiling from which they hang are ornamented with bosses executed in the same style, the intervening spaces being ornamented with cupids, &c., emblematic of the entertainments given in the room.

Of the gardens themselves, we can only speak in unqualified praise;—they are beautifully laid out, and the numerous objects of vertu, statues, casts, &c., plenteously strewn about impart to the whole place a classic and tasteful appearance. Among the most conspicuous objects of this nature we may mention "Apollo Belvedere," "Nymphs at the Bath," and a variety of vases in which flowers are planted. The paths are well arranged, and afford an agreeable promenade.

The novelty produced at the Gardens this season is unexampled. The "Aquatic Tournament on the Thames," has a grand appearance, and can only be correctly judged of by a personal inspection. Every alternate week is devoted to the Tournament, the intervening time being occupied by the aeronautic exhibitions. On a late visit we were happy at perceiving a numerous and highly respectable audience collected together, and we hope that the liberal-minded proprietors will always receive a full share of the public patronage.

Mortar.

[Continued from page 50.]

THE Greek and Roman architects gave the name of Maltha to a calcarious cement used as stucco, and this and the term Mastic are given to various compositions. The mixture of milk with sand and lime, is said to have constituted the maltha of the Greeks; and we learn from Pliny that Roman maltha was made by mixing fresh burnt lime, slacked with wine, and beat in a mortar, with hog's lard and figs. This composition possesses great tenacity, and acquires the hardness of granite. A second kind was made of powder of slacked lime, with bullock's blood and powdered scales of the grey oxide of iron. Previous to the application of the maltha, the surface of the wall or ceiling was smeared over with oil, to make the composition adhere.

The inhabitants of Tunis, and other places in Africa, use a species of maltha, which has gained great celebrity. The process of preparing it is, according to Dr. Shaw's account, as follows:—To one measure of sand, two of wood ashes, and three of sifted lime powder, are mixed, with a sprinkling of water. After the mixture has been subjected to the operation of beating, a little oil is added; the beating is then resumed, and continued for three or four days, during which the proper degree of softness is preserved by alternately adding small quantities of water and oil. In a short time after its application in the usual way, it acquires the hardness of stone.

In a mausoleum of some of the Tartar princes, the spaces between the bricks are about an inch broad, and filled with a cement which appears to have been applied in a liquid state, and it has acquired such a solid consistence, that it is easier to break the well burnt bricks than to separate the cement, which is of a grey colour, and appears to have been a mixture of unslacked lime, pulverized charcoal, and pounded sand-stone.

Parker's Roman cement, as a facing to brick and other walls, is a composition forming an artificial stone, and, being water-proof, excellently adapted to this purpose; if the wall be previously wetted, it will adhere firmly. Arch stones, cornices, and ornamental parts of buildings, may also be conveniently made of this material. An account of it is given in vol. xxvi. second series of the "Repertory of Arts."

This valuable composition has been long known, and was first brought into public notice under the name of Parker's Patent Cement, sold by Messrs. Ch. Wyatt, and Co. Bankside, London, at 5s. 6d. per bushel; it is now sold at about 3s. per bushel by various dealers. This material is mixed with an equal quantity of sharp grit-sand, freed from impurities, and when beaten up with a due proportion of water, forms a handsome and durable covering for the outside of buildings. If the sand should have been previously moistened, the cement must be immediately used, and in no case mixed up beforehand. To give a proper finishing to this kind of work, a

mixture of five ounces of sulphate of iron to a gallon of water, is mixed with as much lime and cement as will produce the consistence and the colour required, for a wash to be applied to the surface of the work. Sometimes the colour is modified by vitriolic acid, and when the face of the work is made to imitate bonded masonry, the intersecting spaces are tinted with umber. It is generally calculated, that one bushel of cement, properly applied, will form a superficial covering of nearly four square yards. In performing this work, which is called Floating, laborious, unceasing, and quick action will be required, as the composition sets almost instantaneously.

Carbonate of lime, calcined at a heat not exceeding that at which cast-iron softens, and cooled without access of atmospheric air or moisture, acquires the property of quickly hardening under water; and, mixed with silicious sand and water, forms an artificial puzzolana or Roman cement, and for this discovery a patent was granted to Mr. James Frost on the 3rd of April, 1823. The process is described in the 44th vol. of the Repertory of Arts and Manufactures. A patent was also granted to Edgar Dobbs, Southwark, for a variety of compositions to form a water-proof cement, mortar, or stucco, which in a diluted state are also applicable as durable colouring washes for buildings. These compositions consist of carbonate of lime, burnt as for common plaster, and mixed up with water, clay, loam, mud, shale, road-dust, soil, cheap metallic oxydes, ores, sand, or any earthy substance which may be subjected to the heat above specified. The whole of these ingredients are then to be reduced to fine powder, mixed with water, and left in proper vessels till it has subsided. The water is then to be poured off, and the plaster materials formed into square pieces, and dried; after which they are subjected to the heat of a lime-kiln or stove, and, lastly, mixed with the lime and water for the intended purposes.

One hundred parts of quicklime, five of white, or other coloured clay, and two of yellow ochre, forms a cement, which is tenacious, and remains unchangeable when exposed to the weather. The lime must first be slacked with a small proportion of water, more of which must afterwards be mixed till of the consistence of cream. White clay is at the same time mixed with water to a similar consistence, and after having remained some time separate, the two solutions are carefully mixed together. During its continuance in the tub for twenty-four hours, this mixture is frequently stirred; and after that period a portion of yellow ochre is incorporated with it, to give it a pleasant colour. Walls covered with this cement, have remained exposed to south-west winds, and rains for two years, without injury.

A composition, said to be equal to the Roman cement, is made, by dissolving three pounds and a half of sulphate of iron, and mixing it with a bushel of lime, and half a bushel of fine gravel sand, previously made into mortar.

[To be continued.]

Etching upon Glass.

In the middle of the sixteenth century, when glasses manufactured in the Venetian states enjoyed the highest reputation throughout Europe, it was common to find those ornamented by engravings executed with the diamond. More than an hundred years had elapsed from that period, when Henry Schwanhard, a pupil of Lehmann, was incited by the accidental circumstance of the corrosion of his spectacle glass, to a method of etching on glass by means of some powerful acid liquor. His manner of preparing this liquor was kept secret by him; and as no fluid, save fluoric acid, with which we are acquainted, has the property of acting upon the surface of glass, while the discovery of this powerful menstruum was not brought before the world prior to the publication of Scheele's experiments in 1771, it is much to be regretted that the secret of Schwanhard was suffered to go with him to the grave.

The method pursued by this artist in the application of his discovery was different to that which is practised at present. That is, to coat over the entire surface of the glass with varnish, and, through this coating, to trace out the intended figures, leaving the glass exposed to the action of the acid only in those parts which are to be occupied by the figures. Schwanhard, on contrary, first traced the figures, and having filled the outline on the glass with varnish, applied his corrosive fluid to the remainder of the surface. By this means the figures were left in relief, and with their original polish, the effect of which was pleasing, and totally dissimilar to the appearance of engravings with the diamond, which latter circumstance it probably was that incited the artist to the adoption of his peculiar method, since his productions would, by that means, be more readily distinguished from the works of others.

The varnish employed by artists for defending, where it is requisite, the surface of the glass from the corroding power of the acid, is usually either a solution of isinglass in water, or common turpentine varnish mixed with a small proportion of white lead.

By the aid of a very few implements, the art of etching on glass may be rendered a pleasing occupation for amateurs. Good crown-glass is the most proper description to be chosen for this purpose. Having selected a square pane of the proper size, this should be first heated by immersion in a sand-bath, then rubbed over with purified bees' wax, the temperature of the glass being such as to cause the wax to melt completely and uniformly over its surface; the pane thus covered, must then be set aside to cool; and, it is important to observe, that every part of its face must be protected by this coating of wax; which, however, need not be thick, and indeed should not be applied in sufficient quantity to render the glass opaque.

A paper having the design boldly drawn upon it, may then be attached to the unwaxed

underside of the glass; and this drawing will greatly assist the artist in performing the next process, that of tracing the design through the wax. The best kind of tool for executing this operation is a carpenter's brad-awl, which as it is flattened at the end in one direction, and rounded in another, may, according to the position wherein it is held, be easily made to trace lines having the requisite and different degrees of fineness. The point of a pen-knife or any similar implement, may be used as a substitute for the brad-awl, and with almost equal efficacy. In tracing these lines, the artist must be mindful that his instrument lays bare the surface of the glass throughout the whole extent of the strokes.

A shallow evaporating basin of Wedgwood ware must next be employed. Its size should be such as will include within its area every part of the design; and it must at the same time be sufficiently small to be completely covered when the pane of glass is made to rest upon its edge. Some coarsely powdered flour spar must then be placed in the basin, the two substances must be well mixed together with a quantity of strong sulphuric acid, sufficient to form with it a thin paste, when by stirring them. The quantity of flour spar must of course be regulated by the size of the etching; and it may be a sufficient guide on that head to recommend that two ounces of the coarse powder be used when the basin is capable of containing a pint; these basins are procurable from any respectable dealer in earthenware.

As soon as the acid and flour spar are properly incorporated together, the pane of glass should be placed upon the basin: with the waxed side downwards, and a moderate degree of heat must be applied to the bottom of the basin: somewhere between 130 and 140 degrees of Fahrenheit's scale will be found most eligible. Perhaps the best means of providing a steady heat for this purpose is offered by the sand-bath, which was used for heating the glass before applying the wax. On this subsequent occasion, however, the temperature must never be sufficiently high to melt the wax, which in that case would run over the glass and wholly destroy the effect of the etching.

Very soon after this application of heat, fumes of fluoric acid will arise copiously from the basin, and attack the unprotected portions of the glass. When the basin and its contents are once thoroughly warmed, the heat of the sand-bath may be advantageously diminished.

After the glass has been thus exposed during half an hour, it may be removed from the basin; and first being rinsed in water, for the purpose of diluting or washing away the fluoric acid, the wax may be scraped off with a common table-knife; the design will then be found perfectly etched upon the surface of the glass.

A metallic basin will answer perfectly for generating the fluoric acid; but it will be altogether improper to use any glazed vessels for the purpose, as the vitreous coating of such would be entirely destroyed.

In performing this process, it is necessary to use some caution; as fluoric acid, if brought into contact with the skin, will quickly disorganise it and produce wounds which may be painful and troublesome; a very little carefulness will, however, suffice for preventing any accident of this nature.

When it is required thus to engrave other than plain surfaces, another arrangement must be provided: the glass must be exposed to the fumes of fluoric acid in some deep vessel; without, however, being suffered to come in contact with the pasty compound whence the acid fumes arise, and the whole should be covered over, to confine and retain those fumes, so that they may fully act upon the glass.

AMERICAN RAILWAYS.—When Americans boast, as they are very ready to do, of their thousands of miles of railways, Englishmen who are startled at the prodigious amount, should remember that these roads are single lines, and that in the value of the material, and in the skill and labour expended upon them, they differ as widely from what is seen in England, and called a railway here as Rome built of brick differed from Rome built of marble. The carriages used upon them are also very dissimilar to ours; they are much longer; and are entered by a door at either end, so that one can walk right through them, and stand upon the little platform outside. The passengers, about fifty in each car, sit two and two, on rows of *vis-à-vis* sofas or stuffed chairs, ranged right and left of a passage which runs down the centre. In cold weather a portion of the seats is removed to make room for a stove; in warm weather there is ample ventilation by means of Venetian slides. It is hardly safe to keep the windows open, for the furnace of the locomotive being fed with wood, a shower of sparks constantly issues from the chimney, and these finding their way, red hot, into the cars, occasion at once great pain to the eyes and serious damage to the clothes, which are often riddled with the holes they burn. At night this stream of sparks which the engine vomits forth have a very singular effect. In the distance one would almost suppose it to be a rocket in its course; and when nearer—and one can hear its throbbing, panting, groaning—it does not require a very lively fancy to make it out to be the fable realised of a fierce dragon, beathless with its flight, and breathing forth flames of fury. It is no uncommon thing for the locomotives, with their showers of embers, to kindle the forest through which they pass; and I have seen not only trees of gigantic mould leafless and dead, standing like bleached skeletons, from whose bones the flesh had been licked off by the tongue of flame, but whole acres of ground—nay, a whole hill-side—bear and blackened, and strewn over with the charred trunks of pines and other forest trees, which have yielded to the fire, and lay heaped together as they fell, looking in the distance like huge black snakes stretching themselves in the sun, whose light was brilliantly reflected from the charcoal all around.

—*English Presbyterian Messenger.*

Pier and Chimney Glass Frames.

THE first plate glass made in England was of the kind called "Vauxhall plates," which were distinguished by having the edge bevelled or sloped off all round. They were used for pier glasses, before chimney glasses came into general use. And were generally framed in narrow oak or walnut-wood frames, more or less decorated. In process of time, the glass was made in the form in which we now see it,—chimney glasses became fashionable,—and gradual changes were made in the style of frames.

During the latter half of the last century, the frames for looking-glasses, were generally speaking more architectural and defined in their character than they have since been. It was usual to have a cornice at the top, with a frieze just below it, on which was represented, in relief, some allegorical subject,—such as a Bacchanalian procession, &c. The upright sides of the frame consisted of a flat ground, in front of which was a column or pillar, generally of the Corinthian order, terminated with capitals and bases of the same order; square blocks or plinths supported the bases of the columns; while the capital supported the cornice.

At a later period, the ornaments on the frieze were superceded by a horizontal column, of the same order as the side columns. This was certainly, in an architectural point of view, a very unmeaning alteration, and was made still more so by ornaments placed at regular distances along the columns; while capitals and bases were altogether abolished, the cornice being supported by square blocks at the upper corners of the frame. In short, the frames could not now be said to possess any architectural character, but were subject to every freak of taste.

The next decided change was, to dispense with the cornice of the glass-frame altogether,—making the top and sides just alike. The two upper corners consisted of blocks, on which pateras or flowers were placed; and the columns abutted against the blocks. But in time a farther change was made, by removing the blocks altogether from the upper corners, and supplying their places with a carved ornament, consisting of leaves of foliage, &c., which covered the ends of the columns; while a smaller ornament rested on the bottom blocks, and covered the lower ends of the columns.

Within a few years a farther departure has been made from the old style, by dispensing with columns altogether. The top and sides of the frame were made of equal width, and consisted of a flat ground, bounded at each edge by a hollow or some other small moulding; and on the corners of the frame were placed carved or composition ornaments, which however tasteful and elegant they might be, had seldom much pretension to a definite or architectural character. Sometimes a por-

tion of the ornament resembled the end of a shepherd's crook, the staff of which ran up the side of the frame; generally speaking, however, the ornaments resembled different kinds of foliage, and the taste of the carver was called into requisition to make the ornaments appear as if they formed a necessary part of the flat ground on which they were laid; an effect which was by no means attained in many cases.

This style of frame has continued in use until our own day for glasses of a moderate size; but another change has taken place within a comparatively recent period, in the pattern for glasses of a large size. This new style is, indeed, "modern antique." A fashion has sprung up, by which all the old carved frames of the ages of Charles the Second, Queen Anne, and especially Louis the Fourteenth, have become greatly in favour. So much has this been the case, that dealers have gone to the Continent, for the purpose of buying all the old carved frames, and pieces of frames, that they could meet with,—the necessary qualification being old age. These were easily sold in England, and when the supply slackened,—the demand still continuing,—the carvers and the composition ornament makers set about imitating the antique productions which were now too scarce to supply the market. Where no fixed standard of taste is adopted, fashion soon veers round, and almost as soon becomes general over the country. Such is the case with these modern antique frames; for they are almost the only kind now employed for large glasses.

With respect to the rationality of any of the styles of glass frames which we have described, our decision must depend entirely on the circumstance, whether an architectural character ought to be looked for in these frames. Those who think that such ought to be the case, will have reason to regret the gradual progress of change within the last half century. Those, on the other hand, who think there is no sufficient ground for adopting an architectural style in frames, are justified in thinking that the present taste is the most elegant that has yet appeared in these matters. Certain it is, that the frames now made are richly and elaborately ornamented, representations of fruit and flowers being frequently interspersed among various species of foliage.

The above details relate chiefly to chimney glasses, that is, such as are placed on the mantle-piece. But they will apply also, in great measure, to pier-glasses, which are long narrow glasses placed in the piers between windows. The general character of these frames is, that they are made narrower in the moulding than the frames for chimney glasses, on account of the limited space devoted to their reception. But the style or pattern has undergone nearly as many changes by the caprice of fashion as the chimney-glasses.

An addition to the pier-glass has become prevalent within a few years; we mean, the *consol table*. This very elegant article of furniture is a table, generally with a marble or scagliola top, carved and gilt legs, marble or polished wood plinth on which the legs

rest, and looking-glass back. The pier-glass is rested on this table, and as it frequently reaches to the ceiling, there is a brilliant assemblage of glass, gold, &c., from the ceiling to the floor.

TO SMOOTHEN AND POLISH IVORY.—Some painters use a large scratcher, others an instrument with a blade three or four inches long and of a triangular shape. To either of these the use of a razor is preferable—to benefit completely by it, be sure that it has not the slightest notch on its edge, and observe that it is not too sharp. Open it so that the back part of the blade touches the handle, and in that position use it to scrape the ivory from angle to angle. When the whole is thus smoothened begin again from the contrary angles, in order that no traces of the saw may remain upon the side required to be painted. Having provided some putty powder, pulverised and passed through a silk sieve, place the ivory in the middle of the bottom of a handbox, holding it firmly in one hand, while with the other take a small bit of paper and rub the pounce on the side of the ivory which has been polished—being always careful to do it with a circular movement. If the ivory be now of a dead white, and has lost the lustre given to it by the razor, take it out of the box, holding it so that the fingers do not touch the surface and brush off lightly with a painting brush any grits that may have adhered to it. For this purpose take one of the largest hair pencils. It may be serviceable to remove in the same way any specks or dust while painting. Never suffer the fingers to touch the ivory; hold it always at the extremities, for the colour will not settle in a place touched by the hands. If, however, such an accident happens, have recourse to the pumice powder, and with a paper stump, rather pointed, gently rub the place affected. But to avoid as much as possible a recurrence of such accidents; when at work, take a sheet of paper to rest the hand upon, and when there is occasion to use body colour, have a piece of wood or paste-board made for the same purpose, in such a way as not to touch the miniature, for in consequence of the gum which is in the colours, the heat of the hand might cause the paper to adhere to the painting.

SUTTON CHURCH, SHROPSHIRE.—This is one of the most minute ecclesiastical buildings England can boast of, being only twelve paces long by ten broad. Its fixtures correspond with its Lilliputian size. There is an iron box let into the wall to keep the church documents in. On the head of the pulpit is carved in quaint old letters—

"RICHARD ATKINS, SCHOOL MASTER, 1582," indicating that more than two centuries and a half ago the building had been used as a school. It is certainly a strange place for a church, as there are but about three tenements in the whole parish; yet service is regularly performed here, so as to enable the worthy rector to claim his title. His flock varies from one to seven.—*The Coracle Voyage*.

The Chronotypist.

THE Board of Trade have signified their intention to the London Art Union of withdrawing the proposed regulations as to the selection of prizes by a committee.—The once-talked-of Caxton memorial seems to have died an unnatural death; it is now no longer heard.—The trustees of the National Gallery have come to the determination of cleaning out the lower rooms of that edifice in order to make room for a portion of Mr. Vernon's pictures.—The suspension bridge at Perth lately tumbled in.—The Isle of Portland Government works are stated to be in rapid progress.—An atmospheric break, acting directly on the wheels of railway carriages, has been invented by Mr. S. C. Lister, of Bradford.—The first stone of the University Hall, St. Pancras, was laid on the 20th ult.—An exhibition of architectural designs for the Spitalfield's model lodging houses, is now taking place at Willis's Rooms, it will close in a few days.—On the 1st inst., the house at the north end of Castle-street and Upper St. Martin's-lane were demolished, in order to widen that thoroughfare. A new street is also about to be formed, passing through the Seven-dials, Monmouth-street, to the end of Tottenham-court-road, and another from the south of Upper St. Martin's-lane, through the parish of St. Paul, Covent-garden, into the Strand; and a third through Newport-market into Soho-square and Oxford-street.—“A Correspondent,” says *Douglas Ferrold's Newspaper*, “has called our attention to the fact that His Serene Highness Prince Louis of Oettingen Wallerstein, who has got a quantity of pictures to dispose of, is now exhibiting them, for sale, at *Kensington Palace*; ‘His Royal Highness Prince Albert,’ says the Catalogue, ‘having induced the owner of the collection to send it England, in order that it may be viewed by the British public, and to give the country an opportunity of obtaining it.’”—We have had lately placed in our hands the prospectus of a new company bearing the title of the Suburban Village Association. Its objects are stated to consist in the establishment and building of villages suitable for the residence of clerks, artisans, and persons of limited income, near railway stations, within a short distance of the metropolis, including in the tenancy, railway conveyance to, and from the metropolis daily; and in enabling the industrial classes to obtain an advantageous investment for their savings.—The *Chester Courant* says of the late false intelligence from Ireland: “If no more precaution is to be exercised in the management of the electric telegraph, the most scientific invention of modern days will come to be regarded as a public nuisance; and the lighting intelligencer will be branded as ‘the great liar of the north.’”—At the sale of the Pembroke coins which took place recently, a penny of Offa, King of Mercia, sold for ten guineas, whilst a penny of Cynethryth, his queen produced £31; a gold solidus of Vigmund, Archbishop of York, A. D. 851, weighing 67

grains, brought £59; a ryal or half-sovereign of Henry VII., so rare that the present coin is believed to be the second or third known, sold for 100 guineas.—The *New York Sun* states that from April 2 to June 2 the daily average of immigrants was 955.—The *Gateshead Observer* remarks: “The *Glasgow Citizen*, probably because it had heard that the Chinese junk, *Keying*, was to sail from the Thames for the Mersey, says that it ‘may be shortly expected in the Forth.’ We have, for the same reason, been looking for it in the Tyne.” [We can state confidently that Liverpool is to be the next destination of the junk.—Ed. D. A.]—The manufacturers of the Government postage stamps have denied that there is anything poisonous in the gum applied to them, a Mr. Harris, an innkeeper in the Blackfriars-road, having, as it was stated, been seriously injured in health by applying his tongue to a number of stamps.—The *New York Tribune* states that a locomotive saw-mill has been attached to an engine on the Camden and Amboy Railroad, to run between the several depots for the purpose of sawing wood for the locomotives.—The town of Tralee was lighted with gas, on the 21st ult., for the first time, as stated by a local journal, “since the creation.”

MALLEABLE IRON CASTINGS.—The malleable iron castings are made from the rich Cumberland iron, and are at first as brittle as glass or hardened steel; they are enclosed in iron boxes of suitable size, and surrounded with pounded ironstone, or some of the metallic oxides, as the scales from the iron forge, or with common lime, and various other absorbents of carbon, together or separate. The cases, which are sometimes as large as barrels, are luted, rolled into the ovens or furnaces, and submitted to a good heat for about five days, and are then allowed to cool very gradually within the furnaces. The time and other circumstances determine the depth of the effect; thin pieces become malleable entirely through, they are then readily bent, and may be slightly forged; cast-iron nails and tacks thus treated admit of being clenched; thicker pieces retain a central portion of cast-iron, but in a softened state, and not brittle, as at first; on sawing them through, the skin or coat of soft iron is perfectly distinct from the remainder.—*Holzappel*. [The rationale of the process is, that the cast-iron is deprived of its carbon.]

ADMISSION AT THE ROYAL ACADEMY.—At a Council held on the 18th inst. at the Royal Academy, the following gentlemen were admitted probationers:—W. O. Williams, F. W. Moody, R. B. Martineau, E. W. Senior, F. J. Scott, J. Stirling, W. Underhill, E. Hagg, F. J. Wyburd, B. Smith, F. H. Hurst, E. G. Papworth, C. Summers, J. Skurry, J. Robinson, C. N. Williams, F. G. Skiddows, F. F. Thorne, E. E. Scott, H. S. Legg, E. M. Barry, G. Payne, and W. F. Gomm.

THE SUSSEX ARCHEOLOGICAL SOCIETY will meet at Lewes on the 10th inst., when a large attendance is expected. The Bishop of Chichester will preside.



AN ORIGINAL DESIGN FOR A GOTHIC SIDEBOARD, BY D. A. CLARKSON.

The London Art-Union and the Board of Trade.



OWEVER

great may be the estimation in which we hold the influence of a constitutional authority when exercised to prevent abuse, and insure fair dealing betwixt man and his fellow, we by no means uphold that Jack-in-office spirit which but too often leads our government to acts of interference where its interposition is neither just nor necessary. An instance of this mischievous meddling has lately been brought prominently before the notice of the public in the case of the Art-Union of London and the Board of Trade. Not content with the exercise of a mere nominal power over an institution, of the mode of conduction of which no complaint has ever yet been made, "My Lords" chose some time back to take upon themselves the office of censors, and claimed a right to change the character of the society, and to have the following alterations made in its constitution:—First, that all the works of art should be selected by a committee; secondly, the abandonment of the annual distribution of engravings and to substitute others: and thirdly, to reserve ten per cent. for a fund for defraying the expenses of a public exhibition. The council of the London Art-Union, however, declared these alterations to be impracticable, and, accordingly, for a long time, the Board of Trade cogitated upon the subject and have now, at last, come to the decision that in consequence of its being their opinion that one of the great advantages which they anticipated from the previous selection of

the prizes by a committee which would have the power of giving orders to artists, or of purchasing their works before the opening of the Exhibitions, was that the prizeholders would have a better collection open to them to chose from than is at present afforded by the Exhibitions to which they are confined, it is best that in cases where the right of selection is vested in the prizeholder himself and not in a committee, he shall be allowed to exercise that right freely without being restricted to purchasing from any particular Exhibitions, and that a year shall be given him in which to make his choice, so as to enable him to give a commission in case he does not meet with a work to suit his taste. They do not, however, propose that he should have right to select a portrait or portrait-bust; but, with this exception, they would leave him free to purchase any work of a living artist, subject to such regulations as may appear to be desirable, and it is their intention to put themselves in communication with the Council of the Art-Union of London upon the subject of the regulations that should be adopted.

Here the matter rests for the present, but we cannot for the life of us make out why it was originally disturbed. What in the name of common sense, has a Board of Trade to do with an Art-Union? We presume we shall next have a committee of privilege, or something of the kind, dictating to the Great Western Railway the hours at which they shall start their trains. A Board of Trade, if there be any meaning in the words, must certainly be a tribunal instituted to watch over, and supervise the fluctuations of trade and the proceedings of traders. Now, surely, the painting and selection of pictures, the distribution of engravings to subscribers who have paid for them, and the general routine of business common to a society incorporated for the purpose of promoting art and a taste for art, by means of a picture lottery, and a distribution of high-class engravings—surely, we say, the proceedings of such an association as this cannot be regarded as coming within the category of commercial operations. That the Art Union may have faults, we do not deny. But it has many redeeming and excellent qualities. It has become the purchaser of many

high-class pictures; it has distributed them amongst the middle and lower classes of the people; and it has, as an incidental advantage, scattered over the walls of many a humble parlour, engravings of a class which otherwise would never have been hung there. It is therefore with feelings of annoyance and regret that we see a parcel of red-tapists attempt to fetter, a useful and rising institution. It has, however, repelled the brunt of the assault, and we heartily hope that it may succeed in teaching the Downing-street gentry not to meddle with things which concern them little, and of which the chance is that they know less.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BEADILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"A. B." (Leeds).—No. 3, as well as all the early numbers out of print, is being reprinted.

"S. S."—Next week.

"L. M. S. P."—An article is in preparation.

ERRATUM.—In our list of the gentlemen admitted at the Royal Academy, in our last number, p. 160, for the "18th instant," read the "18th ultimo."

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

* * * Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 16 is now ready, price 7d.

THE BRITISH ARCHAEOLOGICAL ASSOCIATION CONGRESS commenced at Worcester on Monday, the 14th, and will terminate on Saturday. Tuesday was appropriated mainly to the cathedral. On Wednesday (to-day) there will be an excursion to Sudeley Castle and on Thursday to Malvern, Pershore, and Ever-sham.

Mortar.

[Continued from page 156.]

Artificial puzzolana is made by heating of slacked lime one part, to three parts of clay, and keeping of a red heat several hours. After which, cover the top of the kiln with sand or earth, and, when cool, pack up close in casks for use. A composition, consisting of lime-stone, road-dust, sand, or similar substance, with powder of burnt bones; these ingredients powdered are to be heated in an oven, and when hot to be mixed with one fourth part of tar, pitch, or rosin, and used to form a facing for houses.

Cement for mouldings, is made of powdered whitening two pounds, glue one pound, with half a pint of oil. This mixture is first thoroughly incorporated in a metal vessel, by means of heat, and well beat together on a stone with whitening, till it has acquired the necessary consistence and toughness. It is kept under moist cloths till used. Proper moulds are used for casting ornaments of this composition, which when dry are fixed on the surfaces to be ornamented, by glue or white-lead.

A delicate cement is made for small work, by heating a pint of milk to the boiling point and adding vinegar till the curds separate; then straining off the whey, which is carefully beaten up with the whites of four or five eggs, gradually adding the whey; when the whole is well mixed, sifted quicklime is stirred in, till the consistence is that of a thick paste. It is used to supply deficiencies in small works, and to fasten pieces broken off, which it joins firmly together. It resists the action of fire and water. The prepared liquid may be kept, if closely corked up, but the lime must only be added when wanted.

Half a pound of bees'-wax, sliced, melted with a quarter of a pound of rosin, powdered, and an ounce of chalk and of brick dust, both in fine powder, added, the whole boiled up together and well mixed, forms a valuable cement for filling up holes either in stone or marble, and for veneering marble for inlaying, and mosaic work. The cement must be used hot, and the work it is applied to must be warmed.

The cold cement for the same purposes is reckoned a secret among workmen; it is made by grating with a bread grater, a pound of old dry Cheeshire cheese, which must remain for thirteen hours in a quart of milk, stirring it frequently; a pound of unslacked lime in powder must then be added, and the whole well beat up. Finally, add the whites of twenty or thirty eggs beat up with any colouring matter desired, and let the whole be exceedingly well mixed and beat up together.

Mr. Beavan's Mortar.—This mortar, or building cement, is composed of marble, flint, chalk, lime, and water; and when dry is capable of a high polish. The proportions are one part of pulverized marble; one part of pulverized flint; and one part of chalk—mixed together, and sifted through a very fine sieve: to this is to be added one part of lime which has been slacked three months, and sufficient

water to make the whole into a thin paste; in this state it is to be spread over a coarse ground, as thin as possible, and made smooth on the surface; it may be polished, when dry, by Venetian talc. If buildings are to be covered with this composition, a preparatory rough ground should be first used, consisting of river-sand and lime.

Derbyshire Spar Cement, is made with about eight parts of resin and one of bees'-wax melted together, with a small quantity of plaster of Paris; if small deficiencies occur in the article to which it is applied, a little more of the plaster of Paris may be added, and, when the mixture is nearly cold, it must be well kneaded together. When used, this cement must be dissolved by heating the portions of spar to be fastened together. A mixture of melted sulphur and some of the spar, powdered, is sometimes used for this purpose.

Steam Cement, is not only useful for different parts of hydraulic and steam engines but for broken stones, and the joint of square water-troughs. Linseed oil boiled, litharge, and red and white lead, constitute this cement, which is mixed to a proper consistence, and applied on each side of a piece of flannel, previously shaped to the joint of iron or other substance, and put between the pieces previous to their being screwed or hammered together, or "brought home," as the workmen term it: by this means a close and durable joint is made. Care must be taken not to leave the mixture too thin with oil; and as the white lead does not dry so soon as the red, more of the latter ought to be used. Workmen do not always produce a good joint on the first attempt, but repeatedly loosen and fasten the parts of the work till they at last accomplish their purpose. When the fittings will not admit the thickness of flannel, linen, or even paper, or thin pasteboard may be substituted.

This cement answers well for joining broken stones of the largest kind; and stone joints never leak or want future repairs: if the stone be thick, not more than an inch next to the water need be filled with cement; the rest may be done with common mortar. Two ounces of sal ammoniac, one ounce of flowers of sulphur, and sixteen ounces of cast iron filings or borings; mix them in a mortar, and keep the powder dry. When this cement is wanted, take one part of the above, to twenty parts of clean iron filings or borings, and mix intimately, and beat to a powder in a mortar. When mixed to a proper consistence with water, apply with wooden or iron spatula. This is the cement used in the filling up and claspings the joinings of Southwark cast-iron bridge. The chemical action of these materials, on one another, causes the whole to unite in a hard and homogeneous mass.

The roofs and floors of houses in Venice are covered with a cement, the composition of which is unknown in England; it resists the action of the weather, and preserves itself from injury for a long time. It is believed to be compounded of plaster of Paris, sulphur, resin, pitch, and spirit of turpentine or wax mixed hot.

Walls and floors are sometimes made of

mortar; as also the roofs of houses. For plain country habitations, the floors may be made of two-thirds of lime, and one of coal ashes well sifted; with a small quantity of loam, or clay; mix the whole together with water, and temper well, and make into a heap; which after remaining a week or ten days, temper over again, beating it till it be of a proper tenacity and consistence. The ground being made level, lay the composition about two inches and a half or three inches thick, making it smooth with a trowel; if this work be done in warm weather, it will dry sooner, which will be an advantage; and if a superior floor be wanted for better apartments, cover this first layer with another made of the lime of ragstones, well tempered with whites of eggs, and laid on about half an inch thick, before the first floor be too dry. When the whole is thoroughly dried, and rubbed with a little oil, it will be as smooth as polished marble.

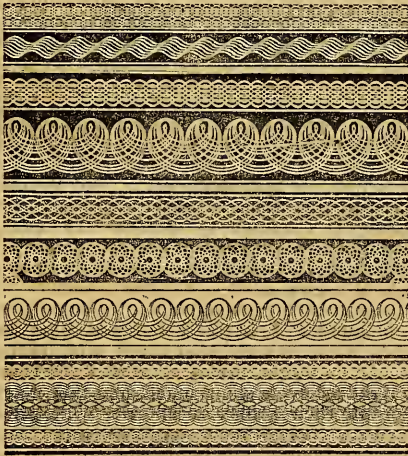
The most interesting place connected with the machinery of the Bank is the weighing-office, which was established a few years ago. In consequence of a late proclamation concerning the gold circulation, it became very desirable to obtain the most minute accuracy, as coins of doubtful weight were plentifully offered. Many complaints were made that sovereigns which had been issued from one office were refused at another; and though these assertions were not perhaps always founded on truth, yet it is indisputable that the evil occasionally occurred. Every effort was made by the directors to remedy this, some millions of sovereigns being weighed separately, and the light coins divided from those which were full weight. Fortunately the governor for the time being, before whom the complaints principally came, had devoted his thoughts to scientific pursuits, and he at once turned his attention to discover the causes which operated to prevent the attainment of a just weight. In this he was successful; and the result of his inquiry was a machine remarkable for an almost elegant simplicity. About eighty or one hundred light and heavy sovereigns are placed indiscriminately in a round tube; as they descend on the machinery beneath, those which are light receive a slight touch, and this moves them into their proper receptacle, while those which are the legitimate weight pass into their appointed place. The light coins are then defaced by the sovereign-cutting machine, observable alike for its accuracy and rapidity. By this 200 may be defaced in one minute, and by the weighing machinery 35,000 may be weighed in one day.—*Francis's Hist. of Bank of England.*

ELECTRO TELEGRAPHIC.—The charge for the transmission of messages has been reduced:—"Between the hours of half-past five o'clock p.m. and seven p.m. a uniform maximum rate of 5s., will be charged for messages under twenty words; 2s. 6d. extra will be charged for every additional word or fractions of twenty words. Orders for carriages, horses, beds and other messages for the accommodation of travellers, 2s. 6d. each."

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 154.]

ENGINE-TURNING, a method of producing ornamental surfaces on various articles, by a combination of different curved and straight lines of a geometrical construction, which are produced on the articles by means of a species of lathe called a "rose engine." This engine was first used by the Swiss in ornamenting the dials and cases of their watches, and has also been extensively used for that purpose in Clerkenwell, in London, where it has been carried to a very great extent, both in the watch and in the snuff-box manufacture, and has been for many years past used in the printing trade as a mode of preventing the forgery of bank-notes, bonds, and other valuable documents. Engine-turning was first introduced for the purpose of producing government stamps, in conjunction with the method of printing in one or more colours by one plate, by the late Sir William Congreve, and has been carried to a great state of perfection by Mr. Charles Whiting, printer, Beaufort



House, Strand. The accompanying specimens represent some of the various lines or curves used in this species of engine-turning. These specimens are produced by the combination of various motions which are given to the plate on the lathe, or rose engine, whilst the cutting-tool is held by a slide-rest or mechanical stand capable of various adjustments, which together or separately produce the effect desired. The portions cut out of the plate or block are those which are represented by the white parts of the patterns, and the face of the plate which is left receives the printing ink, and is therefore a black ground. This is called letter-press or surface printing, in contradistinction to copper-

plate printing, where the lines which are cut by the engine receive the ink and print black, while the surface is wiped clean and is therefore left in a white state on the paper. But both white as well as black lines may be produced so as to print at one impression, whether it is for the letter-press or copper-plate, as may be seen by referring to the accompanying patterns, where some of the lines are white on a black ground, while the other lines are black upon a white ground; both of these effects being produced by surface printing, or letter-press, and at one impression.

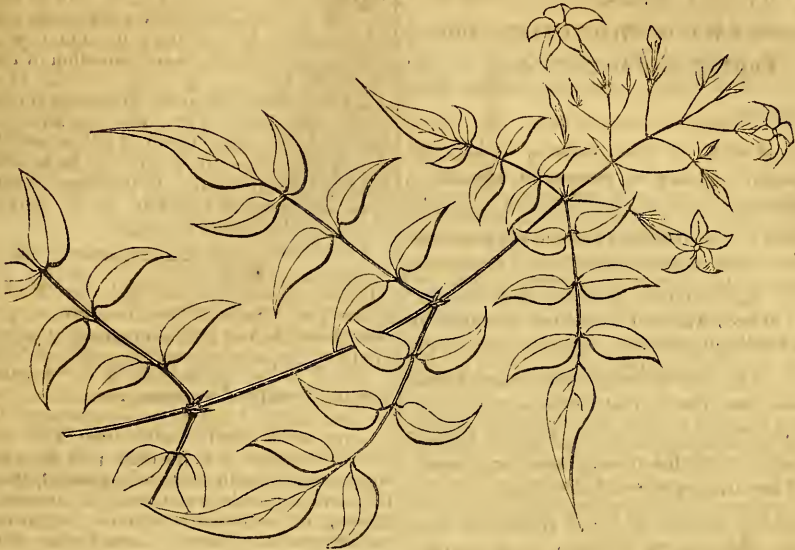
[To be continued.]

ROUND TOWER IN THE ISLE OF MAN.—It is near Peel Castle. "In the midst of green-sward, which now has overspread nearly the whole of the area within the walls, and forms a short, sweet pasturage, is a pyramidal mound of turf, of a rectangular form, facing the four cardinal points, and measuring about seventy yards along each side. The angles have well nigh disappeared, and it presents but the rude outlines of its ancient proportion. It seems to have been an old Danish fort, thrown up, probably, about the beginning of the eleventh century. Close to this mound, perched on the highest point of the island, rises the Round Tower, with its antique masonry almost wholly of the old red sandstone, regularly laid in courses of long and thin stones, with the wide jointing filled in with coarse shell-mortar of extreme hardness. It is in every respect similar to those of Ireland, so admirably described by Mr. Petrie; and its position, a little to the north of the ruined church, seems to tally remarkably with the view which he has taken of the double purport of these buildings, as belfries, and as deeps or places of strength for the protection of sacred utensils, books, relics, and other valuables, and into which, in cases of sudden attack, the ecclesiastics, to whom they belonged, might retire for security. There is a little door facing the east at the lower part of the tower, 6 feet 9 inches above the ground, to which access seems to have been gained by a ladder: four small square-headed apertures near the top face the cardinal points, and one other is seen lower down on the north-west or seaward side."*—From "The Isle of Man and its History," by the Rev. J. G. Cumming, J. Van Voorst.

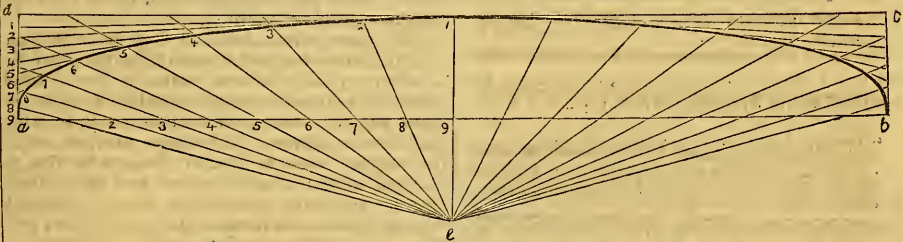
The inauguration of the fine fountain on the Place Sulpice, at Paris, took place lately. The monument represents Bossuet, Fénelon, Fléchier, and Massillon, the size of life, and in their episcopal robes seated in meditation. The water is poured from four urns into the first basin,—from which it overflows into a second and third. Four lions hold shields bearing the arms of the city of Paris. The work is by M. Visconti.

	ft.	in.
* Circumference of the tower near the base	44	6
Internal diameter at the door	5	9
Height of the tower, about	50	0

SKETCHES FROM NATURE.—No. II.



THE JESSAMINE.



METHOD OF STRIKING A SEMI-ELLIPTICAL ARCH WITHOUT EMPLOYING THE COMPASS.

The above diagram represents the plan adopted by Rennie in drawing the arches of the New London Bridge. It is first necessary to draw the springing line, $a b$, and then to determine the height of the arch, at the same time setting off the same distance below from which to carry the radius lines at the point b . Ascertain the required width, and divide it into 18 equal parts (or more, if necessary,—as the greater the number, the more certainty exists of acquiring accuracy); then from the point e carry the radius lines through each of the divisions to the boundary line $c d$, and divide the end into nine equal parts from the centre point, marked 1. Carry the lines to the side marked 1, and so on to 9;—the intersections of these lines produce the required arc.

WOLLATON HALL.—Wollaton is about three miles from Nottingham,—and was built by John Thorpe the architect of Holland House, for one of the Willoughby family in the reign of Queen Elizabeth. It is altogether of stone. The elevation of the exterior is fine; and though the ornamentation (as people now affect to call it) is a good deal in the crinkum-crankum style, I always find my heart warm when I see it, for the treatment is certainly picturesque, and all the beauties which Sir Joshua pointed out in Vanbrugh's buildings may certainly be found in every part of it. Some disfigurement has taken place in the façade by the removal of a pair of noble steps, otherwise the exterior is much as Thorpe built it. I wish I could say the same for the interior, which is greatly disappointing—the furniture and panneling scarcely a century old, and the pictures of the worst Wardour-street description.—*Correspondent of the "Athenæum."*

Reviews.

Instructions in Drawing, for the use of Elementary Schools. By BUTLER WILLIAMS. C.E., F.G.S., &c. London: Parker, West Strand.

The Author of this volume, in his "instructions," proceeds upon the hypothesis that the reader is unacquainted with the *modus operandi* of the simplest rules of drawing, and by this means he has been enabled to produce a work of the most valuable description—being, in fact, a guide through every successive stage towards perfection entered upon by the learner. The utmost minuteness and clearness of detail form the characteristics of this work, while the arrangement of its subjects equally conduces towards the end of the author, namely, that of imparting information in such a manner that the student may be led on pleasantly over a road, which it has hitherto been found a labour of difficulty to traverse.

The first chapter, which extends over twelve octavo pages, is wholly occupied with "Directions and general arrangements for the conducting of the Drawing Classes"—from which we make the following extract, describing the mode of using drawing materials:—

"When drawing, the body is straight, leaning slightly forward, but at a sufficient distance from the desk to admit of free movements of the right arm in any direction: the left hand, when paper is used, rests on the left side of the paper to keep it steady: both shoulders are of the same height.

"The chalk-holder is held between the two first fingers and thumb, not too stiffly, yet so as not to move between the fingers. The point of the chalk-holder may be from 1 to 1½ inch from the end of the thumb.

"The two first fingers and thumb are each a little bent; the other fingers are turned slightly inwards, but not so tight as to cause the least constraint. The hand is supported on the fourth finger, so as to press very lightly with the chalk on the slate or paper.

"In drawing lines horizontal, or nearly so, the fingers are stretched out nearly straight: the chalk-holder is held slanting back, and the horizontal motion is performed chiefly by the wrist, the fingers assisting slightly. In drawing lines vertical, or nearly so, the fingers are straightened to extend the chalk-holder upwards, and bent to bring it downwards; the line is in this case formed by the fingers and thumb only. Oblique lines and curves of every description are drawn by the assistance of the fingers and the wrist together, the fingers being

more or less bent according as the direction of the line to be drawn is more or less nearly vertical.

"In general, the most convenient position for the hand in drawing any line is at right angles, or nearly so, to the direction of the line to be drawn.

"In drawing long lines on the slate, the arm, hand, and wrist, may, when sufficient skill has been attained, be moved at the same time: for short lines, the movement is confined to the hand and fingers. Lines drawn on paper are drawn in short lengths by the movement of the hand and fingers only."

The "Principles of Perspective" contained in this work will be found of the utmost service to the learner. We, however, pass over these, and as affording a capital specimen of the author's style, extract a few passages relating to shaded drawings:—

"OF DRAWING THE OUTLINE.

"The outline is to be drawn in the first instance lightly with prepared charcoal, of which all trace can, when required, be removed by rubbing the paper with chamois leather or any soft substance. Trusting to this power of effacing the charcoal outline, some learners are inclined to draw it too hastily, not bestowing sufficient care in producing neat and precise lines: the teacher should guard against the habit, and request the pupils always to have the charcoal properly pointed.

"When a correct outline has been drawn with this material, and examined by the teacher, it is to be partly effaced, so as to leave faint marks just distinct enough to guide the eye and hand in re-drawing the same outline with precision in crayon. This forms the next step: the crayon used is No. 1. It is to be firmly grasped in the holder and cut to a fine point. Crayons are cut or pointed in a manner different from that followed for lead pencils, the crayon being held with its point resting on the first finger of the left hand, and cut backwards from the point towards the hand.

"Errors made in the crayon outline are effaced with the crumb of stale bread pressed between the fingers into a convenient shape. If the paper should, by the too frequent use of the bread, become greasy, so that the crayon cannot be made to mark, the greasiness may be removed by using Indian rubber, care being taken not to let the Indian rubber touch any part of the crayon intended to be retained. Warming the paper at the fire will also remove this defect to some extent. The use of bread, however, always unfits in a greater or less degree the surface of the paper for the reception of shade; the pupil must not therefore acquire a habit of trusting to this as a means of correcting errors; and the use of the prepared charcoal in first tracing the outline, should make it rarely necessary to have recourse to subsequent corrections when it is drawn in with the crayon.

"HATCHINGS.

"The broad and general effect of the drawing is to be produced solely by means of

the proper stumps; such an effect in fact as would give to the drawing the appearance of being finished, if viewed from a distance of about two or three feet. However, in order to give greater decision, brilliancy, and character; as also to produce a higher finish in the drawing, whereby it may be rendered more pleasing for close inspection; but especially for the most important end of training the hand to precision, hatchings are to be next applied. Hatching is a term employed to signify parallel, straight or curved lines, used for producing shades either in drawings or engravings. If skillfully disposed they are pleasing to the eye as mere shades; but their great use is the power they afford of making everything appear, without the aid of colour, of its individual nature and quality. Any one, in examining a well executed line engraving, will find that the effect of different substances is represented, and that he is enabled to distinguish flesh, wood, stone, water, metals, stuffs, or any other material, by the particular expression produced by variously disposed plain or cross hatchings. This power is not required, however, for the elementary course of drawing set forth in this Work, the models which are to be copied being all made of wood, covered with a coat of white paint, presenting therefore a uniform and regular texture. Nevertheless, if hatchings be applied as we recommend, each drawing, independently of its presenting greater precision, brilliancy, and finish, will thereby have served as a special means of exercising the hand by the delineation of a great number of regular, straight or curved lines. The pupils will thus, with every new model, be induced almost unconsciously, but certainly with interest, to repeat time after time an exercise of great importance, because it is only by an infinite number of trials that the skill can be acquired, which combines freedom and steadiness in the drawing of straight or curved lines.

“STRENGTH AND GENERAL DIRECTION OF HATCHINGS.

“With hatching no universal rule can be given as to the proper direction and amount of strength of the lines. Generally, it will be preferable to draw them in directions parallel either to the sides of the surface shaded, or coinciding with the direction of the plane in which that surface is situated. The hatchings, for example, would be made vertical on the representation of vertical surfaces; horizontal on the representation of horizontal surfaces; and inclined on the representation of inclined surfaces. When a curved surface is to be represented, the hatchings should be curvilinear, partaking of the general curve of the form to be delineated. In such cases two or more sets of hatchings may be made to cross each other with a pleasing effect. When hatchings are thus crossed, they should not meet at right angles, but always more or less oblique, so that the intersections of two sets of hatchings would produce diamond or lozenge-shaped openings. The pupils should be cautioned against making the hatchings too dark. Their strength should be proportioned to the

depth of shade beneath, and they should be so drawn as to be undistinguishable when the drawing is viewed from a distance of about two or three feet. The crayons should be cut to a very fine point for the purpose; crayon, No. 1, being used for all light shades, and crayon, N. 2, for the dark shades only.

“DRAWINGS TO BE GENERALLY SHADED FROM TOP TO BOTTOM.

“When it can conveniently be done, it is desirable to shade the drawing from top to bottom, in order to avoid rubbing or defacing any of the work previously done; but this cannot always be adhered to, as it is difficult to judge of the effect of isolated parts of surfaces until the mass of shade belonging to an entire surface is laid on. Another reason, which also causes a departure from the process of shading regularly from top to bottom, is, that the darkest shade should in general be produced first, the others being laid on in succession according to the diminution of their intensity. By this means a better gradation can be preserved by learners, and too heavy shades are avoided. If, on the contrary, the drawing is commenced with the lightest shade, it is more difficult to make it of such a tone, that by a gradual increase in the depth the last or deepest shadow shall not be much too dark.”

Here we conclude, earnestly recommending Mr. Williams's work, as an efficient and trustworthy mentor.

FRENCH RAILWAYS.—I have no hesitation in declaring that their second-class carriages are as comfortable as our first. We found ourselves seated on cushions covered with soft leather and stuffed either with wool or horse-hair. No easy chair could be more delectable; there was padding behind us, above the shoulder, and in the panel at the window. They are six feet across from back to front, and five feet eight inches high, holding, without inconvenience, five persons on each side; let a man's legs be ever so long, he can stretch them out before him in these carriages, the fare by which to Amiens (thirty miles distant) is 2s 11d each. Our portmanteau, weighing eighty-four pounds, and two hat cases, were charged at twopence. In three stations out of four, generally speaking, we found women officiating as the ticket dispensers. They are placed at a glass window in the partition of the waitin (*salle a l'attente*) well secured with wirework, in which a small hole is reserved for the female clerk's fingers, to deliver the traveller his ticket and such as he may be receiving for his piece of money.—*The "Parson, Pen, and Pencil."*

The American Southern Telegraph Company, whose line extends from New York through Philadelphia and Baltimore, to Washington, a distance of about 250 miles, have declared their first annual dividend of six per cent.

Enamel.

[Concluded from page 152.]

BLUE.—Blue is obtained from the oxyde of cobalt. It is the most fixed of all colours, and becomes equally beautiful with a weak as with a strong heat. The blue produced by cobalt is more beautiful the purer it is, and the more it is oxydated. Arsenic does not hurt it. The saline fluxes which contain nitre are those best suited to it; you add a little also when you employ that flux which contains a little calcined borax, or glass of borax, though you may employ it also with that flux alone. But the flux which, according to my experiments, gives to cobalt-blue the greatest splendour and beauty is that composed of white glass (which contains no metallic calx), of borax, nitre, and diaphoretic antimony well washed. When this glass is made for the purpose of being employed as a flux for blue, you may add less of the white oxyde of antimony: a sixth of the whole will be sufficient.

VIOLET.—Black calx of manganese, employed with white fluxes, gives a very beautiful violet. By varying the fluxes the shade of the colour may also be varied. It is very fixed as long as it retains its oxygen. The oxyde of manganese may produce different colours; but for that purpose it will be necessary that we should be able to fix its oxygen in it in different proportions. How to effect this has, perhaps, never yet been discovered. These are all the colours obtained from metals. From this it is evident that something still remains to be discovered. We do not know what might be produced by the oxydes of platina wire, tungsten, molybdena, and nickle: all these oxydes are still to be tried; each of them must produce a colour, and perhaps red, which is obtained neither directly nor with facility from any of the metallic substances formerly known and hitherto employed.

Having laid before the English artists the result of M. Clouet's Researches, as they were presented to the French National Institute, of which he was an associate, I shall add a few general observations taken from those of our own countrymen, who have made the subject of enamelling their study and employment. The most beautiful and expensive colour known in this branch of the art is an exquisitely fine, rich, and purplish tinge, given by the salts and oxydes of gold, especially the purple precipitate formed by tin in one form or other, and the nitro-muriate of gold, and also by fulminating gold. This fine colour, however, requires much skill in the artist to be fully brought out. Other and commoner reds are given by the oxydes of iron, but this requires the mixture of alumine, or some other substance refractory in the fire; otherwise what would, under proper circumstances, be a full red will degenerate into a black.

Yellow is either given by the oxyde of silver alone, or by the oxydes of lead and antimony, with similar mixtures to those regulated with iron. The silver is as tender a colour as gold, and as readily injured or lost

in a high heat. Green is given by the oxyde of copper, or it may also be produced by a mixture of yellow colours. Blue is given by cobalt, and this seems the most certain of all enamel colours, and as easy to be managed. Black is produced by a mixture of cobalt and manganese. "The reader," says Mr. Aikin, in his Chymical Dictionary, "may conceive how much the difficulties of this nice art are increased, when the object is not merely to lay a uniform coloured glazing on a metallic surface, but also to paint that surface with figures and other designs that require extreme delicacy of outline, accuracy of shading, and selection of colouring. The enamel painter has to work not with actual colours, but with mixtures which he knows, from experience, will produce certain colours after the operation of the fire, and to the common skill of the painter in the arrangement of his pallet and the choice of his colours; the enameller has to add an infinite quantity of practical knowledge of the chymical operation of one metallic oxyde on another, the fusibility of his materials, and the utmost degree of heat at which they will attain not only the accuracy of the figures which he has given, but the precise shade of colour which he intends to lay on. Painting in enamel requires a succession of firings; first of the ground which is to receive the design, and which itself requires two firings, and then of the different parts of the design itself. The ground is laid on in the same general way as the common watch face enamelling already described. The colours are the different metallic oxydes melted with some or other vitrescent mixture, and ground to extreme fineness. These are worked up with an essential oil, that of spike is preferred, and next to it the oil of lavender, to the proper consistence of oil colours, and are laid on with a very fine hair brush. The essential oil should be very pure, and by the use of this, rather than any fixed oil, is probably that the whole may evaporate completely in a moderate heat, and leave no carbonaceous matter in contact with the colour when red hot, which might affect its degree of oxydation, and thence the shade of colour which it is intended to produce. As the colour of some of the vitrified metallic oxydes, such as that of gold, will stand only at a moderate heat, while others will bear and even require a higher temperature to be properly fixed, it forms a greater part of the technical skill of the artist to apply different colours in their proper order; fixing first those shades which are produced by the colours that will endure the highest degree of heat. The outline of the design is first traced on the enamel ground, and burnt in; after which the parts are filled up gradually with repeated burnings to the last and finest touches of the tenderest enamel."

Those who paint on enamel, on earthenware, porcelain, &c., must regulate the fusibility of the colours by the most tender of those employed, as, for example, the purple. When the degree which is best suited to purple has been found, the other less fusible colours may be so regulated (by additions of flux), when it is necessary to fuse all the colours at the same

time, and at the same degree of heat. You may paint also in enamel without flux; but all the colours do not equally stand the heat which must be employed. If the enamel, however, on which you paint be very fusible, they may all penetrate it. This manner of painting gives no thickness of colour; on the contrary, the colours sink into the enamel at the places where the tints are strongest. To make them penetrate and give them lustre, a pretty strong fire will be necessary so to soften the enamel and bring it to a state of fusion. This method cannot be practised but on enamel composed with sand, which is called an enamel sand, as already mentioned. It may be readily seen, also, that the colours and enamel capable of enduring the greatest heat will be the most solid, and the least liable to be changed by the air.

The following method of filling up engraving on silver with a durable black enamel is practised in Persia and India.

They take half an ounce of silver, two ounces and a half of copper, three ounces and a half of lead, twelve ounces of sulphur, two ounces and a half of sal ammoniac. The metals are melted together and poured into a crucible, which has been before filled with pulverised sulphur, made into a paste by means of water; the crucible is then immediately covered that the sulphur may not take fire, and this regulus is calcined over a smelting fire until the superfluous sulphur be burned away. This regulus is then coarsely pounded, and with a solution of sal-ammoniac, formed into a paste, which is rubbed into the engraving on silver plate. The silver is then wiped clean, and suffered to become so hot under the muffle, that the substance rubbed into the strokes of the engraving melts and adheres to the metal. The silver is afterwards wetted with the solution of sal-ammoniac, and again placed under the muffle till it becomes red hot. The engraved surface may then be smoothed and polished without any danger of the black substance, which is an artificial kind of silver ore, either dropping out or decaying. In this manner is all the silver plate brought from Russia ornamented with black engraved figures.

The foregoing detailed account of the mechanical process of enamelling is extracted and condensed from several of the best practical works, particularly from the long and elaborate article thereon, in Martin's "Circle of the Mechanical Arts," 4to. London, 1815.

ANECDOTE OF APELLES.—When Megabizus, a Persian general, one day was conducted to the studio of Apelles, he began talking about light and shade, and other things peculiar to the painter's art. Apelles bore with him for some time, but at last took him up and said to him, "Sir, my pupils there, who are grinding colours, gazed at you when you entered, admiring your splendid dress and the gold that glitters on it, so long as you held your tongue; but now I cannot answer that they will not smile at you, may even laugh, to hear you discoursing on a subject so much out of your sphere."

The Chronotypist.

It is stated that amidst all the impediments of the Revolution, the restoration of the Cathedral of Notre Dame has been carried on with great activity, and the masonry is sufficiently advanced to admit of the commencement of the decorations. The Minister has recently given orders to sculptors and decorators to the amount of 107,753*fr.* He has likewise appropriated 53,150*fr.* to the statuary of the porch: ordering the restoration of a bas-relief, and statues of Christ and his twelve Apostles to be executed by young artists who have been distinguished by their productions at the schools or at the Exhibition.—The *Literary Gazette* states that the Danish artists in Rome have agreed to produce each a work of art for the benefit of the widows and children of Danish soldiers who have fallen in battle. The well-known sculptor, Terichan, has communicated this; and there is some idea of having an exhibition of these works in London, and a sort of Art-Union plan for disposing of them.—A collection of theatrical portraits, originally forming part of the gallery of the late Mr. T. Harris, for many years lessee of Covent Garden Theatre, and a quantity of theatrical property of the late inimitable pantomimist, Joe Grimaldi, were recently sold by auction at Mr. Robins's rooms, Covent Garden. The novelty of the sale attracted many persons.—A gas meter of immense size has just been cast and completed at the iron-works of Messrs. Glover in Charles-street, Drury-Lane—which is about to be erected in Covent Garden Theatre for the measurement of the gas supplied to that establishment by the Chartered Gas Company. It is what is called a dry gas meter,—no water being employed, as in the common meters; and is the invention of Mr. Defries, of the Hampstead-road, by whom it has been patented. This species of meter is exceedingly accurate in its measurement, and is likely to become universal. The specimen now to be seen at Messrs. Glover's contains two chambers: the upper one holds the machinery—the lower is divided into six compartments by three moveable diaphragms and three fixed partitions. The gas enters at the inlet pipe, whence it passes to the bottom of the meter and fills each compartment in succession. A continuous supply is kept up by the action on the moveable diaphragms, which act upon the indicating machinery by means of a very simple and ingenious contrivance, that registers the consumption of gas with unerring accuracy on a plate of six dials, and indexes from units to millions. The meter is capable of measuring 6,000 cubic feet of gas per hour, and isto measure the supply of 1,500 burners. It weighs two tons; is 16 feet in circumference and 8 in height. The shape is a hexagon, with Gothic devices and ornaments.—Swindlers are said to be travelling about with small parcels of genuine Greek and Roman coins, mostly of the common types, among which they introduce a few forged specimens of the rarest and most valuable kinds. The entire lots are offered for

sale to collectors, who are deceived in consequence of the genuineness of the common coins, and pay high prices for medals which they might have obtained for a trifle.—The sale of the effects of the Duke of Buckingham, at Stowe, commenced, on Tuesday; the 15th instant, and will extend over a period of thirty-seven days. The public view commenced on the 3rd instant. The catalogue (price 15s.) admits a party of four. Without it there is no admission.—“We lately” says the *Arbroath Guide*, “visited the scene of the huge works at Craig Pool, on the river Southesk, about a mile and a-half from Brechen, under the able superintendence of Mr. John Beck, contractor. The object aimed at is the removal from the river, at the foot of Craig Pool, of an island of about three hundred feet in length, hundred feet wide, and about three feet deep. The entire mass is, we understand, 81,000 cubic feet. It appears that this island was formed some years since by the directions of Lady Caernegie, of Kinnaird—she having fancied that it would add greatly to the picturesque effect of the beautiful scenery at the Craig Pool, at which spot the water is twenty-five feet deep. Some years since the East Mill Company, who have engaged Mr. Beck to undertake this job, made a new lade, at a cost of several thousand pounds. This lade joins the river at about 150 yards above the top of the Craig Pool, and the heavy floods from the mountains, year after year, increased the size of the island to an enormous extent, by washing loose gravel down the river and lodging against it, thereby causing the water at the tail of the lade to be kept almost dead, and thus decreasing the fall to a great extent. The East Mill Company endeavoured to prevail on Lady Caernegie to allow the island to be removed; but it would appear that to this proposal her ladyship was unwilling to agree. On her decease, leave was obtained. Mr. Beck had difficulties of an extraordinary character to contend against, caused by the late heavy rains. By great and increased exertions, and making the men labour day and night, he has been enabled to accomplish the work, which was commenced on the 8th of June, and was finished a few days ago. The scenery at the pool is truly splendid.”—Telegraphic wires have lately been applied to a novel purpose. The *New Orleans Delta* gives an account of a victim of a gambling-house in that city, who, getting into a rage at his bad luck, knocked over the table, and discovered divers wires, by means of which intelligence was conveyed by a confederate to the player, in order to enable him to plunder his victim more effectually.—Several beautiful caverns, says the *Liverpool Albion*, one of which is described as resembling “a gothic temple whose roof and walls seem a conglomeration of stalactites and petrefactions in all shapes, forms and figures, and there sparkling like diamonds or glittering like rubies,” have been discovered at Kepshead, Ulverstone Sand.—The *Boston Chronotype* states that a daguerreotype artist, named Jacquay, has purchased a flat boat at Pittsburgh, and fitted up a daguerreotype gallery on board. He intends to float with the current.—It is stated that

the persevering exertions of the Society of Antiquaries of Scotland for the preservation of the Collegiate Church of the Holy Trinity, at Edinburgh, founded by Queen Mary of Guelders, are likely now to be crowned with success. The church had been already sold to the North British Railway Company, and designs furnished for a new one, when the magistrates, the patrons of the church, were persuaded to alter their plans. The materials have been bought back from the railway company; and it is resolved to rebuild the ancient edifice on a commanding site on the Calton Hill. This task has been committed to Mr. Bryce; and, under his care, every stone of the venerable edifice has been marked and numbered so as to admit of its removal and restoration to its original position in the *transplanted church*. Meanwhile, the old church has a very singular and somewhat grotesque look, being numbered all over like a phrenological cranium! If this removal be successfully effected, it will surpass the famed feats of the American *house-lifters*.—The 21st instant is appointed as the day delegates from the various Mechanics Institutes throughout the country, are to meet at the Arboretum at Derby, in order to come to some arrangement with regard to an Amalgamation of interest of the respective Institutions.

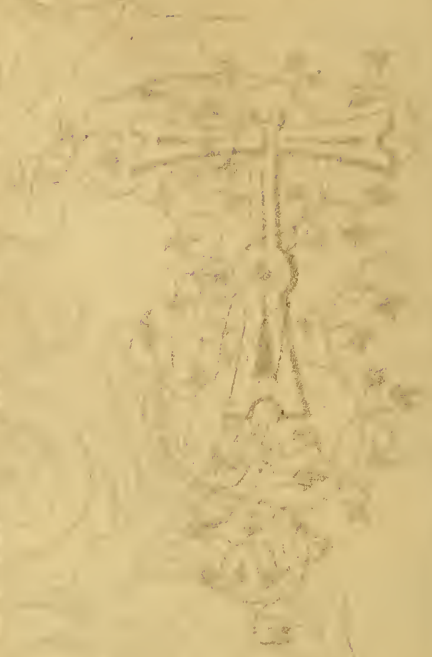
OIL FOR CHRONOMETERS.—The best olive oil, in its recent state, possesses that peculiar flavour which adapts it for the table, and which appears to arise principally from the quantity of mucilage and water which subsides, and which renders such oil not only cheaper but better qualified for yielding a greater proportion of pure oil than that which is recently expressed from the fruit. Two or three gallons skimmed from the surface of a large jar, that has rested for twelve months or upwards, is preferable to any succeeding portion from the same jar, and may be considered the cream of the oil. Having procured good oil in the first instance, put about one gallon into a cast-iron vessel capable of holding twice the quantity; place it over a slow clear fire, keeping a thermometer suspended in it, and when the temperature rises to 92 degs., check the heat, never allowing it to exceed 230 degs., nor descend below 212 degs. for one hour, by which time the whole of the water and acetic acid will be evaporated. The oil is then exposed to a temperature of 30 degs. to 36 degs. for two or three days (consequently winter is preferable for the preparation, as avoiding the trouble and expense of producing artificial cold). By the operation, a considerable portion is congealed, and while in this state, pour the whole on a muslin filter, and allow the fluid portion to run through; the solid, when redissolved, may be used for common purposes. Lastly, the fluid portion must be filtered once or more through newly-prepared animal charcoal, grossly powdered, or rather broken, and placed on bibulous paper in a wire frame, within a funnel, by which means rancidity (if any be present) is entirely removed, and the oil is rendered perfectly bright and colourless. J. F.



AN ORIGINAL DESIGN FOR A GRECIAN PANNEL, BY FRANCIS MULHOLLAND.

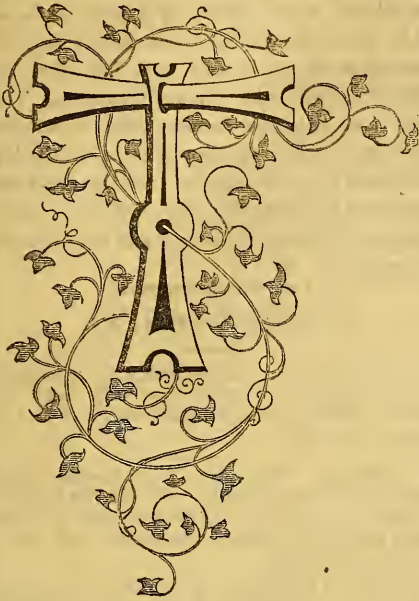
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Influence of Intellectual Progress.



HE experiment of popular education may, even now, in this early stage of its development, be said to have effected a grand object. But very few years have elapsed since men shook their heads with an incredulous smile whenever the idea of improving the working classes was propounded to them; and one invariable argument formed their fortified stronghold against entreaty, faithful representations of facts, and even conviction's self. This argument ran somewhat as follows:—"By educating the working classes we shall only sow the seeds of discontent. When labourers begin to read ARISTOTLE they will grow tired of the plough and think about equality. This will lead them to open rebellion against lawful and necessary authority, and it is ten chances to one that we ultimately degenerate into a savage state of existence, because every man will then arrogate to himself the privileges of a lord—thus realising the fable of the Hands and Feet quarrelling with the Belly."

How far such dicta as this can hold good when applied to the ordeal of dispassionate

reason and practical proof, every reflective man who has watched the tide of public affairs for the last dozen years must be best capable of judging for himself. By the exercise of a moderate degree of acumen, he will have been enabled to perceive that the red-hot democratic principles, which under the name of *radicalism* prevailed among the poorer classes of the community some five-and-twenty years since, have gradually diminished in intensity, and that in their place, have arisen new and more feasible, not to say more noble, feelings, with regard to political and social reform. The rough and ungenerous spirit which actuated hatred to persons, has markedly subsided into calm contemplation of proposed remedies for public and private grievances; in fact, education has appeared as a permanent light to guide men from the dangerous tracts into which the treacherous *ignus fatuus*, ignorance, had heretofore succeeded in leading them.

"By education," says Lord BROUGHAM, "men become easy to lead, but difficult to drive; tractable to govern, but impossible to enslave." The moment enlightenment enters a man's heart, superstition, bigotry, and cruelty leave it at once and for ever—the quartette can never reside in the same habitation, but require different atmospheres: education pants for moral goodness—the others, darkness, dirt, and crime.

To educate a servant is to add to his physical resources a directing power, capable of increasing their utility—to create, in fact, a new being, who knows how to economise his labour, and who is always ready to receive suggestions that may lead to important results, in the extension of that peculiar branch of manufacture in which he is engaged, or in the value of its products.

The many inventions, of the utmost importance, that have been made by working men, who, luckily for society, have succeeded, by their own exertions, in casting off the trammels of ignorance, fully corroborate this statement, and it is with feelings of no common gratification that we daily see rising around us a new generation, whose enlightenment and youthful ingenuity promise well to extend the interests of their country in time to come, when we,

and those who still fear degeneracy as the effect of increased civilisation—who anticipate democracy from knowledge and laziness from information—shall be no more.

The Steam Engine and Civilisation.

ABUSE it as we will, as the desecrator of the sanctuary of antiquity, and as the rude destroyer of Nature's most lovely productions, the genius of Steam can still afford to laugh at our philosophy and set our reasoning at naught. He can point with his finger over the surface of the earth, and prove that he is truly the herald of civilisation. Wherever Steam has been there prosperity has followed, trade increased, and education advanced. Through his instrumentality, within the last quarter century, how many trades have there not sprung into existence of whose purpose even our plodding forefathers knew nothing! A century ago and the loom employed one man—the spinning jenny has increased, indirectly, the number twentyfold; half a century ago men rode in stage coaches, plying betwixt the principal towns, and capable of conveying some twenty passengers each journey, and giving employment to a driver, guard, and, mayhap, some dozen or two other individuals;—how stands the case now? A well appointed long line of railway requires, at least, some two or three hundred individuals, from the humble stoker to the clerk in the booking-office; and this, taking one line with another, is a moderate average.

How could education have advanced without Steam? How could the countless thousands of periodicals that annually issue from the press, and are diffused among the poorer classes of the community, diffusing the principles of morality, wisdom, and philosophy, among our artisans, be disseminated, scarcely before the ink of the manuscript in which they were originally written is dry in the printer's hands, without the aid of leviathan machinery, impelled by a still more leviathan power.

Few who gaze on the limpid substance, water, as it meanders on its course through mead, valley, town, and city, would scarcely be inclined to suppose it capable of producing

so many permanent blessings to the human family. Few, even, who gaze on the vapourous substance, produced by its ebullition on their own fireplace, would suppose it to be so strong, so mighty in its power;—yet here we have this self-same vapour, not merely driving machines of brass and iron, but also, indirectly swaying the minds of thousands. The rich and the poor come alike under its influence, and no one can conscientiously lay his hand upon his heart, and say that he is not indebted to Steam for some article necessary to his well-being, which he would not willingly be without.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"Blucher" (Oxford).—Your communication appears in another page. We shall be happy to receive the terms, &c. Any contributions which you may feel disposed to favour us with will be gladly received.

"Felix" (Leamington).—Paper, like the specimens sent, is marbled by means of stencil plates, cut to each tint, and laid on in succession. A good soft brush is best to lay on the colour.

QUERIES.

Required—A receipt for dipping Brass-work, or, as it is termed by the trade, the "Dead Dip." Un Owrier.

The "Politician."—This is the title of a new periodical, published by Mr. S. Y. Collins, of Holywell-street, Strand. Its name sufficiently indicates the nature of its contents, which consist of well written and selected articles. It is a work which ought to be extensively patronised by the Industrial Classes.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 16 is now ready, price 7d.

The "Green Vaults" at Dresden.

From an excellent series of articles which appear occasionally in a northern contemporary, we make the following extract relating to the above curious place, called in the German dialect the "*Grüne Gewölbe* :—

"The collection consists of magnificent and precious objects of art pertaining to the royal family, and arranged in a series of vaulted apartments on the ground floor of the palace of the sovereign. Why they are called Green Vaults is not explained, though they probably derive this name from the walls having at one time been coloured green. At present they are lighted with windows, well stanchioned, and kept in the nicest order; the place resembles a jeweller's shop, disposed with glass-cases, shelves, brackets, and tables, bearing a profusion of little articles in gold, ivory, pearl, bronze, enamel, horn, wood, &c. A most obliging person, who speaks German, French, and English, conducts the party slowly through the rooms, and politely gives the history of the more interesting articles; while from secret peep-holes, and with the aid of mirrors, an attendant unknown to the visitors, keeps a strict watch on their movements—a precaution not unnecessary, for not long since a 'lady' endeavoured to carry off in her reticule a unique and valuable curiosity from one of the tables, and suffered the humiliation of detection. The origin of the collection dates as far back as the first elector of Saxony, a contemporary of Charles V., from which time each reigning prince added to it the presents he received, and the most magnificent articles he could purchase. The most assiduous and enlightened of those royal collectors was Augustus II., surnamed the Strong (1694-1733), who became king of Poland. This was evidently the great man of Saxon history, for he is heard of everywhere. His strength seems to have far exceeded that of ordinary mortals. At Munich, a stone of about a couple of hundredweight is shown in the arcade of the old palace; and this he is said to have thrown to a height marked on the wall above. Augustus enriched the collection with works of the illustrious Dinglinger in gold and enamel, the specimens of which excel anything that can be imagined in point of artistic talent. The first room or cabinet is that devoted to bronzes, of which there are 110 groups, statuettes, and figures, principally after the antique. No 48, 'A Little Dog Scratching Itself,' by Peter Vischer of Nuremberg, is much admired. So likewise is No. 113, 'Charles II. of England as St. George killing the Dragon;' it is a small equestrian statue, sculptured from a block of iron by G. Leygebe of Nuremberg, weighs sixty-seven pounds, and required five years in the execution. The second cabinet is devoted to works in ivory, of which there are nearly 500 specimens. Many of these were collected by Augustus I., who appears to have gone about Europe employing

ivory-turners and cutters in executing cups, chalices, boxes, figures, and other articles, in the highest style of art. One could linger for hours over some of the objects in this interesting cabinet—such as the 'Saviour after his Resurrection surrounded by Holy Women,' probably a production of the tenth or eleventh century; 'Mary and the Infant Jesus surrounded by Angels;' 'A Crucifixion;' 'The Judgment of Solomon;' 'The Sacrifice of Abraham;' and 'The Descent of Lucifer, and Demons, dragging with them the Souls of the Wicked.' This last group, which consists of eighty-five figures, is a work of an Italian artist, the idea being suggested by the 'Last Judgment' of Michael Angelo; and like all the others, it required years to finish. The third cabinet contains mosaics, enamels, and works in amber, mother-of-pearls, corals, &c.; The fourth is a collection of gold and silver plate, in the form of superb dinner-services, baptismal basins, chalices, &c.; one article is a rich and curious mirror of burnished silver, in the style of the middle ages, before the art of silvering glass was known. The fifth cabinet is chiefly occupied with precious stones, not mere jewels, but articles such as vases, busts, statuettes, flagons and other things formed of agate, jasper, chalcedony, onyx, lapis-lazuli, rock-crystal, &c. Three golden *bocaux* (bottles or jugs with a narrow neck), enriched with cameos, are considered very fine; one of them is embellished with 176 cameos, among which is the masque of Jupiter in chalcedony. The sixth cabinet contains rough pearls and diamonds; the seventh is devoted chiefly to sculptures on wood; and in the eight or last is a large collection of regalia, arms, chains, decorations, and bijouteries of all sorts used on state occasions.

"The quantity of emeralds, rubies, diamond rings, solitaires, and other brilliants, flashing in all directions on the eye in the last-mentioned apartment, affords a striking idea of human vanity, as well as of the extravagance to which fancies unrestrained by the obligation of labour may be carried. And yet, on quitting the Green Vault, we feel that everything is not a useless toy, which may in any respect tend to improve the arts and refine the general tastes of mankind. During four centuries, the monarchs of Saxony have spent probably two millions of money in rendering the capital attractive in the matter of pictures and other objects on which the highest artistic talent has been exercised, or on which a high conventional value is put. In one sense this may be called a waste of money; but by making Dresden a resort of travellers from all parts of the world, not to speak of the cultivation of local aspirations, the sum might have been much worse spent; and after all, estimated at two millions, it is only equal to four years' expenditure on intoxicating liquors by one of the large cities of Britain."

The Mint Commission is actively engaged in making the necessary inquiries into the constitution and abuses of that establishment.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 164.]

FABRIC (in architecture), a building; an edifice. A fabric is generally understood to mean a building of large dimensions and extent; as a cathedral, a royal palace, a college, and such like structures.

FAÇADE (in architecture), the front view or elevation of a building, that is taken in by the eye at one view. Thus a square insulated building has properly four façades, but the word is mostly restricted to the principal front, particularly when it terminates the prospect of an avenue. Upon the distribution and disposition of the façades of buildings, good sense and utility must be first consulted; then propriety and consistency, and always character.

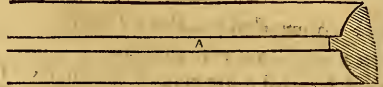
FACE (in painting and sculpture), that part of the human figure which forms the front or intellectual part of the head; the countenance or visage. In architecture, a plain member or band. On a proper delineation of the face depends all the intellectual expression of a figure, and the artist must study this portion of the wonderful human fabric, which Milton appropriately calls the "human face divine," with the utmost assiduity and attention.

FINIAL (in architecture), the knot or bunch of foliage or flower that forms the upper ex-



FINIAL FROM WELLS CHURCH, NORFOLK.
terminities or finishing point or pinnacles in Gothic architecture. Sometimes used for the pinnacle itself.

FILLET (in architecture), a little plain member, used to separate ornaments and



mouldings, named from its place, either fillet, annulet, listel, band, &c., marked A in the engraving.

FORM (in all the arts), the external appearance of bodies; the essential, specific modification of the matter, which gives it its peculiar manner of existence. Form in art, as well as in nature, is the quality that distinguishes one object from another. In painting the word *form* is specially applied to the human form. In architecture it relates to the proportions of buildings; and beauty of form in that art is as essential as either in painting and sculpture.

NOVEL USE OF COKE.—Coke has long been known to possess in an eminent degree that essential quality of the diamond, namely extreme hardness, by which it is enabled to cut glass truly and perfectly. When this fact was stated before the British Association at Worcester one gentleman, an extensive glass manufacturer, stated that the knowledge of this fact would be the means of saving, in his establishment alone, a sum of £400 per annum. To glaziers generally this discovery must prove of great service.

STEEL PENS.—Who does not remember the time when a steel pen cost as much as a dozen quills? Who is ignorant of the marvellous reduction that has taken place in the market value of these tiny bits of steel? Sixpence a piece, sixpence a dozen, sixpence a gross,—thus have they come down in value. All this could not have been done but for the application of machinery. Men's hands employed in cutting, and pressing, and shaping the pens, would never have permitted this cheapening to have gone to such an extent. And yet there are actually more employed in the manufacture than were employed when machinery was less used. The machinery, in fact, has created a demand which requires large numbers both of machines and of men to supply. Some of the steel-pen manufactories of Birmingham are very large establishments, containing ranges of highly finished machines, and giving employment to large numbers of workmen. One of these manufacturers, in his advertisement, states his yearly produce at millions of dozens; and there is no reason to doubt that it does reach that extraordinary pitch.—*The Land we Live in.*

STEEL.—Steel is formed by surrounding bars of wrought iron with charcoal, placed in fire-brick troughs, from which air is excluded, and keeping the iron bars and charcoal in contact, and at a full red heat for several days—at the end of which time the iron bars are found to be converted into steel.

Correspondence.

Stone Font in Abury Church.

TO THE EDITOR.

SIR,—I forward a drawing of an ancient font in Abury Church, which may, perhaps, find room in your work. Mr. Britton, in his "Beauties of England and Wales," gives the following account of it:—

"This font is an ancient and curious example of church ornament. It is of a circular form, and is elevated on a basement of stone. Round its upper compartment it is enriched with a scroll



nearly resembling that which is frequently used in Grecian Architecture; and beneath it is a range of intersecting circular arches resting upon twenty-two pillars, the bases of which are fixed upon a fillet surrounding the font."

Wishing every success to your periodical,
I remain yours, faithfully,

BLUCHER.

Oxford, August 14th, 1848.

OBITUARY.

It is with much concern, says the *Daily News*, that we announce the decease of Mr. George Stephenson, the celebrated engineer. He died at his establishment in Derbyshire on the 12th instant, aged 67. Few men have obtained or deserved a higher reputation. He rose from the humblest life from the elasticity of his native talent overcoming the obstacles of narrow circumstances and even confined education. No one could come in contact with him without being struck by his superiority and originality of mind. In his profession he was as happy and ingenious in his discoveries as generous in imparting the benefit of them to the world. In the history of railroad enterprise and movement the name of George Stephenson will live.

Society of Arts.

The annual prize list of the Society of Arts having been just issued, we hasten to lay before our readers such portions of it as relate to the Fine Arts, Manufactures, Mechanics, and Chemistry.

SECTION OF FINE ARTS AND MANUFACTURES.

A Gold Medal, offered by H.R.H. Prince Albert, for the best Cement for Uniting Glass, particular attention being made to perfectly cementing Glass Pipes or Glass Roofing. It must be clearly understood that this Prize will not be awarded unless a Cement should be produced which will bear the strongest tests and trials.

Prize of Fifty Guineas, offered by T. Twining, Jun., Esq., for the best Series of Experimental Researches on and Specimens of the Application of Slag or other allied products to New Purposes, useful or ornamental.

1. STUDENTS' CLASS.

Prizes (in Money or Books) for the encouragement of studies, for Decorative Design, open to competitors of either sex under twenty-one years of age. The object of these prizes is to promote that careful mode of early study, which the Society considers essential to success and most conducive to the interest of Art and Manufactures.

For the best original Studies from Nature (either Cartoons or Models), size of life, unless otherwise expressed, of the following:—

1. Of a group of Hands and Feet with characteristic action.
2. Of a group of Hands and Feet with characteristic action, engraved in line, quarter size.
3. Of a Head of a Child.
4. Of a Head of a Child, engraved in line, quarter size.
5. Of a Draped Figure from Nature, two feet high.
6. For the Head of a Camel, Lion, or Bear.
7. Of an Owl,—of a Swan,—of an Eagle, or Vulture, front view, (not less than half size).
8. Of the Hop, and the Bindweed or Convolvulus Major, and the Red-berried Bryony.
9. For the best group of Oak and Ivy Leaves, arranged together ornamentally.
10. For the best studies of Twelve British Wild Plants in their natural growth.
11. For the best drawing of an Ornamental Arrangement of the Honeysuckle and Passion Flower.
12. For the best drawing of the Human Skeleton, quarter size.

The successful Candidates in this Class will be called upon to attend and give specimens of their competency before the Committee.

2. DESIGNERS' CLASS.

Prizes for Drawings. Open to Competitors of either sex and all ages.

1. For the best Chalk or Monochrome Draw-

ing, being an original Composition, of Children half life size, for a semi-circular compartment. The Silver Medal and Five Pounds.

2. For the best Chalk or Monochrome Drawing, being an original composition, of figures half life size, to fill a spandrel of an equilateral Arch of two centres. The Silver Medal and Five Pounds.

3. For the best Cartoon, being an original composition, of a group of the Rose, Shamrock, and Thistle, arranged ornamentally. A Silver Medal and Three Pounds.

4. For the best Cartoon of an arrangement of the Hop as a paper hanging. Silver Medal and Two Pounds.

5. For the best Drawings of a series of British Wild Flowers, to be treated for printing on China, as ornaments. The Silver Medal and Five Pounds.

6. For the best original Design for a Stained Glass Window, to suit a room or passage in the Italian style of architecture. The Silver Medal and Ten Pounds.

7. For the best ornamental Design, suitable for Printing on a Dinner Plate. The Silver Medal and Three Pounds.

8. For the best original Design and Working Drawings for a Chandelier, to be executed in Metals, Glass, and China, combined; scale, quarter full size. The Silver Medal and Ten Pounds.

9. A Design for an Encaustic Tile, pattern in the Italian style. The Silver Medal and Three Pounds.

10. For the best design, taken from British Flowers, for a Shawl Pattern, to be woven in colours. The Silver Medal and Five Pounds.

11. A Design and Working Drawings for a Pendant Hall Lamp, for Gas. The Silver Medal and Five Pounds.

12. For a new Design of a Glass Decanter and a Wine Glass, not cut. The Silver Medal and Five Pounds.

13. For a new Design for a Tea Tray to be executed in Papier Mâché. The Silver Medal and Five Pounds.

14. For the Best Coloured Design, in Tempera, for a Brussels Carpet, for a Dining-room. The Silver Medal and Three Pounds.

15. For the best Coloured Design, in Tempera, for a Brussels Carpet for a Drawing-room. The Silver Medal and Three Pounds.

16. For the best Design for a Silk Damask in three colours. The Silver Medal and Three Pounds.

17. For the best Design to be stamped on Utrecht or Furniture Velvet. The Silver Medal.

18. For the best Design for a large Garden Vase. The Silver Medal.

19. For the most elegant Design for a Vase in red Earthenware, to be ornamented with Designs taken from English History or Literature, in the manner of Etruscan Vases. A Gold Medal.

20. For the best Ornamental Design for an Open-Work Panel, in Cast or Wrought Iron, and suitable for an Entrance Gate. The Silver Medal.

Prizes for Models.

21. For the best Working Model of an

original Design for a Silver Goblet, suitable to be awarded as a Prize value One Hundred Pounds, in conformity with the Bequest of the late Dr. George Swiney. The decorations to be emblematic of Justice. The large Gold Medal or Twenty-five Pounds.

22. For a Model of a Table Lamp Pillar. The Silver Medal and Five Pounds.

23. For the Model of a Salad Bowl. The Silver Medal and Three Pounds.

24. For a Model of a Tea-Urn or Table Tea-Kettle, with Working Drawings full size. The Silver Medal and Ten Pounds.

25. For a Model of a Table Candlestick, to be Executed in Metal by dies. The Silver Medal and Five Pounds.

26. For a Model of an Ornamental Case for a Chimney-Piece Clock. A Gold Medal or Twenty Pounds.

The successful Candidates in this Class will be called upon to attend and give specimens of their competency before the Committee.

All Designs, &c., competing in Classes 1 and 2, must be sent in on or before the first Monday in January, 1849.

3. ARTIZANS' CLASS.

1. For the best Specimens of Wood Carving, the production of an Artizan (male or female) who is not a wood carver by profession. Two Silver Medals.

NOTE.—The object of this Prize is to encourage wood-carving (which is a home occupation) as a means of employment subsidiary to other occupations.

2. For the best executed Group of Roses, painted on Glass or China. The Silver Medal.

3. For the best nude Figure of a Boy painted on China. The Silver Medal.

4. For the best Specimen of Chasing of the Human Figure in Brass, produced within the preceding six months. The Gold Medal;—for the second best Specimen, the Silver Medal.

5. For the best Specimen of Chasing of the Human Figure in Silver. The Gold Medal;—for the second best Specimen, the Silver Medal.

6. For the best and most elaborate Specimen of Silk Weaving. The Silver Medal.

7. For the best Specimen of Die-Cutting of the Human Figure for Stamping Metals for Ornamental purposes. The Dies to be produced. The Gold Medal.

The successful Candidates in this Class will be called upon to give an actual specimen of their competency before the Committee.

4. MANUFACTURERS' CLASS.

Medals of Gold or Silver, and Honorary Testimonials will be given to Manufacturers and others, who shall exhibit at the Society's House, in the year 1849, fine and original specimens of the following British Manufactures recently executed, to be sent in on or before the first Monday or Tuesday in February.

A Gilt Frame of the best Gold colour. Shawl Weaving.

Printing for Shawls.
 Calico Printing.
 Carpet Weaving.
 Ribbon and Silk Weaving.
 Chintz Printing.
 Paper Hangings.
 Iron and Brass Casting, applied to ornamental purposes.
 Metal Figure Casting.
 The most beautiful novelty in Earthenware, Marble, and Slate.
 Fine Art in Translucent China Screens.
 Printing and Colouring on China.
 Ornamental Cutlery.
 Largest Specimen of perfect Electrotype Figures.
 Best Specimen of Crimson on China.
 Best Work of Art applied to Paper Hanging.
 The most beautiful Novelties in Papier Mâché.

All Specimens, &c., competing in Classes 3 and 4, must be sent in on or before the first Monday and Tuesday in February.

The Society deem it necessary to state that its Rewards are not limited to the subjects specified, but that Rewards will be given to other meritorious works in all branches of Art.

ARCHITECTURAL DESIGN, &c.

For the best Design for a Labourer's Cottage in the country. The Large Gold Medal or Thirty One Pounds Ten Shillings.

The Drawings to comprise a general Plan, Elevation, and Section, drawn to a scale of three-eighths of an inch to the foot, together with the requisite Working Drawings to a larger scale, and a General Specification of the internal finishing and fittings proposed.

The Design must provide a Living Room, a Scullery, and three Bedrooms.

Presuming that in Structures of this description, where the outlay must necessarily be very limited, both with a view to economy of material, and likewise to external effects, it will be considered desirable that the Cottages should be erected in pairs, the wall between them containing the Flues; in such cases, the Details of one only will be required.

It is necessary that consideration should be given, firstly, to the most convenient arrangement of the parts; secondly, to the best means of ventilation, drainage, supply of water, cleanliness and economical heating; and lastly, to combine therewith the most pleasing and picturesque effect attainable with reference to the limited outlay. The cost of a Double Cottage erected in Middlesex, when completed with the requisite Landlords Fixtures, must not exceed £200.

All Designs in competition for the above Design must be sent in on or before the first Monday in January, 1849.

NOTICE TO CANDIDATES.—The performances competing for the premiums offered in Classes 1 and 2, must be delivered in without any external intimation of their respective authors: but the candidates are required to affix on the front of each of their performances and on the case containing them some motto or device, and the same motto or device is to be inscribed on

the *outside* of a paper sealed up, containing *within* the name and residence of the candidate, on the *outside* the sex and age of each. As only such letters as bear the mottoes of the successful competitors will be opened, Candidates not receiving notification of their performances having been rewarded are requested to apply for their various communications within fourteen days after the 1st of June, to prevent loss of or injury to the same. Copies of the Designs or Models rewarded in Class 2 must be deposited and left in the Society's Museum; but the Copyright will remain with the Artist, provided that the work is executed for sale, and published, and that a manufactured specimen is exhibited at the Society's Exhibition of Decorative Manufactures in the year following. In case the work shall not be so executed and exhibited, the Society reserve to themselves the right of causing the same to be executed on such terms as they may think expedient.

NOTICE TO EXHIBITORS OF MANUFACTURES, &c.—1. All Works intended for the Annual Exhibition in 1849, at the Society of Arts, must be punctually sent there on or before the first Monday or Tuesday in February.—2. They must be addressed to the Secretary, and accompanied with a note, describing them as they are meant to be inserted in the Catalogue, with a statement of the retail price, if for sale, which will be kept by the Secretary. The description in the Catalogue is subject to the approbation of the Council. Each article must be marked with the Name of the Exhibitor, and the Number (if there be more than one) to which it refers in his List: particular accuracy is requested in this respect.

IN THE SECTION OF CHEMISTRY.

1. For any material improvement in the manufacture of Crown Glass, with special reference to the transparency and durability of surface. A Gold Medal.

2. For Flint Glass free from Veins, as dense and transparent as the best now in use, and quite fit for the purposes of Opticians. A Gold Medal.

3. For the best Account of the Causes of the Defects in Flint Glass, with the means which have been employed to remedy the same, accompanied by suggestions for the improvement of the manufacture. A Gold Medal.

4. For the best set of Experiments on any white Metallic Alloy that can be usefully applied to the Arts, or hard enough for use in reflecting Telescopes, and casting it free from microscopic faults. Samples of the Alloy and of the Metals of which it is made to be produced to the Society. The properties of the Alloy particularly requiring notice are, fusibility, non-liability to tarnish when exposed to damp air, or to be acted on by ordinary fluids, the tenacity, the cohesive force, the compactness or porosity, the colour, and the degree of polish of which it is susceptible. A Gold Medal.

5. For the discovery of a Substance capable of receiving the Calotype or Talbotype Image. It should be absorbent and Chemically Neutral to the Action of Nitrate of Silver, Acetic and Gallic Acids and the Iodide of Potassium. It

should be at least as transparent as paper (or more so, if possible), even in texture and free from a granulated surface. A Gold Medal.

6. For the best method of Dyeing Woollen Yarn in the Hank, so as to stand the process of Milling. A Gold Medal.

7. For an arrangement by which Electric Telegraphs would be protected from the influence of Atmospheric Electricity, Sea Water, &c., and rendered capable of being worked during the most powerful Aurora Borealis. A Gold Medal.

8. For a method of Refining Vegetable Oils, by a quick and cheap process, so as to render them fit for burning in lamps, and for lubricating machinery. A sample of not less than five gallons to be forwarded to the Society. A Gold Medal.

9. For the Discovery of a Glaze for Earthenware and China, equal to the glazes ordinarily used by manufacturers, but produced without the use of lead. A Gold Medal.

10. For the best series of Specimens of Opaque Enamels, suited to Artistic or Manufacturing purposes. A Gold Medal.

11. For the best series of Specimens of Transparent Enamels, suited to Artistic or Manufacturing purposes. A Gold Medal.

Claims for Premiums in this Section must be accompanied with full Descriptions, Certificates, and Samples, and should be delivered to the Secretary, at the Society's House, on or before the second Monday in January, 1849.

IN THE SECTION OF MECHANICS.

1. For the Plan of a Roof, composed of Wood and Iron, Circular or Octagonal, to cover the largest Area without Pillars, with details, specification, and estimates, and the cubic quantities of timber, with the weight of wrought and cast iron employed. The Gold Medallion, the Acton Premium.

2. For the Design of the arrangements for the Interior of a Building to accommodate the largest audience with the most perfect arrangement for hearing. A Gold Medal.

3. For the best Essay on the means by which the Roofs and Walls of large Buildings may be constructed so as to prevent Echoes or Sounds that would interfere with the voice of a speaker, also pointing out the position in which the speaker should be placed so as to be heard by the largest number of persons. The Silver Medal.

4. For the best Design for a Conservatory, to be executed in Carpentry, combining firmness and strength of construction with lightness and elegance of form. The structure to be suitable for the Gardens of a Botanical or Horticultural Society, and adapted to the present improved state of the glass manufacture. A Gold Medal.

5. For the best Design for a Water-Meter to measure and register the quantity of water supplied to Private Houses, Breweries, or Manufactories, so that the consumer may pay for the quantity taken at per 1,000 gallons, without using a cistern. The Design must not be too costly to prevent its general application, and it must not be liable to be deranged or tampered with. A Gold Medal.

6. For the best Collection of Diagrams (with explanations) to illustrate the action of the forces on a Crank or Cranks turned from a horizontal direct action Steam Cylinder or Cylinders, the effect of various proportions of Connecting-rods, and degrees of expansion of steam being shown. A Gold Medal.

7. For the best Design for a Wrought Iron Piston for Steam-Cylinders of large Diameter. The Silver Medal.

8. For the best Paper on the Causes of Oscillation in Railway Locomotives at high velocities; and on the principles and expedients by which that source of danger may be removed. A Gold Medal.

9. For the most simple and efficient Field Gate. The Silver Medal.

Communications sent in for competition in this Section should be delivered at the Society's House not later than the second Monday in January.

The Society expressly reserves power, in all cases, of giving such part only of any premium as the communication or performance shall be adjudged to deserve, or of withholding the whole. The candidates, however, are assured that the Society will judge liberally of their claims.

All Communications must be written on foolscap paper on one side only, with an inch margin, and, together with all Drawings and Models offered in competition for the above Prizes, must be delivered to the Secretary at the Society's House, John-street, Adelphi, postage and carriage free, at the respective days appointed.

THE NEWLY-DISCOVERED LEAD MINE AT WINSTER.—In the range of hills that divides Crook from Winster, and in that part of it called the Stool (or Steeal, as it is termed), there has been recently worked a vein of lead ore which promises, we understand, to be very rich—containing, from an experiment to which part of it has been subjected, as much as ninety per cent. of the pure mineral. The first indication of this unthought-of treasure was discovered a few years ago by some labourers employed on the road that winds over the pass connecting the before-mentioned vallies. It was found within a few feet of the surface; and, indeed, the operations hitherto have been very superficial, having been carried on by only two country workmen, who had not been previously employed on any mining work whatever. Yet although they have only been employed a few weeks in the task, the ore they have already extracted amounts, we believe, to more than twenty tons. The attempts to explore the vein have as yet only been made in a field belonging to Mr. Stephen Elleray, with the assistance of two or three adjoining landowners, and of course its extent in depth or horizontally has not been ascertained or only very partially. Ore, however, of the richest kind continues to turn up in both directions. Although appearances warrant the conclusion that an extensive and valuable lead mine has been discovered, yet such opinion cannot be expected to carry much weight unless sanctioned by a competent scientific person.

THE VERNON GALLERY.—For a native of this country no exhibition can have a greater charm than the collection of pictures in Pall Mall, formed by Mr. Vernon. While it is a monument of British art, it is also a monument of individual munificence perhaps unparalleled. After devoting a large fortune to the encouragement of art among his countrymen, Mr. Vernon considers that the British nation is the most legitimate possessor of the productions of British artists, and presents his splendid collection to the trustees of the National Gallery. At present the pictures are exhibited in Mr. Vernon's private residence, so that not only the taste with which the collection is formed, but also that with which it is arranged, are displayed to the public. The dining-room, the two drawing-rooms, a boudoir, and the staircase, are all richly decorated with pictures. The collection is confined to British artists, but is at the same time made in a truly catholic spirit. Mr. Vernon has not confined himself to any class of painting; but, while he has selected those earlier works to which time has given a stamp, he has shown zeal and discernment in the patronage of rising talent. Works by Reynolds and Gainsborough will be found with those of the exhibitors of the latest years. The great aim has been to select specimens from all the British painters of eminence. Wilkie, Landseer, Hilton, Calcott, Turner, Etty, T. S. Cooper, Stanfield, Leslie, Jones, Bird, Stoddard, Mulready, Eastlake, Maclise, Linnell, Ward, &c., all have a place, so that the collection is really an historical record of British painting from the time of Reynolds to the present day. In the selection of the particular works that are to stand forth as specimens of their several artists, Mr. Vernon has shown admirable discernment. He has brought together what may be considered a collection of "types." There are the most excellent specimens of Landseer's animal painting, the richest specimens of flesh-colouring by Etty; Turner, both in the time when he was as distinct as Canaletti and when he was in a misty state of "Turnerism;" exquisite *tableaux de genre*, by Mulready; Stanfield's most striking water-pieces; Calcott's landscapes, remarkable for their sober tone and colour; Linnell's distinguished by power and effect; Cooper's "Cypish cows;" the most characteristic creations by Leslie; the Hogarthian productions of Ward. Many of the pictures have long made the fortunes of the printsellers, and are familiar through the medium of engraving to every well furnished house. To name a few of the works would be injudicious. There is nothing in the collection without its value as a representation of a class of art, and the classes are such that every eminent artist is included. The only useful enumeration would be a reprint of the very excellent catalogue which is distributed in the rooms. It may be mentioned that the whole of the gallery is to be engraved in the line manner by the most eminent British engravers.

THE TUBULAR BRIDGES.—We have had an opportunity of inspecting the stupendous iron tubes which are in course of construction a

short distance from the Menai Suspension Bridge, for the purpose of forming a passage for the trains of the Holyhead Railway across the strait. Immense piers of granite are being erected on each side of the strait, and a massive pier of the same material is rising in the middle of the stream. On these solid masses of masonry the vast hollow metallic ways will rest, forming a line continuous with the railway. The most cursory inspection of the tubes will at once convince the spectator of their prodigious strength, and show them to be capable of sustaining a far greater weight than any that is likely to pass across them. They are not either cylindrical or elliptical, as many have supposed, but rectangular,—their form being what is not uncommonly called an oblong square, about 30 feet high and 15 feet wide. They are constructed of thick plates of iron, firmly riveted together, and strengthened by girders at the top and bottom. The chief element of strength, however, is in the bed or base of the work, which is composed of plates of iron set edgewise, so as to form cells; the under and upper surfaces being firmly riveted to the intermediate perpendicular plates,—the whole, with the walls of the tube and its covering, firmly girded and bound together with the utmost skill and ingenuity, forming a compact piece of workmanship, the strength of which is beyond conception. These enormous tubes are built on stages erected over the stream. The spectator wonders, when contemplating them, how fabrics of such stupendous weight, amounting to many thousands of tons, are to be removed and lifted into the position which they are destined to occupy. They will be floated to the piers on pontoons, and lifted to their final resting-place by hydraulic pressure.—*Liverpool Albion.*

ANECDOTE OF HOLBEIN.—A nobleman having called on Holbein while he was engaged in drawing a figure from life, was told that he could not see him, but must call another day. Foolishly taking this answer as an affront, he very rudely rushed up stairs to the painter's studio. Hearing a noise, Holbein opened his door, and feeling enraged at his lordship's assumption and intrusion, he pushed him backwards from the top of the stairs to the bottom. However, reflecting immediately on what he had done, he repaired to the king. The nobleman, who pretended to be very much hurt, was there soon after him, and, having stated his complaint, would be satisfied with nothing less than the artist's life; upon which the king firmly replied, "My lord, you have not now to do with Holbein, but with me; whatever punishment you may contrive by way of revenge against him; shall assuredly be inflicted upon yourself. Remember, pray, my lord, that I can, whenever I please, make seven lords of seven ploughmen, but I cannot make one Holbein of even seven lords."

COAL.—With regard to the South Wales Coal field, it is stated that the annual quantity raised amounts to 4,350,000 tons; and at this rate, and supposing the coal to exist only over 100 square miles, there is sufficient for 1,400 years to come.

The Chronotypist.

A very singular picture by Lucas Cranach, representing the Judgment of Solomon, is in the possession of Mr. Tiffin, the printseller, in the Strand. It is simple and earnest in its treatment—remarkable principally to the artist for skilful manipulation and as an authority for costume. It is rare to meet with coloured examples of the dresses of the various classes—which makes this valuable. On reference to this artist's "Leben und Werke," by Heller, we find that the picture is well known. It was sold by auction on the 4th of May, 1818, at Dresden.—Mr. Waghorn, whose long and active services in the cause of steam communication with India are so well understood by the public, has received a recognition of the same from the East India Company in the form of an annuity of £100.—The *Boston Chronotype* states that an engineer of St. Louis has applied to the city council for leave to run a locomotive omnibus on the Broadway.—The fares now charged by the Caledonian Railway Company, for first class conveyance on their line between Edinburgh and Glasgow, are stated to be only one penny per mile.—We learn also that the Dover Company have reduced their fares considerably.—The effects at Stowe are said to have cost the Buckingham family £250,000, but they are not expected to realise above 100,000.—The Roman Catholics propose to build a magnificent cathedral at York.—Measures are on foot, we learn, to restore the church at Stowe—the finest and most ancient specimen of Saxon architecture in the kingdom.—A splendid new Roman-Catholic Cathedral has been opened at Salford—the expense incurred in its erection is set down at nearly £18,000.—The *Railway Chronicle* states that earthenware mile-post heads, for marking distances on Railways, are now coming into general use.—The original estimate for the building of the New Houses of Parliament was £700,000. They have already cost £1,002,110, and before they are completed they will have cost £2,000,000.—The Board of Admiralty states, with regard to Mr. Jeffrey's "marine glue," the sum required by that gentleman for his invention, (£30,000) is preposterous, and cannot be acceded to.—The commissioners appointed to report upon the merits of the proposed decimal coinage, will, it is stated, publish their reports in about five weeks.—The committee "appointed by the Town Council of the Borough of Leicester to take the necessary steps for the formation and construction of a public cemetery," have offered a premium of £105 for the best design.—"It has been computed," says a professional contemporary, "that the poor rate all over the kingdom might be reduced to more than one half by a general enclosure of inland wastes."—Some degree of coöperation is to be expected between the London Government School of Design and the various Mechanics' Institutes throughout the country.—The "Fire Annihilator" mentioned by

us a few weeks back, has been brought to the test, and found in no ways wanting in efficiency for its intended purposes.—The honour of *Knighthood* has been offered to Mr. Vernon, and declined—we doubt not with silent contempt.—The last Parliamentary vote of Supply contains the following items:—Expenses of the Railway Commission, £10,670; Inspectors of Factories, £12,514 12s; Board of public works (Ireland) £31,000; Works in the Isle of Man, £4,050.—The Exhibition of the British Institution will close on the 2nd proximo.

TO IMITATE AMBOYNA WOOD BY PAINTING.—Amboyna wood is particularly used for piano forte cases. Its peculiarity is that it consists of a close intermixture of minute knots, small veins, and interlacing fibres, exactly as in the root of the olive, or the root of the maple tree; its colour is precisely that of mahogany. To paint in imitation of this wood, first paint the article over with a coat of ochre, then with a coat of red orange, made of two parts of chrome yellow and one part of red ochre, mixed in the usual manner of oil paint, with linseed oil and turpentine, and a little driers. When dry rub it down well with pumice stone and water till the surface is quite smooth. Prepare an over colour by mixing together in a plate, with a little beer, burned sienna and Vandyke brown (both ground in water); the quantity of each may be according to judgment and taste, about two-thirds of the sienna to one-third of the Vandyke brown will do well. Rub a lump of soap over the article to be grained, paint it with the water-colour, lay on with a rather hard painting brush, rubbing it about till every part is well covered; and see that there are no specks of the ground visible through the over colour. Then take a piece of rough sponge or a handful of pieces of coarse rags; after rubbing off a little for the lights, roll them over and over on every part so as to break up the water colour into knots, specks, and irregularities. Put a few light specks, as in maple wood, and soften off well with a badger hair brush. Put no over grain. Varnish with two coats, slightly rubbing down the first with pumice stone and water, before applying the second coat. *Note*:—This wood is not of a sufficiently decided and distinct character for large articles, such as counters, doors, &c., but is well adapted for picture frames and cabinet work, besides which it is one that any amateur can readily execute for himself.

THE NEW CHURCH OF SOUTH HACKNEY.—This splendid new Ecclesiastical edifice forms one of the most important structures raised within the present century.—The decorations, executed under the direction of Mr. White, are on a magnificent scale, and the pleasing ensemble of the whole, reflects the greatest credit on the talent, taste and workmanship of that celebrated ornamentalist—whose efforts, in the present instance, are a credit to himself, and to the sacred edifice whose beauty they tend so eminently to enhance.



A GROUP OF CUPIDS. BY GUIDUS RENU BONONIENSIS (FAC SIMILE).

Architectural Incongruities.



SHORT time since,* we touched cursorily upon a few errors in construction, no doubt accidentally produced—and as accidentally observed. We are no sticklers for mathematical precision, nor upholders of quibbling in any shape,—yet there are some peculiar cases of excessive latitudinarianism, which we cannot allow to pass without comment—we would fain hope correction,—standing, as they do, in the broad field of architecture as scarecrows to affrighten good taste and refined judgment.

Were architecture regarded as the mere assortment and disposition of bricks, mortar, and stone into a convenient position, instead of as being that sublime science which, when properly applied, is capable of imparting liveliness, grace, and beauty to the insensate sod, we should not feel surprised at digressions from harmonious arrangement, which we might attribute to ignorance;—unhappily, however, we have no other alternative than to set down various monstrosities which just now occur to our mind, as the results of mere caprice—a fantastic fancy engrafted upon presumption.

Is it not ridiculous, we would inquire of any person capable of drawing a distinction betwixt right and wrong, to perceive men daily erecting,

at an enormous expense, edifices whose only merit consists in their inapplicability to the ordinary purposes of a human habitation? 'Tis true, they *look* very like good houses—have handsome and novel exteriors, with bold and finely proportioned façades—and are conveniently and conspicuously situated. All these things, doubtless, tell well with an intended purchaser—they serve the eye, and serve *out* the pocket. But besides mere eye service, a man should look for more substantial qualifications in the edifice consecrated to his domestic purposes. Durability, convenience, cleanliness, and health are among the results which he should inquire of himself whether his intended abode is capable of producing or maintaining. The mere circumstance of prettiness—too often confounded with pettiness—can never secure any of these; nor was it in former ages—the style of whose architecture is daily being perpetuated on reduced and ridiculous scales—the principle, as it seems to be supposed, to sacrifice, by means of any of the resorts now adopted, utility to display. The Gothic, the Tudor, and the Elizabethan styles seem to be, at present, principally marked out, as the shields beneath which architectural pretenders retreat for shelter from well-merited odium—striving to persuade people that their application is in all cases warranted.—What, we would ask, would these gentlemen think of an Ionic pig-stye, or a Tuscan theatre?

But it would be useless to declaim further. Pretension with a certain class is the order of the day, and dimension the exception, not the rule. of architecture.

PAPER PORTRAITS AND PICTURES.—One Elizabeth Pyberg, who lived at the Hague in 1699, cut in paper not only towns, as Loo and Hounslerdyke, but faces to an extreme likeness. Mr. Ellys assures she did William and Queen Mary better than any limner he had ever seen, and refused 1,000 guilders for the pieces, which were so curious that he could not believe the Queen's drapery not to be point till he had most exquisitely inquired into it.—*Philosophical Transactions*. No. 286, p. 1,418.

INGENIOUS CONTRIVANCE.—At the works at Ystalyfera, where authracite is employed for fusing iron, the heated gasses escaping at the top of the furnace are collected and employed to heat the boiler of a steam-engine,—and by this means is saved the entire amount of the ordinary fuel.

* See page 41, ante.

Iodine.

THE results of scientific inquiry are eminently calculated to benefit the human race, in our arts and manufactures. Among the discoveries of our own age, that of the singular and valuable substance iodine occupies an important place.

M. Courtois, a manufacturer of saltpetre, near Paris, had frequent occasion to notice the corrosion of his metallic vessels in the preparation of carbonate of soda from the ashes of sea-weeds; and he found that the corrosion was more powerful as the liquor became more concentrated. About the year 1812 he succeeded in obtaining, by means of sulphuric acid, a rich violet-coloured vapour from the solution of sea-weeds. This experiment he showed to a chemist of the name of Clement Desormes, who condensed the vapour, and thus obtained the solid body called iodine, from a Greek word signifying violet-coloured.

In August 1813, Sir Humphry Davy was in Paris, and hearing of this new substance, he endeavoured to obtain some. M. Ampere, a distinguished French philosopher, procured a small quantity of the iodine, which he folded up carefully in paper and put in his pocket, in order to give it a short time afterwards to his friend Davy. When however he was about to present it to Davy, he found that it had entirely disappeared, the heat of his body having converted it into vapour. He procured however another small supply of this remarkable substance, and this he placed safely in Davy's hands. The latter acute chemist then subjected the specimen to various tests by which the nature of substances is determined; and the result of his investigation was, that he found iodine must be included among the simple elementary bodies, *i. e.* those bodies which the chemist is not able to resolve into simpler parts.

Iodine is a soft, solid body, of a bluish-black colour, with a metallic lustre; its appearance is that of crystalline scales; it is, bulk for bulk, about $\frac{4}{5}$ times heavier than water; its smell is strong and disagreeable; its taste is acrid and hot, and continues for a long time in the mouth; and it is poisonous, except when taken in very small quantities. Iodine also destroys vegetable colours, and corrodes a great number of substances. If it be kept in a corked bottle, the cork, after a time, becomes rotten and useless, and the iodine soon disappears. The hand or other part of the skin receives, by contact with it, a deep yellow stain, which however disappears in a short time.

Iodine is scarcely soluble in water, but spirit dissolves it in large quantities. It unites with mercury, and forms a beautiful scarlet powder, which, together with some other compounds of iodine, is used as a pigment by the artist, the dyer, and calico-printer. The compound of iodine and mercury is known to artists under the absurd name of "Essence of Vermilion." Vermilion is a compound

of sulphur and mercury, and has nothing whatever to do with iodine.

Iodine unites with starch with great facility, and forms it into a deep blue compound. If a liquid contain only 1-450,000th part of its weight of iodine, the liquid becomes decidedly blue by the addition of a few drops of a watery solution of starch.

Iodine exists in sea-water, and in many mineral springs; but the great source whence it is derived is the various species of *fuci*, which constitute the principal sea-weeds upon our coasts. As the soap manufacturers use a large quantity of soda obtained from kelp, it occurred to Dr. Ure that the residuum of the soap-boilers offered a ready source for iodine, and this we believe, has long been one of the means for obtaining it by the following process:—

When a solution of kelp has been prepared, and all the crystalline salts separated from it, a brown liquid remains, which is the residuum above alluded to. This is heated to about 225° of Fahrenheit, then poured into a stone-ware vessel, and dilute sulphuric acid added. When cold, the liquor is filtered through a wollen cloth, and black oxide of manganese is added. The mixture is then put into a still made of stone-ware, to which a glass head is attached. A tube from this head passes into two tureen-shaped vessels, which are kept cool by cold water on the outside. Heat is applied to the still, and violet vapours of iodine are soon seen in the glass head; these vapours pass through the tube into the vessels, and condense into solid iodine: this is again purified by re-distillation, and then the process is complete.

Cologne Cathedral.

A correspondent of the *Athenæum* thus graphically describes the preparations made for the Cologne Festival which was appointed to take place on the 14th ultimo. The remarks refer to the splendid cathedral which has been for some time past undergoing a thorough repair:—

"Workmen swarm like ants inside and outside the building. The stroke of the mallet and trowel, which has sounded for the last few years like the reanimated pulse of the building, is quickened to a feverish speed; and Zwirner, the architect, allows himself so little rest, either to body or mind, that his pulse must be pretty much in the same condition. Yet with all this activity, there remains so much to be done, and so little time to do it in, that to a mere looker-on the work seems more than human hands can accomplish. It is not only that the temporary roof has to be finished above and the pavement laid below, but the light of Heaven still pours in on each side through a wide gap between wall and roof; and the greater part of the grand north and south transept windows—especially of the latter—with all their splendid tracery, still lie scattered in the workshops. The King of Bavaria's new painted windows—which were received here

the other day, with the roar of cannon and strewing of the streets,—are only half way up; and even when all these essentials shall have been completed, the clearing away of the accumulations of materials and rubbish inside and out will be itself a hurculean task. Meanwhile, as a first and necessary precaution, the entrance of all visitors, excepting to the choir, &c., is strictly forbidden. No garb but that of the *ouvrier* finds admission to the chief centres of activity; and, though a kind exception was made in our favour, yet what with splashes of dirty water from the roof, stray shots of hot lead from the window, and stone dust everywhere, we soon felt that our clothes were very much out of place there whatever might be ourselves.

“In point of internal decoration, the King of Bavaria’s present is by far the costliest and most important acquisition that the Cathedral has yet received. It consists of the glass for the three whole windows and two half ones of the south aisle; and from what was already up, I am inclined to think these altogether the most remarkable things that modern German art has yet accomplished. It is not only for the purity and brilliancy of the colours—in which respect they may be placed in comparison with the finest ancient specimens, including the beautiful ones the in choir and north aisle of this Cathedral itself; but, setting aside all consideration of their value as painted glass, they are of the first excellence as works of Art. They stand on their own independent merits; for, except in the sterling and imperishable beauty of their materials, they in no way affect to imitate the old artists. They have no assumed stiffness either in manner or design; but are exquisite pictures, with every accessory of beauty of expression, correctness of drawing and charm of aerial perspective, conveyed in all the glory of coloured glass. A little burst of genuine enthusiasm at the beauty of a half erected window before which the workmen were suspended, and in which one half of the subject of the Entombment with the two figures of the Evangelists John and Luke beneath it were seen, procured us the withdrawal of the curtains from before the whole and half-window already placed. The final uncovering of these windows is to be one of the great moments of the approaching *fête*. The chief subjects of the three whole windows are, the Adoration of the Three Kings, the Entombment and the Ascension. That now disclosed to our eyes was the Adoration. Below it are the four Prophets—figures of the utmost grandeur; and, above, the tracery of the window is filled up with stars, crosses and other emblems of unrivalled brilliancy of colour. The Munich glass painters have every gradation of the palette, from the three primary colours to the most tender neutral tints, completely at their disposal. Their *yellow*s especially show their superiority—we have nothing better than a dirty orange at Westminster. Here the magnificent brocaded robe of the kneeling king is like the gold of a cool but gorgeous orient sky. The Virgin’s blue and red are splendid. The green tunic of the Moorish king is unrivalled in intensity: while the

figures behind retreat from the eye as much in colour as in size,—and Jerusalem stands on the horizon in rainbow, Turner-like hues of airy distance. The chief attractions of the half-window are, the heads of the Empress Helena, Barbarossa, Charlemagne, and Henry the Fifth—all, as you know, connected with the history of the Three Kings of Cologne. All these are of the highest beauty of conception and colour. The King of Bavaria may well boast that his Munich glass painters are the first in the world. I doubt whether, as artists in any line, the Munich school ever appeared to greater advantage than it does here. The artists chiefly concerned in these windows have been Professor Hess and Herr Ainmüller.

“It had been expected that on this coming occasion the whole partition wall behind the organ, between the chancel and choir, would, with the organ itself, have been removed, and the whole grand length of the centre thrown open. But it appears that, temporary as it is—if a wall that has stood for three hundred years can be so called—it is still too essential, just at that vital junction, to the safety of the building to be removed; and Zwirner begs his friends, if they wish him to sleep quietly in his bed, to abstain from urging his removal of a stone of it. This, therefore must continue a great eyesore to impatient spectators—though it will be coloured over of the same hue with the rest; but meanwhile the wooden partitions of the aisles on each side of it were rapidly tearing down before our eyes.”

To Correspondents, &c.

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“*Lionel*.”—*Turps.*

“*An Apprentice*.”—*We cannot discover or remember the date—but probably 1841.*

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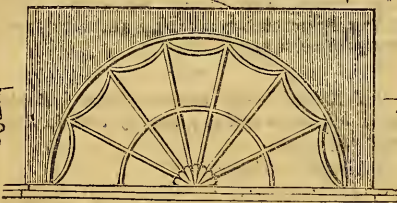
An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 164.]

FACILITY (in all the arts), readiness, performing with little labour. A painter born with an aptitude or genius for his art draws his outlines and distributes his colours with lightness, freedom, and dexterity, the very converse of labour and heaviness. Rubens had this quality to perfection, and it is the pinnacle of art and the perfection of study. The student however must not confound mere rapidity and a dashing sketchiness with this high quality of the practical part of the arts. An architect is said to have a facility of composition when his knowledge of his art is such that he can compose, arrange, and distribute the apartments of an edifice with readiness and skill, with judgment and propriety, according to the character and requisites of his design.

FAÏENCE (in painting), a sort of fine pottery or earthenware glazed with a fine varnish, and painted in various designs: named from Faence or Faventia, where the art of manufacturing was revived after having been forgotten by its original inventors the Egyptians, who made a similar kind of pottery covered with a green or blue enamel, of which many examples are to be found in the cabinet of the curious.

FAN LIGHT, an ornamental compartment situated over a doorway and serving in most



cases the double purpose of lighting and ventilating the passage.

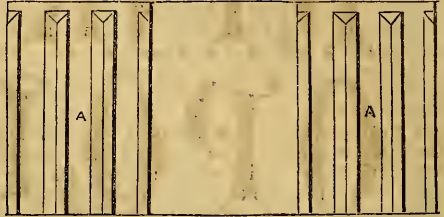
FEEBLE (in all the arts), weak, imbecile. A picture may be feeble in colour, drawing, character, or expression, and a statue in all but colouring, when timidity or want of knowledge guides the hand rather than that boldness, which is the result of experience, knowledge, and practice; it is the debility of caution, the opposite of boldness; and the antipodes of bravura. Feebleness of execution, if the artist be young, may be conquered, feebleness of conception never.

FLANK (in architecture), the side of a temple or building.

FLEMISH SCHOOL (in painting), one of the grand divisions in the classification of painters, named from Flanders, the country of their birth or practice. Rubens was the principal master

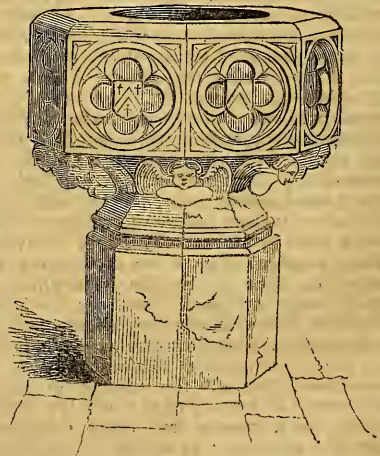
of this school, which, to brilliancy of colour and the magic of chiaroscuro, added a great knowledge of design, grandeur of composition, and, in portraits, a striking air of nature, with a noble expression. Yet, on the whole, it only produced a sort of individual or natural beauty, partaking neither of the elevation of sentiment or ideality of the antique, nor of the Italian mode of representing nature.

FEMUR, the plane space between the cavi-



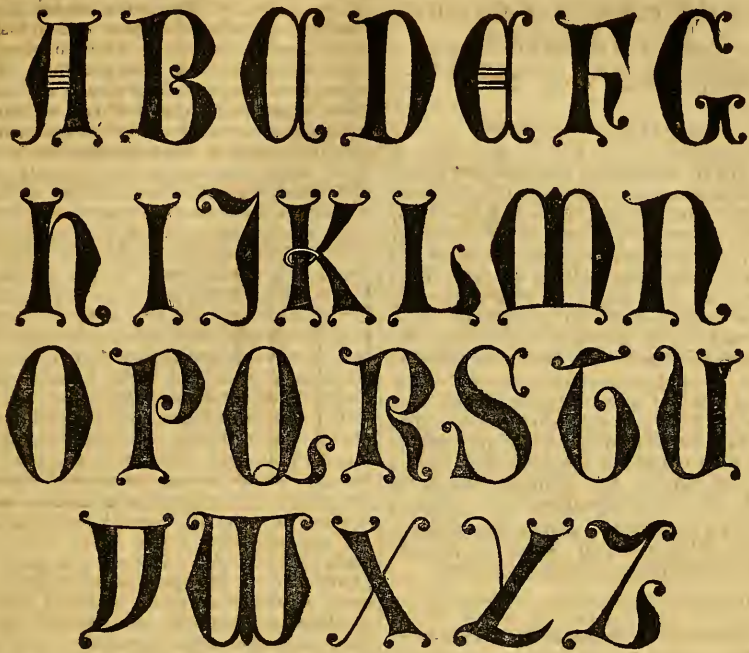
ties of a triglyph, marked A in the engraving; the word signifies a thigh.

FONT (in architecture and sculpture), a vessel of marble or stone in which the water for Christian baptism is contained, in the church or baptistery. Great Britain can boast of many very extraordinary fountains highly interesting to the ecclesiastical antiquary. That of Bridekirk in Cumberland, is allowed to be of Danish origin; and that which was recently



removed, in the spirit of modern improvement, from the church of St. Peter in the East, Oxford, exhibited proofs of an antiquity nearly as early. The font of St. Mary's church, Lincoln, dated 1340, is handsome and of good proportions, as is the elaborately sculptured one in Winchester Cathedral. The above engraving represents a font, in the decorated style, in Fitchingfield Church, Essex.

[To be continued.]



GOTHIC ALPHABET OF THE TWELFTH CENTURY.

TAPISTRY.—Tapistry is a curious kind of manufacture, serving to adorn chambers, apartments, theatres, &c., by hanging from the walls or ceilings.—The invention of tapistry seems to have come from the Levant, and what adds to the plausibility of this conjecture is the circumstance of the workmen formerly employed in its manufacture being denominated in the French language *Sarazins* or *Sarazinois*.—It is presumed, also, that the English and Flemish, who were the first that excelled in tapistry, might have brought the art with them from the East during the period of the Crusades. But be this as it may, it is certain that those two nations, particularly the English, were the first that set on foot this noble and rich manufacture in Europe, and which, during a long succession of ages, formed one of the chief materials employed in the decoration of palaces, basilica, churches, &c. And, hence, if they cannot claim the honour of being the inventors they have, at least, the credit of being the restorers of so curious and admirable an art as imparts an appearance of life to wools and silks, in no respect, when well executed, inferior to the paintings of the best masters. It was not until a comparatively late period that the French adopted tapistry for interior decorations. The first regular manufactory was established in the Faubourg St Michael, at Paris, in the year 1607, during the reign of Henry IV.; but at the decease of that prince a stop was put to the works; and it was not until the accession to the throne of

Louis XIV. that the trade was revived—when, by the assiduity and ingenuity of M. Colbert, the “*Gobelins Establishment*,” arose, and gave to the world proofs of what may be effected by the wholesome influence of discriminating and well directed taste and liberal patronage.

INGENUITY OF THE MUSCATAVIANS.—Some of the men are very intelligent, and work in gold, silver, and iron, with tools and apparatus of the most primitive description. The bellows are made of deer-skins, with two pieces of bamboo at the mouth, which is opened and closed with the finger and thumb as it is moved up or pressed down, one being in each hand, and the nozles being introduced into a piece of brickwork on the ground, communicating by two holes with a charcoal fire. The blacksmith sits on his haunches, and for an anvil generally has a pig of ballast. With these rough implements they make even pintles and gudgeons for large vessels, hinges for doors, slave shackles, and chains. The workers in gold use a blow-pipe, and draw the wire through a bit of lead bored with holes, gradually diminishing in size; and I have seen some very handsome ornaments made by them. These clever and industrious people are all in the condition of slavery; and their wives and daughters may be seen on occasions strung together with heavy chains, supported by an iron ring round the throat, and digging the ground with hoes.—*Lieut. Barnard, R.N.*

Extracts from Papers Read before
the British Association
AT SWANSEA AND WORCESTER.

WATER PRESSURE ENGINES.

On this subject a paper was read by Mr. J. Glynn, F.R.S. It showed that the first invention of the water-pressure engine, like many other mechanical contrivances, appear to belong to Germany, and most probably had its origin in Hungary. The pressure engine acts by the power of a descending column of water upon the piston of a cylinder, to give motion to pumps for raising water to a different level, or for producing a reciprocating motion for other purposes. In mountainous districts, so often containing great mineral wealth, waterfalls were found of a much greater height than could be practically brought to bear on water-wheels, and the stream was often too small in quantity to produce the desired effect upon a water-wheel within the ordinary limits of diameter. In such situations the pressure engine was well adapted to give great mechanical effect from a fall of water in working pumps and machinery for draining mines.

GUTTA PERCHA—SUBMARINE TELEGRAPH.

We extract the following from the *Athenæum* :—

“Mr. Whishaw read a paper giving an explanation of the various Applications of Gutta Percha; numerous specimens of which, in the shape of thread, cord, tubular staves, driving bands, constables' staves, sticks, whips, inkstands, medallions, shields, water buckets, stereotype plates, and almost every other description of article, both useful and ornamental, were present. The paper, after stating that gutta percha was the concrete juice of a large tree of the same name, abounding in Borneo, &c., obtained by tapping the tree periodically by the Malays, stated that its introduction into this country was purely accidental; Dr. Montgomery having transmitted the first sample of it to the Society of Arts in 1843, at which time he (Mr. Whishaw) was secretary to that society. The first articles of use made of gutta percha in this country were laid before the Society of Arts in 1844, and consisted of a lathe-band, a short length of pipe, and a bottle-case, which he had made himself by hand, having caused the concrete substance to become sufficiently plastic by immersing it in hot water. He also produced casts from medals, which attracted considerable attention at the time, and surgical instruments were soon after made of this new material. It was also adapted to commercial uses; and from the period mentioned to July 11th in the present year between 600 and 700 tons had been imported for the Gutta Percha Company. From 20 to 60 tons were now regularly imported every month. Contrary to the general opinion that gutta percha is a simple, hydrogenous substance, Mr. Crane (chemist to the Gutta Percha Com-

pany) found it in its ordinary state to consist of at least two distinct materials, besides a notable proportion of sulphur—viz., 1. A white matter, gutta percha in its pure state; 2. A substance of a dark brown colour. Various experiments were made to ascertain its strength when mixed with other matters, and also as to what pigments would mix with it without rendering it brittle or deteriorating its qualities. From these it appeared that the only pigment that could altogether be relied on to be used with gutta percha were orange lead, rose pink, red lead, vermilion, Dutch pink, yellow ochre, and orange chrome. Under the influence of heat and pressure, gutta percha would spread to a certain extent, and more so if mixed with foreign matters. All the mixtures composed of gutta percha and other substances which had been subjected to experiment, except that containing plumbago, were found to increase its power of conducting heat; but in its pure state gutta percha was an excellent non-conductor of electricity. The best composition for increasing the pliability of gutta percha was that formed in conjunction with caoutchouc tar, and next in order that of its own tar; and the best material at present known for moulding and embodying was obtained by mixing gutta percha with its own tar and lamp-black. In describing the process of manufacturing gutta percha, the author observed, that rude blocks of the material were first cut into slices, by means of a cutting machine formed of a circular iron plate of about 5 feet in diameter, in which there are three radial slots furnished with as many knives or blades. The blocks are placed in an inclined shoot, so as to present one end to the operation of the cutters. The slices are then placed in a wooden tank, containing hot water, in which they are left to soak until found in a plastic state. They are afterwards passed through a mincing cylinder, similar to that used in paper mills for the conversion of rags into pulp, and then thoroughly cleansed in cold water tanks; the water, in cases of impure gutta percha, being mixed with a solution of common soda or chloride of lime. It is next put into a masticating machine, such as is used in the manufacture of caoutchouc, and then pressed through rollers; thus being converted into sheets of various width and thickness. When necessary, the sheets are again masticated, and again passed through rollers. These sheets are subsequently cut into boards by vertical knives, placed at the further end of the table, along which the sheets are carried by a cloth or web to another roller, round which they pass, and are cut into the required widths. The bands or straps are then removed, and coiled up ready for use. Driving bands for machinery are thus made, and shoe soles and heels are stamped out of similar sheets of gutta percha. In making tubes or pipes, either of gutta percha or any of its compounds, a mass of gutta percha, after being thoroughly masticated, is placed in a metal cylinder furnished with a similar piston, by which it is pressed down into an air box, kept hot with steam, which has at its lower end a number of perforations, through which the plastic material is forced into a cup, whence

it passes out, round a core, into the desired tubular form, and thence through a gauge to the required size, and into a receiver of cold water, being drawn to the other end of a long trough by a cord passing round a pulley at the far end of the trough, and returning to the person in attendance on the machine, who gradually draws the pipe away from the air machine. Thus tubes of considerable length and diameter are made to a very great extent, and are used for the conveyance of water and other liquids, and are now under test for the conveyance of gas. The paper next explained the variety of articles already made of gutta percha, which were of three classes—1. Useful; 2. Ornamental; and 3. Useful and Ornamental combined. Various articles were then exhibited, including two very handsome shields, and a splendid Communion Dish and Service.—Mr. Whishaw next exhibited the Telakouphanon or Speaking Trumpet; and in doing so, said that speaking tubes of gutta percha were quite new as was also the means of calling attention by them of the person at a distance, which was accomplished by the insertion of a whistle, which being blown, sounded at the other end quite shrilly. Attention having been thus obtained, you remove the whistle, and by simply whispering, the voice would be conveyed quite audibly for a distance of at least three quarters of a mile, and a conversation kept. It must be obvious how useful these telegraphs must become in large manufactories; and indeed in private houses they might quite supersede the use of bells, as they were so very cheap, and by branch pipes could be conveyed to different rooms:—and, indeed, if there were no electric telegraphs, they might, by a person stationed at the end of each tube of three quarters of a mile or a mile, be made most speedily to convey intelligence for any distance. In private houses the whistle need not be used, but a more musical sound could be produced. He then amused the auditors by causing the end of the tube, which was of the length of 100 feet, to be inserted into the mouth-piece of a flute held in a person's hand, regulated the notes, and placing his own mouth to the other end of the tube, "God save the Queen" was played at a distance of a 100 feet from the person giving the flute breath. Turning to the Bishop of St. David's, he said that, in the event of a clergyman having three livings, he might, by the aid of three of these tubes, preach the same sermon in three different churches at the same time.—Mr. Whishaw also exhibited the gutta percha submarine rope or telegraph; which consisted of a tube perforated with a series of small tubes, for the conveyance of telegraphic wire, and which, for the purpose of preventing its being acted upon by sea water or marine insects, was banded or braded round by a small rope, and its being perfectly air-tight would render it quite impervious to the atmosphere."

WORCESTER CATHEDRALS,

Mr. Ashpitel, F.S.A., in a lecture on this subject, said of the first cathedral, little more was known than that it was dedicated to St. Peter, and was under the government of

secular canons until the time of Oswald, the eighteenth bishop, who erected (before 972, when he was translated to York) what would probably now be termed "an opposition shop," contiguous to the original cathedral church, which he dedicated to the Virgin Mary, and attached to it a monastery of Benedictine monks. In 1014 he died, and was buried in his cathedral church of Worcester (which he held in *commendam*), and where, on receiving canonisation, his ashes were afterwards enshrined. Hardicanute, in consequence of some fancied ill-treatment he had received from the Worcesterians, burnt their city to the ground, and with it Sir Oswald's church and monastery. It is mentioned by William of Malmesbury that Bishop Wulstan wept over the demolition of the structure, when his own was sufficiently advanced to receive the monks.

'LADIES' HEAD-DRESSES.

Mr. Planché then read, a paper on head-dress. In the fifteenth century, the female coiffure was made to take the form of two horns, a fashion which excited the indignation and mirth of contemporary novelists and satirists. This horned head-dress appeared in no pictorial monuments older than the reign of Henry IV. Upon the review of the authorities, he found from 1272 to 1301, the ugly gorget—the cornuted coil, and the various modes of naturally or artificially increasing the bulk of the head—the appearance of these same head-dresses when covered by the veil—the increasing extravagance of the bosses and gorgets of the reign of Edward II., the horned or eared head-dresses of both males and females at the latter period, and the square bracket or gibbet head-dresses which were likewise in fashion during the fourteenth century. Then came the almost modern head-dress of the reign of Edward III., when a better taste had banished for a while the monstrosities complained of. Next appeared the heart shaped head-dress in the reign of Henry IV., then the portentous and truly horned head-dress of the time of Henry V.; and last, but certainly not least, the mitres, and steeples, and horns of the fifteenth century, which were the subject of Lydgate's well-known ballad on the forked head dresses.

A correspondent of the *Athenæum*, who is on the Committee of the Caxton Memorial in reply to the question on the subject states, that, like many other things, the proposal for this monument has been paralysed by the disturbed occurrences of the last twelve months. Immediately after the collection of subscriptions had begun, the City election came on; and the printers and publishers there would not hear of Caxton—only of Lord John Russel, &c. Then followed the panic—which made subscriptions still more difficult to get. Then the troubled state of politics, abroad, in Ireland, and at home—which made them impossible. Under these circumstances, the promoters of the testimonial thought it best to wait for calmer times before any decision should be come to. No further subscriptions have been obtained since the last advertisement of them.

The Conway Tubular Bridge.

THE idea of a tubular bridge is one of those original conceptions which are the birth, not of an individual's life, but of an æra. It is one of those truly unique and rare productions—a new and valuable fact.

From what we have been able to gather, it appears that Mr. Robert Stephenson at first conceived the idea that a tubular bridge of the circular form would be the strongest; but being unable, in consequence of numerous professional avocations, to undertake personally to carry out the requisite experiments, he committed this important task to the able hands of Mr. Fairbairn of Manchester, under his own immediate inspection. Much credit is due to this distinguished mechanist for the experiments which he instituted with a view to ascertaining the proper principles on which to compose such a structure, particularly with respect to the two grand conditions of strength and lightness. Having so far satisfied himself on these points, he constructed a model tube on a large scale, containing nearly all the features of the proposed bridge. The form of a circular tube was found defective in many respects, and the idea of constructing the bridge of that form was soon abandoned. Tubes were also constructed of elliptical and rectangular forms, with various results. Eventually a square tube was decided upon; and the investigations were now continued, to evolve the principles upon which this form might be rendered of sufficient strength to resist vertical and lateral violence. At first Mr. Fairbairn conceived that the strongest form would be one in which the top and bottom of the tube consisted of a series of pipes arranged in a hollow compartment, covered above and below by iron plates rivetted together, and having a parallel direction to the long axis of the tube. By this means great rigidity would be communicated to the top, to resist the immense compression it would necessarily endure; and the bottom would be equally strong, to resist the tension which it would be subject to. And this form would probably have been adopted, but for several serious practical difficulties which presented themselves to its construction, and to its repair, if accidentally damaged.

The model tube, the form of which was to be adopted in the large scale, was finally formed of a square shape, with longitudinal cellular compartments, also square at the top and bottom. The scale was exactly one-sixth of the bridge across one of the spans of the Menai Straits; it was also one-sixth of the depth, one-sixth of the width, and, as nearly as possible, one-sixth of the thickness of the iron plates. Thus it was 80 feet long, 4 feet 6 inches deep, 2 feet 8 inches wide, and rested on two supports, the distance between which was 75 feet. The entire weight of this large model was between 4 and 5 tons. It was now subjected to the severe experiments which were to test its strength. The weight was attached to its centre, and increased ton by ton, the deflection being carefully noted, together with the entire weight

of the load. After three experiments, in which various defects were discovered, the conclusion arrived at of the extreme point of resistance of the model tube placed it at about 56 tons; in other words, its breaking weight was 56·3 tons. This result proved highly satisfactory, and exhibits in a remarkable manner the extraordinary resistance offered by a tube of this construction to a load more than eleven times its own weight.

In the early part of 1847 the Conway Tube Bridge was commenced. The site of the bridge was not, however, convenient for the purpose of constructing the tube; and advantage was consequently taken of a less precipitous part of the river's bank, about a hundred yards from the permanent position of the bridge. There, upon a piece of level ground, projecting some distance into the river, workshops and a steam-engine were erected, and an immense platform constructed on piles driven into the ground, and partly into the bed of the river, and forming a temporary pier. At high water, the tide was nearly level with the bottom of the tube. Altogether, about twelve months were occupied in the construction of the tube.

The tube was at length completed; and now remained the Herculean undertaking of dragging it to its position, and lifting it up to its proper elevation. On Monday, March 6, 1848, the great experiment was made. The tube had been made to rest upon two temporary stone piers, by the removal of some of the piles supporting the platform on which it was built. Six immense pontoons, 100 feet long, and of proportionable breadth and height, were then hauled up to the platform, and floated, three at each end of the tube underneath it: they were properly lashed together, and secured. High tide served a little after eleven in the forenoon; all things were therefore got ready to take full advantage of this circumstance. As the tide rose higher and higher, the great pontoons rose too, until they touched the bottom of the tube. The favourable moment having arrived, the pumps were set to work, and the pontoons emptied of a large volume of water purposely introduced into them. As this water discharged, they rose higher and higher, until at length, the immense mass floated clear off the platform. It was still some distance from its resting-place; but the sides being properly shoved up, the whole structure—was set in motion by means of strong hawsers worked by capstans, and attached to different places. It was guided in its slow career by chains connected with buoys placed at intervals in its route. At length it was dragged to its proper position: and resting under the receding influence of the tide upon two stone beds prepared for its reception on each side, it now appeared as a great unwieldy box crossing the river. This operation was the work of a few hours, and was conducted with the most complete success.

Having accompanied the tube thus far on its progress, we may now pause to detail a few particulars as to its construction. The tube is formed of wrought-iron plates from 4 to 8 feet long, and 2 feet wide. The thickness of those plates which enter into the formation of the

sides is toward the extremities diminished to five-eighths of an inch. These plates are rivetted firmly together to T-angle iron ribs on both sides of the joints. The beautiful regularity of the rivets gives the tube somewhat the character of a regular ornament. The ceiling of the tube is composed of eight cellular tubes, each of which is about 20 inches in width, and 21 high; these cells are likewise formed of wrought-iron plates, which are three-quarters of an inch thick in the middle, and half an inch towards the ends of the tube. The joints of these plates are strengthened like the others. The floor of the tube contains six cellular tubes, about 27 inches in width, and 21 high, formed as above, with the addition of a covering plate of iron over every joint on the under-side of the tube. The sides are united to the ceiling and floor by double angle irons within and without. The entire length of this great tunnel of iron is 412 feet; it is 14 feet in extreme width; it is also a little higher in the middle than at each end, being 22 feet 3 inches high at the ends, and 25 feet in the middle; this, however, includes the diameter of the cells top and bottom. Each end of the tube, where it rests upon the masonry, is strengthened by cast-iron frames to the extent of about 8 feet of the floor. The entire weight of this stupendous piece of iron-work is about 1,300 tons!

It appears that the task of elevating this vast fabric was intrusted to Messrs. Easton and Amos. At each pier, resting upon massive bearing-girders of cast-iron, solidly imbedded in the masonry, was placed a large hydraulic ram. This machine consisted of a cylinder 3 feet in diameter to the outside, with a cylindrical cavity of about a foot and a half in diameter, so that the actual thickness of this powerful cylinder was *nine inches* of solid iron all round! In it was the "ram," a cylindrical mass of solid iron 18 inches or so in diameter, so that it did not fit the cylinder quite accurately, but left a vacuity for the passage of water to the bottom. Attached to the top of this ram is a transverse piece of metal called a "cross-head," 2 square feet thick, with two square apertures, through which the great chains which are to lift the mass are passed and secured. The chains consisted of flat bars of wrought-iron about 6 feet in length, 1½ inch thick, and 7 inches wide. Each ram lifted two chains composed of nine links, containing eight bars in the upper links, but four only in the lower. The stroke of the ram was 6 feet—that is, it lifted the tube 6 feet in its full range. In the recess where the fellow-tube is to be placed, a steam-engine of peculiar construction was erected, to whose obedient toilings the mighty work of raising the tube at each end was committed. These steam-engines were on the high-pressure principle, the cylinder being placed horizontally, and the piston-rod running completely through the cylinder at both ends, where it was connected with fly-wheels and the plungers of the force-pumps. The length of the stroke was 16 inches. At the summit of the cylinder of the hydraulic press was a small tube, the internal cavity of which was only three-eighths of an inch diameter. This tube was connected with the force-pumps.

All things being now ready, the great operation commenced. The steam-engines acting simultaneously, and with equal velocity and power at each pier, the mighty structure began to rise majestically, but with great slowness, into the air. At every rise of 6 feet the engines were stopped, and the chains readjusted to the head of the ram, and the top links removed. By a succession of such rises, the tube finally reached the desired elevation of about 24 feet. It was then allowed to take its permanent position on the massive masonry prepared for it; and the Tubular Bridge lay across the river, a monument of the combined skill of British engineers of the nineteenth century.

Its sustaining power still remained to be tested. Carriages, heavily laden to the amount of may hundred tons, were placed in its centre, and allowed to remain there for two or three days; but the deflection did not, we believe, exceed an inch and a half, and disappeared on the removal of the weight, thus demonstrating its resistance and its elasticity. Since then, it has been constantly worked.—*Abridged from "Chambers' Journal."*

The India Rubber Tree.

The caoutchouc tree grows, in general, to the height of 40 or 50 feet without branches, then branching, runs up 15 feet higher. The leaf is about six inches long, thin, and shaped like that of a peach tree. The trees show their working by the number of knots, or bunches, made by tapping; and a singular fact is, that, like a cow, when most tapped, they give most milk or sap.

The time of operating is early day, before sunrise. The blacks are first sent through the forest, armed with a quantity of soft clay, and a small pickaxe. On coming to one of the trees, a portion of the soft clay is formed into a cup and stuck to the trunk. The black then striking his pick over the cup, the sap oozes out slowly, a tree giving daily about a gill. The tapper continues in this way, tapping perhaps 50 trees, when he returns, and with a jar, passing over the same ground, empties his cups. So by seven o'clock the blacks come in with their jars, ready for working.

The sap at this stage resembles milk in appearance, and somewhat in taste. It is also frequently drank with perfect safety. If left standing now, it will curdle like milk, disengaging a watery substance like whey.

Sloemakers now arrange themselves to form the gum. Seated in the shade, with a large pan of milk on one side, and on the other a flagon, in which is burned a nut peculiar to this country, emitting a dense smoke, the operator having his last, or form, held by a long stick or handle, previously besmeared with soft clay (in order to slip off the shoe when finished) holds it over the pan, and pouring on the milk until it is covered, sets the coating in the smoke, then giving it a second coat, repeats the smoking; and so on with a third and fourth, until the shoe is of the required thickness, averaging from six to twelve coats. When fin-

ished, the shoes on the forms are placed in the sun the remainder of the day to drip. Next day, if required, they may be figured, being so soft that any impression will be indelibly received. The natives are very dexterous in this work. With a quill and a sharp-pointed stick they will produce finely lined leaves and flowers, such as you may have seen on the shoes, in an incredibly short space of time. After remaining on the forms two or three days, the shoes are cut open on the top, allowing the last to slip out. They are then tied together and slung on poles, ready for the market. There, pedlars and Jews trade for them with the country people; and in lots of a thousand or more they are again sold to the merchants, who have them stuffed with straw, and packed in boxes to export, in which state they are received in the United States and in England. In the same manner, any shape may be manufactured. Thus toys are made over clay forms. After drying, the clay is broken and extracted. Bottles, &c., in the same way. According as the gum grows older, it becomes darker in colour and more tough. The number of caoutchouc trees in the province is countless. In some parts whole forests of them exist. From Mexico and the East Indies, there appears to be no importation into the United States. The reason I suppose must be the want of that proflicness found in them here (the Brazils).

The caoutchouc tree may be worked all the year; but generally in the wet seasons they have rest, owing to the flooded state of the woods; and the milk being watery, requires more to manufacture the same article than in the dry season.

The Chronotypist.

Mr. Harrison has invented a new self registering thermometer, which, by the contraction and expansion of the copper and iron of which it is formed, under different degrees of temperature, registers the different degrees of heat and cold upon a sheet of paper stretched on a constantly revolving cylinder.—Mr. R. Roberts has discovered a new mechanical power—suggested to him by a dial movement in an American clock—consisting of a steel stock shaft, on which are fitted two brass discs in such a way as to be kept steady. One of the discs has eleven teeth rounded at the top and bottom in its circumference, and placed on the body of the shaft. The other disc, which is rather the larger, is in the eccentric position of the shaft, with its face to that of the toothed disc. The plain disc has four studs rivetted into it at equal distances from the other, and at such distances as to admit of their being brought successively, by the revolution of the eccentric, to the bottom of the hollows in the toothed discs.—The following movements may be effected by this machine:—namely, if the shaft be held stationary and the discs be made to revolve upon it, one of the discs will make 12 revolutions whilst the other only makes 11. Again, if the toothed disc be held whilst the shaft be made to revolve 12 times, the plain

disc will revolve, in the same direction, one revolution only: and if the plain disc be held the toothed disc will perform one revolution in the contrary for 11 revolutions of the shaft. It will be evident that almost any other number of revolutions may be produced by employing a smaller number of studs, not fewer than three, which will not divide the number of teeth in that disc.—The restoration of Gloucester Cathedral has now commenced, and is progressing well.—“Digging and washing for gold,” says the *New York Tribune*, “has been prosecuted in certain portions of Virginia, North Carolina, and Georgia, through several years past, with varied success. Some have grown suddenly rich by it; others have realised moderate gains or held their own; some have impoverished themselves.”—Prince Albert will lay the foundation stone of the New Docks at Grimsbys in October.—M’Crea, the plaintiff in a case recently decided by the Vice-Chancellor, Mr. Knight Bruce, had exhibited a pattern in damask to the defendant, Holdsworth (both of Halifax), and the latter copied it, in ignorance of the fact that it had been protected by registration, and proceeded to manufacture from it. An injunction having been granted, the defendant appeared and pleaded “ignorance,” which the Vice-Chancellor told him could not be listened to, as he knew perfectly that it was another man’s design. The defendant also pleaded a right to manufacture, though not to sell—an odd sort of discovery, the judge remarked. Defendant’s counsel thereupon undertook to destroy the pattern papers, stamped cards, &c., and to pay all costs, the injunction still continuing in force in case of any breach, to which the newly discovered “right to manufacture” might in future lead.—An important invention, lately made by an individual at Birkenhead has been purchased, it is said, by Messrs. Brett and Little, for their telegraph. It consists of a sponge saturated with some salt, in the cells, instead of acid, condensing the vapour of the atmosphere, and continuing, it is said, for an almost indefinite time in unimpaired action.—From New York to New Orleans a continuous line of telegraph is now almost completed, and, even with the few gaps not yet filled up, intelligence can be conveyed from the one extremity to the other—a length little short of 2,000 miles—within a few hours.—The experiment of crossing the Hudson, from Jersey to New York, by telegraph wires, encased with gutta serena, and laid on the bed of the river, has been completely successful.

THE PATENT DOMESTIC TELEGRAPH.—Since our notice of the application of the principle of the electric telegraph to domestic purposes by Mr. Reid, of Birmingham, he has made some improvements, and extended the use of the instrument in hotels, taverns, tea-gardens, coffee and chop-houses, public companies, and private houses, and even in mines. The alteration is confined to the dial-plate, on which the specific questions and demands are disposed of in due order.



AN ORIGINAL DESIGN FOR A PANEL (ITALIAN STYLE).

Mr. Vernon's Pictures.



HE

Fates and Her Majesty's Government seem to have conspired against both Mr. VERNON and his pictures—honour is denied to the one, and a resting place to the others.

A week or two back we announced that the lower rooms of the National Gallery in Trafalgar Square were being cleared out for the purpose of containing the VERNON Collection. The project has, however, turned out a failure—the accommodation being as insufficient as the industry displayed in looking after it; therefore, we may expect a still longer waste of time, and, still further, positive injury inflicted on a private individual, whose liberality, by a strange anomaly, seems to have brought upon the donor nothing but punishment.

However, as a little set off against the charge of positive direlection of duty, Government can claim some indulgence on account of the numberless projects for a new National Gallery which are daily being poured in, thick and fast.

The last suggestion is one of Mr. PENNETHORNE'S—the architect to the trustees of the National Gallery—who, as we learn from a contemporary, proposes erecting a plain, tem-

porary building in one of the parks—a building that will not be required to last more than ten or twelve years; and the application to parliament for an annual grant of £15,000 or £20,000, to accumulate during these ten or twelve years, by which means a fund may be formed for the erection of a National Gallery. The site recommended is Cleveland-row,—“the leases of a number of houses in which will expire about the year 1860, when the ground will become the property of the crown.”

We will reserve this project for future consideration.

Since writing the above we have met with the following strange statement in the *Athenæum*; to whom it has been forwarded by a correspondent:—“‘Are you aware,’ says the writer, ‘of the extraordinary proficiency acquired by the authority of the National Gallery in giving away the tickets for Mr. VERNON'S Collection? The public is informed that tickets are to be had at the Gallery on given mornings: a humble member of the public presents himself on Wednesday, the 30th of August, at ten o'clock precisely (that being the time of opening)—gets in immediately, with numerous others,—and finds that all the 300 tickets are already given away! Is not this dexterity? Of course everything is fair; but *how* does the gentleman manage to give away with any discrimination so many tickets in TWO MINUTES?’—We have heard,” adds the Editor, “many complaints of the manner in which this distribution has been managed; but have heard, likewise, occasional explanations suggesting a *principle* of the irregularity to which we scarcely like to take exception. Still, the public, and each individual as a part of it, has a right to insist upon the terms announced; and we hope that now, when the first pressure for admission is past, it may be found easy to make the distribution of this privilege in such a manner as shall avoid any cause of further complaint.”

We hope so too; and will also forego taking exception for the present; but let these gentlemen remember

“There's a chiel amang ye takin' notes,
An', faith, he'll prent it!”

Working Men's Associations.

WE regard with no small degree of pleasure the strenuous efforts which the working men of this country are making in order to perform that injunction of God and Nature, which commands us, when desirous of effecting an object, "to help ourselves."—Combination among the humbler classes for the purpose of self-improvement is daily on the increase, and nothing can exhibit in a more striking light the tendency of popular opinion and the supremacy which *mind* is fast gaining over *matter*. We extract the following paragraph from a professional contemporary:—

"A number of operative sculptors and ornamental stone carvers have formed a society for the mutual advantage of its members, affording opportunities for study and improvement, which individually they could not obtain. They propose to establish a library immediately connected with the arts, form a collection of drawings and models, and obtain the delivery of lectures upon subjects bearing upon the pursuit. Mr. JOHN SMITH, of 37, Dartmouth-street, Westminster, is the secretary, and will give any information which may be required."

This is as it should be!—Let us see more of this spirit displayed among the working classes, and we'll warrant that books will serve a better end than either pikes or guns. Tyrants or oppressors may stand fire, but knowledge is their sure exterminator.

QUEEN ANNE'S FARTHING.—This coinage is the subject of a fable almost universally believed throughout the empire. It is supposed there never were more struck than three, the die breaking at the third, and consequently that a Queen Anne farthing is, from extreme rarity, the most valuable coin in existence. How this notion should have been impressed at first, and since become so prevalent, is incomprehensible. In reality, there were seven coinages of farthings in Anne's reign, and the numbers of each were by no means small, though only one was designed for general circulation. Specimens of all these may be seen in the British Museum, and a collector in London possesses from fifteen to twenty of that designed for circulation. On one, dated 1713, there is a figure of Peace in her car, with the inscription "*Pax Missa Per Orbem*"—Peace sent throughout the world—no doubt a boast meant by her majesty's unpopular

ministry to brazen out the ignominy which they incurred by the settlement of affairs at Utrecht. In consequence of the prevailing belief, it often happens that a poor peasant in some remote part of the country, who has chanced to obtain a Queen Anne farthing, sets off with it to London, in the hope of making his fortune by selling it. Even from Ireland journeys of this kind are sometimes undertaken: on one occasion, a man and his wife travelled thence to London with a Queen Anne farthing. It is needless to say that these poor people are invariably disappointed, the ordinary farthing of this sovereign being only worth about seven shillings to a collector. Mr. Till, the medallist, mentions in his work on the Roman Denarius, which we noticed a short time since, that he has only heard one origin assigned to the superstition. Many years since, a lady of Yorkshire, having lost a Queen Anne farthing, which, for some particular reason, had a great value in her eyes, advertised for it, offering a considerable reward for its recovery. The vulgar readily transmuted the sentimental into an absolute value, and, as usual, soon conceived a reason in fact for what was nothing but a fallacy of their own understandings.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"*A Young Architect.*"—Thanks for the enclosure:—we shall, at all times, be extremely happy to receive any contributions with which you may feel inclined to favour us.

"*A Mechanic in Search of a better Land.*"—Peruse the *Emigration Handbooks*, published by Mr. Craddock of Holywell-street.

"*J. T.*"—If you are a Gothic Carver, you can apply to Mr. Barrett (if by letter, post-paid), at the office of THE DECORATOR'S ASSISTANT, who is just now in want of two or three workmen of that description.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at *Mechanics' Institutions, the fine arts, science, &c.*

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 16 is now ready, price 7d.

Baptismal Fonts.

THE sanctity rightly and reasonably attached to the consecrated instrument of a Holy Sacrament caused the careful preservation of Fonts unchanged by centuries of rebuilding and alteration. Thus we cannot doubt that a considerable number of Fonts now exist in England wherein the Saxon infant received the waters of salvation from the hand of that ancient priest whose bones, for aught we know, may moulder under the pavement of a church reconstructed on its original foundations six centuries after his death. Most frequently, however, the rude and unshapely Font of this era was replaced in later times by one of costly sculpture and profuse religious decoration; and thus we cannot find a very great number of examples of decidedly earlier date than the Norman æra, when Fonts were made so elaborately beautiful and so quaintly curious that they well deserved the respect and value which they ever after received as works of art and memorials of bygone devotion, as well as from their hallowed use in the service of the Church. Thus Norman Fonts are now common, while earlier specimens are but seldom found. Whether the former, many of which were certainly extremely plain, were always retained in rebuilding or improving an ancient church, we cannot tell; though we may fairly infer that such was generally the case. Probably the preservation or removal of early Fonts was a custom more or less prevalent at different times and in different places, according to the facilities for procuring stone, or other local circumstances. The Decorated age, with all its costly and numerous buildings, produced comparatively few Fonts; at least the Fonts of this style are the least common, while, perhaps, churches are most frequent.

In respect of execution, Perpendicular Fonts are unquestionably the best. It is a curious fact, that Decorated Fonts are often the worst and coarsest specimens of sculpture and detail. Norman Fonts are the most elaborate; but the designs are often as outlandish and extravagant as the carving is bad. Early English Fonts are generally well cut; but they are of such unusual occurrence that it is difficult to assert as a prevailing principle their superior accuracy, though we believe they generally excelled in this respect. Transition-Norman Fonts are frequently very handsome; and they often exhibit the toothed-moulding, as at Tickencote, Rutland, Norton, Derbyshire, Twyford, Leicestershire, and Barrow, in the same county. This ornament scarcely occurs in specimens of the pure Early English style, where it might be most expected. It is found, however, at St. Giles', Oxford.

The earliest Fonts are circular, either rude cylindrical stones, resembling a portion of a column, from which perhaps they were sometimes made, and placed without any intermediate support upon the ground; or worked in the shape of a clumsy vase or tub, as at Little Billing, Northampton, and West Putford; or mounted on a stem, as Chalk, Kent; sometimes quite plain, but more usually having a few broad and coarse annular base-mouldings. An

interesting example occurs at Scartho, Lincolnshire, where the tower is Saxon. It is shaped like a hand-basin, and is placed on an irregular heptagonal plinth. Unhappily it is filled up with bricks and rubbish, and a small wooden pillar used for Baptism.

In considering the shape of Fonts, we must bear in mind the difficulty which the ancient builders experienced in raising and conveying large blocks of stone. We may reasonably suppose that the ready ingenuity which their works always exhibit in adapting material to constructive necessity, exercised considerable influence in this respect also. A rude piece of rock, forming naturally an irregular polygon, might become too small by being reduced to a square or an octagon; and if this had been procured with some labour and delay, it was better to humour its perverse tendencies, and to let it retain its original form with little alteration, than to spoil or reject it.

The position of Fonts varies considerably. The principle however always observable is to place them near a western entrance. A very common site for Early English or Decorated Fonts is on the west side of the nearest nave pier to the left as you enter by the south porch. Sometimes, where there is no north door, the Font is placed against the north wall, as at Oakington and Long Stanton, Cambridgeshire; but this not very common. Still more rarely is the Font placed in the centre of the church, as at Castle Rising. The usual position of late Fonts is a little to the east of the belfry arch, between two nave piers. The typical signification of proximity to a doorway, entrance into the Church by Baptism, is well known. If a Font is found anywhere eastward of the centre of the nave, it is almost sure to have been moved from its original place. At Milton near Cambridge it is against the chancel arch, and appears long to have occupied that unusual position.

Public Amusements.

HER MAJESTY'S THEATRE.

HER Majesty's Theatre, the decorations at which were completed towards the latter end of the month of February, 1846, affords, perhaps, the best specimen of art applied to ornamental purposes of which England can boast. The number of artists employed exceeded twenty, and included such men as Stanfield, Telbin, Absalom, and Marshall, the whole being placed under the direction of Mr. Johnson, the architect.

To endeavour to describe every object which is so happily displayed would be vain; but a rapid survey comprising brief descriptions of the principal ornaments may not be uninteresting to our provincial readers.

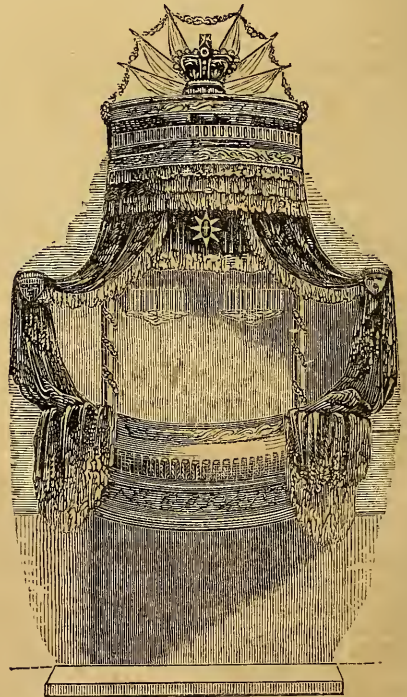
First, then, above the proscenium comes the royal arms, not in the old shop-sign style, but in that of ancient heraldic blazonry, and on each side are the most beautiful floral designs, on a dark ground, making the whole harmonise. Higher still, and receiving the full effulgence of light from a splendid chandelier, is the "Aurora" of Guido. Then, framed in a rich,

but chaste, border, comes on the ceiling the copy of the "Elements" of Albano, terminating towards the gallery arch in a broad shelving band of the most beautiful arabesques, leading the eye to imagine pictorial wonders beyond. Descending to the pit, we behold on the lowest tier the celebrated dancing figures of Pompeii, of which illuminated designs were purposely brought from Naples—the intervening figures and arabesques are due to Raffaëlle and his scholars; each detail has its authenticated original. In the second tier are the celebrated "Sports of children" of Giulio Romano, separated by medallions by Carracci and other painters of imperishable fame. On the third tier the figures of the Muses appear in their discs of gold, creating the most peculiar and fascinating effect. Then each tier gets lighter and lighter in design, arabesques filling up the framework; but these, no less than other parts of the decoration, show the inventive genius of the great Raffaëlle, who in these designs revels unfettered in exquisite caprice and marvellous phantasy. To introduce life into their works was the object of the great artists of Italy in that bygone age of glorious memory. Michael Angelo, when he had terminated his wonderful "Moses," struck the marble, in a passion, that blow of which the mark still remains, exclaiming, in a voice of thunder, "Parla!" (Speak.) Raffaëlle, who sought all his models in antique art, when he adopted the arabesques, likewise felt that want of life, attributable to the Arabs, to whose fervid imaginations they are due, being forbidden by their religion to reproduce the likeness of anything living. He at once introduced the new element—an element of real difficulty, and here we behold the result—a liveliness and variety of design beyond all imagining: the pattern, when beheld at the proper distance, appears to move and perform circular evolutions, the branches and flowers to be carried away in the train of the sportive animals depicted with such living truth. One of the circumstances which most contributes to the harmony of effect produced is, that no merely mechanical hand was employed; even the minutest details having been executed by real artists. As to ourselves, a circumstance which has given us the greatest relief is, that there is no trace in the decoration of Her Majesty's Theatre of the style *Louis Quinze*, with its pretty affectation, its pretty migniardise and gilded *rococo*, with which we have been surfeited, *ad nauseum*, and cured for ever, like pastrycook boys are by a few days' unlimited indulgence in cakes and comfits. *Louis Quinze* was taken to his grave by post-horses, at full gallop. We care not if his style follows him at railroad pace, and is buried for ever—with his Majesty at St. Denis, or the Roi Dagobert at Rheims. In the creation of the sensual and immoral epoch of the Regency and of Pompadour, there is nothing in this style of decoration that elevates the mind, and although it may be employed in the boudoir of a modern *petite maîtresse*, or in a small sociable theatre of true elegance and fashion, it is totally unfit for a noble edifice like her Majesty's Theatre. To feel the beauty of this edifice and its claims to

public approbation, it is but necessary to compare its interior with that of all the palaces which have been built or ornamented at so great an expense in England since the reign of George IV. We have no doubt works worthy of the country are about to be produced, but nothing of public access has as yet appeared, unless it be the encaustic perpetration at the Royal Exchange, which, like the aspect of the whole edifice, transports us back, not to England's glorious age of Gresham, but to that when we were the "Toto orbe divisos Britannos." The common sense, as well as the good taste of copying faultless models, and of employing so many meritorious artists, is palpable. It took the great Annibale Carracci twenty years to paint the frescoes of the Farnese Gallery, and he died of a broken heart because he considered the Cardinal Farnese's reward so inadequate a guerdon for his labour. By copying these beautiful models of the most celebrated painters that ever lived, we have the work of a century reproduced, as it were, by magic.

ROYAL ITALIAN OPERA.

We present our readers with an engraving of the Royal Box, got up hastily by Mr. Gye, on the occasion of an unexpected visit paid by Her Majesty, and which was noticed by us a



few weeks back. The arrangement of the drapery, which was, indeed, the principal feature, was chastely splendid—and the effect of the whole was superb in the extreme.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 194.]

FALSE-ROOF (in architecture), that part which is placed between the upper rooms and the external covering of an edifice.

FEATHER-EDGED (in carpentry, &c), boards thicker on one edge than on the other are said to be *feather-edged*.

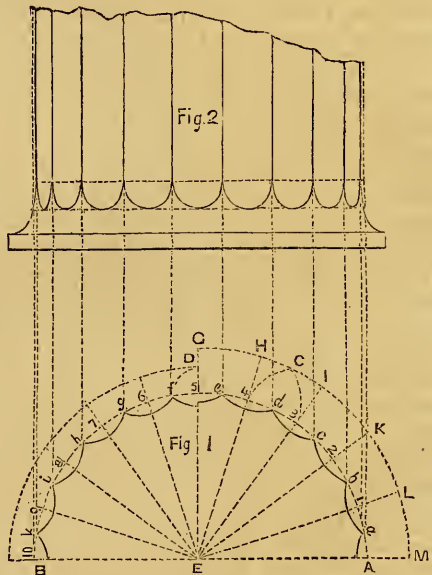
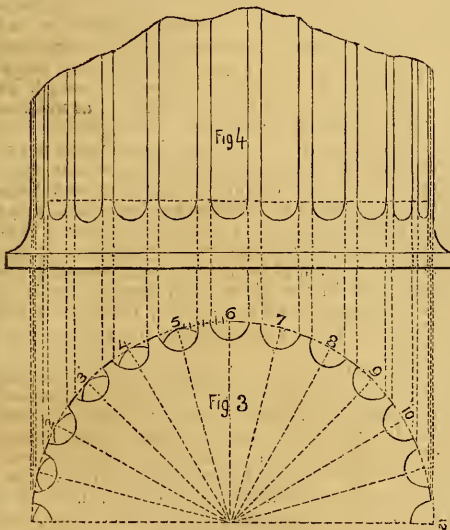
FELLIES, pieces of wood joined together in order to form the circle of a wheel.

FIGURE (in all the arts), a representation of any solid body.

FASCIA (in architecture), a vertical member of considerable height, but with a small projection, used in architraves, pedestals, &c.

FLEMISH BRICKS, bricks of a yellowish colour. Their length is $6\frac{1}{2}$ in; breadth, $2\frac{1}{2}$ in; and thickness, $1\frac{1}{2}$ in.

FLUTES (in architecture), channels or furrows cut perpendicularly in the shafts of columns. Fluting the shafts of columns is a practice never omitted in any great and finished Grecian work; it therefore seems probable, that it had some relation to the original type, perhaps the furrowed trunk might have suggested the idea. It is, however, a beautiful ornament, which is applied with equal happiness to break the otherwise heavy mass of a Doric shaft, or to obviate an inconsistent plainness in the other orders. The following illustrations represent the



methods of drawing the flutes of the Doric, Ionic, Corinthian, and Composite orders.

To draw the flutes of the Doric Column. On *A B*, Fig. 1, the diameter of the column, describe a semicircle, and divide the semicircle into ten equal parts (as the Doric column usually contains twenty flutes, which are in general made shallow, and without fillets); through every two of the divisions draw lines *E 1, E 2, E 3, E 4, to E 10*, between any two divisions (as 3 and 4) describe two arcs whose vertex is *c*: on *E* with a radius *E c*, describe the quadrant *G, H, I, K, L, M*, cutting the lines *E A, E 1, E 2, E 3, E 4, &c.*, in the points, *g, h, i, k, l, m*, which are the centres for the flutes; but if the flutes are wanted deeper, you may make the distance *5 d*, half the breadth of a flute;

and proceed as shewn on the other quadrant, and from *a, b, c, &c.*, draw perpendiculars to the bottom of the column.

Fig. 2. The Ionic, Corinthian, and Composite orders, have in general twenty-four flutes with a fillet between each (the fillet one third of a flute); in order to have that number, and preserve the just proportion of a flute to a fillet, observe the following rule: divide the semicircumference, Fig. 3, into twelve equal parts, at 1, 2, 3, 4, 5, &c., to 12, divide any division into eight equal parts, as that between 5 and 6, then take three of these parts, and on 1, 2, 3, &c. to 12, as centres; describe arcs which are nearly semicircular as in the engraving, and then draw them to the column, Fig. 4.

[To be continued.]

Perspective.

§ 1. HISTORY OF PERSPECTIVE.

THE question has often been discussed, whether the ancients really knew and observed the rules of perspective, in the practice of the arts; that they knew it, none can deny. Euclid has left a distinct treatise on it, and Vitruvius tells us that Agatharchus, the disciple of Æschylus, was the first who wrote upon this subject; and that subsequently the principles of the art were more clearly elucidated by his followers, Democritus and Anaxagoras. Of the nature of their descriptions we are in total ignorance, but what Euclid, so distinguished as a mathematician, has written on the subject, shows us evidently that they had not made great progress in it; and the remains that have come down to us of the works of the ancient painters, &c., are not calculated to make us think that they thought proper to conform the little that was known. That the Arabians were not ignorant of perspective, appears from the optical writings of Al Hazen, who flourished about 1100; his work is cited by Roger Bacon, who himself treated the subject very accurately, if we consider the age in which he wrote. M. Fiorillo, in his "Kliene Schriften," (8vo. 1803,) has traced the history of perspective amongst the ancients, and since its revival amongst the moderns. Johannes Tzetzes, in the twelfth century, speaks of perspective as though he were well acquainted with its importance in painting: and the Greek painters, who were employed by the Venetians and Florentines in the thirteenth century, seem to have brought some knowledge of its principles with them, for the disciples of Giotto are commended for observing perspective more regularly than any of their predecessors in the art had done, and they lived in the beginning of the fourteenth. Danti, in his work "Sopra la prima regola del Vignola," p. 82, says that Pedro del Borgo was the first who published the true rules of perspective, and that he left in manuscript three books on the science, which he adds, were copied in great part by Daniel Barbaro. Pedro is said to have died in 1443. In 1440, Bartolemeo Bramantino, of Milan, published his book, "Regole di Prospettiva, e misure delle Antichità di Lombardia." Balthazar Peruzzi, of Sienna, who had studied diligently the writings of Borgo, discovered the points of distance to which every line that makes an angle of forty-five degrees with the ground line is drawn. Soon after, Guido Ubaldi discovered that all the lines parallel to each other, if they be inclined to the ground line, converge to some point in the horizontal line, and that a line drawn from the eye parallel to them will also pass through this point. Ubaldi's work on perspective was printed at Pesaro in 1600, and may be said to contain the first principles of the method afterwards established by Dr. Brook Taylor.

§ 2. DEFINITIONS OF PERSPECTIVE.

PERSPECTIVE is that branch of optics which teaches how to represent objects on a plane

surface, in the manner wherein they appear under the peculiarities arising from distance or height. This is a science of the first importance to a painter; yet, at the same time, he is not to be too strictly confined to its rules, but to endeavour to render them subservient to his own purposes. Nothing, indeed, should be permitted to tie up his hands or cramp his genius; on the contrary, he should be left fully at liberty to express his idea with one stroke of his pencil; and as Fresnoy advises, "let the compasses be rather in his eyes than in his hands;" in that way let him measure distinctly every object by comparison—the principal talent which he should own. If he is well acquainted with the principles of his art, he will not stop at the dry rules of geometry, while his fancy is sketching all the chief parts of his picture; but proceed with the whole, and when the design is arranged, then correct all those portions which require it by the laws of perspective.

But while, on the one hand, we are anxious to guard the student against dwelling too much on the more mechanical parts of his interesting art, we must, on the other, strive to impress on his mind that a thorough knowledge and an undeviating attention to this important branch of it is not only eligible but indispensable. The study of it should, indeed, go hand in hand with that of anatomy, as not less fundamental and necessary.

The contour of an object drawn upon paper or canvas represents nothing more than such an intersection of the visual rays sent from the extremities of it to the eye as would arise on a glass put in the place of the paper or canvas. Now, the situation of an object at the other side of a glass being given, the delineation of it in the glass itself depends entirely on the situation of the eye on this side of the glass; in other words, on the rules of perspective.

We will illustrate this by a familiar instance. Suppose a spectator to be looking at a prospect without doors, from within through a glass window:—he will perceive not only the vast extent which even so small an aperture will admit to be seen by his eye, but also the shape, size, and situation of every object, upon the glass. If the objects are near the window, the spaces they occupy on the glass will be proportionably larger than when they are at a greater distance; if they are parallel to the window, then their shapes upon the glass will be parallel likewise; if they are oblique, then their shapes will be oblique, and so on. And he will always perceive that, as he alters the situation of his eye, the situation of the objects upon the window will be altered also: if he raises his eye ever so high, the objects will seem to keep pace with it and rise higher upon the window, and the contrary if he places it ever so low. And thus, in every situation of the eye, the objects upon the window will appear to rise higher or lower; and, consequently, the depth of the whole prospect will be proportionably greater or less as the eye is elevated or depressed, and the horizon will in every situation of the eye be upon a level with it: that is, the horizontal

line, or that imaginary line which parts the earth and sky, will seem to be raised as far above the ground upon which the spectator stands, as his eye is removed from the same place. Now, suppose the person at the window looks through an upright pane of glass at any object beyond it, and keeping his head steady, draws the figure of the object upon the glass with a black lead pencil, as if the point of the pencil touched the object itself; he would then have a true representation of the object in perspective as it appears to his eye.

In order to this, two things are necessary:—first, that the glass be laid over with strong gum-water, which when dry will be fit for drawing upon, and will retain the traces of the pencil; and secondly, that the spectator looks through a small hole in a thin plate of metal, fixed about a foot from the glass, between it and his eye, and that he keeps his eye close to the hole; otherwise he might perhaps shift the position of his head, and consequently make a false delineation of the object.

Having traced out the figure of the object he may go over it again with pen and ink; and when that is dry, put a sheet of paper upon it, and trace it thereon with a pencil: then taking away the paper and laying it on a table, he may finish the picture by giving it the colours, lights, and shades, as he sees them in the object itself, of which he will then have a true resemblance.

[To be continued.]

Groined Arches.

GROINS are formed by the intersections of the surfaces of two or more vaults, or continued arches, crossing each other.

Groined arches may be either constructed of brick or stone, and they are sometimes formed of wood, and lathed over for plaster.

When they are constructed of brick or stone, the arch stones or bricks require to be supported upon wooden frames, boarded over, so as to form a convex surface, to fit that surface the groined vault is required to have, in order to sustain the whole during the time of building. This construction is called a centre, and it is removed when the work is finished. The framing of the centre consists of equidistant ribs, fixed in parallel planes, perpendicular to the axis of each vault; so that, when the under sides of the boards are laid on the upper edges of the ribs, and fixed, the upper sides of the boards will form the surface required to build upon.

In the construction of the centering for groins, one portion of the centre must be completely formed to the surface of the principal vault without any regard to the cross-arches, so that the upper sides of the boards may form a complete cylindrical or other surface. The ribs of the cross-vaults are then set at the same equal distances as that now described; and parts of ribs are fixed on the top of the boarding of the principal vault at the same distances,

and boarded in, so as to intersect it, and form the entire surface of the groin required.

Groins constructed of wood, in place of brick or stone, and lathed under the ribs, and the lath covered with plaster, are called plaster-groins.

Plaster-groins are always constructed with diagonal ribs intersecting each other; then other ribs are fixed perpendicular to each axis, in vertical planes, at equal distances, with short portions of ribs upon the diagonal ribs; so that, when lathed over, the laths may be equally stiff to sustain the plaster.

When the axis and the surface of a semi-cylinder cuts those of another of greater diameter, the hollow surface of the smaller cylinder, as terminated by the greater cylinder, is called a Welsh groin.

Welsh groins are constructed either of brick, stone, or wood. If constructed of brick or stone, they require to have centres, which are formed in the same manner as those for other groins; and if constructed of wood, lath, and plaster, the ribs must be formed to the surfaces.

In the construction of groins and vaults, the ribs that are shorter than the whole width are termed jack-ribs.

Cellars are frequently groined with brick or stone, and sometimes all the rooms of the basement-storey of a building, in order to render the superstructure proof against fire. The surface of brick or stone, on which the lowest course of arch-stones or of bricks, is placed, is called the springing of the arch or vault. It is evident that the more weight there is put on the side-walls which sustain arches, the more they will be able to sustain the pressure of the arches; therefore the higher a wall is, the greater the weight should be on each of the side-walls: and for this reason, in upper storeys, where the walls are high, and not much weight over them, groins are often constructed of wood, instead of brick or stone, as not being liable to thrust out the walls, or bulge them by the lateral pressure of the arches. The upper storeys of buildings are therefore never groined with stone or brick unless when the walls are sufficiently thick to sustain the lateral pressure of the arches. The ceilings of old Gothic cathedrals were generally constructed with groined arches of stone, which were obliged to be supported by strong buttresses, at the springing points in the arches; and, in a few instances, the same method has been adopted recently.

TO TAKE STAINS OUT OF STATUARY MARBLE.—A correspondent of the *Builder* recommends the use of American potash, employed by making a thin paste of it and laying it on with a brush. He is not certain, however, that this will serve for oil stains.

The British Museum closed on Thursday, the 31st ult., for the purpose of cleansing, &c., and will be re-opened to the public on Friday the 8th inst. From that period to the 30th of April next, the Museum will close at four p.m., instead of seven.

Ancient American Mine.

A correspondent of the *Buffalo Express*, writing under the date of June the 14th, from Ontonagon, Lake Superior, says:—"Mr. Knapp, of the Vulcan Mining Company, has lately made some very singular discoveries here in working one of the veins, which he lately found. He worked into an old cave which has been excavated centuries ago. This led them to look for other works of the same sort, and they have found a number of sinks in the earth which they have traced a long distance. By digging into these sinks, they find them to have been made by the hand of man. It appears that the ancient miners went on a different principle from what they do at the present time. The greatest depth yet found in these holes is thirty feet—after getting down to a certain depth, they drifted along the vein, making an open cut. These cuts have been filled nearly to a level by the accumulation of soil, and we find trees of the largest growth standing in this gutter; and also find that trees of a very large growth have grown up and died, and decayed many years since; in the same places there are now standing trees of over three hundred years growth. Last week they dug down into a new place, and about twelve feet below the surface found a mass of copper that will weigh from eight to ten tons. This mass was buried in ashes, and it appears they could not handle it, and had no means of cutting it, and probably built fire to melt or separate the rock from it, which might be done by heating, and then dashing on cold water. This piece of copper is as pure and clean as a new cent, the upper surface has been pounded clear and smooth. It appears that this mass of copper was taken from the bottom of a shaft, at the depth of thirty feet. In sinking this shaft from where the mass now lies, they followed the course of the vein, which pitches considerably; this enabled them to raise it as far as the hole came up with a slant. At the bottom of the shaft they found skids of black oak, from eight to twelve inches in diameter—these sticks were charred through, as if burnt; they found large wedges in the same situation. In this shaft they found a miner's gad and a narrow chisel made of copper. I do not know whether these copper tools were tempered or not, but their make displays good workmanship. They have taken out more than a ton of cobblestones, which have been used as mallets. These stones were nearly round, with a score cut across the centre, and look as if this score was cut for the purpose of putting a withe round for a handle. The Chippewa Indians all say that this work was never done by Indians. This discovery will lead to a new method of finding veins in this country, and may be of great benefit to some. I suppose they will keep finding new wonders for some time yet, as it is but a short time since they first found the old mine. There is copper here in abundance, and I think people will begin to dig it in a few years. Mr. Knapp has found considerable silver during the past winter."

The Atmospheric Railway.

In a paper "On a Low Pressure Atmospheric Railway," read before the British Association by Mr. W. P. Struve, after having described the purpose of railway transit, from that of Vallance in 1824 to the present extensive experiment on the South Devon Railway, the writer pointed out the great difficulty which existed of communicating the interior motion of the piston in the tube to the train outside: that in order to do this, it became necessary to have a slit or opening along its whole length which is closed by an elastic valve, rendered tight and impervious to air by a composition of fatty matter placed in the groove in which the valve falls. The difficulties, however, which had to be contended with on account of the leakage along the valve and piston were very great. He went on to state:—"The plan by which I propose to obviate these difficulties is, to make a covered viaduct of the railway for the purpose of passing the train through. The sides to be constructed of masonry, and the top of timber or any other materials that may be found equally convenient. The piston to be a shield fixed on wheels made to fit the covered way; but allowing a sufficient space round its outer edge, so that it may pass along without touching the interior surface of the passage. As the rarefaction required to urge the train through would be very little, not much importance need be attached to the leakage: a covered way of 9 feet square, equivalent to 81 superficial feet at a pressure of six tenths of a pound to the inch, would amount to 3 toas, or four times the pressure which was obtained on the Croydon Railway. The train of carriages would thus pass through a covered way; which may be lighted through glass. As valves in the shield may at any time be opened, so as to diminish or remove the pressure, the train may be slackened or stopped at any point. The advantages of this plan appear to be increased speed, safety and economy; also the resistance of the air in front of the train will be diminished, and no stoppages can be occasioned by a snow drift or frost. The system also possesses all the advantages claimed by the promoters of the other mode of atmospheric traction. I propose to exhaust the tube by means of two large chambers constructed like gasometers moving up and down in water by means of a steam-engine, which need not be stopped as the regulation of the speed and the stoppage of the trains would be effected by opening the valves in the shield, or the doorways at the stations. Each station would be provided with a loop line so as not to destroy the continuity of the covered way, and the trains would then run into open sheds at each station for the purpose of receiving and taking out the passengers. The cost of the covered way and apparatus for exhausting will, in ordinary cases, not exceed £7,000 per mile; which is not more than the usual cost of locomotive engines, and the extra weight of rails required for their support, nor more than the cost of the present atmospheric railway. A working model 20 feet long was exhibited, and the subject generally excited much interest."

Artificers' Work.

No. V.

MASONS' WORK.

To masonry belong all sorts of stone-work ; and the measure made use of is a foot, either superficial or solid. Walls, columns, blocks of stone or marble, &c., are measured by the cubic foot ; and pavements, slabs, chimney-pieces, &c., by the superficial or square foot. Cubic or solid measure is used for the materials, and square measure for the workmanship. In the solid measure, the true length, breadth, and thickness are taken, and multiplied continually together. In the superficial, there must be taken the length and breadth of every part of the projection, which is seen without the general upright face of the building.

Ex.—In a chimney-piece, suppose the Length of the mantle and slab, each 4 ft. 6 in.
 Breadth of both together 3 2
 Length of each jamb 4 4
 Breadth of both together 1 9

Required the superficial content. Ans, 21 feet 10 inch.

REMOVAL OF SMOKE, &c., FROM TOWNS.—I beg to submit, for the approval of the public, a proposition to remove all smoke, noxious gases, and effluvia, from any city, town, or village. This I conceive can be effected by underground tunnels, of sufficient capacity to pass off all the smoke, &c., from manufactories, warehouses, and dwellings. For a large, densely populated district such as Manchester, in which there are many manufactories, producing much smoke, about eight main tunnels should be constructed, of materials sufficiently air and water tight to prevent the escape of the gases or the eruption of water. Into these larger tunnels smaller ones should be introduced ; and into these, still smaller ones, from each individual establishment. The main tunnels, it is proposed, shall terminate at a distance from the centre of the town, in any convenient locality where the operation of absorbing their contents can be best carried on. This absorption can be effected by the application of simple machinery, set in operation by a small outlay of power, combined with an adequate supply of water at the extremity of the tunnel. The effect of this will be to remove from every fire-place connected with the tunnel, all smoke and gas ; and this will be so regulated by dampers (to be used at the will of the owners) as to create more or less draught, to suit individual conveniences. The expense of this plan would probably not be more than half the amount now charged to occupiers of dwelling houses, &c., for water ; and the cost would be no more for owners of property than fourpence or five-pence in the pound per annum on their rental, and one penny in the pound to occupiers. Owners would be greatly benefited by this work, as I consider property is injured to double that amount yearly ; and occupiers' expenses for chimney sweeping must be one penny in the pound at present, which would be

no longer necessary, and those charges would pay ten per cent on the outlay and yearly expenses.—*Thos. Weatherby, in the "Manchester Guardian."*

INJURIOUS EFFECTS OF BLACK PAINT.—

The following is abridged from a paper on this subject by Mr L. Thompson, published in the Transactions of the Society of Arts. "There is nothing," he observes, "which will prove the injurious effects of black paint, more than by observing the black streaks of a ship after having been in a tropical climate for any length of time. It will be found that the wood round the fastenings is in a state of decay, while the white work is as sound as ever : the planks that are painted black will be found split in all directions, while the frequent necessity of caulking a ship in that situation, likewise adds to the common destruction ; and I am fully persuaded, that a piece of wood painted white will be preserved from perishing as long again, if exposed to the weather, as a similar piece painted black, especially in a tropical climate. I have heard many men of considerable experience say, that black is good for nothing on wood, as it possesses no body to exclude the weather. This is, indeed, partly the case ; but a far greater evil than this attends the use of black paint, which ought entirely to exclude its use on any work out of doors, namely, its property of absorbing heat. * * * * * Wood having a black surface, will imbibe considerably more heat in the same temperature of climate, than if that surface was white : from which circumstance we may easily conclude, that the pores of wood of any nature will have a tendency to expand, and rend in all directions, when exposed under such circumstances. The water, of course, being admitted, causes a gradual and progressive decay, which must be imperceptibly increasing from every change of weather. Two circumstances, which have fallen under my own immediate notice, deserve mention. The first was the state of H.M. Sloop Ringdove, condemned by survey at Halifax, Nova Scotia, in the year 1828. This brig has been on the West India station for many years. On her being found defective, and a survey called, the report was to the effect that the wood round all the fastenings was totally decayed in the wake of the black, while that in the wake of the white was as sound as ever. The next instance relates to H.M. Ship Excellent, of ninety-eight guns (formerly the Boyne). The ship is moored east and west, by bow and stern moorings ; consequently, the starboard side is always exposed to the effects of the sun, both in summer and winter. In this situation her sides were painted in the usual manner of a ship of war ; namely, black and white, of which by far the greater part is black ; this latter portion on the starboard side I found it impossible to keep tight ; for as often as one leak was apparently stopped, another broke out, and thus baffled the skill of all interested. In the meantime, the side not exposed to the rays of the sun remained perfectly sound. I then suggested to Mr. Kennaway (the master caulker of her Majesty's dockyard at Portsmouth), who had previously given the subject consideration,

the advantage likely to be derived from altering the colour of the ship's side from black to white. Captain Hastings having approved of the alteration, the ship was painted a light drab colour where it was black before, upon which the leaks ceased, and she has now continued perfectly tight for more than twelve months; and, indeed, I can confidently state, that the ship will last as long again in her present situation, as she had begun to shrink and split to an astonishing extent when the outside surface was black, which has entirely ceased since the colour has been altered."

The Chronotypist.

THE School of Design at Somerset House closed for the autumn vacation on the 15th of August, —and will re-open on the 2nd of October. The Class of Form will be conducted as heretofore by Mr. Townsend as its Head Master, with the aid of four Masters—two of whom are new appointments, which the extent of the class has rendered necessary. The superintendence of the Class of Colour has been relinquished by Mr. Horsley, and Mr. Redgrave has been appointed in his place, with the assistance of one Master. The Class of Ornamental Design, superintended during the last session by Mr. Dyce, who has also lately retired from the School, will be conducted, with the aid of one Master, by Mr. Herbert. At the close of the present vacation, rewards to the amount of about £150, will be distributed to the students for their best productions during the last year:—and one of a complete course of lectures on the History and Principles of Ornamental Art, commencing with Egypt, will be delivered by Mr. Wornum every fortnight throughout the forthcoming session.—A gutta percha tube, for the purpose of supplying water, has been fastened from the base to the gallery of the London Monument:—its length is 190 ft; its diameter, 3in; and its thickness, $\frac{1}{4}$ in.—The whole of the representatives in the National Assembly (numbering 900) are about to have their portraits taken by the Daguerreotype process.—Mr. Waller has recently proved that dates on monumental brasses form no authority for costume.—The Foreign Office of England, it is stated, consists of five separate private dwelling houses in such a ruinous state that the documents of the department had lately to be removed a floor lower because their weight hazarded the stability of the building.—In the case of the Weston-Super-Mare Railway Company *versus* Dredge, it appears that the defendant, the contractor, had agreed to construct a bridge to connect Birnbeck with Weston, for the sum of £10,000 by the 1st of May, 1848. Prior to that time, however, a storm arose, and swept away the uncompleted fabric. Several witnesses were examined, who declared that the work performed was bad, and the jury returned a verdict for the plaintiffs. Damage £1,400.—A subscription has been started at Chelmsford to erect a monument to

the memory of the late Chief Justice Tindal.—The public will not be admitted to view the New House of Lords during the recess, as the presence of visitors would impede the progress of the works.—An additional room for exhibition, at Hampton Court Palace, has lately been opened to the public. It is situated at the end, and is a continuation of the great hall, formerly used as a chapel. The walls are hung with tapestry of a similar character to that which is so greatly admired in the large hall, although, perhaps, not quite of so brilliant a character and appearance; there are also several chairs and seats of needlework, of exquisite workmanship, and painted glass windows of considerable variety and beauty.

PHILIP IV. OF SPAIN; CHARLES I. OF ENGLAND; LOUIS XIV. OF FRANCE.—Philip IV. is one of those potentates who was more fortunate in his painters than his biographers, and whose face is, therefore, better known than his history. His pale Flemish complexion, fair hair, heavy lip, and sleepy grey eyes, his long curled moustachios, dark dress, and collar of the Golden Fleece, have been made familiar to all the world by the pencils of Rubens and Velasquez. Charles I., with his melancholy brow, pointed beard, and jewelled star, as painted by Vandyck; is not better known to the frequenters of galleries; nor the pompous benign countenance of Louis XIV., shining forth from a wilderness of wig amongst the silken braveries which delighted Mignard or Rignaud, or on his prancing pied charger, like a holiday soldier as he was, in the foreground of some pageant battle by Vandermeulen. Fond as were these sovereigns of perpetuating themselves on canvass, they have not been so frequently or so variously portrayed as their Spanish contemporary. Armed and mounted on his sprightly Andalusian, glittering in crimson and gold gala, clad in black velvet for the council, or in russet and buff for the boar-hunt, under all these different aspects did Philip submit himself to the quick eye and cunning hand of Velasquez. And not content with multiplications of his own likeness in these ordinary attitudes and employments, he caused the same great artist to paint him at prayers,

"To take him in the purging of his soul,"

as he knelt amongst the embroidered cushions of his oratory. In all these various portraits, we find the same cold phlegmatic expressions which gives his face the appearance of a mask; and agrees so well with the pen and ink sketches of contemporary writers, who celebrate his talents for dead silence and marble immobility.—*Stirling's Annals of the Artists of Spain.*

STOWE.—ANOTHER PALACE.—The rumour that Stowe will be bought for the Crown gains strength. The inspector of palaces has made a minute examination of the mansion.

The India papers notice the discovery in the Deccan of a bed of lithographic limestone fifteen or twenty miles broad, and of great length, which is considered likely to furnish a valuable means of facilitating the instruction of the natives.



AN ORIGINAL DESIGN FOR A FRAME OR PANEL (ELIZABETHAN STYLE).

Artistic Ambition.



OUTH

indulges in anticipations—old age in reminiscences; the one looks forward, and the other backward: the young long for the future—the old regret the rapid flight of the past. This is established by an ordonnance of Nature, and is correct in its application to the human mind, which never esteems gratification so highly as when it is far distant or has departed for ever.

Young artists are, generally, always anxious to pursue the path of glory; but, like the traveller who journeys along a pleasant vale bespangled with flowers, looking so lively and so fresh beneath the rays of the noonday sun, and who only succeeds in arriving at his destination when the black clouds of night have confounded the hue of the myrtle and the rose, feel disappointment when they find that the road was pleasanter than the edifice it led to—that the toil was sweeter than the reward.

Indulged to a moderate extent, ambition proves itself the best assistant to the man who has an active duty to perform. Livelier and more energetic than hope, it never allows a single doubt to interfere with the fancied cer-

tainty of its prospects, and beholds nought but success;—but it has, also, its attendant evils.

Coursing the veins and inundating the soul with the exuberance of its happy agony, ambition, if unrestricted, rapidly leads to madness;—it soars too high and leaves reason in the distance.

It is related that men are sometimes afflicted by a peculiar sensation, which produces involuntary motions in the limbs,—and which is denominated the “St. Vitus’s Dance;” of a somewhat similar nature to this is ambition. It is a spell which lodges in our minds without passing the ordeal of our judgment—as a person attracted by the singular beauty of a serpent, may place the viper in his breast, unconscious of evil existing beneath a fascinating garb.

It is not our intention, by these remarks, to dissuade the young artist from cultivating the utmost possible zeal for his profession—zeal is a passport of industry, but ambition, too often, finding itself unqualified for the task it imposes upon itself, instead of seeking other and more congenial employment, degenerates to laziness; and thus it is that we so often hear a personage, attired in a thread-bare coat, denominated an ambitious man.

 Government School of Design.

WE find the following announcement in the *Athenæum* :—

The Committee of Management of the Government School of Design have made the following arrangement of the staff of instructors for re-opening the School on the 2nd of October. *Class of Ornamental Design*—Head master, Mr. Herbert; master, Mr. Burchett. *Class of Colour*, including flower Painting—Head master, Mr. Redgrave; master, Mr. Denby. *Class of Form*, including modelling—Head master, Mr. Townsend; masters—Geometrical and Architectural Drawing, Perspective, Shading, &c., Mr. Richardson and Mr. Burchett; Freehand Outline Drawing, Mr. Herman and Mr. W. Deverell. The Committee have engaged a suite of spacious apartments opposite Somerset House for the female school, and the rooms which it has hitherto occupied

in Somerset House are appropriated to the Elementary Class of the male school:—an arrangement that secures the advantage of carrying on separately the instruction of this numerous class, and provides in the upper rooms more adequate space for the advanced students.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"A. B." (Shrewsbury).—*We cannot undertake to pay for any contributions—besides, we are ourselves acquainted with the secret.*

"J. L." (Bradford).—*We are getting on with the reprints as fast as possible. "Plaster pap" is plaster considerably diluted with moisture.*

"Busby" (Cheltenham).—*Our correspondent must be aware that several of the ancient alphabets possess no corresponding small letters. His second suggestion shall be attended to.*

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

Part 16 is now ready, price 7d.

NOVEL APPLICATION OF GLASS.—We hear that a glass manufacturing firm at Birmingham are now engaged in the manufacture of a pair of glass doors, the framework of which is, of course, wood. On either side are two pilasters composed of crystal glass, fluted with gold. The lower panels are of silvered glass, each ornamented by a centre star, richly cut. The upper panel is of the large dimensions of four feet by two and a half, and is of plate glass, with an etched border. The upper portion of the doorway is inlaid with richly cut glass, and the entablature is composed of crystal and plain glass. The whole is surmounted by a large shell, and on either hand are vases with flowers, &c. The dimensions of the work are seven feet by ten.

Arts of Ancient Egypt.

GLASS AND PORCELAIN.

The art of fabricating glass is of high antiquity; and it was probably known in Egypt as early as in any other country, and perhaps earlier. Beads of glass, generally coloured blue, probably with copper, are found on many mummies, and we have sometimes seen larger and more irregular pieces that have been taken out of mummy-boxes. Other ornaments of a coarse kind are also found made of glass. It has been conjectured, and, as we think, with great probability, that the ornaments placed in the ears of the crocodiles, which Herodotus calls "stone pendants, made by fusion or melting," were of glass. It may be well to remark that the strict examination of M. G. St. Hilaire confirms Herodotus even in so minute a matter as the piercing of the crocodile's ears. He found the anterior part of the covering of the ear on a mummy crocodile pierced as if for the purpose of putting a pendant in it.

A kind of ancient porcelain is found in great quantities in Egypt. Sometimes it is covered with a species of enamel or varnish. It was used for making a variety of small figures, such as we may see represented in Denon's ninety-sixth plate, most of which are probably representations of some form of deity. There is one, which is a rare specimen, being a figure of the ichneumon or mangouste, in what Denon calls touchstone. It was the only representation that he met with in Egypt of this sacred animal. He purchased it in the island of Elephantine, where he found a woman wearing it suspended from her neck. We find the beetle also made of porcelain of all colours, of touchstone, cornelian, jasper, pot-stone, verde antico, and even baked clay. Bonaparte had a jasper scarabæus in his collection, with hieroglyphics on the under side: Denon says that this scarabæus had evidently been worked with the wheel. It is somewhat singular that the under sides of the scarabæi almost always differ one from another in the ornaments upon them.

The art of baking clay and fixing the varnish strongly upon it, must be considered as an ancient Egyptian art; vessels of this description, with their colours in high perfection, were found in the great tomb that Belzoni opened at Thebes.

A curious black substance has been found in some mummies of the more costly kind, which has often been incorrectly taken for a kind of stone: it is shaped something like a finger, only it is flat, but still rounded at the ends and sides; the length is from three to six inches, and the breadth half an inch or more. Sometimes two are united, and present an appearance like the index and second finger of the hand stretched out close to one another. Professor John observes that this substance is either obsidian or glass, and that it appears to be glass from its having a less degree of hardness than obsidian, and being more fusible. He considers it to be true glass coloured with

iron. On the exterior it is of a dull appearance, and in parts is gilded.

As we find so many of the arts represented on the ancient paintings of Egypt, we might expect to find glass-making among them. Rosellini's plates (M.C. lii), certainly appear to represent men blowing glass, but we would not positively assert this explanation to be correct. Still the antiquity of glass-making in Egypt is proved decisively by the evidence already adduced, and it wants no confirmation.

Pliny informs us (xxxvi. 26) that some sailors having landed on the shore of Phœnicia, at the mouth of the Belus, and wishing to cook their provisions, placed some masses of salt (of which their cargo consisted) under their pots to support them, there being no stones on the coast. The heat formed the salt and the sand of the shore into a transparent liquid mass and thus gave origin to the substance called glass (vitrum). But though this fact may be considered a truth, so far as to indicate the general received opinion of the high antiquity of the Phœnician glass-houses, it is unsupported by the kind of evidence which determines the high antiquity of the art in Egypt—the specimens which have come down to our own day.

It seems not unlikely that Egypt was the parent country of the art, whence it was diffused among the Phœnicians, Greeks, and Romans. During the latter part of the Roman republic, and under the early emperors, the wealthy Romans made great use of glass in a variety of forms as an article of luxury. A great part of it was imported from Egypt and Phœnicia, and the art itself was also transplanted into Italy. From Italy it is probable that the Romans carried it into Spain and Gaul, for the art of glass-making was known in these countries in Pliny's time; and thus the remote parts of Europe received from the banks of the Nile the principles of a branch of industry which, revived and perfected in modern times, has contributed perhaps as much as any other to the comfort of life and the progress of science. M. Boudet has collected a great number of passages, principally from the Latin writers, which show that glass was very extensively used by the Romans, and that the art of the Egyptians and Phœnicians had succeeded in giving it a variety of forms that ministered to convenience or luxury. Drinking-glasses, burning-glasses, mirrors, and artificial gems, were all made of glass, long before the time of Pliny. Glass was also let into the roof of the bathing chambers at Rome, in order to light the rooms—a use which is still made of it at the present day in Egypt. Coloured glass was also used to ornament the walls and pavements of the houses of the rich. The art of glass-making still exists in Egypt, but its products are limited to clumsy bottles, pieces of glass slightly rounded for setting in the ceiling of baths, a kind of jug or decanter which serves for a lamp, and other similar coarse articles.

An enormous quantity of broken pottery is found about the sites of old Egyptian towns. It would argue no great skill in the ancient in-

habitants of this country merely to show that they could bake vessels of clay—an art not unknown even to some tribes of the North American Indians, who yet appear to have no great taste for manufacturing. But it is the form of such objects of domestic use that deserves our particular attention, as we hold it to be impossible that a nation can be low in the scale of social refinement, where the forms of their furniture and utensils are such as have obviously been designed with the view of giving pleasure to the eye. In the tombs, particularly, and also on the sculptured monuments, we find ample proof that the Egyptians knew how to give a beautiful form to a common water pitcher, as well as to more elaborate articles of luxury.

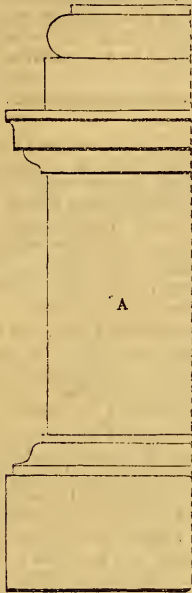
THE FIRST STEAMBOAT.—The first steamboat that made regular voyages in Europe, was the *Comet*, a small vessel containing an engine of only three-horse power, the property of Henry Bell, of Helensburgh. It was set afloat on the Clyde in 1812, four years after Fulton had launched a similar vessel on the Hudson in North America, and 24 years subsequent to the experiments of Taylor and Miller on Dalswinton Lake. We append the original advertisement:—"Steam passage-boat, the *Comet*, between Glasgow, Greenock, and Helensburgh, for passengers only.—The subscriber having, at much expense, fitted up a handsome vessel to ply upon the river Clyde, between Glasgow and Greenock,—to sail by the power of wind, air, and steam—he intends that the vessel shall leave the Broomielaw on Tuesdays, Thursdays, and Saturdays, about mid-day, or at such hour thereafter as may answer the state of the tide; and to leave Greenock on Mondays, Wednesdays, and Fridays, in the morning, to suit the tide.—The elegance, comfort, and speed of this vessel, require only to be proved, to meet the approbation of the public, and the proprietor is determined to do everything in his power to merit public encouragement.—The terms are, for the present, fixed at 4s. for the best cabin, and 3s. the second—but beyond these rates, nothing is to be allowed to servants or any other person employed about the vessel.—The subscriber continues his establishment at Helensburgh Baths, the same as for years past, and a vessel will be in readiness to convey passengers in the *Comet* from Greenock to Helensburgh.—Passengers by the *Comet* will receive information of the hours of sailing, by applying at Mr. Houston's Office, Broomielaw; or Mr. Thomas Blackney's, East Quay Head, Greenock. HENRY BELL.—Helensburgh Baths, 5th August, 1812."

THE BRUSSELS EXPOSITION OF THE FINE ARTS FOR 1848.—A correspondent of the *Athenæum*, who states himself to be "the first English writer who called attention to the modern school of art in Belgium," states that the exhibition this year is somewhat above the average order of merit, although not exactly perfect; but he also expresses sanguine hopes for the future.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 195.]

FASCIA, we gave a description of this member last week, but without any illustration; this we here supply. The fascia consists in that



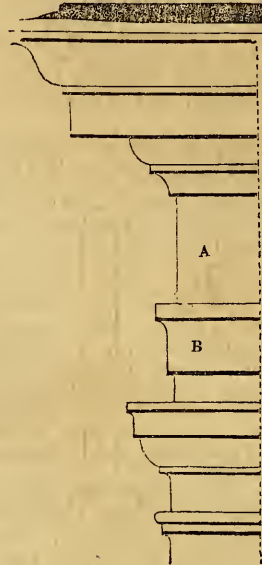
portion marked A in the accompanying engraving, and B in the engraving with which we this week illustrate the word *Frieze*.

FRET, anciently called *Guillochi*, consists of circles or curves twisting over each other, also straight lines placed at right angles to each other.

FRONTSPIECE (in architecture and engraving), that part of a building which directly meets the eye. An engraving prefixed to a book, generally illustrative of the author or of the whole work.

FRIEZE, FRIZE, or FRISE (in architecture), The middle compartment of an entablature, marked A in the engraving. It was called *Zoophōsos* by the Greeks, and by Vitruvius after them, from being often sculptured with figures of animals and plants. The frieze is the best situation in an entablature for sculptures and inscriptions; and many of the finest of the ancient temples have had their friezes superbly decorated. The splendid metopes of the Elgin marbles were ornaments of the frieze of the Parthenon, and the Phigaleian marbles of the temple of Apollo Epicureios at Phigaleia. The frieze of the temple of Jupiter

Olympius at Elis bore sculptural representations of the chariot race of Pelops and Oenomaüs. Bucklers of gold, which were part of the spoil after the battle of Marathon, were suspended, according to Pausanias, in the frieze of



the temple of Apollo at Delphos, which gave rise to sculptural imitations of them in many metopes of the Doric frieze. Also the upper panel of a six pannelled door. Also the top rail but one of a six pannelled door.

FRUSTUM COLUMN, a column having no base.

FRUSTUM (in architecture and archaiology), a piece cut off from a regular figure, as the shaft of a column is a frustum of a cone. It is also used for a broken statue, a fragment of a gem, or an antique coin or medal.

[To be continued.]

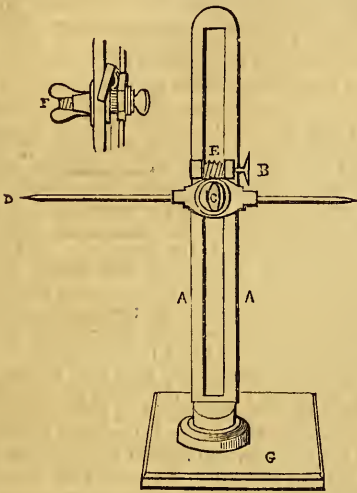
CHEAP RAILWAY TRAVELLING.—There is only one true way of encouraging cheap travelling, and that is by keeping down the original cost, and the annual expenses of railways. All the other contrivances which the public are inclined to trust, such as legislative restriction on profits, and so on, are mere quackery. Even competition is inapplicable to railways, and is not to be relied on. Mr. R. Stephenson, the engineer, put the whole case into one sentence when he said, to have combination is practicable, competition is impossible. The experience of all railway competition shows that this is true; when, therefore, under the plea of competition, unnecessary outlay is being incurred, the public may rest assured that they will ultimately suffer for it in the charges they will have to pay.—From a Paper read by Mr. W. Harding, before the Statistical Section of the British Association.

Correspondence.

Improved Scribing Gauge.

TO THE EDITOR.

SIR,—I beg to forward you a drawing of an improved scribing gauge, and hope that you will deem it worthy a place in your valuable publication. A A are two perpendicular shafts, terminating with a base, and fixed to the plate G. B is the head of the thumb-screw; E, the end less screw used for adjusting the point D—which



point can also be made to rise or fall as necessity requires. C is another thumb-screw used for the purpose of fixing the body of the points on to a square head. This portion can be taken off at pleasure for cleaning, &c. The small diagram exhibits the side view. It is a thumb-screw for fixing the apparatus, and holding the points to the shaft. The whole can be moved either up or down, according to the altitude required. When used in scribing, it is necessary to place, if possible, both the object and the gauge on a flat surface, and to move the gauge round the point D—marking the depth or thickness required.

I am, Sir,

Yours, respectfully,

C. B. W.

Pimlico, September 9th, 1848.

A general meeting of the Builders' Benevolent Institution was held on the 5th instant, when the affairs of the society were represented to be in a most promising condition.—A reduction of wages and a lessening of the number of labourers has taken place at Woolwich Dockyard and Government Factory.—Holyrood Church is to be restored.—The Great Western Docks at Plymouth are in rapid progress.

Perspective.

[Continued from page 197.]

To every person who possesses a general knowledge of the principles of optics, this must be self-evident: for, as vision is occasioned by pencils of rays coming in straight lines to the eye from every point of the visible object, it is plain that, by joining the points in the transparent plane through which all those pencils respectively pass, an exact representation must be formed of the object as it appears to the eye in that particular position and at that determined distance: and were pictures of things to be always first drawn on transparent planes, this simple operation, with the principle on which it is founded, would comprise the whole theory and practice of perspective. As this, however, is far from being the case, rules must be deduced from the sciences of optics and geometry for drawing representations of visible objects on opaque planes; and the application of these rules constitutes what is properly called the art of perspective.

The following definition of the principal features in this art will, we hope, prove useful to the student. Projection delineates objects *in plano* by means of right lines called rays; supposed to be drawn from every angle of the subject, to particular points. When the objects are angular, these rays necessarily form pyramids, having the plane or superficies whence they proceed for their basis; but when drawn from or to circular objects they form a cone.

Ichnography, or ichnographic projection, is described by right lines parallel among themselves and perpendicular to the horizon from every angle of every object, on a plane parallel to the horizon: the points where the perpendicular lines or rays cut that plane being joined by right lines. The figure projected on the horizontal plane is likewise called the plan or seat of that object on the ground plane. The points are the sites, or seats, of the angles of the object. The lines are the seats of the sides. By this we are to understand how the basis of figures represented as superstructures stand or are supported; and we are further enabled to judge of, indeed, to measure, their several parts and their areas.

Orthography represents the vertical position and appearance of an object; and hence orthographic projection is called the elevation. When we see the front of a house represented, we give it that term—when the side, we denominate it the profile. If we suppose a house, or other object, to be divided by a plane passing perpendicularly through it in a line at right angles with the point, we call it the lateral section; but if the plane pass in a direction parallel with the front, it is termed a longitudinal section. If the plane passes in neither of the former directions (not, however, deviating from the vertical), it is said to be an oblique section.

These afford us the means of laying down plans, of showing the parts, and the manner in which the interiors of edifices are arranged,

consequently are indispensable to the architect or surveyor, and indeed should be understood by every individual connected any way with designing or building. Nor should the following be neglected;—namely, Scenography, which shows us how to direct the visual rays to every point or part of a picture; and Stereography, which enables us to represent solids on a plane, from geometrical projection; whence their several dimensions, viz., length, breadth, and thickness, may all be represented and correctly understood at sight. We conclude our readers to have acquired some knowledge of geometry before they commence on this or any other of the abstract sciences founded thereon.

An original object is that which becomes the subject of the picture, and is the parent of the design. Original planes or lines are the surfaces of the objects to be drawn; or they are any lines of those surfaces; or, they are the surfaces on which those objects stand. Perspective plane is the picture itself, which is supposed to be a transparent plane, through which we view the objects represented thereon. Vanishing planes are those points which are marked upon the picture by supposing lines to be drawn from the spectator's eye parallel to any original lines, and produced until they touch the picture. Ground plane is the surface of the earth or plane of the horizon, on which the picture is imagined to stand. The ground line is that formed by the intersection of the picture in the ground plane. The horizontal line is the vanishing point of the horizontal plane, and is produced in the same manner as any other vanishing line, *i.e.*, by passing a plane through the eye parallel to the horizontal plane. The point of sight is the fixed point from which the spectator views the perspective plane. Vanishing points are the points marked down in the picture by supposing lines to be drawn from the spectator's eye parallel to any original lines, and produced until they touch the picture. The centre of a picture is that point on the perspective plane where a line drawn from the eye perpendicular to the picture would cut it; consequently it is that part of the picture which is nearest to the eye of the spectator.

The distance of the picture is that from the eye to the centre of the picture. The distance of a vanishing point is the distance from the eye of the spectator to that point where the converging lines meet, and after gradually diminishing all the objects which come within their direction and proportion, are reduced so as, in fact, to terminate in nothing. All parallel lines have the same vanishing points; that is to say, all such as are, in building, parallel to each other, when not represented precisely opposite to, and parallel with, the eye, will appear to converge towards some remote point, *i.e.*, their vanishing point. Circles, when retiring in such manner, are represented by ellipses, proportioned to their distances: their dimensions in perspective are ascertained by enclosing them, or the nearest of them, where a regular succession is to be portrayed within a square, which being divided into any number of equal parts or chequers, will exhibit all the proportions of those more remote.

A bird's-eye view is supposed to be taken from some elevated spot which commands a prospect nearly resembling the plane or ichnography of the places seen. Thus the view from a high tower, or from a mountain, whence the altitudes of the various objects on the plane below appear much diminished, gives nearly the same representation as is offered to a bird flying over them—and hence the term. Some idea of this may be obtained by standing on any height, and observing how low those objects which are near thereto will appear when compared with those more distant; taking however the perspective diminution of the latter into consideration.

When a painter has formed a scene in his mind, and supposed, as is customary, that the principal figures of this scene lie close, or almost close, to the back of his canvass, he is, in the next place, to fix on some point on this side of the canvass from which he would choose his piece should be seen. But in choosing this point, which is called the point of sight, regard should be had to its situation to the right or left of the middle of the canvass; but, above all things, to its distance and height with respect to the lower edge of the canvass; which edge is called the base line, and is parallel with the horizontal line which passes through the eye. For by assuming the point of sight, and consequently the horizontal line, too low, the planes upon which the figures stand will appear a great deal too shallow; as by assuming it too high, they will appear too steep, so as to render the piece far less light and airy than it ought to be. In like manner, if the point of sight is taken at too great a distance from the canvass, the figures will not admit of degradation enough to be seen with sufficient distinctness: and if taken too near it, the degradation will be too quick and precipitate to have an agreeable effect. Thus, then, it is evident that no small attention is requisite in the choice of this point.

When a picture is to be placed on high, the point of sight should be assumed low, and *vice-versa*: in order that the horizontal line of the picture may be, as near as possible, in the same horizontal plane with that of the spectator; for this disposition has a surprising effect. When a picture is to be placed very high, as, amongst many others, that of the Purification, by Paolo Veronese, it will be proper to assume the point of sight so low that it may lie quite under the picture, no part of whose ground is in that case to be visible; for, were the point of sight to be taken above the picture, the horizontal ground of it would appear sloping to the eye, and both figures and buildings as ready to tumble head-foremost. It is true, indeed, that there is seldom a necessity for such extraordinary exactness; and that, unless in some particular cases, the point of sight had better be high rather than low: as a reason for which we may observe, that as we are more accustomed to behold people on the same plane with ourselves than either higher or lower, the figures of a piece must strike us most when standing on a plane nearly level with that on which we ourselves stand. To this it may be added, that by placing the eye low, and greatly

shortening the plane, the heels of the back figures will seem to bear against the heads of the foremost, so as to render the distance between them far less perceptible than it would otherwise be.

The point of sight being fixed according to the situation in which the picture is to be placed, the point of distance is next to be determined. In doing this, a painter should carefully attend to three things:—first, that the spectator may be able to take in, at one glance the whole and every part of the composition; secondly, that he may see it distinctly; and thirdly, that the degradation of the figures and other object of the picture be sufficiently sensible.

[To be continued.]

Ancient Babylon.

NINEVEH was one of the most extensive and celebrated of ancient cities. A description of Babylon may probably give us the most perfect idea of the gigantic grandeur of their undertakings. Babylon was situated upon the banks of the river Euphrates, in an immense plain of fat rich soil, intersected by long straight canals, bordered by lofty poplar or lime trees. Its area was about 60 miles, and an exact square, enclosed by walls every way prodigious, 350 feet in height, and 87 feet in thickness, built of brick, cemented by bitumen, a glutinous slime arising out of the earth, binding far stronger than lime, and even growing harder than the bricks or stone. Exterior, and lined, was a vast ditch, and the earth dug in forming it composed the bricks. On every side of this square were 25 gates, 100 in all, of solid brass; with towers 10 feet above the wall. From each gate in this great square went 25 streets in straight lines, being 50 streets, each 15 miles long and 150 feet broad, crossing from gate to gate at right angles, cutting the city into 676 squares; around these squares were built the houses, detached, and three or four stories high—their fronts richly decorated. The hollow square was as gardens, or open space, not building; thus, half the area of the city formed pleasure grounds; the river ran through the city bordered by quays and a wall, having brazen gates to each street, and steps to the water; and a kind of tunnelling covered the river for three miles: the plan of erecting this singular structure is on record, and deserves our attention. The snow melting on the mountains of Armenia caused, in summer, the Euphrates to overflow the country, much as the Nile does Egypt; to preserve the city, an immense lake was dug, and canals connecting it with the Tigris; when this was ready, the course of the river was turned into it, and subsequently the lake remained as a reservoir to supply the canals, which, intersecting the immense plains, fertilised the country all the year. The bottom of the river was sandy, and to secure for the arches a firm foundation, large stones were bound together by chains and melted lead; the immense structure was then erected, and the channel throughout the city lined with brick. At either end of this bridge was a palace, con-

nected by a tunnel, built under the bed of the river. Near the old palace stood the Temple of Belus, and to the new one was attached the hanging gardens. The latter surrounded by three concentric walls, seven miles in circumference; considerable space existed between each wall, and they were adorned by an infinite variety of sculpture and ornament,—one represented Semiramis on horseback, throwing her javelin at a leopard, and her husband, Ninus, piercing a lion. These works of art must have been in relievo, and a knowledge of their existence is highly interesting. The hanging gardens of all these mighty structures became the most celebrated; they contained a square of 400 feet each way, and were carried up in a succession of decreasing arched terraces to a level with the city walls; stairs ten feet wide led from terrace to terrace, flat stones were laid upon the arches, then rushes, floated in bitumen, and two rows of brick covered by thick sheets of lead, upon which lay the mould of the garden, so deep that the greatest trees might take root; groves, plants, and flowers, adorned the gardens, and an engine was contrived to raise water for its use; in the spaces between the supporting arches were spacious apartments commanding magnificent prospects. The Temple of Belus was a prodigious tower, used for worship and for astronomical purposes, for which the people were famed. The riches of the temple are described as immense, consisting of statues, tables, censers, cups, and various sacred vessels, mostly of pure gold, and richly wrought. Of the extent and magnificence of these cities there can be no doubt, and it is equally certain that a people so powerful and luxurious would as far as possible embellish their manufactures with elaborate workmanship; slight traces remain to guide our inquiries, but from the unvarying habits of the Eastern nations, we may presume the many beautiful fabrics of India have descended from them; rich carpets and woven shawls of elaborate design remain a staple commodity of Persia. Their silver and arms are skilfully worked and elaborately inlaid in intricate and often exceedingly elegant patterns. The existing architectural edifices and interior decorations of India are full of peculiar beauty, and deserve our attentive consideration: the design is made to produce effects not known elsewhere, and we must regret the deficiency of popular acquaintance with their detail and ornamental disposition.—*Crabb.*

A printing machine has been invented by Colonel Hoe, of New York, which, it is stated, is capable of printing 12,000 newspapers an hour with the same amount of labour that has hitherto been required to print one-sixth of that number.—Her Majesty has contributed £350 to the fund for completing the Cathedral at Cologne.

MARBLE CAPITALS.—A number of Corinthian capitals (both of columns and pilasters), sculptured in marble, have been sent to England to find a purchaser, and could be had cheaply. They were originally made, if we are rightly informed, for the mausoleum of Marshal Vauban, but were not used.

Mechanical Drawing.

A **FLAT** rectangular board is first to be provided, of any convenient size, as from 18 to 30 inches long, and from 16 to 24 inches broad. It may be made of fir, planetree, or mahogany; its face must be planed smooth and flat, and the sides and ends as nearly as possible at right angles to each other—the bottom of the board and the left side should be made perfectly so; and this corner should be marked, so that the stock of the square may be always applied to the bottom and left hand side of the board. To prevent the board from casting, it is usual to pannel it on the back or on the sides.

A **T square** must also be provided, such that by means of a thumb-screw fixed in the stock, it may be made to answer either the purposes of a common square, or bevel,—the one-half of the stock being movable about the screw, and the other fixed at right angles to the blade. The blade ought to be somewhat flexible, and equal in length to the length of the board.

Besides these, there will be required a case of mathematical instruments; in the selection of which, it should be observed, that the bow compass is more frequently defective than any of the other instruments. After using any of the ink feet, they should be dried; and if they do not draw properly, they ought to be sharpened and brought to an equal length in the blade, by grinding on a hone.

The colours most useful are, Indian ink, gambouge, Prussian blue, vermilion, and lake. With these, all colours necessary for drawing machinery or buildings may be made; so that, instead of purchasing a box of colours, we would advise that those for whom this book is intended should procure these cakes separately,—the gambouge may be bought from an apothecary—a penny-worth will serve a lifetime. In choosing the rest, they should be rubbed against the teeth, and those which feel smoothest are of the best quality.

Hair pencils will also be necessary, made of camel's hair, and of various sizes. They ought to taper gradually to a point when wet in the mouth, and should, after being pressed against the finger, spring back.

Black-lead pencils will also be necessary. They ought not to be very soft, nor so hard that their traces cannot be easily erased by the Indian rubber. In choosing paper, that which will best suit this kind of drawing is thick, and has a hardish feel, not very smooth on the surface, yet free from knots.

The paper on which the drawing is to be made, must be chosen of a good quality and convenient size. It is then to be wet with a sponge and clean water, on the opposite side from that on which the drawing is to be made. When the paper absorbs the water, which may be seen by the wetted side becoming dim, as its surface is viewed slantwise against the light. It is to be laid on the drawing board with the wetted side next the board. About half an inch must be turned up on a straight edge all round the paper, and then fastened on the board. This is done because the paper when wet is enlarged, and the edges being fixed on

the board act as stretchers when the paper contracts by drying. To prevent the paper from contracting before the paste has been sufficiently fastened by drying, the paper is usually wet on the upper surface, to within half an inch of the paste mark. When the paper is thoroughly dried, it will be found to lie firmly and equally on the board, and is then fit for use.

If the drawing is to be made from a copy, we ought first to consider what scale it is to be drawn to. If it is to be equal in size to, or larger than the copy; and a scale should be made accordingly, by which the dimensions of the several parts of the drawing are to be regulated. The diagonal scale, a simple and beautiful contrivance, will be here found of great use for the more minute divisions; and whenever the drawing is to be made to a scale of 1 inch, $\frac{1}{2}$ inch, $\frac{1}{4}$ inch to the foot, a scale should be drawn of 20 or 30 equal parts; the last of which should be subdivided into 12, and a diagonal scale formed on the same principles as the common one, but with eight parallels and 12 diagonals, to express inches and eighths of an inch. For making such scales to any proportion, the line **L** on the sector will be found very convenient.

Great care should be taken in the penciling, that an accurate outline be drawn, for on this much of the value of the picture will depend. The pencil marks should be distinct, yet not heavy, and the use of the rubber should be avoided as much as possible, as its frequent application ruffles the surface of the paper. The methods already given for constructing geometrical figures will be here found applicable, and the use of the T square, parallel ruler, &c., will suggest themselves whenever they require to be employed.

The drawing thus made of any machine or building is called a plan. Plans are of three kinds—a ground plan, or bird's-eye view, an elevation or front view, and a perspective plan.

When a view is taken of the teeth of a wheel with the circumference towards the eye, the teeth appear to be nearer as they are removed from the middle point of the circumference opposite the eye, and it may not be out of place here to give the method of representing them on paper:—If **A B** be the circumference of a wheel as viewed by the eye, and it is required to represent the teeth as they appear on it.



a semicircle, which divide into half as many equal parts as the wheel has teeth; then from each of these points of division draw perpendiculars to the wheel **A B**, then will these perpendiculars mark the relative places of the teeth.

When the outline is completed in pencil, it is next to be carefully gone over with Indian ink, which is to be rubbed down with a little water, on a plate of glass or earthenware—so Only half of the circumference can be seen in

this way at one time, consequently we can only represent the half of the teeth. On *AB* describe as to be sufficiently fluid to flow easily out of the pen, and at the same time have a sufficient body of colour. While drawing the ink lines, the measurement should all be repeated, so as to correct any error that may have slipped during the penciling. The screw in the drawing pen will regulate the breadth of the strokes; which should not be alike heavy; those strokes being the heaviest which bound the dark part of the shades. Should any line chance to be wrong drawn with the ink, it may be taking out by means of a sponge and water, which could not be done if common writing ink were employed.

In preparing for colouring it is to be observed, that a hair pencil is to be fixed at each end of a small piece of wood, made in the form of a common pencil, one of which is to be used with colour, and the other with water only. If the colour is to be laid on, so as to represent a flat surface, it ought to be spread on equally, and there is here no use for the water brush; but if it is to represent a curved surface, then the colour is to be laid on the part intended to be shaded, and softened towards the light by washing with the water brush. In all cases it should be borne in mind, that the colour ought to be laid on very thin, otherwise it will be more difficult to manage, and will never make so fine a drawing.

In colours even of the best quality, we sometimes meet with gritty particles, which it is desirable to avoid. Instead of rubbing the colour on a plate with a little water, as is usual, it will be better to wet the colour, and rub it on the point of the forefinger, letting the dissolved part drop off the finger on to the plate.

In using the Indian ink it will be found advantageous to mix it with a little blue and a small quantity of lake, which renders it much more easily wrought with, and this is the more desirable as it is the most frequently used of all the other colours in Mechanical Drawing, the shades being all made with this colour.

The depth and extent of the shades will depend on various circumstances—on the figure of the object to be shaded, the position of the eye of the observer, and the direction in which the light comes, &c. The position of the eye will vary the proportionate size of any object in a picture when drawn in perspective. Thus, if a perspective view of a steam-engine is given, the eye being supposed to be placed opposite the end nearest the nozzles, an inch of the nozzle rod will appear much larger than an inch of the pump rod which feeds the cistern; but if the eye is supposed to be placed opposite the other end of the engine, the reverse will be the case. But in drawing elevations and ground plans of machinery, every part of the machine is drawn to the proper scale—an inch or foot in one part of the machine, being just the same size as an inch or foot in any other part of the machine. So that by measuring the dimensions of any part of the drawing, and then applying the compass to the scale, we determine the real size of the part so measured. Whereas, if the view were given in perspective, we would be obliged to make allowance for the effect of distance, &c. &c.

The light is always supposed to fall on the picture at an angle of forty-five degrees, from which it follows, that the shade of any object, which is intended to rise from the plane of the picture, or appear prominent, will just be equal in length to the prominence of the object.

The shades, therefore, should be as exactly measured as any other part of the drawing, and care should be taken that they all fall in the proper direction, as the light is supposed to come from one point only.

It is frequently of great use for the mechanic to take a hasty copy of a drawing, and many methods have been given for this purpose—by machines, tracing, &c. We give the following as easy, accurate; and convenient.

Mix equal parts of turpentine and drying oil, and with a rag lay it on a sheet of good silk paper, allowing the paper to lie by for two or three days to dry, and when it is so it will be fit for use. To use it, lay it on the drawing to be copied, and the prepared paper being nearly transparent, the lines of the drawing will be seen through it, and may be easily traced with a black lead pencil. The lines on the oiled paper will be quite distinct when it is laid on white paper. Thus, if the mechanic has little time to spare, he may take a copy and lay it past to be recopied at his leisure.

Care and perseverance are the chief requisites for attaining perfection in this species of drawing. Every mechanic should know something of it so that he may the better understand how to execute plans that may be submitted to him, or make intelligible to others any invention he himself may make.

The Chronotypist.

Mr. John Martin, says the *Athenæum*, lately invited some of the professors and lovers of art to see a large landscape which he has just executed in fresco in his house at Chelsea; when we had an opportunity of renewing our acquaintance with some of the pictures that have ranked amongst this painter's most successful efforts. Among them were the "Nineveh," "The Deluge," and some of his larger compositions in oil colours from the "Paradise Lost." Many of these appear to be improved by the removal of varnish, which tended much to their obscuration. Some, however, yet retain a highly enamel-like surface, restricting the spectator too frequently to a single point of observation—and that not always an advantageous one for perspective truth. This fault cannot be charged on the fresco landscape-scene, which is picturesquely inserted by Mr. Martin in a space at the end of the garden of his house, appearing through a frame-work or vista formed by its hall and passage. The space or depth thus picturesquely prolonged is an effect of decoration often employed by the Italian noble in the *cortile* of his palace:—facing whose *portone* is usually seen some perspective landscape with architectural enrichment. Mr. Martin has evinced much facility in the management of a material so little pliant to the requirements of light and feathery foliage—and which has, in consequence, been so little employed in its representation.

The Public Health Bill.



WHEREAS the progress has hitherto been but inadequately backed by the exertions of those whose bounden duty it is to put their shoulders en-

ergetically to the wheel by whose means public and social improvement is propelled towards its final destination—perfection. The Act of Parliament relating to the better preservation of the public health, which now lies before us, certainly owes little to the “many”—whose utmost ideas of cleanliness seem to go no further than a pail of water and a lump of soap—who can see no harm in dirty streets—and conceive that manure may as well undergo the necessary process of putrifaction by the road-side and in private dwelling houses, as on the spot where its application tends to fertilise the soil, and where its noxious effluvia would be lost in space ere it could possibly reach the nostrils of a human being.

As our space is limited, we must not indulge in discussion; but at once proceed to our task, which consists in laying before our readers such portions of the act as may prove interesting or useful to our professional readers.

In the first place, we find a clause relating to that prolific subject of contention, main sewers and drains, by which it is enacted that the management of all *public* sewers shall hereafter be vested in local boards; and that with respect to private sewers, the power is also given to purchase the same, where it may be deemed advisable. The power of altering or repairing sewers is also vested in the local board; and also the right of carrying them through private property—after due notice has been given. It is furthermore enacted that existing sewers may be discontinued, provided no private right be interfered with, and that in

such case an equivalent sewer must be provided. With regard to cleansing, &c., the power reposed in the hands of the local boards is quite arbitrary, so long as a nuisance is not created. The penalties incurred by persons making sewers to communicate with those of the board, or constructing vaults or cellars under any street, without written consent, are £5, and £2 a day for continuing the offence; and the work may be destroyed and the cost charged to the offender.

House drains, privies, &c., likewise come in for a clause, which enacts that no house, in future, shall be built or rebuilt without sufficient drainage; and where no main exists, it is provided that a cesspool be constructed to carry off the drainage to such a distance from the edifice as the local board may decide upon—under a penalty not exceeding £50. This measure also extends to existing houses—the drainage of which is, in future, to be more carefully looked after than heretofore. This clause also provides for the regulation of the supply of water to small places, by the digging of wells, &c. A penalty of £20 is fixed for building a house without an efficient water-closet—besides a further one of £2 during the time of default. The following must be carefully noted:—“Before the building or rebuilding of any house, fourteen days notice must be given to the local board, and proper plans and sections, showing water-closets, drains, privies, &c., must be lodged, and the approval of the board obtained. If the local board do not decide in fourteen days after notice, the building may be proceeded with; but a breach of law is punishable by a penalty of £50, and by the pulling down of the erection and charging the cost to the offender.” Drains and water-closets are to be kept in proper order by the owner or occupier of the premises, under a penalty of 10s. for every day a nuisance complained of, and of which due notice has been given, shall be allowed to continue.

Skipping over several clauses which are foreign to our purpose, we arrive at an important one, which prohibits the employment of cellars for human habitations, unless their admeasurement be as follows: seven feet high, and have three feet of their height above the level of the street; provided also that there be

an area in front of two feet six inches in width, and the whole height from six inches below the level of the floor of the cellar to the level of the street; and in any case there must be a sufficient drain laid at least one foot below the floor of the cellar, along with a proper fire-place, water-closet or privy, and ash pit. The window must be nine feet clear of the frame, and made to open, and if there be a back cellar, the window must be four feet clear of the frame. Steps for access may be constructed so as not to obstruct the window. Any cellar or vault in which a person passes the night is a dwelling under this act. The act not to be in force as to cellars till one year after its passing, nor till six months after its application to any district.

With regard to the laying out of streets, the following is enacted:—

Before laying out any new street a month's notice must be given to the local board, with the level and width of the street, which shall be fixed by the local board. All persons contravening this clause are liable to a fine of £20 a day, and to have alterations made in their property to bring it into conformity with the act, and the cost charged upon them. But if the notice be not replied to in one month, parties may proceed to lay out the street, and should they feel themselves aggrieved by the proceedings of the local board they may appeal to the general board.

The Regent-street Quadrant.

It will be observed by the reader that we have this week inserted a paragraph in our "chrotypist," which notices the removal of the Regent-street Quadrant. A burlesque poet somewhat happily, in a single distich, hits off what, we have no doubt, was the prime cause of this desecration, by observing that

"Diff'rent men have diff'rent opinions:
Some likes happles, some likes hinguns;"

but surely, in a case like this, where one of the most splendid architectural features, and one of the most *useful* ornaments of the metropolis is allowed to be carted away, and its materials sold to chop up for railway work, at the dictation of some two or three score of

hairbrained shopkeepers, who desire novelty, and, like the boy in the story-book—*ONE SIMPLE SIMON* by name—are never contented till they look at the wind inside the bellows, it is a pity that some opposition has not been brought forward by the public.

To prove the inconsistency of their present proceeding, we need only remark, that the next gleam of sunshine that straggles through the dark clouds of a wintry sky, we shall have verandahs pulled down in front of every one of the shops of these sapient Quadrantites—much to the personal annoyance of her Majesty's liege subjects, who happen to be but a *leettle* above the ordinary stature, and decidedly inferior, with respect to appearance, to the handsome structure now pulling down to make way for canvas, wooden poles, and iron rods.

The National Gallery.

IN another page we have given the Report of the Select Committee appointed to look after the works of art which have become public property, in which it is stated that no site could possibly be better adapted for a National Gallery than the present one overlooking Trafalgar-square. This opinion exactly coincides with our own, so far as *situation* is concerned; but here we would wish to have a more explicit understanding as to what are to be the points of superiority of the New Gallery over the old.

We have not yet inspected Mr. BARRY'S design, and are, therefore, incapable of passing an opinion as to its merits or defects; but from what we have been enabled to gather relative to the subject, we have one or two observations to make which we would desire to see taken into consideration.

The present National Gallery, it is well known, is only spoiled by one feature namely, the excessive lowness, and pretentious littleness of its façade; otherwise it possesses all the essential qualities of a perfect piece of architecture. Another storey, we will be bold enough to declare, would have been the means of setting aside all objections on the score of ugliness; therefore, we would respectfully urge one point—

on the consideration of the authorities who will now have to judge of the designs, and that is, above all things to pay attention to *proportion*.

We hear that Mr. BARRY'S design is of the same style of architecture as the New Houses of Parliament. Here we must put in a protest. For an edifice intended to contain works of art, this style is to our thinking, singularly inappropriate. The classic gracefulness of the earlier orders of architecture must always appeal successfully to true taste in such matters as these, and mere extrinsic ornament can never bear away the palm from the classic purity of those styles which the ancients employed in the erection of edifices consecrated to the purposes of the fine arts and learning.

Projecting Shop Fronts.

A CASE was lately tried in which a shopkeeper residing in Holborn was summoned for erecting a shop-front, extending beyond the distance allowed by the 57th Geo. III., sec 72. As the decision is of some importance, we present our readers with a few of the details:—

Mr. Parry, for the Commissioner of Pavements, stated the facts, and called Mr. Robert Southgate, the surveyor of pavements, who stated that one end of the shop front extended $11\frac{1}{2}$ inches beyond the house, and the other end was $13\frac{1}{2}$ inches. It was a new front, and he had given notice to Mr. Deane to alter it, but the notice had not been attended to.—By Mr. Bodkin, on behalf of Mr. Deane: He gave notice that the front projected too far before it was finished. The old front had extended the same distance. In fact, the new one occupied exactly the same position. It was not the practice of the commissioners to interfere with old fronts which exceeded the width allowed by law, as it would put many tradespeople to inconvenience; but when a new front was erected, they gave notice to have it so constructed as not to infringe upon the foot pavement. The old front at Mr. Deane's, might have existed for more than twenty years. It was originally a gunmaker's shop, and witness

remembered the old front as long as he could recollect anything in the parish.—Mr. Henry, on hearing this, said that, as the commissioners admitted that the front had existed for years in the same position as the new front complained of, the present one being, in fact, equivalent to a repair of the old one, he did not think they had any right to require Mr. Deane to remove it; he therefore dismissed the case. Mr. Parry wished to know whether he could appeal against this decision, but was informed by Mr. Henry that there was no appeal.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"A Constant Reader."—*We very much doubt the truth of your signature; refer to our last number.*

"M. T." (Liverpool).—*We can make no promise.*

"Archi."—*The article will be acceptable.*

"A Friend."—*Any information respecting Mechanics' Institutes, likely to prove interesting to our readers, will be thankfully received and readily inserted by us.*

"W. H. T. **."—*A series of articles have already appeared on Fresco painting, written by Mr. F. B. Thompson.*

"L."—*Peruse Dr. Brooke Taylor's work.*

Received.—"J. H."—*An Apprentice.*—"An Oppressed Mechanic," and "Fido."

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—*We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.*

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

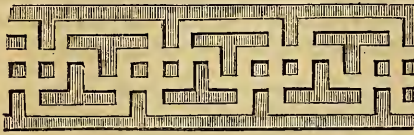
** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

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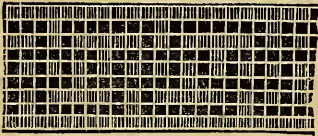
An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 204.]

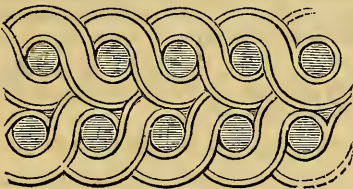
FRETS, (in architecture) sometimes called **Guillochi**, have characters which are purely Grecian on the part of fret but may be termed Gothic on the part of **Guillochi**. The beauty



and principle of the fret lies in an equality of ground and fillets meeting at various angles. The accurate form cannot be obtained without laying down a geometrical rule (see engraving).



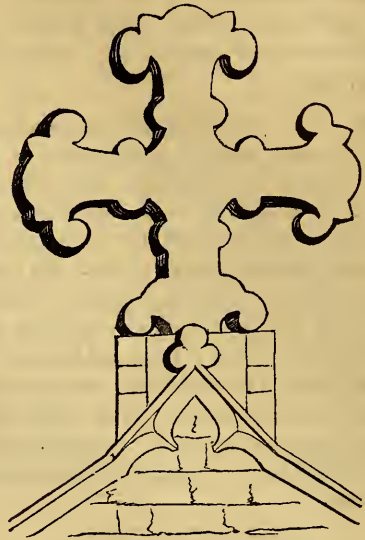
Take the width required and divide it in a certain number of divisions, according to the proposed pattern, by drawing on every alternate square the pattern will be produced. The **Guillochi** is more generally applied to circular forms and are drawn on different principles as



GUILLOCHI.

the annexed diagram will show, designs of bosses or cups may be used in the centre. We will give some illustrations at a future time.

DISCOVERY OF A ROMAN VILLA.—The Hon. R. C. Neville has been enabled lately, through the permission of Mr. Samuel Jonas, of Ickleton, to have a field in his possession explored. It is situated within sight of the Roman encampment and *Templi Umbra* (as called by Stukeley), and about a quarter of a mile from the Chesterford station, by the road side leading to Ickleton. The men in the employ of the hon. gentleman, and under his personal directions, commenced their labours about ten days since; and have succeeded in discovering the remains of a large Roman building, supposed a villa, having already exposed to view five rooms or compartments.



CROSS FROM GABLE BRANDON CHURCH, NORFOLK.

TRANSMUTATION OF METALS.—Although the days of the alchemists are gone, the alembic of nature is still in operation, and changes in the material of which this globe is composed are continually going on; perhaps, in many instances, unobserved. We are led to these remarks from a specimen we saw lately of an unquihle cast-iron pipe, that had been used in this neighbourhood for carrying gas, and had been laid some years in a peat soil. The cast-iron was completely changed into black-lead or plumbago. It stained paper the same as a pencil. Its specific gravity had been reduced from the common gravity of cast metal, say 7.7 to 2.06. The original thickness of the pipe we have no means of ascertaining, but we should think it a good deal increased. Whether the carburetted hydrogen alone can produce such changes, or if it is a combination of that and the peculiar soil, we cannot tell; but as we believe the pipes in many places here have given way, those connected with the gas management should look into the matter, and see if something could not be applied to the pipes before they are put down, to prevent the constant loss and trouble attending this natural source of decay.—*North of Scotland Gazette.*

NEW SYPHON.—We understand that a scientific gentleman of this town intends to bring before the savans, in August, an improved syphon, which will go far to remedy the comparatively useless ancient instrument which would transfer water merely. This invention, we understand, will lift water—for instance, from a canal into a water-cart.—*Swansea Herald.*

Striking Arches.



IN No. 67, page 165, *ante*, we gave an explanation of the mode adopted for striking an elliptic arch without the aid of the compass; we now give the same with regard to a segmental arch. The principle of drawing it is somewhat similar to the ellipse. Divide the base into eighteen equal parts, then find the

centre for striking the radii by throwing the end diagonal lines down till they intersect each other; from the centre carry a line through each division as directed for the ellipse; divide the end into nine equal parts; from 1 carry the line to the centre marked 1, from 2 to 2, and so on to 9, the intersection of which will produce the required arc.

Encaustic Painting.

THE art of painting in encaustic is a manner of painting which is executed with the operation of fire. Ancient authors often make mention of this species of painting, and which, if it had been described simply by the word *encaustic*, which signifies executed by fire, might be supposed to have been a species of enamel painting. But the expressions *encausto pingere*, *pictura encaustica*, *ceris pingere*, *picturam inurere*, by Pliny, and other ancient writers, makes it clear another species of painting is thereby meant. We have no ancient pictures of this description, and therefore the precise manner adopted by the ancients is not completely developed, though many moderns have closely investigated the subject, and described their processes. At what time, and by whom this species of painting was first invented, is not determined by antiquaries, although it appears to have been practised in the fourth and fifth centuries. Count Caylus, and M. Bachelier, a painter, were the first of modern times who made experiments in this branch of art, about the year 1749. Some years after this, Count Caylus presented to the Academy of Painting at Paris, his ideas and experiments on the subject of the ancient manner of painting in encaustic. In 1754, the Count had a head of Minerva painted by Mons. Vien, after the process described by himself, and presented it to the Academy of Sciences in 1755. This success induced Mons. Bachelier to recommence his experiments, in which he succeeded better than formerly; but his manner of painting in encaustic differed from the ancients, as described by Pliny, and therefore he was unsuccessful, inasmuch as he did not discover the real ancient manner; after this he made some other experiments on the same subject, differing from the process as described by Caylus and others.

Pliny, in a passage relating to encaustic painting, distinguishes three species:—1st, that in which they used a style, and painted on

ivory or polished wood (*cestro in epore*); for which purpose they drew the outlines on a piece of the aforesaid wood or ivory, previously soaked or imbued with some certain colour; the point of the style or stigma served for this operation, and the broad end to scrape off the small filaments that arose from the outlines, and they continued forming outlines with the point till they were finished. 2nd. The next manner appears to have been, where the wax previously impregnated with colour, was spread over the surface of the picture with the style, and the colours thus prepared were formed into small cylinders for use. By the side of the painter was a brasier for keeping the styles continually hot, with the points of which they laid on the colours when the outlines were finished, and spread them smooth with the broad end, and thus they proceeded till the picture was finished. 3rd. The manner was by painting with a pencil in wax liquified by fire: by this method the colours contained a considerable hardness, and could not be damaged either by the heat of the sun, or the deleterious effects of the sea water. It was thus that they painted their ships with emblems and other pictures, and therefore it obtained the name of ship painting. The last process was to smooth and polish the picture;—thus far the ancients.

Few of late years have made more experiments in this mode of painting than the ingenious Mrs. Hooker of Rottingdean, in the county of Sussex, who has, in this instance, united practice with theory; and for her very successful exertions in this branch of the polite arts, was presented with a gold palette by the Society for the Encouragement of Arts, &c., of London. Her account is printed in the 10th volume of the Society's Transactions for the year 1792, when Miss Emma Jane Greenland. Her first communication with specimens of this mode of painting was made in the year 1786, one of which is preserved in the society's rooms at the Adelphi, and is worth the attention of the artist. This honourable testimony of the society's approbation did not occasion any re-

laxation in this indefatigable lady's endeavours to attain excellence, and she therefore, in the year 1807, made a farther communication to the Society of the result of no less than fifty experiments per day, during more than four months; and to theory Mrs. Hooker has added much practical knowledge, having painted several pictures successfully. The following account combines the results of this lady's two communications to the society, which, in honour to her extraordinary merits and exertions in this curious branch of the fine arts, should be called the *Hookerian* mode of encaustic painting.

Method of preparing and applying a composition for painting, in imitation of the ancient Grecian manner, as practised by Mrs. Hooker.

Put into a glazed earthen vessel four ounces and a half of gum arabic, and eight ounces or half a pint (wine measure) of cold spring water: when the gum is dissolved, stir in seven ounces of gum mastich which has been washed, dried, picked, and beaten fine. Set the earthen vessel containing the gum, water, and gum mastich over a slow fire, continually stirring and beating them hard with a spoon, in order to dissolve the gum mastich: when sufficiently boiled it will no longer appear transparent, but will become opaque and stiff like a paste. As soon as this is the case, and the gum, water, and mastich are quite boiling, without taking them off the fire, add five ounces of white wax, broken into small pieces, stirring and beating the different ingredients together till the wax is perfectly melted and has boiled; then take the composition off the fire, as boiling it longer than necessary would harden the wax, and prevent it mixing so well afterwards with water. When the composition is taken off the fire, and in the glazed earthen vessel, it should be beaten hard, and whilst hot (but not boiling) mix with it by degrees a pint (wine measure) or sixteen ounces more of cold spring water; then strain the composition as some dirt will boil out of the gum mastich, and put it into bottles. The composition, if properly made, should belike a cream, and the colours, when mixed with it, as smooth as with oil. The method of using it is to mix with the composition, upon an earthen palette, such colours in powder as are used in painting with oil, and such a quantity of the composition to be mixed with the colours as to render them of the usual consistency of oil colours, then paint with fair water.

The colours, when mixed with the composition, may be laid on either thick or thin, as best suits your subject, on which account this composition is very advantageous where any particular transparency of colouring is required; but, in most cases, it answers best if the colours are laid on thick, as they require the same use of the brush as if painting with body colours, and the same brushes as used in oil painting. The colours, if grown dry when mixed with the composition, may be used by putting a little water over them; but it is less trouble to put some water when the colours are observed to be growing dry. In painting with this composition the colours blend with-

out difficulty when wet, and even when dry the tints may easily be united by means of a brush and a very small quantity of water. When the painting is finished, put some white wax into a glazed earthen vessel over a slow fire, and when melted, but not boiling, with a hard brush, cover the painting with the wax, and when cold take a moderately hot iron, such as is used for ironing linen, and so cold as not to hiss if touched with anything wet, and draw it lightly over the wax. The painting will appear as if under a cloud till the wax and whatever substance the picture is painted upon are perfectly cold; but if when so the painting should not appear sufficiently clear, it may be held before the fire at such a distance as to melt the wax slowly; or the wax may be melted by holding a hot poker at such a distance as to melt it gently, especially over such parts of the picture as should not appear sufficiently transparent or brilliant: for the oftener heat is applied to the picture the greater will be the transparency and brilliancy of colouring, but the contrary effect would be produced if too sudden or too great a degree of heat is applied or for too long a time, as it will draw the wax too much to the surface, and may likewise crack the paint. Should the coat of wax put over the painting when finished appear in any part uneven, it may be remedied by drawing a moderately hot iron over it again as before-mentioned, or even by scraping the wax with a knife; and should the wax, by too great or too long an application of heat, form into bubbles at particular places, by applying a poker heated, or even a tobacco-pipe made hot, the bubbles will subside; or such defects may be removed by drawing anything hard over the wax, which will close any small cavities. When the picture is cold, rub it with a fine linen cloth. Paintings may be executed in this manner upon wood (having first pieces of wood let in behind, across the grain of the wood to prevent its warping), canvas, card, or plaster of Paris. The plaster of Paris requires no other preparation than mixing some fine plaster of Paris in powder with cold water the thickness of a cream; then put it on a looking-glass, having first made a frame of bees'-wax on the glass, the form and thickness of which you wish the plaster of Paris to be, and when dry take it off, and there will be a very smooth surface to paint upon. Wood and canvas are best covered with some grey tint mixed with the same composition of gum arabic, gum mastich, and wax, and of the same sort of colours as before-mentioned, before the design is begun, in order to cover the grain of the wood or the threads of the canvas. Painting also may be done in the same manner with only gum water and gum mastich, prepared the same way as the mastich and wax; but instead of putting seven ounces of mastich, and, when boiling, adding five ounces of wax, mix, twelve ounces of gum mastich with the gum water, prepared as mentioned in the first part of this receipt: before it is put on the fire, and when sufficiently boiled and beaten, and is a little cold, stir in by degrees twelve ounces, or three quarters of a pint (wine measure) of cold spring water, and

afterwards strain it. It would be equally practicable to paint with wax alone, dissolved in gum water in the following manner. Take twelve ounces, or three quarters of a pint (wine measure) of cold spring water, and four ounces and a half of gum arabic, put them into a glazed earthen vessel, and when the gum is dissolved, add eight ounces of white wax. Put the earthen vessel, with the gum water and wax, upon a slow fire, and stir them till the wax is dissolved and has boiled a few minutes; then take them off the fire, and throw them into a basin, as by remaining in the hot earthen vessel the wax would become rather hard; beat the gum water and wax till quite cold. As there is but a small proportion of water in comparison to the quantity of gum and wax, it would be necessary, in mixing this composition with the colours, to put also some fair water. Should the composition be so made as to occasion the ingredients to separate in the bottle, it will become equally serviceable if shaken before used to mix the colours.

Another very serviceable quality in the vehicle for painting was discovered by Mrs. Hooker, which was, that the composition which had remained in a bottle since the year 1792, in which time it had grown dry and become as solid a substance as wax, returned to a creamlike consistence, and became again in as proper a state to mix with colours as when it was first made, by putting a little cold water upon it, and suffering it to remain on it a short time. "I also lately found," says this ingenious lady, "some of the mixture composed of only gum arabic water and gum mastich, of which I sent a specimen to the Society of Arts in 1792; it was become dry, and had much the appearance and consistency of horn. I found on letting some cold water remain over it, that it became as fit for painting with as when the composition was first prepared."

J. Chr. Werner of Newstadt, in Germany, found the following process very effectual in making wax soluble in water. For each pound of white wax he takes twenty-four ounces of potash, which he dissolves in two pints of water, warming it gently. In this ley he boils the wax, cut into little bits, for half an hour; at the end of this time he takes it from the fire and lets it cool. The wax fixes itself at the surface of the liquor in the form of a white saponaceous matter, which being triturated with water, produces a sort of emulsion which he called wax milk, or encaustic wax, and may be applied to pictures, furniture, or leather, after having well cleaned them: in an hour after the application, the article should be rubbed with a piece of woollen cloth, which will cause the pictures to have a better effect, and the furniture to acquire a peculiar brightness. Another advantage of this preparation of wax is, that it can be mixed with all kinds of colours, and consequently be applied in a single operation. It is also useful to fix water colours.

The following important observations are translated from the Italian of the Chevalier Lorgna, who has deeply investigated the subject, in a small but valuable tract called "*Un*

Discorso sulla Cera Punica." The ancients (says this author), according to Pliny, used three species of painting, and in all three they used fire; so that to paint with encaustic, or with a burning application (*abbrucciamento*), is derived from a Greek word.

We have never thoroughly known the nature of the Punic wax, which was anciently used, and which, after all, was the essential ingredient of the ancient painting in encaustic. The chevalier praises the genius and industry of M. Requeno and M. Bachelier, who have also treated this subject, but who have not fully succeeded in finding out the true way of making the said wax, then quotes the passage of Pliny on the method of making it. *Punica fit hoc modo, &c.*, see Pliny's Nat. Hist. 1. 21. c. 14, and asserts, with many other writers, that Pliny's nitre is not the nitre of the moderns, properly so called, but it is the *natron* of the ancients, viz., the native salt which is found crystallised in Egypt and other hot countries, in sands surrounding lakes of salt water; it must not be mistaken for the *natron* of the new nomenclature of our College of Physicians which is the new name of the mineral alkali.

In the plains of Lower Egypt, which were once covered by the sea in the environs of the salt lakes of that country, at Tripoli, at Tunis, as also in the adjacent parts of ancient Carthage, the *natron*, that same *natron* which under the name of nitre, the Carthaginians, according to Pliny, used in preparing their wax, is to this day extracted, and hence it was called *Punic wax*.

I began now (says Lorgna) successively to try my experiments, first with three parts of wax and one of natron, and then with four of wax, and so on till I used twenty parts of white melted wax with one only of natron, with as much water as was just sufficient to melt the natron. I held the mixture in an iron vessel over a slow fire, stirring it gently with a wooden spatula, till the two substances thickened by evaporation, and in closely uniting the mass by degrees assumed the consistence of butter, and the colour of milk. I removed it then from the fire, and put it in the shade to harden and to perfect itself in the open air. This natron was extracted from the ley of kali of Malta, evaporated till it was dry; it may also be extracted from the kali of Spain, Sicily, Sardina, and from that of Tunis and of Tripoli, which may be procured without much difficulty. The wax being cooled it liquefied in water, and a milky emulsion resulted from it like that which could be made with the best Venetian soap.

Pliny, in another place, c. 7. l. 23, gives further directions for the manner of using caustic on paintings or walls; but as it concerns the antiquary more than the artist, I have foreborne from making the quotation. It begins at these words, *Ut parietis siccato cera Punica, &c*

As to making use of this wax in painting in encaustic the chevalier says, that magnificent and repeated experiments were made in the apartments of the Count Giovanni Battista Gasola, by the Italian painter Signor Antonio Paccheri. He dissolved the Punic wax, when

it was not yet so much hardened as to require to be igni resoluta, as expressed by Pliny, with pure water lightly infused with gum arabic, instead of sarcocolla, male incense, mentioned by Pliny. He afterwards melted and mixed his colours with this wax as liquefied as he would have done with oil, and proceeded to paint in the same manner; nor were the colours seen to run or alter in the least; and the mixture was so flexible that the pencil ran smoother with it than it have done with oil. The painting being dry he used the caustic over it and rubbed it with linen cloths, by which the colours acquired a peculiar vivacity and brightness which they had not before the caustic and the rubbing had been effected.

Influence of the Fine Arts on Civilisation.

THE great object which we live for, is to enjoy the bounteous gifts of our *Creator*; the great object of civilisation is to enable us to do so, that we may die happy, convinced that we have not existed in vain,—but that, by the cultivation of the intellect we had sublimed our spirit, to irradiate the sphere we each revolved in. To extract as much pleasure as we can from existence, by regulating the sense through the mind, and so depart from the lower animals and approximate the higher powers, ought to be, in my opinion, the result of civilisation; and, if I am right, then is art an integral portion of the means by which a people is civilised. In the wide and extended regions of nature unlimited scope is afforded to the true *artist*, widely to direct the intellectual energies of his fellows; and I pity the man who beyond the gaining of a livelihood, sees in art no greater object to exist for. Does not the landscape painter promote civilisation when he fixes on our souls for ever, the happy, happy, feelings a glorious landscape has charmed forth? When, by his soul-breathing imitation of the works of God, that which would otherwise have been transitory, is, by the magic of his pencil, recalled again and again to refresh the wearied mind with sweet remembrance of the pure and holiest sensation of our existence—he is the medium of communication from nature up to nature's God! Does not the painter of the home and domestic subject promote civilisation, when he makes the rustic hearth, with all its honest joys, excite the envy of the rich, and preach contentment to the happier poor? Does not the great mind which grasps at historic art, promote civilisation, when, by the positive realisation of the deeds of man, he brings the past to the present, to excite reflection to the future? Does not the sculptor promote civilisation, when, joined to the aim of the latter, by the sublime purity of form, teeming of the pristine beauty of the sons of man, he creates visions of that time which may recur again, when nobler souls breathed in more glorious frames? Come forward, ye who would deny to art this power to instruct, and if the authors of the gentle and pleasing idea touch not your heart look at that canvas, and at that, where terror, and horror, and wrath, and rage, in blasted and

angular forms, amid blackness and despair, strike and paralyze the sense as with a thunder-bolt,—the awful page of mortal woe, disclosed by *Michael Angelo*, and by *Hogarth*,—and acknowledge the power of mighty art. And if you tremble at the visions of Titanic power, conjured up by the Italian, where even the blest seemed saddened, and their beauty scorched by the reflection of gloomy suffering, turn to the *Englishman*, and in the brightness of virtue escape from the sadness of vice. And when you trace the course of the IDLE and INDUSTRIOUS APPRENTICE, if you do not acknowledge the overwhelming power of art to teach, you must indeed be poor—no power exists to civilise you. Or if the wise man who lives to learn, will turn his eyes with me to were the heavenly power of beauty reigns supreme, where holy thought and love inspire the pencil of him who, by the suffrage of mankind, has gained the title of Divine, where the tenderest perceptions are stamped by the energy of goodness, and with a hand as firm as that of a giant, and in an outline animated by the soul of angel, *Raphael* draws your heart insensibly to a holy fervour by the beauty of form, and more nobly seeks to improve mankind by love, than sway the mind by terror—then surely, you must acknowledge all that art can do, from all that art has done. Is it no proof of the power of ART, that she can humanize the half-brutal peasant?—that the Italian feels her influences, and impresses the stranger on his soil, with involuntary respect—that he, the peasant, is alive to beauty, which but half inspires that stranger's mind; and would it not be glorious to art, if we could operate a charm on the sturdy ignorance of the peasant of *Great Britain*, and elevate him in the social chain by teaching him the beauty of the scenes he lives in; or by delineating the character of a country's pride—her yeomanry, make him most truly blest because his lot is proved to be the happiest in the land—freed from the misery of inaction, his honest toil ensuring grateful rest, fitting him to fulfil his duty to his family, his country, and his God.—*Park*.

BRASS LETTERS ON GLASS.—According to the specification of Mr. J. L. Lamenaude, who has secured a patent for cements, for affixing brass letters on panes of glass, the following are his recipes:—First, 15 parts of copal varnish, 5 parts of drying oil, 3 of oil of turpentine, 2 of essence of turpentine, 5 of animal glue, dissolved in a water bath, and 10 parts hydrate of lime.—Second, 15 parts of sanadrach and galipot resin varnish, 5 of drying oil, 5 of oil and essence of turpentine mixed; these are first mixed, and then 10 parts of Spanish white and dry white lead are added.—Third, 15 parts of copal varnish and gum lac mixed; 5 parts of drying oil, 3 parts of a solution of caoutchouc, or gutta percha, 7 parts of tar oil, and 10 parts of Roman cement and plaster of Paris, in powder, mixed.—Fourth, 15 parts of copal varnish and colophane resin, 5 of oil and essence of turpentine, 2 parts of isinglass in powder, 3 parts iron filings, or blacksmith's cinders, ground and sifted, and 10 parts of washed earth, ochre, or rotten-stone.

On Ornament.

THERE has been much said and written upon purity of style, and it may startle some to see it asserted that this has only had one tendency, and that has been to retard the progress of ornamental design in this country. But many of the kinds of ornament called styles being themselves impure, in so far as they are destitute of the first principles of beauty, a servile adherence to them is not only a very questionable kind of purity, but calculated to corrupt the taste, while it retards originality of conception.

If an ornamental designer were asked to imitate another in the same profession, he must either be conscious of his own inferiority, or feel his reputation compromised by the request. And the same may be said of any other profession where conception or originality of design is required to constitute excellence. If a poet imitates the works of another poet he thereby acknowledges his own inferiority: and so does the artist who copies the work (either ancient or modern) of another artist. But in neither case can the works copied constitute or supersede the laws or first principles of art. The greatest merit of all works of art, either in poetry, music, painting, or sculpture, consists in their being unlike the style of any that have preceded them; for there are no limits to the inventive powers of genius; and indeed it is only invention and originality that prove the possession of that divine gift. But the mode of proceeding in regard to tuition in the ornamental arts has, in this country, been of a very opposite character. What has hitherto been understood by purity of style is nothing more than servility of copying, and if we were to inquire very closely into the origin of what are termed styles of ornament, we should find their claims to this distinction to rest on a foundation of a very slight and unsatisfactory kind.

The most beautiful of the architectural class of ornamental designs of antiquity have, of course, been handed down to us from the same people, and the same æra that have also supplied to us the most beautiful specimens of the arts of sculpture and architecture. And, but for the perishable nature of the materials, there can be but little doubt but we might have owed to the same period and people not only the finest specimens of pictorial art, but those of that kind of design peculiar to manufactures and interior decoration.

When we take this in connection with what we know of the poetry, the music, and, above all, the geometry of the same period, we can scarcely help feeling convinced that some fixed principles of taste and beauty were known and acknowledged amongst that extraordinary people at this period of their general refinement. And the more so, that the progress of natural philosophy in succeeding ages has proved that there are ruling principles by which the sciences are in almost all cases identified with one another; and by which again the arts are identified with the sciences, and upon which they are reciprocally

dependent. Sir David Brewster observes, "that the disposition to this species of exchange, and to introduce into the intellectual community the principles of free intercourse, is by no means general; but we are confident that art will not sufficiently develop her powers, nor science attain her most commanding position, till the practical knowledge of the one is taken in return for the sound deductions of the other;" and that "it is in the fine arts, principally, and in the speculations with which they are associated, that the controlling power of scientific truth has not exercised its legitimate influence. In discussing the principles of painting, sculpture, architecture, and landscape gardening, philosophers have renounced science as a guide, and even as an auxiliary; and a school has arisen whose speculations will brook no restraint, and whose decisions stand in opposition to the strongest convictions of our senses."

A proper comprehension of art as a whole, and as it is connected with science, is, therefore, essential to right practice; and upon no other foundation can a standard of just criticism be established. For that criticism which judges an ornamental design by other designs of the same description, without reference to the natural and scientific principles which ought to regulate the artist in the production of such works, concludes upon false premises. Were the proper mode of estimating works of decorative art adopted, those contracted and prejudiced views which take precedents alone for guides, would soon give place to a correct understanding and appreciation of what is truly beautiful.

The names of the kinds of ornament called styles are numerous. We have the *Grotesque*, the *Arabesque*, the *Moorish* or *Moresque*, the *Persian*, the *Turkish* or *Byzantine*, the *Hindustanee*, the *Chinese*, the *Pompeian*, the *Elizabethan*, the *Louis Quatorze*, &c., some of which, no doubt, have what may be termed national characteristics, and they may, so far, whether good or bad, be admitted as styles, because they belong not merely to periods but to nations. Yet, in general, they are not worthy of being held up as models of perfection, far less are they worthy of being made to supersede the necessity of studying the first principles of linear and chromatic beauty in our Schools of Design.

A style of ornament may legitimately be named after its originator, such as the "*Watteau*" style, which is probably of all comparatively modern styles the most original and most graceful; for, although it is grotesque, and may not have been established upon any known principles, yet it is the production of the intuitive good taste of an original genius. —Hay's "*Essay on Ornamental Design*."

FINE ARTS IN NORWICH.—Amongst the preparations for the forthcoming musical festival in Norwich is a collection of modern works of art, nearly 400 in number, comprising pictures by Turner, Eastlake, Maclise, Etty, Bright, Danby, Pyne, Stanfield, and other good artists. It is said that so fine a collection has never been seen in Norwich before.

The Chronotypist.

THE removal of the Regent's Quadrant Colonnade has commenced. The materials have been sold by private contract, it is said, for railway purposes. The cast-iron pillars, 145 in number, realised £2,900. The total cost of this alteration is estimated at £3,900, to be defrayed by the sale of the old materials, and by a rate on the inhabitants. The removal of the south side is to be first proceeded with.—Mrs Hul-ton says the *Liverpool Albion* having become the possessor of the drawing, by Prince de Joinville, of the *Ocean Monarch* on fire, she is getting it lithographed, and the proceeds of the sale will be given for the benefit of the Sailors' Home. The print will be a spirited tinted lithograph, executed, by the Messrs. Maclure, Macdonald, and Macgregor. From the interest excited by the princely conduct of the author of the above sketch, on the late melancholy occasion which it represents, and the object for which the proceeds are to be devoted, a very extensive sale may be calculated upon.

—The Sanitary Committee recommends all cisterns to be dispensed with, and the water to be left to issue free and flush from the main.

—A life size medallion of Miss Helen Faucit has been executed in Edinburgh, by Mr. Shakspeare Wood. The countenance is boldly chiselled, and an excellent resemblance. The expression is that which well befits the passionate representative of tragedy. The hair is simply and massively disposed, and the production altogether one that does great honour to the young artist.—In the week before last a public dinner was given in the cottage of Burns, Ayr, to Mr. Fillans, sculptor, on the occasion of his sojourn in the neighbourhood after the "inauguration" of his statue of the late Sir James Shaw, Bart., at the cross of Kilmarnock, and the bust of Professor Wilson, at Paisley.

DECORATIONS OF THE ROYAL YACHT.—The royal yacht is greatly improved in her internal appearance since she was last at Woolich. The entire deck has been painted to resemble oaken wainscot, and the inside of the bulwarks is an excellent imitation of American bird's-eye maple; the parts of the paddle-boxes next the deck being of the same agreeable and neat pattern. On the interior of each paddle-box a royal crown has been richly carved and gilt, together with a laurel branch and oak branch on either side. The paddle-boxes are joined across the deck by platforms about eight feet high, with ample room for two persons to promenade, affording a far more commanding view than could be obtained from the deck. A spacious seat covered with morocco leather, and having richly-carved elbow-rests, is placed against each of the paddle-boxes on the elevated platform. On each of the stern ends of the paddle-boxes very handsome recesses or alcoves have been fitted and lighted seawards with plate glass, the front being made to rise and fall similar to the moveable roofs of carriages, to shade from the sun or protect from rain.

The royal entrance to the cabins is near the tiller, and lighted on all sides upon deck with plate-glass windows, and it contains a table with cushioned seats for resting upon, and well adapted for shelter in unfavourable weather. The principal cabin is beautifully fitted up, and the seats are cushioned and covered with crimson morocco leather all round the stern side of the vessel; the fire-place near the rudder handle is quite a gem, being formed of beautifully clustered groups of flowers, highly coloured, and preserved by the finest enamel on a delicate ground, and encased in solid and brightly-polished brass mouldings, the chimney of the fire-place having the appearance of a handsome pillar supported on an appropriate base. The handle of the rudder passes through the principal cabin, and is covered completely round with carving, which gives it the appearance of a pillar supporting the deck. The chief cabin is profusely lighted with plate-glass windows, and on the side next the passage, the doors and windows are filled with ground glass. The dining-room is spacious, and contains on the walls large maps on spring rollers. The royal bed-room on the other side of the royal yacht is very retired, and with the dressing closet, chastely fitted up. The posts of the royal bed are beautifully carved, and the corners of the roof have each the figure of a dolphin, richly gilt; the curtains are of a pure white ground with a subdued carmine-coloured representation throughout the whole of a simple yet elegant opening bud, with two or three leaves attached. The fringes are of a warmer crimson colour, and harmonise beautifully with the other parts of the room. The moulding of the ceiling throughout the principal rooms and passages is formed of concave and convex representations of a sea shell, the convex one being gilt. The entire interior of the royal yacht may be justly termed a naval palace befitting the Queen of the Ocean.

WESTMINSTER BRIDGE.—The following strange prophecy concerning Westminster bridge, appeared in vol. xxxi. of the *Gentleman's Magazine*, published in 1761. Our readers will judge for themselves as to how far it has been verified:—"Westminster-bridge is, perhaps, the most majestic pile of the kind in all Europe, but, although it appears strong, yet on a critical examination, it is demonstrably feeble. It is top-heavy, and too narrow for its height: the piers are by no means proportioned to the weight they sustain, nor do they take sufficient hold of the bed of the river, but stand loosely on the bottoms of the caissons they are built in, and, what is still worse, the bed of the river, between all the piers, continues quite open and unguarded; the consequence of which must be that in case any one part of the bed of the river under any of the salient angles of the piers proves softer than the rest, which may not be improbable, then that softer part must in time give way; and, though the sinking may at present be imperceptible, even by a plummet, yet the immense weight of the superstructure, and the sandy footing of the piers, will in time produce a very disagreeable effect; whence it is evident that building piers in caissons is liable to great objections."



ALPHABET IN SEFTON CHURCH, NEAR LIVERPOOL, ERECTED ABOUT THE TIME
OF HENRY THE EIGHTH.

Habitations of the Poor.—No. E.



OR the improvement of our large towns, and even the suburbs, much has been done, and is still doing, in the way of widening streets, pulling down crowded thoroughfares, and substituting straight and regular lines of buildings, possessing a near approach to regularity in elevation and tastefulness of design; still these works have been the products of time; and while the middle and higher classes have been deriving great benefits both in the erection of more convenient houses, possessing every modern comfort, and from trade being partially diverged from particular localities into every direction, leading to the formation of whole streets of new shops, with handsome façades, all tending to show the progress of public opinion and the growing taste for improvement in building, what a striking difference do the habitations of the labouring classes present! In order to make room for these new streets, which spring up with marvellous rapidity, "like mushrooms in the night," alleys, courts, and crowded thoroughfares, containing accommodation for thousands of the working classes, are destroyed—public money first being employed, by authority of Act of Parliament, in purchasing the crazy tenements at far more than their real value; and when the ground is cleared, instead of re-erecting *homes* for a similar class of tenants, where the industrious mechanic might reside and carry on a small trade, large houses are erected, with rentals that drive the small tradesman and the working man to beat up fresh ground, and accept equally scanty accommodation at a greater cost than before the

philanthropist first visited the court. Though Acts of Parliament have been applied for and finally gained, and even come into operation, still, but little, if any, advance has been made in the dwelling of the mechanic.

The shopkeeper calls in workmen to put large sheets of plate-glass in his shop-front, or even, perhaps, to rebuild his business premises—yet you find that that same tradesman never dreams of *building* with his surplus profits. Oh, no! not he; for he can *buy* cheaper—he can take advantage of the times and the depression of trade—he can lend money on mortgage—he can dabble in Capel-court, and a hundred other things, all more advantageous than *building*; and when these people do become possessed of house property, it is useless to tell them of ventilation or stability—to such topics as these they turn a deaf ear, *satisfied that if the house possessed every possible comfort that could be suggested, it would yield no higher per centage.* How fallacious, however, is this notion; and yet how difficult to persuade a person so, even when his daily experience proves him in error! For instance, take the case of a builder who runs up six small houses: he lets them, before they are well finished, to tenants at a high rental, say £14 a-year, subject to 30s. ground-rent; he does not wait to see quarter-day, but sells these houses for £700, telling the purchaser that they are respectably tenanted, as cheap as dirt, and, finally, that they pay more than 10 per cent. Neither builder nor purchaser *calculate* the purchase money by the labour and materials employed in the erection, but by a calculation as baseless, shifting, and uncertain as the seasons, which is, "What per centage will the purchase pay at the rents that the tenants may be then paying or have engaged to pay?" Now, we do not hesitate to say that these houses (without assuming hardly any depreciation of value) would not realise more than five to six per cent.; for it will be found, after the first few quarters have passed, that the purchaser must keep a jobbing carpenter almost as a domestic servant, and that in a few years, these houses, so nice to look at, will, from faulty drainage, have rats and mice travelling in all directions up the quartered partitions, round the skirting between the joists,

and, through the timber not being sufficiently seasoned at first, that vermin of every description will find their way into every room. We can with equal truth aver that this very economical purchaser might not only have built those identical houses with such materials as would not only have obviated the necessity for any but trifling repairs, but that those houses would be respectably tenanted, and that, without one farthing additional cost, he would have benefitted six families, and provided them with homes that would have increased the self-respect of their inmates. It is the purchase and encouragement of miserable tenements that increases drunkards and thieves, while the erection of homes possessing a share of the comfort always carefully seen to in the houses of the wealthy, would secure order, decency, and cheerfulness around the hearth of the British mechanic.

JAMES BROOKS.

A Hint to Picture-Dealers.

WE have, on more than one occasion, noticed the tricks of the picture-dealing trade in our pages; and being anxious to lay before our readers such information on the subject as may tend to put them on their guard against the disreputable practices of certain individuals whose honesty is certainly comprised in a smaller compass than their ingenuity, we now add the following to our list. About a fortnight since, a man called upon a print-seller residing not a hundred miles from our publishing office, and offered for sale an old painting, evidently executed in water colours, and bearing every mark of a genuine work of art, somewhat the worse from age, &c., but most carefully restored—the subject being a portrait of MILTON. Representing himself as being in immediate want of money, the individual offered the painting at a low figure, which the other, however, declined giving; but, ultimately, a bargain was struck, at a somewhat reduced price, and the printseller bought the picture under the impression that he had secured a prize. A day or two elapsed, and he hung it outside his door for sale, when suddenly, a shower of rain coming on, and several of the drops falling upon the picture,

he was considerably startled at perceiving three longitudinal rows of white streaks appear upon its surface. To inquire into the cause of the phenomenon was but the work of an instant, when the reader may readily imagine his surprise and chagrin upon discovering that all the antiquity the picture possessed was imparted by a thick layer of Spanish liquorice!—the so-called painting being nothing more than a common print coloured, but so disguised beneath the saccharine coating as to readily mislead even the practised eye of a connoisseur. We understand that several of these modern-antiques are now about.

Exhibition for Minor Works of Art.

A CORRESPONDENT of our's has this week offered a suggestion (published in another column) which we should vastly like to see carried into effect. Every mechanical effort springing from the ingenuity of man, must always vary in the excellence of its execution according to the skill, perseverance, and taste of him whose hands may have fashioned it to its present appearance.

Every man is not a MICHAEL ANGELO,—and we do not think the less of St. Paul's Cathedral because St. Peter's at Rome still exists; then, why should not the rude, but promising, attempts of incipient genius find a place of honour and reward?—why, to state the case shortly, should we not have regularly-formed institutions established professedly for the patronage and encouragement of the younger members of all crafts requiring the exertion of intellect, judgment, and manual dexterity?

These are questions worthy of our deepest consideration. The proposition which we set forth is neither novel nor chimerical: the practice of past ages removes all doubt about the first, and our daily experience amidst the youthful of both sexes fully convinces us of the truth of the second.

To place encouragement in the path of the young is tantamount to erecting a signal light upon some dangerous shoal. None but those who have struggled upwards, unaided, from obscurity to a prominent position in the estimation of their fellow-beings, can form a

correct idea of the early sufferings both of heart and brain of the secret toiler for future honour! None but these can estimate sufficiently the agonising pain which the rebuffs of a callous world inflict upon the sensitive minds of those who toil incessantly in the hope of gaining its approbation, and upon whom judicious encouragement would fall like manna from heaven to cheer up their energies, flagging under misfortune, and enervate them to renewed struggles,—nay, even to implant in their breasts a honourable ambition to perform successfully the difficult journey which leads to perfection.

Upon a future occasion we will endeavour to project a plan for the accomplishment of this desideratum; in the meantime we shall be open to receive suggestions from our readers, and we hope they will not be backward in forwarding any communications likely to assist us in our attempt.

Simplicity.

SIMPLICITY is that quality, which, in all the arts, is opposed to exuberance or pretension. We say that a work of art possesses a noble simplicity when the effect produced by it is the result of means neither numerous nor complicated. We say also that a form is simply beautiful when, as in the majority of antique vases, it pleases by its agreeable contour alone, without the assistance of any accessories. With regard to an edifice similar remarks apply. It is simply elegant when there is no confused or contradictory diversity of parts, and when the whole is harmonious and graceful. Experience has abundantly proved that simplicity, as distinguished from meanness or boldness, is always conformable to good taste. This quality may be evidenced in all the different portions of a work, from the general plan even to the execution of the minutest details. The best works of art are always the simplest in point of design. Their projectors sought the principles of grandeur and beauty not in a superfluous quantity of parts, but in unity, in connection, in *tout ensemble*. It is true that the great masters have sometimes produced works the composition of which is extremely rich, but only when

the subject necessarily demanded such profusion. When Poussin painted the gathering of manna by the Israelites in the Desert, he could not limit himself to a small number of figures. But often, in the finest specimens of pictorial art, a single group, composed of four or five figures, is found sufficient to tell an interesting story, and to display the most consummate ability in the artist.

In order to attain this most desirable quality, the artist should take care to propose to himself one great aim, one principal *point de vue*, to which everything else should be subordinate. The grand style presupposes simplicity in all its parts:—in subject, in forms, in attitudes, in composition, in ordonnance, in accessories, &c. It presupposes also a great mind in him who practises—a high taste in him who appreciates and applauds it.

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

“Charles (Bath).”—*We are much obliged, and shall be glad of the assistance promised.*

Mr. I. Thompson is thanked. *Two proofs shall be forwarded as soon as the engraving is finished. We shall be glad to hear from him again, when convenient.*

“H. S.”—*We are much obliged. The alphabet forwarded appears in this number. The proofs shall be forwarded with the tracing, as our correspondent desires.*

“M. W. D.”—*Thanks for your favourable opinion and the enclosure.*

Other correspondents in our next.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to “the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London.”—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

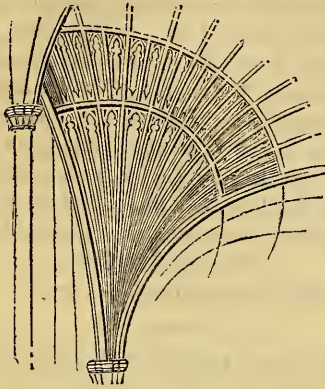
*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

Part 18 is now ready, price 7d.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

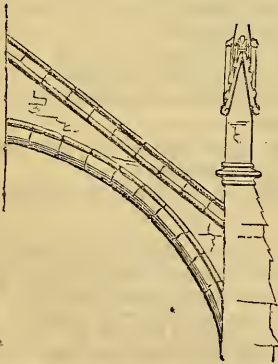
[Continued from page 214.]

FAN TRACERY, a description of tracery used in Gothic architecture, the contour of which



resembles the form of a fan.

FLYING BUTTRESS (in Gothic architecture), a buttress supporting an outwork, and archway, or a corridor, where the masonry supported springs from a wall on the opposite side.



FLYING BUTTRESS FROM THE SOUTH TRANSEPT OF SALISBURY CATHEDRAL.

FELT-GRAIN, the mode of splitting or sawing timber in a line passing across the centre or heart of the tree; it is opposed to the mode of cutting, which following, as near as may be the course of the annular rings, is called *quarter grain*.

FIRE-PROOF HOUSES, vaulted or arched

buildings may be constructed entirely of stone or brick, and consequently will be incombustible; but the necessary thickness of the walls darkens the rooms; and this mode of building is also too expensive for dwelling-houses. Various methods have been adopted to attain the intended purpose, and to obviate difficulties; cast iron instead of timber joists have been used, and plates of iron for floors and roofs.

FLOOR, the bottom of a room. Floors are commonly made of wood, which ought to be well seasoned, to prevent its springing: the timber and the boards for this purpose must therefore be rough planed, and put out to dry twelve months previous to their being used. For ground-floors, flagstones or bricks are frequently used, or a composition of burnt clay and sharp sand, mixed up with bullock's blood, which being well beaten together, and spread out with a smooth surface, makes a beautiful and firm floor. But plaster of Paris with other ingredients, finely sifted, makes floors nearly equal in appearance to marble; and marble is frequently used for the floors of halls and splendid apartments.

FRANKING, a term used by the makers of window-sashes, and applied to the mode of forming the joint where the cross pieces of the frame intersect each other.

FRIEZE-PANEL, the upper panel of a door of six panels.

FRIEZE-RAIL, the rail next to the top rail of a door of six panels.

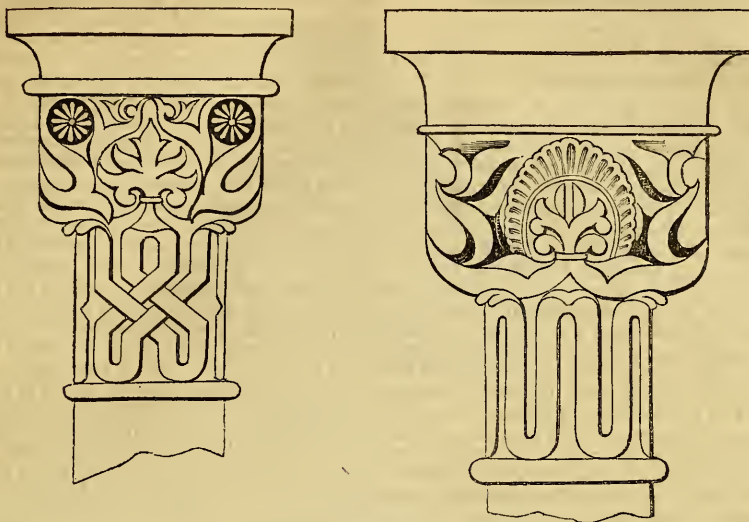
FRIGIDARIUM, an apartment in the Roman bath, supplied with cold water.

FUNNEL, the inside of the shaft of a chimney.

FURRINGS, are flat pieces of timber used by carpenters to bring dislocated work to a regular arrangement, by drawing the chief parts of it to one regular surface.

FUSUROLE, a small member in form of a collar, with somewhat long beads under the echinus, or quarter-round, of pillars of the Doric, Ionic, and Composite orders.

CHINESE CARVING.—The means by which the concentric balls which come from China can be carved one within the other, have long been matter of dispute. No join is to be discovered, but a recent traveller states positively that each ball is constructed of two pieces, the edges of which are so finely scraped down, that the edge of one hemisphere is made to overlap its counterpart with the greatest nicety. Thus one ball is easily inclosed within another. The joinings are then united by a peculiarly strong cement, aided by the employment of steam and pressure. He says that any one who wishes to make the expensive trial will soon ascertain the fact by applying a very powerful heat to one of these balls, which will open at the joints in due time.



ARABIAN CHAPTERS, FROM GRANADA.

FontS.—The shape of the interior, or aperture, is almost always circular; irrespectively of the external form of the bowl. A very few foliated bowls occur, as at Wellow, Somerset, and Lenton, Nottinghamshire; an idea perhaps derived from the orifices of piscinæ. No example of an octagonal bowl has come to our knowledge, except those of Lanteglos, Cornwall, and Yate, Gloucestershire. Square apertures are not very uncommon in Norman FontS. For the diameter and depth of the bowl in ancient FontS no rule can be given: from one and a half to two feet wide by about one foot deep seem the average measurements. One of the largest bowls we have met with is at Bradley, Lincolnshire, which is nearly a yard across. It is, however, well known that ancient FontS were made large enough for the complete immersion of infants. Exceptions to this all but universal practice are very rare; one or two instances are quoted in the *Archæologia*, vol. xi. p. 123. At Horbling and Dembleby, Lincolnshire, are extremely small and probably modern FontS formed out of a stem or shaft. The violation of the same principle, arising from the unhappy custom of aspersion now prevalent in the English Church, is one of the commonest and worst faults of modern usage. We have seen solid FontS, in which about a cup-full of water would lie in a small cavity at the top. The general use of white basins and other paltry and irreverent expedients are too well known to need remark or comment. Modern FontS, until lately, when some very fine imitations of ancient models have been executed in stone, have generally been either pots of Wedgewood ware placed upon or under the Altar, or at least within the

Altar rails, or in the Chancel; or they have been meagre stone pedestals with a small white marble basin on the top, or perhaps Italian vases with all sorts of pagan devices upon them. These and such practices are fearful abuses both of common propriety and rubrical ordinances. It is not our province to speak of the corresponding depreciation of a Holy Sacrament, which has ever been found to accompany contempt for and neglect of the visible instruments of its administration. We would rather dwell lightly on the faults of a most uncatholic and perverted spirit, which turned out of the churches in hundreds their beautiful ancient FontS, and profanely converted them into water-troughs to catch the rain from the roof, or supply the animals of the field with drink. But at the same time we must endeavour to amend the many abuses in this respect which are yet to be lamented in our own times. The number of desecrated FontS which has come to our knowledge in the course of the present publication is a startling proof how very far we are yet removed from a return to those Catholic practices, which the bitterest hatred and the strongest puritanical influence could not abolish from the Church of the seventeenth century, but which we have lived to see rendered obsolete by mere apathy and idle content. But it may be hoped that interest in the things themselves is ever intimately connected in a right mind with interest in their use; and that we shall yet see the profanations which exist in the Church vanish before the revival of a neglected ritual and with it of a more rigorous superintendence over ecclesiastical matters.—*Paleys' Illustrations of Baptistical FontS.*

The Smoke Nuisance.

A correspondent of the *Kentish Mercury* makes the following important remarks:—

A very simple question, if answered scientifically, would at once suggest the only proper method of going to work, to seek a remedy for this abomination of modern times, this foul stain on our boasted knowledge, in conducting every process of manufacture on the best and most approved principal. Now, what is the cause of smoke? What his the cause of smoke in a lamp or candle? Can any one, the merest tyro in chemical science, doubt but it is wholly and solely referable to "imperfect combustion?" We have no smoke in a good argand lamp, and we have no smoke from a well trimmed candle. On the subject of the combustion of coal, I know no better treatise, than that by Charles Wye Williams, Esq. He demonstrates in a very lucid manner, that the product of coal in furnaces, the crude carburated (or coal) gas, can only be consumed perfectly, without smoke, by admitting a due proportion of atmospheric air; but, as the injudicious admission of air into furnaces would affect the draught, cool the flues, and be otherwise prejudicial, he shows that it can only be admitted advantageously in small jets, and this he effects by a very ingenious arrangement of apparatus, which literally showers into the great body of heated impure coal gas, coming from the incandescent fuel in the furnace, many hundreds of jets of pure air, so that immediate mixture ensues, with perfect combustion of the gas, and the total absence of smoke. Messrs. Dircks and Co., the well known furnace architects, of Moorgate Streets, City, have erected upwards of 500 furnaces on this improved principle, which was patented some years ago, and gives rise to what are called argand furnaces. Smoke being, as just stated, the result of imperfect combustion, we find that the purest coal gas, so pure that when collected in a bell glass over water it is as pellucid as the air we breathe, would if burnt from a wide tube smoke intolerably, yet only screw on the same tube an argand gas burner, and as we now give the gas to the air in jets, thereby increasing its surface and facilitating its admixture with the oxygen of the atmosphere during combustion, we obtain perfect, what in the first instance was crude and imperfect, and as a consequence have a clear, brilliant, smokeless flame. What we do in this case, we must attempt to effect in the combustion of the crude coal gas on the larger scale of engine boiler and other furnaces. But as in these we cannot collect and control the hot gas, and reduce it to jets, Mr. Williams in his practise found that it answered every purpose of perfect combustion if the air was presented to the gas in jets. In thus reversing the operation, theory and practice agree, the chemist can burn a jet of oxygen in an atmosphere of coal gas; or he can burn a jet of coal gas in an atmosphere of oxygen, so that each becomes to the other a supporter of combustion, according to circumstances. In short, it is a curious circumstance, which che-

mists can all well understand, that supposing we lived and moved in an atmosphere of coal gas, instead of one of oxygen and nitrogen, as at present, our gas manufactories would have to use not coal but manganese, or some other product yielding oxygen. Imagine two gasometers, one filled with coal gas, and having a gas chandelier hung from the roof, inside, and this connected by a flexible pipe, with the second gasometer, filled with atmospheric air or oxygen; it is evident that the air or gas might be pressed from this second gasometer through the flexible tube, down the tubes of the chandelier, into the coal gas occupying the first gasometer. If flame, or the electric spark, were then immediately applied to the jets, on the instant of their so issuing from the chandelier, combustion would proceed as at present; only apparently atmospheric air would seem to be a combustible! This is just what is taking place in the argand furnaces; the air so to speak, is showered into the volumes of coal gas, in innumerable small jets, ensuring complete admixture and rendering combustion so perfect, as entirely to avoid those dense clouds of smoke, which disgrace the funnels of every steam-boat on the river, and all the large works in and about our otherwise favored town.

Sheffield School of Design.

On the 7th inst. the annual meeting of the Sheffield School was held, Lord Wharnclyffe in the chair, when a report was read, stating that larger premises were being fitted up for the school; that candidates were at this time waiting for admission: that some of the pupils had been admitted to study in the botanical gardens; that the council had the satisfaction of frequently receiving the testimonies of many manufacturers as to the increased intelligence and artistic knowledge displayed by those young men in their employment, who are receiving instruction in the school; and they appealed not to the manufacturers alone, but to all classes of the community for assistance.

The chairman made a very good address. After praising the works exhibited, he said—I am sure I need not enlarge on the immense advantages obtained by giving to artisans of the town the skill which the execution of such works as we now witness display: but I think it doubtful still whether the nature, benefits, and objects of the school are fully appreciated by those connected with it. I do not mean to underrate at all—far from it—the value of such acquirements as are exhibited in these works. I have said that they are of great value. An artisan who has the power of drawing correctly, and who has access to such subjects of study as this institution affords, has great advantages over one who has not such opportunities. But I think it desirable to remind all connected with such establishments, that this is not the whole, or the most important object to be achieved by such institutions. Let us recollect the title of them—that very title shews that they are not merely academies for drawing or modelling,

but schools of "design." What is meant by such a term? It means a school which not only gives the power of executing such works, but of designing, inventing, and composing such combinations of art, and producing such original works as those exhibited in that room. That is the great object intended, and it is to that (on the part of the master and all connected with the institution) that the attention of the pupils must be directed; for we cannot go on for ever copying works: we must form new combinations, and improve on the subjects handed down to us, and multiply the many sources of beauty which decorate the different subjects of life. We may depend upon it that what we should look at principally is not merely skill but the formation of taste, which is one of the most difficult of all objects in connection with the arts.

His lordship pointed out the necessity of education the mind to perceive and appreciate the beautiful. He said, it is to acquire such efficiency as to enable the mind of the pupil to extract the beauties, and combine them, and present to the eye that which is agreeable, that these institutions are established; and if this is obtained, immense advantages will be acquired by the trade they are in connection with; by the community among whom they are to be found: and the country will think it wise to give its funds to support such institutions. I cannot see why this country should be behind others in the possession of those acquirements which it is the object of these schools to impart. Above 100 years ago one of our greatest poets exclaimed—

"O, when shall Britain, conscious of her claim
Stand emulous of Greek or Roman fame?"

I think that instead of Greek and Roman fame, we may say French and German fame. At present we are unable to compete with them in matters of art. Why should this be? We are not behind them in emulation, or the exercise of the understanding. Those who go abroad will scarcely ever find themselves on a foreign steamer or a railway but they meet with English engineers, and skill from England, which is thought necessary to superintend their establishments. Why, then, should there be one department of industry, or I should rather say one branch of the exercise of the understanding, in which we are behind other nations? Depend upon it there can be no sound reason for it: it is a want of education in that particular branch of knowledge—it is a want of the habit of mind for contemplating the beautiful; and unless we can attain this point for all those concerned in the operations of this country, and enable them by their own knowledge and habits to investigate different forms—until we can give them that benefit we shall not be in a position to vie with other countries.

Alderman Dunn, in urging the manufacturers to assist the school, combated the absurd and short-sighted objection made by some to the school to this effect:—"We are established in business, we have capital, and can command skilful artisans; and these institutions, by rais-

ing up competition, take away part of the advantages of which we are in possession." Such observations appeared pitiable in the extreme; so contrary to every honest and good feeling of our nature, that they might be sure, without resorting to any metaphysical argument, that there was some hitch in the matter. Mr. Dunn continued, I take it that with regard to the prosperity of the district, they are so bound together one to another, that the prosperity of the meanest person to a certain extent affects the position of the wealthiest individual, and that persons in the working classes cannot be educated, instructed, or raised in their class, but every class above them is also raised in proportion. "The moral welfare of a great part of our fellow townsmen is to considerable extent bound up with the prosperity of this institution. You cannot give a young man a love and taste for art, but you raise his moral education; and therefore looking at both the money and moral parts of the question, I feel that the welfare and prosperity not only of the working classes, but the masters and manufacturers of Sheffield, is considerably involved in the success of this institution, and in raising up a higher appreciation of art than now exists."

Thanks being voted to Mr. Mitchell, the head master of the school, with many complimentary remarks on his efficiency,

Mr. Mitchell, in his reply, very properly pointed out that more time and study are required to make an artist than are usually given. He said,—With regard to the great superiority of the English over the French and Germans, your lordship remarked, our engineers and mechanics are sent over all the world, and no doubt such is the case, but the reason is, our mechanics take time to learn and to become proficient in their work—they labour under skilful masters, with great assiduity and more intelligence—therefore, they have more extended experience than continental manufacturers. On the contrary, the French artists labour as hard as the English mechanics. I can speak to this fact, having myself been educated three or four years in France. My hours of study were from six in the morning until eight or nine at night—12, 13, or 14 hours a day, and this not merely for days, or months, but for years. This will account for the superiority of France over England in this department. The drawings now exhibited are executed by pupils who come tired to the school for an hour or two each evening, and are worthy of admiration. The object of this school is to bring up young men to be accomplished designers; but an accomplished designer is not—to use a common expression—made as a Birmingham button, but only by assiduous study: he must be an intelligent man, and conversant with history; he must give his whole time to the study of art if he wish to be an accomplished artist or designer; and it is almost impossible to have an accomplished designer who devotes but six hours a week to the study. How can you expect under such circumstances to compete with French artists who labour twelve hours a day for years before they offer to gain a single sixpence?

The High Level Bridge.

"Who would have thought it?" asks the *Gateshead Observer*. Yes! who would have thought it? Fifty—twenty—ten years ago—who would have thought it? Who would have dreamt that, in the year of grace, 1848, a ponderous engine, weighing we know not how many tons, and drawing we know not how many passengers, would shoot across the Tyne from Gateshead to Newcastle, at an elevation of 130 feet above the water! The Scots, when firing cannon balls along the same line, in their siege of Newcastle, had no conception that a generation would arise which would send a locomotive-engine on that identical course; nor had the poet Darwin realised the stupendous feat of the 10th, when, dimly desecring the glory of the coming time, he wrote the prophetic distich—

— "Soon shall thy arm, unconquer'd Steam, afar
Drag the slow barge and drive the rapid car!"

It was well, therefore, amid the forest of flags and banners that sprung up on the 10th instant, in Newcastle and Gateshead, from the railway-station and the townhall, and the *Observer* office, and other points, on this side of the Tyne, and along the high-level bridge, and from the old castle of Newcastle, and the shipping on the river, bearing the inscriptions of "Hudson for ever," and "Stephenson," and "Railways and Commerce," &c., &c., &c.; it was well, we say, that some one (probably our "oldest inhabitant") hoisted in Gateshead, over the new "getting up stairs" station of our borough, a flag which put the question that must already have arisen in many minds:—"Who would have thought it?" Never was such a day witnessed before on the banks of the Tyne. The builders of the bridge, who had completed the temporary structure which was to serve its purposes till the permanent erection was finished, had not thought of opening it with *éclat*; it was only in compliance with the solicitations of friends that they handled it with a public ceremony; and they were hardly prepared for the enthusiasm with which the partial accomplishment of their gigantic work was hailed by the people. The population of the two towns and their vicinities turned out *en masse*; and Darlington poured a thousand or more of its inhabitants into our streets, the railway having transported them to the banks of the Tyne at less than a farthing per mile! . . . From the train the view was as strange as it was interesting and beautiful. Everywhere human heads were visible. Streets were thronged—the old bridge was clustered from end to end—the ships swarmed with gazers—church-towers and spires had crowds of tenants—housetops were covered—the battlements of the old castle were both manned and womaned—the two towns, in short, were "turned inside out." . . . Onward went the train, soaring aloft over applauding Newcastle—over Dean-street, Pilgrim-street, and other well-known thoroughfares, all paved with human

faces, upturned to catch the wondrous sight. One common joy filled the population. The richest and the poorest were alike infected; and one old lady, hanging forward from the window of her miserable attic, waved an unmistakable flannel petticoat in the wind, as she said to herself—(the words were plainly written in her face)—"Who would have thought it?"

The National Gallery.

REPORT,

From the Select Committee of the Commons, appointed "to consider of the best mode of providing additional room for works of art given to the public or purchased by means of parliamentary grants."

"In considering the matter submitted to their attention, your committee were naturally led to turn their first thoughts to the valuable collection of pictures just presented to the country by Mr. Vernon. They have been gratified to find that temporary accommodation can be at once provided for them within the precincts of the National Gallery itself, although the amount of room, now but barely sufficient for this single purpose, and the early prospect of greater demands upon it, render it most desirable that additional space should be provided as soon as may be possible

"Your committee are unwilling to pass from this topic without recording their sense of the public spirit and considerate liberality which have prompted this living bequest on the part of Mr. Vernon, and they entertain no doubt that the public gratitude will furnish the most powerful incentive for eliciting further instances of munificence similar in kind, as well as the most honourable reward to him who has afforded this noble example. To this end, however, the means of adequate reception seem to be an indispensable requisite.

"The likelihood, therefore, of fresh supplies to the National Repository of Art, whether derived from individual generosity, or by gradual purchases from the public funds, renders it advisable that the best mode of dealing with the National Gallery should be promptly taken into consideration. Your committee cannot but regard the present building to be not only deficient in the requisite space, but, whatever may be the merit of particular portions or details, to be also very much wanting in the dignity and elevation due both to its purpose and its site. They have not omitted to consider the question, whether it would be expedient to erect an entirely new building upon another spot, and with this view they gave their attention to the most obvious situations in the metropolis; but, after careful deliberation, they unanimously concurred in the opinion, that taking into account—

"The commanding nature of the site occupied by the present building, to which perhaps it would be difficult to find a parallel in our own or any other capital:

"Its accessibility, and nearness to the chief thoroughfares, and centres of business, which

are fed by what has been described in a well-known phrase as 'the fullest tide of human existence.'

"The aids to economy, which, without sacrificing the beauty of effect which a new front and additional height may confer on the structure, would be furnished by the rare circumstance of only one ornamental front being rendered necessary from the disposition of the ground, and by the means which are at hand for making use of the whole of the present interior, due regard being paid to the convenience of the Royal Academy in procuring suitable accommodation elsewhere:

"The space for enlargement, which, in the process of time, and concurrently with the exigencies of the collection, might be supplied by occupying the uncovered ground now in the occupation of public establishments, in the rear of the present building,—

"For all these combined reasons, without presuming to indicate the precise period for the commencement of such a work, the determination of which may be governed by other considerations, your committee would recommend that whenever it is undertaken, the enlarged and improved National Gallery should be on the same site as the present; and for the completion of such a work, which ought to be not unworthy of the age, the country, and its own destination, they would gladly see the most eminent talent of the nation invited to complete in designing an appropriate and enduring monument.

"September 1, 1848."

THE NEW SUSPENSION-BRIDGE AT NIAGARA FALLS.—It makes the head dizzy to look at it, says the *Albany Journal*, and yet it is traversed with as much security as any other bridge of the same width. We were present while the workmen were engaged in hanging the planks over the fearful chasm. It looked like a work of peril, but it was prosecuted with entire safety. Not an accident has happened since the first chord was carried across the river at the tail of a kite. It is impossible to give the reader a clear idea of the grandeur of the work. Imagine a foot bridge 800 feet in length, hung in the air, at the height of 230 feet, over a vast body of water rushing through a narrow gorge at the rate of 30 miles an hour. If you are below it, it looks like a strip of paper suspended by a cobweb. When the wind is strong, the frail, gossamer looking structure waves to and fro as if ready to start from its fastenings, and it shakes from extremity to centre under the firm tread of the pedestrian. We saw the first person pass over it—Mr. Ellet, the builder. His courageous wife soon followed him, and for two days hundreds, attracted by the novelty of the thing, took the fearful journey. Strange as it may seem, there were those who had no hesitation to slide over the awful chasm in a basket, upon a single wire cable, who could not be induced to walk over the bridge. When you find yourself suspended in the air, with the roaring, rushing, boiling Niagara 250 feet below you, if your heart don't flutter, you will have nerve enough to swing over Vesuvius!

Artificers' Work.

No. VI.

PLUMBERS' WORK.

Plumbers' work is rated at so much a pound, or else by the hundred weight, of 112 pounds. Sheet lead used in roofing, guttering, &c., is from 7 to 12lb. to the square foot. And a pipe of an inch bore is commonly 13 to 14 lb. to the yard in length.

Ex.—What cost the covering and guttering a roof with lead, at 19s. the cwt.: the length of the roof being 43 feet, and breadth or girth over it 32 feet—the guttering 60 feet long, and 2 feet wide, the former 9lb., and the latter 8lb. to the square foot?—Ans. £113 3s. 8½d.

EXTINGUISHING FIRES IN SHIPS.—Flame or combustion cannot go on where there is carbonic acid gas. This is one of the elementary principles of chemistry. It may be shown in various ways: A lighted taper thrust into a jar of carbonic acid gas is instantaneously extinguished; or, if we take the glass of a common argand burner, and close the upper end of it by a flat plate of glass, or even by a piece of card or pasteboard, firmly, so completely as to prevent any current of air through the tube, on introducing for about an inch or so the flame of a candle at the other extremity (the glass of the argand burner being held upright), it will shortly, usually in the space of little more than a minute, be extinguished, merely by the accumulation of the carbonic acid gas produced by its own combustion. The production of carbonic acid gas is completely at our command, for on adding dilute sulphuric acid to chalk, we can set at liberty, in the space of two or three minutes, enormous volumes of the so called fixed air. The cost of material for a ship of 1,000 tons would not exceed, at the utmost £15 or £20 sterling. By means of tubes proceeding from the upper deck, in connection with a cistern containing the dilute sulphuric acid, to the quarters below where there is most likelihood of danger from fire, or moveable hose (made of gutta percha), which can be introduced into any part of the vessel,—the oil of vitrol, previously diluted with water, can be at once poured over the chalk (which is to be thrown down in the place where the fire rages), and immediately, the carbonic acid being set at liberty, the fire is extinguished; for combustion cannot go on in an atmosphere of carbonic acid gas. I have been much occupied experimenting on this subject, and I find that from five tons of chalk as much carbonic acid gas may be obtained as will be sufficient to completely fill a vessel of 1,000 tons burden. The expense of laying the tubes will not exceed £30 or £40; and, once laid, there is no further trouble or expense.—*Dr. Reid in the "Daily News."*

The Chronotypist.

THE model of a new system of telegraphic communication was recently exhibited in the Liverpool Underwriter's Rooms. The apparatus, and the principle upon which the system is based, are each extremely simple; the former consisting of gutta percha tubes containing water, which water, when raised at one end of the tube by pressure applied at the opposite terminus, signifies various given signals, according to its greater or lesser elevation. Practical experience would demonstrate, we believe, however, that gutta percha is a substance much too liable to contraction or expansion from the state of the atmosphere; and the same objection applies equally to the water inclosed therein.—A new steam frigate, of 1,400 tons burthen, named the *Vladimir*, has lately been completed for the Emperor of Russia, built by Mr. Mare, late of the firm of Ditchburn and Mare, at Blackwall. She is fitted with engines of 500-horse power, and is described as a fine specimen of naval architecture: is replete in accommodation both as regards the comfort of the officers and crew, and the means of warfare; and is throughout finished in a style of first rate excellence. The ward-room is a splendid saloon, the officers' berths being on either side. At the midships is a buffet furnished with a splendid assortment of electro-plate, supplied by the Russian Consul at Birmingham. The officers' cabins are fitted-up in a superior style, each cabin containing a sofa-bed, escritoire, and chest of drawers, with water laid on. The ports for admitting the light and air are glazed with thick plate-glass windows, which, by means of screws, can be opened to any extent, or completely and hermetically closed. The captain's cabin is a splendid semicircular room, affording every accommodation. The furniture is crimson cut velvet. On the deck there is a pavilion or cabin for the Emperor, in which are a good-sized cabin containing a sofa bed, a dressing table, &c., and a small room for his Majesty's attendant, immediately adjoining. The furniture in this pavilion is of mahogany and green morocco leather. The deck affords spacious accommodation for fighting or navigating the vessel, and for six 48-pounders which are to be placed on traversing carriages.—The most extraordinary journey that has yet been made upon the Great Western Railway, was performed on Saturday, August 26th, with the Courier locomotive, from Didcot to Paddington, with the 12 o'clock express train from Exeter, consisting of six carriages containing 60 tons. The Courier is one of the eight-wheel class of engines, with eight-feet driving wheels, 18 inch cylinders, and 24 inch stroke; and the only difference between her and the others of the class, the extraordinary speed of which have been frequently recorded, is, that her tubes are three inches shorter, and her fire-box larger by six square feet. It appears that the engine started from Didcot at 39 minutes 17 seconds past three, and reached Paddington at 28 minutes 13 seconds past four. The 53 miles

were performed in 49 minutes 13 seconds, or at the average speed of 67 miles per hour. The forty-seventh mile post was passed at 3.46.40½, and the fourth mile post at 4.23.24½, so that 43 miles were performed in 36 minutes 44 seconds, or at an average speed of upwards of seventy miles per hour! The train left Swindon at 3.9.1, stopped at Didcot 5 minutes 35 seconds, and reached Paddington at 4.28.13. The 77 miles were therefore gone over in 78 minutes 29 seconds, including the 5 minutes 35 seconds stoppage at Didcot.

SHOP-FRONT ARCHITECTURE.—Frequent as are the opportunities, and great as seems to be the solicitude, on the part of the occupiers of shops to render them as striking and attractive as possible in point of decoration, there is, in reality, very little of either novelty or variety of shop-front architecture;—scarcely a dozen different examples can be pointed out in the metropolis of any particular merit for their design. This is certainly not owing to excess of economy, as many are got up regardless of expense. Nevertheless such is the case; nor is it at all to be wondered at when the generality of tradesmen universally begrudge, if not their money, the requisite space for architectural design. So long as the greatest surface of window is made a *sine qua non*, it is hopeless to look for propriety of architectural character, either as regards front of house, or architectural decoration in shop front:—The whole of the lower part of the elevation becomes in appearance a mere gap, without piers, or any visible support to the mass above, which produces an effect as if the glass sustained the whole weight. In some instances the door jambs are not seen, and at the return of a corner the window is continued without any interruption of a support of any kind at the angles. There is nothing susceptible of decoration, except, the bretsummer or horizontal lintel above the window, which, if treated architecturally, like an entablature, occasions another offensive solecism and palpable defect, there being nothing for its support as before mentioned, but the mahogany or metal bars between the several sheets of plate-glass. Neither is the effect very much more satisfactory where Grecian Doric columns or pilasters are used, as at present, viz., one on each side the door, and one at either extremity of front, as in many cases the openings are many according to the indication of the style, there would necessarily be three or four other columns between, as every tyro in architecture well knows, agreeably with that order: the columns were seldom more than a diameter-and-a-half apart, and some times not so much. Of course such a close intercolumniation, or any approximation to it, would be utterly impracticable in a shop-front, but then why should a style be employed merely for the purpose of being mangled. Something might be attempted, if only experimentally, and the successful instances would be so much pure gain, were they only as hints for something still better.—*Builder.*

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Habitations of the Poor.—No. II.



NOTWITHSTANDING

whatever may be said to the contrary, we, cannot possibly fail to be struck with the fact, that all the charitable attempts hitherto brought forward to improve the condition of the working classes have begun at the wrong end; for they endeavour by the aid of religious and moral instruction to attempt the conversion from intemperate and vicious habits to those of sobriety and industry, while the root of the evil evidently still exists, as it is undeniable that while the landlord neglects his houses, the tenant will suffer in his domestic comforts, condition, and enjoyment—for nothing will increase or decrease the happiness or sober industry of the working-man more than the state of his home. We are satisfied that if parks, public promenades, and public galleries of arts and sciences, &c., are formed on the supposition that it is consulting the health and comfort of the poor, that it is all the more essential for the counteracting causes of domestic misery to be removed. Imagine the appearance of a man with his family seeking enjoyment in the park—see the glow of health they gain, and how clean their attire, while, on the other hand, take a man whose house, situated in the dark atmosphere of a court or alley; perhaps with a dunghill of decomposed matter under his nose, with his energies prostrated, careless of the world and of himself. The one you can easily, and, in nine cases out of ten, conclude

to be industrious—the other reckless, ansional to every impulse, nearly, of moral goo. The home of the first is cleanly and comfort spirit while that of the other is miserable and to in-contaminating the intellect while it deman of the energies of the body. The *Morning Hnce* his in a recent able article on the importa, petty, providing a better description of house ad some dation for the labouring classes, says—"1 food the first step towards the improvement of ti. social condition of the poor. It is the only thing that can lead the working-man to that self respect, which is the preservative against moral contagion. 'Give a man a bible and a calling,' said ROBERT HALL, thinking he had named everything necessary to keep mankind out of mischief, *give him a home, too, we would add*; it is the want of a home that makes thieves, drunkards, and vagabonds. *The brick-layer must precede the schoolmaster*; let the parent have but a comfortable home, and there is but little fear either for himself or his children. If there be order, decency, and regularity in his little household, comfort and happiness will also be there. *Give the poor man something to take a pride in; let him feel that while he respects himself—he is respected by others, and the gin-shop, and the tavern, will lose its charms.* We know of nothing better that the philanthropist can do than to *build houses for the poor,—nay, there is nothing better that the capitalist can do, for no investment can be more profitable, whether in town or country.* Our labouring men are paying out of all proportion to the real value of the tenements they inhabit."

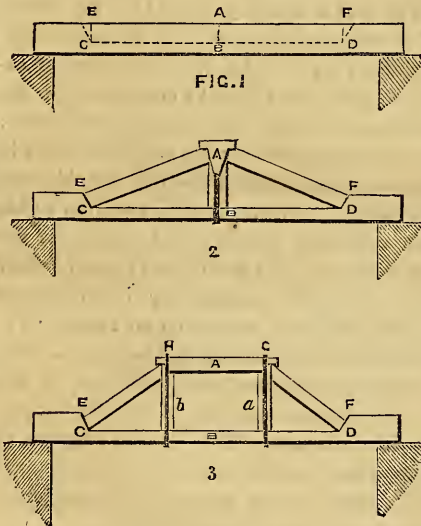
The general propriety of improved drainage and increased ventilation has been universally admitted—nearly all large streets have now main sewers, while the crowded thoroughfares of the poorer class of houses must wait till their richer and more fortunate fellow-creatures have been served; so, in all late improvements, the good has only, or in a degree out of all proportion, been felt by the middle classes; so, in parishes where often the courts and alleys contribute more than their moiety of taxes, all ideas of improvement are neglected and sacrificed to the leading thoroughfares. The present government, it must be admitted, have at last struck a decisive blow in favour of the

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 224.]

FRAMING, the principles of. The form of a frame should be designed according to the nature of the load it is to carry; for it is clear that the framing which would be best adapted for supporting a load in the middle, would not be equally fit to carry a load at any other point of its length. In carpentry the load is usually distributed over the whole length of the framing; but it is generally supported from point to point by short beams or joists. We will first consider the case where the load is collected to one point of the length of the frame. And, in order that the advantage of framing may be more obvious, we will suppose its parts to be cut out of a single beam, which in a solid mass would have been too weak for the purpose.

Let fig. 1, be a piece of timber, and make the

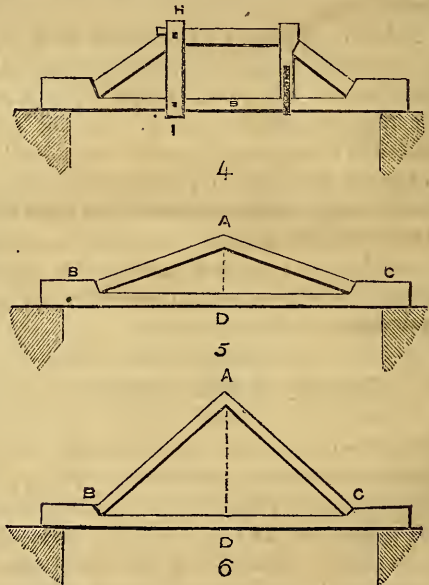


saw-cuts in it which are shown by the dotted lines, and in the same proportions, and remove the triangular pieces E, F. Then raise the pieces AE and AF till they form close joints at E and F, and insert a piece of hard wood at A, cut so as to fit the ends. The piece of timber will then form a frame or truss, as represented in fig. 2, if a slight strap in the middle be added to sustain the lower part B to the piece A. If the depth of the frame at the middle be double the depth of the beam, the strength of the frame will be a little more than three times the strength of the beam, and its firmness will be very nearly eight times as great as that of the beam. If the depth of the frame be made three times the depth of the beam, as repre-

sented in fig. 2, it will be about six times as strong as the beam, and about eighteen times as firm or stiff: that is, it would bend only an eighteenth part of what the beam would bend by the same weight. When the depth of the frame is increased in the middle to more than three times the depth of the beam, the truss ceases to be equally strong in all its parts, and has the greatest strength in the middle, but is weak near to the joints at C and D.

To render the strength more equal, and to obtain two points of support instead of one, the piece A may be made longer, and joined, as in fig. 3. But, in this case, if a greater weight were to be supported at G than at H, there would be a tendency to spring outwards at H, and inwards at G. This may be effectually prevented by inserting the short struts *a*, *b*, and the iron straps shown in the figure.

Frames or trusses constructed in this manner are exceedingly strong, and easily made, and the learner will gain much instruction by trying them in model. The abutments at C and D are stronger than any that can be formed by mortises and tenons, and a small part of the



wood being left whole at the angles C, D, renders tenons unnecessary. The parts are kept together at G and H by the straps. The wood is abutted end to end, and therefore its shrinkage cannot affect this truss.

Figure 4 shows two different modes of obtaining the same kind of effect. In one of these a short piece, G, is inserted, and connected to the tie, B, by a strap. In the other, the construction is the same as fig. 3, excepting that a piece, H, is notched on each side at the joint, and the two pieces bolted together.

We have now to show why the strength of a piece of timber is increased by forming it into a truss; and to have a clear conception of this



GOTHIC ORNAMENTS.

subject is one of the most important in the science of Carpentry.

Let ABC (fig 5,) be a truss, to support a pressure to be applied at A; the action of the pressure will tend to spread the abutments B and C apart; and the nearer we make the angle BAC to a straight line, the greater pressure will be exerted on the abutments B and C by the same load at A. On the contrary, if the height be increased, as in fig. 6, the stress tending to spread the abutments will be less.

But when the height, AD, is very small, as in fig. 5, the stress on the abutments is very great, and the parts BA and AC must be also much compressed, and likely to fail through the excess of strain on them; while there is an immense strain, tending to thrust the piece BC asunder in the direction of its length. If AD were to be no deeper than the solid beam, there is no framing nor disposition of the parts that would render the piece stronger than the solid beam, unless some stronger matter than timber were to be employed. A beam may be stiffened a little by tight wedging on the upper side, but the increase of stiffness is very small, and it does not retain it for more than a few months in a place where the truss is exposed to vibration, as in floors of houses.

FACE-MOULD; a mould for drawing the proper figure of a hand-rail on both sides of the plank; so that, when cut by a saw to the required inclination, the two surfaces of the rail-piece, when laid in the right position, will be everywhere perpendicular to the plan.

[To be continued.]

METHOD OF WELDING IRON, STEEL, AND SHEET-IRON.—In an earthen vessel melt borax, and add to it 1-10th of sal-ammoniac. When these ingredients are properly fused and mixed, pour them out upon an iron plate, and let them

cool. There is thus obtained a glassy matter, to which is to be added an equal quantity of quick lime. The iron or steel which are to be soldered are first heated to redness; then this compound, first reduced to powder, is laid upon them—the composition melts and runs like sealing-wax; the pieces are then replaced in the fire, taking care to heat them at a temperature far below that usually employed in welding; they are then withdrawn and hammered, and the surfaces will be found to be thus perfectly united. The author asserts that this process, which may be applied to welding sheet-iron tubes, never fails.—*Rec. de la Soc. Polytech.*

A WINTER GARDEN AT VAUXHALL.—It is proposed to transform Vauxhall into a winter garden. It is said that the four long avenues which form the large quadrangle at present, are to be increased about 20 feet, that is, 10 feet on either side. The roof of this pathway is to be raised a considerable height, and the whole of it is to be inclosed by means of a panorama of the overland route to India. This is to commence with Marseilles, then are to follow Malta, Alexandria, and all the principal points in the journey. These walks will lead directly to the Waterloo ground, which is to be covered in and converted into a hippodrome, where are to appear all the splendours of the chariot race, and other performances. To the right of the hippodrome there will be constructed a large conservatory, to form a very agreeable promenade, and gas is to simulate the sun.

It is calculated that within the next five years there will be upwards of 10,000 miles of railway open in Great Britain, which will give permanent employment, at good wages, to upwards of 140,000 men.

Light and Shade.

[From Williams's "Instructions in Drawing."]

OUTLINE alone is not sufficient to complete the representation of an object in high relief, or to give an idea of relative distances, so that everything may appear in its proper place: various dispositions of light and shade are required to give the appearance of solidity, and to vary the form of the object.

CERTAIN EFFECTS OF LIGHT AND SHADE OBSERVABLE IN NATURE.—In that branch of the science of drawing which refers to the disposition of light and shade, rules as precise and universal as those explained for linear perspective, cannot be pointed out as guides in every case. Nevertheless, as certain general effects of light and shade may be observed to obtain generally in nature, they will serve as guides or rules to be rarely departed from, although not capable of being applied with that universality and precision which characterise optical effects in as far as they influence the apparent magnitude of objects or directions of lines.

AERIAL PERSPECTIVE.—In contemplating an extensive prospect, all may have noticed that, on the objects and forms nearest to the eye, the most brilliant lights and the deepest shadows are seen; that these lights and shadows gradually diminish in intensity as the distance from the eye is increased; and that in the most remote parts of the prospect, the lights and shadows cease to be distinguishable from each other, but appear to blend in a common gray or bluish tint. This effect, which is sometimes called aerial perspective, is observed in a greater or less degree in all cases; the following rule may therefore be founded thereon, namely, that, in the representation of lights and shades in the drawing, the lights shall be made less brilliant, and the shadows less intense, as the surfaces on which they appear recede from the eye.

By a careful application of this rule, the appearance of solidity or roundness, and of relative distances, will be easily given to the representation of objects previously drawn in correct linear perspective upon a flat surface.

By again referring to the observation of an extensive prospect, a rule may likewise be established to guide in the drawing in of the outline. Not only is it found that the lights and shades diminish in intensity as they recede from the eye; but, as a necessary consequence, the contrasts between surfaces become also less prominent, and their outlines less distinct, the more the distance is increased. From this observed effect is deduced the following rule: that in the drawing of the outline on the paper, the lines shall be made fainter and finer the farther they recede from the eye. A proper harmony will thereby be preserved between the shade of each surface, and the outline which marks its boundary.

NO LINE VISIBLE INDEPENDENTLY OF THE

ADJOINING SURFACES.—This reflection leads to the consideration of an important effect in shaded drawings, which is, that no line is to appear in the finished drawing as a line singly, independent of the tints or shades on the adjoining surfaces. In nature, outlines are in reality but the boundaries of surfaces, and do not exist independently of those surfaces. If we examine an object, the cube, for instance, we see the lines which apparently separate one face from the other, only because the different faces of the cube present to the eye different shades or tints. There, were the exact boundary of any one tint terminates, a line seems to mark that boundary, but it does not exist independently of the surface of which it forms the limit: it merely constitutes a part of, or a continuation of, that shade or tint which belongs to the whole surface. The teacher will illustrate this proposition by laying on the desk, or fixing on the black board, a sheet of the tinted drawing-paper. The rectangular outline of the sheet of paper is made manifest by the contrast between the colour or shade of the paper, and the colour or shade of the desk or board on which it may be placed; nevertheless, the outline does not exist independently of the remainder of the surface which it terminates; for, within the outline, the paper is of the same tint or shade as at the extreme edge, which differs in nowise from the interior parts, and is only made manifest from its contiguity to another contrasting tint or shade. In order, therefore, to produce on a drawing as cloae an imitation as possible of the appearance of actual forms, no line should appear singly and independently as a mere line; but wherever it is desired to mark the boundary between two surfaces, that boundary must be indicated as on the model or in nature, by bringing the tint or shade of one surface to meet, at a very precise common boundary, the different tint or shade of the adjoining surface: the outline or separation between the two surfaces is thus made apparent simply by that difference in their tints. This required effect is always to be born in mind when drawing the outline, which should be made sharp and precise, but never so dark as to prevent its being blended with or lost sight of in the shading, which is to be afterwards applied, and, inasmuch as the distant shades are to be made fainter than the near shades, the distant outlines are also to be themselves made fainter in the same proportion, otherwise they could not be properly subdued as required.

We have taken an opportunity of explaining this at length, because it is a very prevailing fault with learners to mark the outline too strongly. They should therefore be convinced by the above, or similar explanations, that such a course is faulty. However, this being accomplished, some are liable to fall into the opposite error of leaving the boundaries of the surfaces indistinct, cloudy, and undefined, imagining that, because their outline is not to appear as consisting of mere lines, it is therefore to be indistinct and ill defined. The pupils should likewise be cautioned against this error.

The Sector.

THIS very useful instrument consists of two equal rulers, each six inches long, joined together by a brass folding joint. These rulers are generally made of box-wood or ivory; and on the face of the instrument, several lines or scales are engraven. Some of these lines or scales proceed from the centre of the joint, and are called sectorial lines, to distinguish them from others which are drawn parallel to the edge of the instrument, similar to those on the common Gunter's scale.

The sectorial lines are drawn twice on the same face of the instrument; that is to say, each line is drawn on both legs. Those on each face are,

- A scale of equal parts, marked L,
- A line of chords, marked C,
- A line of secants, marked S,
- A line of polygons, marked P, or Pol.

These sectorial lines are marked on one face of the instrument; and on the other there are the following:

- A line of sines, marked S,
- A line of tangents, marked T,
- A line of tangents to a less radius marked t .

This last line is intended to supply the defect of the former, and extends from about 45 to 75 degrees.

The lines of chords, sines, tangents, and secants, but not the line of polygons, are numbered from the centre, and are so disposed as to form equal angles at the centre; and it follows from this, that at whatever distance the sector is opened, the angles which the lines form will always be respectively equal. The distance, therefore, between 10 and 10, on the two lines marked L, will be equal to the distance of 60 and 60 on the two lines of chords, and also to 90 and 90 on the two lines of sines, &c., at any particular opening of the sector.

Any extent measured with a pair of compasses, from the centre of the joint to any division on the sectorial lines is called a *lateral distance*; and any extent taken from a point in a line on the one leg, to the like point on the similar line on the other leg, is called a *transverse* or *parallel distance*.

With these remarks, we shall now proceed to explain the use of the sector, in so far as it is likely to be serviceable to mechanics.

USE OF THE LINE OF LINES.

This line, as was before observed, is marked L, and its uses are,

To divide a line into any number of equal parts; take the length of the line by the compasses, and placing one of the points on that number in the line of lines which denotes the number of parts into which the given line is to be divided, open the sector till the other point of the compasses touches the same division on the line of lines marked on the other leg; then, the sector being kept at the same width, the distance from 1 on the line L on the one leg, to 1 on the line L on the other, will give the length of one of the equal divi-

sions of the given line to be divided. Thus, to divide a given line into seven equal parts:—take the length of the given line with the compasses, and setting one point on 7, on the line L of one of the legs, move the other leg out until the other point of the compasses touch 7 on the line L of that leg; this may be called the transverse distance of 7 on the line of lines. Now, keeping the sector at the same opening, the transverse distance of one will be the length of one of the 7 equal divisions of the given line; the transverse distance of 2 will be two of these divisions, &c.

It will sometimes happen, that the line to be divided will be too long for the largest opening of the sector; and in this case we take the half or third, or fourth of the line, as the case may be; then the transverse distance of 1 to 11 will be a half, a third, or a fourth, of the required equal part.

To divide a given line into any number of parts that shall have a certain relation or proportion to each other: take the length of the whole line to be divided, and placing one point of the compasses at that division on the line of lines on one leg of the instrument which expresses the sum of all the parts into which the given line is to be divided, and open the sector till the other point of the compasses is on the corresponding division on the line of lines of the other leg. This is evidently making the sum of the parts into which the given line is to be divided a transverse distance; and when this is done, the proportional parts will be found by taking, with the same opening of the sector, the transverse distances of the parts required.—To divide a given line into three parts, in the proportion of 2, 3, 4: the sum of these is 9; make the given line a transverse distance between 9 and 9 on the two lines of lines; then the transverse distances of the several numbers 2, 3, 4, will give the proportional parts required.

To find a fourth proportional to three given lines: take the lateral distance of the second, and make it the transverse distance of the first, then will the transverse distance of the third be the lateral distance of the fourth; then, let there be given 6:3::8,—make the lateral distance of 3 the transverse distance of 6; then will the transverse distance of 8 be the lateral distance of 4, the fourth proportional required.

This sector will be found highly serviceable in drawing plans. For instance, if it is wished to reduce the drawing of a steam engine from a scale of $1\frac{1}{2}$ inches to the foot, to another of 5-8 to the foot. Now, in $1\frac{1}{2}$ inches there are 12-8 parts; so that the drawing will be reduced in the proportion of 12 to 5. Take the lateral distance of 5, and keep the compasses at this opening; then open the sector till the points of the compasses mark the transverse distance of 12; keep now the sector at this opening, and any measure taken on the drawing, to be copied and laid off on the sector as a lateral distance,—the transverse distance taken from that point will give the corresponding measure to be laid down in the new drawing.

If the length of the side of a triangle, of which we have the drawing, is to be reckoned

45; what are the lengths of the other two sides? Take the length of the side given, by the compasses, and open the sector till the measure be the transverse distance of 45 to 45; then the lengths of the other sides being applied transversely, will give their numerical lengths.

USE OF THE LINE OF CHORDS.

By means of the sector, we may dispense with the protractor. Thus, to lay down an angle of any number of degrees:—take the radius of the circle on the compasses, and open the sector till this becomes the transverse distance of 60 on the line of chords; then take the transverse distance of the required number of degrees, keeping the sector at the same opening; and this transverse distance being marked off on an arc of the circle whose radius was taken, will be the required number of degrees.

We will not enter farther on the use of the sectoral lines, as what we have said will, we hope, be found sufficient for the purposes of the practical mechanic.

PRACTICAL GEOMETRY AT THE LONDON MECHANICS' INSTITUTION.—On Tuesday evening in last week, after Mr. J. S. Hallersley had delivered an introductory lecture on the science of Practical Geometry, illustrating the same by models and drawings, Mr. Joseph Ash was elected hon. secretary, and Mr. H. Friend, the retiring secretary, presented a testimonial from the late class to the lecturer (in the shape of a marble and bronze inkstand), with the thanks of the class for the manner in which he had taught them geometry. The speaker justly asked what is a practical man without a knowledge of geometry? as long as he remains ignorant of this science, he is under the control of another in his own sphere of a superior class. For what mechanical profession is there that has not this science for its base? could the engineer construct his engine or his railway, the architect his building, or the mariner his ship, without this science? Nor did it stop here: it gave elegance to the mansion, and strength to the fortress, and they were convinced that geometry formed the principle base of all mechanical arts, and would advise all so situated to study it, not only by books, but practically. It was afterwards proposed that a geometrical library be established, and a subscription was opened at once for the purpose.

AN ARCHITECT'S JAW.—Amongst a number of very odd things, the property of the late reverend ordinary of Newgate, Mr. Cotton, sold a few days ago, was the asserted "lower jaw of Peter of Cole-Church, the original architect of London-bridge." This bone was found on removing the foundation of part of the old bridge by a Mr. Knight, who superintended the building of the new bridge under Rennie, and the relic was christened by him without any godfather to answer for the child. The real value of the thing seems to have been well understood, for the public would not "take his jaw," and poor Peter fetched but five shillings!

Selection of Ornaments for Furniture.

In this the Cabinet-maker is not, and ought not, to be negligent of the beauties of vegetable nature; indeed, in some instances, we find works which abound with imitations of them, and so admirably adapted to the purposes to which they are applied, that they are viewed by the artist, not as copies, but as original inventions. The Greeks, who studied combinations of form with the greatest care, adopted, as prototypes for ornament, those ligneous plants which best permitted an arrangement of graceful lines, and which they could use as a medium for connecting one part of the design with another, or for leading the eye of the spectator by the course most advantageous to the general design. In carving these, they observed the same principle of relief, and of light and shade, that is so beautifully exemplified in their compositions where the human figure was employed.

In selecting ornament from vegetable nature, the Greeks usually chose those where the stem prevailed over the quantity of foliage: whereas, in Roman decorations, the stem was made subservient to its luxuriant burden. The Roman examples of ornament show how capable their artists were of using these means of decoration most amply, though not always without seeming to overcharge the object which they intended to ornament.

Our own country also affords some fine specimens of a peculiar style of ornament, in the carved work of those cathedrals and churches which are usually said to be of pure Gothic, but, with more propriety, of English Architecture. In these we find the parts of plants, and chiefly the leaves moulded into graceful forms to ornament, connect, or terminate parts, as the pleasure of the artist, or the nature of the primitive form of the work rendered necessary. The plants of the neighbouring woods furnished the prototypes; and from these the artist selected parts and forms adapted to his purpose, selecting those which could be combined with effect, and yet not otherwise than as the natural plants might have been trained to grasp and ornament a solid mass formed to receive them.

In preference they seem to have chosen the stem, leaves, and acorns of the British oak: and, next in predominance, we find those of the graceful vine;—also the trefoil, and various other plants, more or less adapted for their objects. The cathedrals of Westminster, York, Litchfield, Winchester, &c.; and the churches of Southwell, Sefton &c., afford various specimens, many of them carved in oak with singular spirit and beauty.

The introduction of animal forms, in furniture, is common, and conformity with the example of the Greeks, and in a few instances it has been done by the old English carvers. But, high as we esteem these authorities, and beautiful as we acknowledge the forms of the Dolphin, the Serpent, &c., to be, we hesitate in admitting that such forms may be employed with propriety in the design of furniture; and

still less are we inclined to allow that the human figure should, in any state, from a part of such designs. We ground our opinion on the fact, that a living animal cannot be so employed, neither are they adapted to such purposes; and imitative forms cease to be pleasing when we cannot imagine them to exist in the state they are represented. Our opinion may be considered as formed on too refined a view of the subject, but we only express it for the reader's assistance, in forming his opinions and practice, and leave him to be guided by his own judgment.

In speaking of these different styles of ornament, we have already mentioned the principles which ought to be kept in view in the addition of ornament; and we have only to repeat that, in the use of natural forms, they should be such as are not inconsistent with nature, modelled by art. The fantastic and chimerical combinations of the old German style of ornament may be instanced as the very reverse of the chaste and natural species which is now sought after by people of good taste; and we are happy to observe that this corrupt German style is now nearly obsolete even among upholsterer's carvers.

WHITWORTH'S STREET-SWEEPING MACHINE.
—The inventor, Mr. Whitworth in a "general summary of the advantages machine-sweeping possesses over hand-sweeping," thus contrasts the two systems:—"By hand-sweeping, the dirt has to be gathered together by one operation, and the carts loaded by another; the machines load and sweep at one operation: in hand-sweeping, the dirt gathered is liable to be splashed over the street and over the passengers; by the machines, it is at once carried away: heaps of dirt are sometimes left by hand sweepers at the side of the roads, and become a source of danger, as well as of annoyance, to carriages and foot-passengers; by machine-sweeping this evil is entirely obviated: hand sweeping obliges the carts to stand in the streets, while being loaded, causing loss of time and obstruction of the traffic; the machine loads as they sweep, passing along at the rate of a common cart: the cleanliness of a town cannot be greatly increased by hand-sweepers without great increase of cost; the economy of machine-sweeping increases in proportion to the cleanliness produced: hand-sweepers cannot easily and cheaply be increased, according to the exigencies of cleansing; an extra number of machines can be kept ready for emergencies, with little trouble or cost: hand-cleansing has but little tendency to improve and consolidate the road; machine sweeping tends powerfully to remove ridges and improve the surface: the continuance of hand-sweeping tends to perpetuate a degraded and ill-paid class of labourers, whom the introduction of the machine will elevate, or supersede by better paid and better conducted men, who must be employed to manage the machines. All these advantages are obtained together with greatly-increased cleanliness."

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"*Inquirer.*"—*Any person can send in works for competition to the Society of Arts for their next annual award of prizes. All designs sent in must be original, i. e., the bona fide production of the exhibitor. The model of Shakspeare's house, we should say, would not possess sufficient novelty to claim admittance. Our correspondent makes some excellent remarks in simple language, which we should like to see practically adopted. Referring to some ornamental articles, of little value it is true, but executed with good taste and in a workmanlike manner, he says, "I believe that if there was a place for the exhibition of any such simple works as I have mentioned to you, it would be the means of extending a love of the fine arts, and of increasing the number of those who would attempt something either useful or ornamental; but whose limited means or capacities will not allow of their engaging on a very large scale."*

"*Blucher (Oxford).*"—*Thanks for the terms, &c. We cannot agree with your strictures upon the design you mention, and we think that you will alter your opinion upon a little consideration.*

"*Pencil (Hull).*"—*We are sorry that we cannot at present afford you the required information; but if we should hear of anything likely to suit within a week or two, we will let you know under the above signature. You will perceive that we have complied with your request.*

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—*We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.*

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

*** Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

Part 18 is now ready, price 7d.

BRADFORD MECHANICS' INSTITUTE.—The annual distribution of prizes was awarded on Tuesday week in the Athenæum of the Institute; the Rev. Dr. Acworth, president, in the chair; when a series of books were distributed as prizes to successful competitors in drawing as well as other branches of ordinary school education. The formation of classes for the study of chemistry and natural philosophy in general was resolved on.

Mexican Art.

At the epoch of the discovery of America by the Spaniards, the Mexicans had already reached a certain degree of civilization, and had practised several arts, including that of drawing. On the landing of Cortez, the inhabitants of various parts of the country apprized their monarch of what was going forward by making a kind of paintings on cloth. Some relics of this sort are extremely curious. They represent marches of the different armies, sacrifices made to their gods of straggling Spaniards by the enraged barbarians; triumphal entries of the combatants into various towns, &c. &c.

The Mexican paintings, however, which some have extravagantly praised, are depreciated by other writers, as uncouth delineations of common objects, or very coarse images of the human and other forms, destitute of gracefulness and indeed of propriety. In the armoury of the royal palace of Madrid are exhibited several suits of armour said to have belonged to Montezuma; and which are composed of thinly lacquered copper-plates. Dr. Robertson observes of these that, in the opinion of competent judges they are evidently Eastern. Clavigero, on the other hand, maintains them to be actually Mexican; since, says he, we are absolutely certain, from abundant testimony, that those nations used such plates of copper in war, and that they covered their breasts, thighs, and arms therewith as a protection against arrows: whereas we do not know that such were ever in use amongst the inhabitants of the Philippine Islands, to which Dr. Robertson refers them, or among any other people who had any commerce with the Mexicans.

These people, proceeds Clavigero, could boast of many inventions worthy of immortalizing their name. Besides those of casting metals, and mosaic works in feathers and shells, they understood the art of making paper: together with those of dyeing in indelible colours; of spinning and weaving the finest hair of rabbits and hares; making of a stone called itzili beautiful looking-glasses set with gold; the cutting and polishing of gems; breeding of the cochineal, and making use of its colour; preparing of cement for the pavements of their houses, &c. Their potters were famous; and their carpenters wrought several kinds of wood with instruments made of copper.

It must, however, be admitted, that in the copper-plates and wood-cuts which have been published as representations of Mexican paintings, every figure introduced, whether of men, quadrupeds, or birds, is extremely rude and ungainly. But although necessarily ranking low as works of art, they rise into immense interest and importance, when, as we before observed, they are considered as national records.

Of their picture-writing some singular specimens have been preserved; the most valuable of which have been published by Purchas in sixty-six plates, divided into three parts. The first contains the history of the Mexican empire under its ten monarchs. The second

is a tribute-roll, representing what each conquered town paid into the Royal Treasury. The third is a code of their institutions, domestic, political, and military. Another specimen of Mexican painting has been published in thirty-two plates by the Archbishop of Toledo; and some very curious examples have been recently brought over to this capital by Mr. Bullock of the Egyptian Hall, Piccadilly, whose exhibition of ancient and modern Mexico (the result of a spirited voyage to that country for the purpose of collecting materials) is interesting in a variety of ways, and highly deserving of a visit from every lover both of Nature and Art.

All these paintings resemble each other strongly in style and character. They represent things rather than ideas; exhibit images to the eye, without arrangement or selection; still they are worthy of consideration as exhibiting an instance, by no means common, of the efforts of a barbarian nation towards a very high degree of refinement.

The Chronotypist.

THE largest chain ever sent out of Birmingham was manufactured by Messrs. Bailey, chain manufacturers, of New-street, from whose warehouse it was recently removed to the wharf, consigned to a firm in Liverpool. It was a link chain, and intended for the use of an incline; its length was 2,400 yards, or rather more than one and one-third of a mile, and its weight about 14 tons!—Another statue of the Duke of Wellington, similar in appearance to that of King William IV., at London Bridge, is to be erected in the Tower. It is to be placed midway between the White Tower and the green, fronting the noble flight of steps leading from Traitor's Gate. The pedestal will occupy a space of 144 square feet.—The beautiful collection of photographic portraits of the nobility and gentry who appeared in the historical quadrilles at her Majesty's *bal costumé*, taken by the improved process employed by Mr. Beard, jun., has received some important additions recently. Nearly all the noble and distinguished personages who appeared in that novel and magnificent group have honoured Mr. Beard with sitting in the costume worn by them on that occasion. Independent of the personal interest attached to the portraits, they bear an additional value as records of the most accurate authorities that could be obtained of English court costumes of the various periods they represent. Many striking portraits of the nobility, and of individuals celebrated in arts, science and literature, are now to be seen in Mr. Beard's rooms.

THE GENERAL BOARD OF HEALTH, under the Public Health Act (11th and 12th Victoria, chap. 63), has just been constituted. The First Commissioner of Woods and Forests (Lord Morpeth) is the president, and Lord Ashley and Mr. Edwin Chadwick are the two other members.

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ALPHABET OF THE FIFTEENTH CENTURY.

A Word with our Readers.



ROFIT and popularity are not in all cases synonymous; and it is a common aphorism that those who work the hardest — we

will not say the best—do not always meet with their just reward.

Nearly eighteen months since, struck with the scantiness and dearth of industrial literature, and incited by a reasonable hope of at least getting paid for our labour in the attempt, we projected the present work, and flattering tokens of its ultimate success greeted our first appearance. Letters, advice, and commendation flowed in from almost every part of the United Kingdom, and we were induced thereby to lay the flattering unction to our soul, that we should, at least, get paid the value of our hire—that in serving others we might also serve ourselves—and that an extensive circulation would be the short-coming climax of our efforts—efforts made in a honest spirit, and with the earnest desire of benefitting a large portion of our fellow-creatures. This, no doubt, would have been the case, but hardly had we launched our little venture, ere a great national distress came upon us like a mighty wave, almost prostrating hope itself. However, we struggled manfully through the storm without uttering a single word of complaint; but we have not, as yet, succeeded in clearing the lee shore of Misfortune, and although our whole energies have been exerted strenuously to combat with fate, still we are utterly unable to gain the victory unless our appeal be responded to by our readers.

We have now lost, to state the case plainly, several hundred pounds by the DECORATOR'S ASSISTANT, and each succeeding week's sale

adds still further to our loss, but still we do not despair, and intend to endeavour further to keep our work afloat. In order to assist us in the attempt, we shall be compelled to increase the price of the DECORATOR'S ASSISTANT at the commencement of the new volume, to 2d., feeling assured that our subscribers will respond cheerfully to our demand. We also intend to increase the number of original designs; and, to follow up the early English alphabets, already commenced, we propose publishing one weekly: also to commence illustrating the principles of perspective. Articles on ornament, mensuration, carpentry, &c., will still be continued and improved. Trusting that the bill of fare will prove acceptable, we leave ourselves in the hands of our subscribers.

Papier Maché Manufacture in Birmingham.

BIRMINGHAM has of late years vastly progressed in the quality and appearance of its manufactured goods—particularly in those formed of papier maché. From an excellent series of papers lately published in one of the leading journals of that place. We extract the following interesting particulars:—

Perhaps there is no description of manufacture so ancient, or brought to so high perfection in this town, as that of *papier maché* goods. It has existed here for more than one hundred years, and has during that time undergone many transmutations; first was presented the common tray, then came the decorated hand, then the work-box or the writing-desk, and a last a variety of adaptation of this beautiful were discovered, such as vases, screens, picture frames, and even furniture.

A peculiar advantage derivable from the use of *papier maché* is its power for receiving ornamentation. On its smooth and even surface the most delicate artistic touches may be laid whilst it also affords a good medium for the display of the most vigorous and original efforts of art. As a field for the exercise of ornamental art the manufacture is unbounded, and a judicious employment of the means afforded to the manufacturer in this branch would, we feel convinced, do much, very much,

to reform the existing bad taste, and to create a desire for better things in its room.

A review of the history of the trade teaches us that to this point of ornament the attention of manufacturers has been constantly directed, and that all, from the mere japanner up to the maker of the most costly article, have sought to lay upon their varied productions ornament of some kind or other. The quality of the ornament was a matter hardly considered, but ornament was indispensable. Unfortunately, until within the last few years, such a thing as design applied to manufactures was unheard of, or if propounded was disregarded, and consequently the ornamentation of most or indeed all goods was barbarous in the extreme. True there was a period when artists were workmen, and when a CELLINI or an ANGELO, nay, even a RAFFAELLE, did not hesitate to work or to direct the workmen, not merely in their own sublimer arts, but in what we may justly call industrial art. Of these times, which we are glad to see in the present efforts of MACLISE, of MULREADY, of RICHARDSON, and of SUMMERLY, returning, we do not speak, but of that darker age of art from the effect of which we are but just recovering, when men abandoned the true and the beautiful to seek profit, and neglected the works of great men, because they feared the expense of copying their forms. These times were bad ones for art. Everything was dull and leaden, or was gorgeous and tawdry, and real ornament was unknown. The evil day is, however, passing away, and manufacturers, some of them imbued with a love for art for its own sake, and others professing a love for art for their profit's sake, are steadily and surely progressing, in the application of art to manufactures. We sincerely trust that we are only on the verge of an artistic revolution, and that ere long we shall behold the consummation of our hopes in the perfect working out of art principles in decoration and in form. The good work is going on, let manufacturers only take courage and it will not fail.

We make these remarks as an introduction to a notice of the works of MESSRS. JENNENS and BETTRIDGE, *papier maché* manufacturers, in Constitution Hill, in this town, whose show-rooms and manufactory we visited last week,

and who have the merit of introducing into the paper manufacture almost every article beyond the common tray. The manufactory is a very extensive one, and our readers will understand our notice by a division of the work into departments. In the first of these divisions we shall place the newest kind of manufacture, furniture; and the others will comprise a notice of vases, desks, work-boxes, &c., trays, and panels, and the usual miscellaneous assortment of fancy articles.

In furniture, we had an opportunity of testing the appearance of the paper chairs, as compared with those made of wood, and also of ascertaining, by comparison, the progress made in design since the first introduction of paper in furniture manufacture. That paper has an advantage over wood, no one can be inclined to doubt, but we were scarcely prepared to find such manifest improvement in the design of the paper furniture at present made, as compared with that first produced. At first, makers appeared to doubt the capability of the material, and were consequently cautious in their efforts; but at the present time the power of the material is so well developed that no fear is entertained as to its capability, and, therefore, no design is too difficult for production. We were shown some chairs which are in every respect equal both in appearance and firmness to the old Buhl furniture; and others which are faithful copies from richest specimens of old carved English oak.

In tables of various kinds considerable taste has been exhibited, both as regards shape and ornament. Much has been gained in decoration by the introduction of pearl, as an adjunct to the pencil, and by this means many effects are acquired which could not be otherwise produced. In one case, that of a small round table, a group of shells and coral, resting on sea-weed, is very effectively represented in pearl. The centre group is contained within a delicately gilded ring, and the whole is bordered by an arrangement of shells, again in pearl. The pillar of the table is good in design, the stem moulding being that of the lotus leaf. The colour is rather gaudy, otherwise the general effect of the article is very good. Other tables are ornamented by various scenes, copies of landscape and *genre* paintings,

and classical subjects. Among the latter is a very noticeable specimen, the subject of which is the story of Europa. The figures are spiritedly rendered, and the execution is characterised by the highest finish. We must here advert to an omission which we feel convinced MESSRS. JENNENS and BETTRIDGE will readily correct. In copying scenes from the painted or engraved works of artists, the name of the artist copied is omitted. Now this should not be: there is no doubt that an artist is benefited by having copies of his work used in decoration, but in no case should this appropriation be made without acknowledgment. It would be no trouble to copy the name of the artist as well as his work, and at the same time the adoption of such a course would merely be an act of justice. To return to our notice. A large centre table (which was last year exhibited during the session of the London Society of Arts) is remarkable for the beauty of its ornament, consisting of a group of flowers, such as poppies, lillies, roses, camellias, convolvuli, and honeysuckles, nicely grouped, and painted with great breadth and effect. Much taste is also displayed in the borderings. Many views, which we recognised as being from Prout, Shayer, Richardson, Watteau, Jan Both, and others, had a pleasing effect when painted on tables; and we may justly admire the feeling which dictates the production of works of this description.

In screens landscapes and figure compositions are effectively introduced, and the forms have been much improved. The old cramped outline has given place to a graceful curve, while the ornament has changed its character from gaudiness to chasteness of effect. Still there are many features in the decorations of these articles we would willingly see avoided; and, as we before remarked, much gold may be dispensed with, and glaring colours may give place to tints more subdued. There is, however, much to praise. Design has made a long step forward, and decoration has gone with it. The cases of which we complain are the exceptions to the rule. Two cheval screens are of a high character: one containing a view of Salisbury Cathedral is remarkable for the clearness of the drawing, and the management of the pictorial effect; the other, a view of the Hall of Judgment, at the Alhambra, is a rich specimen of colour. We do not recollect the artist from whom it is copied, but the copy is evidently faithful, and the colour is exquisitely managed. The frame of the screen is a copy of the entrance-gate to the palace of the Alhambra, the tracery in the original being represented in the screen by perforations of a most elaborate character. The drawing of the stand is correct, with the exception of the feet, which appear to be slightly too depressed. The colour

of the frame, though brilliant, is not sufficiently subdued for our taste. The colours are crimson and white, picked out with green and blue. Scenes from DAVID ROBERTS, R.A., CLARKSON STANFIELD, R.A., and other artists, are also nicely copied upon screens. A large folding screen, nearly seven feet high, and of eight leaves, is remarkable as a specimen of the size of the articles which can be manufactured in paper. A few cabinets and tea-poins are noticeable as possessing good mouldings.

A pleasing branch of paper manufacture is that of vases, and in this department we saw many articles of great beauty. On the whole, the forms of the vases are good, and the ornament is, as we have always urged it should be, subdued. The principal ornaments for vases were flowers, of which we saw many specimens. The whole of them were naturally and effectively painted. One or two copies of Etruscan vases were remarkably fine and correct, both in form and colour. We may mention that vases are made from four inches in height up to forty inches.

In work-boxes, desks, inkstands, and tea-caddies, great variety of form is apparent, and in many cases there is a good deal of vigorous design. Still there is also a straining after effect, which sometimes leads to a distortion of form in the attempt to produce a novelty. Many of the desks and work-boxes are ornamented in a very splendid style, and on the whole there appears to have been considerable effort at consistent design.

In panels for steamboats some very good specimens were shown us. One set, intended for a New York liner, was worthy of notice, as containing a good view of Warwick Castle, and others of the capital at Washington, and of a scene on the Mohawk River. There were also some good original panel pictures by artists employed in the establishment. A few of Landseer's animal pictures were nicely given in panel.

We must now draw our notice to a close, for where, as in this manufacture, there are so many articles which may be instanced, we may go on to almost any extent. We will merely observe generally that our impressions as to the shape and ornament of the minor branches of manufacture, such as snuff-boxes, card-cases, picture-frames, reading frames, lamp pillars, &c., were, on the whole, that much has been done to raise both manufacture and design to a high point, yet that much still remains to be effected. To two points especially we wish to direct the attention not only of the firm under notice, but also of all manufacturers of paper goods, first to the harmony of colour, and second to the importance of making their workmen artists. Without the latter, indeed, the former can never be effected, for the man who has no art-istic education, will never be able to execute works of industrial art. Our schools of design are admirably calculated to effect the proposed object, and we cannot too powerfully impress upon the manufacturers the absolute necessity of supporting these institutions, inasmuch as in their welfare manufacturing interests are vitally concerned.



A DESIGN FOR A TERMINAL FOR A GROIN (EARLY ENGLISH).

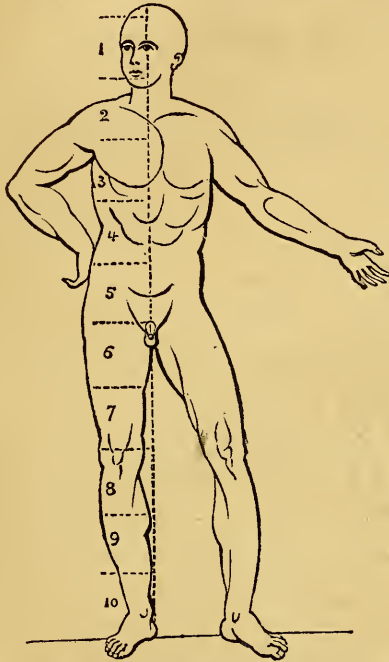
THE SPIRE OF ST. MARY'S CHURCH, SNETTISHAM, NORFOLK.—A correspondent informs us that the lofty stone spire of this church, which, on account of its towering eminence, is used by mariners as a sea mark, being 105 feet in height, and together with the church reaching an altitude of 177 feet, has recently undergone a careful restoration, and the upper part to the extent of several feet, has been entirely reset, and an iron cross and weathercock raised on its summit. Crosses have also been added over the gables of each of the spire windows. These designs were furnished

by Mr. H. L. S. Le Strange and the mason's work has been executed by Mr. William Brown, of Lynn. To raise the scaffolding Mr. Brown availed himself of the openings formed by the upper windows of the spire, which are about 30 feet below the summit, through these he passed, at right angles, boards of such a length as to leave the ends projecting—these were secured at the centre and formed a cross: from the projecting ends he carried a gallery round with a hand rail—the whole forming a light and secure stage, of simple materials, and at a small expense.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

[Continued from page 234.]

FIGURE, PROPORTIONS OF THE HUMAN (in painting and sculpture). The following are the proportions of the ancients as they are given by M. Audran, from the proportions of the Apollo Pythius, in the garden of the Vatican, at Rome, and the Venus Aphrodite, belonging to the family of the Medicis: both of which figures are supposed to stand upright,



duly poised on both legs. The whole height of the former is divided into $31\frac{1}{2}$ parts, being 7 heads 3 parts and 6 minutes; and the latter into 31 parts, being 7 heads and 3 parts, as follows:—

Length of the Head, and Trunk of the Body.

	Apollo.		Venus.	
	Hd.	Pts. Min.	Hd.	Pts. Min.
From the top of the head to the bottom of the chin 4 pts. or ..	1	0 0	1	0 0
The bottom of the chin to the top of the sternum, or breast bone ...	0	1 7	0	1 3
The top of the sternum to the pit of the stomach	0	3 10	0	3 6
The pit of the stomach to the navel	0	2 10	0	2 7
The navel to the pubis..	0	2 6	0	3 9
Length of the head and trunk of the body ..	3	3 9	3	3 6

Length of the Lower Extremities.

	Apollo.		Venus.	
	Hd.	Pts. Min.	Hd.	Pts. Min.
From the pubis to the small of the thigh, above the patella, or knee-pan	1	2 6	1	2 3
The small of the thigh to the joint, or middle of the knee	0	1 9	0	1 6
The joint of the knee to the small of the leg, above the ankle ..	1	1 9	1	2 0
The top to the bottom of the ankle	0	1 0	0	1 0
The bottom of the ankle to the bottom of the heel	0	0 9	0	0 9
Length of the lower extremities	3	3 9	3	3 6
Length of the head and trunk	3	3 9	3	3 6
Total length of the figures	7	3 6	7	3 0

Length of the Fore Arm, or Upper Extremities.

From the top of the shoulder to the elbow	1	2 3	1	2 3
The elbow to the hand	1	1 2	1	0 6
The joint of the hand to the root of the middle finger	0	1 8	0	1 6
The root to the tip of the middle finger	0	1 10	0	1 7
Length of the upper extremities	3	2 11	3	1 10
Breadth between the outward angles of the eyes	0	1 6	0	1 7
Of the face at the temples.. ..	0	2 2	0	2 2
Of the upper part of the neck	0	2 0	0	1 11
Over the shoulders ..	2	0 0	1	3 8
Of the body below the arm-pits	1	2 5	1	1 8
Between the nipples ..	1	0 7	1	3 8
From the bottom of the chin to the line crossing the nipples ..	1	0 7	1	0 1
Of the body, at the small of the waist	1	1 0	1	0 8
Over the loins	1	1 3	1	1 6
Over the haunches, or tops of the thigh bones	1	1 5	1	2 3
Of the thigh, at the top	0	3 0	0	3 1
Of the thigh, below the middle	0	2 8½	0	2 7
Of the thigh, above the knee	0	1 8	0	2 0
Of the leg, below the knee	0	1 6	0	1 10½
Of the calf of the leg ..	0	2 4	0	2 3
Below the calf	0	1 7	0	1 11½
Above the ankle	0	1 2	0	1 2
Of the ankle	0	1 4	0	1 3
Below the ankle.. ..	0	1 1½	0	1 1
Middle of the foot ..	0	1 4	0	1 3

	Apollo.		Venus.	
	Hd.	Pts. Min.	Hd.	Pts. Min.
At the roots of the toes	0	1 7	0	1 7
Of the arm, over the biceps muscle..	0	1 8	0	1 9
Of the arm, above the elbow ..	0	1 6	0	1 5
Of the arm below the elbow ..	0	1 10	0	1 7
At the wrist ..	0	1 1	0	1 0
Of the hand, over the first joint of the thumb	0	1 9	0	1 8
Of the hand, over the roots of the fingers ..	0	1 7	0	1 6
Breadth over the shoulder blades ..	1	2 0	1	1 4
Length of both arms and hands, each of Apollo's being 3 hds. 2 pts. 11 min. and each of Venus 3 hds. 1 pts. 5 min. ..	7	1 10	6	2 10
Breadth between the tips of the middle fingers of each hand, when the arms are extended horizontally ..	8	3 10	8	0 2
<i>Side View.</i>				
From the top of the head to the shoulder ..	1	1 8	1	1 6
The top of the shoulder to the loins, above the hip ..	1	3 3	1	1 7
The loins to the lower part of the hip ..	1	0 2	1	2 1
The hip to the side of the knee ..	1	2 0	1	0 11
The side of the knee to the bottom of the heel	2	0 5	2	0 11
Length of the figures ..	7	3 6	7	3 0
From the fore to the back part of the skull ..	0	3 6	0	3 4
The wing of the nose to the tip of the ear ..	0	1 8½	0	1 6
The upper part of the neck ..	0	2 0	0	1 11
The breast to the back, over the nipple ..	1	0 6	1	0 6
The belly to the small of the back ..	0	3 6	0	3 7
The belly, above the navel, to the back of the loins ..	0	3 9	1	0 2
The bottom of the belly to the round of the hip	1	0 0	1	0 5
The fore part of the thigh to the bottom of the hip ..	0	3 2	0	3 7
The middle of the thigh	0	3 3	0	3 6½
The thigh, above the knee ..	0	2 1	0	2 3
The middle of the knee	0	2 1	0	2 2
The leg, above the knee	0	1 9	0	1 11
The leg, at the calf ..	0	1 8	0	1 9
The leg, at the ankle ..	0	1 5½	0	1 4
The foot, at the thickest part ..	—	—	0	1 3

	Apollo.		Venus.	
	Hd.	Pts. Min.	Hd.	Pts. Min.
Length of the foot ..	1	0 6	1	0 4½
The heel to the fore part of the bend of the foot	—	—	0	2 2
The arm, over the biceps	0	2 0	0	1 9
Over the elbow ..	0	1 6	0	0 6
Below the elbow..	0	1 5	0	1 7
At the wrist ..	0	1 1	0	0 11
Below the joint of the wrist ..	0	1 0	0	0 10
The hand, at the roots of the fingers ..	0	0 5½	0	0 5
At the roots of the nails	0	0 3	0	0 3

To Correspondents, &c.

WRITE LEGIBLY AND SENSIBLY, SO THAT BOTH THY WORDS AND THEIR MEANING MAY BE READILY DECIPHERED BY THE RECIPIENT OF THY COMMUNICATION.

"Brutus."—We have handed your note to our artist for his decision, and will be enabled to give you an answer next week.

"A. Snell" has our best wishes.

"R. S."—Forward the drawing and we will decide.

* * * Several letters have been received, the answering of which we are reluctantly compelled to postpone until next week.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17, Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favour us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. and II. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt or marbled, 6d. extra.

* * * Any of our readers having complete ALPHABETS of an ornamental description suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 18 is now ready, price 7d.

OAKS.—The following are said to be the largest British oaks which we have on record:—The Cowthorpe, in Yorkshire, which measured 48 feet in circumference at a yard from the ground; the Shrewsbury, 44 feet at the bottom; the Essex, 36 feet at the bottom, and known by the name of "Fairtop;" and the Hatfield, 38 feet circumference and 120 feet high.

BETTER LATE THAN NEVER.—The venerable church of Lanfrynach, near Cowbridge, having been to a considerable extent restored, was reopened for divine worship (after a lapse of 150 years or more), on Sunday, the 27th ult.

Arabesques.

ARABESQUES, or moresques are a style of ornament which are composed of a whimsical mixture of flowers, fruits, buildings, and other objects; to which are joined, by some artists, the figures of men, women, animals, real and imaginary monsters, &c. used in painting, sculpture, and architecture. In pure ancient arabesques, such as are found in the Alhambra, no animal representations are used. Although the Arabians may have been the restorers, or modern inventors of this species of decoration, yet it certainly had its origin in very ancient times. Some writers find its origin in those leaves and flowers with which the Egyptians, and even the Greeks, decorated their edifices, and which were used as borders to many antique vases; but the resemblance is too slight to stamp much credit on the conjecture. A more rational idea is, that the arabesque ornaments were suggested to the Greeks by the oriental tapestries, which they much admired, on which were wrought the most fantastical compositions of plants, animals, &c., and which probably gave rise to many of the fabulous animals, of poetry; such as centaurs, griffins, chimerae, &c. The Greeks named these cloths *Zodia*, from the animals they contained. It is not possible to say now whether the Greeks first employed this species of ornament in painting to decorate panels, vases, &c., in the interior of their apartments; or in sculpture for the exterior: how far the fact may direct us to the Temple of Apollo Didymæus, near to Miletus, in Ionia, erected during the best time of Grecian art, which had its frieze ornamented with griffins, and its pilasters with ornaments similar to those called arabesques, and which had genii springing from the foliage of the acanthus, is difficult to ascertain. This species of ornament was not known in Rome till near the time of Augustus, when, it is probable, they were introduced from Alexandria; for Vitruvius, who lived at this period, speaks of them with the expression *audacia Egyptiorum in pictura*, as novel introductions into Rome. The Romans loved the arts, from the opportunities they afforded them of displaying their riches, and gratifying their love of splendour and magnificence. This disposition introduced by degrees a greater latitude in their composition, and which became more and more costly in their materials, and varied in their designs; such as the most showy flowers, and beautiful foliages, delicately and agreeably entwined, and figures springing from the calices of the flowers. The ornaments upon many antique Greek vases, upon the walls of Herculaneum, the ruins of the baths of Titus at Rome, Hadrian's villa at Tivoli, the palace of Diocletian, the edifices of Pompeii, and others, are among the most elegant ancient examples of this species of decoration. In spite of the censures of Vitruvius and Pliny, arabesques not only prevailed but increased in Rome down to the very last edifices of the lower ages. They have also been discovered in gothic buildings, in glass, in mosaics, and in pavings,

in all varieties of exuberant, unrestrained ornaments. The Arabians, in giving their name to these works, in which they so much excelled, carried the style to all the perfection to which it was susceptible. Yet from the restrictions of their religion, which prohibited the introduction of men, women, and animals, they are inferior, in variety and beauty to those of the ancients. The arabesque of the Goths, or, as it has been called, the arabotedescho, was more exaggerated, but less elegant. A novel mixture of Christian and Pagan subjects rendered them, in many instances, complete burlesques. These defects, and the consequent discredit brought upon it, and upon the style of architecture it was intended to embellish, caused it to decline till the discovery of the ruins of ancient art, which presented the purest models, restored the taste of this wild and romantic species of ornament, and of the arts in general. Raffaello perceived, in the style of the arabesque, a gaiety and freedom of style that would soften the arid stiff manner of predecessors and cotemporaries: and therefore employed it in the decoration of his grandest works. No painter has since employed it with such taste as Raffaello, and the only good modern arabesques are of this great artist's school. One of his most admired compositions, in this style, is the fine allegory of the seasons, with an arabesque which represents the ages of life, under the forms of Parca. After the death of Raffaello, arabesque degenerated in Italy, both in design and execution, till at last it changed both its forms and proportions. To the light and playful grotesque succeeded the gigantesque of decoration, of which Michael Angiolo, in the Sistine chapel, has given the most imposing and grand models. After the discoveries of Herculaneum, Pompeii, and of the Villa Negroni, &c., the imitation of the antique began to spread the taste of the arabesque again in Italy. Primaticcio, Rozzo, and other Italian artists, brought by Francis I. into France, introduced there a style of decoration less approaching the arabesque than the gigantic style of Michael Angiolo, as may be judged from the sculptures in the chateau de Gaillon, and in the paintings at Fontainebleau. This taste prevailed in Italy at the time of Louis XIV. supported by the Caracci and other artists of celebrity. The French artists followed the style, and Versailles shows their talents. It prevailed from Le Brun to Mignard, and governed all the ornamental style of the seventeenth century. Audran executed some arabesques in a good style, and with much spirit and invention, in the castles of Seaux, Meudon, and Chantilly. The arabesques of Berin, of Gillott, and Vateau, which were designed as patterns for the manufactory of the Gobelins, of tapestry, &c., for the king's apartments, to which, as well as to the furniture, they injudiciously applied these ornaments, did not obtain much praise, either for invention or faithful imitation of approved models. Arabesques, however beautiful, should not be applied to small objects, or they lose their character; they should never be used in places where gravity of style is required, or regularity of design agreeable

Doors.

A Door is the gate or entrance of a house, or other building, or of an apartment in a house. Doors are to be proportioned, and adapted to the use for which they are intended. In correspondence to the human size, the door of a dwelling house is 7 to 8 feet in height, and 3 to 4 feet in breadth. The entrance doors of churches and public buildings should be wide, to allow a multitude to pass without difficulty; and their height should be in proportion. The outer entrance of stately mansions ought also to be of enlarged dimensions, averaging from 6 to 12 feet in width, and of proportionate height; the inner entrance door may be from 4 to 6 feet in width, and placed in the central part of the building.

A door of the simplest kind, for out-houses, is made of boards rebated together; or ploughed and tongued, and nailed upon a cross piece called a ledge, from which it derives its name of ledge-door. Doors intended when closed to present an even surface, are called jib-doors, or flush-doors, and give an uniform appearance to rooms, or save the expense of corresponding doors. To combine durability with beauty, in doors, they are constructed of framed work enclosing panels, which are fitted into grooves in the edges of the frames, which are joined together by mortise and tenon. The three horizontal pieces mortised into the upright sides of the door, are called the top, the bottom, and the lock-rails; and if a fourth occur under the top-rail, it is called the frieze-rail: the side pieces are denominated stiles; the two intermediate pieces are called meeting-stiles; and additional pieces are called *munions*. Framed doors are diversified by the number and different kinds of their panels. The panels of doors, when of the same thickness as the frame-work, are generally beaded; in which case they are fitted into the frame, and the whole smoothly planed; after which it is taken to pieces, and the edges of the frame-work are worked with the bead-plane. In doors with double margins representing two folding doors, the broad middle still extends the whole length, and is inserted into the top and bottom rails by notches in the latter fitted to forked ends of the double middle stile. The baize door is covered with that material, to keep the cold air out of rooms. The batten door is almost exclusively appropriated to the style of architecture called Gothic: boards grooved and glued together, form the ground on which stiles, rails, and munions made of battens are nailed, to give the appearance of a framed door. If the battens be on one side, it is said to be singly, if on both sides doubly batted. In these latter, the stiles on each side are bolted together, which gives great strength to the work. The entrance gates of ancient British mansions were of this construction.

Those doors which are double are either folding doors, closing against each other, covered with baize, to prevent access of cold

air; or they are double margin doors, formed of two door-frames, with a strong middle piece called the staff-stile, finished with the appearance of two inner stiles of folding doors.

The doors of the ancients were of stone, marble, wood, brass, or iron, and sometimes, in temples, of gold. They revolved on pivots, and were raised a little above the ground. The Roman doors opened inwards; those of the Greeks, outwards; the form of both was narrower at the top than the bottom, in consequence of which they shut themselves. In his fourth book, Vitruvius gives rules for the construction of Attic, Ionic, and Doric doors.

Combination of Coloured Woods for Furniture.

SOMETIMES richness of effect is no further attempted than is obtained by the natural beauty of the wood which is employed; and when this natural beauty is considerable, this simple kind of furniture is most highly valued.

But wood, so fine in colour and figure, as alone to give richness of effect to furniture, is very rare, and still more frequently defective; hence, the more usual mode of combining different coloured woods, or of metals and shells with woods, require some degree of attention. The prevailing combinations are formed by coloured bands, lines, and ornaments of wood, or by lines, beads, or ornaments of brass; the brass being in many instances cut into beautiful forms, and further embellished by engraved lines on its surface.

The circumstances to be attended to in forming these combinations, are, harmony of colour, due proportion of the coloured parts to one another, and relief by contrast.

Contrasts is produced by opposition in colour, and it should not be more powerful than is necessary to produce an agreeable distinctness of figure. For example, the contrast of bandings should not be too strong for the body of the work to which the banding is joined; as, in that case, the beauty of the wood would be partly lost, in consequence of the eye being most attracted to the banding. Strength of contrast is produced both by opposition of colour, and opposition in the strength of the natural figure of the woods.

Where a richly-figured ground is to be extended to a larger size by a border, contrast may be gained by the joint effect of a difference of colour and figure, but in this case we prefer that the difference in colour should be only in shade, and not of a different species; for instance, a darker or lighter variety of the same wood with a stronger figure; the separating lines should be of an opposite colour, but so narrow as only to determine the boundary between the border and the centre, about as distinctly as the form of an object is determined by a line on paper.

As opposite colours produce contrast, some explanation of a mode of knowing the colours, which are directly opposed to each other, will be of use to the artist.

All the various colours in nature may be produced by combining the three primitive colours, *red, yellow, and blue*: if a circle be drawn, and divided into six equal triangular parts by straight lines from the centre, and one triangle be coloured yellow, the next to it green, the third blue, the fourth purple, the fifth red, and the sixth orange; then, the colours which are opposite one another in the circle, are most opposite in their nature; as orange is opposite to blue, purple to yellow, and red to green.

If the three primitive colours be properly chosen, it will be found that the yellow and blue being mixed, they produce the green between them; the blue and red being mixed, they produce the purple; and the red and yellow, being mixed, produce the orange; and, by varying the proportions in the mixtures, an immense variety of tints may be produced. Again, if any two colours which are opposite in the circle be mixed, the result will be a brown neutral tint; thus, purple and yellow make brown, red and green make brown, and orange and blue make brown, and the neutral colour brown combines with indifference with any of the others,

Those colours which are opposite in the circle produce contrast, and those which are nearest to being side by side approach nearest to harmony. Contrast, however, must always be sparingly introduced, and in small lines or bands, and when it is properly managed, it enlivens the appearance of the work, while a little excess of contrast renders the effect florid, and the excess pushed a small degree further renders the object gaudy and vulgar.

The theory of the combination of colours may also be illustrated by drawing an equilateral triangle, and from each of its angles describe an arc of a circle, with a radius equal to two-thirds of one of its sides; by this means the area of the triangle is divided into seven parts; and, if the centre be brown, and the angular parts of the primitive colours, and the other three of the compound colours, the opposite colours in the triangle will be of opposite natures as in the circle before described.

The advantage of a clear idea of the relations of colours, is not only of use in the combination of woods in cabinet-work, but also in upholstery, and, indeed, in all works where the object is to produce richness of effect by colours.

Referring again to the circular diagram, the agreement of our principles with the maxims of painters may be easily shown; for they divide colours into two classes, warm and cold, and one side of our circle has the warm colours yellow, orange, and red, and the opposite the cold colours, green, blue, and purple; the warmest colour is orange, and it is opposed to the coldest or blue.

The maxim of Dufresnoy—

“Forbid two hostile colours close to meet,
And win with middle tints their union sweet,”

may be attended to with much advantage, in cases where it becomes desirable to use coloured woods which have opposite colours; as the object may be attained by band lines, or

ornament between them, having the colours of the middle tints in the circle between the opposing colours.

We shall close our remarks on combination of colours, with a few general maxims. Much depends on the colour of the principle mass of the piece of work, which we call the predominating colour. If this colour be rich, very little variety of other colours should be added. On the contrary, if the predominating colour be light and delicate, it will bear to be enlivened and supported by contrast, with fine lines or borders of an opposing colour; taking care that the mass of opposing colours be so small as not to produce opposition instead of contrast; for contrast, skilfully managed, gives force and lustre to the ground, while opposition destroys even its natural beauty.

Arts and Trades.

The operatives of the Anglo-Saxons were mostly in a servile state. The clergy and the great had domestic servants, who were qualified to supply them with those articles of trade and manufacture which were in common use. Hence, in monasteries we find smiths, carpenters, millers, illuminators, architects, agriculturists, and fishermen. Smiths and carpenters were the most numerous and important, as ministering to the chief secular pursuits of the time—war and agriculture.

The shoemaker's was a comprehensive trade, united branches that now form distinct businesses, as appears from the following list of articles he fabricated:—ankle leathers, shoes, leather hose, bottles, bridle thongs, trappings, flasks, boiling vessels, leather neck-pieces, halters, wallets, and pouches.

The salter, baker, cook, and fisherman were common occupations. Besides the persons who made these trades their business, some of the clergy sought to excel in mechanical arts. Thus, a monk is described as well-skilled in smith-craft. Dunstan, besides being competent to draw and paint the patterns for a lady's robe, was also a smith, and worked on all the metals. Among other labours of his industry, he made two great bells for the church at Abingdon. His friend Ethelwold, the bishop, made two other bells for the same place, of a smaller size, and a wheel, full of small bells, much gilt, to be turned round for its music on fast days. One of our Kings made a monk, who was a skilful goldsmith, an abbot. It was even enacted by law, that the clergy should pursue these occupations, for Edgar, according to Turner, says, “We command that every priest, to increase knowledge, learn some handicraft.” The invention of the musical scale, or gamut, in 1022, by an Italian monk, tended to diffuse a taste for music. Church music greatly improved in consequence, and its inventor, Guido Aretine, was sent for twice to Rome to explain and teach it to the clergy of that city. In the seventh century, Benedict, the Abbot of Weremouth, procured men from France, who not only glazed the windows

of his church and monastery, but taught the Anglo-Saxons the art of making glass for windows, lamps, drinking vessels, and for other uses. The arts of colouring and painting glass were also known. The figures of Alfred, and of his grandson, Athelstan, in the window of the library of All-Souls, Oxford, were probably painted not long after the age in which these Princes flourished. Picture painting, too, was common for the embellishment of churches. A picture of Christ, drawn by St. Dunstan, with his picture prostrate at his feet, and several inscriptions in his own handwriting, are still preserved in the Bodleian Library.

The art of dying scarlet by the help of an insect, was discovered about the year 1,000. Weaving and embroidery were likewise practised. Edward the Elder, had his daughters taught to exercise the needle and distaff. Indeed spinning was the common occupation of the Anglo-Saxon ladies. Alfred, in his will, calls the female part of the family the "spindle-side." So, too, Egbert, when entailing his estates on his male descendants, to the exclusion of females, says: "To the spear-side, and not to the spindle-side." Of the skill and industry of the ancient spinsters, we have an extraordinary instance in the tapestry which is still preserved in the Cathedral of Bayeux. This curious relic of antiquity is a vast linen web 442 feet long, and two broad, on which is embroidered the history of the Conquest. It is supposed to have been executed by English women, under the direction of Matilda, wife of William I. Many of the figures are without stockings, though none are without shoes, which make it probable that shoes were more generally used than stockings, in this period. The common people for the most part, had no stockings, nor any other covering on their legs; and even the clergy celebrated mass with their legs bare, till a law was made against the practice in the Council of Chalchuythe in 785. Wooden shoes, which are now esteemed the marks of the greatest indigence and misery, were worn by the greatest princes in Europe in the ninth and tenth centuries!

From the custom of kings making presents of rich garments, vases, bracelet, and rings to their wifans and courtiers, and of great lords doing the same to their knights, the trades for making these must have had much employment. One of the Saxon trades seems to have been the tavern, or public-house; for a priest is forbidden to drink at the "wine tuns." An ale-house and ale-shop are also mentioned in the laws.

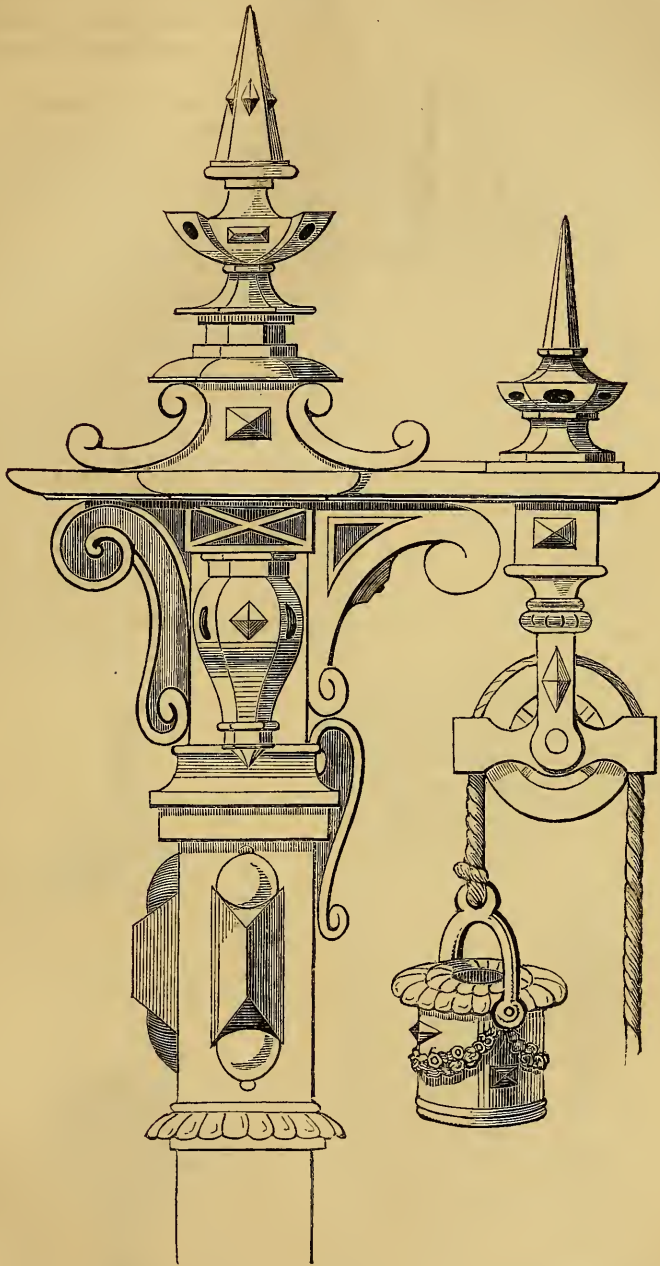
The Anglo-Saxons, who were unacquainted with the building arts, destroyed the magnificent sturctures left by the Romans. Nor did they much improve in the knowledge of architecture for two centuries after their arrival. During that period, masonry was quite unknown and unpractised in this island; the walls of churches and even of cathedrals, were built of wood. Towards the end of the seventh century, masonry was restored, and some other arts connected with it, introduced by two ecclesiastics who had visited Rome. These were the famous Wilfred, Bishop of

York; and Benedict Biscop, founder of the abbey of Weremouth. Wilfred was a great architect and erected several structures at York, Ripon, and Hexham, which were the admiration of the age. Those singular structures, called round towers, of which specimens are still to be seen at Ardmore, in Ireland, and Abernethy, in Scotland, are supposed to have been erected in the tenth century.

Such are the facts of history, and the doctrine resulting from them is obvious. The grand element of true civilization is the Gospel; but such are the difficulties which it has to overcome, that many centuries are required of expense and toil suffering and sorrow. Were some twelve of the chief of these noble Saxons now to arise and take a deliberate survey of all that the wondrous island now contains, what would be their wonder and joy! Let the friends of man, in savage lands, take heart and labour on!

The Chronotypist.

ON Wednesday last the first portion of the Vernon Collection was removed from the residence of its munificent donor to the apartments in the basement story of the National Gallery where it is to be temporarily lodged until other and final arrangements can be made. Mr Ward's picture of the "Council of horses," purchased by Mr. Vernon at the late Exhibition of the Royal Academy, has been added by him to his public gift.—The National Gallery will be re-opened to the public a fortnight hence: when the two pictures by Taddeo Gaddi, lately given to the National Gallery by Mr. Coningham, will be seen in addition to the modern collection.—The great picture of the Battle of Waterloo which Mr. Sidney Cooper exhibited at Westminster Hall has found a purchaser in Lancashire. The sum paid for it is said to be one thousand guineas.—Mr. Frost's picture of 'Euphrosyne,' lately exhibited at the Royal Academy, has had the Fifty Pounds Prize awarded to it by the Management of the Liverpool Exhibition,—in which it is now a conspicuous feature.—*Athenæum.*—A new heavy grade steam locomotive engine has been successful in New York. The improvement of Mr. Sellers consist of an application of two small wheels in the hinder part of the engine, which work horizontally, and take hold of each side of an edge rail, set up on centre sleepers, between the two main rails. These wheels are worked by a pair of extra cylinders, which are only used when on a grade. When the engine reaches the foot of a grade, the weight of the train is thrown off from the frame of the engine, and it draws entirely upon machinery connected with these two small wheels, so that the heavier train, the greater the adhesion. So great is the adhesion, that a train can be forced up a grade of 276 feet to the mile, while the regular driving-wheels are worked backwards and slipping on the rails, the train can be stopped at any point in descending a grade and driven back.



AN OLD STEEL LAMP AT NUREMBERG, DATED 1586,—ELIZABETHAN STYLE.

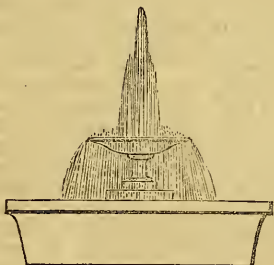


An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Concluded from page 245.)

FORM, PROPORTIONS OF THE HUMAN.—
(Concluded from our last.) The method of enlarging or contracting a copy of any object consists in dividing the original into any number of equal squares, and then dividing the paper upon which the drawing is to be made into the same number of equal squares, either greater or lesser than those in the original, according as the drawing is to be enlarged or contracted, and drawing the several parts of the copy as they occur in the squares of the original in the corresponding squares of the paper.—(See figure given last week.)

FOUNTAIN, or jet d'eau. They are of various kinds, viz., Arched, Bason, Covered, Cup, Marine, Naval, Rustic, Satyrical, Statuary, Symbolical, Pyramidal, Spouting, Spring, &c. It is a contrivance by which water is violently spouted upwards. They are founded either on the elasticity of the air, or the pressure of the water. Fountains or sources of rivers were held sacred among the ancients, being a point of religion not to muddy the water in bathing. The accompanying drawing is from the Flower market, on the Quay Desaix, and is called a Cup Fountain, having, besides a bason, a cup supported by a pedestal, &c., having a jet of water spouting out of the centre of it.



CUP FOUNTAIN.



ORNAMENTAL FOUNTAIN.

FISTUCA. An instrument of wood, anciently used in driving piles. It was raised by pulleys fixed to the head of large beams, and having two or more handles, was let fall directly on the piles.

FURNITURE. (In Building.) Door knobs, external brass-work of locks, window fastenings, &c.

FORESHORTENING. (In painting.) The art of representing figures and other objects, projections, &c., as they appear to the eye. This art, which, in many instances, is so difficult, appears to have been known to the Greeks, and Pliny speaks particularly as to its being successfully practiced by Parrhasius and Pausias. Among the moderns, Correggio must be allowed the palm for excellence in foreshortening.



FLAME. (In Sculpture.) An ornament representing the light which is emitted from fire; used to decorate funeral monuments, as representing the uncertainty of human life. Wren has used it on the top of his gigantic column called the Monument, as being commemorative of the great conflagration of the city.



A vein of iron ore has been discovered on the estate of Mr. John Shepherd, High Brow, Millom, Ulverstone. Mining operations have been commenced with every prospect of success.

English Ornamental Iron Work.

THE fabrication of iron and steel for useful and ornamental purposes constitutes, without doubt, one of the most important productions of British industry. It is but very few years ago that anything in the shape of Sheffield goods, or articles in steel of other local manufacture, were to be seen in France. The French cutlery was by no means good; and some of the French manufacturers accounted for their inability to compete in that article by saying that the quality of water employed in its process did not admit of its being so highly wrought as in England; added to other peculiarities, one of which, we think, must have been the inattention paid to its cultivation until within comparatively few years. If, however, we may credit the following story—which partakes somewhat of the character of the celebrated “line” of Apelles and Praxiteles—it must be confessed that the French are now scarcely inferior to us in the manufacture of the article of steel.

A few years ago a French cutler sent over to a friend in England, a file of exquisite workmanship, and so highly finished and tempered (as he thought) as to defy the impression of any similar manufacture of ours upon it. This French file was submitted to one of our principal men in the art, who immediately took a file out of his own shop, and filed the foreign steel in twain, requesting the Frenchman’s friend to return the pieces, together with the English file with which the other had been sundered. This was accordingly done; and for a few days nothing more was heard of the affair—the English cutler, meanwhile, enjoying his supposed triumph. He soon afterwards, however, received from the French manufacturer another of his files, with a challenge to serve that in a similar way with the first, sending at the same time the English file in two parts, as had been done by our countryman. The challenge was accepted; and as speedily was this second effort of French ingenuity doomed to the degradation of the first; after which it was despatched to Paris, accompanied by its hard victor in the form of the English steel. This was conclusive—the Frenchman owned he was out-manufactured, and he eventually retired from the field of competition; but not without honour. Thus was our superiority tested and established over a distinguished foreign competitor in the art of making steel.

If the traveller perchance indulge in a tour of the Palais Royal during a summer evening, when the lamps are plentifully and brilliantly lit to dazzle forth the ample display of cutlery and fancy articles in steel, in that former abode of royalty, he is led to imagine that France must excel far beyond any other country in the perfection of those articles. The profusion, the apparent beauty, and height of polish, acted upon by the glaring body of gas,—and the taste observed in the distribution of the articles, in order that nothing shall be lost by method,—all these would certainly lead one to conclude Paris was the greatest mart in Europe for the manufacture of steel cutlery and ornaments. Not so, however. Not many doors from the Théâtre du Palais Royal may be seen a fine shop—lacking, perhaps, the taste in trifles which the adjoining establishments display—stocked with

British cutlery and other manufactured articles. It is only by close comparison that the difference in the articles can be observed. This shop is the centre of attraction to those who wish to make any purchases in steel. It is, or rather was a few years ago, established by an Englishman, who conducted it in person. Of course the articles are dearer than those of the neighbouring rivals; but then the genuine material is found. Now, however, the French have improved in steel and iron manufacture—possibly from the example set by British residents. Still they do not equal our own goods; and even to this day it is the most common request of a Frenchman, when he learns any friend is about to visit England, that he do not return without bringing an *English penknife*. Notwithstanding the unquestionable improvement made by Continental manufacturers in steel and iron, yet they lack the finish and substantiality visible in articles of British production. Their table cutlery is rough and clumsy, and generally most miserably set in the handles; and as to the steel fork, such an article of use is seldom or never seen or used at a French table—the forks being for the most part of silver, or of some imitative metal. The knife portion of the dinner service, therefore, contrasts very poorly with the neat and frequently elegant display of china plate to be found at a French entertainment.

We now come to the consideration of iron. In every respect, both politically and commercially, this may well be designated the “iron age.” Our forefathers would never have dreamed or believed that in 1848 we should have converted more than half the country into lines for travelling, by the aid of metal, to all corners of the kingdom. The steam power now employed in Great Britain, both by land and sea, is capable of annihilating all the rest of the world. We have iron now in all forms and in all uses, from the leviathan steam-boat, whose very hull even is composed of iron instead of oak or other timber, down to the visiting or pass-ticket. No mortal could have imagined only twenty years ago that so many millions could have been spent in iron, or that such a supply could have been realised, as has been the case of late. All the resources of this great country may be said to have opened up through the conversion of that metal to travelling purposes. It has concentrated our commercial energies; discovered new markets for our various productions; introduced those formerly at too great a distance for personal communication, consequent on the expense and tediousness of travelling, to one another, who have since, probably, changed and bettered their prospects in life by mutual intercourse and an exchange of their commodities. It has annihilated time and space, even, to a material extent, by shortening distance, converting forty miles into about seven, and twelve hours into about three—speaking in the sense of our present mode of transit from distance to distance. Thus the most material benefits are derived from the present use of iron, which is but in its infancy in all other nations. All this is the result of British industry and enterprise—those great principles which have ever been, and, probably, will continue to be, the cause of Britain’s power and Britain’s greatness.

But independent of the application of iron to such purposes as those above-mentioned, we have long been distinguished in the trade generally in

the form of stoves, fire-irons, grates, and a variety of articles too numerous to mention. These are necessities; consequently they always command a market; and more so, especially in these days, when building improvements are carried on to such an extent. The ironmonger is one of the tradesmen in the greatest demand; and the consequence of which is, that the manufacturer must be always moving. Colebrook-dale is one of the most important ironworks in this country but the variety of foundries is immense, and they are to be found in almost every quarter of England, although not of that magnitude which characterises a few of the leading establishments. In France, and on the Continent generally, the ironworks are very inferior. Of late years, however, since the vast traffic in steam, British engineers and manufacturers of iron have taught the French a lesson; and, at the present day, France has to thank our enterprising countrymen for the establishment of foundries and manufactories for reducing the metal to its required form. With respect to iron for machinery (for steam-boats more especially), a vast quantity is sent over to England from Scotland. The various parts of the engine are made in Scotland, and forwarded in pieces, after which they are put together, and thus form the entire engine. This is a very common practice.

The improvements made in the stove and chimney-piece department are extraordinary. Such things are even now comparatively rare in France, as wood is, for the most part, burned instead of coal, which is consumed on the hearth, of red tiles, generally. This barbarism, however, is gradually declining, and in the houses of the higher classes English comfort is studied and cultivated. French grates are very rude affairs, and the fire-irons are in keeping with them, being of very rough manufacture, and by no means strangers to a thick coat of well-neglected rust. In Great Britain the fashion for highly-polished steel ornaments to grates and fenders has much increased, some of which are most beautifully designed, and present a very lively and dazzling appearance.

Iron has now been acted upon with such success in various ways, that it can be made to assume any form; and in castings it presents not only proof of its virtues, but of its agreeable appearance in its varied shapes.

The durability of iron must necessarily render it a cheap article in any form, and hence it might be converted with economy to many purposes hitherto unattempted. When we see that in these days it is even made the choice material with which to construct gentlemen's yachts, as well as other branches of shipping, we may safely predict a long reign of success in the iron trade. It is found to be more buoyant than wood; and one advantage especially is, that, unlike wood, it will not become so saturated as to increase its weight and deaden its effects. An iron vessel will last out three built of wood, probably more; and in speed of sailing, as well as in railway travelling, it has an infinite advantage over the timber vessels.

Such is the perfection to which the working of metal has reached in Great Britain, that it would scarcely be surprising if we soon were furnished with iron robes and articles of apparel. We have already female attire manufactured of the most beautiful texture out of glass, and we have seen some dresses which could vie with the choicest silks

ever manufactured. However, we believe their use as yet has been very limited. Why, then, when we see the facility with which iron can be managed, and the ductility which, through human ingenuity, it is made to assume, should we not be prepared for its being converted to still more general purposes? Mr. Brunel's ideas many years ago, respecting the future perfection of railroads were considered extravagant, and people laughed at them as approaching the Quixotic; nevertheless, what were then supposed to be mere visions, are now partially realised, and before long we may doubtless prepare for still greater wonders in that department of metallic application. In this, as in all matters of more commercial utility and durability, Great Britain stands far above any competition of which the foreigner is capable. In little refinements, beyond the fact of their being more ornamental than useful, some of our continental neighbours may possibly slightly excel us; but in the grand purposes of combination, where durability, skill, and real commercial value are concerned, not only does British industry bear the palm, but it proves likewise what it could accomplish if favoured, like foreigners, with the substantial patronage of its own government and aristocracy. The day may yet arrive, and that soon, when the state will be impressed with the necessity of extending to the British industrial classes those advantages which France has accorded to her commercial branches. In this respect, at least, she is well worthy of imitation.

The Print Room of the British Museum.

THE addition of engravings, says the *Art Journal*, which has recently been made to our national collection, through Messrs. Smith of Lisle Street, is one of great value and importance to the curious in these matters; the Print Room of the British Museum may now boast of possessing a collection of works far superior in number and quality to any other throughout Europe. Messrs. Smith have long been distinguished for their judgment and experience in the acquisition of this class of artistic productions, and they have spared no expense in bringing together the best and rarest engravings of the old masters: these have now become national property, having been purchased for the purpose by the trustees of the Museum. A detailed account of this collection would far exceed the space we must allow ourselves; we can therefore do little more than enumerate some of the principal engravings to be found in it. "The Annunciation to the Shepherds," one of Rembrandt's finest etchings—two impressions of the "Flight into Egypt," in the style of Elsheimer;—there are two other prints of this subject by Rembrandt, one of which is in the style of Mezzotinto—the "Raising of Lazarus," a unique print; the figure seen running away in terror has the head uncovered: a cap was afterwards placed on it, as seen in subsequent impressions.—"Christ brought before Pilate," this master's largest and finest work; the copy alluded to is taken on thick Chinese paper, in a very early state; there

are only three others known, all of which are in this country—"the Pancake Woman," a small etching, exceedingly rare—three different impressions of Rembrandt's portrait, etched by himself—several of Abraham Francy, all of them remarkably fine—a splendid print of the large portrait of Coppenol, the writing master—and one of the advocate Tolling, the rarest of his works, which realized more than £200 at Mr. Pole Carew's sale, in 1835.

In the Italian School we have a small print of a "Man drawing on his Clothes," by that great master in the Art, Marc Antonio Raimondi; it is from a figure in Michael Angelo's celebrated cartoon of Pisa, and is very rare in this state; also a large engraving by the same hand, the subject, "The Martyrdom of St. Lawrence," after Boccio Randinelli; the impression is magnificent, and is known as that *with the two forks*, Antonio having effaced one of them afterwards. At the sale of the Dubois collection at Paris, in 1845, one of these prints, in a shattered condition, but restored, realised more than 100 guineas.

The most interesting and important portion of this acquisition, however, is a collection of between five and six hundred English and Foreign portraits, many of them invaluable as being exceedingly scarce; among these may be noticed the "Portrait of Oliver Cromwell," engraved by William Faithorn, a unique proof before the additions were made to the plate—the "Portrait of Margaret Smith," considered Faithorn's *chef-d'œuvre*; only one other impression is known, which is framed and hung up in one of the saloons of the *Cabinet d'Estampes* in the *Bibliothèque Royale*, at Paris—a large number of portraits of our English sovereigns, including one of great rarity by Elstrache, "James 1st and his Queen," walking together; this print sold at Sir Mark Sykes's sale in 1824 for £64.—some curious prints of the "Gunpowder-plot conspirators," with representations of their executions—a fine specimen of Blooteling's graver, from the Sykes collection, the "Lord Chancellor Shaftesbury,"—a rare print of "Thomas Duke of Norfolk,"—satirical prints of Titus Oates," a curious print of the notorious "Jonathan Wild," and a variety of portraits of distinguished foreigners.

By those who take an interest in this class of works of Art, the additions now made to the print-room of the Museum, will be highly esteemed; we confess not to be of the number, and think the sum for which they were bought, (£4200, as we understand) might, though little, perhaps, by comparison, have been more profitably expended on some other productions less secluded from, and more appreciated by, the public. We scarcely see what useful object is to be gained by the collecting together a mass of old prints whose chief value perhaps lies in their being scarce, and which can only be examined by privileged few, attracted by curiosity to search the store-house of antiquarian engraving.

Mr. Wornum's Lectures on Ornamental Art.

ON Friday evening, the 9th inst., Mr. Ralph N. Wornum gave the first of a course of lectures on the History, Principles and Practice of Ornamental Art, and sketched the manner in which he proposes to divide his subject.

Omitting mention of the historical course, we may say that in the *Analytic* course he proposes to treat of the principles and objects of decoration, giving an analysis of the various styles, and the motive or sentiment by which each is characterised, so as to present an æsthetic view of the subject. After explaining the term *æsthetic* as expressing sensuous perception of the beautiful, Mr. Wornum gave an exposition of the importance of observing *fitness* and *utility* in ornamental designs; and illustrated the motive causes of the three primary forms of ornament by examples of use, symbolism, and embellishment, from Egyptian chairs, the winged globe of the Egyptian temples, and the so-called egg-and-tongue moulding of ancient Greek architecture, which he proved to be derived from the horse-chesnut. Other motives were adverted to, and that of ostentation was shown to be a constant indication of barbarism and decay of taste, as instanced in the passion of the savage for mere glitter and finery, and that of the civilised man for mere display of wealth. Every gaudy elaboration of form and colour is not ornament. Forms of beauty are as strictly dependent on natural laws as the forms of use, and above all it is necessary to bear in mind the *fitness* of a design to its destined use. The essential principles and elementary laws of ornament are contrast, unity produced by symmetry, balance, and proportion of parts, repetition in series—horizontal, diagonal, vertical, curvilinear, &c. Every beautiful form or shape is composed of symmetrical parts: these principles are illustrated in the kaleidoscope, in decoration of surfaces, diaper work, paper-hangings, architectural mouldings. Ornamental forms are rather suggested by, than imitated from, natural objects. This constitutes the distinction between an ornament and a picture. The painter imitates natural forms, the ornamentist only applies them. It is against reason to suppose there can be any beauty in impossibilities and absurdities. The ornamentist should be rational when he can. The remarkable passage from Vitruvius was cited in condemnation of the vicious taste of the style of decoration known as the Pompeian or grotesque style, falsely denominated the Arabesque.

The *Practical Course* will furnish a general knowledge of every mechanical process and condition of reproduction which it is necessary the students should observe, in order to render their designs capable of being executed by the manufacturer. As an example of the kind of practical information he should supply in this course, Mr. Wornum explained the process of manufacturing paper-hangings by printing with blocks, and pointed out the conditions to be observed by the designer. In conclusion, the lecturer observed that all ornamental manufactures have been most popular and most successful in those periods when the greatest efforts have been made to render them

THE PORTLAND PRISON is so far completed as to be capable of accommodating about 350 convicts for work on the Breakwater, whose immediate arrival is now anticipated. The building already forms a very prominent object in the island.

objects of taste; so that, taking a mere utilitarian view, it is the interest of the manufacturer to cultivate beauty of design to the utmost of his power; but we must also regard the moral and social advantages of a universal diffusion of artistic taste. The object of this school is not to aggrandize, but to disseminate art. Neither is it for the manufacturer only, but also for the consumer; for gratifying and properly elevating the minds of the family of the daily labourer. It is not, therefore, the architectural decorator alone who fulfil its great mission, but the designer of those articles of use and comfort which our manufacturers send to the remotest regions of the globe. "It rests with you, then," said the lecturer to the students, "to make this school a source from which all the suggestions of the beautiful, and every benefit that can result from its contemplation, may flow in an ever-increasing stream, even to the utmost limits of society."

Review.

CHOLERA INVESTIGATED. London: Gibbs, 17, Holywell-street, Strand.

This is a very cleverly written treatise. The Author's system of reasoning is both ingenious and convincing, and we may safely augur for the result of his labours an extensive circulation. At the present time every one should have a copy in their possession.

To Correspondents, &c.

"E. W."—Yes we can, forward your address to our Office, enclosing a Postage Stamp, and we will communicate with you.

"F. N. G's," request shall be attended to.

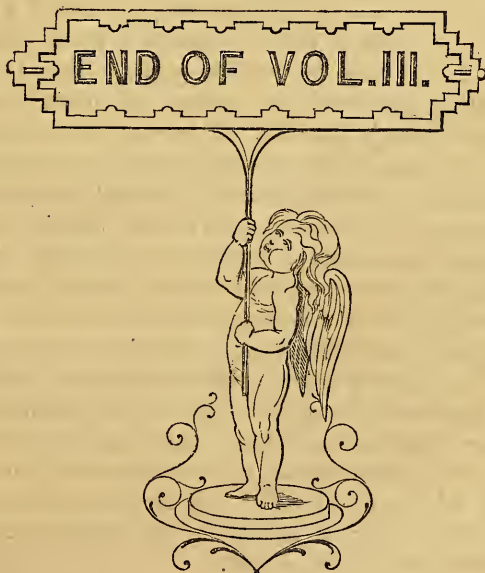
"Brutus."—Much will depend upon the nature of the erection—whether it is of public interest or not. If approved of by us, of course, we would readily give it insertion.

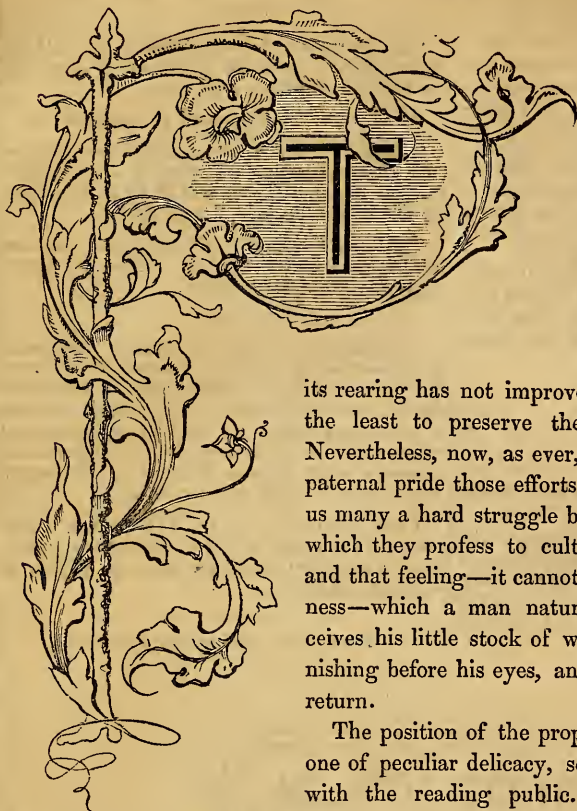
"William Curphey."—Not at present, business is still very bad in London. You had better apply to some Society House.

Communication, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. II. and III. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or marbled, 6d. extra.

Part 18 is now ready, Price 7d.





O OUR READERS—

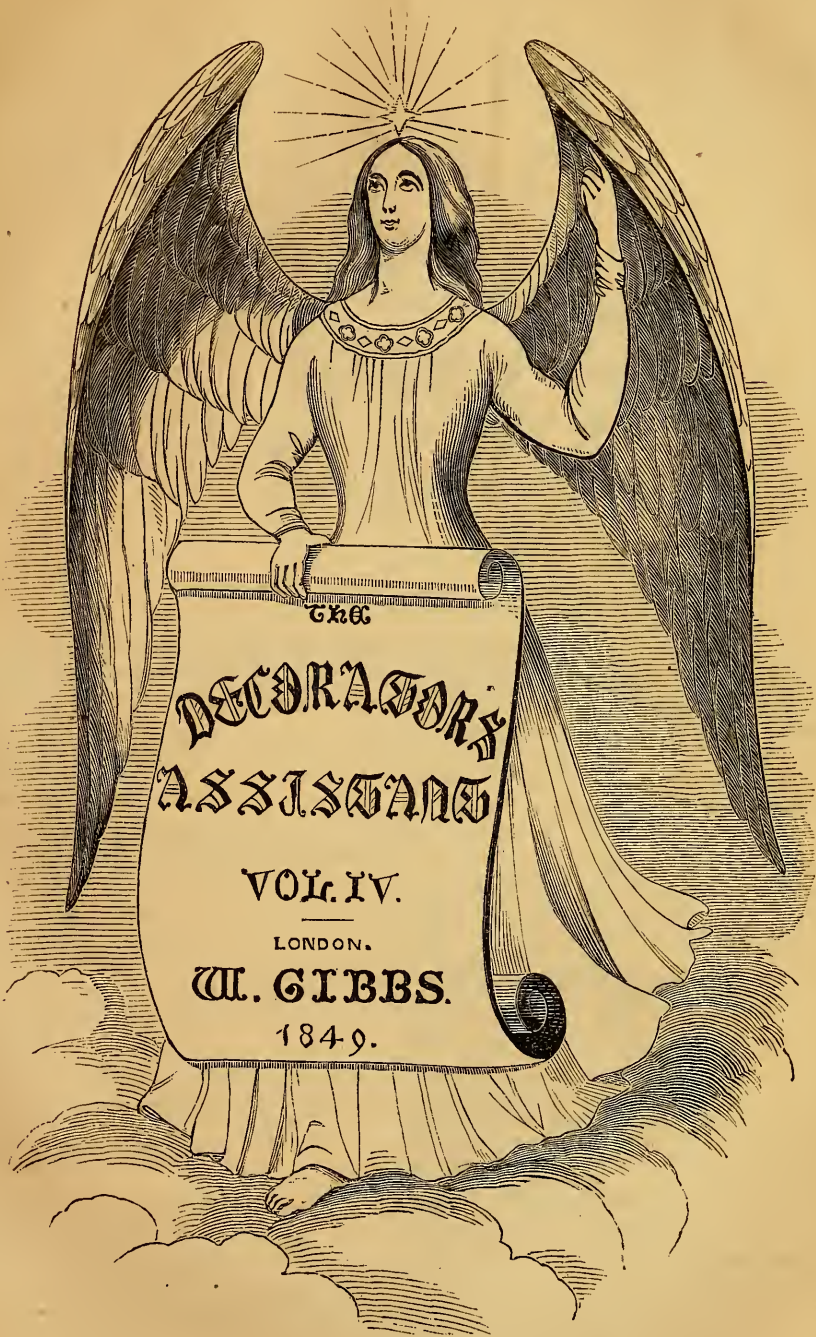
ONCE more do we lay aside our editorial restraint, and indulging in such levity as becomes our calling, introduce, with a merry face, our third bantling to the world—albeit

its rearing has not improved our finances, or tended in the least to preserve the equanimity of our temper. Nevertheless, now, as ever, we are willing to regard with paternal pride those efforts of our pen which have caused us many a hard struggle between our love of the objects which they profess to cultivate, improve, and advance; and that feeling—it cannot, must not, be called of selfishness—which a man naturally experiences when he perceives his little stock of worldly wealth gradually diminishing before his eyes, and without a single hope of its return.

The position of the proprietor of a periodical work is one of peculiar delicacy, so far as regards his connection with the reading public. Entirely unknown to the patrons of his undertaking, who never once, perhaps, call to mind the existence of such a being, he either sinks or rises in obscurity. If his work is successful, he has certainly a consolation in its profit; but, on the contrary, when his utmost efforts have failed to attain for it any thing like a circulation, and he is absolutely compelled to disappoint, in some measure, the wishes or expectations of his readers, then is he immediately overwhelmed with a thousand remonstrances (sometimes not couched in the most elegant or refined language) from anonymous correspondents, who mayhap contribute individually some tenth part of the fraction of a farthing towards the expenses of the publication, respecting the arrangement of which they suggest alterations in some cases entirely infeasible were all the jewels of Golconda at hand to purchase the means, and in others requiring the outlay of several pounds—the latter often being as great an impossibility as the other.

These words we beg of our readers to bear in mind, and the more especially as with the commencement of the *fourth volume*, an alteration in the price of this miscellany, namely, from $1\frac{1}{2}d.$ to $2d.$ is to take place. For further information on this point, as also upon the return which we intend making for the additional halfpenny, we must refer to the leading article, in No. 75, p. 241.

Hoping that at the conclusion of our next volume our greeting may be “merry in earnest,” and that our success may impart to us a light heart and a well-plenished pocket, again, in all friendliness, do we bid our readers farewell.



THE

DECORATOR'S
ASSISTANT

VOL. IV.

LONDON.

W. GIBBS.

1849.



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THE
Decorators Assistant
AND
WEEKLY RECORD OF POPULAR SCIENCE.

To Our Readers.



THE completion of our Fourth Volume affords us another opportunity of addressing our Patrons, to return them hearty thanks for the support they have lately vouchsafed us in the labour we have imposed upon ourselves. On

the conclusion of the Third Volume we were compelled to appeal to the liberality of our Sub-

scribers; the heavy expenses to which we subjected ourselves compelling us to increase our price. The appeal, we are happy to say, was not made in vain. The high encomiums we daily receive assure us that we are pursuing the right path in our endeavours to contribute toward the better understanding, and, consequently, the true appreciation of the social benefits which are obtainable by the cultivation of the refinements of the mind. We are certain our plan will be found the means of accelerating the advancement to a superior feeling for both Art and Artists, more especially in its appreciation when applied to Manufactures. Our exertions in the good cause, we need scarcely assert, shall not flag; feeling assured that the more we contribute towards the advancement of *our Art*, the more certain and secure will be our reward.

We keep constantly before us the fact that our own humble efforts in addressing our Work to those connected with the lower branches of Art are inseparably associated with the success of the higher branches. They cannot be cultivated apart; and when speaking of one, the other must be included. For instance, a noble architectural mansion requires the rich embellishments of historic painting, decoration, and gilding; sculpture in its halls; elegant furniture and costly plate, more or less in good taste, as the owner is influenced by liberality and fine feeling towards Art; dress and ornaments partake of the splendour, and thus we have an universal benefit creating and extending itself to a variety of minor employments.

If we could once enable the public mind to

understand the real beneficial purposes of Art, it would soon be fostered : fewer discreditable public edifices erected, and a desire for the universal embellishment of *interiors* arise; with the capability of appreciating the ennobling and humanising qualities associated with a love of the Fine Arts. Architecture, Painting, and Sculpture are all equally incomplete without each other, and Design for the Manufacturer becomes indispensable.

The increase of our population causes a greater competition for employment, rendering it every man's business to consider by what means additional trade can be obtained, and any increase of importance will much depend on the originality and constant improvement of Designs either for Arts or Manufactures. We possess mechanical workmen* of the highest order, but, without the aid of an artist, where can we discover a workman who has sufficient knowledge to produce more than the hacknied forms of bygone days? Why could not we, instead of importing goods of foreign design and manufacture, make our own of equal pretensions? Theirs tend to elevate the whole people in mental enjoyment, ours simply aim at an increase of wealth. They invent and spread a redundancy of elegant feeling over the most simple object, ours are generally of a cold hard nature.

However, we consider that brighter prospects are dawning; the successful cultivation of Design, in connection with Manufactures, by our Continental neighbours, will tend to place us in our proper position. We, for our own sakes, ought not to be considered inferior to them, although

“a nation of shopkeepers.” We hope to see a taste spring up among our merchant princes that shall demand a renewal of the sumptuous decorations of the old Italian trader. What a cheering hope to think of the day when our companies, sparing a little wealth from gross feasting for the purpose of decorating their halls, encourage Art, and do honour to themselves. Judicious culture, aided by experience, will produce a purity of taste, a power of adjusting and adapting the separate principles with sound judgment, so as to create the highest excellencies. At the present time we are bolstering up a sort of appearance by employing foreign artists as our designers; this is unnatural, and not likely to be permanent. A German cannot think English, nor a Prussian, or a Frenchman, it is true; the unchangeable principles of Art are alike to all countries, yet each has its distinguishing character in the great social circle of the world, and so it has in Art. It is to our native Designers and Draftsmen we must look for establishing an Art hitherto but partially used, and it is to those we are desirous of communicating the knowledge we possess and the opinions we collect. Should the workman derive the benefit we are ambitious to bestow, our aim will be gained, and encouraged to renewed exertions, which, in the end, we hope will be profitable to both.

In conclusion, we beg permission to say that *private* recommendation serves largely to increase our list of subscribers, and, consequently, our ability to collect choice and valuable Drawings and Designs for the service of our supporters.



FINIALS ON STALL END, CHRIST CHURCH, OXFORD.

The Progress of English Art.



N attentively considering the Progress of the Arts in England, we cannot fail to notice the many adverse circumstances of their past career. From the Conquest to the Reformation, Art was advanced by the Roman Catholic church, which sought here, as in all countries inheriting her ritual, to confirm the doctrines of religion by the influence of the imagination. At the Reformation this ceased. Court patronage was limited—national encouragement there was none. Former sovereigns had protected the court painter; Elizabeth did no more; she valued Art as it flattered her vanity, and the people as they ministered to her power. Had

her Government even been disposed to encourage what fanaticism was so anxious to destroy, the time was not favourable, for the nation was brutalised by civil wars, distracted by religious faction, or devoted solely to maritime enterprise. There was a contest for public rights, a reformed church, and national independence; and in such days the Arts could hardly flourish. They had done so in other lands under circumstances more depressing, or not greatly dissimilar: but public opinion had there united the church, the government, and the people for their advance, and it is only by these means that High Art can be promoted. In Italy and France, Art was the charmed ground which swayed the most adverse passions by its spell. It might be supposed at later periods, in days of comparative tranquility, that Painting and Sculpture would have been evoked to record the actions of the past, and that dynasties would not have decayed, have been trodden down by the crushing foot of Time, or generation after generation be swept silently away without a monument, a sign of their respect for noble actions or great men. But it was so. The truth is, the invariable policy of the Government was to encourage our individuality, which we love intensely, and never to interfere in matters extra-parochial or purely intellectual, in relation to National Education or National Art. The church, too, never swerved from her first resolution, and always held a whitewashed wall as far more orthodox than any ever decorated by Masancio, Raphael, or Correggio. Thus, pictures in churches being proscribed lest they should seduce the mind to idolatry, Government having no desire to do what a Joint Stock Company or individuals could effect as well; and our national irritability being apt to betake itself to "Public Meetings," and the great examples of "Hampden and of Sydney," for support, at the mere mention of the words "the active interference" of Government, the Fine Arts in England, from the days of Elizabeth to those of Victoria, have been forced to beg their bread at the hands of private patronage. Charles the First and George the Third sought, indeed, their more active promotion; the first from taste, the latter from principle; and it is from the days of Sir Joshua Reynolds we must date the advancement we now witness.

The church has now ceased to deliver over

pictures to the civil power as heretics, he was bound to proscribe and to commit them, as Savonarola did, with pious madness, to the flames. Government, at length, having recognised its duty, will fully justify us in our confidence in the future.

Decoration of the Theatre Royal, Haymarket.

THE Haymarket Theatre, which opened for the season on Saturday night, has long required re-decoration; and with Mr. Webster's usual enterprise, he appears to have determined to do it effectually, for which purpose he availed himself of the skill of Mr. Sang, while the general alterations were placed under the superintendence of Mr. C. Manby.

The columns which formerly encumbered the proscenium, and circumscribed the space on the stage, have been removed, and are replaced by pilasters, decorated with a running pattern of the Indian cane, with its leaves entwined with bright flowers.

The lobbies are all of a cool green colour, with crimson lines round the doors. Backs have been added to all the seats in the circle. The unsightly square columns which formerly impeded the view from the corner boxes, are replaced by the former palm-tree stems of white and gold. Increased ventilation has been provided. The general tone of the house is cream-colour and gold. In the ceiling and proscenium, alone, some artistic decoration is attempted. The pervading tint of the ceiling is an aerial blue, intermingled with gold, and ornamental and figurative painting. In the spandrels of the four corners are depicted the "Seasons," and there is a group of "Tragedy" and "Comedy," in the centre of the proscenium.

A new drop has been painted by Mr. P. Phillips. The centre represents the church at Stratford, forming the centre of the screen, of the period of the Renaissance architecture, surmounted by a bust of Shakspeare, and flanked on either hand by two groups of Tragedy and Comedy.

A BRASS coin of the reign of Domitian was recently dug up on the north side Primrose-hill.

Cathedral of Namur.

AMONG the best modern works of continental Art, the new pulpit just erected by M. Geerts of Louvain, in the cathedral of Namur, deserves honourable mention. It was this same eminent professor who designed the new stalls in the cathedral at Antwerp, so skilfully carved by M. Duret. That in these designs an allowable purpose of conforming to the antique traditions has led to a certain meagreness of contour and conventional stiffness of outline, some connoisseurs object. But no such complaint can be laid against the *Chaire* in the rich Palladian church of St. Aubyn, at Namur. There, M. Geerts has felt himself free: and the general design of his pulpit is rich, ornate, and florid, without poverty, or petty and frittered affectation. The new work is on a grand scale: the figures are of life size, cut in oak. Beneath the pulpit is a group of three persons. These are the Virgin arresting the Demon of Pestilence when about to strike the City of Namur, the last being allegorically presented. Not even in the ateliers of Munich, Paris, or London could be found a triad more graceful, more expressive, and freer from grimace or academical commonplace than these. The two staircases are rich in happily-fancied arabesque: the parapet is adorned with a combination of figures, arabesques, and medallions, and the sounding-board is upborne by two flying angels eminent for their aerial lightness. Indeed, it might by hypercritics be objected that they are too delicate to support the gorgeous canopy above, but they are beautiful in the ease of their attitude, and the lightness of their robings. As a whole, we have seen no masterpiece, even by Verbruggen, the famous elder Belgian carver, more masterly in workmanship than this pulpit by a modern one, or so truly pure in style. The finish, too, is good, without a distracting minuteness or finical smoothness.

EFFECTS OF CHARTISM.—During the agitation caused by the Chartist meetings, hundreds of cabinet-makers were out of employment; but since quiet has been restored, all are in full work, or at least those connected with the trade society. It could scarcely be expected that any one should order new furniture to be at the mercy of a mob.

Of Niches.

NICHES are recesses formed in walls, in order to contain some ornament, as a statue, or an elegant vase. They are also adapted to receive figures bearing lights in halls, galleries, and staircases. Sometimes niches are made in thick walls to save materials.

Niches for the interior parts of buildings are generally constructed of ribs of timber, and lathed and coated over with plaster, which forms the apparent surface.

The plan or base of a niche is always some symmetrical figure; as a rectangle, a segment of a circle, or of an ellipsis.

All the sections of a niche, parallel to the base, are similar figures; and all the sections parallel to the base, to a certain height are equal. Niches sometimes terminate upwards in a plain surface, and sometimes in a spheroidal surface; but most frequently in the portion of a spherical surface; so that, as the faces of walls are generally perpendicular to the horizon, the aperture in the face is either a rectangle, or a rectangle terminating in the segment of a circle, or in the segment of an ellipsis. Two of the sides of the rectangular part being perpendicular to the horizon.

Niches are always constructed in a symmetric all form; viz., if a vertical plane be supposed to pass through the middle of the point of the breadth, perpendicular to the surface of the wall, it will divide the niche into two equal and similar parts; or, if any two points be taken in the breadth, equidistant from the sides of the niche, and if two vertical planes be supposed to pass through these points, perpendicular to the surface of the wall, the sections of the niche will be equal and similar.

Niches are placed either equi-distantly, in a straight wall, or round a cylindrical wall, dividing the circumference into equal parts: sometimes they are placed in an elliptic wall. In the latter case, however, they ought not to divide the circumference into equal parts, but to be at an equal distance from each extremity of the principal axis of the ellipsis. Niches are frequently constructed in polygonal rooms, a niche being placed in the middle of each side of the prismatic cavity. The opposite sides of such rooms are always equal and similar rectangles. The plans are either hexagonal or octagonal; but most frequently of the latter form.

The principles of forming the ribs, for the heads of spherical niches, are drawn from the following considerations:

All the sections of a sphere, made by a plane, are circles; therefore the edges of the ribs to be lathed ought to be portions of circles.

The ribs of niches may be placed either in vertical planes, or in horizontal planes; and, indeed, in any manner, so as to form the spherical surface as required: it will be most convenient, however, to dispose the ribs either in vertical planes, or in planes parallel to the horizon, as the case may require.

One of the most easy considerations for the ribs of a niche, when they are placed in vertical planes, is to suppose them to pass through a common line of intersection; and, if this line passes through the axis of the sphere, the ribs will be all equal

portions of the circumference of a great circle of the sphere, and will, in consequence, be very easily executed. In this case, the square edges of the ribs will range, or form the surface of the niche. This position of the ribs is therefore very convenient for forming them, as not only less time, but much less wood will be required to execute them.

There is another position of vertical ribs which is frequently convenient; that is by placing the ribs in equi-distant planes, perpendicular to the wall; and consequently when the surface of the wall is a plane, the planes of the ribs will be all parallel.

Varnishing Furniture.

THERE are several species of furniture which are varnished; such as works in white wood, boxes, and other small articles much used, and carved work, which is difficult to polish. Lately, varnish has also been used for tables, side-boards, and chairs. The best method of proceeding is to purchase the varnish ready made for use, as the process of making is tedious and expensive.

Copal varnish is of an extremely durable kind; it is transparent, and forms one of the most beautiful and perfect varnishes for coloured wood, where a slight tinge of brown is not objectionable. It is difficult to make, but may be procured of japan-manufacturers or coach-makers. It may be used for various articles, and is the only species which succeeds for dining-tables. The coats should be laid on as thinly as possible, and allowed to become well dry between each.

For light coloured woods, hard white varnish is used. Various receipts are given for this purpose, in all of which particular attention must be given to choosing colourless gums.

A fine colourless varnish may be made by dissolving four parts of gum-Sandarach, and one part of Venice turpentine, in sixteen parts of spirit of wine by a gentle heat. A more compound varnish is used by the French artists: it consists of

Spirit of wine, 32 parts;
Gum-Sandarach, 5 parts;
Mastich, 2 parts;
Gum-elemi, 1 part;
Oil of lavender, 1 part.

The whole being dissolved in a vessel placed in a water-bath, kept at such a temperature that the spirit does not boil. After the solution is cold, it is to be filtered for use.

From four to six coats of either of these varnishes are laid on the work, taking care to let each coat become perfectly dry before another be added; and when the last coat is dry, the work must be polished with tripoli and water, by means of a compact rubber of druggist or list, and the surface being next washed with water, it is finally rubbed off with a clean fine linen rag and bran.

THE *Art Journal* states that Mr. T. S. Cooper, A.R.A., has sold his large picture of the "Battle of Waterloo," which was exhibited at Westminster Hall, to a gentleman in Lancashire, for £1000.

Drawing and Painting.—Drapery.

In the art of clothing your figures, or casting the drapery upon them with elegance and propriety, many things are to be observed; however, this art consists chiefly in three points, viz.—The order of the folds, or plaits, the different quality of the stuffs, and the variety of their colours. As to the folds, they ought to be so managed as that you may easily perceive what it is they cover, and distinguish it from anything else; as for instance, that you see it is an arm that is under the drapery, and not a leg, or a leg, and not an arm, &c. Again, the folds ought to be large, and a contrast should be observed between them; otherwise, in the first place, they break and divide the sight too much, and in the next place, the drapery will be too stiff. The quality of the stuffs should be well considered; some folds being abrupt and harsh, while others flow more soft and easy. Again, the surface of some have a lustre, while others are flat and dead; and some are fine and transparent, while others are firm and solid. The variety of colours, when well managed, makes the greatest beauty in painting: some are not equally agreeable with respect to each other; and some are never to be placed near certain others.

The drapery must never be made to adhere or stick too close to the parts of the body, but it must seem to flow round, and, as it were, embrace them; yet in such a manner as that the figure may be easy, and have a free motion. A great lightness and motion of the drapery are only proper in figures in much agitation, or exposed to the wind. The nudities of the figure should always be designed before you proceed to draw the draperies. Draw the outlines of the garments lightly; then draw the great folds first, and stroke these into lesser; taking care that they do not cross each other. The draperies which cover those parts which are exposed to great light must not be so deeply shaded as to seem to pierce them; nor should those members be crossed by folds that are too strong, lest by the too great darkness of their shades the members look as if they were broken. Folds in general should be large, and as few as possible: however, they must be greater or less according to the quantity and quality of the stuffs of which the drapery is supposed to be made. Suit the garments to the body, and make them bend with the body according as it stands in or out, straight or crooked, or as it bends one way or other; and the closer the garment sits to the body, the narrower and smaller must be the folds.

The quality of the person is also to be considered in the drapery; for instance, if they are magistrates their draperies ought to be large, fine, and flowing; if country clowns they ought to be coarse and short, and if ladies and nymphs, light and soft, &c. Folds well imagined give much spirit to any kind of action, because their motion implies the like in the acting member, which seems to draw them forcibly, and make them more or less violent. An artful complication of folds in a circular manner greatly helps the effect of foreshortenings. All folds consist of two shades and no more, which you may turn with the garment at pleasure, shadowing the inner side more deeply.

The shades in silks and fine linen are very thick and small, requiring little folds and a light shadow. Observe the motion of the air or wind in order to draw the loose apparel all flying one way, and draw that part of the garment which adheres closest to the body before you draw the looser part that flies off from it, lest by drawing the part first you should mistake the position of your figure and place it awry.

Rich ornaments, when judiciously and sparingly used, may sometimes contribute to the beauty of draperies. But such ornaments are far below the dignity of angels or heavenly figures, the grandeur of whose draperies ought rather to consist in the boldness and nobleness of the folds, than in the quality of the stuff, or the glitter of ornaments. Light and flying draperies are proper only to figures in great motion, or in the wind; but when in a calm place and free from violent action, their draperies should be large and flowing, that by their contrast and the fall of the folds, they may appear with ease, grace and dignity.

History of Sculpture.

THE origin of this art may be sought in vain even in the most remote times to which we have any means of throwing a retrospective glance. There can be no doubt that the system of hieroglyphics or picture writing, as it has been termed, first employed the chisel of the sculptor, who traced rudely on stone, on wood, or the bark of trees, those shapes by which he meant to express his wishes or designs. It is probable, also, that idolatrous feeling was a great deal mixed up with the matter, as it was doubtless found necessary to place before uneducated people images of their gods, in order to keep steadily burning within their souls the flames of devotion.

The pursuit arising from this necessity, indeed, contributed to carry the art to that degree of perfection which it afterwards attained among some of the nations of antiquity. It is worthy of observation that even in the dark or "middle ages," the ritual of the church of Rome, particularly that portion which instilled veneration for her martyrs and saints, sufficed to preserve among the Italians some vestiges of the art of sculpture; and it is fair to conclude hence (since human nature is always much the same), that a similar veneration for heroes and demigods would, among the ancient nations, have a corresponding effect. In this view of the case the Chaldeans may be supposed to have been among the very earliest practisers of the art of sculpture, they having unquestionably been the first idolators, and accordingly we find their skill in this way borne witness to by sundry ancient writers, including Apollodorus and Pliny.

In turning to the Old Testament (possibly the most ancient record in existence), the first intimation that we find of the art of sculpture is the information that when Jacob, by divine command, was returning to Canaan, Rachel, his wife, carried with her the teraphim, or idols of her father. These must have been small, since she contrived to conceal them effectually, notwithstanding her father's search. We know not of what substance these images were wrought, or in what manner. The first person particularized as an artist (if we except

the eastern tradition of Abraham's father having been a statuary), is Bezaleel, who formed the cherubim covering the mercy seat.

The Egyptian, without doubt, cultivated the art of sculpture—but there were certain circumstances operating among them to obstruct its development. In the first place, the persons of the Egyptians were deficient in grace and symmetry, and they had consequently no perfect standard whereby to model their taste. In the next place, being restricted by law to the principles and practices of their forefathers, any vicious manner which had once got introduced into their system of art was sure to be perpetuated. Thus their statues were always constructed in the same stiff attitude, with the arms hanging like those of a wooden doll, perpendicularly at their sides. All the large figures in Egyptian sculpture were executed in calcareous stone, in basalt, granite, or alabaster. No instances appear of their having resorted to the use of bronze. Many of these are colossal. The smaller statues, however, are not so limited in point of material—bronze, gold, wood, marble, terra cotta, &c. enter by turns into the composition of them. The eye was frequently of different material from the rest of the statue, and in many instances composed of a precious stone or metal. The valuable diamond of the late Empress of Russia (the largest and most splendid hitherto known), is confidently affirmed to have formed one of the eyes of the famous statue of Scheringham, in the temple of Brama. Several of these statues which still remain, are made of wood or baked earth—those of the latter substance being covered with a green enamel.

(To be Continued.)

Perspective.

(Continued from page 207, Vol. 3.)

THE SCALES.

WE consider it necessary previous to illustrating the principles of perspective, to explain the nature of the scales we shall have occasion to use. There are various scales, divided to suit the convenience of the artist, workman, &c. On the common two feet rule an inch is divided into eight parts, and here if one inch represent a foot, two eighths will represent one fourth of a foot, or three inches; four eighths half a foot, or six inches; six eighths three fourths of a foot, or nine inches.

Again, if one inch be divided into twelve equal parts, every small division will represent one inch. In the like manner, if one quarter, one half, or three quarters of an inch be divided into twelve parts, every large division will respectively represent one foot, and every small division will be an inch.

But the scales we shall have occasion to use are those in which the inch, half inch, and quarter inch are respectively divided into ten equal parts. In this case every large division is called a foot, and the small divisions tenths of a foot. Besides the convenience of these divisions for decimal operations, we may also easily ascertain certain divisions corresponding nearly to any number of inches,

thus, for five feet we take five large divisions, whether one inch, half inch, or quarter inch.

Again, for five feet three inches we take five large divisions and two tenths, and one half the next tenth.

For five feet six inches, we take five inches five tenths.

For five feet nine inches, we take five feet seven tenths, and one half another tenth.

From these remarks, with a little attention, we may determine the divisions for 4, 5, 7, 8, 10 and 11 inches. (See scale, page 125, Vol. 2.)

The above scales, by employing the diagonal divisions, may be employed for three numbers, or for hundreds—but the above will suffice for our purpose. The most proper form for a scale of equal parts, is that where the divisions are marked on the very edge, and are generally made thin for the purpose of pricking off divisions on the paper, without the help of the compasses.

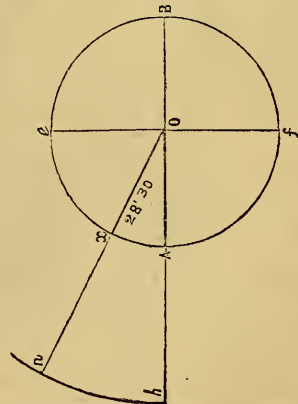
The line of chords is also laid down on the plane scale. It begins on the left, with the word chords, ch., or c. The word chord comes from the Greek *chorde*, and means the intestine of an animal of which musical strings used to be made, and as the chord of any arc or angle is always a straight line, it represents a musical string in the act of tension, or being stretched out.

The line of chords consists of nine primary divisions, numbered 10, 20, &c. up to 90. The spaces between the primary divisions are again divided into ten parts, making in all, from the beginning to 90, 90 divisions—and on large scales the degrees are again subdivided.

The radius of any circle is always equal to the chord of 60 deg. of that circle; and whenever we have an angle to measure, or an angle to make, and to contain a certain proposed number of degrees, we must always take the chord of 60 deg. in the compasses.

Required to measure the Angle $A o x$.

Here the radius $o A$ is too short for the line of chords on the plane scale, wherefore we produce $o A$ toward h , and $o x$ toward n ; then open the



compasses so that one foot may fall on the beginning of the line of chords, and the other foot on 60 deg.; then with this radius and centre o , describe the arc hm : we then take the arc hm in the

compasses, and apply it from the beginning on the line of chords, and it determines the measure of the angle to be 28 de. 30 min.

Again, required to lay off the angle of 28d. 30m.

Draw any line as *o h*, then with the chord of 60, taken from the line of chords in the compasses, with one foot in *o*, describe the arc *h x*; take from the line of chords the chord of 28 deg. 90 min., and lay off that extent from *h n*, draw *o n*, and *h o n* is the angle required, containing 28 d. 30 m.

If the required angle contain more than 90 deg. take any two chords successively, the sum of which will be equal to the required number, and the angle may be laid off.

Suppose the required angle to contain 140 deg. first from the angular point determined, describe an arc with the chord of 60, and then take the chord of 70 deg., and lay it on the arc twice. Through this last point draw a line, as in the foregoing operations, and the angle is laid off as required.

SANITARY REFORM.—At this period of stern opposition on the part of the City Authorities to the Sanitary measures proposed by those who wish good to their fellow beings, we cannot do less than notice commendingly the conduct of the trustees of a Baptist chapel in Romney-street, Westminster, who have abolished their burial-ground as a mere act of philanthropy, in order to add their mite to the Sanitary measures now being carried out in the metropolis. Lesser benefactions have often gained immortality.

We learn that no less than ninety tons weight of superb furniture lately arrived at Dunrobin Castle from London, and among other things, two carpets, each of which cost £500. These preparations are convincing proofs that her Majesty and Prince Albert purpose visiting Dunrobin next season.

RAILWAY-STATION ARCHITECTURE.—A correspondent of the *Athæneum*, writing from Hildesheim, in Germany, says,—“I do not know who is to be credited with the good taste of the railway-station at which we alight from Hanover. Here has been carried out an emulation of the old brick-and-wood architecture of Hildesheim. The building is rich, extensive, and fanciful—perhaps a little overdone (but this is hardly to be quarreled with)—attractive in its play of lines and variety of forms; so different from either the grand station at Hanover (a sumptuous edifice in the Munich style), or, again, from Herr Eisenlohr's beautiful creation at Heidelberg, as to illustrate anew a pet crotchet of mine and of yours, that the very element which has been used reproachfully to symbolize all that is most anti-poetical and practical, bids fair, in revenge, to revive with a new life one of the most picturesque of the Fine Arts. Assuredly the examples that I have accidentally named, in novelty, spirit and fancy, beat any of the new churches which I have seen—whether it be Canova's mistake at Possagno, or the Basilica and the Ludwig's Kirche at Munich, or Herr Zwirner's attempt on the Appollinarisberg, close to Remagen.”

It is said that the new churches in the metropolis alone will, when finished, afford accommodation to nearly 100,000 persons.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

“*W. G.*” *Reading.*—We are compelled in this instance, to increase the price to Two-pence, (see the leading article in No. 75, page 241, and also the Postscript to Vol. III.) but the Numbers in Vols. 1, 2, and 3; as also the Parts, will remain at the same Price they were Published at. Parts of this Vol. in future, will be charged Ten-pence each.

G. J. Rhodes is thanked. All the back nos. will be re-printed. To the second part of your letter, it has been done, but, as yet failed; we will, however, try it again.

QUERY.

Can any of our Readers describe the mode of Anastic Printing, as applied to Lithography, and the peculiar acid used in the process.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to “the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London.”—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. II. and III. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or marbled, 6d. extra.

*Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 19 is now ready, Price 1d.

IN Paris, three Exhibitions have been opened at the School of the Fine Arts. The first, in the church of the convent of the Petits Augustins, is of designs for the statue representing the French Republic, of which there are nineteen. The second, at the Palais des Beaux Arts, is composed of the works sent by the pensioners at the French Academy at Rome. The third, in the upper galleries, comprises all the works that have gained the grand prizes in historical painting, sculptural design, engraving, and cuttings for medals or gems.

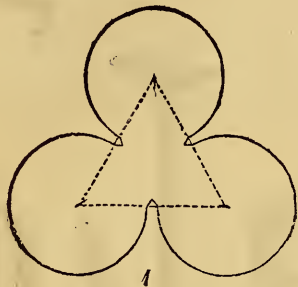
A B C D E F
G H I L O
N O P Q R S
T U V X Y Z

ALPHABET COPIED FROM AN INSCRIPTION SUNK ON STONE, DATE, 1341, IN THE
CHURCH OF ST. NICHOLAS, GREAT BOOKHAM, SURREY.

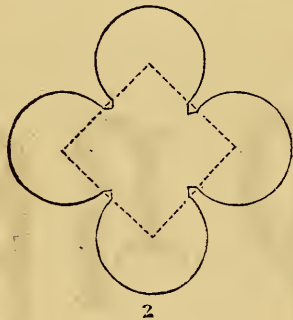
An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

(Continued from page 251, Vol. 3.)

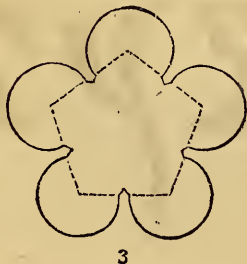
FOIL. An ornament used in gothic architecture.



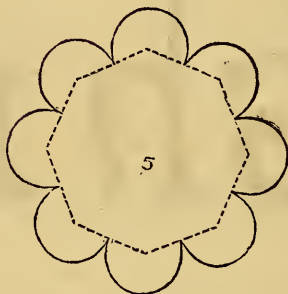
The accompanying diagrams show the methods of



striking them. Fig. 1, Trefoil,—2, Quatrefoil,—



3, Cinquefoil,—4, Sixfoil,—5, Huitfoil.



FOLIAGE. (In Architecture and Sculpture.)
An assemblage of leaves of plants and flowers, ar-



ranged systematically, so as to form architectural
and sculptural ornaments; as in the capital of the
Corinthian order, friezes, panels, &c.

FUST. (In Architecture.) The shaft of a column, so named from being originally one single trunk or limb of a tree, like a post or large cudgel. The word *fust* generally applies where the shaft is of a single stone or *solides*, and distinguished from the *structiles*, or such columns whose shafts were constructed of many pieces.

FASCES. (In Ancient Costume.) Bundles of rods carried before the magistrates of Rome by the lictors, with an axe bound up in the middle of



them. The rods and axe were to intimate that some offenses for lesser crimes were to be chastised with rods, and others, when there was no remedy, were to be cut off from the people by the axe. The

dignity of the magistrate was expressed by the number of lictors bearing fasces before him. A dictator had twenty-four; a consul twelve, and a prætor ubanus, or mayor of a city, two. The word is also applied to the office or dignity itself. According to most Roman historians, Tarquinius Priscus brought the custom of bearing the fasces as an ensign of office, with those of wearing rings, the curule chairs of ivory, purple habits and other regal symbols from the Etruscans. Upon the arch of Titus, and other monuments of Roman art, the fasces are represented as decorated with a crown of laurel.

(To be continued.)

AN ANTIQUITY.—Mr. Joseph Edge has discovered on his lands the remains of an ancient wooden house. The building, which is a piece of true primeval architecture, is eight feet square, and in its structure neither saw nor augur were used; the adze and chisel were alone employed.

From Manchester we learn that the principle of popular admission to the Exhibition of Paintings at the Royal Institution in that town, by the reduction of price (which was tried with success last year, has been again adopted. The working-classes have been admitted during a limited time at the charge of two-pence.

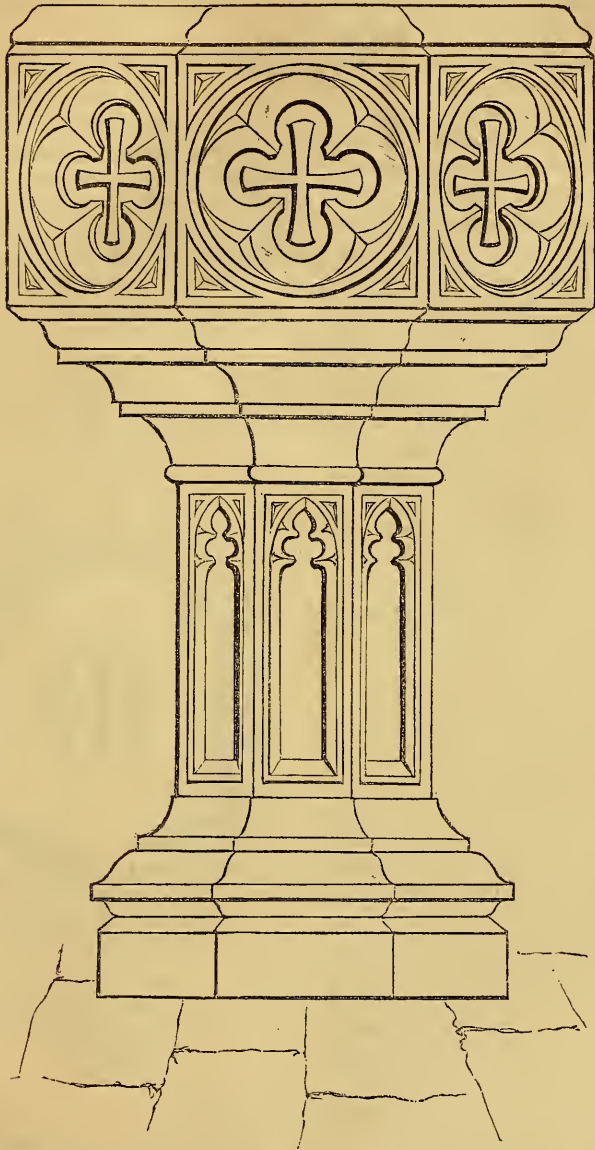


CUPID,—FROM AN ETCHING AFTER LUCAS CAMBIASO.

The Chronotypist.

MR. LEADBEATER of Aldersgate-street, has been the successful competitor for the eight large wrought iron fireproof safes for Her Majesty's Ordnance department.—The great oak in Hoxne wood (at which King Edmund the Martyr, according to tradition, was shot with arrows, lately fell to the ground, at the depth of a foot within the bark,) Mr. Smythe, Agent to Sir Edward Kerrison, Bart. the proprietor, is said to have found an iron point, having the appearance of an arrow head.—At a quarterly meeting of the Iron Trade, they have openly declared for a still further reduction of the previous nominal prices.—Another Suspension Bridge over the Niagra, is about being built "says the Halifax Sun," opposite Queenston, the span being about 600 feet; between the towers which are of stone, the distance is about 800 feet, the estimated cost is 40,000 dollars.—The London and North-Western Railway Company have, it is said, resolved on erecting a marble statue, from the chisel of Mr. Gibson, to the memory of Mr. George Stephenson, the late eminent civil engineer, as the author of the improved locomotive, and promoter of the great railway system twenty years ago.—The long expected marbles from Nimroud, embarked on board the Jumna, and which were reported to have been lost at sea, have, we are happy to say, at length arrived, and are safely deposited in the British Museum. The packages, fifty in number, were permitted by the authorities at Sheerness, to be at once sent up to London under seals, to undergo the Custom-house examination in presence of the authorities of the Museum, with the view to avoiding the necessary risks attendant on the disturbance of articles of their valuable character and fragile nature.—The West Norfolk Archæological Society met on Wednesday week, when the Rev. C. Bousell, of Downham, read a paper on Norfolk brasses, and a window of stained glass, the work of the Rev. Arthur Moore of Walpole, was exhibited.—The Scarborough Society, lately proceeded to open a tumulus at Peasholm, supposed to contain many valuable relics.—At Aldborough the Roman *Isu Brigantium*, a tessellated pavement 12 feet square, and in perfect condition, has been found in a garden, near another uncovered in 1832.—The remains of Stukeley's celebrated "Temple Umbra," at the Borough-field, Chesterford, have turned out, it is said, to be "decidedly those of a dwelling-house rather than a temple:" they are

still however held to be of Roman origin.—At Gonalston Church, near Nottingham, three ancient brasses of historical interest have been found thrust carelessly into a hole covered with rubbish.—On Thursday week the second tube was floated on pontoons to the piers: Its entire length is 424, the actual span over the Conway being 400 feet: its greatest inside width is 14 feet throughout: its height twenty-two and half feet at each end, but rising to 25 feet in the middle, the additional 3 feet being to lessen the deflection of the bases. The total weight of each tube is 1,300 tons, so that the superimposed weight now that the two tubes are at rest over the Conway, is 2,600 tons burthen from bank to bank. The fabric may be said to form a series of iron plates riveted together, like armour-work. It has taken twelve months to complete. Each tube has cost about £60,000.—At Jesus College Chapel, Cambridge, the restorations are at length nearly completed. In the course of repairs a number of arches have been found concealed behind clumsy masses of brick-work and plaster. The original fabric is now again developed. The window at the east end is new in material though not in design. This and the other windows are to be filled with stained glass, and the square panels of the lofty roof decorated with rose and crown. Unfortunately a portion of the nave, adjoining the master's lodge, was converted into students rooms—a fact recently ascertained. Towards the east, however, the chapel has been enlarged; and a new aisle erected on the original foundation of that part of the building.—A painted window the gift of Mr. Serjeant Talfourd, M. P., and his wife, has been erected in St. Lawrence's Church, Reading.—St. Osmund's Roman Catholic Church, at Salisbury, opened on the 6th, instant, is in the early decorated style, with nave, chancel, south aisle, chapel at east, and tower at west end. The organ gallery is over the sacristy, at south side of the chancel. The altars, pulpit, and font are of stone, carved, the two former relieved by painting and gilding. The windows in chancel and Lady Chapel are filled with stained glass, by Hardman of Birmingham. Chancel and chapel are separated from nave and aisle by oak screens. The chancel roof is panelled, painted and gilt. The body of the church is filled with low open benches. The exterior is of flint, with stone quoins. Mr. Pugin was the Architect. The accommodation is for 300: estimated cost between £2,000 and £3,000.—The contractors of the Newport, Monmouth, and Hereford Railway, have received orders to cease from their labours for two years. The Monmouth contract has been closed for some time, and the works at Newport and Caerlon only have been proceeded with.



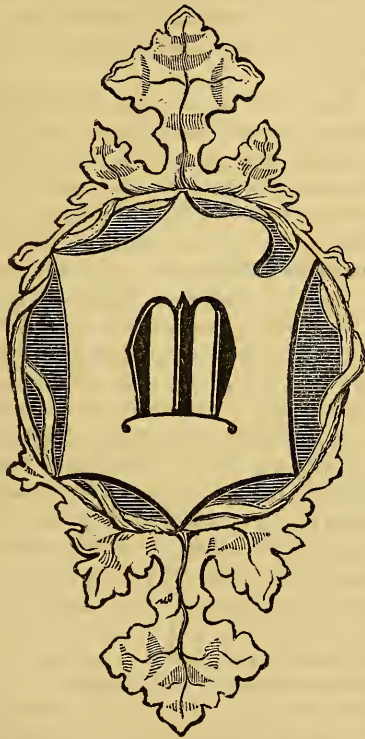
A DESIGN FOR A BAPTISMAL FONT.

Scale, $1\frac{1}{2}$ in. to the foot.

Improvements in the Dwellings of the Industrious Classes,

—
BY FRANCIS CROSS, SURVEYOR.
—

“The poor want Dwelling-places; whilst we are exhausting our ingenuity to supply our Villas with every possible convenience, we are leaving our Working Classes to the enjoyment of every possible inconvenience, in wretched stalls to which men of substance would not consign their beasts of burden.”—*Morning Herald.*



UCH as the public attention, of late years, has been occupied in talking of the “*Improvements in the Dwellings of the Industrious Classes,*” and in increasing their enjoyments, whether this is all to end in talk, still remains a question, inasmuch as all that has hitherto been done can only be considered as *little*. Certain it is, however, that during the last few months a progressive movement in advance has been

made. What with the Society for the Erection of Model Lodging Houses, Societies for the promotion of Health in Towns, Baths and Wash-houses, Public Gardens, and, finally, a Sanatory Act, all these tend to show strongly that the cause has public sympathy.

The importance of a well-arranged, substantial, and comfortable dwelling can never be over-estimated; for watch the progress of a young couple of sober and industrious habits, renting a house (at least, what is so called), perhaps with damp on the surface of the walls, badly ventilated, and defective drainage. At first, every exertion is patiently used to check these evils by constant cleansings, but repeated efforts, without apparent good in return, tire out the most patient and industrious; so the house begins to be neglected, and decay allowed to proceed its own way. The housewife, that before was tidy and cleanly, becomes a dirty and miserable object. Neither she nor her husband find enjoyment in that which ought to be their pride—“*their home.*”

At the present moment, houses for the industrious classes are wanted in every direction. Now, therefore, is the time to raise an agitation that will show the imperative necessity of a grasping landlord's improving the small dwellings of his tenants, and to convert his present miserable houses into well ventilated, cheerful, substantial and healthy cottages. Let a landlord adopt such a course, and he will receive the blessings of his tenants. Let every man who by trade or other means has saved a small sum of money, no longer join the *stags in Capel-court*;—rather let him *build*; for it always surprises me to see a plodding, industrious man, who, year after year, immersed in his business until *the bag begins to feel heavy*, is yet so very easily induced to risk that which it has taken years to accumulate, in some wild and visionary scheme.

In the late railway mania, the wholesale dealer and retail trader were applying for hundreds of shares in, perhaps, a direct line to the North Pole, instead of making an investment that would stand a Joinville attack, a Smith O'Brien revolution, or a Chartist row. It must be a matter of sad regret to those persons who in the height of excitement, converted their all into cash to turn gamblers—to get, in return, *endless anxiety*. A man with thousands embarked in such undertakings, cannot well be

considered a rich man, for we know not the day that on taking up the paper may not show 100 per cent. discount; while the same, or a much lesser amount, invested in house and land property, produces often, not only a larger return for the capital invested, but at the same time a name that inspires respect. In the latter case he will also have the gratification of knowing that without injuring himself, he has it in his power to contribute largely to the welfare and comfort of a large class of his fellow creatures; while, in the former, to gratify a selfish, greedy desire of suddenly acquiring wealth, he seldom gets a greater return, and is more often overreached.

How much better would it have been to have invested the surplus earnings in *bricks and mortar*, and to become thereby the *absolute owners and masters* of property (however small), which, after a fair allowance for repairs and losses, will, year after year, yield a *safe* return for capital sunk; while in railways, mines, &c., he is at the mercy of a large body, who can adopt any policy, as in leasing lines, and forming unprofitable branches, without any one shareholder being able to prevent a course which he feels persuaded is injurious. An instance of this came under my notice a short time ago. An iron mine that had for years yielded a large per centage, and was regarded as a most safe investment, *suddenly become insolvent through the operations being extended too far*. It would be folly in the extreme to deny that in the purchase or erection of house property, it is treading on dangerous ground; or that at times, an unfortunate investment is made; but it seldom, if ever, *entails entire loss*. If property depreciates, it is still, and always will be, worth more than

In the mind of man, rightly constituted, there exists an eternal progress—an inward desire of increasing wealth and comfort, leading to a constant struggle to excel each other. This prevents nearly all from being content with funded property, when, apparently, there are several means equally safe, for realizing a larger return; nor would we, ourselves; yet this forms no argument why persons should join schemes requiring an exorbitant capital, to raise which, dependance does not rest on individual promises and engagements being kept, but on a large body. The strength, success,

and safe working of the scheme, rest on all acting in unison with each other; and if but a few fail, the bad effect is felt immediately by the whole.

There is a large class, however, who do *buy*, if not *build*, most of whom are patrons of speculative builders,—the purchasers of *crack houses*,—men who revere quantity, without due consideration of quality. It is no uncommon thing to hear of these men employing surveyors to value these ready-built tenements, and consider that they ought thereby to be answerable for all defects that may afterwards appear, though, perhaps, the surveyor reported that the house was built as most houses of its class generally are. A man may, if he choose, consider this a favourable opinion, but we would rather hear—*better than they are generally built*.

A fine feast for an enquiring mind that may be fond of prowling into different localities, is, to watch the different skeletons that have been put upon their legs of late years, as in Camden Town, Chelsea, Dalston, Islington, Pentonville, &c. A whole nest, well worthy of notice, exists in Pentonville, which have stood some years in *statu quo*, waiting for stucco and whitewash to conceal the rotten bricks. I do not doubt that, one of these days, I shall yet see these very houses will have their case put on,—then let,—and *finally be sold*. How easy is it to present a fair appearance to the eye, for a short time, even to the most frail fabric; stucco the brickwork, and draw the joints in *imitation of very curious blocks of stone*, and colour any tint but nature; grain the woodwork mahogany or oak, and the eye must be critical, indeed, to detect *disease behind so fair an exterior*. This system ought to receive a most decided check, or else it will be no easy task to prevail on enterprising men to embark in a *legitimate encouragement of Trade*, profitable to all parties concerned; whereas, if the capitalist were used with fairness, and the builder content with a fair profit, that desirable end would be accomplished.

(To be continued.)

CURIOUS WATCH.—A few years since, a person at Cork had a watch which had belonged to Louis XVI. It was the usual size of a French watch, but full of mechanism, and comprised besides the ordinary works of a time-piece, an almanack, a diary of the weather, and various other singular things.

Mr. Wornum's Lectures on Ornamental Art.

On Friday evening, the 20th ult., Mr. Wornum delivered a Lecture on the Art, of Ancient Egypt:—being the first of his course on the History, Principles, and Practice of Ornamental Art, to which his lecture on the 5th inst., noticed in No. 76, was introductory. Mr. Wornum first showed the early social development of Egypt and the great antiquity of Egyptian Art; inferring from various data the eighteenth century before our era to be the earliest period to which any Egyptian monument can be safely attributed, though many may be much older. At the same time, he assumed that their art had attained its maturity at that period: observing that from Joseph until the establishment of Christianity in Egypt, 2,000 years afterwards, the Egyptian artist plodded on in his beaten path, uninterrupted by a single innovation even in practice;—a state of affairs to be attributed to the absolute domination of the priesthood and the system of hereditary professions. On this account, said Mr. Wornum, the Egyptian artist was solely an ornamentist; Art, as Fine Art—that is for its own sake alone—being never developed in Egypt, (though its application to ornamental design was thoroughly appreciated.

Having established the antiquity of Egyptian Art, the lecturer next gave a rapid topographical review of all the vast monumental remains still existing on the banks of the Nile, from Chendy, the ancient Meroc, to Alexandria, on the shores of the Mediterranean, a space of 1,200 miles; showing as he proceeded, the characteristic peculiarities of each. This was followed by a comprehensive view of the details of Egyptian decoration and ornamental design, with reference not merely to architecture, but to every species of manufacture, and the most ordinary articles of domestic utility. Among other details, the zigzag was pointed out as peculiarly an Egyptian ornament, owing to its typical signification of water, and thence of the Nile; its ancient signification is still preserved in the sign of Aquarius. This ornament was established by the Saracens in Sicily, and was hence introduced by the Normans into the north of Europe. The so-often-occurring winged globe and other symbolic forms of the Egyptians were explained;—the very great diversity of the designs of the capitals of their columns were numerous examples.

The Lotus, or Water-lily of the Nile, was particularly noticed as the natural type in Egyptian ornament, from its reference to the inundation of the river to which Egypt almost exclusively owes its fertility.

The Egyptians carried the art of glass-making to great perfection, even to the imitation of the most brilliant precious stones;—and Memphis and Alexandria were very celebrated in the time of the Emperors for the manufacture of bottles and vases, in glass, porcelain, and alabaster, in which they carried on an important trade with the Romans. They were celebrated also for their embroidered linens; and even for their printed cloths,—which

from a remarkable passage in Pliny, appear to have been printed much after the modern chemical process of dyeing. They were evidently acquainted with the use of *chemical mordants*.

After noticing the ornamentation of their ship, Mr. Wornum concluded with the remark that those who may be wavering as to whether they should admire or deprecate the artistic productions of this extraordinary people, may be assured that the omission of any reference or allusion to Egyptian Art by the arbiters of taste during the last two or three centuries has arisen purely from ignorance of its existence. Before the publication of the researches of Norden the Dane, Europe possessed scarcely any idea of Egyptian Art; and it is only within the last fifty years, since the French Expedition to Egypt, that we may be said to have possessed any adequate knowledge of its vast resources and unparalleled grandeur.

The lecture was abundantly illustrated by coloured drawings.

ANECDOTE OF THORWALDSEN.—An illustrious friend of mine calling on Thorwaldsen some years ago, found him, as he said to me, in a glow, almost in a trance—of creative power. On his inquiring what had happened, “My friend, my dear friend,” said the sculptor, “I have an idea; I have a work in my head which will be worthy to live.” I was walking out yesterday, when I saw a boy sitting on a stone in an attitude that struck me very much. ‘What a beautiful statue that would make!’ I said to myself. ‘But what would it do for? It would do—it would do—it would do exactly for Mercury, drawing his sword just after he had played Argus asleep.’ I came home immediately. I began modelling—I worked all the evening, till, at my usual hour, I went to bed. But my idea would not let me rest: I was forced to get up again. I struck a light and worked at my model for three or four hours, after which I again went to bed. But again I could not rest; again I was forced to get up, and have been working ever since. Oh, my friend, if I can but execute my idea, it will be a glorious statue!’ And a noble statue it is, although Thorwaldsen himself did not think that the execution came up to the idea. I have heard of a remarkable speech of his, made some years after to another friend, who found him one day somewhat out of spirits. Being asked whether anything had occurred to distress him, he answered, “My genius is decaying.” “What do you mean?” said the visitor. “Why, here is my statue of Christ; it is the first of my works that I have ever felt satisfied with. Till now, my idea has always been so far beyond what I could execute, but it is no longer so;—I shall never have a great idea again.”—*Hare*.

A GEORGIAN PRINCE.—Nothing could be more primitive than the architecture of his house: the principal room was scarcely 12 feet square, and furnished only with a bench and table. The walls were made of trunks of trees, cemented with mortar, and were not proof against the rain, which fell in torrents. Though in name a prince, the occupier was scarcely above the labouring class in station or intelligence. He was the owner of a vineyard, by the produce of which he lived, and in which he himself worked, together with his servants.

An Illustrated Glossary of Technical Terms used in Architectural and Exterior Decoration, &c.

(Continued from page 251, Vol. 3.)

FOLD. (In Painting and Sculpture.) A double,



complication, one part lapped over another in drapery.

FIGURE. (Rules for Drawing the) To ascertain the proportions of the several parts of the human body, a perpendicular line should be first drawn through that part intended for the middle of the figure, which should be divided into several equal parts, and from such mensuration a scale may be formed to regulate the proportions of every part of the body. Some divide the length of the human body into eight heads or parts, and others divide it into ten.

When the human body is divided into eight heads, the length of the head, which is the first division of the figure, will extend from the crown or top of the head to the bottom of the chin. The second division will terminate in a line drawn through the paps of the breasts. The third division will fall a little below the navel. The fourth, across the privities, which is exactly the middle of the figure. The fifth crosses the middle of the thigh. The sixth is just below the bend of the knee. The seventh falls a little below the calf of the leg, and the eighth extends to the bottom of the heel. Observe that the full extent from the end of the middle finger of the right hand to that of the left, when the arms are extended at full length in a direct line, is just the length of the whole figure, and from the middle of the collar-bone to the end of the middle finger is just four heads, or half the length of the figure, viz:—The first head extends to the bend of the shoulder; the second from thence to the elbow; the third to the wrist, and the fourth to the end of the middle finger. Thus, from shoulder to shoulder, in a man of common size, measures exactly two heads. There is no precise standard for the breadth of the limbs, for they vary according to the bulk of the person.

When the human body is divided into ten heads, (see engraving, p. 245, vol. 3.) the first division extends from the crown of the head to the under

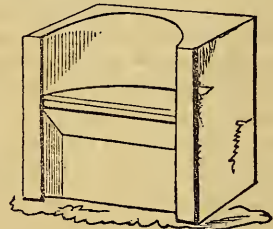
lip; the second, a little below the collar bone, which is just even with the middle of the shoulder; the third will fall just below the paps of the breast; the fourth will reach just below the navel; the fifth being the middle of the figure, will pass across the privities; the sixth will pass over the middle of the thighs; the seventh crosses the bend of the knee; the eighth passes directly through the calves of the legs; the ninth extends half way from the calf to the bottom of the heel, where the last division terminates.

Great attention should be paid to retaining these proportions in the memory. It is also better to have some knowledge of anatomy, as it will enable the student to judge of the proportion and disproportion of the human figure.

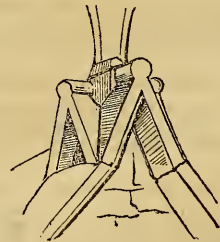
FINESTELLA. A bason used in Catholic churches for holding the holy water.



FRITHSTONE. A sort of chair, formed of stone and used in porches.



GABLE. (In Architecture.) The pedimental end of a building, formed by walling up the end of the roof. In ancient domestic architecture the gable was a very ornamental part of the house, being



finished in steps, embrasures, mouldings, sometimes with a niche, and at others with an elegant window or aperture to give air to the roof!

(To be Continued.)



GROUPS IN CARTON PIERRE IN THE LYCEUM THEATRE.

Decorations of the Lyceum Theatre.

THIS theatre exhibits a refined class of artistic results very superior to those of any other theatre in this country; and that they will most probably exercise an important influence in fostering a demand for that highest range in Ornamental Art which consists in representing animated nature in relief. The embellishments are chiefly from the atelier of the artist, modeller, or sculptor, and with the exception of the fronts to the uppermost tier of boxes, Pictorial Art is only sparingly applied.—Nevertheless, this exposed a remarkable contrast between the energy of the respective efforts of chisel and pencil, when directed to the purpose of embellishing spacious places. The group of well modelled boy figures, being placed amidst clustering foliage and branches which stretch forth to support the two rows of chandeliers now ranged around the theatre, have a purpose and business-like air. The upper engraving shows the figures which are seated on the entablature: and the lower represents one of the groups encrusting the main columns, on a level with the front of the first tier of boxes, above the dress-circle. The foliated scroll-work, supporting birds of paradise, &c., are exquisitely modelled in alto-relievo, and the arrangement on the front of the dress-circle was pronounced highly artistic in design. This front is formed by a bold ogee-shaped groundwork, on which a continuous foliated scroll in bass-relievo is placed, suitably ornamented with wild cats and serpents in alto-relievo. The whole of these embellishments were manufactured by Messrs. Jackson and Sons, in a durable material (carton pierre), coloured and varnished to appear like china, etch gilt. We are indebted to the exquisite skill of Gibbons in representing birds, &c., in alto-relievo, for applied decorations; he contributed greatly to rendering this superior class of Art popular in this country down to the end of the 18th century, evidences of which may be practically gleaned from the cherubs, &c., on the tombstones of nearly every village church-yard in England.

Perspective.

(Continued from page 6.)

OF PLANES.

A plane is a level extended surface, as a floor, or a flat ceiling, and having no depth or thickness.

Every plane has a surface, but every surface is not a plane, for a hill or a globe has a surface, but that surface is not a plane, because it is not level, and consequently cannot correspond to the definition of a plane. Strictly speaking, there is but one plane, which may assume three different positions; viz., horizontal, vertical, and inclined.

An horizontal plane is the level ground, or floor; and all planes parallel to the same are called horizontal planes.

A vertical or upright plane is perpendicular to the ground, as the surfaces of the walls of houses.

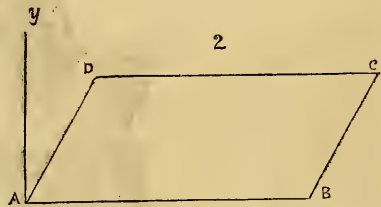
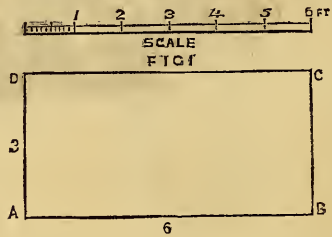
An inclined plane inclines to the horizon, or to the level ground, in an angle always less than 90 deg. The roofs of most houses are inclined planes, the upper parts of writing desks, &c.

Note.—A plane may incline or be perpendicular to planes, in many positions, as well as to vertical or horizontal planes.

Construction of Planes.

Required the construction of an horizontal plane 6 feet long by 4 feet wide, a quarter of an inch to a foot.

Draw A B, *fig. 1*, indefinitely, make A D perpendicular to A B, lay off 6 feet from A to B, and 4 feet from A to D; with the radius A B, and centre



D, describe an arc at C; with the radius A D, and centre B, cross the former arc in C; join C D and C B, the figure A B C D is the plane required.

In this plane all the angles are right angles; but we cannot represent planes intersecting each other,

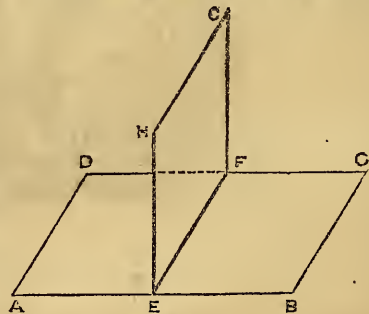


FIG 3

nor exemplify the construction of solids by planes in this or in similar positions. Now, imagine hinges, or swivels, fixed at the four corners of *fig.*

1, then if this figure be pressed at the corner D, it can be made to assume the form of *fig. 2*; and this form is the most convenient for our present purpose.

Here we may consider all the angles right angles, although not apparently so.

Draw *A B fig. 2*, make *A y* perpendicular to *A B*, draw *A D* so as nearly to bisect the angle *y A B*: make *A B* equal 6 feet, and *A D* equal 3 feet, as in *fig. 1*.

Draw *D C* parallel and equal to *A B*, draw *B C* parallel and equal to *A D*, and *fig. 1* is put in an oblique position.

(To be continued.)

The Chronotypist.

THROUGH the liberality of Mr. Coningham, the National Collection is enriched by two pictures, the production of Taddeo Gaddi, a Florentine artist, whose works have hitherto been but little known in this country. Experience has shewn how restricted are the means at the disposal of the Trustees of the Gallery for the acquisition of pictures—and their indisposition, when opportunities occur, to purchase such as would illustrate to the English student the growth of Italian Art. The two composing the acquisition mark a time when grammatical systems of Art had not yet obtained,—when the imitative powers of the painter were uncontrolled and undirected by the aids of structural knowledge and scientific enquiry,—when pictorial enthusiasm was stimulated by pure devotional feeling; and it is this strong and impassioned sentiment, undisturbed by mere conventions of beauty and unalloyed by the dogmas of pictorial treatment, which by rivetting the attention and arousing the sympathies compensates for a hard and dry method of rendering. These pictures are in all probability the doors and wings of some altar-piece, the centre of which is not known to exist. The subjects are groups of saints kneeling in the act of adoration; the various personages being characterized by emblems known in the calendar of beatified. Their style is severe and grand. Of the school of Giotto, these two pictures may be considered most important examples. Little more is known of the recent history of these pictures, than that one was purchased at Cardinal Fesch's sale,—and the other, which was for some time known at Florence, was sent by its owner, as a speculation, to the English banker at Rome from

whom it was purchased.—Arrangements are completed for the erection within the boroughs of Lambeth and Southwark, of several new churches, to some of which ecclesiastical districts have been conventionally assigned under Sir Robert Peel's Act.—Preparations have commenced within the enclosure, in Leicester-square, to convert that hitherto useless spot of ground into an Exchange Bazaar, to be called the Royal Victoria Exchange Bazaar. There will be four distinct entrances—one at each angle of the square—the arcade being in the form of a cross, the statue of King George the First forming its centre, round which will be constructed a circular promenade, open to the air. Within each angle an ornamental fountain will be constructed, to be supplied with water from the Artesian wells that furnish those in Trafalgar-square. This ground was originally leased to Miss Linwood by the Crown, together with the opposite building, known as Saville Palace, with an express covenant that it was not to be built over. In consideration of the highly-ornamental character of the proposed construction, and the vast improvement made to the neighbourhood, the Commissioners of Woods and Forests are understood to have consented to the erection.—The resignation of Mr. Reinagle as a member of the Royal Academy creates a vacancy for an Academician; which we understand will be filled up in the month of February next. Two vacancies in the list of Associates will, we are informed, be filled up early in next month.—At the Blackburn agricultural meeting last week, a silver medal was awarded to Sir Robert Peel, for his estates in Oswaldthistle, as the owner, not being the occupier, who has laid down the greatest number of rods of stone or tile drains, in the best manner.—The Statue to the late Sir William Follett, which is to be placed in Westminster Abbey, and was subscribed for by the admirers of the learned gentleman, is now completed and may be seen in the studio of the artist, Mr. Behnes, in Osnaburgh street. It is of heroic size, and represents the original in an academic gown, and in the usual costume of modern times. The portraiture and character of the original are admirably preserved. The countenance is full of intelligence, and the whole figure is animated, and as near to life as sculpture can arrive at. It will be placed, it is understood, somewhere near the statue of Horner, in the northern transept of the Abbey.

CONSECRATION OF A NEW CHURCH.—A beautiful church, recently erected at Skirbeck, near Boston, Lincolnshire, at the expense of Dr. Roy, the Rector of the parish, was consecrated by the Bishop of Lincoln, on Tuesday, September 24th.



ALPHABET OF THE FIFTEENTH CENTURY.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

"J. Bates." Northampton.—Yes, all the nos. will be re-printed, as early as we possibly can.

"Toots's Query."—We will oblige you with the Foliage you require.

"H. Snell."—No. We do not require the other Fountains. Thanks for the design sent.

"James Brooks."—The whole of the Article must be sent, before it can be inserted.

QUERY.

Can any of our Readers describe the mode of Anastatic Printing, as applied to Lithography, and the peculiar acid used in the process.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. II. and III. are now readye price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or, marbled, 6d. extra.

* * * Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 19 is now ready, Price 7d.

Flower Painting.

THE art of painting flowers is one of the most interesting and beautiful in the department of imitative art. A knowledge of botany in all its branches, a correct eye, a practised and light hand, a consummate knowledge of colours, a delicate pencil, high finish, taste, and a tact for arrangement, are but among the requisites for a painter of flowers. Van Huysum, Varelst, and several others elevated this art above the mere botanical copyist, and one of its practitioners obtained the flattering name of the *Michel Angiolo da fiori*.

Among the ancients, according to Pliny, flowers were used as symbolical of Spring, and upon many medals which represent the seasons of the year by four children or genii, that of Spring always carries a basket filled with flowers. Hope is also figured by the ancient artists and poets holding a flower in one hand. Venus is sometimes so represented, or crowned with a garland of flowers.—Persons conveying good news crowned themselves also with flowers to indicate the happy tidings of which they were the bearers. They cast flowers in the paths of those whom they would honour, as is still the custom on coronations and important marriages. Lovers ornamented with festoons and garlands the houses of their mistresses. They were also carried in the Floralia, as is our custom still on May day. They also crowned with flowers the victims which were led to sacrifice, virgins when going to be married; and they also decorated the tombs of their beloved and honoured kindred with flowers, which they renewed on the anniversary of their departure from this world, as is still the custom in Roman Catholic, and in some of our country village burial grounds.

The selection of the flowers, and the manner of arranging them into garlands, constituted an art among the ancients, which had its rules and regulations, in which the females particularly excelled in communicating their sentiments by a garland, as the oriental nations of the present day have in communicating a love letter in a bouquet, as Lord Byron emphatically expresses it in his address to a young Greek:

“By all those tokens, *flowers*, that tell
What *words* can never speak so well,
By love's alternate joy and woe,” &c.

Many epigrams in the Anthology make us acquainted with the name of the flowers which they mostly used in forming these crowns and garlands, and the signification of many of them. It was not only the colours, but also the odour of each flower, that governed this symbolical language. In the Book of Dreams of Artemidorus are many explanations of the symbolical meaning of a list of flowers that go to the formation of a chaplet or garland.

Flowers also among the ancients contributed to the festivities and joyousness of the banquet. The revellers wore chaplets or crowns of flowers upon their heads and round their necks, the perfumes of which were not only agreeable, but reckoned antidotes against intoxication. They also crowned their goblets with wreaths of aromatic flowers.

Many physicians of antiquity, particularly Mnesitheus and Callimachus, wrote treatises on the medical virtues of chaplets of flowers worn about the head.

Flowers have been used in all times as ornaments and perfumes in houses, preserved in vases or goblets with water. Upon many ancient medals, particular the Byzantine, flowers are displayed as used in the present inelegantly formed vases.

Among the early Christians, flowers were regarded symbolically as representing gifts of the Holy Spirit. On this account it was that at the feast of Pentecost or Whitsuntide, the priests cast flowers from the upper ambulatories of their churches upon the congregation of the faithful assembled in the nave below; a custom which is still continued in Catholic countries, with the decoration of the churches with flowers according to the season, both at Christmas and at Whitsuntide which is observed also in many English Protestant churches. Flowers were also held by Catholics as symbolical of the delights of Paradise, and were accordingly figured upon the glasses of the early Christians, many representations of which are engraved in the works of Buonarrotti.

To represent these beautiful and delightful works of nature in painting requires that delicacy, finish, lightness and taste which is so peculiarly adapted to females, and many of that sex have consequently succeeded in their execution. Our present school is rich in female talent in this beautiful art.

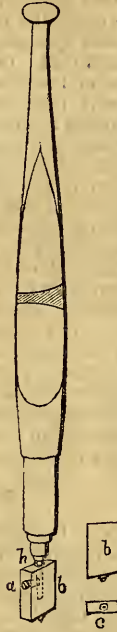
THE CONSERVATORY AT CHATSWORTH.—This immense structure is composed of glass panes manufactured expressly for it, placed in iron framework of the lightest apparent kind, but as subsequent trials have proved, of the most firm and substantial description. The length of the erection is nearly 300 feet, its height above 70, and its width 150. It covers nearly an acre of ground, through the centre of which is the carriage road, and the tubes for the hot water, which regulate the required temperature measure six miles. A light and beautiful gallery erected at the base of the dome, and which traverses the entire building, enables the spectator to review the whole of the interior from several points. Access to the gallery is by steps placed with admirable taste in the midst of rock work, in the fissures of which are are plants, apparently natural productions. A tunnel surrounds the whole edifice, by which access is obtained to the stoves and pipes, and rails are laid down to convey the coals per train, and supply the necessary heat. The interior contains a vast number of trees and plants, many of them of gigantic proportions, and the rarest of tropical growth. Birds of varied and exquisite beauty, whose delicate structure could not endure the rigours of our climate, are seen flying about; and pools of water, in which plants suited to the required purpose have been encouraged to grow, contain gold, silver, and other fish. In this structure may be seen the largest crystal yet found in the world, and also one of much smaller dimensions, which has been pronounced the most beautiful.

It appears to be resolved on by the authorities to convert a certain number of the iron steam frigates into sailing ships. The cost of the machinery thus dispensed with was £70,000.

The Pencil Diamond.

THE pencil diamond used by glaziers to cut glass with, is a small fractured piece of diamond. The part of the diamond used for cutting is of a tapezoidal shape, weighing about the sixtieth part of a carat, and is set in a wooden handle, which consists of a rounded piece of rose-wood, flattened at the two sides to fit between the sides of the fore and middle fingers.

Two pencil diamonds are now used, the old, and the new or patent pencil. The old diamond is merely set fast in a conical shoulder. A difficulty is always experienced in cutting glass with this sort of pencil, owing to the uncertainty of placing it at once at the proper angle with the glass, so as to make it cut and not scratch. The patent diamond of recent invention, overcomes this difficulty. The form is represented in the annexed figure. The peculiarity consists in the diamond being set in a parallel-shoulder, *b b*, the right angle of the lower end of which is cut off, and forms the correct angle at which the diamond when set will cut the glass. The upper end of the shoulder swivels at *h*, but it is stopped from going too far by the screw *a*. The object of this is to prevent the necessity of shifting the handle in the hand when placed against the ruler laid on the glass. The lower end of the shoulder, showing the diamond, is represented at *c*. A large diamond is not so fit for the purpose of cutting glass as a small one. The diamond is usually about the size of an ordinary pin's head, and is set in a nipple of brass or copper. It is an error to suppose that diamonds will not wear out. In the shops of wholesale glaziers, where the diamond is in constant requisition, one of these instruments is worn down in a month or six weeks, so as to require resetting, after which, with the same wear it lasts another month, and then becomes useless. It may be presumed that they travel over some miles of glass before they are worn out. In cutting the glass, care is taken not to press too heavily on the diamond, which is apt to scratch instead of cutting the glass; such heavy pressure also spoils the diamond.



PRECIOUS STONES.—The recent disturbances in the French capital in particular, and several other portions of Europe, by driving away many of the more opulent and dignified classes, have had the effect of causing, amongst other valuable jewels, so large an influx of diamonds into this country that they have now become, comparatively speaking, a drug in the market, and but very little demand is found for them.

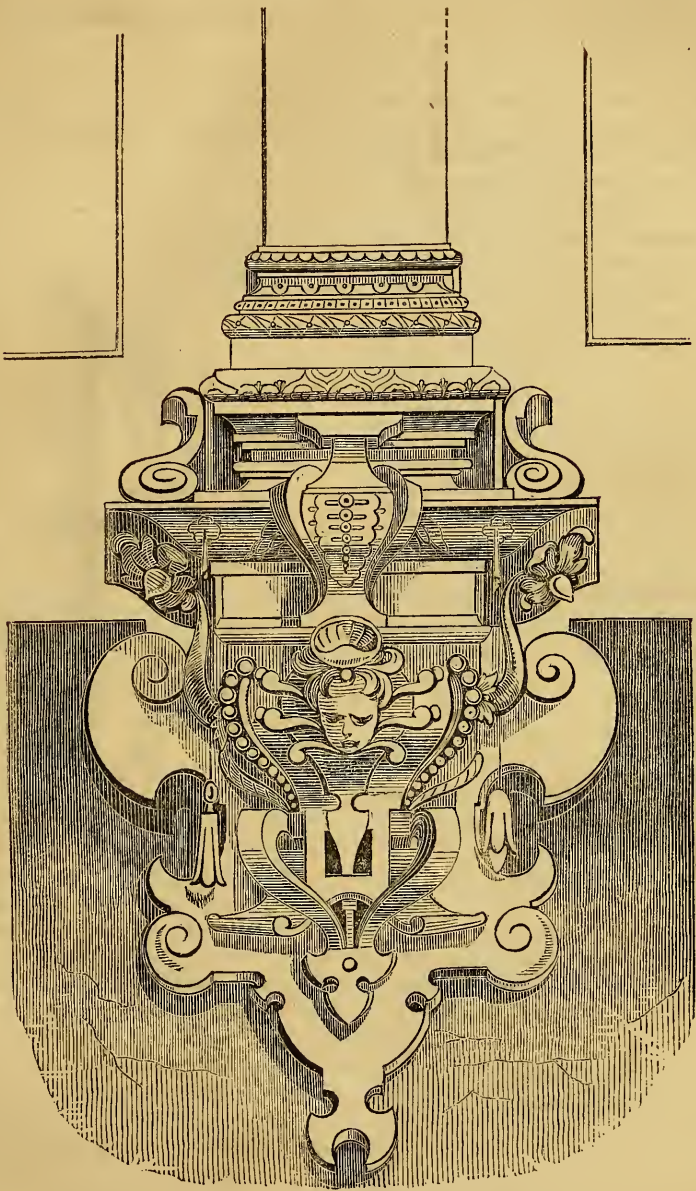
Freaks of Architects.

ARCHITECTS, says the *Daily News*, may be surprised to find themselves classed with the ferocious tribes, but undeniably their greatest enjoyment is in preying one upon another. Mr. Cockerell delights in adding a second story to Sir John Soane's Bank of England, Mr. Barry in new facing Sir John Soane's Treasury Buildings, Mr. Blore in new fronting and concealing Mr. Nash's Buckingham Palace, Mr. Sydney Smirke in throwing into the shade his brother's club house in Pall-mall, and now the whole body of British architects are competing for the merit of rebuilding the National Gallery of their ingenious and, while living, very able friend, Mr. Wilkins. What one architect erects, another is anxious to efface, and it is now thought to have been a piece of romantic folly in an architect like Lord Burlington, to have rebuilt Inigo Jones's Covent-garden church exactly on Inigo's plan. We can fancy a young student at the Institute of Architects, beholding Messrs. Barry, Blore, Smirke, Cockerell, and Co., with a look of tranquil delight, and fancying the time when he might add an attic story to the Bank of England of the one—a new facade to the Buckingham Palace of the other—a new set of tea urns and windows to the Treasury-buildings of the third—and a different elevation to the fourth's porphyry club house in Pall-mall. What was said of Soane's Treasury-buildings, that they were making a curtesy to Inigo Jones's Whitehall, is the reverse of true of Mr. Barry's new front—his tall bully of a building will lead the uneducated to believe that Inigo's Banqueting House is curtsying to Mr. Barry's Treasury.

It is easy to see (as matters now go) that where an architect is called in to superintend an alteration, he will only look to himself. We do not wish, it is true, to see any part of Buckingham Palace preserved—or any part of the National Gallery—and our only motive in alluding to the recent course pursued by architects is with reference to certain alterations (so they are called, modestly enough), which Mr. Blore has recently made in one of the noblest of English edifices—Westminster Abbey. Ignorance has destroyed almost as much as accident or time, and Mr. Blore is, to our thinking, a remarkable illustration of what a mere architect may irrecoverably destroy.

There is no place in the three kingdoms which a pilgrim hurries sooner to see than Westminster Abbey. It is, has long been, and should continue to be, the most popular of our permanent London exhibitions. And why? Not for its ragged wax-work figures—they are no longer shown. Not for the idle stories which the vergers told there, and country visitors delighted to hear about the lady who died from the prick of a needle—stories of this kind have ceased to be told. Why then is it visited? Is it for its architecture? Certainly not, for beautiful as it is, Lincoln, York, Canterbury, and Salisbury, are finer examples of the same kind, and the choir of St. Saviour's, Southwark, which very few care to see or have seen, is equally fine. Westminster Abbey is visited for its monuments and its associations dear to every Briton, every American.

(To be continued.)

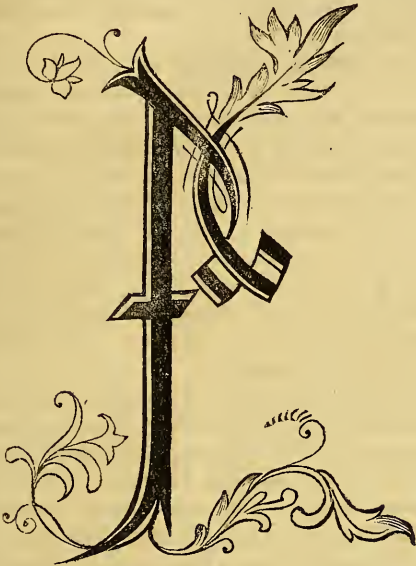


A DESIGN FOR A BRACKET.—FLEMISH STYLE.

Improvements in the Dwellings of
the Industrious Classes,

BY FRANCIS CROSS, SURVEYOR.

(Continued from page 12.)



FIRST in offering any suggestion, I feel that there are two things that must be considered; namely, the profit to be realized; and the welfare and comfort of the tenants. The question whether to build large houses, subdivided for the accommodation of several distinct families be advisable or not, I do not mean to broach, beyond, perhaps, to admit it may prove very good *economy*, but would rather commence with an improvement in the present *small street houses*, which, singular to relate, are, year after year, formed without any modern improvement being effected, though much might be done at a very trifling expense. In these erections, no competent person is employed, or advice sought, but "*that which was before, shall be now,*" proving that persons may become so used to anything as to become *careless of a change*.

These houses are generally built by a class who are interested in employing the smallest

amount of materials and labour in their construction; and yet these houses generally, in their sale, realize a sum as large as if a person had, under competent assistance, *seen the house built*. This question should become quite a study to every one, inasmuch as our pockets and health demand it; and so that the purchaser may not find out that it is necessary to reside in a house to find out its defects.

The plan of the houses (*Fig. 1.*) shows that each dwelling will comprise a living room, with closet for general purposes, under the stairs,—scullery and covered way to coal-cellar, water-closet, and dust-bin.

The upper plan (*Fig. 2.*) comprises two bed rooms. In the front one there is a portion for an additional bed.

The external aspect is shown in *Figs. 3 and 4.* They should be simple, and yet in style so ornate as to relieve them of any appearance of being erected from charity. Most landlords, in letting building ground, make a stipulation preventing houses of a small class being erected, or with any less than six rooms. This difficulty has been met by making one opening serve for two houses; therefore each two houses present the appearance of but one structure.

I shall reserve a description of the work, and all fittings, for a future number, in order to show that a plan somewhat similar may be adopted by any large or small capitalist with advantage.

These houses might be erected at the rate of 150*l.* per house, in a sound and substantial manner, with all proper landlord's fixtures. Take the rental at 5*s.* 6*d.* per week, or 14*l.* 6*s.* per annum, which must be admitted to be very moderate, and the ground rental at 1*l.* 16*s.* each house. Thus:

By Rent	£14	6	0
Deduct for Ground-rent, £1	10	0	
For repairs, insurance, &c.	2	6	0
	<hr/>		
		3	16
		0	

Income per house,—net .. £10 10 0
or nearly seven and a half per cent upon the capital invested,—surely sufficient for every moderate minded person. Or, take the case of a large capitalist taking a plot of ground, as shown in *Fig. 5.* being 204 feet by 206 feet, in which he is to pay 50*l.* a year. Without

any difficulty he is enabled to distribute that rent over fifty-one houses, leaving the ground-rent only 1*l.* per house. Suppose him further capable of erecting the whole of the fifty-one houses shown in *Fig. 5*, a deduction of at least seven per cent. might safely be made in the cost of erection. Thus:

Capital requisite to erect 51 houses, at	£.	d.
£14. per annum per house,	714	0 0
By losses, repair, insurance, &c.	£.102	0 0
By ground-rent ..	51	0 0
	153	0 0

Net income on 51 houses .. £.561 0 0
or about eight per cent. for the capital thus invested.

Let us suppose this capitalist to be a man who, while benefitting himself, has no objection to serve others, if it cost him nothing. We will therefore show that we can benefit him by making the rents paid by the tenants a means of purchasing their houses.

Each tenant shall have an agreement at the commencement of his tenancy that if he pays in the manner shown below for a certain period, at its expiration the house shall become his own at a ground rent, with a clause giving him power to assign or sell his interest at any time. Thus:—Supposing the tenant agrees to pay a rent of 14*l.* 6*s.* per annum, with an additional 4*l.* per annum, or about 1*s.* 6*d.* per week, on an agreement that at the expiration of fifteen years, the landlord shall grant a lease of the house for the residue of the term, (say seventy years), at a ground rent of 2*l.* per house per annum. The result would be that the capitalist in the first year would have returned to him one fifteenth of the principal, with 4*l.* for interest on 150*l.* In the second year he gets another fifteenth back, and still 4*l.* interest on 125*l.*—so if in the first year the capitalist receive but bare 3 per cent interest, yet, as each year progresses, so does his capital flow back ready to be applied elsewhere. With the same income, therefore, in the fifteenth year, when fourteen fifteenths of the capital have been returned, still would he receive the 4*l.* interest.

In addition to this, we have assumed him to have taken a plot of ground (*Fig 5.*) at 50*l.* a year (no difficult case), on which he builds

fifty-one houses, therefore, leaving him still charged at the rate of 1*l.* per house. And we have further supposed that at the expiration of the fifteen years, when he has received not only his capital back, but a very fair interest during the whole time, he promises to grant a lease at 2*l.* per annum ground rent per house. He, therefore, in addition, likewise secures to himself for 70 years or more (the unexpired term of the lease), a net income or improved ground rent of 52*l.* per annum, clear of all deductions.

The benefit to both parties is surely sufficiently apparent to leave no doubt that thousands of our poorer brethren would hail it as a boon. Neither can the interest be considered as large when we consider the mode of payment, and the advantages offered to parties, who on payment of nearly the same amount in rent under ordinary circumstances, at the end of the same term of fifteen years, would be as far off being the owners of the houses in which they reside, as they were at the first hour of their tenancy.

A home is as necessary to man's existence as clothing to protect him from the changes of the seasons. He can be supplied with clothing by the tally-man, who will take *weekly payments to cease at a given time.* Apply the scale of clothing not to one, but to a whole family. See the pride, the care that would be taken of dwellings that would, by their industry and foresight, eventually become their own. Consider the inducement for prompt payments—in fact, holding out the hand of HOPE.

There are but few, however small their earnings may be, to whom this scheme is closed. Hold out reward to industry, and there are none who will not avail themselves of the means of securing in their old age comfort and happiness:—

“Health in the breeze, and shelter in the storm.”

[For illustrations, see pages 24 and 30.]

Examples of Ancient Pulpits.—Mr. Dollman's work on this subject is announced for publication in December. The completion of the series has been delayed till the best subjects that could be selected were obtained. The illustrations will include examples from Chester, Shrewsbury, Wolverhampton, and several interesting specimens from the counties of Gloucester, Somerset, and Devon.

Franks of Architects.

(Continued from page 20.)

To our own people from our far and many colonies, for the tombs and monuments of the illustrious Englishmen who are buried within its walls. It is visited for the chapels of Edward the Confessor and Henry VII.—for its Poets' Corner, and those associations, written and traditional, which abbeys and cathedrals of the same period of architecture and still finer, architecturally considered, possess but partially, or are almost entirely without.

It is with pain then, for our own sakes and for others, that we have seen, and must condemn many of the recent alterations made in Westminster Abbey under the superintendance of Mr. Blore. For the sake of a uniformity of paving worthy of a district surveyor, he has taken up the identical square stone with "O rare Ben Jonson" upon it, which marked the grave of the great author of "The Alchemist" and "The Fox." He has given us another, it is true, but it is only a copy in place of an original—a Wardour-street canvas instead of an Orleans picture—a Birmingham counterfeit for a real Toledo. He has sent away for the same pavilion's reason the blue flagstone which covered the grave, and protected the body of Abraham Cowley. He has reduced Dryden's monument by at least one half, and injured by so doing the effect of one of the best busts in the Abbey. He has packed Sir Godfrey Kneller's monument near to the cloister, where the bust cannot be seen, and Pope's famous epitaph cannot be read, and placed where it stood Sir Richard Westmacott's quarry of a monument to Mr. Fox, which is without an epitaph. Nor would it be difficult to add to the catalogue of Mr. Blore's enormities in this way, or hard to conceive to what a ruinous extent such alterations may run if not checked in time by public exposure and public condemnation.

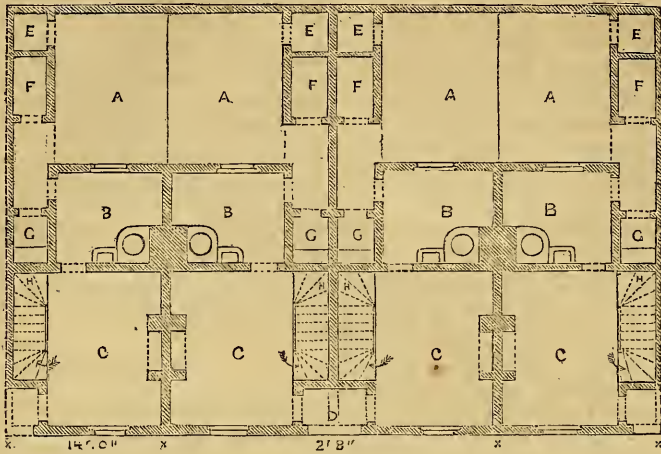
We are, perhaps, to attribute these serious offences as much to the foolish spread of the Ecclesiastical and Cambridge Camden mania as to ignorance and want of interest on the part of Mr. Blore. It is the fashion with a large body of well-meaning young men to view every addition made since the Reformation to a Norman, early English, decorated, or perpendicular church, unless in keeping with the architecture and spirit of the period as an excrescence to be removed. They would turn out Shakspeare's monument from the chancel of the church at Stratford (the glory of the place), because it was out of harmony with the surrounding architecture, and would destroy Lord Bacon's statue with its "*sic sedebat*," in the little church of St. Michael's, to discover a choked-up *piscina*, or the remains of a *sedilia*. That Mr. Blore participates in this feeling is quite clear from his Abbey alterations; and his recommendation to the Dean and Chapter of Westminster *not* to restore Chaucer's tomb in the Abbey, because it was not a monument of Chaucer's age, and was subsequent to the Reformation. Strip the south transept of Westminster Abbey of its Poet's Corner,

and its poets' monuments, and what has it left but its bare pier arches? Strip Stratford Church of Shakspeare's monument, and only an ecclesiologist will visit it; and strip St. Michael's church of Lord Bacon's statue and what is then left to see there but an ugly little poking church, with walls anterior to the Reformation? Surely Mr. Blore should be made to desist—surely the Dean and Chapter of Westminster require a great deal of looking after. Not but what we admire a certain uniformity of style, and look upon many of the monuments in the Abbey as eye-sores at the best, and, perhaps to be removed; but it is clear that a more incompetent person than Mr. Blore for such a work could hardly be found. The man who destroyed Dryden's monument and Ben Jonson's grave-stone is destitute of an association. Poets' Corner—the whole Abbey, indeed, beyond the stone and mortar of its walls—is not for him. Everything in the building subsequent to the Reformation, he wants only the opportunity to destroy. Let us retain Westminster Abbey such as it is, nor add to its disfigurements by fresh monuments. When the Jews looked upon the second temple "they thought of the first, and wept."

THE ELECTRIC LIGHT.—On Monday, October 30th, some very interesting and important experiments were exhibited in the great room of the Hanover-square Rooms, to prove the power and the efficacy of the patented electric light, of which Mr. W. E. Staitie is the inventor. The results were as favourable as could be wished by the inventor, and certainly surpassed the expectations of most of those who were assembled to witness them. The light resembles a spark of the most brilliant and vivid fire, about the size, or rather less than the burner of a common argand lamp. It is not a flame, but is an incandescent light. There is no combustion, nor will it produce combustion by coming in contact with combustible substances. The power is immense, resembling day, or sun light, and obscuring the light of candles in the manner that rays of the daylight obscure them. The light is generated or produced by a battery of 44 plates, of the dimensions of one and a quarter square yards. It is understood to be self-regulating, add to be so cheap that any person can afford to pay for it. It is the intention of the inventor to give a series of lectures at the Hanover-square rooms on the subject of his discovery.

ANGLO-SAXON ANTIQUITIES.—Mr. Thomas Bateman of Youlgrave, recently opened a tumulus at Bentley Grange, in Derbyshire. In the centre had been deposited a human body, of which but little remained, save the hair of the head, but in the situation where the head rested were portions of silver binding and ornaments from a leather cup which had been decorated by four wheel-shaped pieces, and two small crosses in silver. There were also two enamels upon copper in silver frames; and towards the foot of the grave, the remains of a helmet, formed of ribs of iron radiating from the crown, and covered with narrow plates of horn. Upon the top was a brass plate, and surmounted upon this, the figure of a wild boar or hog, in iron with bronze eyes; there were also portions of what appeared to be iron mail armour. The remains were considered to be of the sixth century.

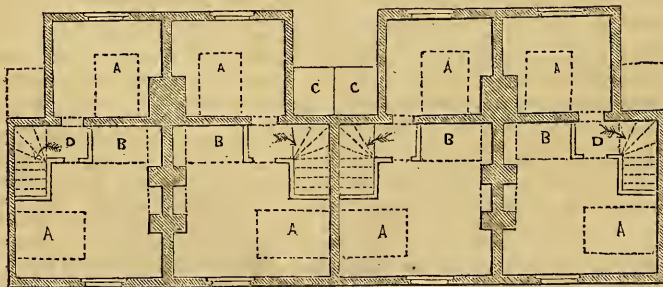
Fig. 1.—(See Article, page 21.)



REFERENCE TO GROUND PLAN.

- | | |
|--|--------------------------------------|
| A. Yard. | E. Dust Hole. |
| B. Scullery, 9 ft. 9 in. by 8 ft. | F. Coal Cellar, 5 ft. by 2 ft. 9 in. |
| C. Living Room, 10 ft. 6 in. by 12 ft. | G. Water Closet, breadth 2 ft. 9 in. |
| D. Porch. | H. Closet under Stairs. |

Fig. 2.



UPPER PLAN.

- | | |
|-------------|--------------|
| A. Bed. | C. Cistern. |
| B. Child's. | D. Enclosed. |

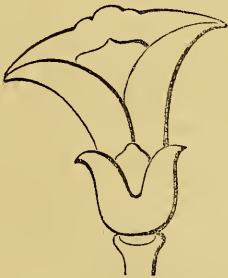
An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 14.)

GARGOYLE. A kind of water-spout used in gothic architecture.



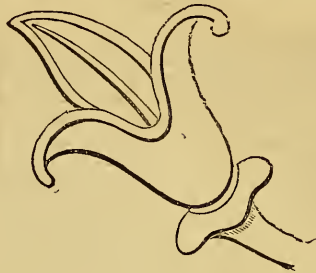
GRECIAN ORNAMENT. An ornament used by the Greeks. It is the most pure of all the styles



used in decoration. The beauty of Grecian ornament consists in its equality of foliage, stalks,



starting points, and ground-work. The accompanying illustrations are used as starting points.



GALLERY. (In Architecture.) An apartment of considerable length in comparison with its width; sometimes used for a connecting passage with which various rooms communicate, and in others for a spacious room, also of great comparative length, set apart for the reception of pictures and statues. In modern palaces and extensive mansions and residences, the gallery has taken the place of the ancient portico, for the reception of pictures and sculptures. The gallery is an essential part of a magnificent residence, and is appropriate to a museum of natural or artificial curiosities. A gallery is sometimes decorated with the pencil of a single painter on its walls and ceilings, with subjects of an historical or allegorical nature, like that of the Luxemburg at Paris, and others of a similar description.

GATE. (In architecture.) The door of a city, castle, palace, or large building. The gate or portal of a building should be considered by the architect as a necessary appendage to his design, and at the same time should accord with it in every thing, should appear to belong to it, and be at the same time an embellishment. Gates should be proportionate to their purpose, and bear suitable ornaments.

GEM. (In sculpture.) A jewel, a precious stone of any kind. The word *Gemma* is found in Pliny and other ancient writers to mean pearls and precious stones. The classification of gems belongs to a work on mineralogy or crystallography, and is therefore omitted. The harder kinds of gems, as the diamond, emerald, &c. were seldom engraved upon by the ancients from their difficulty, but the substances most frequently sculptured by engravers, both ancient and modern, are rock crystal of different colours, jasper, calcedony, cornelian, onyx, and blood stone. Rock crystal is not of sufficient hardness; cornelian and calcedony are of the same family, though of varied tints.

(To be Continued.)

The National Gallery.

THE National Gallery, which has been closed since the 7th of September, was re-opened to the public on Monday last. The Vernon Collection has for the present found a resting-place within its walls. The basement story is the depository of one hundred and fifty-two pictures—two more than the present descriptive catalogue contains—and six pieces of sculpture. That the arrangement can be regarded as other than temporary is not to be for a moment supposed; but with the limited space at command, and in the imperfectly lighted condition of the apartments, it is matter of surprise that the authorities have been able to make a disposition so satisfactory as even the present. It would be idle to cavil at the proximity of the pictures to each other when the difficulties of the situation are considered—or to point out that the particular places are not reconciled to the perspective requirements of individual pictures. The result, however, is often lamentable. Of pictures by Hilton, Turner, Egg, Maclise, Danby, and Pickersgill only small portions are illumined—and that imperfectly; while the admirable water-colour drawing by Louis Haghe is completely hidden—and the two pictures by Sidney Cooper and Goodall not described in the catalogue are but partially seen. These artists for the most part being respectively represented by other and more important works in the collection, they will no doubt reconcile themselves to the present arrangement considered in reference to all its embarrassing circumstances; and the day, we trust, is not far distant when more extensive and better lighted apartments will be provided. The two pictures, "Peace" and "War," by Edwin Landseer, are absent—it is said owing to some previous engagement for their being engraved.

A new feature in the Gallery is the appointment of a small room to Gibson's group of "Hylas surprised by the Naiads," Baily's busts of Canning after Nollekens, Sir Isaac Newton after Roubiliac, and the Duke of Wellington from his own design, Chantrey's of Sir Walter Scott, and Bacon's of the Marquis of Wellesley.

Rough work is no reason for rude manners.—Never did there traverse the globe a presence so pure, and a fascination so divine, as moved about in the person of "the carpenter's son." So gentle in his dignity—so awful in his meekness—so winsome in his loveliness—so dexterous in diffusing happiness—so delicate in healing inward hurts—so gracious in forestalling wishes! No rules of etiquette, no polish of society can ever yield anew the same majestic suavity. Amid the daily drudgery, his soul was often swelling with its wondrous purpose; and whilst shaping for the boors of Galilee their implements of husbandry, his spirit was communing with the sky. They are not little occupations, but little thoughts and little notions which make the little man; and the grandeur of mien, and the engaging manners which emerged from that Nazarene workshop, are a lesson to those who handle the hammer, the spade, or the shuttle.—*The Happy Home.*

The British Museum.

THE public are still expecting some account of their proceedings from the Royal Commissioners of Inquiry into the state of the British Museum; and it seems they may continue to wait. There has been much investigation, and much evidence taken—surely enough to depict the actual state of things, if not enough to suggest the necessary remedies. After all that was expected from this commission, this delay is most vexatious to the literary public, and very unjust to the parties whom the public press has brought under discussion. Mr. Panizzi, for example, has naturally enough been the subject of much severe remark; and prevented as he is by his official character from originating any proceedings in his own case, it would be only fair to him, and very desirable, that his accusers and his ultimate judges should have the opportunity of hearing what he has to say, before every part of the details of accusation is forgotten. It ought to be remembered by the Commissioners that the royal seal is in their case really affixed by the continued demand for inquiry—not by the "mere motion" of the Crown. Their original determination—a very unwise one, we think—not to publish their proceedings at very short intervals, ought to have been accompanied by the resolution to do it at least session by session. The end of it will probably be that, with the exception of the officers of the Museum, no one will think it worth his while to offer them information; and that their report, if they ever get the length of drawing up one, will receive little or no attention. For ourselves, we should decidedly object to give evidence in a literary matter—evidence here being statement of opinion—while all the other evidence was concealed from us. We should consider that the rest of the evidence might have the effect of making us say what we did not mean. Who does not know that during a discussion words and phrases take meaning *pro vice*? We should feel that we ought to know the sense and intention which the previous investigation had made the examiners give to their questions—and that without such knowledge we should not be sure of answering with a full comprehension of the querist's meaning. In questions of pure fact, and as a guard against collusion on the spot, it is well to order all the witnesses out of court; but when the matter is one of opinion, and collusion is unsuspected, no man but the witness himself can set his opinion against that of others in his own way. The conflict of opinions is debate, though it be called evidence; and if the Commissioners should summon men of letters or science before their secret tribunal, and the summons should be attended to, the proceeding will be much as if each member of the Commons were to whisper into the Speaker's ear, and leave him to summon up an opponent by his own statement of the argument.—*Athenæum.*

It has been computed that at the present time there are not less than eighty thousand artisans and mechanics entirely out of work, and nearly half as many in but partial employment in the metropolis alone. In addition to these, upwards of sixteen thousand labourers are in the same position.

Review.

THE GEOMETRICAL MOSAIC OF THE MIDDLE AGES, by Mathew Digby Wyatt, Architect, London.—Mr. M. D. Wyatt has already shown by papers read at the Institute of Architects and elsewhere, and the exhibition of his drawings, that he had paid particular attention during his travels, to mosaic decorations. He has taken for his speciality geometrical mosaic decorations, made drawings of all he could find, and has produced a book of great beauty, and which will be found very useful, not merely in aiding to revive this art, and improve our pavements, but to ornamentalists generally, and to all to whom nice combinations either of lines or colours are valuable. The work published for him by Day and Son, Lincoln's-inn-fields, consists of twenty-one plates, of large folio size, each containing a number of examples, coloured and gilt as the originals, preceded by a brief historical notice of the art. The latter shews a very considerable extent of attainments on the part of the author, and is clearly and nicely written throughout.

Mr. Wyatt justly remarks that,—“In examining the nature of the subjects selected for representation in pictorial or imitative mosaic, the student cannot but be struck by the wide range embraced, and the evidence of intellect or of popular education—sometimes both—manifested in the selection or appropriation of the various themes. Gods, centaurs, men, animals, landscapes, flowers, ornaments, foliage, are depicted with almost equal ability; and we must remember that it is to the durability of the materials of which these almost imperishable relics are composed, we are indebted for the preservation of many of the lovely fancies of the great artists of antiquity, whose creations might otherwise have altogether passed away. Bearing in mind, too, the constant practice of reproduction and repetition prevalent among artists and artisans of old, we must not refuse to ascribe the invention, composition, and artistic treatment of any popular legend to a master mind, merely because we meet with its representation in fragments of coarse and perhaps ill-drawn mosaic, or in a mural painting indifferently executed.”

Great skill was shewn as well in the choice of subjects to suit the character of the apartment wherein the mosaic was placed, as in the adaptation of the lines to produce the best effect under varying circumstances. “The minute and frequently recurring patterns met with at Pompeii, in the cubicula, and in the smaller chambers, were adapted to give scale to the rooms; and, from their strictly regular and geometrical character to cause the eye to dwell with increased pleasure on the flowing and playful forms of the paintings executed upon the walls;—in much the same way the rectilinear lines of the pavement of the Pantheon enhance the beauty of the graceful curves and its *lucarnæ*.”

Mr. Wyatt remarks that the most ancient mosaic that has been discovered displaying Christian workmanship, is probably the one found in this country at Horkstow, in Lincolnshire, where, in conjunction with the usual Roman frets and ornaments, are to be seen one of the monograms in use among the early Christians, and a repetition of the

Ichthus, or fish, one of their earliest and most sacred symbols. This mosaic is supposed to be earlier than the time of Constantine the Great, and possesses the greatest interest.

“The two earliest glass mosaics of the Christian era, which either exist, or of whose existence we have certain evidence,” says our author, “possess an extraordinary interest in connection with the study of iconography. The most ancient—which was traditionally related to have been given to Prudentius, a Roman patrician by St. Peter, and which is referred to by Church writers of the fourth century, was stated by M. Frelet, at the séance held in 1841, at Lyons, by the French Society “for the preservation of monuments,” to be worthy of regard, as probably the primary type for the appearance of our Saviour; and he further observed, that the pious duty of imitating this mosaic in after examples was one of the great causes of the general resemblance of physiognomy in many of the portraits executed from that period until the ninth century.”

One of the illustrations exhibits a fragment of the pavement which adorned the church of *San Marco* at Rome, composed solely of porphyry, serpentine, and white marble, the two former being embedded in grooves cut in slabs of the latter.

A compartment of the well-known pavement in *Santa Maria Maggiore*, is given, and that of the nave of *San Lorenzo fuori le Mura*. The latter is probably of the eighth century. Also examples of glass tessellation from *San Lorenzo*, *San Giovanni Laterano*, &c. A specimen from the Saracenic palace, “*La Ziza*,” at Palermo, shews how a white line was employed by the orientals to develop the geometrical base of the pattern, and at the same time weave the other colours round and about, as a beautiful accompaniment, harmonizing with, but not overpowering the predominant idea. He illustrates two of the columns from the cloisters of *San Giovanni Laterano*, to give an idea of the effect produced by glass tessellation in conjunction with architectural forms; one of the marble pulpits remaining in the church of *Santa Maria in Araceli*, at Rome, and some exquisite specimens of glass mosaic, from the cathedral at Monreale, Palermo and St. Mark's, Venice, with illuminations of the Byzantine copy of the Acts of the Apostles, preserved in the library of the Vatican. These “serve to develop, by contrast with the preceding specimens of glass mosaic, the general coherence of design existing between the ornaments on vellum and those incrusting on the walls of the stateliest churches, and demonstrate to the fullest extent, the Greek affection for gold grounds and dazzling yet harmonious colouring.”

For the manner in which this work has been produced (with colours and gilding), Messrs. Day and Son are entitled to unqualified praise.

The late Mr. George Stephenson.—At the quarterly meeting of the Society of Mechanical Engineers, held in Birmingham on Wednesday last, the following resolution was unanimously adopted.—“That the members of this institution desire to express their deep regret at the decease of their late President, George Stephenson, esq., whose early support of this institution has greatly contributed to bring it to its present state of success.”

Perspective.

(Continued from page 17.)

OF PLANES.

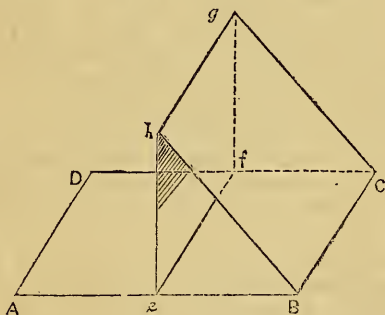
To make one Plane perpendicular to another Plane.

DRAW $A B$, fig. 3, equal to 6 feet, draw $A D$ obliquely, as in the figure, and equal 3 feet; draw $D C$ parallel and equal to $A B$; draw $B C$ parallel and equal to $A D$; find E the middle of $A B$, draw $E F$ parallel to $A D$ or $B C$; make $E H$ perpendicular to $A B$, and equal 3 feet and a half, that is, from a quarter scale, divided into ten equal parts, it will be 3 feet and five tenths, or three feet 6 inches; draw $F G$ parallel and equal to $E H$, join $H G$, and $E F G H$ is a vertical plane, perpendicular to the horizontal plane $A B C D$.

To construct three Planes, one Horizontal, one Vertical, and one Plane inclined to both.

Draw $A B$, fig. 4, equal 6 feet, as before, $A D$ equal 3 feet, $D C$ parallel and equal to $A B$; and $B C$ parallel and equal to $A D$. From e the middle

Fig. 4.



of $A B$, draw $e h$ perpendicular to $A B$, and equal 3 feet 6 inches; draw $f g$ parallel and equal to $e h$; join $h g$, and $e f g h$ is the vertical plane.

The section or bottom edge $B C$ of the inclined plane $B C g h$ might have various positions in the plane $A B C D$, as well as in $B C$; join $B h$ and $C g$, and $B C g h$ is the inclined plane, making an angle with the horizontal plane $A B C D$, equal 48 deg., and with the vertical plane $e f g h$, equal 42 deg., the complement of 48 deg.—the angle $h e B$ being 90 deg. or a right angle: hence the sum of the three angles is 180 deg.

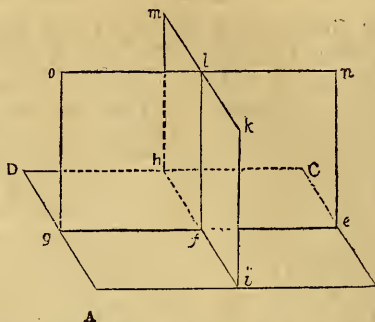
Note:—It is of little consequence in the construction, whether the top of the inclined plane be above or below the top of the vertical plane.

To construct three Planes, namely, one Horizontal, and two Vertical Planes, at right Angles to each other.

Construct the horizontal plane $A B C D$, fig. 5, as before; from i , the half of $A B$, raise $i k$ perpendicular and equal 3 feet 6 inches; draw $i h$ parallel to $A D$ or $B C$, make $h m$ parallel and equal to $i k$; join $k m$; find the half of $B C$ and $A D$;

draw $e g$, cutting $i h$ in f , draw $f l$, $g o$, and $e n$, all

Fig. 5.

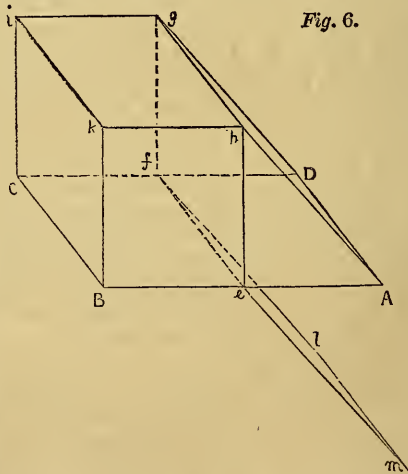


parallel and equal to $i k$; join $n l o$, and the three planes are constructed as required.

To construct two Horizontal Planes, two Vertical Planes, and two Inclined Planes; these last two parallel to each other, and one of them above, the other below the Horizontal Plane, or level Ground.

Construct the horizontal plane $A B C D$, fig. 6 as before; from e , the middle of $A B$, raise $e h$ perpendicular and equal 3 feet 6 inches; draw $e f$ parallel to $A D$ or to $B C$, draw $f g$, $B k$ and $c i$, all parallel and equal to $e h$, join $i g$ and $k h$;

Fig. 6.



draw $A h$, making an angle of 50 deg. with $A B$, draw $D g$ parallel to $A h$, draw $e m$ parallel and equal to $A h$, draw also $f l$ parallel and equal to $e m$, join $l m$. Here the six planes may be very clearly understood by attentively viewing the figure. (To be continued.)

THE new church recently erected at Hursley, on the site of the old one, was consecrated on Tuesday week. It is in the Decorated style, with a nave, chancel, aisles, and the original tower erected 560 years since by Bishop Edgerton. The chancel is paved with encaustic tiles.

History of Sculpture.

(Continued from page 5.)

THE Phœnicians, the Persians, the Etruscans, or ancient Tuscans, all most probably preceded the Greeks in a successful cultivation of the art of sculpture, though by no means to an equal extent. The statues of Etruria, indeed, seem to have presented high claims to favourable notice. Among their chief productions two several styles have been traced out: the first straight lines, stiff attitudes, an absence of ideal beauty about the head, and, in short, other defects incidental to an art in its state of infancy. But, in the second style, appearances become wholly changed, and ancient Etruscan sculpture may be said to bear some resemblance to the grand and somewhat overcharged manner of the great modern Etruscan artist, Michel Angiolo: the joints being strongly marked, the muscles raised, the bones distinguishable, and great knowledge displayed of the science of anatomy. Millin adds a third period to the history of Etruscan art, which is said to have commenced at the conquest of Greece by the Romans, an epoch at which the Greek artists flocking to Rome and other parts of Italy, the Etruscans became their imitators, and, at length, their rivals. It is probably of this period that Horace speaks, when he praises (in the 1st satire of the 10th book) the Italian artists, most likely with particular reference to those of Etruria, as superior to the boasted artists of Greece.

According to ancient history, the Greeks did not emerge from a savage state until a long time after the Egyptians, the Chaldeans, and Indians had obtained a considerable degree of civilisation. The originally rude inhabitants of Greece were civilised by colonies which arrived among them, at different times, from Egypt and Phœnicia. These introduced, by degrees, the religion, the arts and letters of their parent states. The original statues of the gods, however, were extremely rude. The earliest objects of idolatrous worship have in all instances been the heavenly bodies; and it was not until hero-worship was engrafted on the planetary that the sculptor thought of giving to the sacred statue any part of the human form. About the era of this revolution in idolatry, the art of sculpture appears to have been introduced among the Greeks. The first representations of their gods were round stones placed upon cubes or pillars; and these stones were afterwards so shaped as to give them somewhat the appearance of a head. Pausanias describes a Jupiter of this kind, at Tegeum, in Arcadia. These representations were denominated *hermes*; not, according to some, because they represented Mercury, but from the word *herma*, which signified a rough stone.

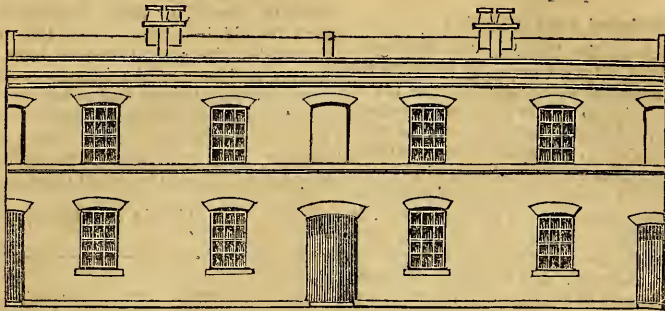
The art, having passed the periods of its infancy and childhood, proceeded with rapid steps; particularly at Athens and Sicily, its two most celebrated seats. Climate, no doubt, did much for the ancient Greeks, and would, of course, be equally advantageous for the modern ones, did not ages of subservience and luxury appear to have thoroughly vitiated their national character. Probably no country under the face of the sun is blessed with a serener air, or possesses in a greater proportion that equable and genial warmth so well calculated

to develop, in the human body, the principles of muscular strength and activity, as well as the winning delicacies of female loveliness; and never was there any people more gifted with a profound sense of beauty, or more desirous to improve it, than its old inhabitants. Of the four wishes of Simonides, the second was to have a handsome figure; and among the Lacedæmonian women so great was the abstract love of beauty, that they are said to have kept statues of Narcissus, of Hyacinth, &c. in their chambers, in the hope (no doubt often realised) that by constant contemplation thereon, they might produce beautiful children.

(To be continued.)

The Chronotypist.

At a meeting of the Society of Mechanical Engineers, held at Birmingham on Wednesday last, Mr. Robert Stephenson, M. P. was elected President in the room of his deceased father.—Sir R. Peel has, we learn, just purchased from Mr. Farrer, the portrait of Alexander Pope, to be placed as a pendant to that of Dr. Johnson, which is so conspicuous a feature in his collection in Privy-gardens. The picture was painted by the elder Richardson. The portrait of William Pitt, Earl of Chatham, painted by Prince Hoare, has also been purchased of Mr. Farrer by the same distinguished collector, to occupy a position in his gallery of celebrated characters at Tamworth. Both these pictures were recently in the possession of the Duke of Buckingham at Stowe.—It is the intention of the Commissioners of Woods and Forests to erect immediately a new Colonial Office, more extensive and better adapted to the wants of that department of the Government than the buildings now used for the purpose in Downing-street. The new offices will be erected in Whitehall, on the site now occupied by Lady Dover's mansion, and will adjoin the Board of Trade, and extend as far as the Cauteen at the Horse-guards. The style of architecture will be Italian, and the design will be intrusted to Mr. Barry, the architect of the New Palace at Westminster.—We are glad to know that the Sheffield School of Design has been so successful that the committee has been enabled to remove it into much larger and more commodious premises. The new building was opened in the middle of October, and the school is now in full work. The average attendance is one hundred pupils, and this number is on the increase.—An apparatus has lately been patented, invented by Mr. Salter, of Birkenhead, the object of which is to flash sewers, to carry off filth of every description and also purify the house and other drains.



ELEVATION.—FIG. 2.

[The External Aspect and Ground Plot will be given in our next.]

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

Notice.—In future we will not answer any Correspondent who does not prefix either an initial or name to his letter. We have six letters from correspondents this week, with the words, "A Subscriber," or "A Constant Subscriber," &c., in which they complain of not being able to discover the answer to their questions. To them we say,—write once more, and affix some distinctive mark,—for instance, V. Z. or M. U., or adopt a word—the answer will be readily found.

"A Subscriber," (Newcastle).—o,—Nyou cannot use it to paint with.

"W. M. P." You cannot have received the last number of this paper, (No. 78), or you would have seen it at p. 18.

"Brutus." We are much obliged for the sketch sent.

"Perseverance." Business, at the present time, is not very brisk in the Metropolis. Hundreds of journeymen are out of employment. If you will forward us the remainder of the alphabet we will use it.

"Alfred."—Certainly not.

G. S. B.—Try once more, and omit the acid as at first.

"Charles."—In Italy.

QUERY.

Can any of our Readers favour us with the receipt to make the putty composition, used in the decoration of picture-frames and also in en-tablatures.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. II. and III. are now ready price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or, marbled, 6d. extra.

**Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.



AN ORIGINAL DESIGN FOR A CONSOLE, SHOWING THE FRONT AND SIDE VIEW.—(GRECIAN.)
No. 80.—Vol. IV.]

BY FRANCIS MULHOLLAND.

[TWO-PENCE.]

Frescoes in the New Houses of Parliament.



E have on many occasions recorded our conviction that for the purpose of securing the harmonious result required in a number of spaces prescribed by architectonic considerations in a single room, the presidency of one mind is essential. Further experience but confirms it. We have lately visited the Houses of Parliament to observe what has been done in the Upper Waiting Room, in which eight compartments are to be filled with subjects from our leading British Poets. It convinces us that if such a series of subjects as this, at any rate, be not under the government of a single artist, they should at least have common conditions prescribed of incident, character, scale, and perspective.—Without this, a room of the kind when completed, will be but an assemblage of casual and varied treatment, like that which meets the eye in an exhibition room.

In the selection of the subjects for these compartments, care should be taken that they are such as are likely to secure on the part of

the various artists consent of feeling and congeniality of treatment. Whether they deal with religion, history, or morals, the pictures should harmonize with each other, and with the locality which they are intended to adorn. Such embellishments are intended to make the finish—to carry out the architect's design; and it would be as much a divergence from the original intention to produce discrepancies in the pictorial decorations, as it would be were the architect himself to adopt a variety of styles of distinct dates and characters in the several details with which he purposed to give lightness or enrichment to its various parts.

Correspondence in scale is another element especially to be complied with. No disparity in this can be admitted without destruction to the symmetry and harmony of the whole. If it be objected that such considerations control talent too absolutely, we answer that the really great and independently-minded artist will find no restraint in having the shape of his picture or the scale of its principal parts prescribed. The greatest minds have submitted to such dictation. The Vatican attests that a Raffaele and a Michael Angelo were only incited by such conditions to the production of the finest and most sublime results. Even in the lower schools, where facility betrayed artists into inconsiderateness, attention was always given to such correspondence of quantities, character, and scale as should insure architectural symmetry. To carry out this system effectually, it will be further obvious that a general condition of perspective in regard to the altitude of horizon and point of sight must be imposed and directed more immediately in regard to that presumed position of the spectator which gives the greatest amount of truth and illusion in the most natural or agreeable way. These are considerations which can no more be neglected in a scheme for a number of pictures than they can in the disposition of the several parts of an individual one.

Of the eight spaces in this Waiting Room, two have been filled; one by Mr. Cope, with an illustration of "The patience of Griselda," from Chausser's "Clerke's Tale." He has shown his knowledge of the range of hues of the peculiar palette prescribed by the limited nature of its means in the production of chiar-oscuro. His resources are as ingenious as

they are legitimate. While there is sufficient evidence of reference to the practice of the best examples of Florentine art, there is a manly independence of style that reminds us of no one especial master. The other by Mr. Horsley, illustrates the following lines in the fourth book of "Paradise Lost."—

"Ithuriel and Zephor, with wing'd speed
Search through this garden, leave unsearched no
nook."

Its excellence consists more in the manipulative quality than in the mental faculty. Mr. Horsley has essayed a subject which brings him into trying comparison with Fuseli's composition of "Our First Parents," in the same scene, engraved by Anker Smith for Du Roveray's edition of Milton. If Mr. Horsley has not fully succeeded, it may be remembered that his subject tasked a talent which comprehended grasp of mind, power of invention, knowledge of human form, and facility of expressing it. These are powers peculiar to the very highest schools of Art—and which but few of our own time are equal to. We consider this subject too lofty for the abilities of this painter, although possessed of great acknowledged talent. There is also a greater disparity of scale; the parts being much larger in Mr. Horsley's fresco than in the others.

For Mr. Herbert's fresco—"Lear disinheriting Cordelia,"—we wait. Of the cartoon we will say nothing—but that of the three artists, Mr. Herbert appears to have best adapted his design to the architectural requirements of the place which it is to occupy. His selection of horizon, general perspective arrangement, adaptation of its own light and shade to the natural light of the window near it—so as to produce illusion and reality of look—all mark the forethought of the artist, and serve as excellent hints to those who are to fill in the remaining spaces.

Half the workmen who were engaged on the new Houses of Parliament were discharged a fortnight since. Where there were about 1,000 employed, there will not now be more than 500. What makes it worse is, that many of those dismissed are picked men, and will not easily be replaced hereafter.

CITY IMPROVEMENTS.—The commissioners are taking measures to widen the thoroughfare of Cannon-street, and form a new street from the end of Walbrook into Queen-street.

Staffordshire School of Design.

At the Staffordshire School of Design (the "Potteries") a class for modelling has been commenced, under the superintendence of M. Emile Jeannest, sculptor, of Paris. At the meeting for the distribution of prizes, held last month, Lord Granville, who is a member of the Board of Trade, to which board the schools of design are confided, took the chair, and made some pertinent remarks. His lordship said it was a singular fact, that in some countries almost all their exports consisted of manufactures which owed their chief value to the taste displayed in ornamenting them. This was attributable in no small degree to the encouragement which schools of design received in the chief towns of those countries. In Paris, for instance 1,800 pupils attended the schools of design; and in Antwerp there were 600; thus shewing that efficient instruction had only to be provided, and the artisans would avail themselves of it; and showing also, that we must not flag in the use of similar means of improvement.

It had been asserted, but he did not admit it, that there was something in our northern clime which incapacitated us for works of the high order of art. A southern atmosphere might give advantage in the study of colour, and the constant enjoyment of the open air might almost insensibly train the mind to appreciate beauty of form and colour. It must be allowed we had not these advantages; but then we possessed a northern energy available for all purposes, and an innate confidence that whatever had been done elsewhere, our artisans were capable of equalling. This feeling had caused the establishment of Schools of Design amongst us, that artists might be trained whose designs should equal those of our continental rivals, and workmen, whose hands and eyes should be sufficiently practiced to carry their designs into execution. Since the first establishment of the schools, alterations had taken place in the mode of management, into which he need not enter. Suffice it to say, the schools had done great good. They had not only produced increased skill, but removed prejudices. One prejudice was that it was inconsistent with

the dignity of high art to employ talents in that sphere; but the examples of Raffaele, Giulio Romano, Rubens, and Flaxman, not to mention modern artists of celebrity, must, he thought, put argument on the subject quite out of the question, and the prejudice was fast disappearing. Another difficulty the schools had to encounter, was the indifference of manufacturers themselves. Much might be said on this subject, but it could not be necessary in a district like the Potteries, where it was so apparent that the continued pre-eminence of their manufactures depended upon producing superior designs in form and decoration. The schools, he repeated, had done much, but he thought they might be made productive of greater practical results. He thought they might become the means of a more extensive application of the principles of art to the purposes of manufactures. And he did not apprehend that the standard of instruction would be lowered by making it thus practical,—not allowing the mechanical to destroy the poetical, but presenting a combination of both—a union which these schools should try hard to achieve. In this we quite agree with his lordship, and shall be glad to see evidence of a desire at Somerset House to effect what is found to be necessary.

MAHOGANY v. OAK.—Mahogany has lately been introduced with great success into churches, the entire fittings having been constructed with it, the roof being the only part where fir timber has been used. The effect which has thus been produced is most striking, as the benches, altar rails, screen, and pulpit are made entirely of mahogany. Where decoration has been used it harmonizes most happily with the painting, and gives a richness and warmth to the interior of the building which no other wood could impart. It is not going too far to assert that, before long, our churches will be as universally fitted up with mahogany as our dwelling-houses are now furnished with that material; and had it been known to our ancestors, and been as accessible to them as it is at the present time, there can be little doubt that it would have been generally used for the carved works and fittings of our old cathedrals and churches, because it would have been found to have harmonised with the rich colours with which the churches were then decorated, and it would also have been preferable to oak on account of its being nearly imperishable, and much more easily worked, and of larger sizes; and now that it can be obtained at the same price as that wood, it cannot fail to be extensively used in all sacred edifices.

The disciples of Young England, says the *Dispatch*, pull to pieces; but nowhere do they reconstruct, except, it may be, May-poles, mediæval architecture, cricket, and church festivals.

Roman Urns.

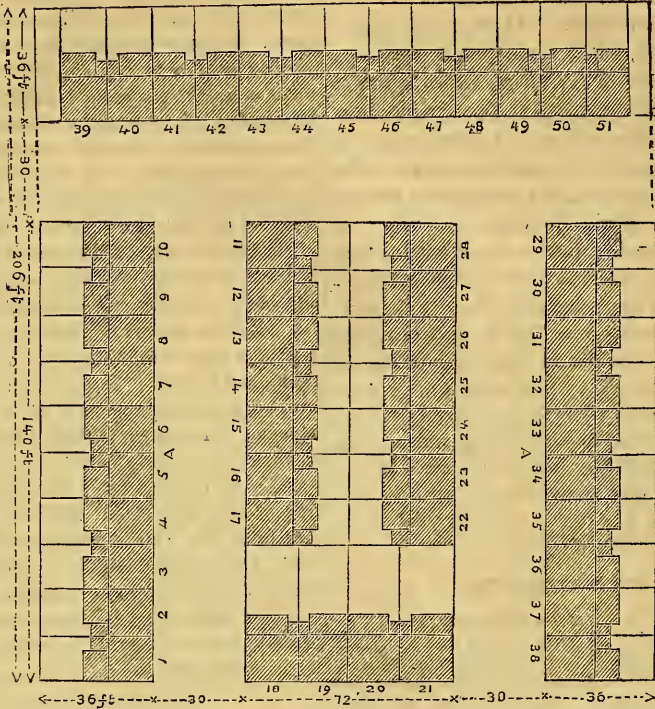
In digging, last week, for gravel, and preparing the ground for planting at West Lodge, opposite St. Mary's-terrace, Lexden-road, Essex, upwards of twenty cinerary urns have been exhumed, nearly all of which were filled with incinerated bones and earth. With one exception they are of dark baked earth, and of various sizes, from the capacity of a quart to that of two gallons. Some of them were broken so much as to render all attempts to restore them ineffectual; others are only partially injured, and six or seven are perfect. The solitary exception in colour among the urns is one of peculiar shape, also with handles, of a light red ware. Over one of the black urns was a flat cover of light red ware, and the bones thus protected were perfectly dry and clean. Another urn was covered with a shallow vessel of the same material. Close by one small urn were found two bottles of different size, shape, and colour. The contents of several of the urns have been examined, but eight or ten remain as found. In addition to these, a small tomb, consisting of four large tiles or bricks set on edge, was found; its contents were bone-ashes and some fragments of thick glass. Near this was a flue of one brick, the exterior ornamented with scroll-work; also a small drinking cup,—and at another part of the ground, the remains of a leaden lamp-stand. The whole are intended for the Colchester Museum, and will form an interesting addition to its local antiquities.

GILDED SILK.—The discovery of a chemical method of gilding silk, is a striking proof of the good effect producible by the judicious distribution of the prizes of scientific societies. For many years back, the Prussian Industrial Association has regularly announced its intention to award a prize of 1000 thalers (£150), in addition to the large gold medal of the society, for the discovery of such a process, on condition that the silk should undergo no alteration in other respects. A very few imperfect specimens were produced by this liberal offer, and the society found it necessary to extend the term appointed for receiving communication on the subject, from time to time, when Dr. Kroning, of Stolberg, in the Hartz mountains, having accidentally heard of the proposition, applied himself to the task, and after several failures succeeded in gilding silk to the highest perfection. The process is equally applicable to the woven and unwoven material. When soiled, a washing in soap and water, and light pressure, restores its beauty. The variety of applications of which the silk is capable is immense, for by its combination with other colours, magnificent designs for ribbons, dresses, &c. may be produced. Its adoption will effect a complete change in the manufacture of gold lace, &c.

Improvement in the Dwellings of the Industrious Classes.

[For Article, see page 11, No. 78.]

Fig. 5.



ELEVATION, C D.

Width of Frontage next Street, 204 ft.

A. ELEVATION.—(See engraving, page 30, No. 79.)

Fig. 4.



ELEVATION, C D.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 25.)

GEOMETRICAL ELEVATION. (In architecture and the arts in general.) The science of extension, quantity, or magnitude, abstractedly considered; demanding the greatest attention from the scientific artist. Two geometers, Bryson and Antiphon, appear to have lived about the time of Hippocrates, and a little before Aristotle. These are only known by some animadversions of this last philosopher on their attempts to square the circle. It appears that before this time geometers were aware that the area of a circle was equal to a triangle, whose base was equal to the radius.

GOTHIC. (In architecture.) A style of building named after the Goths, its supposed inventors, but called also the Pointed, the English, and sometimes the German style of architecture. It may be divided into the Saxon, or early British, the Norman or English, and the florid.



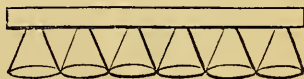
GRACES. (The) The Graces are represented by the ancient artists and poets like three beautiful sisters, naked, unconscious of shame, and linked together.

GRADATION. (In painting.) That regular progress from one degree of colour or shade to another that gives effect, rotundity, and verisimilitude to painting. It can only be obtained by an attentive study of nature, particularly in her effects of light and shade.

GRIFFIN. A fabulous animal, said to be generated between the lion and the eagle, and to have the head and paws of the lion, the ears of a horse, the wings of the eagle, and a crest formed like the dorsal fins of a fish. According to Ælian, in the fourth book of his History of Animals, this creature derived its origin from India; its back was covered with black feathers, its breast with red, and its wings white. Ctesias, Herodotus, and other credulous writers also give similar descriptions of the griffin. According to a tradition of the Bactarians, the gold mines of the country were guarded by griffins. The griffin is also one of the attributes of Apollo; and, according to Philostratus, in his Life of Apollonius, the Indians figured the sun in a quadriga drawn by griffins. Representations of griffins are to be found on many antique bassi relievi, and in Buonarrotti, *Medaglioni antichi*.

GROIN. (In architecture.) A species of arch, formed by one vault or continued arch intersecting another.

GUTTÆ. (In architecture.) Drops, ornaments used in the Doric frieze and mutules.



GEOMETRICAL ELEVATION. (In architecture.) A design for the front or side of a building, drawn according to the rules of geometry; as opposed to the perspective or natural elevation.

GILDING. The art of laying gold on any surface or body by way of ornament. The art of gilding is of great antiquity. In the earliest of the Egyptian monuments of art which are in existence many signs of silvering and gilding are to be found. The ancient Persians also were adepts in this art, and many vestiges of it are to be found in the ruins of Persepolis. The Greeks and Romans also practised it to a very great extent, the former even gilding the horns and hoofs of the beasts they offered to the gods.

(To be Continued.)

Mr. Wornum's Lectures on Ornamental Art.

ON Friday evening last Mr. Wornum delivered a lecture on Asiatic Art—the third of his course on the History, Principles, and Practice of Ornamental Art. Confining himself to those countries more especially connected with European history, he commenced with the Israelite Exodus from Egypt; and having given an account of the Tabernacle in the wilderness and the Temple of Solomon, he passed on to Babylon—where the Birs Nimroud, the reputed remains of the Tower of Babel, and of the more recent Temple of Bel, built by Nebuchadnezzar, was made a principal object of notice. He then proceeded to describe the interesting remains of Persepolis, and the remarkable tombs of the Persian kings. He concluded with a brief review of the arts of the Hindoos—referring more particularly to the excavated Temples of Elora and the characteristic decorations of their pagodas. The lecture was illustrated by numerous drawings prepared for the purpose.

On Art and Religion.

IN the course of a lecture on the Relation of Literature and Art to Religion, delivered by Mr. G. Dawson, last week, at the Whittington Club (Strand), the lecturer said he would not give much for any painting that did not express much more than was exhibited on the canvas, nor for the artist who did not aim at the accomplishment of so valuable an achievement. He wished that our artists would, like the immortal Michael Angelo, aim to achieve what was comely and beautiful, rather than what was simply useful. Nature, which in a wise man was a method, was to him everything. He was not a "bread" artist—he did not paint, as some of our artists (from necessity) paint, for the market; he was an artist of the soul, and painted from and true to nature. The lecturer then proceeded to show that art, as exhibited in painting and music, had been torn, in a manner, from religion, between which and it there was a divine association, and said they wished to know now whether it was possible so to re-unite them as to make them auxiliary to each other. To effect this, what were they to do? In these Protestant days they were rather out of tune with art. True, they had several new churches in course of building; but their great error was trying to invoke the antique spirit of church architecture. He wished they would throw more soul into them. They were unable to go on, or to appreciate art without a "guide," and if modern art did not go a little more forward, it would sink into a state of rheumatic frigidity. They should go forward then with spirit, and not attempt to warm up old art. He needs not dress in Cato's toga in order to have Cato's soul. Let them, he should say, be bold men of to-day, and if they agreed to have a saint, let it be a saint of to-day.

The Value and Power of Art.

WE admire true art, on account of its ennobling tendency. It has its origin in principles which, founded in the constitution of our nature, are the foundation of excellence. It would not be a difficult, though a very interesting task; from the varied and honoured labours of the artist, to show that success demands, on his part, the exercise of the highest mental faculties. Real art proclaims, with eloquence, its intrinsic dignity. How often, for instance, do the stately monuments which her genius have reared force themselves on our regard, rivetting our attention, and commanding our admiration, even when men are intently occupied in the bustling transactions and exciting pursuits of life! When the appeals of art are so powerful, it would be idle to say anything in vindication of its character, were it not that there are creatures upon whose minds they seem to make no impression, and who rudely pass them by, or only cast upon them a look of cold indifference. To write, however, on subjects of art, is to eulogise them, and is, at the same time, to give a history of the good they have effected; but this has been from time immemorial felt and acknowledged by all persons who have a claim upon us from their keen sensibility to beauty, and their lofty elevation of intellect. To the poet they have ever afforded a congenial and favourite theme,—to the wealthy, an opportunity of gratifying their own taste in encouraging talent; nor has posterity ever forgotten those artists whose services and beautiful emanations have thrown such a glory over their vocation, but have recorded their names on the roll of fame, as benefactors to their race.

There is no reader of that remarkable poem, the "Iliad," but must remember the frequent allusions which Homer makes to the works of the skilled Sidonian artists' and cunning artificers; with what warm sympathy, but, at the same time, with what propriety, he introduces descriptions of various instruments of war—royal and sacerdotal vestments, curiously woven—the shield of the hero Achilles; with works of larger construction—architectural fabrics, such as in after ages were conceived by a Palladio or by a Sir Christopher Wren. He considers all these as growing under the superintending eye and inspiration of personified divinity—be it Minerva or Pallas;—their beauty and contrivance, and the transcendancy of their invention being referred to a superior Power, who strengthened the artists' energies. Moreover, he reminds us how the workmanship added immeasurably to the value of the material, by the superiority of mind over matter. In objects of fictile manufacture, where the finer and more delicate skill of the hands was visible, the splendid vase is praised, not because its material is costly, but because it is "figur'd with art that dignified the gold," and reflected "the image of a master-mind." We witness, in all this, a most consummate taste and judgment. The bard of the "Iliad" was a wise man, and he must have acted from precepts delivered to him, by Minerva. Thus—

"The work
'Twas a wise artist fram'd, his wisdom taught
By precepts from Minerva."

Theory of Curves.

A CURVE is a line that has a *curvature*. Though the second of these terms be derived from the first, yet it is the notion explained as preliminary to the general term, curve. Let a point move with a perfectly gradual change of direction, and it describes a curve.

Curves are said to be of the same species in which the motion of the describing point is regulated by the same mathematical law. Thus the general law of the circle is, that all his points are equidistant from a given point. This law is the characteristic of the species; one circle is distinguished from another by the length of the constant distance supposed in the law of formation.

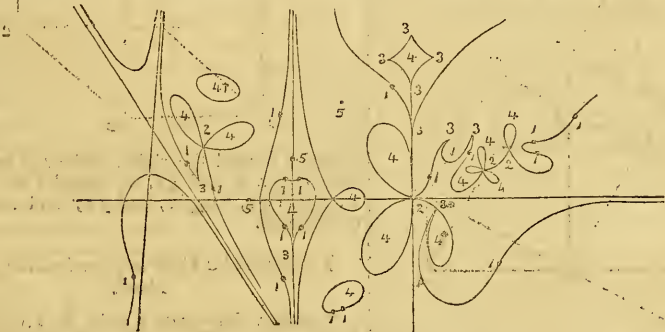
And in like manner as 0, or nothing, is classed under the general name of number or quantity, so the straight line itself (or the line without curvature) is, in algebra, spoken of under the general term, curve. Or, in the last-mentioned science, the word meant any line which is described by a point moving under one and the same law through

Sines, Tangents, &c., Curves of.—19, Exponential or Logarithmic Curve.—20, Spiral of Archimedes.—21, Logarithmic Spiral, or Equiangular Spiral.—22, Reciprocal Spiral.—23, Lituus. 24, Quadratrix of Dinostratus.—25, Quadratrix of Tchirnhausen.—26, Catenary.—27, Tractory.—28, Syntrochoid.—29, Tractrix.—30, Ovals of Cassini.—31, Watts's Parallel motion curve.

The general characteristics of curves are extremely varied, and very few of them have received names. We subjoin a diagram, which will show all the varieties of figure most commonly considered in works on the Differential Calculus, promising, however, that we do not actually know any curve which contains them all. It would appear as if our figure contained several curves, but it must be remembered that in the algebraical sense, many curves exist with branches completely unconnected, but all described under one law.

The several parts of the preceding are of continual occurrence; the following are the names and references:—

1. Points of inflection or contrary flexure.
2. Multiple points, double, triple, &c., according to the number of times the curve passes through them.
3. Cusps; the terms are hardly sufficiently



every part of space which is consistent with the law.

The connexion of algebra with the doctrine of curves depends upon the method of co-ordinates, by means of which every algebraical function whatsoever is connected with the properties of a curve. This is the point of greatest utility in the theory, namely, the power which it gives of representing to the eye all the varieties of magnitude which an algebraical function undergoes, while one of its letters passes through every state of numerical magnitude.

The number of curves which have received distinct names, out of the infinite number which may be drawn, is very small. We subjoin the names of those which are of most usual occurrence.

- 1, Circle.—2, Ellipse.—3, Hyperbola.—4, Parabola.—5, Semi-cubical Parabola.—6, Cissoid of Diocles.—7, Conchoid of Nicomedes.—8, Trisectrix.—9, Lemniscata.—10, Cycloid.—11, Companion to the Cycloid.—12, Harmonic curve.—13, Trochoid.—14, Epicycloid and Cardioide.—15, Hypocycloid.—16, Epitrochoid.—17, Hypotrochoid.*—18, Curves of sines, cosines, tangents, &c.

well settled to enable us to say whether the 3^o is to be considered a double point, a triple point, or not a multiple point at all.

4. It is customary to call any part of the curve which encloses space an oval, though, according to the common meaning of the term, there is no oval in our diagram, except 4^o. Of 4^o we hardly know whether it would be called an oval or not.

5. Conjugate points; when of a general law of description which gives ovals, a particular case is taken in which an oval disappears, it generally leaves behind it, so to speak, a single point which is included under the equation to the curve, but has no contiguous points. These are called *evanescent ovals*.

THE collection of pictures formed by Dr. Campe, of Nuremberg, under the advice of Herr Heideloff, is about to be conveyed to London for sale by auction next spring. In it are some first-class productions of the early German school, by L. Cranach, Albert Durer, J. Mabuse, M. Wohlgenuth, and Israël Von Mecheln, which have been described and authenticated in the writings of Passavant and Kügler. Two fine pictures have been bought by Lord Robert Grosvenor.

* From 13 to 17 inclusive, are Trochoidal curves.

Perspective.

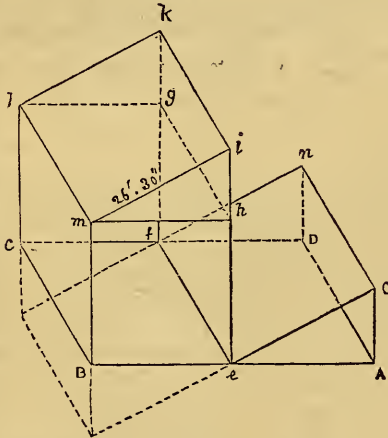
(Continued from page 28.)

OF PLANES.

To construct two Horizontal Planes, three Vertical Planes, and two Inclined Planes, parallel to each other, and making Angles of 26 deg. 30 min. with the Horizon.

DRAW A B C D, *fig. 7*, as before, making *ei* perpendicular to A B, and equal 6 feet, and *eh* equal 3 feet; draw *ef* parallel to A D or B C, draw *fk* equal and parallel to *ei*, make *fg* equal *eh*, join *hg*; draw *bm* and *cl* each equal and parallel to *eh*. Join *mh* and *lg*; make the angle *mi* equal 26 deg. 30 min.: draw *mi* and *lk*: make the

Fig. 7.



angle *oeA* equal *mi*, or, which is the same in effect, draw *oe* parallel to *im*; also draw *fn* parallel to *oe*, join *on*: here *eo* is equal *mi*: join *nd* and *oA*; and all the proposed planes are constructed.

The constructions and intersection of planes are found essentially useful in the study of perspective.

OF SOLIDS.

Solid, from the Latin *solidum*, means a whole, probably because in a solid are contained points, lines, planes, or curved surfaces.

Solids may consist of planes, curved surfaces, or of planes and curves.

At present we will speak of solids consisting of planes.

The principal right-lined solids are the cube, the prism, pyramid, &c.

The cube, from the Greek *kybos*, means a figure bounded by squares; for the cube has six faces, or six equal squares.

Prism, from the Greek *prisma*, may mean a cutting of, or giving a peculiar form to any substance: a prism may have many sides, according to the form of its base, which may consist of a tri-

angle, a square, or any polygon, regular or irregular.

Pyramid, from the Greek *pyramis*, means a fire in a state of blazing, in which case, the flame seems to contract upwards to a point, appearing to diminish as it ascends from the base, or the place of the fuel.

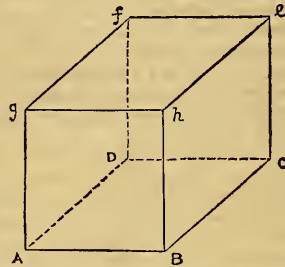
A pyramid may have a triangle, a square, or any polygon, for its base; its sides are all triangles, the least angle of every side meeting at the top, which is called the vertex of the pyramid.

To construct a Cube, as seen on the Left.

Let the given side of the cube be 3 feet, from a quarter-inch scale.

Draw A B, *fig. 1*, equal 3 feet, raise A g perpendicular to A B, and equal to A B; draw B h parallel and equal to A g; join g h, draw B c in any oblique

Fig. 1.

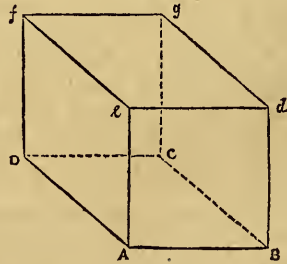


direction toward the right; make B C equal A B, draw h e, A D, and g f, all parallel and equal to B C; join e c, C D, f D, and f e; and the cube is constructed.

To construct a Cube as placed on the Right Hand.

Construct the square A B d e, *fig. 2*, as in *fig. 1*; draw A D in any oblique direction toward the left,

Fig. 2.



make A D equal to A B, draw B C, e f, and d g, all parallel and equal to A D, join D C, D f, f g, and g c, and the cube is constructed as required.

(To be continued.)

Western Literary Institution — Among other lectures given here to illustrate new manufactures, in addition to those on stock subjects, have been those on the magnetic telegraph, the process of preserving timber, new method of silvering glass, &c.

Observations on Architecture and Building.

COMPILED FROM THE CELEBRATED WORK OF
LEON BAPTISTA ALBERTI. 3/

OUR ancestors have left us many and various arts tending to the pleasure and conveniency of life acquired with the greatest industry and diligence; which arts, though all pretend, with a kind of emulation, to have in view the great end of being serviceable to mankind, yet we know that each of them in particular has something in it that seems to promise a distinct and separate fruit; some arts we follow for necessity, and some we esteem because they lead us to the knowledge of things that are delightful.

What these arts are it is not necessary to enumerate, for they are obvious. But if you take a view of the whole circle of arts, you will hardly find one but what, despising all others, regards and seeks only its particular ends; or if you do meet with any of such a nature that you can in no wise do without, and which yet brings along with it profit, at the same time conjoined with pleasure and honor, you will, I believe, be convinced that architecture is not to be excluded from that number. For it is certain, if you examine the matter carefully, it is inexpressibly delightful and of the greatest convenience to mankind in all respects, both public and private, and in dignity not inferior to the most excellent. But before proceeding further it will not be improper to explain what he is that may be considered an architect: for it is not a *carpenter* or a *joiner* that I thus rank with the greatest masters in other sciences, the manual operator being no more than an instrument to the architect. Him I call an architect who by a sure and wonderful art and method is able, both with thought and invention, to devise, and with execution to complete all those works which, by means of the movement of great weights and the conjunction and amassment of bodies, *can, with the greatest beauty, be adapted to the uses of mankind*, and to be able to do this he must have a thorough insight into the noblest and most curious sciences—*such must be the architect*. But to return. Some have been of opinion that water or fire were the principal occasions of bringing men together into societies, but to us, who consider the usefulness and necessity of coverings and walls, it seems evident that they were the chief causes of assembling men together. But the only obligation we have to the architect is, *not* for providing us with safe and pleasant places where we may shelter ourselves from the heat of the sun, from cold and tempest, *but* from having besides contrived many other things both of a private and public nature of the highest use and convenience to the life of man.

How many noble families, reduced by the calamities of the times, had been lost, had not their paternal habitations preserved them and cherished them as it were in the bosom of their forefathers. *Dadalus*, in his time, was greatly esteemed for having made a vault, which gathered so warm and kindly a vapour as provoked a plentiful sweat

and thereby cured *distempers with great ease and pleasure*. Why need mention be made of others who have contrived many things of the like sort conducive to health—as places of exercise, baths, and the like. Why should we insist on great plenty of water brought from remote and hidden places, and employed to so many useful purposes—upon trophies, tabernacles, sacred edifices, churches, and the like; or lastly, why should we mention rocks cut, mountains bored, lakes confined, marshes discharged into the sea, ships built, rivers turned, bridges laid over them, harbours formed—not only serving men's conveniences, but also opening a way to all parts of the world,—whereby men have been able mutually to furnish one another with provisions, and to communicate their knowledge, and whatever else is healthful and pleasurable. Add to these engines of war, and the like inventions, necessary inventions to defending the liberty of our country, maintaining the honour and increasing the greatness of a city, and to the acquisition and establishment of an empire. If we were to inquire of all the cities within the memory of man which have fallen by siege into the power of new masters,—who was it overcame them? they would tell you the architect. And that though strong enough to have despised an armed enemy, that they could not withstand the shocks of the engines with which the architect distressed, demolished, and ruined them. Let this suffice as to the utility of this art.

But how much the study and subject of building delights—how firmly it is rooted in the mind of man, for you will find nobody who has the means but what has an inclination to be building something, and when we see other men's houses, we immediately set about a careful examination of all the different proportions, and to the best of our ability consider what might be added, retrenched, or altered, to be more complete and beautiful. And if a building be well laid out, who is he that does not view it with extreme pleasure and delight. "Who that has erected any edifice does not think himself honoured by it?" Men approve it, and rejoice as you raise a fine wall or noble portico columns, knowing thereby that you have served not only yourself, but them too; having by this generous use of wealth, gained an addition of great honour to yourself, your family, your descendants, and your city.

The conclusion is, that for the service, security, honour, and ornament of the public, we are exceedingly obliged to the architect; to whom in the time of leisure for tranquility, pleasure and health—in time of business for assistance and profit, and in both for security and dignity.

(To be continued.)

The Dodo.—Mr. A. D. Bartlett, the celebrated naturalist, has just completed a perfect model of that curious bird the dodo, which has been seen by Professor Owen, the Messrs. Gray, of the British Museum, &c. The opinion expressed by all who have seen it is that it exhibits with great accuracy the size, form, and colour of that remarkable bird, and that it is, in fact, a very perfect restoration of the creature. The model was exhibited at the evening meeting of the Zoological Society in Hanover-square on Tuesday last.

The Royal Academy.

At a general meeting of the members of the Royal Academy on Monday week last, Messrs. R. Thorburn and A. L. Egg were elected to the vacant Associateships. As a miniature painter Mr. Thorburn has gained a reputation for depth of colour and force of light and shade; and Mr. Egg's subjects from 'Gil Blas' and Molière, together with his last exhibited work, 'Queen Elizabeth discovering by consulting her glass that she has grown old,' were deemed sufficient qualifications for this promotion. There is no doubt, says the *Athenæum*, that either of these artists was deserving of the dignity; but it cannot be unobserved that older claims are habitually overlooked in these contests, and that certain important branches of Art appear just now to be at a discount in the Academy. Figure Art has the absolute rule there, and we believe it is the fact that the Academicians have elected no landscape painter for the last seven years. It is a general effect of the agency predominating—that what is technically termed the Eye of the Exhibition, has undergone no change in that time; and a particular effect that grievous disappointments are inflicted in the name of a system, which must be borne as an impeachment of individual merits.

The Chronotypist.

At the last monthly meeting of the Archæological Institute, held Nov. 3rd, Lord Northampton recommended to the society to encourage a more active interest in the preservation of ancient remains, and suggested that much might be effected through the influence of members resident in various remote parts. He called attention to the frequent discoveries of mural paintings during restoration of churches, and to their interests as examples of Art. The valuable decorations just discovered at Wells, of which Mr. Ferrey had promised drawings for the next meeting,—the curious design, lately found by Mr. Blore in restoring the Church of Caistor, Northamptonshire,—and the designs exhibited by Mr. Giles on the occasion, from the Church of Wellington, Somersetshire, the finest example of painted sculpture, perhaps yet discovered. Works of this nature could rarely be fully preserved, and it became desirable to obtain careful drawings of them.—Mr. R. Fox at the same meeting, produced a remarkable tore-bracelet of gold, found in ploughing near Wendover, Bucks. It is supposed to have been deposited at the time of the battle between the Romans and the sons of the British king, Cunobelin.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily decyphered by the recipient of thy communication.

"Patrick Keenan."—With a piece of cotton wadding dipped in spirits of wine, wash off the varnish, then with another piece dipped in Florence oil, rub over the part cleaned with the spirit; the object of using the oil, is to prevent the spirit from eating into the painting. If the painting is old and the varnish brittle, it can be rubbed off by the finger, but the process is very tedious.

"James Ainsworth."—They are all in print, and we can supply you upon the usual Trade terms, for cash only.

"R. A."—We do not know of anything better for the purpose, than American potash.

ANSWER TO QUERY in No. 79.

The composition usually used for decorating furniture, looking-glasses, and picture frames, is made by dissolving glue in water, in the same manner as carpenters use it, but the solution is not required to be so strong. After it is thoroughly dissolved, add a little brown sugar or treacle, and as much whiting as will make it into a thin paste; it is then fit for use. The mould must be well oiled or greased before the composition is poured into it. It is necessary that it should dry gradually. The use of the sugar is to prevent the composition from cracking while getting hard. F. F.

* * * Other Correspondents next week.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions; the fine arts, science, &c.

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A DESIGN FOR A DOOR REST.—(FRENCH STYLE.)

On the Nature of Beauty.



OUR first notions of beauty are, that it is a fixed property of certain bodies, of which it is the function of the taste to take cognizance,—just as it is the function of the eye to take cognizance of colours, and of the ear to take cognizance of sounds.

A moment's reflection, however, must show that this theory is not tenable; for it at once erects the power of perceiving beauty into a separate sense, and makes beauty a physical property, which is quite as measureable as gravity or temperature. If this were so, all men would see the same amount of beauty in the same objects, and could no more disagree as to what was beautiful, and what not, than they could now pretend that gold was not a heavy body, or fire was not a hot one. There might, indeed, be supposed to be some men without the required sense for perceiving beauty, and *their* opinions, it might be argued, would differ from the common standard; but such persons would only be unable to arrive at any conclusion at all; just as a man blind from his birth can have no conception of colours, or a benumbed limb may be destitute of sensation. It is inconceivable, therefore, that if beauty were a fixed property, which it was the function of a distinct sense to perceive, men could differ materially in their judgments respecting it,

much less that the same individual should fail to discern any beauty in the object by which, a few days previously, he was enchanted—the spell having in the mean time been broken by some new association. Every one feels, moreover, that the colours, forms, and proportions which are beautiful in one set of objects are by no means beautiful in all. The azure of the sky, the golden tints of the clouds at sunset, and the variegated vesture of the rainbow—these are all beautiful in their respective situations; but would any such assortment of colours be beautiful on the brow of a female?—Would the colour of the grass be beautiful on the cheek of youth, or the proportions of a tree or a mountain be beautiful in a statue or a column? The fact is, objects agree in being beautiful which possess no other quality in common: and when we consider the multitude of things to which this quality applies—to things useless as well as physical—we shall at once see how hopeless must be the task of reducing all our emotions of beauty to such simple elements as variety, fitness, or fragility, and how vain must be the supposition that beauty can consist in the physical property at all. The theory of beauty which we profess ourselves to be adherents to, and of which we now intend to lay some account before our readers, is, that there are no objects possessed of any absolute and intrinsic quality by which the sense of beauty is excited; but that the emotions of beauty or sublimity, which certain objects call up, are due altogether to their power of suggesting other objects to the imagination which are indelibly pleasing, simply because they are the natural representatives of love, joy, fear, pity, or some other social or selfish affection of our nature. This theory at once resolves all those perplexities relative to diversity of taste to which we have already adverted. According to it, those characteristics of objects which we distinguish by the term beautiful, are the mere symbols or mementoes of certain elementary feelings with which they have become associated in the mind of the spectator; and to say that the same object is not beautiful in all eyes, is merely to say that a certain assortment of symbols is not significant to all minds of the same emotions. We may thus see why the fair skin and blooming complexion, which are beautiful in our eyes because indicative of youth, and health, and

vivacity, may excite very different emotions in the mind of the African, to whom they will be the signs only of suffering and disease; or why the scenes of our childhood, or the music of our native land, may have a beauty to us, which is invisible, because in-existent, to every other observer. Thus, too, we may discover the secret of the extraordinary taste which it is the tendency of particular occupations to produce. The medical student, for example, will think an anatomical preparation beautiful, which will only be thought a most loathsome object by every body else; and the reason manifestly is, that in his mind it calls up trains of agreeable thought, whilst to other persons it is simply a symbol of pain and mortality.—We thus seem to be incapable of separating the sensation due to the simple perception of an object from those more complex feelings which are consequent on its combination with the images pre-existing in his mind; and, by a natural though fallacious deduction, we set down the resultant of this complicated combination as due altogether to the object by which the movement was begun.

The process of association, indeed, is so rapid, that we overlook all its intermediate stages—just as, in grasping any object, we overlook the operation of judgment involved in the estimate of its distance: we see merely the beginning and the end of the process, and, as a necessary consequence, hang the resulting emotion on the object that originally called it up.

One of the chief sources of misconception which has existed on this interesting subject, is the notion that beauty is itself a definite and immutable quality, and that objects which are admitted to be beautiful must affect all minds in precisely the same manner. This, however, it is notorious, is not the fact; and if the emotion of beauty be merely the reflection of certain inward affections, it must, we think, be obvious that there must be as many varieties of beauty as there are of those affections. This doctrine experience fully confirms. Thus there are some sorts of beauty which are simple and unpretending,—some animating and magnificent, and others august, commanding, and majestic. Some kinds of beauty appear to spring out of emotions of pity or affection, and some out of ideas of convenience, grandeur, or enjoyment, or out of awe, humility, or admiration; and the kind of beauty of which any

object will be significant will depend altogether upon the nature of the elementary feeling with which it may happen to be associated in the mind of the beholder.

Should these illustrations appear to have any force, they will serve, perhaps, to aid our conceptions of one of the most difficult and embarrassing cases of beauty, namely, that of the human countenance. We are apt to imagine that the face of a beautiful female enchants us merely by virtue of certain forms and colours, the combinations of which gives us the emotion of beauty. But a little closer consideration will convince us that these forms and colours are delightful merely because they are significant to us of certain internal qualities, which are primary objects of love and admiration.

Our emotions of beauty, it should ever be remembered, arise not so much out of the real existence of excellence, as out of the appearance of it; and therefore, to say that beauty may exist without amiability, is merely to say that excellence may appear to be where it really is not. Of this excellence certain outward forms become significant, because, in by far the greater number of cases, they are its real concomitants; and this relation having become established in the mind, the sign will produce its accustomed impression even when affixed to an opposite perception.

The attributes of youth and health are universally pleasing, and the other characteristics are attractive simply because they are the *ordinary* signs of innocence and amiability, and retain their power of suggesting the emotions to which they are for the most part united. The absence of beauty where innocence and amiability are present, may be explained on the same principle. Where not due to the absence of youth or health, there will usually be found some blemish or deformity which carries the idea of physical suffering or imperfection, and which may either weaken the primary feeling, or obliterate it by another of an opposite description. We think, indeed, that there is a beauty of colours which is independent of association, and a harmony of colours arising out of such a balance of the different tints that none of them can be said to predominate. But the human countenance, we think, derives very little of its beauty from colour at all, except in so far as it is indicative of other qualities, but owes its enchantment chiefly to the circumstance, that it is a reflection of the soul.

The Discovery at Fangfoss Church, Yorkshire.

ON taking down the dilapidated Norman church of Fangfoss (about four miles from Pocklington, in Yorkshire), the plan of the ancient church has been made clear, and many fragments have been discovered, belonging not only to the lately-existing building, but to the more ancient structure.—The east and west end walls and small tower had been rebuilt within the last half century; and in those walls many of the arch stones, corbels, and fragments of ancient crosses had been walled in with other old stones, mixed with brick, and a brick porch had been added. With the exception of the porch and two modern square windows, the south side retained its original form, and the north wall of the chancel also, to a height of ten feet: the north wall of the nave had been almost wholly rebuilt; the chancel pillars had been covered over with wood scantlings, concealed by lath and plaster, and the arch over them also by a flat ceiling; and round the nave was a very elaborate dentilled and modillioned cornice, which, by excluding the air from the oak roof, had caused a premature decay. We are indebted to Mr. R. D. Chantrell, the architect, for the following particulars.

During the last fortnight in September the old building was removed, and trenches ordered to be made for extending the walls, both eastward and westward; and on the 21st the return of the chancel plinth appeared,—also about 8 feet of plinth to the west. On the 22nd and 23rd, Mr. Chantrell traced the rubble foundation of an *apse* at the east end, also the plinths of three buttresses, nearly equidistant from each other on the north side.

All the stone found is the oolite, which is obtained a few miles north of the village, and contains fossil shells, which are observable in that of many churches on the Yorkshire wolds. The dressing is cross drafting, and the stones are nearly square. The rubble foundation was composed of large and small stones, well mixed with sand and gravel, which runs immediately beneath the soil, and is taken from the vicinity. This rubble, or concrete, was bedded regularly upon the stratum of gravel wherever the excavation has been made contiguous to it.

Besides the three sets of arch stones of the entrance to the chancel, ten others have been found within the ashlar, firmly embedded in the bonding. Under what has been the tower staircase, two fragments of pillar shafts, one seven, the other eight inches long, were placed vertically. The bed of the tower plinth was one inch below that of the body, which may be attributed to the greater weight of the tower, as in other respects the plinths correspond. The arch stones under the east end of the chancel had two courses of herring-bone work beneath them. The bed stones of the ancient portal having been exposed, shew that the entrance door has three pillars on each side, giving five sets of arch stones.

The interior shows that at some period the building had been destroyed by fire, the face of the

whole inside, the pillars and arches entering the chancel indicating intense heat, and the chancel arch stones are so greatly injured thereby as to be unfit for rebuilding. At the west end, on the general level of the floor, the ashlar stone internally was burned, and also the flag-stone floor, and a black line, varying from half an inch to an inch and a half, with small fragments of charcoal, prove the fact. This must have taken place since the erection of the latter church, as the older arch stones are not discoloured like those of the chancel arch. The walls had been whitewashed, and no indication of fire appeared before the building was taken down. Some fragments of stone which could not have been reached by the fire, were burnt, and became the same colour, to prove that nothing but intense heat could have so discoloured and shattered the surface of the internal stonework. On some of the stones which had been coloured, are two-inch letters, of scriptural sentences, not earlier than the end of the sixteenth century. Some peculiar ancient crosses were used as fillings-in in the walls; some were covers of graves, and others erect, being carved on two sides. The corbel table on the south side was of coupled arches rudely carved, the corbels of the general Norman character. On one is the warrior on horseback, with a spear and the nasal helmet (used, according to Merrick, by the Danes, and till the end of Stephen's reign); on another, a large horse's head, and a soldier with nasal helmet on each side holding by a bridle across the nose. The corbel table on the north was in the form of a rude M, and this corresponding with the Norman *an*, may have alluded to the saint's name to whom the church, was, probably dedicated; as, if orientation is to be depended on, Saint Mariin's day is thereby indicated.

It is greatly to be regretted that there are no hopes of raising more than £600 for the rebuilding of this church, which, if restored, would cost double that sum. Could adequate funds be obtained, there are sufficient data for a restoration, and a beautiful and interesting specimen of early work might be rescued from oblivion.—*Builder*.

THE GREAT TUBULAR BRIDGES.—The final operation of lowering the second tubular bridge at Conway, for the return line to London on the Chester and Holyhead railway, and the placing it on its permanent bed, was accomplished on Wednesday the 15th inst. The ponderous mass of 1,300 tons was suspended on chains, hanging and swinging two feet above its permanent bed, over an area of estuary of 400 feet, and 20 feet above the straits for a period of ten days, during which the engineers and pilots were engaged in adjusting the bed plates and rollers, and masonry for its support.—The tube was likewise lengthened twelve feet by the addition of six feet of similar tube to each end of the mass so raised, this additional length alone weighing upwards of 60 tons. Under the direction of Messrs. R. Stephenson, E. Clarke, and Captain Claxton, the whole bridge with its permanent way for the passage of the trains complete and ready for use, was then gradually lowered by means of the hydraulic presses which raised it on to a bed of red and white lead spread over the creosoted timber, which equalized the weight on the bed plates and rollers. It is now in use for the transit of trains.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 35.)

GROTESQUE. A singular and fantastic style of



ornament, found in ancient buildings. (See Arabesque, p. 65, vol. 1.)

GLASS. A transparent substance, made by fusing various salts and metallic oxides with silicious earths. The manufacture of glass was well known in Aristotle's time, about 350 years before Christ, and Pliny gives the following account of its discovery. A merchant vessel, laden with nitre or fossil alkali, being driven on the coast of Palestine, near the river Belus, the crew accidentally supported the kettles on which they dried their provisions on pieces of the fossil alkali. The sand about it was vitrified by its union with the alkali, and produced glass. The hint thus accidentally obtained was improved upon. The glass of Egyptian manufacture was long preferred to all other. It was often stained of various colours. In the time of Augustus it was used by the Roman architects in mosaic work, several specimens of which have been found in the villa of Tiberius, in the island of Capri, consisting of red, green, and blue. It appears that about the end of the third century glass was used for windows, but from the glass plates found at Herculaneum, we have reason to suppose that this practice was introduced much earlier. Artificers skilled in making glass, according to Bede,

were brought into England in 674. Glass windows were not generally used in England till 1180, and for a considerable time they were esteemed marks of great magnificence.

GONIOMETRICAL LINES. Lines of sines, tangents, secants, or any other used in measurement of angles.

GORGOGNEIA. Key-stones carved in the shape of Gorgons' heads.

GIRDER. A large beam, to shorten the joists of a floor, and thus lessen their bearing. It is also termed the girding beam.

GIRDLE. (In architecture.) The circular band round a column.

GLYPH. An ornamental cavity or incision.

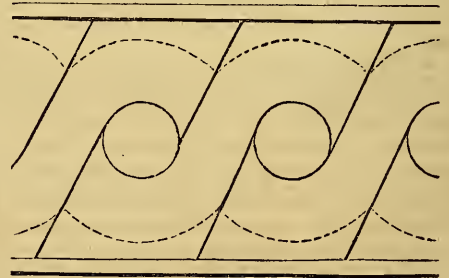
GRATICULATION. The dividing a design or draft into squares, for the purpose of reducing it to smaller dimensions.

GROUND PLOT. The ground on which a building is placed. (See p. 34, vol. 4.)

GROUND PLAN. An ichnographical outline or drawing of the foundation of a building. (See p. 24, vol. 4.)

GREEK CROSS. (See p. 21, vol. 2.)

GUILLOCHI. Ornaments in the form of a series of spiral strings. The following diagram shows the method of striking the guillochis.



GROINED CEILING. A surface formed by three^e or more curved surfaces, so that every two may form a groin, all the groins terminating at one extremity in a common point. The curved surface between every two adjacent groins, is called a sectroid; the point where the groins terminate is the apex or summit. The reverse mould of a sectroid is a convex surface, which exactly coincides with it; equal sectroids have the same reverse moulds. The chord of a groin is a line supposed to be drawn from the summit to the other unconnected extremity. A regular groined ceiling has all the sectroids equal, and the extremities in a plane.

(To be continued.)

SKETCHES FROM NATURE.—No. III.

Fig. 1.

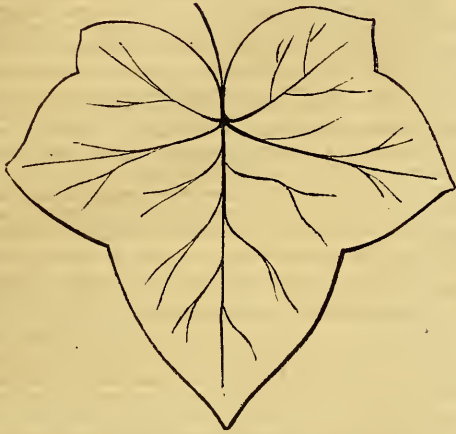


Fig. 2.



Fig. 3.

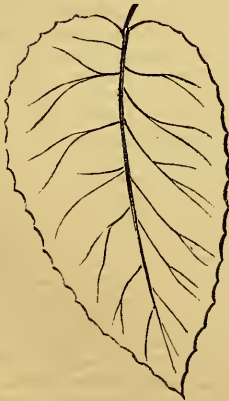


Fig. 4.

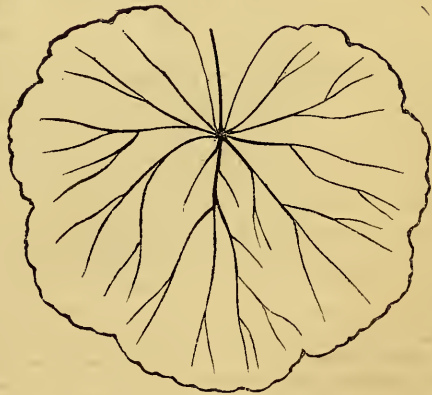


Fig. 1,—Ivy Leaf. Fig. 2,—Oak Leaf. Fig. 3,—Fuchsia Leaf. Fig. 4,—Geranium Leaf.

Observations on Architecture and Building.

COMPILED FROM THE CELEBRATED WORK OF
LEON BAPTISTA ALBERTA.

(Continued from page 39.)

Of Design and Structure.—Being about to treat of building, we shall collect and transcribe all the most curious and useful observations left us by the ancients, and which they gathered in the execution of their works, and to these we shall join whatever we ourselves have discovered by study, application, and labor, that seems likely to be of use. But as we desire in the handling of this difficult, knotty, and commonly obscure subject, to be as clear and intelligible as possible, we shall according to our custom explain what the nature of your subject is, which will shew the origin of the important matters that we are to write of at their very fountain-head, and enable us to express the things that follow, in a more easy style.

We therefore lay down that the whole cost of building consists in "*Design and Structure.*" The whole force and rule of *design* consists in a right, judicious, and exact joining together the lines and angles that compose and form the face of the building. It is the property and business of *design* to appoint to the edifice *all its parts* and the *proper places*; determine proportion, so that the whole form of the structure be pleasing. If we would enquire what a building is in its own nature together with its structure, it may be as well to consider from what beginnings the *Habitations of men* took their rise, and then to trace the progress of their improvement.

Antiquity of Building.—In the beginning men looked out for settlements in some secure country and having found a convenient spot suitable to their wants there, they made a *habitation* so contrived that private and public matters might not be confounded in the same place, but that they might have one part for sleep, another for their kitchen, and others for their necessary uses. They then began to think of a covering to defend them from sun and rain, and in order thereto, *they erected walls to place this covering upon*; by this means they knew they should be completely sheltered from piercing colds and winds; lastly in the sides of the walls they opened passages and windows for going in or out, and letting in light and air, and for the conveniency of discharging any gross vapours that might chance to get into the house.

The first beginning of building was such, but *use and art* have since improved them to such a pitch as to become almost infinite; some are public—some private—some sacred—some profane—some serve for use and necessity—but nobody will deny that all are derived from the principles before mentioned. The whole art of building consists in six things, which we define as follows; *Region* is the open space on which we are going to build, and of which *the seat or platform* shall be a spot selec-

ted as the site; *the compartition* is that which divides the platform of the house into small divisions so that the whole edifice thus formed and constituted seems to be full of lesser edifices: by *walling* we understand all that structure which is carried from the ground to top, to support the roof, and such also as is raised on the inside to separate the apartments. *Covering* we shall call not only that part which is laid over the top of the edifice to receive the rain, but to any part to which is extended in length and breadth over the heads of those within, which includes ceilings, vaults, and the like. *Apertures* are those outlets which are in any part of a building for the conveniency of ingress and egress, and the passage of things necessary for the inmates; of these therefore we shall treat, as we find they are things by no means to be neglected, as each of them are adapted to some certain conveniency, and above all that they be firm, solid, durable, and in a manner eternal as to stability; and as to gracefulness and beauty, delicately and justly adorned and set off in all their parts.

The ancients used the utmost caution in fixing upon a region in it nothing that was noxious, and that was furnished with all conveniences; and especially they took care that the air was not unwholesome—in which they showed great prudence, for they knew that if the *earth and water* had any defect in them, *art and industry might correct it*; but they affirmed that neither contrivance nor multitude of hands *was able sufficiently to amend the air*. And it must be allowed that as what we breathe is so conducive to the nourishment and support of life, the purer it is, the the more it must preserve and maintain our health. Besides, how great an influence the air has in generation, production, and preservation of things. It is even observed that they who inhale a pure air, have better understandings than those who breathe a heavy moist one. We know that the air, according to the different situations and position of places, affects sometimes in one manner, and and sometimes in another. Some of the causes of this variety, we imagine we understand; others by the obscurity of their natures, are altogether hidden and unknown to us. That air is the most healthy, which is the most purified, and which may be most easily pierced by the sight, the clearest and the lightest, and the lest subject to variations. That air is the most pestiferous where there is a collection of thick clouds and stinky vapour, and which hang like a great weight upon the eyes and obstruct the sight. The occasion of this wide difference is various; but chiefly from the *sun* and the *winds*. But without entering into enquiries how the vapours, by the power of the sun, are raised from the most profound and hidden parts of the earth, and drawn up to the sky, where, gathering up themselves into vast bodies in the immense spaces of the air, either by their own huge weight, or by receiving the rays of the sun upon their rarefied parts, they fail and thereby press upon the air and occasion winds; and being afterwards carried to the ocean by their drought, they plunge, and having bathed and impregnated themselves with the moisture of the sea, they once more ascend through the air, where, being pressed by the wind, and, as it were, squeezed like a sponge, discharge their burthen of water in *rains*, which again cause new vapours. Whether these conjectures be true or not, or that it be, as we may call it, the breath of the

air, or nothing but the air itself put into agitation by the motion of the stars, or by the course and radiation of the stars, or by the generative spirit of all things in its own nature active, or something else not of a separate existence, but consisting of the air itself acted upon and influenced by the heat of a higher air, or whatever other way of accounting for these things, we shall pass it over; but from what has been said, we can conceive why some countries in the world enjoy a pleasant cheerful air, while those close adjoining to them, and, as it were, laid by nature in the same lap, are stupefied and afflicted with a heavy and dismal climate. The region therefore to be chosen should be that which is most free from the power of clouds, and heavy thick vapour. It has been remarked that the rays and heat of the sun act with more violence upon close dense bodies, than upon those of a looser texture, for which reason they say the air is most gross in those places that are most subject to great heats. Choose soft breezes before winds, but even winds, though violent and blustering, before a calm, motionless, and consequently a heavy air. *Water corrupts, if stagnant.* And it is certain that air is wonderfully exhilarated by motion; for thereby the vapours that rise from the earth are dissipated. But then these winds should be broken by the opposition of hills and woods. Care should be taken likewise that they do not bring any ill qualities with them, gathered from the places they have passed through. And for this reason we should be careful to avoid all neighbourhoods from which any noxious particles may be brought,—as ill smells, exhalations from marshes, stagnant ponds and ditches, for no water is so pernicious as that which rots and putrifies for want of motion; and the contagion from such a neighbourhood will be still more mischievous, according as it is more or less exposed to unwholesome winds.

(To be continued.)

Anastatic Printing.—THE Rev. H. E. Strickland of Cambridge, has been instituting some inquiries as to the capability of the anastatic system, for more general application than it has hitherto received. In the course of his experiments, he has succeeded in effecting excellent transfers of lithographic chalk drawings. The so called metallic paper, as prepared for writing upon with metallic pencils, is found to be the best material upon which to execute chalk drawing to be printed. Impressions from the zinc anastatic plate, the drawings of which have been originally made on this paper, have an appearance very closely approaching to that of a good lithograph. Fine drawing paper, smooth, but not glossy, is the next best material. Mr. Strickland terms his productions *papyrographs*. The advantages of the new process are not artistic, but practical; it is not intended that the draughtsman will be enabled to produce results at all superior to what he accomplishes by the existing arrangement, but it presents facilities for the execution of drawings, which lithography cannot possess. No weighty stones are required, and the artist may have his sketches printed off immediately, without copying or revising. The process is also a rapid one, inasmuch that, some plates may be published within half an hour after the time they are finished by the draughtsmen.

Decoration of the Oriental Club House, Hanover-square.

THE decoration of the drawing-room and two libraries of the Oriental Club has just been completed under the able superintendance of Mr. Leonard Collmann. The club intending to spend only a limited sum of money on the repainting and embellishing of these rooms, a style of decoration has been adopted, in which, by simple means, and without the aid of superior artistic talent in the execution, considerable effect can be produced; moreover it is one very suitable for public buildings, and more particularly so in this instance, the architecture being in style Greekish, if not Greek. That is, the ornament is all painted perfectly flat and mosaic-like. The effect produced solely relying on the merits of the general design, and on the arrangement of colour, the execution requires no more than great nicety in the workmen. The general design and the ornamental details, are of a strictly architectural nature, and the only painting in light and shade introduced, is in two figures, Europe and Asia, in the niches of the drawing-room. Strong colours were chosen for the walls, in order to add to the rooms a degree of comfort and richness which lighter colours could not have produced, and which was the more desirable, as curtains to the windows are entirely dispensed with. The general tone of the drawing-room is red, and that of the libraries green. Some full-length portraits, formerly in large and clumsy gilt frames, projecting nearly a foot, have been fixed to the walls, and enclosed with suitable gold panel mouldings, so that they now form, as it were, a part of the room, and do not obtrude by any overpowering quantity of gold. The door and window architraves, as also the dados, are painted in imitation of marbles (and exceedingly well done), and the doors and shutters in imitation of woods, suiting the arrangement of colour in the various rooms.—The result of the whole is very satisfactory.

Library of Queen's College, London.—This college for female education, so named by her majesty's permission, and now guarded by a royal charter, is pursuing its course with great success. Upwards of forty lectures are given every week to full classes, and Broadwood and Stoddart have each contributed a grand piano to the instrumental music department. The professors are now endeavouring to form a library of standard works, and also a library of music. They have set apart a room for the purpose, and the same lady who gave £100 towards the college apparatus has given a large set of books as a commencement.

THE Queen of England has made the purchase of the splendid piano of ivory, which excited so much admiration in Paris. This instrument is completely venerated over with ivory, in sheets of from fourteen to seventeen feet in length, and thirty inches and upwards in width, from a single elephant's tusk, by a spiral process. It is also incrustated and ornamented with the rarest woods, forming original designs.

Perspective.

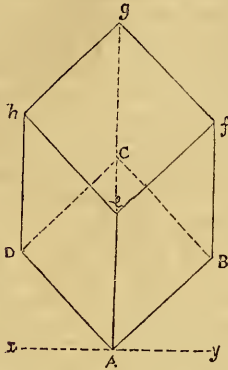
(Continued from page 38.)

OF SOLIDS.

To construct a Cube as seen cornerwise.

Draw any line as xy , fig. 3, from any point in xy , as A , raise Ae perpendicular to xy , and equal 3 feet: bisect the angle eAx , and also the angle eAy ; through each point of bisection draw AD and AB , make AD and AB each equal Ae , draw

Fig. 3.

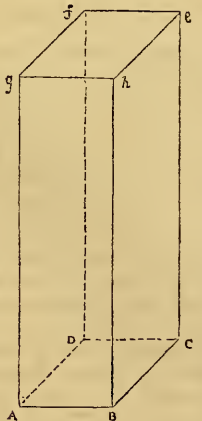


eh and ef equal and parallel respectively to AD and AB ; draw DC and hg each equal and parallel to ef , or AB ; draw BC and fg parallel to eh or AD ; join hD , gc , and fB , and the cube is constructed as proposed.

To construct a Prism having a square Base.

Draw AB , fig. 4, equal 2 feet, from a quarter scale; raise Ag perpendicular to AB , make Ag equal 7 feet, draw Bh parallel and equal to Ag : join gh , draw BC in an oblique direction toward

Fig. 4.



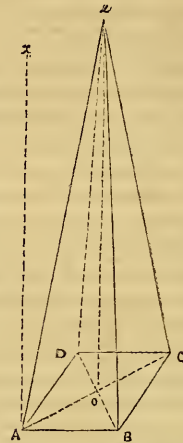
the right, make BC equal AB , draw AD , he , and gf parallel and equal to BC ; join fe , also fd and ec ; and the prism is constructed as proposed.

Here note that all the four foregoing solids may be constructed by first forming their bases, and raising perpendiculars from each angle, and having determined the altitude, join the points at the top.

To construct a Pyramid having a square Base.

Draw AB , fig. 5, equal 2 feet, draw BC in an oblique direction toward the right, make BC equal AB , draw AD parallel and equal to AB , join BC .

Fig. 5.



A Diagonal, from the Greek *dis*, twice, or double, and *gonia*, an angle, that is, meaning a line drawn through two opposite angles.

Now draw the diagonals AC and BD , crossing in o , the centre of the base. The altitude or height of a pyramid is laid off on a line perpendicular to the base.

Draw Ax perpendicular to AB , draw oe , the axis of the pyramid, parallel to Ax , make oe equal 8 feet; join eA , eB , eC , and eD , and the pyramid is constructed as proposed. The altitude might be determined without Ax , by letting fall a perpendicular from o on AB , and producing it upward to e .

(To be Continued.)

Interesting Antiquarian Discovery.—A valuable addition has been made to the recorded Roman remains in this country, by Mr. Henry Ecroyd Smith, of this city, at Aldborough, the Roman *Isu Brigantium*. On digging in the garden of the Black Swan Inn, about three feet from the surface, a low wall was exposed, and found to surround one of the finest Roman tessellated pavements hitherto met with in Britain, being twelve feet square, perfect, well-executed, and in the highest state of preservation, the *tessellæ* remaining as fresh and bright as when the room was last occupied some thousand years ago. It is only about fourteen feet distant from another curious pavement, found in 1832, on digging to bury a calf; and next spring will, like the latter, have a building erected over it for its preservation, by Mr. A. Lawson, the proprietor, and will be ready for public inspection.—*Yorkshireman*.

Exposition of Manufactures at Birmingham.

WE are happy to learn that the proposed plan for an exposition of manufactures, to be held at Birmingham during the visit of the British Association to that town next year, is favourably progressing. The importance of expositions of this character can scarcely be overrated; the great success with which they have met, and the benefit of which they have been productive in Belgium, France, America, and in our own country, in the case of Manchester, and the usual Exhibitions of the Society for promoting the Industrial Arts, afford ample proofs of their extensive usefulness in producing and fostering a correct taste in Art.

To England, indeed, these manufacturing *reunions* are of more importance than to any other country, inasmuch as we have here too few stimulants to artistic exertion, and therefore especially need some regular Expositions of Manufactures, in order to test the progressive development of our powers of design. As tests of mechanical excellence, they are also extremely valuable; and, indeed, in every point are, to say the least, highly desirable efforts to improve Art as connected with Manufactures. The Birmingham Exposition will, we learn from good authority, assume a character of extraordinary interest, as well from the great variety of the manufactures of that important town, as from the high point of excellence which those manufactures have attained. The iron and brass work of Birmingham is famous over the whole world. Its silver manufacture has long been eminent for the productions of the solid and other forms of standard character; and its glass-painting and casting have lately made astonishing progress. In proof of this statement we need only refer to the windows lately produced by Mr. Hardman, and the magnificent glass work of Messrs. Osler. The papier maché department of the Exposition will be rich in contributions from Messrs. Jennens and Bettridge, Mr. A. Turley (who is employed in fitting up some magnificent works purposely for that occasion), and Mr. Lane. A most important manufacture, exclusively confined to Birmingham, that of metallic bedsteads, will form a very important feature. The position of Messrs. Peyton and Harlow, and Mr. Winfield, as manufacturers of these articles, is well known. These eminent firms will, no doubt, supply some very splendid specimens, the articles produced by the former being especially marked by correct taste, beautiful form,

and judicious application of colour. We cannot too strongly urge upon the manufacturers of Birmingham the importance of the proposed Exposition; and we sincerely trust that the visit of the British Association will be signalised by the appearance of some of the greatest triumphs of Art, as applied to manufactures, that England, or indeed, the world, has ever witnessed.

THE HOLLAND MONUMENT. — The Holland Monument, after a brief lying in state in the sculptor's gallery, has at length been *interred* in the Abbey. A monument, it is true, by its very nature suggests the ideas of obscurity and oblivion:—but then it does so by the attempt to defeat the one and rescue all that the art of mortality can from the other. To make it share in the burial which it records neutralises the record. It brings the immortality of Art to proclaim the mortality of Love—but must have an audience, or its morals are unrendered. To hide away a monument is like putting a dial in the shade:—in each case the oracles are dumb and the structure is a waste. The Dean of Westminster is a great geologist,—but has no idea of the value of *some* stones. Now, had there been a fossil, the present process would have had a chance of being reversed. Digging out would have been the order,—not stowing away. The mark of past centuries on the one the Dean could have read—the promise of centuries of eloquence to come which is written on the other is written in vain for him. The stone wrought by ages is dragged by his science to the light of day—the marble wrought for ages is consigned by his authority to the Abbey's most hidden nook. Such is the fate of the Holland monument: in the first freshness of its creation—with the characters of its immortality yet young upon it—deliberately put away, like so much lumber, to abide its archæologic time. This is the doom of the modern sculptor in England:—the lowest den in the Academy and the darkest corner in the Abbey! Dean Buckland, it is true, looks to his church generally rather than to any work of art in particular: but pride in the first might have suggested some better provision for one of the noblest monuments that ever entered his cathedral; and surely the trustees—who are persons having that kind of interest which knocks at abbey doors and is opened to—have yielded more in this matter than became the due execution of their trust. To the memory which they sought to honour, to the subscribers by whom they were delegated, and to Mr. Baily who had so greatly fulfilled their intentions, they owed it to have secured some better arrangement if the narrowing spaces of the Abbey left it in any way practicable.—However, views of the monument are to be had by those who will look for them; and it is in order that our readers who are not antiquarians may have their share reserved in an enjoyment which the Dean has handed over to posterity, that we thus call attention to a concealed treasure. They will enter the Abbey without seeing the Holland monument:—but it is well they should know that they need not leave without having found it.—*Athenæum*.

The Chronotypist.

It is mentioned in *Galignani*, that there has been, in Paris, a sale of autographs belonging to the late M. Antoine Vandyck,—last year consecrated Bishop of Adras, *in partibus*. Amongst a vast quantity of historical papers, was found an autograph of Mandrin, the famous robber of the last century:—which was knocked down for 250 f. (10l.) to M. Greppo.—One solid block of Anglesea stone, weighing before dressing, twenty-seven tons, has just been placed in work as part of the coping of the arch over the western entrance of the tunnel, by the Bangor station of the Chester and Holyhead Railway. The arch is extremely massive, and must have cost an immensity of money.—The services of Mr. Wilson—formerly director of the Head School of Design at Somerset House, and subsequently Inspector of the Provincial Branch Schools,—have been transferred to the office of Head Master of the Branch School in Glasgow; in the place of Mr. Macmanus, who has been removed. It is understood that no successor to Mr. Wilson as director is deemed necessary.—A Munich correspondent in the *Allgemeine Zeitung* reports on an Exhibition of drawings by M. Herman,—the subjects of which are taken from the history of German people. These drawings, consisting of fifteen leaves, comprise the time from the period of the old Germans under their northern deities down to that of the French dominion in Germany. The artist's intention was to represent the great drama of the foundation, growth, power, and fall of the German empire and the struggle of the Germanic minds in modern times. The whole work is to be engraved and published by subscription.—According to the Roman correspondent of a morning contemporary, the King of Naples in the very midst of these stormy times has found leisure to do what probably never struck him in the calm. From his boat which is tossing in presence of the great sea-serpent, he has put forth an edict erecting an Institute of Fine Arts in Rome for the use of Neapolitan aspirants in painting, architecture, and sculpture. There are seven students, who are to have each 25 ducats (3s. 6d.) a month,—a director with 750 ducats annual pay,—a beadle and porter with 140 each,—and “an ecclesiastical inspector” with 240.—The writer in question concludes his notice of the Neapolitan institution by prophecying—or suggesting: “Sweden, Russia, Prussia, and France,” he says, “have already foundations of this nature:—and a graceful adjunct to the new British embassy is probably in Palmerstonian con-

templation.—M. Jules Rossignon has lately submitted to the Academy of Sciences a specimen of vegetable wax, extracted from the berries of a common laurel grown on the mountains of Vera-Paz, in the Republic of Guatimala. The analysis of this wax gave—carbon, 76.29; hydrogen, 15.08; oxygen, 8.63. It is of a green colour, and exhales a slightly aromatic odour when rubbed or melted. The candles which have been made with this wax give a beautifully clear light, and diffuse a pleasant aromatic odour. The laurel whose berries furnish this wax, has the character and leafage of *Laurus nobilis*; it forms numerous thick forests in the mountains of Vera-Paz, that is, throughout the whole of that part of the Guatimalian territory which commences at Rio Polochis, and spreads to the limits of Yuctan.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

QUERY.

Can any Correspondent inform us where we can purchase moulds for casting picture frames, &c.

“A Young Mechanic.”—If you have a knowledge of drawing you had better apply to the School of Design, Somerset House; the terms are very moderate.

“A. F.”—They proved too expensive for the limited demand for them to remunerate us.

* * * Other Correspondents next week.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to “the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London.”—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

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* * * Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

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CHURCH TEXT.

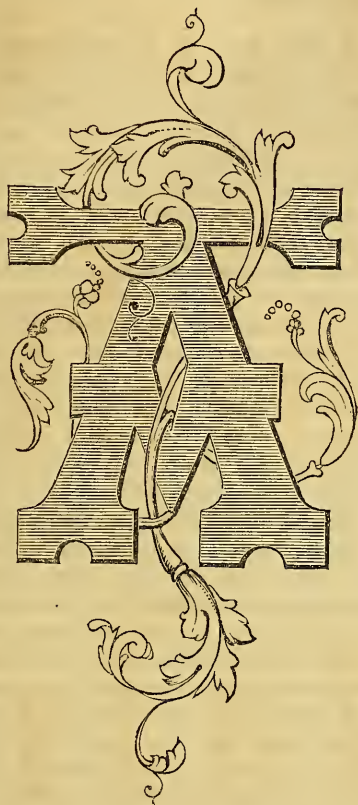
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Art-Manufactures.



LL

representation of the Beautiful is called Art, says Professor Thiersch, in his Academical Lectures. If so—and we of course cannot gainsay the definition—how happy a lot, as it would seem, must theirs be who are privileged to become its followers; how proud the position they incontestably must hold among their fellow men. And truly the artist's were a calling of the highest honour, and one that might, with justice, presuppose much happiness in the pursuit, if, in the course of age, that reverence for Art which once was felt had not gradually diminished; until at last such feeling was looked upon as pertaining almost to the mythology of those days when music, poetry, and oratory were deemed especially worthy of a free-born man, and hence were denominated,

as proof of their especial excellence, the *Liberal Arts*. But “it is not now as it hath been of yore;” and of this reverence, and of the protecting aid which it was implicitly believed was accorded the artist by some higher power, we, in these days, think and feel as we do when reading of the awe with which, of old, men crossed the threshold of their temples, or of the veneration with which they stood before the marvellous work of Phidias in the Parthenon. The truth is, Art is no longer looked upon as a *cultus*; its followers no longer are bent to as the high priests who alone might approach the altar and prepare the offerings.

Wherever Art, be the department what it may, is no longer looked up to in the belief that it is destined for some ulterior higher end than the mere gratification of the senses, it will there fail to exercise such influence as we have alluded to above. Moreover, in that land Art will degenerate; for, as in social life, the knowledge that our friends estimate our characters most highly, even beyond—far beyond, our deserts, is of itself an incitement, if not really to reach the almost ideal excellence which their partiality makes them see in us; yet, at all events, to guard against the commission of any act which might lessen us in their estimation; so the absence of high appreciation will be felt by the artist, and cause him to relax his efforts, and by not desiring to rise so very high above the common earth, he will at first soar midway, but approach eventually nearer and nearer to the ground; and that this should be the case, must be a matter of regret.

It is the peculiar province of Art to give to life, and to spread over its bare necessities and arrangements, the charm of grace. Now the effects of this are incalculable, inasmuch as it is beyond our power to trace the thousand hidden ways by which it arrives at exercising an influence over our natures to determine the measure of that influence, or even, may be, to tell when or in what it has shown itself. We receive impressions as we imbibe certain principles: they steal upon us unconsciously; yet, gently as they come, they leave their mark behind. That harmony of tone is not without its effect on the mind, we are willing to allow; and yet, perhaps, those same persons might be little inclined to concede a like power to har-

mony when displayed in the forms of things. And this only because its influence, in the latter case, is less apparent from its being less direct. But we question whether, though not so immediate, it be not more durable in its consequences. We, at least for our own parts, would rather rely upon it for working a change in men's minds, and making them susceptible of the grand or beautiful; for "softening their manners, and preventing them from being brutal." Beauty of form seems, most marvellously, to have a plastic power over the mind; but, like all things which are moulded into shape, the change is a gradual one.

To render Art, genuine high Art, accessible to the people, to make its contemplation a matter of rare occurrence, is therefore to be looked on as a subject of positive importance by those in authority. They will not, it is true, for the reasons we have given above, be able to balance the debtor account of outlay or of trouble by an exact creditor for so much "improvement in taste and manners;" yet they may be assured that the venture, if they look upon it as such, will not be a losing one.

Let those, therefore, by whom the productions of the Art-Manufactures are put in circulation, have a thought as to the price at which they are to be obtained. To be of use they must be widely disseminated. They must be accessible to those whose means are not ample, but who yet are willing to expend somewhat more than the mere common jug would have cost, for the pleasure of possessing something that gives elegance to the table or the shelf, and affords satisfaction as often as it is looked upon. It is already something gained when they feel they are the possessors of a "work of Art;" they begin to take an interest in what the artist produces, as for them, even for them, his genius has been employed.

Decorations of the Adelphi Theatre.

THE interior of the Adelphi theatre has been reconstructed from the designs of Mr. Digby Wyatt, a clever architect, who has distinguished himself by a beautiful work he has recently published on the geometrical designs of the middle ages. Independent of re-ar-

ranging the internal form, it may at once be seen that an artist has presided; and although Mr. Sang is here also the executant, it is not difficult to see that a master hand has governed, and that artistic skill has guided the brush of the ornamentist.

The ceiling is domed; small lines diverging from the chandelier in the centre, divide the concavity into parts, which resemble the glazed roofs of botanical erections; and as the sky is seen between, it gives the theatre a semblance of some lofty floral conservatory. The decoration of this part is effected by swinging genii, flirting birds, and pendant festoons, in all the gay colours of Nature's vivid hues. The design on the fronts of the boxes is a slight combination of thin curved lines, with batches of bright colour detailed with ideal images. The new drop-scene is a continuation of the architectural interior, with similar ornamentation formed into arched openings, through which a garden vista of old French style is seen; and immediately in front of this arrangement some lively figures are painted in the fantastic costume of Watteau's *bals champetre*. The harmony of tint on this splendid drop-scene, rich with air and life, forms a contrast with the hard mechanical painting of the ornaments of the interior; and it is not a little interfered with, or spoiled rather, by the gaudy chintz curtains of the private boxes, and the unclean yellow hue of a stinted fringe suspended over them. If this upholstery were removed, the effect of the house would be materially improved.

In theatrical undertakings it too frequently occurs, that every thing must be done with precipitation, and time is not allowed for consideration to create unity of design. To decorate the interior of a theatre is not a light undertaking, if Art is to be accomplished. Unfortunately, an artist is seldom consulted, and the decorator is selected, whose staff of subordinates is strong enough in numbers to perform quickly their evolutions over the space that is to be covered. However, we must be content with any display of intention which minutely indicates a desire of progressing; and so far we are willing to laud the smallest particle of good that gleams among much that is indifferent.

Habitations for the Middle and Working Classes.

WITHIN the last few years much has been accomplished to remedy the sanitary condition of this metropolis and our large towns, both by local and other authorities. Yet much more remains to be done, and one of the principal considerations, next to a proper drainage, is the habitations of the middle and working classes of society. Government by enactments and other measures of course can compel local boards to remedy the former, but not so the latter, which is quite a matter of private speculation and enterprise. England, above all nations, is proverbial for her industrious and speculative spirit, not to mention her advance in other respects; and when we come to consider her vast wealth, and the numerous ways in which it is invested in all parts of the globe, we cannot forbear exclaiming,—“This is, indeed, a wonderful people!”

But in the midst of all this propagating industry, why is it that our monied men have hitherto never thought of investing a portion of their wealth in the erection of habitations for working men. Surely this would be as safe a field for their capital as the Pennsylvanian funds, or the erection of splendid mansions and fancy dwellings which have sprung into existence within the last five years, in this mighty city; and which at this moment, I am sorry to say, are partially inhabited. Many are still in the same condition as left by the workmen, either more or less incomplete. There they stand, monuments of industry, as far as regards rapidity of erection goes,—but on the other hand, sad spectacles of man's cupidity, want of foresight, and folly.

There can be no doubt if the capital now lying dormant in empty houses had been applied in the erection of model dwellings for the middle and working classes, that the capitalist would be realizing at this day a good per centage for his outlay, not to mention the unspeakable benefits he would be conferring on his less fortunate brethren.

It may appear tedious to be so harping on the man of money, but it is to this individual class that we must look for bettering the homes of the working classes. With them it rests to increase or decrease our weekly Bills of Mortality.—*The Builder*.

NEARLY twenty thousand houses, many of them of the first class, and the majority comprising six and eight-roomed dwellings, are now standing in an unfinished state in the metropolis.

Review.

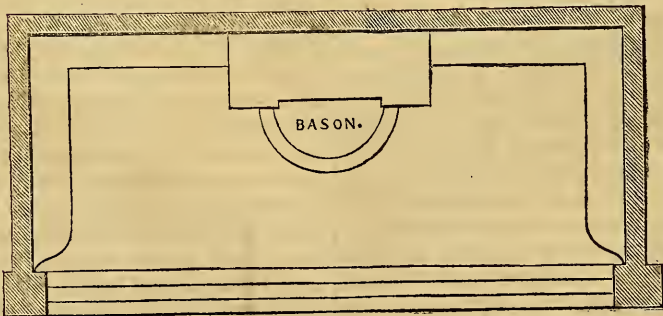
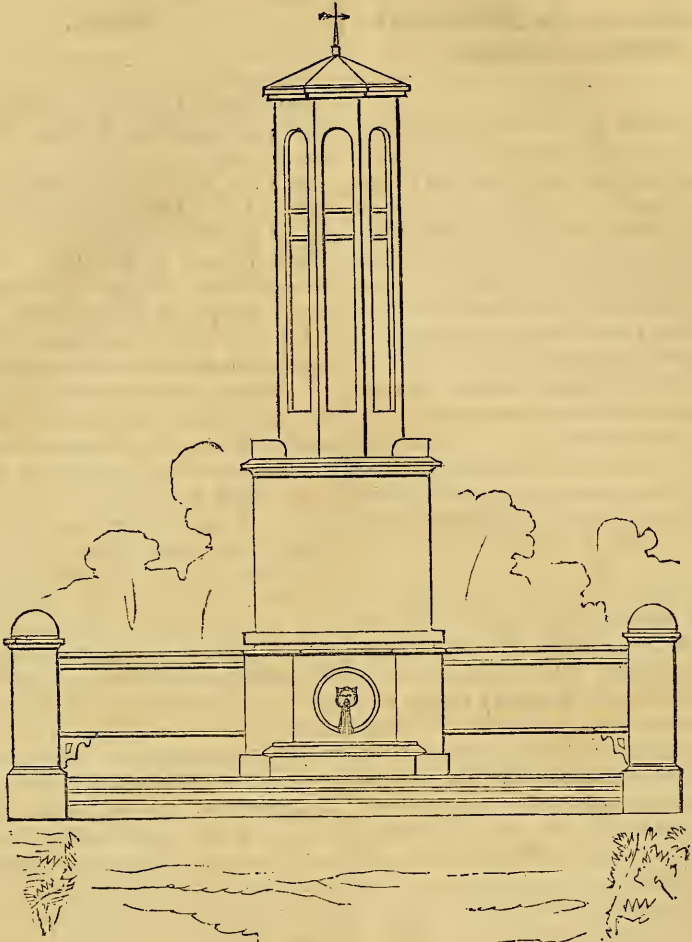
COLLECTANEA ANTIQUA, by Mr. Chas. Roach Smith; published by J. R. Smith, Old Compton-street, London.

Mr. C. R. Smith has just completed the first volume of his “*Collectanea Antiqua*, Etchings of Ancient Remains, illustrative of the Habits, Customs, and History of Past Ages.” It presents in an unpretending form, an interesting record of facts, very copiously illustrated, and will supply materials to many future writers. We quote the following observations from the preface:—

“Unhappily, the Government has not yet been awakened to a sense of the importance of our national antiquities. It neither originates any scheme for their preservation, nor encourages the exertions of societies or individuals. It even defends its pertinacious apathy by asserting that the chartered Society of Antiquaries of London should, and may, do all that is required. If this argument had ever any reason or justice, it would be the more forcible and conclusive, since the establishment of the Association has brought forward so many institutions having similar objects in view. But it was ever a poor excuse for indifference, and is now manifestly absurd. The income of these societies is exceedingly trifling in comparison with the claims upon it, and this income is becoming more and more inadequate as the exertions of the members increase, and as materials are collected and accumulated. And it must ever be borne in mind, that the science which these collections promote is one of the highest consideration that it might be made of great public utility, and without which every system of education must be incomplete.

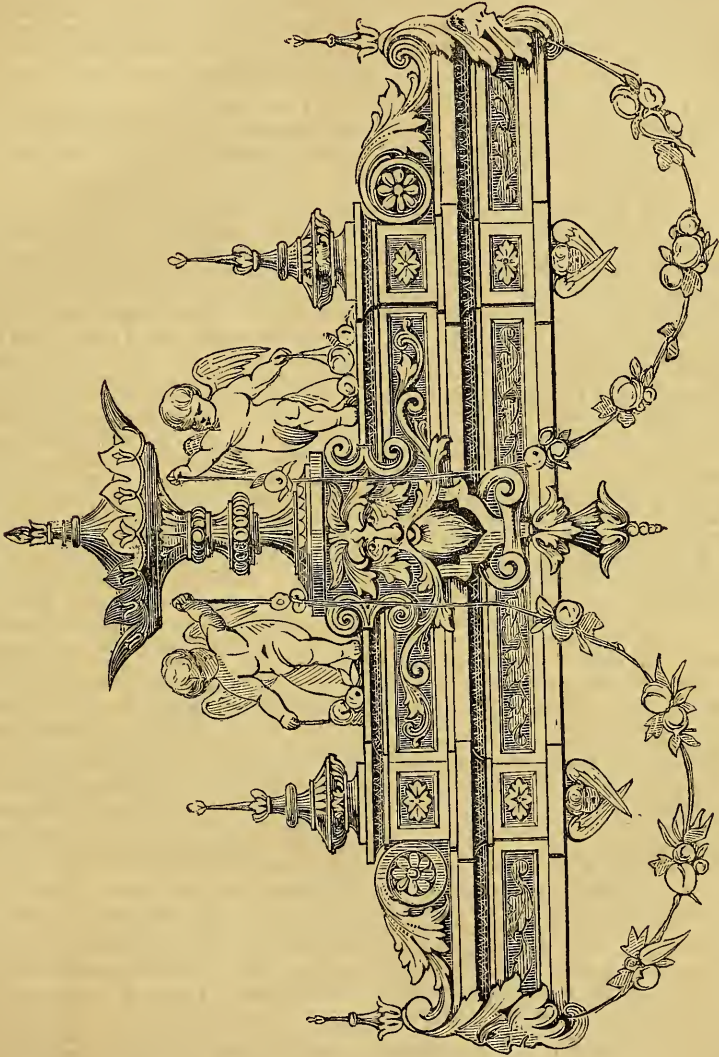
“The Government of Great Britain, with resources beyond those of any other state in Europe, is behind all in the appreciation of its valuable national monuments, and in the encouragement of inquiries which have a direct tendency to advance the intellectual and moral condition of the people. Ever boasting of its institutions, and inculcating reverence and attachment to them, it neglects the preservation of those memorials the knowledge of which can alone give sound notions of the origin, progress, and value of national institutions, and beget, in the people at large, a capacity to appreciate the great social regulations and the political organizations under which they live, and which they are daily expected to cherish and defend.”

Our space is this week too much pre-occupied to do adequate justice to this subject. It will be resumed in our next.



PLAN.

AN ORIGINAL DESIGN FOR A GARDEN SEAT AND FOUNTAIN, TO TERMINATE A STRAIGHT WALK.
(BY S. H. D.)



A DESIGN FOR A CENTRE-PIECE FOR BORDER, &c.

Modern Monumental Brasses.

FEW persons can have visited our ancient churches without having their attention attracted by the monumental brasses, a number of which remain upon their floors; although the hand of spoliation has deprived us of many that would throw much light on the tastes and manners of the past. They generally consist of figures and inscriptions, let into cavities cut in the stone slabs to receive them; but some of a more modern date, are entirely executed on a square plate of metal the size of the gravestone. In all instances they now serve as a most valuable series of truthful illustrations of the costumes, civil and military, worn in England at the various periods when they were executed. All the details of armour are faithfully and minutely given; all the varieties of fashion dwelt upon and scrupulously delineated;—all ecclesiastical vestments, legal and magisterial robes, clearly defined. They must furnish us with authority for costume from the time of their earliest use in the fourteenth century, until their disuse in the seventeenth; and no country in the world can show so large and perfect a series as Great Britain. To the archæologist their value is inestimable, nor can they fail to interest every observant mind. In their own day they formed an important part in church decoration, and the beauty of their effect when laid side by side in a chancel, may still be judged by a visit to Cobham Church, Kent, a short distance from Gravesend, where is a series of fine brasses to the Cobham family, second in beauty, number, and interest to none in the kingdom.

The church decorators of the olden time did all in their power to destroy the coldness and monotony of blank walls. Hence fresco, or more properly, distemper painting, was a common internal decoration, and the walls were covered with pictures of the lives of the Saints, or the history of the Saviour, the Last Judgment, &c. Many of these have been laid bare when the process of new plastering church walls has destroyed the white-wash with which they have been covered; and so long a list might be given of churches which have been thus decorated, that it would go far to prove this practice universal.

Where the pictures did not exist, a pattern in diaper work was stencilled, and the pillars and arches thus decorated, or the flutings painted in various tints. The windows, in the same way, exhibited in glowing tints the fathers, martyrs, or saints, their acts and legends. The ceilings were frequently painted, and the floors brilliantly glowing with coloured tiles, and thickly interspersed with monumental brasses.

Simple recumbent effigies and monumental brasses seem to have gone out of fashion early in the seventeenth century; and semi-classic monumental piles to have usurped their place, ending in the absurdities which disfigure our churches and cathedrals, and give them the look of a stonemason's pattern-room or workshop. Allegorical figures, difficult to comprehend, pagan emblems totally unfit for the Christian church, groups of pyramids, pilasters, and perching angels; contradictions in costume, full-bottomed marble wigs

flowing abundantly over Roman armour, the latter worn by modern Englishmen who scarcely ever saw a battle,—are some few of the absurdities of the last two centuries. Heavily dressed heroes in jack boots, ascending amidst headless cherubs, and hard angular glories, chiselled from harsh stone, give a ludicrous and unpleasant air to the sacred edifices in which they are enshrined; and when we see, as in Westminster Abbey, the most exquisite tracery and beautiful sculpture cut ruthlessly away to make room for such disfigurements, we can but sigh over the want of taste which was too prevalent half a century ago, even among educated churchmen.

We have been led into these remarks owing to the resuscitation of the ancient style of mortuary commemoration, by placing an engraved plate over the grave, as in the middle ages. But as our walls are generally blanks, such modern monumental brasses have been inserted in the walls, as the funeral tablets generally are. The rich effect produced by this means far exceeds that afforded by any stone memorial, particularly as the brass is susceptible of the reception of enamel in its most brilliant forms. We have seen several instances of these modern monumental brasses, and have been exceedingly struck with the happy manner in which the artist has got over the difficulty of representing modern costume, by adapting the frock coat or cloak to the figure, until all incongruities vanish, and the style and ornament of the middle ages incorporate therewith with happy effect.

The artist whose works in this way merit particular attention, is Mr. J. W. Archer (46, Clarendon-street, Euston-square), who may be said to have revived this almost forgotten Art. He has been followed by Messrs. Pugin, Waller, and others, who have manufactured many such memorials. His first work was the monument of Dr. Davy, in the chapel of Caius College, Cambridge, which has been succeeded by upwards of twenty others, designed and executed by him in all that variety, simplicity, and elaboration, of which mementos in this style are susceptible. One of his works, to the memory of Captain W. Ingram of the Enniskillen Dragoons, was honoured by the notice of Prince Albert; another, of Captain White of the same regiment covers a space of nine feet in the wall of Wargrove church, near Henley on Thames.

By assiduity, Mr. Archer has been enabled to overcome a difficulty in the ornamentation of his brasses with colouring matter; such colours in ancient brasses were introduced by a medium of soft mastic, which being perishable, has left but few traces behind. To remedy this, Mr. Archer has obtained a colouring material from silica, Chinese porcelain, and other hard substances incorporated with sandarac, and gums of similar quality, which material seems scarcely inferior in probable durability to enamel, a substance that cannot be employed in mixed metals. For heraldic decorations, diaper work, or the interstices of Gothic enrichment, such colouring has the most brilliant effect.

We hail the revival of this ancient Art with pleasure, and we recommend it as a much more elegant and fitting memorial than the stone tablet, or other monumental structures generally affixed to church walls. These frequently disfigure the sacred edifice, and are seldom analogous to the architectural style or enrichment of such buildings. But brasses properly designed and tastefully

executed, embellished as they may be with heraldic and coloured decoration, really ornament the building whose walls receive them, and make the hand of affection subservient to church decoration.—F. W. FAIRHOLT, in the *Art Union*.

Observations on Architecture and Building.

COMPILED FROM THE CELEBRATED WORK OF
LEON BAPTISTA ALBERTA.

(Continued from page 46.)

In choosing *region* it will be proper to have it such that the inhabitants may find it convenient in all respects, both as to its natural properties, and as to the neighbourhood and its correspondence with the rest of mankind. For certainly we would not build a city upon a steep, and hardly accessible cliff, unless obliged by the utmost extremity, nor in a solitary desert; neither should we be pleased to live upon eggs of birds, or upon acorns. On the contrary, it should be a region where, if possible, nothing should be wanting that could be of use to life. Choose a region that has many different ways of access for the easy conveyance of all manner of necessities, both by land-carriage and water-carriage. The region should likewise not be too moist, through a great abundance of water, nor too much parched by drought, but be temperate; and if we cannot find one likely in all respects to confirm as we would wish it, let us choose it somewhat cold and dry, rather than moist and warm. For our houses, clothes, fires, and exercises, will easily overcome cold. Nor has a dry soil anything in it that is noxious, either to the bodies or minds, only that the dryness tends to harden men's bodies; while for certain it is known that all bodies corrupt by humidity, and are relaxed by heat. And, further, we find that men, either in cold weather, or that live in cold climates, are more healthy, and less subject to distemper. It is said that men in warm climates have livelier wit, as they have better constitutions in cold. That region will be best which is just moderately warm and moist, because it will produce lusty, handsome men, and who are not subject to melancholy; and that region is most eligible which, being placed among countries liable to snow, enjoys more sun than its neighbours, and among countries burned by the sun, that which has most humidity and shade.

But no building can be placed more unsightly and inconveniently than in a valley between two hills; because, not to insist on more manifest reasons, an edifice so placed loses all dignity,—lying quite hid, and its prospect being interrupted, it can have neither pleasure nor beauty. But what is this to the greater misfortunes likely to happen where the house, overwhelmed by floods, and filled by waters that pour in from the adjoining hills, and imbibing continual wet, rots and decays and exhales vapour extremely noxious to the health of the inhabitants? In such a place the understanding can never be clear, the spirits being damped and

stupified, nor will any kind of bodies endure long. The hooks will grow mouldy and rot, the cases will rust, nothing in the store-house will keep; in short, the excess of moisture will spoil and destroy every thing. If the sun shines you will be scorched by the reflection of his rays, which heat back you from every side, and if it does not, you will be dried and withered by continual shade. Add to this,—if the wind gets in, being confined as it were in a channel, it will rage there with greater fury than in other places; and if it never enters, the air, for want of motion, will grow thick and muddy,—such a valley becomes a puddle or bog of air. The form of the place to be selected for building, should be graceful and pleasant, not mean or low as if it were buried below the rest of the earth; but lofty, giving a clear prospect, and the air constantly refreshed on every side by delightful breezes. Besides these, let there be a plenty of everything necessary to either the pleasure or convenience of life—as water, fire, and provisions, care being taken there is nothing in these prejudicial to health. The springs should be opened and tasted to see there are in them no qualities injurious to the constitution of the inhabitants, for some water breeds wens in the throat, and gives the stone and gravel, and physicians state that they who drink water that is not well purged, but heavy and ill-tasted, grew cholicky and have large swelled bellies, while the rest of their members, as the arms, shoulders, and faces, become thin and emaciated. Add to this, that through the fault of spleen ill digesting with the blood, they fall into several kinds of distempers, some even pestilential. In summer, fluxes of the belly, by the stirring of the cholera and the dissolving of the humors, waste all their strength—and all the year round they are continually liable to heavy and tedious infirmities, such as dropsy, asthma, and pluerisy.

(To be continued.)

HOUSES FOR THE POOR.—A writer in the *Edinburgh Courant* points out the eligibility as a money investment of providing houses for the poor. *Invitatis invitandis*, his remarks are as applicable to the English as the Scottish capital. "Having occasion (he says) to call upon a poor widow in an inferior street, I had the curiosity to enquire what rent she paid for the single room she occupied; she informed me that it was 40s., I measured its dimensions, and found them to be 10 feet long by 9 high, and 7 feet wide. On my return to my own house, a flat, I found that it stood on an area of 1,778 square feet. The height of ceiling of the various flats in the stair, three in number, I found to be 13½ feet, by 12 feet, and 10½ feet—respectively giving an average of 12 feet. The rents again are £34, £27, and £20, giving an average of £27. The cubic dimensions of the poor woman's house you will find to be 630 feet. The average cubic dimensions of one of the better houses alluded to, are 21,336 ft., would produce a rental of £67 10s. or deducting for the increased number of partition walls necessary in small houses, say £60 instead of £27, the present rental. Nor is this all—my landlord, at my taking possession, spent the first year's rent on painting, papering, &c., a little whitewash is all that is necessary in the humble dwellings of the poor." You may draw your own conclusion.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 44.)

GALLOWAY DYKE. It is built the same as a dry stone wall, with a broad base, tapering gradually upwards, as at A. It is then levelled with a course of flat stones as at B, in such a manner as to let them project two or three inches on each side, resembling a coping, as shewn by the dotted



lines, *a a*. Over these is a course of rugged round stones, *D*, placed so as to leave a considerable vacuity between each, which affords free passage for the light and wind. This fence is very economical in places where stones are in abundance.

GROUND PLANE. A line forming the ground of a design or picture, which line is a tangent to the surface of the face of the globe; as a ground line is any straight line serving as the ground of the design.

GROUPED COLUMNS. Are when three or more columns are put together on the same pedestal. When two are placed together they are said to be coupled.

GROUT. A thin kind of mortar.

GUTTERS. A kind of canal in the roofs of houses, to receive and carry off rain-water. They are either made of lead or of tiles, which are either plain or concave; these last are called gutter-tiles, and so adapted to each other as to be laid with great ease. The Romans had gutters of terracotta along the roofs of their houses, and the rain-water from them ran out through heads of animals and other devices, placed in the angles, and other

convenient parts. Leaden gutters were known in the middle ages.

GYMNASIUM. Among the public edifices of the Greeks, the gymnasia were classed in the first rank. It was in them that they instructed the youth in all the arts of peace and war, to make them useful and accomplished members of society. As long as they were carefully protected by the state, the sciences and the arts were cultivated with zeal. The name of *palæstra*, which properly designated that part of the gymnasium where they exercised their bodies, was sometimes applied to the whole building. At first, the gymnasium was only an open space enclosed by a wall, as the ancient gymnasium of Elis, mentioned by Pausanias: rows of plane trees were planted to afford shade from the heat of the sun. These trees, when the gymnasia were ornamented, and divided into compartments, gave place to colonnades and rows of pillars.

GYPSUM. Calcareous earth saturated with vitriolic acid, therefore it does not effervesce with acids. Being subjected to a moderate heat to expel the water of cristallization, it forms plaster of Paris, and coming in contact with water, immediately assumes a solid form. Of the numerous species of this fossil, alabaster is perhaps the most abundant. The plaster earth found in Glipston quarry, in Northamptonshire, is a dry, harsh, gritty, light yellow powder, which adheres to the tongue, but not to the fingers, and, mixed with water, immediately sets without previously being heated.

GUNDULPH. Bishop of Rochester, toward the close of the eleventh century, the inventor of numerous important improvements in architecture, especially in the construction of castles. In the castle of Rochester there are the remains of a tower bearing his name, and said to have been built by him.

GUERITE. A small tower of wood or stone, on the point of a bastion, or some other appropriate station, for the use of the sentinel.

GRANGE, NEW. A remarkable antiquity in Ireland. It is a large mound or pyramid, surrounded by a circle of stones, twenty-five miles from Dublin, and near the town of Drogheda. The gallery is sixty-two feet long, and the arms of the cross or transepts twenty feet each. A cupola over the centre is formed of long flat stones, projecting in gradation like tiles, and meeting in the centre, like one of the openings to the great Egyptian pyramid.

(To be continued.)

The Chronotypist.

UPWARDS of £1400 has been collected in Macclesfield, towards the establishment of Baths and Wash-houses for the people.—It is reported that a lump of gold, weighing 3,032 dwts., was lately found in a mine, belonging to Major Heiss, in Virginia.—A remarkable tunnel on the Waterford and Dublin Railway at Bray, has advanced so far towards completion, that there is a communication throughout. The works run through Kilkenny point and for its whole distance, it passes through the hardest granite. It is said that this is the first tunnel in the United Kingdom entirely, through such difficult material.—Ludwig von Schwantater, the classic sculptor of Munich, died on the 14th ult., in his forty-seventh year.—In the great level or audit, now in course of construction to drain the water from the Eyam-edge mines, Derbyshire, was recently found a beautiful fossil planulite, a species of ammonite. It consists of three or four "whorls," and is considered the most perfect fossil of the kind ever found in Derbyshire.—Above £100 in subscriptions, has already been received by the Society for the Nottingham monument to Lord George Bentinck, for the purpose of erecting a monument to perpetuate his memory.—The sixth annual *soirée* of the Manchester Athenæum was held in the Town Hall on Thursday in last week, under the presidency of Lord Mahon, and although, from a great variety of causes, the pressure of the times in particular, the number of the persons present (700) was less than on former occasions, it may be called one of the most successful meetings which they have had. The speeches delivered were for the most part admirable.—On Monday the 20th ult., the institute of British Artists held their ordinary general meeting of the sessions. The president, Earl de Grey, was in the chair, and the rooms were crowded. More than 200 persons were present, including the greater number of the leading members of the profession.—The *Builder* announces that the Architectural Publication Society is making satisfactory progress. There are now 305 subscribers; and local secretaries have been appointed in various places,—including two in Arabia and one in Jamaica.—Carpenters and joiners are less needed in the United States than almost any other workers in wood, with the exception, perhaps, of cabinet makers; all of which trades are not very promising at the present time, owing to an over supply of workmen. The wages of these classes are low, and the pay not very

prompt.—The Secretaryship of the National Society for Education, has become vacant, by the resignation of the Rev. W. J. Kennedy, M.A., who has been appointed one of the Government Inspectors of Schools.—The church of St. Martin's, Leicester, was re-opened during the past week. The repairs of this ancient edifice were commenced in 1846, when the roof of the side aisle was renewed in oak, according to the original design. In the following year, the walls, windows, and roof of the chancel were completely restored. In the present year the whole of the pillars and arches on the side of the nave have been re-constructed substantially from the ground; the clerestory windows restored, the decayed roof of the north aisle re-constructed in oak, and the north aisle, and half the nave filled with new seats. A costly east window of stained glass has been presented by R. Luck, esq., a parishioner.

WE have seen a prospectus issued by a very deserving artist, Mr. E. V. Ripplingille, for the disposal of forty-two of his works, in shares of one guinea each—the works being valued at 1,235 guineas. The prizes are to be twelve in number, and some extra advantages are offered to those who subscribe larger sums. The distribution to take place when the list is filled. A committee is appointed, and Messrs. Colnaghi receive subscriptions.

THE ELECTRIC LIGHT.—An experiment to test the power of a new electric light was made on the Great Western Railway, on the night of Saturday, the 17th ult. The light was produced by an apparatus, the invention of M. Le Mott, a French gentleman, who has been for several years employed in electrical experiments in Russia. At half-past six, a truck containing a square wooden box, about the size, though not the shape of a sentry box, and having a galvanic battery of some sixty or seventy small cells disposed around it, was attached to the last carriage of the train about to proceed from Paddington. The light was produced inside the box, and the rays, condensed and heightened by a powerful reflector, were emitted by an aperture contrived for the purpose. When the apparatus was put in action, a dazzling blaze of light filled the spacious station. The train started, and as it went down the line it was followed by a train of light more than a mile in length, and so bright that no engine could possibly approach it from the rear by mistake. The cone of light, as seen from the carriage, was exceedingly beautiful; the borders of it being decomposed by refraction into a prismatic circle of rainbow tints, which rested on the steam clouds left by the engine. It is stated that bridges were visible at a distance of two miles by the light.

NEW CHURCHES. — Arrangements have for some time been completed for the erection within the boroughs of Lambeth and Southwark, of several new churches, to some of which ecclesiastical districts have been conventionally assigned under Sir R. Peel's Act.

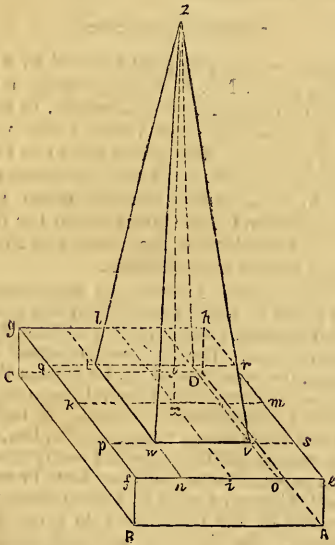
Perspective.

(Continued from page 48.)

OF SOLIDS.

To construct a Prism, and to place a Pyramid on its upper Surface or Plane.

Draw AB equal to 4 feet, raise Ae and Bf perpendicular to AB , and equal 1 foot, join ef , draw BC in any oblique direction toward the right, make BC equal AB , draw fg, eh , and AD all parallel and equal to DC ; join hg, hD, DC , and gc , and the prism is constructed. Next find k and i , the half of fg , and the half of ef ; the base of the pyramid is to be 2 feet. Lay off 1 foot from k to p , and from k to q , also from i to n , and from i



to o , draw ps, qm , and qr , all parallel to gl , or fe , draw lines in like manner from o, i , and n , all parallel to eh , or fg ; these lines crossing on the prism, form the square vty , the base of the pyramid, and determine also its centre x ; draw xz parallel to Ae , or to Df ; lay off 8 feet from x to z , join zv, zw, zl , and zy , and the proposed figure is constructed.

There are two very important terms used in the study of perspective, and these are, a vanishing line and a vanishing point.

As the whole art of perspective depends on clearly understanding these terms, we will attempt an explanation, which, we trust, may prove satisfactory to our readers.

VANISHING LINE.

Let us imagine a perfectly level horizon: let us also imagine a road twenty feet wide, and one end of it produced to where the sky seems to meet the

land; the remote end of this road, we say, is at an infinite distance.

At the near end of this road, imagine a plane of glass of infinite extent, placed perpendicularly on the road, so that the sides of the road may be perpendicular to the plane of the glass. Now imagine a spectator placed at the distance of 20 feet from the glass, and in the centre of the road, and let the height of the spectator's eye be 5 feet.

If the spectator then look through the glass toward the remote end of the road, this end appears contracted to a point, and seems to rise up to the level of his eye; hence the whole road assumes a triangular form, the base of which is the intersection of the glass with the road; and the vertex of this triangle vanishes or disappears at the remote end to the spectator's view.

(To be continued.)

To Correspondents, &c.

"J. W. G."—Thanks for your good wishes. We will shortly give some Gothic illustrations, but your strictures on the Perspective article are decidedly wrong. If you refer to page 38, No. 80, you will find an introduction to the diagrams now in course of treatment. They are not Perspective views, but solids consisting of planes, and will be followed by a perspective view of each. We do not consider it a false system; it is a plan adopted by one of the most popular writers on Perspective, and in use at the London University.

"J. S. D."—Heat the horn over a wood fire; you can then press it into any shape you require.

"H. S."—Accepted with thanks.

(Newcastle.) We will give an article on Magnetism shortly.

ANSWER TO QUERY IN No. 79.

Composition for Picture-frames, &c. — Two pounds of the best whiting, one pound of glue, and half a pound of linseed oil are heated together, the composition being continually stirred until the different substances are incorporated. Let it cool, and then lay it on a stone covered with powdered whiting, and beat it well until it becomes a tough and firm substance. It may then be put by for use covered with wet cloths to keep it fresh. When used to be cut into pieces adapted to the size of the mould, into which it is forced by a screw press. The ornament or cornice is fixed to the frame or wall with glue or white lead.

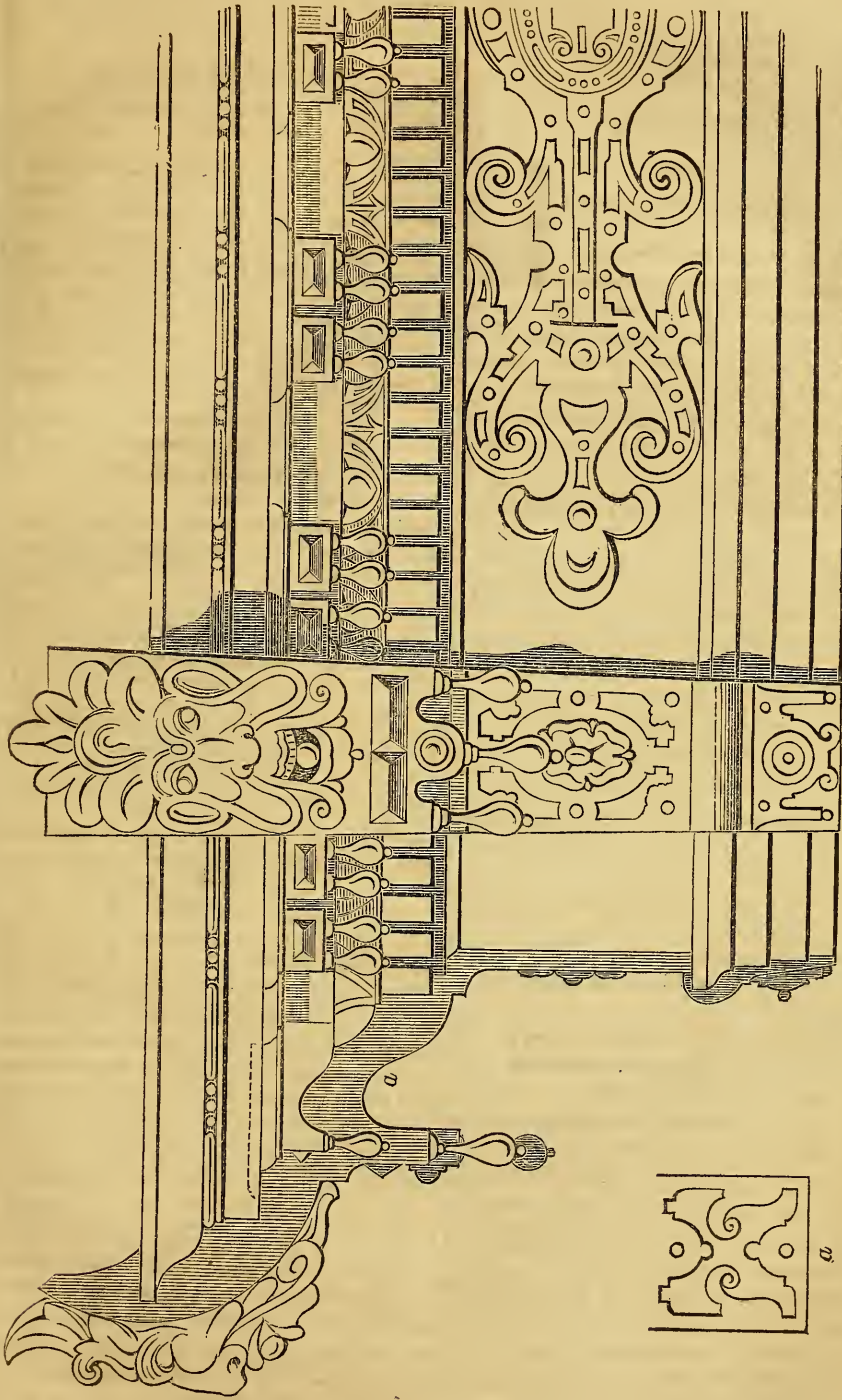
QUERY.

Can any correspondent inform us the best method of making distemper colouring that will stand the weather, on a compo wall?

** Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 20 is now ready, Price 10d.

** Part I, is also re-printed, and will in future be charged at 10d. each.



CORNICE, FROM PARLOUR, CREWE HALL, CHESHIRE.—(ELIZABETHAN STYLE.)



On Domestic Decoration.

PORCELAIN SLABS FOR FIRE-PLACES.



DOMESTIC

Decoration must ever be an object of importance to all who take an interest in the advancement of Art, because taste is insensibly moulded and formed by the effect of familiar objects in daily use. We should hope for little artistic judgment from persons whose lives were spent in rooms where the principles of correct taste were violated in every article of furniture.

In domestic economy utility must always hold a higher place of estimation than mere beauty; but there is an advance when the Decorative Art is made applicable to objects and purposes that were previously regarded as merely useful, and were on that account tolerated in spite of their unsightliness and deformity. Our stove-grates and fire-places have long been objects which the genial influence of a comfortable fire could alone render tolerable;

the beauty of the marble chimney-piece could not atone for the heavy mass of metal it enclosed: the effect was that of a magnificent frame surrounding a detestable picture; and the mass was almost equally bad, whether it assumed the form of polished steel, or shone in all the honours of black lead. The Dutch tiles in which our ancestors rejoiced, and which may still be seen in a few old houses, were better than the new walls which now guard and disfigure our hearths; coarse as they were, and wretched as were the figures with which they were adorned, they were still suggestive and the family circle assembled round the social hearth could often derive amusement and instruction from their contemplation. The great objection to these tiles, independent of the coarseness of their execution, was the small size, which gave to their use the effect of a pavement set up perpendicularly. The experiment long remained untried of producing slabs of earthenware; and, still more, slabs of porcelain, that would resist the action of fire as perfectly as any metal, and would at the same time be susceptible of decoration derived from the highest works of Art.

It is only within the last few years that the slabs of porcelain have been made of sufficient size to render them applicable to the interior decoration of the fire-place, and the very rich effect was attained which they now produce. The flowers in the several designs are all painted in their natural colours; and these colours having been vitrified in the process of manufacture, are, of course, indestructible. We believe that at most of the manufactories in Staffordshire, and also at the porcelain manufactory in Worcester, these slabs are now produced; and that the manufacturers generally are giving to the article very great attention—considering it a staple of their trade, one upon which taste can be largely exercised.

We have often noticed the almost instinctive anxiety of persons to associate flowers with the means of warmth. Even the poorest persons love to have posies displayed on the mantel-piece, and wreaths of flowers are among the most common decorations of our metal stoves. The manufacturers of porcelain slabs have followed this apparently natural taste, and bestowed a large share of their attention on floral decoration; indeed, some of those panels

are among the most beautiful specimens of flower-painting we have seen for many a long day.

We have seen several slabs with Saracenic decorations in the style of Owen Jones's great work on the Alhambra, and their effect is particularly gorgeous and magnificent. Porcelain panels are susceptible of ornament in high relief, as well as pictorial decoration, and we have seen both combined with the happiest effect at the Exposition in Paris and at several show-rooms in London. We have dwelt chiefly on the application of these panels to fire-places, because this is likely to be one of the most popular forms in which they can be used, not merely on account of their beauty, but also on account of their convenience, a wet sponge being sufficient to clean them in a minute, and their radiation of heat greatly contributing to the warmth of an apartment. The latter quality was the chief recommendation of the Dutch tiles to our ancestors, and we have heard old people lament their disappearance, declaring that when they were used fires gave out double their present heat. But these porcelain slabs are applicable to many other purposes. They are beautiful tops for toilet-tables, being much lighter than marble, susceptible of much greater decoration, not more fragile, and quite as easily kept clean. They might be introduced into the decoration of conservatories with the most excellent effect; and we have seen panelled surbases, which to the merits of cheapness and cleanliness superadded a very pleasing picturesque effect.

In short, in winter, they add largely to the comfort and elegance of an apartment; and in summer they render unnecessary the usual mode of hiding a fire-place—by classing it among the most agreeable attractions of the room.

GUTTA PERCHA.—This article continues to be imported in very large quantities, in order to meet the numerous and extensive demands which are made for it to be appropriated to the very many purposes to which it is now found to be applicable. A vessel just arrived in the Docks from Singapore, has brought what we believe to be the largest importation which has been made at one time, consisting of 3,294 packages, 710 lumps, and 10,441 blocks of the article.

Metropolitan Improvements.

DURING the past week a number of houses situate in Tower-street and Lumber-court, Seven-dials, were pulled down for the proposed improvement in that neighbourhood. On Thursday next, the widening of Cannon-street from Dowgate-hill to King William-street, London-bridge, commences. All the houses on the east side thereof are to be pulled down and rebuilt back twenty feet; as also the formation of the new thoroughfare from the south end of Walbrook to Southwark-bridge. A new street is also about to be formed from the junction of St. Martin's-lane and Long-acre, through Rose-street and New-street, into Covent-garden and the Strand. The Duke of Bedford contributes £3,000 towards this improvement. New streets are to be opened from Little to Great Tower-hill, and from thence to Fenchurch-street. Bell-alley, Lombard-street, is to be pulled down and widened. The last remaining portion of the notorious St. Giles's Rookery, called Church-lane, is to be demolished forthwith, and a new street, to be called Nugee-street, opened from opposite St. Giles's Church to New Oxford-street. A thoroughfare is to be opened from the south end of Charing-cross Suspension-bridge, passing through Belvidere-road, across Manners-street, to the York-road station of the South Western Railway.

MOSAIC PAYEMENT.—A splendid specimen of Mosaic Pavement was on Wednesday, the 29th ult, placed in the National Collection, at the British Museum, in the passage leading to the gallery of Xanthian Antiquities. The specimen is about eight feet square, and was found in the ruins of Carthage, on the spot assigned as the site of the temple of Neptune, and was purchased by the trustees of the Museum. On reaching this country it was found to be broken into innumerable pieces, but under the skilful hand of Sir R. Westmacott, it has been restored. It represents the head of a sea-god, with a long flowing beard, and feet of the sea-horse.

Review.

COLLECTANEA ANTIQUA, by Mr. Chas. Roach Smith; published by J. R. Smith, Old Compton-street, London. (Second Notice.)

According to our promise, we continue our extract from the preface, wishing the Author all the success that his laudable efforts merit.

"It has been the custom to ascribe to the ignorance of past ages the chief share in the destruction of our national works of ancient art, as if the present generation were the sole representative of all that is enlightened and conservative. This is an error both vulgar and common. If there be not at the present day the same amount of ignorance as in past times, there is an increased spirit of selfishness—a proneness to test the value of every thing by the scale of the trader—a dogged utilitarianism, to which has been sacrificed perhaps in the last fifty years more of our national ancient remains than in previous centuries not so distinguished for the progress of science and general knowledge. Public and private enterprise and speculation have within the last few years dissected the kingdom from one end to the other; and, in consequence (from the supineness of the Government), many a record of the olden times has been swept away, and the desecrated church, the ruined monastery, the baron's castle, as well as the less and more exposed, but not less valuable, monuments of earlier times, have been hurried to their doom of oblivion. Even the zeal of the archaeological explorer has, in numerous instances, contributed to increase the amount of destruction; for it often happens he is obliged to abandon his researches at the very moment of their being crowned with success, forego his reward, and stop short in his discoveries for the want of pecuniary resources. The Roman theatre at Verulam affords a case in point. It was one of the most interesting objects brought to light within the memory of man, and in this country was without parallel. It was in good preservation; and at a comparatively insignificant cost might have been preserved to the country. But the people of the county cared not about it; the Government, petitioned through Lord John Russell, would hearken to no supplications on its behalf; the excavations were discontinued, and the remains of the theatre were destroyed. Had such a discovery been made in France, a different fate would have awaited a monument so curious and valuable. The disastrous result of the researches at Verulam shew that it

would have been better had they not been undertaken, for at some future day they might have been prosecuted under circumstances more auspicious, either by the aid of liberal private patronage, or by the support of Parliament.

The establishment of archaeological and antiquarian societies in almost every county, is, then, an additional reason for the expediency of some extensive parliamentary measure which would effectually embrace the various classes of our ancient national monuments, and secure their preservation. These societies, although frequently exhibiting a long array of names, are so poorly supported by subscriptions that only a very few are able to publish their proceedings, and thus prove themselves to be in a state of healthy vitality. For the most part they are clogged and shackled with persons who yield neither pecuniary nor literary aid, but are pressed to consent to swell the list of names, from a prevalent but ridiculous notion that numbers alone can ensure permanent success, and supply that intelligence and earnestness of purpose which belong only to the few. In England, moreover, there is a strong tendency in literary and scientific societies to encumber the executive departments with persons selected solely for their eminent rank or position, but whose tastes and habits do not usually incline them to take the slightest interest in the objects of the institutions they ostensibly patronise and superintend. Where rank is allied with ability or with generous feelings, it will naturally, in all well-regulated bodies, take proper precedence; but where it represents nothing whatever beyond mere rank and station, it is beneath the dignity of men of science to waive their own honourable rights and privileges, and invest with the credit of the labours of others, persons who have no sympathies in common with them, and who must in their hearts, if they reflect, despise the adulation which, under the disguise of courtesy, prostitutes intellect to worldly power.

Nothing, in fact, short of a parliamentary commission, can do justice to our national antiquities. It must be a commission responsible to Parliament and the public, and composed of men of character above suspicion, who will constitute a board to see that the funds granted by Parliament are properly expended; to call to their assistance persons of ability; and as a first step, to obtain the *statistics* of the national antiquities yet remaining, and then to devise measures to place them beyond the reach of danger. It is not necessary that all the members of the commission should be antiquaries; but they should have practical knowledge, integrity, and judgment, able to select instruments to work with, and guard against abuse of the funds."

Observations on Architecture and Building.

COMPILED FROM THE CELEBRATED WORK OF
LEON BAPTISTA ALBERTA.

(Continued from page 57.)

The young lose their senses by bile—the old are burnt up by inflammation of the humour—the women with difficulty conceive: in a word, every age and every sex, will fall by early and untimely deaths, destroyed and worn away by disease—nor will they enjoy a single day while they live without being tormented by melancholy—and fretted with spleen and vapor, so that their heads are never free from vexation and uneasiness. Many other things might be said of water, as to its nourishment to plants, seeds, and every other thing that has vegetable life, and to those fruits by which men are refreshed and supported.

Enough, however, has been said to show how important it is to see what veins of water the country is furnished with. Now we conceive the best water to be the best tasted that has no taste, and that is the best colored that has no color at all. It being agreed then that the best water is clear, transparent and light, and when poured upon a white cloth leaves no stain, and upon boiling has no sediment. We should be careful to note whether the region engenders anything pestiferous or venomous—that the inhabitants may be in no danger of vipers, insects, &c. In selecting or choosing of the region, we must weigh every circumstance, and consider all occult tokens. Thus it will be a good sign of excellent air if the country produces plenty of good water, or plenty of good fruits—or if it fosters a number of men of a good old age.

A house at the foot of a hill, and looking towards the setting sun is unhealthy, as it feels suddenly the chilling breezes of the night. The whole of our design in making these remarks, is to show it is the part of a wise man to consider everything, that the trouble and expense in the erection of a house may not be made without recompense; for there you have to apply to study—there are your children born,—there you pass the hours of labour and rest,—so nothing can be more deserving of care and application than to fix on a good, convenient habitation for yourself and family.

SEAT OR PLATFORM.

In selecting the site, we ought to observe the same rules as laid down about the region; for as region is but a part of an entire country, so the platform or site is but a certain selected part of the region, and on which the building is to be erected: therefore anything that may annoy or be of service to the region, will do likewise the same to the site. The seat must be either upon the plain, or on the side or top of a hill. If it is on a plain, it becomes necessary to raise the earth and make something of an eminence, because it not only adds dignity, but prevents often great inconveniences from

overflowing of rivers, heavy rains, &c., leaving mud upon level ground, which by degrees raises the earth higher and higher, until, in a manner, the building becomes buried with filth and rubbish. It is certain every situation should be strong, either by nature or art. And therefore, first the goodness of the earth should be tried by digging in several parts, and at some distance from one another, to observe whether it be firm, loose, or soft, fit or unfit to bear the weight of a house.

For if it stands upon a descent, we must see that the upper part does not lie too heavy, and break down the tower; or that the lower part, if by accident it slipped, does not pull the upper part with it. This part of the building, from the basis of the entire edifice, therefore should be particularly strong, and tightly bound together in all its parts. If the building be placed on the top of a hill, the site should be raised to a level, or pared away, and the sides enlarged and added to.

COMPARITION.

The whole force of our invention, all our skill and knowledge in the art of building, is required in the compartition, because the parts of the whole building ordered for convenience, pleasure, and beauty, are disposed and measured out by the compartition.

Ancient philosophers have compared a city to a great house; and, further, a house to a little city. Why, therefore, should not the members of houses be considered as so many little houses—as the courtyard, the hall, the parlour, the portico—and if anything in these be omitted by negligence, will it not greatly detract from the beauty of the whole building?

Great care should be used in well considering those things which concern and affect the whole building; and all should be so arranged that the most trivial parts are in conformity with the rules of contrivance. To every room should be allotted its fit place and proper situation—not less than dignity demands, or convenience requires—not in an impertinent or indecent place, but in a situation so proper in itself that it could be set nowhere else more fitly. Proportion and situation should be considered likewise with reference to the season of the year; for if rooms are large and spacious in summer, those for winter should be more compact. Again, a summer room should be shaded and open to the air; while the winter ones should open to the sun. Let the building in all its parts be moderately proportioned, and necessary for your uses, for all buildings, if you consider it well, owe their birth to necessity, are nursed by convenience, and embellished by use. Pleasure was the last thing consulted. Let the building be such that it may want nothing which it has not; and those which it has, observe that they do not in any respect deserve to be condemned. Variety is, without dispute, a very great beauty in everything when it brings together in regular manner things different, but in proportion one with another, and it becomes shocking if they are unsuitable and incoherent. Lastly, all things should be executed as use or convenience requires.

(To be continued.)



CUPIDS,—FROM AN ETCHING AFTER CAMBIASO.

Berlin Iron.

THE manufacture of Berlin Iron has now extended into the more delicate articles, for which, until within a comparatively recent period, the material was considered utterly unsuited. The statements we refer to occur in the "Notes of a Traveller," who visited one of the late Expositions in the Prussian capital.

"The art of casting iron has been brought to great perfection in Germany. The chemical skill of the founders enables them, by simple processes, to produce specimens of wonderfully delicate workmanship, not only in ornaments and figures, but especially in plates, which are cast with great accuracy of a large size. The price for cast iron stands in a remarkable contrast with that of bar iron, although the quality of both is superior to that produced in England. In one article the superiority of the German iron is so remarkable, that it becomes almost a matter of humanity to call attention to it. In stoves it is free from that disagreeable smell which has rendered the general adoption of stoves in England almost impossible. In this respect the stoves produced in Austria, in Nassau, and on the Rhine, are deserving of peculiar notice; and it is sincerely to be lamented that the trading relations of the two countries do not favour an exchange which would allow the poorer classes in England the enjoyment of all the advantages which Dr. Arnott's and other inventors' skill has long been unable to procure for them for want of a fit material.

"Besides east-iron stoves, the native steel, which has long been prepared in Stiria and on the Rhine, especially in the district of Siegen, is well adapted to form an object of commerce, and, if produced on a larger scale, assisted by the cheapness which would result from the admission of our ordinary iron at a low duty, would greatly contribute to enrich both countries. I shall be too happy if these remarks induce any persons interested in the iron trade to make experiments with the German east iron, for which I venture to predict a larger market in England as soon as it has been fairly tried.

"A round table of a beautiful open arabesque pattern, in cast iron, and with ornamental claw-foot, from the foundry of Count Stolberg, was marked at 20 dollars (£3). It was three feet and a half in diameter, and weighed 50lbs. Garden chairs to match were marked at 5 dollars (15s.) each.

"Pumps of various kinds, forcing-pumps, fire and garden engines, were exhibited, of good manufacture and at reasonable prices. The castings for architectural purposes were both tasteful and well executed, and showed to what extent iron can be used in building with great advantage. For the designs required for ornamental casting, the German founder has an advantage, in the ease with which he commands the aid of artists. Other metals were also exhibited as applied to the same use. Figures and arabesque designs in zinc, as well as capitals of pillars, rivalled with similar productions in *terra cotta*. Both have contributed to the embellishment of Berlin, and have assisted the execution of some of the tasteful designs of the celebrated architect, Schinkel.

"I was told that the capitals of the pillars and pilasters of the Opera House (which is rebuilding) are of zinc. The small figures and ornaments that go by the name of Berlin iron-work are well known. The principal seat of this manufacture is in the principality of Sayn, near the Rhine.

"The manufacture of tools has made considerable progress of late years in Germany, and many large establishments on the English plan may furnish a considerable supply. The abundance of the native steel is of advantage for this branch of manufacture; but the difficulty of a factory organization, and the great demand for the raw material, keep the prices high. This is still more the case with agricultural implements, which were sparingly exhibited. So great is the demand for iron of all kinds in Germany, that I remember having been shown rails at Vienna that were made of the Strian native steel, and which might have been cut up into knife blades.

"The new fabrication from nickel, called German silver, is extensively carried on at Berlin. A method is now adopted of combining the nickel with native arsenic, by which the use of the poisonous arsenic oxide is avoided, and the mixture is rendered harmless."

LONDON ARCHITECTURE.—Until recently, London Architecture seemed reducible to the art of drawing straight lines in brick and plaster, and when any ornament was attempted various odd looking imitations of beasts and flowers were stuck on without the slightest indication of anything that could be called artistic design. Bears' noses, dogs' tails, wreaths, looking like strings of sausages were festooned from plaster pilasters in most admired disorder, and with the assistance of galliots and statues made up what may be called the George IVth school of building. There are now decided symptoms of improvement; for, bad as are the disorders of architecture which the leading building-makers of our day expect will hand their names down to immortality, or, what is more profitable, write them on the muster rolls of the rich of the present generation, it is impossible to walk about London without seeing many new buildings in which something like an idea in difficulties may be discerned, which is much better than no idea. The imitations or variations of the Byzantine school of which the new churches in New Bloomsbury Street and London Wall, with some houses in New Oxford Street and other places, may be taken as specimens, are evidently steps in a good direction. London does not possess that unity of idea or feeling which renders uniformity of style, at all practicable. We must have something of all sorts, and if great abominations can be prevented, the variety will conduce to picturesque effect. In many new streets, such as Coventry Street, Leicester Square, are houses of a very handsome and effective if not correct style, but they exhibit one serious fault, they are top-heavy, the superstructure looks uneasy on the basement, and violates all notions of mechanical propriety in this particular. They may be classed as belonging to the Bottomless or Cherubic Disorder of Architecture, and we recommend their contrivers to provide them with something to sit upon as quick as possible.

The Chronotypist.

A new street is shortly to be made commencing at the east end of Oxford St., where it is joined by Tottenham-court-road, and terminating at the east of Hemming's Row, near St. Martin's Church.—Another New Street and Road is to be made from the north side of the East India Dock-rd., at Limehouse, in a north west direction, to York Place, in the Mile-end Road, by which the approaches to the Victoria Park will be opened from Limehouse, Bethnal Green, and Cambridge Heath Turnpike.—Lady Hall, of Llanover, has presented a site for the Welsh Llandoverly Institution, founded by the Cambrian Patriot, Mr. Phillips. It was not known until lately who the donor was, as the land was purchased privately, and presented, through a friend, as the gift of a friend to the institution.—At a meeting of the Society of Antiquarians, held the 23rd, ult. R. Fox, Esq., exhibited a gold torque, or armlet, ploughed up on his estate near Wendover, and weighing more than four ounces. The workmanship is beautiful and peculiar; and Mr. Way, in an accompanying letter, gave it as his opinion that it is of Celtic manufacture. The peculiarity of the workmanship is that, besides the three gold strands of which the torque is composed, there is a fourth, and a finer, twisted strand, which followed the involutions of the others, just as our sailors at this day wind in a smaller cord to fill up the interstices of the larger. No other specimen of the kind seems known; and we are glad that it is on its way to the British Museum, where it will form one of a series of antiquities relating to the earliest inhabitants of our land.—J. Allies, Esq., sent an ancient arrow-head, found in the very centre of a huge mahogany tree, in Honduras: and the Secretary communicated a bronze fibula and tweezers, of Saxon workmanship; and read a paper on the discovery of a seal belonging to one of the Vervilles, in the reign of Henry IV.—A paper on Monumental Architecture, by Mr. Sedons, for which we shall endeavour to find room, was read at a meeting of the architectural society, on the 17th ult. A meeting of the society was held on Friday evening, December 1st, at Lyon's Inn Hall, Strand.—On Thursday a collection of chalk drawings and sketches by the late R. B. Haydon were put up to auction by Mr. Robins, the proceeds to be devoted to the aid of his family. They will we are sorry to say, contribute but little to that object—having realized in all no more than £53.—The Bombay papers mention the establishment of a School of Design in the Elphinstone

College in that city.—A contest has run high in the Royal Society as to the appointment of a secretary in the place of Dr. Roget, who resigned.—The council named Mr. Grove; the physiologists and naturalists complained of having no representative amongst the officers, and named Professor Thomas Bell in opposition. At the anniversary meeting on Thursday last the ballot was taken, and Mr. Bell was elected by a majority of 30.—At a meeting of the British Archaeological Association held Nov. 24th, Mr. C. R. Smith gave a description of an extensive Roman villa, recently excavated in a field, near Hartlip, Kent, at the expense and under the superintendence of Mr. W. Bland, one of the members of the association. Nearly thirty rooms have been opened. Some of the rooms were heated by means of furnaces, the flues of which opened underneath the pavements, which were supported by hollow tiles filled with earth. Adjoining are two baths, the leaden pipes for drawing off the water from which still remain. Among the many objects found in and about the rooms is some windows glass, which appears to have been cast in a mould. A paper on Domestic Architecture, as illustrated by a curious wooden house, at Pitchford, Salop, by Mr. T. F. Dukes, was also read.—The Marquis of Northampton, has resigned the office of President of the Royal Society. The Earl of Rosse has been elected to succeed him.—The Duke of Buccleuch, has consented to the erection of a free church, at Wanlockhead.—Mr. Macaulay has accepted the Rectorship of Glasgow University. During the last 12 months, 2,000 houses have been levelled in Kilrush, Ireland.—On the 14th September, the workmen employed in the King's Mines, which is one of the Kongsberg silver mines, in Norway, found a lump of pure native silver, weighing 268lbs., and on the 6th of October, another lump of native silver, equally pure in quality, of no less weight than 436lbs. was dug up.

At the meeting of the Anti-Enclosure Association on Monday, at Clark's Rooms, Edgware Road, Mr. George Newton in the chair, the stoppage of the footway on which Delarue was murdered by Hocker, and which is along the south side of Belsize Park, Hampstead, was again brought forward, and legal advice given on the subject. Notice of motion was given for the restoration of all the invaded thoroughfares through the Regent's and Primrose Hill Parks.

THE earliest instances of monumental brasses in this country, occur about the year 1388, though it is said that both Normandy and Brabant can boast of some fine specimens of a much earlier date.

ON the 17th of February, 1564, died Michael Angelo, one of the finest painters and sculptors that Europe ever produced.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 58.)

GIOCONDO. An architect of Verona in the sixteenth century, who visited France, built two bridges over the Seine, and obtained the title of architect-royal to the French king. He was first a teacher of languages. He was employed with Raphael and San Gallo, in superintending the erection of St. Peter's. He edited Pliny's Epistles, and Vitruvius, and published several architectural dissertations.

GORGONS. (In fabulous history.) They are represented as three sisters, the daughters of Phorcus and Ceta. They were named Medusa, Euryale, and Stheirio, and are represented as having snakes



instead of hair, brazen hands, and golden wings. The head, delineated as above, is in frequent use to ornament the key-stones of arches, the centre of the heads of arched doorways, windows, &c.

GLACIS. An easy slope or declivity. In fortification, a sloping bank, more particularly that which ranges from the parapet of the covered way to the level on the side of the field.

GROUND. The first stratum of paint upon which the figures, &c. are afterwards painted. The fundamental substance—that by which the additional or accidental parts are supported. The back of a basso relievo. The face of the country or scenery that fills up round and behind a building. The study of back-grounds is one of the most essential branches of the art. So much so, that when a great painter was offered a youth as a pupil, who he was told could paint well enough to put in his back-grounds, he said, "then he requires no instruction." An observation of nature, studying what colours and forms best set off others, is the best school for back-grounds. The student may, however, be assisted by reading the 137th chapter of Leonardo da Vinci's Treatise on Painting;—the fourth and eighth chapters of the fourth book of *Le grand Livre des Peintures de Laissee*, and Reynolds's Discourses on Painting, &c.

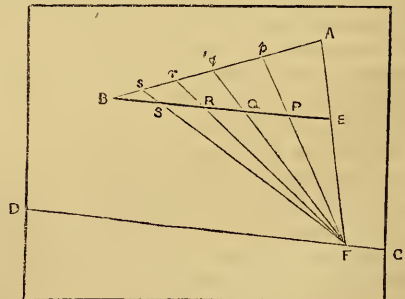
GUTTUS. A species of small vase with one handle, used by the Romans, according to Pliny, in their sacrifices.

(To be continued.)

Perspective.

A PROBLEM.

THE following diagram shows an easy rule for dividing the vanishing lines in perspective, the work of which should always lie within the area of the picture, and which should be free from the trouble of finding vanishing points, points of sight, base lines, horizon lines, and such like.



Let $AB\ CD$ be the perspective representations of two parallels, no matter in what plane. It is required to divide the given portion AB of one of them so that its parts shall be the perspective representation of equal portions of the real line (or in any other assigned ratio). Draw BE parallel to CD and equal to AB ,—and divide it into the required

number of *equal* parts, or of parts in the desired proportion, beginning at E. Join AE, and produce it to meet CD in F. From F draw lines to each of the points of division, P, Q, R, S, of the line AE, and they will cut AB in the required points of subdivision p, q, r, s.—*Athenæum*.

Mr. Wornum's Lectures on Or- namental Art.

On Friday evening last, Mr. Wornum continued the above series of lectures at the Government School of Design, Somerset House, the portion for the evening's illustration being on the Doric Age of Greek Art. The learned gentleman began by tracing the connection between the earliest efforts of Greek art and the works of the Egyptian artists; and in support of his views, he referred to many historical and poetical authorities to show that although the early Greek writers claimed for themselves the merit of originating the arts of painting and sculpture, however they might have brought them to perfection, they were essentially indebted to that remarkable people, and the colonists from that remarkable country, for their first notions of the sublime and beautiful in both arts. After giving a sketch of the progress of Art in Asia generally, as derived from the Egyptians, Mr. W. proceeded to the more immediate object of his proposed subject, the history and detail of what he designated as the Doric period of Greek Art, specifying many instances of the same, and referring to the various drawings which hung behind him illustrative of his topic, as he went along. He showed how the characteristics of Egyptian Art, under the influence of the hierarchy, were simplicity and grandeur in accordance with the climate, and as chiefly displayed in sepulchral monuments and temples; and then adverted to the evidences of Greek improvement as manifested in the manufacture of armour and warlike weapons. He also alluded to the architectural additions which the Greeks had made in the construction of their buildings. He dilated at some length on several excellent specimens of high Art manifested in the composition and manufacture of ancient drapery; and concluded by announcing his intention of devoting his next lecture to the subject of decorative art as portrayed on the ancient vases that were relics of the era to which he directed the attention of his hearers.

There was a very large and respectable attendance of visitors of both sexes present on the occasion.

The Electric Light.

THE first experiment with this light out of doors, was made on Tuesday week, the 23th inst., between the hours of eight and nine, in front of the National Gallery. The apparatus, of which the most conspicuous part was the concave reflector behind the light, was so placed as to illumine the whole of Trafalgar-square, the rays reaching as far as Northumberland House. So brilliant was the light that it was impossible to look at it for a length of time without a dazzling effect upon the eye, and the gas lamps appeared dim and insignificant in comparison. The rays were continually moved, and as they swept through the somewhat foggy atmosphere, they produced the same sort of illumination as the sunlight through atoms of dust. The objects upon which they fell were most brilliantly lighted,—the Nelson column was selected as the principal point, being frequently as conspicuous as at noonday. If the illumination can be sustained, there is no other means of lighting the streets that can at all be compared with the Electric light.

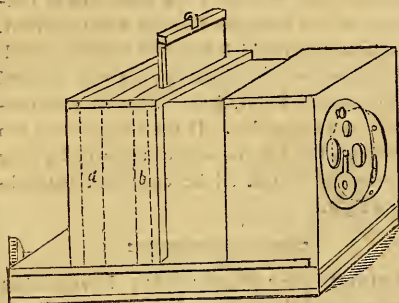
EXHIBITION OF MECHANICAL INVENTIONS.

—The report of the council of the Society of Arts, Adelphi, read at the opening meeting, contained the following passage:—"It is proper that the council should direct special attention to a new feature in the exhibitions of the present session. It has been complained, perhaps justly, that for a couple of years the society has directed attention too exclusively to the fine arts, to the neglect of the mechanical arts and manufactures. This may, perhaps, be in part true, but in reforming the operations of the society it was necessary to begin with one thing, and to do one thing at a time.—The council have postponed the mechanics—not lost sight of them—and have availed themselves of the past vacation to prepare the large room on the ground floor for the reception at Christmas of an exhibition of models of new and important inventions of recent date, and of a mechanical nature. This, they hope, will afford to inventors the opportunity they so much want, of bringing valuable inventions under the notice of the public, and also afford to the public the gratification of having laid systematically before them all that is most important in the records of modern invention."

M. Pape, of Paris, was the manufacturer of the splendid ivory piano-forte recently purchased for Her Majesty.

Willatt's Improved Camera.

THIS camera on an improved principle, for taking photographic portraits and views, has been invented by Mr. Willatts, of Cheapside. The old camera is a wooden box (*see page 169, vol. I.*), fitted in front with a brass tube, in which is a moveable achromatic lens; but in the improved camera, the lens, instead of moving in a brass tube, is fixed in the front of the apparatus, whereby an increase of light is obtained, the admission of which is regulated by a diaphragm. The back of the instrument slides to the front, being moved forwards or backwards by a handle at the back, and secured in the necessary adjustment by a screw.



We present a cut of this apparatus, which is constructed with two grooves, *a* and *b*, that admit of the use of two lenses of different powers, adapted to either portraiture or landscape. The operator is aided in determining the focus by the exclusion of the light, which is effected by the moveable sides of the frame with the ground glass. The plates, which may be placed vertically or horizontally, are held by a frame which has a sliding door that, when raised, lies over the top of the camera, the dimensions of which are eight inches broad by six inches and a half high, receiving a plate four inches by three. We have examined both figure and landscape pictures which have been taken by this apparatus, all of which are very perfect in their minutest details. The researches of those scientific men who have devoted a share of their attention to photography, have been mostly instituted with a view of rendering the plates as sensitive as possible. At a meeting of the British Association, held in September, 1844, it was suggested by Sir John Herschell, and adopted, that it should henceforward be termed *Activo-Chemistry*, the effect being produced by the solar rays. The process is extremely simple, but the manipulation demands the utmost nicety; however, with the instructions which are supplied with this camera, success cannot fail.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

[*Errata*—in a few impressions of our last.—Page 59, first column, line 21 from top, for ‘£100,’ read ‘£1,000.’—Second column, line 12—13, for ‘on the side,’ read ‘on the north side.’]

“*Blucher.*”—Many thanks for your good wishes. With regard to the case for binding, we shall have more cases ready in the course of the week; and if proper instructions are given to the London Agent you will be able to obtain one. We intend following up *Architecture*; the *Ionic capital* is in the hands of our engraver. We have not for some time received any names from you for the *Glossary*;—if you have sent any, they have not come to hand. The remaining portion of your letter may be answered by the adage,—“*Rome was not built in a day.*”

“*J. G.*”—(*Newcastle.*)—No: the polish cannot be used in the manner you describe. We will answer your other question in our next.

“*A. B. G.*”—You will find a receipt to make gold size at page 127, vol. 1.

“*Ned Rub.*” on *Monumental Brasses*, shall appear next week.

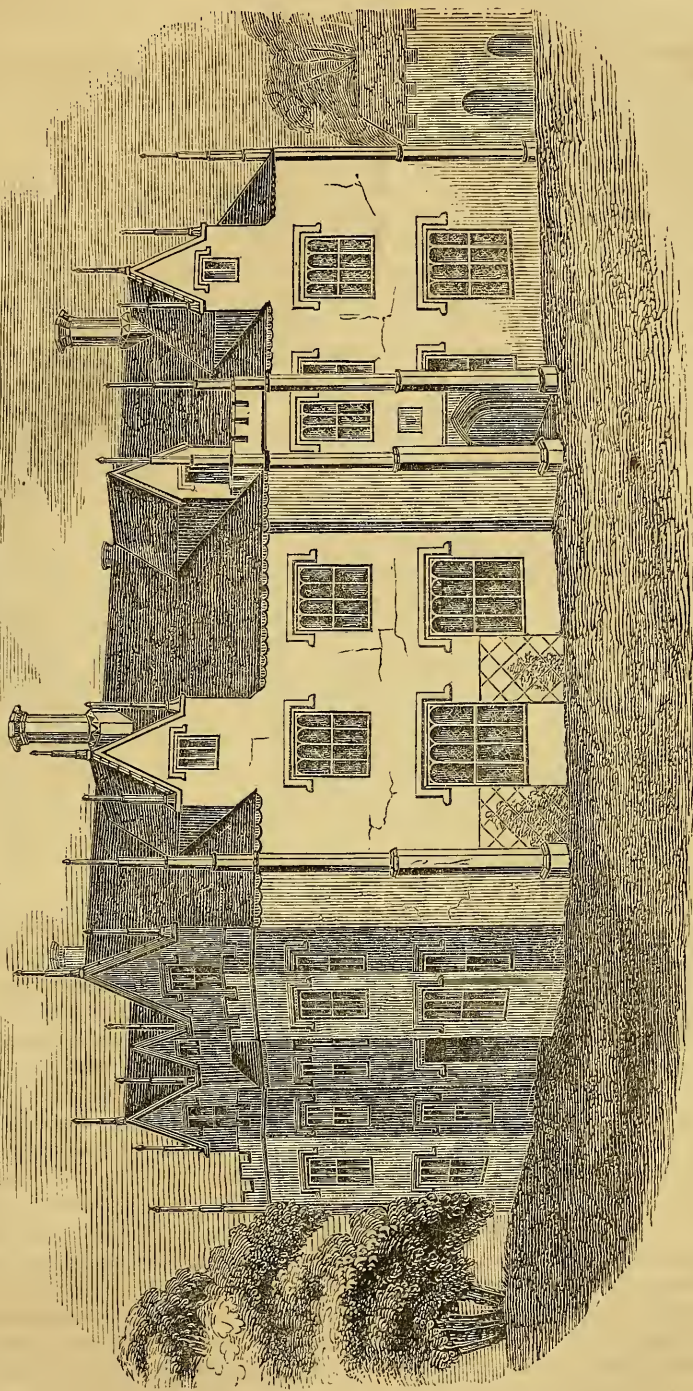
Communications, Books for Review, Specimens of Inventions, &c., to be addressed to “the Editor of the DECORATOR’S ASSISTANT, 17 Holywell-street, Strand, London.”—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics Institutions, the fine arts, science, &c.’

Cases for Vols. I. II. and III. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or marbled, 6d. extra.

***Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 20 is now ready, Price 10d.

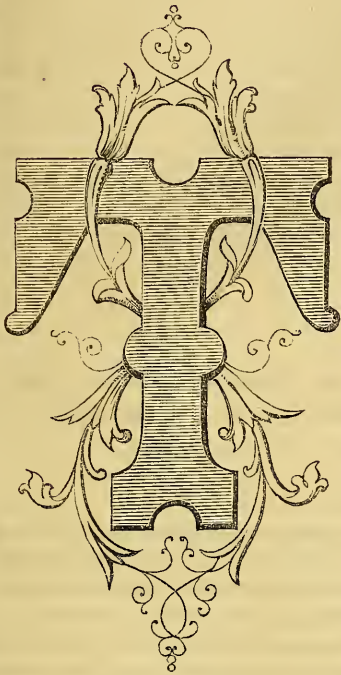
*** Part 1, is also re-printed, and will in future be charged at 10d. each.



STANFIELD HALL, NORFOLK.—E. S. E. VIEW.—(See page 70.)



Taste in Architecture.



ASTE is subject not only to wholesale revolutions, but to strange fluctuations and relapses. One day we are disposed to think that taste has taken a better direction than before, and is likely to advance in it if allowed to have its free course; when, the very next, perhaps, we are startled and shocked, puzzled and perplexed, by some architectural monstrosity which runs quite counter to, and upsets our calculations. Although such is the fact, it seems hardly credible that two structures which are almost within sight of each other, and erected in the very same year, should exhibit such diametrically opposite tastes as do Bridgewater-house and Mr. Hope's new mansion in Piccadilly. The latter is a compound of uncouthness and deformity. The design is said to be by some foreign architect,—which is the only thing to console us; yet, let whoever may be responsible for the design itself, the discredit of adopting

it falls upon no other than Mr. Hope himself. Mr. Hope has the reputation—the hereditary reputation at least, of being an authority in matters of art and taste, wherefore he is almost the very last person from whom so public a display of bad taste was to be apprehended. Besides marvelling much, there is also room for fearing that, through the influence of his name, his example may become contagious, and encourage others to perpetuate similar architectural enormities. One comfort is, the building seems to be universally disliked and condemned; while the evil else to be apprehended from such example will now be greatly counteracted by the very opposite one of Bridgewater-house, Cleveland-row.

Bridgewater-house puts its neighbour—"Sutherland," quite out of countenance. The two buildings contrast very strikingly with each other, and afford a very good lesson, and make manifest that decided improvement upon the whole has taken place within the last five-and-twenty years.

Ordinary rules have, no doubt, their serviceableness in architectural design, but it is of a negative sort; the observance of them will prevent faults, but will not ensure positive beauties, or other merits than those which partake of mere routine, and are therefore equally at every one's command—of the novice as well as of the master. Rules are indispensable, since they constitute the very grammar of the art; but from its grammar to its poetry the distance is prodigious—at least, so great that ninety-nine out of a hundred never advance beyond the former, so as to reach the latter. What is done by mere rules and routine, can be accomplished by one man just as well as by another. Rules teach *much*, but they do not teach *all*, and the observance of precedent will suffice for mere mechanical copying, but if architecture need not, or cannot now advance beyond that, it ought to forfeit all pretension to the character and title of Fine Art.

Many, perhaps, would be really glad, were the idea of architecture being a Fine Art to be altogether renounced, since art does not seem to be at all their element. They are safer on *dry land*—on the honest *terra firma* of practical routine. Art is a treacherous element to those unprepared for and inexperienced in it. If, according to the opinion which, though not

formally expressed, is to be gathered from the remarks of certain writers, we have no further occasion for artistic invention, or any actually operating and creative principle in architecture, but may get all the art that is required for it at second hand, and would therefore do well to confine ourselves exclusively to traditional forms and ideas,—if such be the case, and we can now dispense with art itself, we can surely dispense with the name of it. Or, if we must call it art, let us call architecture the art of making new buildings by copying or hashing up old ones. But to affect to consider and style it a Fine Art, when we make it in practice just the reverse, partakes too much of quackery.

Architects are now such a numerous class that it would be strange if there were not some among them who might fairly aspire to the honourable name of artists; but the majority have very questionable claim to it, and some none at all; nor even so much as any genuine relish for their "art:" and the want of earnest affection for it, is of itself a proof of the want of the talent requisite for it.

Those who admire one style of architecture, are apt to be not merely indifferent to, but intolerant of every other. The lover of pure Greek architecture sees only the corruption of it in the Roman style; and of this latter, the degradation in the Italian. His standard of excellence is the Parthenon; and by the standard he tries everything else, no matter how different may be the principles upon which it is constituted. He would have Greek-Doric temples spring up everywhere throughout the length and breadth of Europe, and of America also. He is willing to extend some degree of favour to Ionic, that being at all events Grecian; but Corinthian is Roman, and shows a sad falling-off from the manly simplicity of the earlier style. On the other hand, the lover of Roman and Italian design is equally strong both in his liking and his antipathy, holding Greek architecture to be frigidly severe and monotonous, exceedingly *bornè* withal; and Gothic, together with all other mediæval styles, to exhibit only the barbarous conceits of the dark ages,—to be utterly devoid of "proportions," lawless, extravagant, and irreducible to "rules." Such, at least; used to be the case, for at the present day, such sweeping

condemnation and insolent contempt of mediæval architecture cannot be expressed with impunity. Gothic may be said to have now the ascendancy, and its admirers and devotees repay with compound interest the insults and indignities which it formerly received from the Italian school and its followers. Opposite as they are in their tastes, all these parties are alike in one respect, they being all alike one-sided, prejudiced, and intolerant in their antipathies, and cheating themselves out of much varied enjoyment by limiting the sphere of it to the compass of a single style of the art; instead of sympathising with the beautiful and intrinsically æsthetic in architecture, whatever may be the particular form under which it presents itself, or the name to which it answers.

On the Study of Design, from Paintings, &c., in Hampton- Court Palace.

At a meeting of the Decorative Art Society on the 8th instant, Mr. Bulnois in the chair, a paper, "On the Study of Design from Tapestries, Paintings, &c., at Hampton-Court Palace," was read by Mr. Dwyer. The subject was prefaced by remarks upon the ordinary disregard of those things within our reach at all times, whilst a fondness prevails very generally for speaking of foreign arts in caves, temples, cathedrals, &c. as "very fine," by those who often are dwelling in shameless ignorance of the genius which illumines a Westminster Abbey, St. Paul's, or St. Stephen's, Walbrook.

It was remarked, that we pass along the highways and byeways, and that things common and uncommon are familiarized by constant association till we observe them not. We are only impressed, as the case may be, by matter of a very new or of a very ancient character. It is, however, necessary to awaken reason, and to render our senses susceptible, by thoughtful investigations, to a truer appreciation of those qualities which ought to challenge our respect, and which ought to serve as our guides or our monitors. It was contended that we may thus be taught, and most forcibly

too, that there are vast fields for thought beyond the boundary of our own imaginings,—regions wherein the various tastes and feelings of past ages have been well-begotten, matured—and then neglected. In comparing our deeds with those of bygone times, it was suggested that it should be our aim to discover wherein we now excel or are deficient—to trace results from causes, and to contemplate the issues in a free unprejudiced manner. Moreover, the architect or painter who speaks of time-honoured Athens, of the wondrous structures of Egypt and India, to those who have not seen them, speaks at a disadvantage, for while the intellect can grasp at once the actual features of art as seen by the eye, things which are but dimly pictured upon the mind by associations imbibed from relics in a museum, can never be more than partly estimated or understood; and although the mind may theorize upon and extend an idea, it does not frequently attain to a true or just embodiment of a fact described.

After considerations such as these, Mr. Dwyer said, he had devoted a few days in the autumn at Hampton-Court; and he hoped that in his aim to evoke some of the practical and useful information that the palace affords, it would be remembered that there are convenient opportunities for witnessing these things, to which he would draw attention, and also of testing the value and accuracy of his remarks. Visits, with a spirit of searching inquiry, were recommended to the architect, painter, sculptor, and every lover of the arts. The vague and redundant impressions, usual on a first visit, arise from the mind being unable to embrace so much variety as is there presented under circumstances of entire novelty; the crowding of historical recollections and associations—the numerous rooms—the vast quantity of pictures—the state beds and old crockery—pretty walks and stately avenues—gold fish and *monstre* vine—immense façades, quaint court-yards, and other architectural features, each embodying and displaying intact those several characteristics which so well define the progressive changes in the prevalent tastes, during two of the most important centuries in English art-history.

The architecture, he considered, admitted of much profitable study, from its representing two distinct styles, the works of two great masters in the constructive arts, Cardinal Wolsey and Sir Christopher Wren. A comparison between the

widely different means employed in the production of palatial magnificence was made, and it was suggested, how differently had beauty been estimated how strikingly had the phases of the two opposite styles been developed in the Tudor and the Italian, in the contrast of material and the variety of contour. The respective advantages and disadvantages supply much to reflect upon, much to learn, and much to profit by. A description of the old palace built by the Cardinal was then given. The well-designed and well-executed chimney shafts, their sharply moulded caps, forming picturesque clusters around the fine court-yard, the noble gateways, all constructed in admirably ornamented brickwork, with its glowing richness of colour contrasting beautifully against our prevalent cool grey sky, were each respectively alluded to, and the use of artificial cements, now so generally applied to our buildings, was comparatively disapproved of. He advocated the more frequent use of terra cotta; it is very durable, possesses a rich colour, and in many places, such as window and door dressings and architraves, might permit the introduction of forms of greater importance than the conventionalized bracket: and it has especial advantage in not requiring paint to keep it clean, or to preserve it from the influence of the weather.

The next court-yard built by Wren is surrounded by an Italian colonnade, after the manner of the Gothic ambulatories, and presents an imposing appearance. Several beautifully sculptured stone wreaths of flowers, executed under the superintendence of Grinling Gibbons, are admirably arranged within semicircular arches, and are as sharp as if just from the chisel.

A wish was expressed for casts of these, which by the use of gelatine moulds might be readily obtained and distributed to our schools of design at a trifling cost. This would greatly facilitate the studies of the modeller, the importance of whose skill is beginning to be better recognized. A series of lunettes is arranged between the principal and attic story over the colonnade; and on one side of the court, these are painted with frescoes representing the labours of Hercules. The framework is boldly conceived and well executed in stone, designed from a lion's hide, with head, paws, &c., the shadows being well defined. The pedestals placed in this court, it was said, are finely formed, although deprived of their purpose—an iron bar that projects from the top of each shewing that they once secured some figure (by Farelli), which has been removed.

(To be continued.)

Fig. 1.

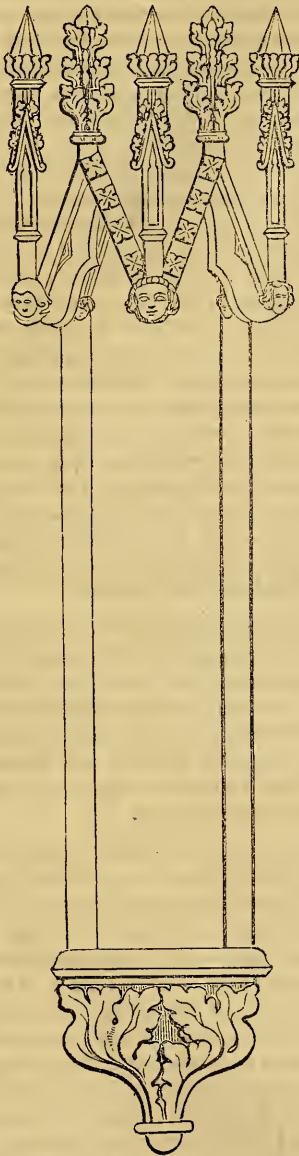


Fig. 2.

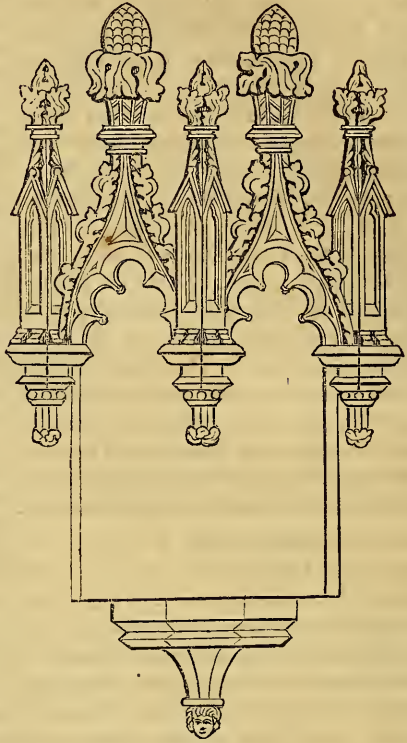


Fig. 3.

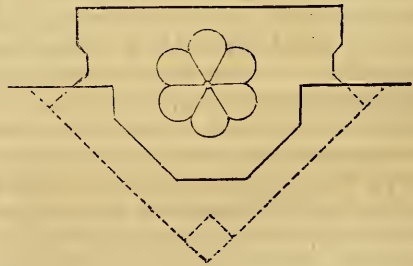


Fig. 1. Elevation of Niche, South Transept.

Fig. 2. Elevation of Piscina, South Transept.

Fig. 3. Plan of Piscina.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 68.)

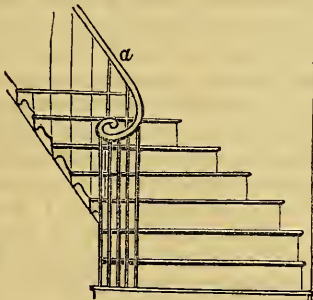
HABIT. (In painting and sculpture.) Dress, accoutrements.

HAND. The extremity of the arm, consisting of the palm and fingers, with their radial and ulnar muscles. The hand is one of the most diffi-



cult and important of the extremities to represent well, either in drawing, painting, or sculpture, and requires the greatest attention from the artist.

HAND-RAIL. The rail used in stair-cases. It is formed straight, circular, or elliptical, to suit the construction of the staircase. It is frequently en-



riched by elaborate carving, and composed of costly materials. Marked *a*.

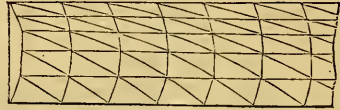
HASTA. A spear or pike used by the ancient Romans. The hasta reversed was used as an emblem of peace, and Cirero uses the words *hastam abjicere*



in the meaning of to give up the cause; *ad hastam locare*, to make open sale. The *hasta pura* was the pike staff divested of its iron head or point,

which was sometimes ornamented with flowers or fruit, like that of Bacchus by a pine cone, called the thyrsis.

HATCHED MOULDING. A moulding chiefly



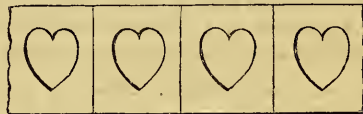
used in Saxon architecture.

HEAD MOULDING. Another moulding used in



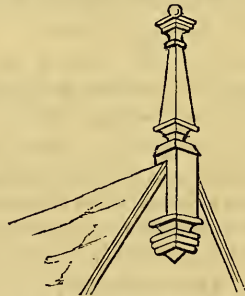
Saxon architecture.

HEART MOULDING. A moulding also used as

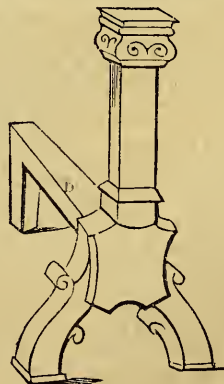


the above.

HIP NOB. The terminal of a gable end.

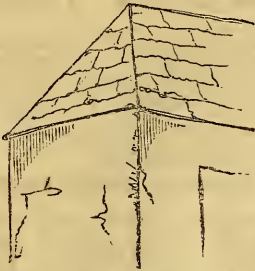


HAND-IRON. A kind of stand used in old fire-



places to rest the burning logs of wood upon.

HIP-ROOF. When a roof of a building is formed by equally inclined planes rising from each side, it is called a hipped roof, and the ridges



rising from the angles of the wall are called hips.

HALL. The first large room or apartment in a house; the public room of a corporate body; a court of justice; a manor house, so called because courts for the admission of tenants and other manorial business are held in them. There are also other apartments in a mansion called halls, besides the hall of entrance, as the servants' hall, &c.

HIP OR CORNER TILES. These are used at the hips of roofs. They are ten inches long, and of a convenient breadth and thickness; they are bent on a mould before burning, and have a somewhat triangular shape, with a hole for a nail at the narrow end, which is laid uppermost.

HECATOMPOLIS. The name of the Isle of Crete, so called from its hundred cities which it had in the time of its ancient king, Minos.

HEIGHTEN. (In painting.) To improve, to meliorate, to make more prominent by touches of light colours, in imitation of the brightness of the lights in nature, contrasted with shadow, commonly called to heighten the lights.

(To be continued.)

ANCIENT RELICS.—During the past week some workmen, in digging a drain in the yard of some premises occupied by a Mr. Parkinson, in Northgate Street, Chester, discovered an Ancient Urn, and other relics, supposed to be of Roman manufacture. They were found at the depth of eight feet below the surface. The Urn, which is in the possession of Mr. Parkinson, is in a remarkable good state of preservation, and will no doubt be prized as a most interesting antique vase. As the fragments of a bracelet were within the urn, it probably contained the ashes of a Roman Lady. A drawing of it has been made by Mr. W. Ayrton, and forwarded to the Archæological Society.—In constructing a large sewer in the Eastgate, a large quantity of gunpowder and other ammunition was discovered, probably placed for use during the Siege of Chester, in the days of the great rebellion. Some coins have also been found, in excavating for a sewer near St. Peter's, Chester.

Review.

ON ORNAMENTAL ART, APPLIED TO ANCIENT AND MODERN BOOKBINDING. By Joseph Cundall. Cundall.]

Mr. Cundall, the publisher, has here printed a paper read by him at the Society of Arts on the subject of the Bookbinder's skill. Though of necessity short, it presents a concise and comprehensive glance at the history of an art which was at its zenith at the time when the higher arts were most flourishing. A little historic sketch brings us to the time of the celebrated Grolier, some of whose specimens exist in our national museum, where we have lately admired them.

As in all the other arts, re-production of the past is shown here to be the spirit of the day. This Mr. Cundall, very properly, deploras. "Since the beginning of the eighteenth century," he observes, "we have arrived at the greatest possible pitch of mechanical skill; and although we are unable at the present time to exhibit any very high standard of excellence in ornament, yet the improvements which have lately been made, and the attention which is now generally directed to ornamental art augur that it will not be long before we shall join artistic merit to our perfect execution. It will be said, that books are much better bound now than they were formerly. Granted. The mechanical execution is better—the books open more freely, are more truly folded, have the squares more even, the head-bands much handsomer, and the sides and back are richly enough gilt; but where is the Ornamental Art of the fifteenth century? Now and then we have good copies of the old designs re-produced, and occasionally a good original design; but we have no style whatever that is worth perpetuating."

After questioning the propriety of adapting Grolier patterns of the sixteenth century to modern guide-books, &c., he observes that "One of the principles which he would seek to establish in Ornamental Art in Bookbinding is, that every book should be decorated as far as possible in accordance with its contents."

Twenty-four plates of coloured lithographic specimens of various styles of binding illustrate this little memoir,—a large portion of which are from specimens preserved at the British Museum. There is much common sense and good taste in Mr. Cundall's observations. Altogether it is a highly useful production, and calculated to further the improvements he so strenuously advocates. We can confidently recommend its perusal to the trade.

Worcester Cathedral.

THIS edifice presents a very curious admixture of all the styles of architecture which have prevailed in England, since the coming of the Normans, and earlier, if the believers in the Saxon origin of the crypt, which we are not, should happen to be right. The whole history of architecture may be illustrated there, and the characteristics of each style pointed out. The crypt; a very curious large semi-circular arch in the east wall of the south transept, with rudely sculptured capitals; and the lower part of the chapter-house, with its arcade of semi-circular intersecting arches, will serve to make evident some of the chief features of the Norman period. In the two westernmost bays of the nave, where the pointed arch is mixed up with the semi-circular arch and zig-zag adornments, we see the evidence of transition to the first pointed style, of which, in its perfect state, the choir and the easternmost transepts present such beautiful specimens, wherein some of its most prominent characteristics,—the acutely-pointed arch, crisp, sharp, twisting foliage in the capitals and corbels, the dog-tooth moulding, &c., are obvious. The nave shows the change to the decorated style, and many of the window-openings throughout the cathedral, are filled in with tracery of the perpendicular period, easily distinguishable even by the least initiated, by the tendency of the mullions to continue perpendicularly up from the cill to the arch. Prince Arthur's monumental chapel, between the chancel and its aisle, at the junction of the south transept, affords us an example of the last period of that style, when panelling and sculptured ornament covered every foot of surface, and debasement was coming on. The cloisters of the fourteenth and fifteenth centuries, with their lavatories, perforated piers between the windows, and the buildings attached, have many points of interest.

THE ELECTRIC LIGHT.—During the past week out door experiments have been made of the two different Electric Lights. That of Mr. Staite, was shewn on Tuesday, the 5th inst., in Trafalgar square, and was very successful, rendering all the surrounding objects as clearly distinguishable as at noon day. The Chevalier Le Molk's took place on Thursday, the 7th inst. on the gallery at the summit of the Duke of York's column, on which the apparatus was placed, and notwithstanding the very unfavorable state of weather at the time, the effect produced was certainly most striking. The light wherever it chanced to fall, made every part of the surrounding buildings perfectly visible. The most distant object on which it was thrown, was the County Fire Office, at the top of the Quadrant, which appeared as though it was illuminated. Many thousands of persons assembled to witness the experiment.

By an excavation made at Baden-Baden, the Baths of Caracalla have been discovered in a state of great preservation. They are under the market place, between the inn at the Rose and the church.

Perspective.

(Continued from page 60.)

VANISHING LINE.

Now, as the distant extremity of the road vanishes in a point where the sky seems to meet the land, we may properly call this remote extremity of the horizon the vanishing line in nature. But as the spectator means to represent this road in perspective on the glass, he must also have a perspective vanishing line, and this is obtained in the following manner:

Imagine a plane of infinite length, placed horizontally with one edge at the spectator's eye, and this edge parallel to the plane of the glass; in this position this horizontal plane will be five feet high. Imagine this plane to move in a horizontal direction, cutting the glass, and produced to the remote extremity of the road, where it will seem to coincide with the vanishing line in nature.

In the progress of this horizontal plane, it cut the glass at the height of five feet, and produced the required perspective vanishing line, which, being parallel to the horizon, we call the horizontal vanishing line on the glass or picture.

From this theory we may conclude that the perspective vanishing line in nature, and if produced or moved parallel to itself, they would both coincide at an infinite distance.

VANISHING POINT.

All things remaining as before, imagine a line drawn from the centre of the intersection of the glass with the road, and this line produced along the middle of the road to the vanishing line in nature, its extreme end will vanish in that point in which the remote extremity of the road vanished. Now this line, as well as each side of the road, is supposed to be perpendicular to the glass or picture, and all vanish in one point in the vanishing line in nature, which point is opposite the spectator's eye.

To find a corresponding perspective vanishing point on the glass or picture, imagine a line drawn from the eye of the spectator parallel to the line drawn along the middle of the road, and the former will vanish in the same vanishing point in nature as the latter: but the former line drawn from the eye, in its progress cut the glass or picture in a point, and this point is the perspective vanishing point on the picture for all lines perpendicular to the picture or glass.

A line drawn from the spectator's eye perpendicular to the plane of the glass or picture, is called the centre of the picture; but the line drawn from the spectator's eye parallel to the line drawn along the middle of the road, is perpendicular to the plane of the picture, and the point in which it cut the picture is the centre of the picture: hence the centre of the picture is the vanishing point for all lines perpendicular to the plane of the picture.

Having now the vanishing line of the road, and the vanishing point for the sides of the road, its perspective representation is easily found, thus:—From each extremity of the line or section made

by the glass and the road, draw a line to the centre of the picture, and these two lines form a triangle, the base of which is the section of the picture with the road; and the vertex in the centre of the picture and this triangle we call the perspective representation of the road. We have spoken of the horizontal vanishing line in nature as being at an infinite distance from the spectator. Now, if we suppose a plane perpendicular to the horizon to pass through the vanishing line in nature, and this plane to be infinitely extended, we may call this plane the plane of infinite distance; and in this let us suppose all original planes, however opposed to the picture, to vanish.

To exemplify this hypothesis, let us suppose the common roof of a house, as placed before the glass or picture, so that the ridge or top may be parallel to the plane of the picture. Here each side of the roof is inclined to the picture, and also to the horizon. Now, if we imagine the side of the roof next the picture to be produced upward toward the sky, it will cut the plane of infinite distance, and determine a vanishing line in nature.

And if we imagine a plane to pass from the eye of the spectator parallel to the same side of the roof, and produced, it will seem to coincide with the vanishing line in nature, and, in its progress, will cut the picture, and determine the perspective vanishing line for the near side of the roof.

It frequently happens that original planes are so opposed to the picture and the horizon, as to require vanishing lines intersecting other vanishing lines in various angles of inclination, all which tend to prove the invariable analogy between the plane of the picture, and the imaginary plane of infinite distance.

A transparent substance or body is that through which we can distinctly see objects on the opposite side: water, glass, &c. are transparent.

An opaque body is that through which we cannot see, as iron, wood in general, &c.

If, at the distance of 12 or 18 inches, we look through a pane of glass, at a window in a house opposite, and keeping the head steady, we make on the glass, with a little brush of dark colour, the four corners of the window, just as they appear to the eye; then join the points on the glass—this squarelike form will be the perspective representation of the opposite window.

In the above example, the eye being fixed, and lines imagined to be drawn from the four corners of the window to the eye, these imaginary lines, and the window opposite form a pyramid, the window being the base, and the vertex of the pyramid in the eye. The pane of glass through which we look is a plane cutting this imaginary pyramid, and the squarelike form on the glass represents its original, the window opposite.

OF THE ANGLE OF VISION.

The principal parts of the eye for our purpose are the pupil and the retina. Pupil, from the Latin *pupilla*, probably means a diminutive figure of a person, as the representation of a little human figure may often be seen in the pupil of the eye.—Retina, from the Latin, means a net, or any thing like network, because this part of the eye has the appearance of network. If we look at a point, a ray of light comes from that point, and passes

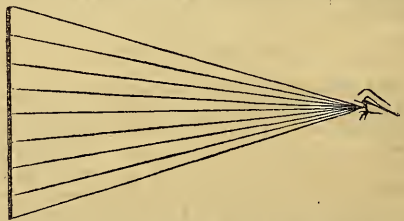
through the pupil of the eye, and is transmitted directly to the retina, and thence to the brain.

The retina is of a limited round magnitude, so that a ray may enter the pupil, but that ray may not fall on the retina; for it may pass above it, below it, or on one side, and in such cases there can be no perfect vision; hence it has been ascertained that one or many objects should be viewed under a certain angle.

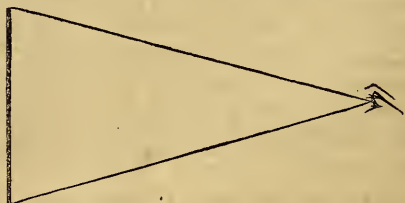
The progress of rays of light in straight lines is made manifest by admitting the light of the sun into a dark room through a small aperture or narrow slit; if there be dust or smoke in the room, the straightness of the rays of light will be made apparent. Also, if we look through a continuous tube considerably bent, we cannot see any object placed near the end of the tube; if we straighten the tube, we are then enabled to see the object which before was invisible. From these considerations we deduce the following proposition, namely:—Objects are seen by means of rays of light that proceed in straight lines, in every direction, from every point of the visible surfaces. Of these innumerable rays of light, some meet at the eye of each spectator, and there form the images of the objects.

ANALYSIS OF THE DIRECTION OF RAYS OF LIGHT PROCEEDING TO THE EYE.

We will now trace the directions of the rays of light, and ascertain their relative positions in order that having learned how the image of an object is conveyed to the eye, we may be enabled to reproduce that image by a drawing. It will be simpler to separate, as it were, the straight lines which form the outline, or determine its shape, and to consider the course and progress of the rays of light proceeding from a single straight line, which may be afterwards combined with others to reproduce the accompanying or similar forms. We will examine the course of the rays of light, as they would proceed from this straight line to the eye of any individual. Now, the rays of light conveying to the eye the image of a straight line, proceed from every



point of it, and may be said to be innumerable.—We can, however, simplify the illustration by omit-



ting all the threads except those which proceed from the ends of the line.

(To be continued.)

Stanfield Hall, Norfolk.

OUR first page this week presents a correct view of the above old English mansion, recently brought into painful notoriety by the horrible tragedy perpetrated within its walls.

The mansion, which early received the name of Stanfield Hall, is situated in the Hundred of Launditch, and at the Conquest it fell into the hands of the Earl of Warren. It is partly the remains of the house inhabited by the Flowerdews, in the reign of Elizabeth; and the Rev. George Preston, the owner, in 1820, preserved the peculiar character of the former period in his additions. The porch at the entrance exhibited (1820,) the arms of the family; the large windows, divided by mullions, and the clustered chimneys, with the spiral ornaments to the gables, give a correct representation of the architecture of that period. Our engraving represents an E. S. E. view of the building. The interior contains various specimens of architecture, from the plain groined to the florid style, the whole of which is executed in imitation of stone, and was the work of Mr. Wilkins, of Norwich. The house is surrounded by a moat, and stands in the midst of a cheerful and well sheltered lawn. The situation is considered the highest in the county of Norfolk.

SOCIETY OF ANTIQUARIES.—On Thursday Evening last, the Chevalier Bunsen and M. Guizot were admitted Honary Fellows, on the introduction of Sir George Staunton. The President (Viscount Mahon) addressed the illustrious foreigners, referring to the excellent labours of both in the field of antiquities, and especially to the Chevalier Bunsen's late learned work on *Egyptian History*. M. Guizot, returned thanks with great energy of manner, promising to attend the Meetings of the Society frequently, and the Chevalier Bunsen expressed how happy he should be at all times to contribute, to the progress and prosperity of the Society.

GALVANISED WIRE AND HEMP ROPES.—An experiment was lately tried in Woolwich Dockyard, to ascertain the comparative strength of wire and hempen ropes. A wire rope, 3 inches round, and a hemp rope of three strands, hawser laid, common make, 7 inches round, were spliced together, and placed in the testing machine, and on the hydraulic pressure being applied, the hemp rope broke in the middle on the strain reaching eleven tons and three quarters, the wire rope remaining apparently as strong as when the experiment commenced. A wire rope, three inches and a half round, was then spliced with an eight inch hemp shroud rope, and on the power being applied, the hemp rope broke in the middle, with a strain of 10 tons and a half, the wire continuing uninjured.

Hayne's Non-Combustible Wood.

DURING the past week experiments have been made in the presence of a number of agriculturists and other influential parties, to test the capabilities of the process by which wood is rendered incombustible or unflammable. Two model houses, one constructed of wood prepared according to the patent, and the other of unprepared wood, were tried. In the one of unprepared wood, four pounds weight of shavings were placed, and being set fire to, speedily communicated the flames to the house, which was partly consumed, when the flames were extinguished by some of the solution used by the patentees in the process. In the house of prepared wood, 12 lbs., of shavings were ignited, and blazed away furiously, but the house was only slightly charred, and never in flames. The cylinder for carrying on the process is very large, made of iron, like a steam boiler; the air is exhausted by the forcing into it of steam, which expels the air. It is then closed, and the steam condensing, a vacuum is created. The timber is conveyed into this cylinder, and being exhausted of air, and the cavities empty, the solution is applied, and becomes in a manner fossilized, or rendered metallic, without however, losing its elasticity. The most common and comparatively worthless woods, by this process are rendered impervious to damp or rot, resist fire, and will not be invaded by insects, worms, &c.

NEW STEAM CARRIAGE.—On Friday, the 8th inst., an Experimental trip took place on the Great Western Railway, with a new Patented Steam Carriage, constructed with a view to the more economical management of branch and other lines, where the passenger traffic is light. The Patentee is Mr. Adam's of Fairfield Works, who has contracted with the Bristol and Exeter Railway; for whom this machine has been constructed, to propel it with ten pounds of coke per mile. The Engine and Carriage are joined in one frame work, so that they form one machine. The total length is 39 feet, and the carriage, which has a first and second class compartment is constructed to carry 48 passengers. The following however will give a more accurate idea of the nature of the invention. The driving wheels are 4 feet 6 inches, made of solid wrought iron, the training wheels 3 feet 6 inches, of wood and running independently on their axles as well as their journals, the middle wheel having a lateral traverse of 6 inches. The boiler is tubular and vertical, 3 feet in diameter, and 6 feet high. The fire box 2 feet high, and 2 feet 6 inches in diameter. The cylinder is 8 inches diameter, with 12 inches stroke. The boiler is placed behind the driving axle; the tank, holding 220 gallons of water, in front of it, and the coke box, is attached to the front of the carriage, behind the driver. The first class carriage is in the form of a saloon, and accommodates 16 passengers, the second class, 32. The entire weight of the machine is about 10 tons, when occupied by 48 passengers, it will amount to 12½ tons. It ran from Slough to Paddington in thirty minutes.

The Chronotypist.

THE New Roman Catholic Church Liverpool, was opened last week, it has been upwards of 3 years in course of erection, and is the first in Liverpool in connection with the order of Jesuits. The building which is an exceedingly large one, will cost, when completed, upwards of £30,000.—The Marquis of Westminster, has granted the handsome sum, of £5,000 towards the erection of the new Church of St. Gabriel, Pimlico; in addition to which Mr. Cubitt, his Lordship's leese, has given up his interest in the land, valued, for building purposes at £2,000.—The Eastern Counties Company, have constructed a Railway upon the Southend Pier, which they have purchased, and which extends about a mile and a quarter into the Thames, for the conveyance of passengers to and from the Steam Boats.—The Lords Commissioners of the Admiralty have given permission to Mr. Charles Blunt, Civil Engineer, to effect a communication by laying down his submarine electric telegraph between Holyhead and Dublin. The telegraphic wires will be connected with the lines of Railway radiating from Dublin, and with the Chester and Holyhead Railway, and convenient positions at both the termini, have been chosen and marked out, where the wires will terminate.—The Seven district churches, now in progress of erection at Plymouth and Devonport, are expected to be completed, consecrated, and ready for use, within five years from the present time.—At the Parish meeting last week at Aylesbury, it was resolved from the dilapidated state of the parish Church to close it, and obtain a temporary place of worship.—A new and magnificent Church, dedicated to St. Peter, has just been completed at Cheltenham. It will be consecrated immediately after Christmas, by the Lord Bishop of Gloucester and Bristol.—There is a rumour very generally circulated that the annual grant of £10,000 for additions to the Library of the British Museum is about to be suspended for a while—if not entirely withdrawn. A conviction of the impossibility of continuing to lay out so large a sum annually in the increase of such a library as that which now rests within the walls of the Museum has probably had as much to do with this determination as the present state of the exchequer.—We are glad to find that the commissioners of Woods and Forests have at length decided finally on having the Serpentine River drained and cleaned.—Among the emigration schemes now before the public, that of the potters demands attention from

its novelty and interest. The potters, it seems, have had many quarrels with their employers regarding the question of wages; and in these the artizans, it is stated, have always been worsted. Recently a machine has been invented which will do the work of a great number of hands—and if the men all remain in the labour market, will reduce wages it is believed, still farther. On this, they have agreed to emigrate; and clubbing their means together they raised £5,000, out of which they have bought an estate at Wisconsin, United States,—where they have already located a considerable number of persons. The plan is said to be successful; and the society is now about to make known its principles, and invite the general public to avail themselves of its advantages. Each shareholder pays down, or in instalments, £1 1s. 6d.; when he becomes entitled to ballot for the allotments as they are cleared and prepared for occupation. The remainder of the price of the land—the smallest divisions of which are twenty acres—is to be paid at convenient intervals.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily decyphered by the recipient of thy communication.

"J. G." (*Newcastle*).—*We have made several enquiries respecting mottle painting, but cannot understand what spirit you allude to. You say that when you dash the SPIRIT on, it runs down when placed in a perpendicular position. It ought to be varnished in the usual manner, with the best Copal varnish and a soft brush, which will prevent the fossils being destroyed.*

"Brutus and Cassius."—*Since you appear so anxious to assume the toga, we would advise you to apply to Mr. Nathan, Berwick-street, Soho.*

"D. K."—*We do not communicate per post; an answer will appear in our next.*

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics Institutions, the fine arts, science, &c.

Cases for Vols. I, II, and III, are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or marbled, 6d. extra.

Part 20 is now ready, Price 10d.

* * Part I, is also re-printed, and will in future be charged at 10d. each.



AN ORIGINAL DESIGN FOR A FRIEZE, (Grecian) BY FRANCIS MULHOLLAND.

The Print Room of the British Museum.



T may be observed—and with unquestionable truth—that our artists are better acquainted with the assembled treasures of foreign collections than with those equally valuable in a general comparison, and not less accessible, which invite their attention at home. We hear never-ending rhapsodies of the inestimable bequests made to Art by Albert Dürer, Marc Antonio, Martin Schön, Cellini, and all the painters, etchers, *argentieri* and *niellatori* who have lived between the Cægat and the Mediterranean—between the thirteenth century and the present time. We hear incessant praise bestowed on the collections at Rome, Dresden, Florence, Nuremberg, &c.—but seldom any mention of the Print Room in Great Russell-street, the contents of which may be fairly estimated at the value of a hundred thousand pounds. Our painters bear the character on the Continent of being the most persevering sketchers on record; yet after, we may say, a long life of sketching,

how many of them are there who “die and make no sign!” In what nook soever of Europe there may exist an association with a great name, be it authentic or apocryphal, it is coloured a green spot in the charts of our voyaging Anacharses, and a shrine is established to the hallowed memory; all this before the STORES AT HOME are even looked into.

In the folios of the Print Room the works of the greatest artists who have ever lived may be studied, before they are contemplated at large in the temples of Italy, or in the cabinets of more northern Europe; and with how much advantage does the student, or one who may have passed the chrysalis state of studentship, survey the vast and sublime compositions at Rome, Parma, or wheresoever any like wonders of Art may exist—for everything that has been published has a place here. It is at present only our purpose to call the attention of our readers to the Print Room: we can here do no more than allude to its contents; in a future paper we purpose to devote some space to a particular examination of its shelves.

This room is little known to the public, and less to artists, by few of whom it is ever visited, notwithstanding the extent of the valuable and curious collection described in the catalogue. The form of obtaining admission is similar to that employed in soliciting permission to visit the Reading-room: a written application is addressed to Sir Henry Ellis, the principal librarian, supported by the recommendation of some person of known respectability.

Every facility is afforded to visitors and students for copying prints and engravings with the single reservation, that they are not allowed to execute fac-similes—that is, some difference of dimension is insisted on—with the view of preventing the substitution of a copy for an original, either by accident or design. General visitors are at all times courteously received, and their wishes consulted in every respect, in as far as they may be consistent with the regulations of the establishment.

The works are classed, as first—original drawings by masters of the different schools, principally arranged in the Sloane, Fawcener, Cracherode, and Knight collections; drawings after Italian pictures; monuments of the invention of engraving, and prints after the

works of eminent painters and designers of all schools, including also the works of eminent engravers, commencing with the Florentine school; engravings after L. da Vinci, Fra Bartolommeo, Andrea del Sarto, Michel Angiolo, also after those of members of the other schools of Italy, as Peruzzi, Beccafumi, Raffaele, Guido, Romani, &c.; foreign and British topography; costumes, processions, ceremonies, animals, antiquities, Indian and Chinese drawings, &c.

The admirable order and classification of the contents of the Print Room are beyond all praise. The visitor is not only met with courteous attention, but his wishes are at once gratified; this, indeed, is not less the case in the reading department, a fact which we may contrast with the arrangement of the Bibliothèque Royale at Paris, where, for certain MSS., although known to be in the library, we may ask in vain: they are not classed, and cannot be found; many are known to have been stolen; and, in short, it would require a labour of years to place this establishment on the footing of order which prevails in the Library of the British Museum.

The visitors' book in the Print Room is a curious record of the class of persons to whom these valuable drawings and engravings may be supposed to be interesting. We cannot help expressing astonishment at the list of names, which we may examine, page after page, without discovering one of those associated with the patronage of Art—we run even through a course of years uncheered by the sight of a single star of this magnitude—even the names of known artists are but a thin sprinkling: these average, according to the book, about ten per month! We may, indeed, visit this *sanctum*, day after day, and often find no more than half-a-dozen persons, one half copying, and the remainder turning over the leaves of the volumes placed before them; hence it is clear that the resources of the Print Room, and the facilities of access to them, are but little known, and, even where known, insufficiently appreciated. It is our object, therefore, merely to call attention to it at present; in a future notice we propose to describe its contents more in detail. In the meantime we trust that it will be acceptable to our readers to

point out the means of access to a collection of works of Art, from the study of which incalculable advantage is derivable.

Royal Institution of Architects.

At a meeting held on the 4th inst., Mr. Billing gave a lecture on the Infinity of Geometric Design, as regards Tracery. Mr. Billings commenced his observations with some remarks on the present practice and position of architecture. He objected to the unwise use of gaudy colourings, and condemned the mode in which the Temple Church had been disfigured. In its original state it was the artificial infinite realised; now the whole was contracted and brought down on the head of the beholder. There were other buildings to which the remark would apply. Look to the House of— but no; he was one of those who would rather run a mile than fight a minute, and he would not provoke a controversy. Only a short time ago the idea of geometric principles in Gothic architecture was laughed at; but now the fact was well understood and generally admitted. Why should modern architects be content with simply copying?—why stand still and exhibit no invention? The use of glass and iron alone ought to have led to an entirely new style. The fact was, they succumbed to lay and clerical masters, who positively would not let them design. Why was this permitted? Architects too readily gave way to amateur pretenders. When he first introduced the system of squares for tracery, he had been laughed at, but these squares, like the British squares at Waterloo, had never been broken. Pursuing the same train of thought, he had been striving to discover the means by which the Gothic architects achieved such infinite variety of design, and he had succeeded, he believed, to a great extent. On one fixed design, namely, a circle divided into eight compartments, with four smaller circles within it, placed around the circumference, and each one-third the size of the enclosing circle, he had constructed 100 different panels of tracery, not one of which could be called vulgar Gothic. They were all purely geometric; no rule of thumb in them, and any one could draw them, when he knew

how. Geometric forms, he thought, the most graceful of all forms. An entirely new field was opening to the designer, and would doubtless would be well worked.

The lecturer then explained the construction of a large number of these panels, which displayed extraordinary variety and beauty; the variety was caused simply by varying the position of the connecting curves. He said he was most anxious that others should get on the same scent, with a view to other branches of design. These designs, forming a book, would be published at a low price, and he looked for general support.

Observations on the Polychromatic Decoration of the Middle Ages.

But a few years have elapsed since the theories by which Polychromy was first announced to the world, were regarded by the great majority of persons interested in the arts with doubt or apprehension. It was anything but an agreeable association to the admirers of classic genius to be told that the exquisite finish of Grecian chiselling was concealed beneath a coat of "villainous ochre," or that the sculptor and architect selected the most costly materials only to daub them with colour, or cover them with stucco; and they resolutely refused to believe that Grecian taste could approve so much coarseness and exaggeration, or that Ictinus and Callimachus, to say nothing of Phidias or Praxiteles, practised those atrocities.

It was difficult for them to suppose that the same nation which displayed such exquisite skill in architecture and sculpture was guilty of a "barbarous taste in painting; nor could they reconcile themselves to a custom so foreign to all their preconceived ideas of art. Yet within these few years, so great a change has been wrought in public opinion, that suggestions bold in that day, seem timid in ours. The advocates of Polychromy have never been led astray by an extravagant imagination. Inferences were drawn only from the facts that every succeeding day brought to light; and research, prosecuted simultaneously in different countries, and among the monuments of widely varying ages and people, has led to results unanticipated by the first propounders of the new doc-

trine, and what is of greater object to a practical eye, as substantial as they are new.

The architect or antiquary is no longer content with ascertaining the date of a building, and describing it by the combination of its parts, the form of its mouldings, and the character of its plastic decorations; but in the unnoticed tints that time and change yet permit to remain upon its walls and ornaments, he reads a language long silent and unknown, but now eloquent with beautiful meaning and glorious conceptions.

Before the discovery of this practice there was much in "classic" architecture that seemed ineffective or incomprehensible, and much that when copied in our public edifices, only served to disgust the public, and blind them to the merits of the style; yet, although we were familiar not only with the existence, but also acknowledged the beauties of Polychromy as applied to the tombs and temples of India and Egypt; although some such usages seemed connected with the sacred architecture of all nations; and although with every style that has flourished among any people, Polychromy was born and grew together with it, forming, as it were, the very soul of the material fabric, yet with strange perversity we refused to reason from the analogy, or apply to those forms of architecture that were received among ourselves the same conclusions that were obvious as regards the rest.

It is only now that we can present to the mind all the glories of Grecian art, or realize the picture of an ancient temple, perfect in the simplicity of its conception, grand in the combination of its parts, bold in its continuous lines and unbroken shadows, and harmonious in its brilliant and contrasting colours.

We acknowledge the very highest grade of art in the Chrysolophantine statues, that ranked among the ancients themselves as the finest productions of the sculptor; and a consummate judgment in that application of colour, that at once displayed in their sculpture a forcible representation of the actual, and impressed them the more powerfully with the characteristics of the ideal.

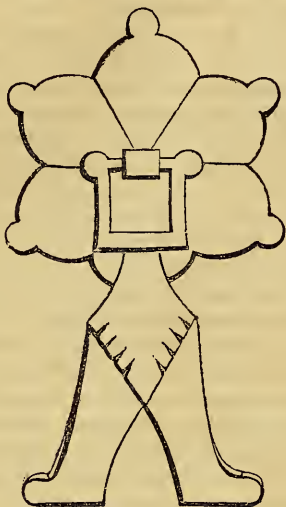
(To be continued.)

Glass Signboards—One of the most beautiful specimens of glass labelling in Liverpool, was placed last week, over the door of Mr. Smith, a Chemist, in Scotland Road, Liverpool. The present operation consists in applying gold or silver leaf to the back part of plate or sheet glass, with a glutinous substance, which does not affect the brilliancy of the gold; and after the gold is burnished by the application of heat, the writing or etching is then secured by a varnish, and the surplus gold removed; the ground is then laid, as on wood, or any other surface, and the work is finished.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

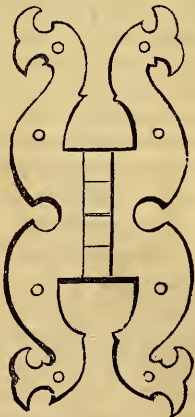
(Continued from page 76.)

HANDLE. Used for the purpose of opening



drawers, doors, &c. The accompanying engraving represents one from an old cabinet.

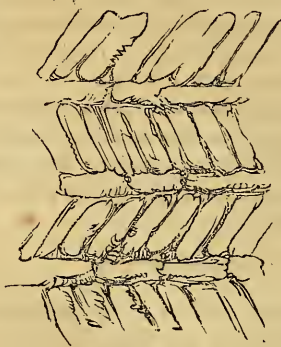
HINGE. The iron or brass ligaments affixed to doors, shutters, and other parts of buildings, revolving on an axis. The most ancient hinges of



Egypt were of wood, rolling in a stone box. The hinges of the Greeks and Romans were pins of wood or metal fixed in the top and bottom of the door, or in the threshold, so that the door might

open either inwardly or outwardly. There are various descriptions of hinges adapted to suit all purposes to which they are applied.

HERRING-BONE ASHLAR. This is one of the numerous kinds of ashlar used for building purposes.



It is chiefly used in the country; also the herring-tooled ashlar. (See Ashlar, page 89, Vol. 1.)

HEART-BOND. (In Masonry.) Where two stones, forming the breadth of the wall, have one stone of the same breadth placed over them.

HEARTH. Among the Anglo-Saxons it was a heap of ashes or earth, heated by fire, used for baking cakes, and other purposes. The Norman hearth was in the middle of the house, but when chimneys were introduced in the fourteenth or fifteenth centuries, it was under the fire-place, for which the chimney was constructed.

HANGING-STILE. The portion of the door to which the hinges are fixed.

HAND-SPIKE. A lever for the purpose of carrying a heavy beam, or other burden requiring the strength of two or more men. When pieces of timber are used for this purpose, they are called pudlals.

HASSACK. The provincial name for Kentish ragstone.

HAWKE. The board with a handle on its under side, used by the plasterer to hold his plaster.

HERMES. This is one of the names of Mercury, a personage very celebrated amongst the mythological deities of the ancients. Those peculiar little figures we now and then encounter in sculpture, and which resemble a stone placed upright, increasing in width towards the top, and terminating in a head or bust, are termed Hermes.

(To be continued)



ORNAMENT ON PILASTER FROM THE DUCAL PALACE, MANTUA.

Essay on the Fine Arts.

ARCHITECTURE.

[EXTRACTS,—BY JOHN GALT, ESQ.]

THE Fine Arts are the delight and study of all polished nations. They disarm the spirit of man of its natural ferocity, and they elevate the mind while they soften the heart. Ignorance is but another name for barbarity, and the want of knowledge sharpens the appetite of violence.

It was, indeed, a paradox of Rousseau, to maintain that mankind were happier when they resembled wild beasts, than with all the enjoyment of civilized life; and that the cultivation of their intellectual faculties has tended to degrade their virtues. There can be no virtue but what is founded on a comprehensive estimate of the effects of human actions, and an animal under the guidance of instinct cannot form any such estimate.

The chief object of science is the discovery of truth, and of Art the developement of beauty. In the former we trust to reason, and in the latter, to imagination. But judgment and fancy are of mutual assistance in both studies; science clears the obstructions which impede the progress of Art, and art adorns and smooths the path of science. No discovery is made without some previous conjectural effort of the mind,—some exertion of the imagination; nor is beauty unfolded where there has not been some pre-consideration of probable effects,—some exertion of the reasoning faculties.

As the human mind is pleased with the contemplation of what is true, and delighted with the appearance of what is beautiful, it may be assumed that the cultivation of science, and the improvement of Art, originate in our love of science.

We commonly divide the object of the two pursuits into distinct classes, and we think when we call scientific studies useful, and the productions of Art only ornamental, that there is something intrinsically different in their respective natures. But if we examine our feelings, and judge of science by its influence on ourselves, we shall be obliged to confess that although less obviously, it is, in fact, as much recommended to us by the pleasure which it ministers, as those arts that we regard—as entirely devoted to the excitement of agreeable emotions.

Of all the Arts, the art of building is that which prominently attracts attention. Invented in the country, and brought to perfection in the town, it owes its origin, like every other human contrivance, to necessity. Man, naked at his birth, thrown

upon the earth, exposed to the cold, the wet and the heat, and to the concussion of other bodies, was constrained to seek artificial means of protection. The rain obliged him to fly for shelter to the trees and caverns, the only habitations with which Nature has provided her favorite; for in the improvable faculties bestowed on his mind, she has furnished him with the means of constructing abodes suitable to himself and the growth of his wants as they increase by the improvements of his condition. The same instinct which led him to take refuge from the shower, taught him to prefer those trees of which the branches were most thickly interwoven, and when they were insufficient, to draw the boughs closer over his head. The process of reasoning from this experience to the considerations which led him to form permanent bowers, requires no illustration.

Every hypothesis framed to account for the various styles of architecture, ascribes them to the form of the structures first raised by the inhabitants of the countries in which they respectively originated. The aisles of the Gothic cathedrals, and the rich foliage of carving with which its vaults are embowered, cannot be seen without immediately suggesting the idea of a grove; and in the structure of the Grecian temple we may trace the characteristics of an edifice originally formed of trees, hewed and pruned for the convenience of transportation; for Greece was not a woody country, like the northern regions which gave birth to Gothic architecture. In Egypt, where trees are still more rare than in Greece, where, indeed, there is nothing that can be properly compared to our idea of a tree, we find the character of the architecture partaking of the features of what must have been the early habitations of a people necessitated by their inhospitable climate to make their permanent retreats, and the sanctuaries of their gods, in the hollows and caverns of the earth.

The architecture which would arise from such a people, we would expect to be dark, massive, and stupendous; and accordingly we find in Egypt and the countries which resemble it in local circumstances, temples and labyrinths that rival in extent and intricacy the grottoes of nature, and pyramids that emulate the everlasting hills in magnitude and durability. In the more oriental nations, we find the same general principle, and in their permanent structures a similar resemblance to the features of what were probably the primeval habitations of the natives. In the light and pavilion-like appearance of the Chinese buildings we may see the hereditary indications of the people that formerly resided in tents, and such temporary abodes as were likely to be constructed by the in-

habitants of a country abounding in extensive plains, and of a climate unfavourable to the growth of trees, and yet not so hot as to oblige the natives to seek shelter in natural or artificial excavations.

The first savage, who, in the construction of his hut united a degree of symmetry with solidity, must be regarded as the inventor of architecture. Multiplying improvements upon the first result of a combined plan of reason and imagination, after a series of accidents and errors, a code of rules came to be established, by which the art of building has since continued to be regulated. The study of these rules furnishes a knowledge of the science of architecture.

Although necessity was the mother of architecture, climate dictated the choice of the materials employed in the construction of the buildings, and chance directed the fancy of individuals in the selection of ornaments. History in recording that Callimachus of Corinth was led to think of forming the Corinthian capital by observing the beautiful effect produced by a vase accidentally placed in the midst of a bunch of celery, has furnished us with a fact,—although a natural law governs man in choosing styles of architecture, and climate prescribes to him the materials, that the peculiarities of individual genius, and not the effect of any general principle of taste, develops the beauties of ornament.

Taste is formed by the contemplation of works of art, and the perfection of art consists in exhibiting the greatest degree of beauty, with the utmost possible resemblance to the natural models. Taste, therefore, does not instruct us to prefer for any general reason any one particular style of architecture to another, but only to observe and disapprove of deviations from what is natural.

Every pleasure, after enjoyment, occasions a new want. The shelter and protection obtained from architecture, incited man to seek enjoyment in the improvement of the art of building. When his corporeal necessities are supplied, the restlessness of his mind leads him to seek additional pleasures by new modifications of the means which supplied his corporeal necessities.

In the Greek colonies of Asia Minor, architecture is supposed to have first attained excellence. At least, the best authors on the history of the arts, agree in stating that the Doric and Ionic order were first perfectly constructed there, and it may be questioned if in the lapse of more than twenty centuries any improvement has been added to the august simplicity of the Doric, or to the unaffected elegance of the Ionic. The Corinthian of later invention, though more elaborately ornamented than the other two, is by many of approved taste,

considered inferior to them as an order. It retains less of the resemblance of the original natural model—it has more about it that may be regarded as superfluous, and the foliage of the capital is obviously a redundancy placed there for no other purpose than for the display of skill.

The Corinthian capitals of the porticoes of Saint Paul's, in London, are esteemed very fine specimens of the order; but their appearance is far less impressive than that of the Doric columns which still remain among the ruins of the Temple of Minerva, at Athens. More than two thousand years have elapsed, and the remnants of Grecian architecture still afford models, which, never having been equalled, seem incapable of being further improved. It may, indeed, be said that the genius of ancient Greece has furnished eternal models of art, as well as of literature to Europe.

About the time that the Doric was raised to perfection in Ionia, the Etruscans invented the Tuscan, a similar order, but of a grosser style; and the Romans, after the simple and dignified manners of their republic had passed away, demonstrated by their invention of the composite, and their preference for that gaudy order, how much the corruption of their morals had infected their taste.

The Doric, Ionic, Corinthian, Tuscan and Composite, constitute what are properly called the classes of architecture. They are arranged with distinct, appropriate, and peculiar ornaments, and their proportions are regulated by rules which cannot be violated without impairing their beauty. This is not the case with any other kind of architecture, and hence all other modifications of the art of building are called styles, in contradistinction to orders.

It is true that in England the Society of Antiquaries, and several private amateurs, have of late endeavoured to classify and illustrate the different styles of architecture in the ancient baronial and ecclesiastical edifices of Great Britain; and it has been ascertained that the Saxon, Norman, and Gothic, or as the latter is properly called, the English order, have characteristics as distinct as those of the Doric, Ionic, and Corinthian, and codes of rules peculiar to each.

The human mind has an innate disposition to admire order, and seek pleasure by the classification of objects. Hence, architecture is considered as consisting of three distinct species,—civil, military, and naval. A fourth may be added—ecclesiastical, for it is impossible to visit any part of Europe without being convinced that the buildings consecrated to religious rites could not be applied to any other use without radical alterations.

(To be continued.)

ANCIENT FONT.—The Font in St. James's Church, Taunton, which has been for some time more than half hidden in a recess of the wall of the S. W. corner of the Church, has just been removed, and its beauties again made visible. It is of an Octagon form, each compartment has canopied niches filled with statuary. Three of the compartments are so mutilated as not to be decyphered, but these are to be carefully restored, after the pattern of the other five, which are in very fair preservation. The massive pedestal that supports the font is also octagonal, and is decorated with boldly sculptured quarterfoils, and in the centre of each is a boss. The rim of the basin (above the figures) is ornamented with a row of quarterfoils. The base or steps no longer remain, but new ones will be added. The font is evidently of the same age as the church, which was built in the thirteenth century. Two of the figures on the font correspond with the remaining two in the niches of the tower, which are supposed to be St. Peter, and St. Paul. A very accurate drawing of the font and its ornaments has been made, by Mr. A. A. Clarke, of Taunton.

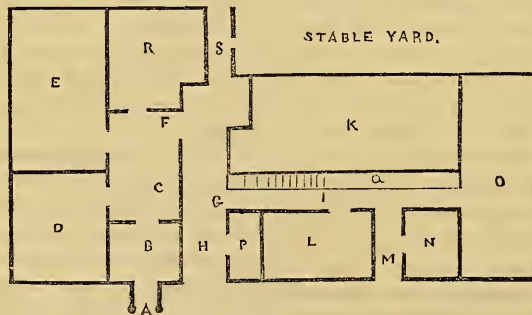
The Norman Tower, Bury St. Edmund's, Suffolk.—This fine structure, on the restoration of which so much labor has been bestowed; was last week, simultaneously opened to the public as a thoroughfare, and to its use as a Bell Tower to St. James's Church. Great admiration was expressed at the beauty of the Tower, and at the tone of the Bells, hung by Mr. Hurry, of Norwich. The Tower is Eighty feet high, of a quadrangular figure, and is deemed one of the noblest specimens

in the kingdom. The Church of St. James, is an interesting Gothic structure, the roof of the nave of which is so much admired for its lightness and elegance. It was built in 1500, on the site of the original structure, erected in the year 1200.

THE LIVERPOOL ARCHITECTURAL AND ARCHAEOLOGICAL SOCIETY.—On Wednesday evening last week, a numerous meeting of the recently formed but properous Liverpool Architectural and Archæological Society was held at the Royal Institution, in Colquitt Street, in that town, the Rev. David James, F.S.A. of Kirkdale, in the chair. A letter was read from the respected antiquary, John Britton, expressive of his good wishes, and presenting to the society several works, including a copy of his recent publication, "The authorship of the Letters of Junius Elucidated." A cordial vote of thanks was passed to Mr. Britton, and it was unanimously resolved that to mark their sense of the value of Mr. Britton's long devotion to architectural antiquarian pursuits, the treasurer be instructed forthwith to send a contribution in the name of the Britton testimonial. After the transaction of miscellaneous business, Mr. J. A. Picton read an interesting historical compilation, entitled "Ancient Liverpool in its Buildings and Architecture."

The *Scotsman* states that the scheme of erecting a memorial over the graves of the slain at Culloden, which was proposed in the year 1846, has been revived—and that a subscription has been commenced for the purpose of carrying it into execution.

GROUND PLAN OF STANFIELD HALL.—(See No. 84.)



- A. Entrance Porch.—B. Entrance Hall.—C. Staircase Hall.—D. Dining Room.—E. Drawing Room.—F. Small Inner Passage.—G. Corner of Passage.—H. Footman's Pantry Door.—I. Passage leading to Servants' Offices.—K. Servants' Offices.—L. Small Sitting Room.—M. Servants' Entrance.—N. Store Room.—O. Servants' Hall.—P. Pantry. Q. Servants' Staircase.—R. Study.—S. Passage.

PLAN OF PISCINA,—(page 74.)



Observations on Architecture and Building.

COMPILED FROM THE CELEBRATED WORK OF
LEON BAPTISTA ALBERTA.

(Concluded from page 64.)

THE COVERING.

As far as usefulness is concerned, exceeds every other part of the building. It not only secures the health of the inhabitants, by defending in the night from rain, but it also preserves the whole of the edifice. Take away the covering; the materials rot, the wall moulders and splits,—in short, the whole structure falls to ruin. The very foundations themselves are secured by the protection of the covering. It is certain that the covering is the defensive arm of the building against storms and tempests. Of coverings, some are open, others not, the open are those which are not for walking upon, but only for receiving the rain. Those that are open to the air are the roofs (floors) that are between the covering and foundations—so that one house seems to stand upon another. By these means, the same which is the covering to the apartments below is the area to those above. Of these coverings those above our heads we will call roofs, or ceilings, and those which we tread upon with our feet, the area. Whether the uppermost covering, which lies open to the air, is to be reckoned as an area or pavement we shall not stop to consider; but whether plain superficies or not, it ought to be even with respect to the area which it covers below, but should always incline on one side to throw off the rain. Whatever form of roof we determine on, it is absolutely necessary that all coverings should be so constructed as to throw off all water, defending the whole edifice upon which it is placed as a covering; for rain is always prepared to do mischief, and wherever there is the least crack it never fails to get in and do some damage or other. By its subtlety it penetrates and makes its way—by its humidity, rots and destroys,—by its continuance loosens and unknits all the nerves of the building, and in the end, ruins and lays waste the whole structure to the very foundation.

For this reason prudent men always take care that the rain should have a free slope to run off, and that the water should never be stopped in any part; they have therefore advised that in situations subject to snow, the coverings should have a very steep slope, rising to an acute angle, that the snow might never accumulate, but fall off easily. But in warmer climates, the coverings may be laid less obliquely. Lastly, if possible, the whole structure should be laid with one equal covering, in a manner all of one piece, and with such a projection that the water falling from the gutters may not wet and soak into the walls; and all coverings should be so disposed, where there are more than one, that one may not spout upon another.

(To be continued.)

Perspective.

(Continued from page 78.)

For if the ends or extreme points of a straight line be fixed in position; if their distance asunder as well as relative position and elevation be known, the line itself, that is, its length and direction, are known. To find, therefore, the way in which the image of this straight line is formed at the eye, it will be sufficient to consider the rays of light that proceed from its extremities to the eye.

OF THE VISUAL ANGLE.

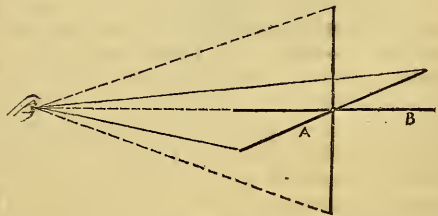
The angle formed by two rays of light meeting at the eye, is called the angle of sight, or visual angle. All other things being the same, the size of the visual angle (represented by the meeting of the lines in our illustration,) varies nearly according to the size of the object, or the length of the line from which the rays proceed, increasing or diminishing according as the object is larger or smaller. In this example, if we shorten the line half, we diminish the visual angle one half.

The length, or apparent length of a line is estimated by the actual size of the visual angle which it forms at the eye.

OF FORESHORTENING.

Independently of the length of a line, its direction with reference to the position of the eye, contributes to modify the size of the visual angle, and consequently the apparent length of the line.

If the straight line is held square opposite the eye, that is, with the eye equally distant from its extremities, the visual angle which it forms at the eye is greater than when it is placed sideways or obliquely towards the eye, that is, with the eye unequally distant from the extremities of the line. And the more the line, A, is inclined, the smaller does the visual angle become, until at last the line



may be so placed, with the eye in the direction of the line produced or continued, that the two rays of light proceeding from the extremities of the line to the eye would meet, and the visual angle become nothing, as at B. The length of a line is estimated by the size of the visual angle, and the line would, when the two rays are brought to coincide, necessarily appear as a point, although its actual—its real length would remain unaltered.

(To be continued.)

Mr. Wornum's Lectures on Ornamental Art.

ON Friday evening, at the Government School of Design, Somerset-house, Mr. R. N. Wornum delivered a lecture in continuation of a previous one, on the Doric Age of Greek Art, Terra Cotta Vases, &c. The lecturer began by alluding to the celebrity which Samos acquired from its pillars and its ornamental designs. After a few remarks on the decorative art of that age, and in reference to the painted friezes found in the tombs of Etruria, the lecturer proceeded to describe very minutely the various forms and styles of ornamental colouring among the Greeks, their pictorial methods of decoration, and their three modes of encaustic painting. The style of their designs, or the forms in which they appear, were then treated of, and led to a description of the Terra Cotta Vases, and their decorations, which were illustrated by several well executed diagrams, to which the lecturer frequently referred.

The Chronotypist.

THE annual distribution of premiums took place on Saturday, the 9th inst., the eightieth anniversary of the foundation of the Royal Academy, at a general assembly of the Academicians in Trafalgar Square.—The Earl of Amherst has resigned the office of Vice President of the National Society of Education.—The Admiralty have at length determined to complete the Steam Guard Frigates, to be propelled by the screw.—In the circular issued by the directors of the British Institution, to Artists intending to become exhibitors at the forthcoming exhibition, the regulation, made three or four years since, which rejected any picture that had been before exhibited, has been modified. The fifth regulation of the circular now stands thus;—"No picture or other work of art will be received which has already been exhibited, unless by special order."—It has been finally arranged that the magnificent library at Stowe, shall be sold during the ensuing month, by Messrs. Sotheby, of Wellington Street, Strand.—A new Telegraph Company has been established in Scotland, called "The Scottish Electric Telegraph Company," for supplying the chief towns and cities of the north.—A Government School of Design was formally opened at Paisley on the 4th inst. Provost Murray

read a discourse on General Art, and Mr. Stewart, the Head Master of the Institution, delivered an explanatory Lecture on its particular objects.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily decyphered by the recipient of thy communication.

"D. K."—*The Third Volume can be obtained through any Bookseller.*

"Edward."—*Next week.*

"A. Z."—*The grained or ring-like appearance in your barrels is produced in the manufacture. If you were to purchase Nos. 30, 32, 35, 39, &c. of the Sportsman's Magazine, you would find the whole process of manufacturing gun-barrels, locks, &c.*

QUERIES.

How to produce coloured letters in plain and ground glass as used for gas-lamps, &c.

The method of embossing glass for ornamental windows.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics Institutions, the fine arts, science, &c.

Cases for Vols. I. II. and III. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or marbled, 6d. extra.

** * * Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

Part 20 is now ready, Price 10d.

** * * Part I, is also re-printed, and will in future be charged at 10d. each.*

Fig. 1.



Fig. 2.

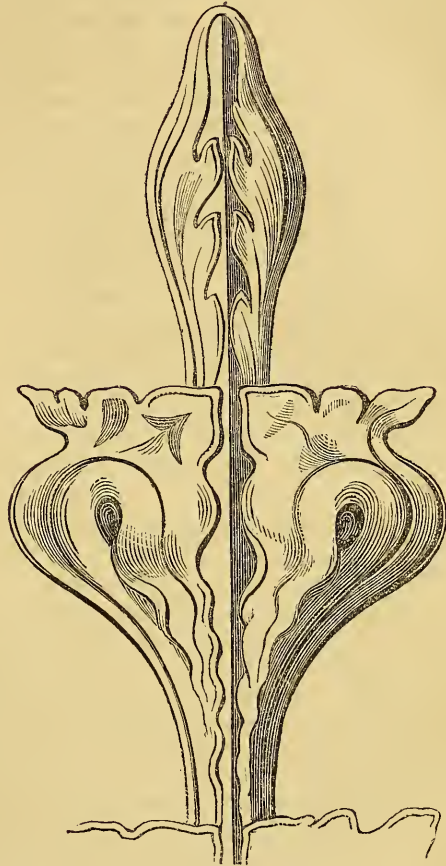
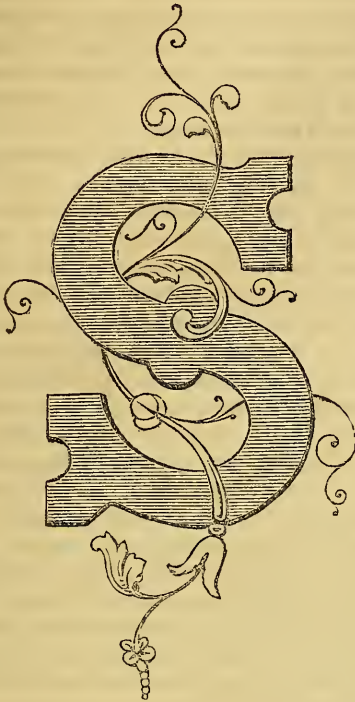


FIG. 1.—GOTHIC PINNACLE ON SCREEN, FROM THE CHURCH OF ST. JOHN THE BAPTIST, BISHOPSTONE, WILTSHIRE.

FIG. 2.—DECORATED GOTHIC FINIAL, LAVENHAM CHURCH, SUSSEX.

The Fine Arts in Australia.



O much as I had been delighted, on my arrival in Port Jackson, with the varied beauty of the harbour, and the situation and unexpected extent of the city of Sydney, I must confess my surprise was increased, when observing how considerable a taste for the elegancies of life was manifested in the fittings and furniture of the better class of residences; the walls of many of which were hung with paintings, varying in merit, but, on the whole, just such as one would be likely to meet with in similar establishments in England. Of course this, in many instances, was attributable to the circumstance of persons emigrating to the colony having brought their "household gods" with them.

In the houses of a lower class, the love of ornament was equally preceptible; but here, as indeed might be expected, the taste was capable of considerable improvement. This class of persons would have to depend on the supply afforded by the colonial market, the importation

to which consisted principally of vulgarly-coloured scriptural prints, sporting subjects, unwieldy oxen, &c.

I remember being told, at the time of my arrival, that the most popular prints which had been received for some time past, had been those well-known engravings after Parker,—“Looking Out,” and “Looking In”. These, with their abundance of colour and gold, had proved very attractive, and occasionally had been sold for *fifteen guineas* the pair. On inquiring why a better class of engravings was not ordered from England, I was told that the tastes of the people must be consulted.

Now considering of what the population of New South Wales in a great measure consisted, I could not come to this conclusion; on the contrary, I was of opinion that the introduction of a better class of prints would, after a while, not only answer the ends of trade as well as those they had been in the habit of circulating, but that they would be the means of improving the taste of the people, and thus be doing a great benefit to the community at large.

For the purpose of more generally expressing my views on this and other matters connected with Art, I agreed to the request of the Committee of the Mechanics' Institution, to give some lectures on the subject. This I did, in two series, consisting of six lectures in each; and I had the gratification of finding that by treating the subject in a popular manner, and illustrating it with drawings, as well as practically, the interest of my audience increased to that extent, that, although the theatre of the institution afforded accommodation for nearly five hundred persons, numbers were frequently unable to gain admittance. This state of feeling was favourable to my wishes, and I thought the time had arrived when an exhibition of pictures would be supported, and would be likely to advance the object I had in view. For this purpose I called together those who were practising any branch of the Art as their profession, and proposed that we should select and borrow pictures from persons residing in the colony, which, together with the productions of artists living in Sydney, would form a sufficient number of works for an exhibition, and be the means of doing all parties a service.

My scheme was honoured with the approval of His Excellency the Governor, the late Sir George Gipps, and arrangements were made for carrying it into effect; but unfortunately the result of previous mercantile imprudence and over-speculation was then beginning to be felt in the colony, and a state of universal distress ensued, which continued during the following three or four years.

Of course these were no times in which the Arts could be expected to flourish, and I was obliged to abandon my project. In the year 1844, I left Sydney for the neighbouring colony of Van Dieman's Land. At Hobart Town I again proceeded with my plan of giving lectures on Art, and taking means for getting up Exhibitions of Paintings. I found here, as in New South Wales, considerable interest in the subject was awakened, and I was most fortunate in meeting with the hearty co-operation of the Bishop of Tasmania, the Colonial Secretary, the Treasurer, the Architect, &c., and the result was, that in January, 1845, the first exhibition of paintings in the Australian colonies was opened in the legislative council chamber, granted for that purpose by his Excellency, the Lieut.-Governor. It was well attended, and afforded great gratification to every one. Since that time an Exhibition-room has been built in Hobart Town by Mr. R. V. Hood, in connexion with his picture-frame manufactory. In this room we had a second exhibition in 1846, and a third exhibition took place in Launceston, the north side of the island, in the beginning of the present year.

I have been gratified in finding that, (altho' during my residence in New South Wales the circumstances of the colony compelled me to give up my idea of establishing exhibitions of paintings there,) the old feeling has been revived, and that during the past year a most excellent collection of pictures was brought together in Sydney. Subscribers to the amount of six hundred were found who took season tickets at a guinea each, which has left funds in the hands of the committee to proceed with during the next year.

And now as to the effect of these exhibitions and other exertions, on the community. Any one acquainted with the colonies now, and who knew what they were seven or eight years since, cannot fail to have perceived, that altho'

a great number of trashy prints are still sent out from England, and meet with purchasers, and for years to come no doubt will do so; yet that engravings from Wilkie, Landseer, and Turner, are much more frequently to be seen than they were, and that the lithographic works of Haghe, Frederick Tayler, Harding, Nash, &c., are taking their places on the drawing-room tables of the colonists.

Perhaps another proof of the diffusion of taste for the Fine Arts, might be found in comparing both the quantity and quality of drawing materials now in demand, with those of former years. Then, the shops had their scanty supplies from inferior manufacturers; and articles which would not be used in England, were sent out there, because they could be supplied at a cheaper rate, and thus enable the colonial vendors to increase their customary exorbitant profits. At the present time, scarcely any but the best materials are saleable, and I know of orders being sent from Hobart Town to one house in the artists' colour trade, in the course of twelve months, to the amount of about two hundred pounds. These circumstances, as well as many others that might be named, will, I think, at once show that a feeling for Art is rapidly increasing in the Australian colonies; and when we consider their importance to Great Britain, and the character of the people by whom this distant land was first colonised, and who still form a large portion of its population, the fact of its being so must be a matter of high gratification to all who would raise the tone of its society, and who cannot but feel how powerfully influential a taste for the Fine Arts must be in effecting that most desirable object.

J. S. PROUT.

Essay on the Fine Arts.

ARCHITECTURE.

[EXTRACTS,—BY JOHN GALT, ESQ.]

(Continued from page 87.)

THE cathedral with its vast aisles, its solemn vaults and adjoining cloisters, is as obviously constructed for an especial purpose as the fortress, the ship, or the mansion.

Philonos of Byzantium about three hundred years before the Christian era, composed a treatise on the engines of war and military architecture. He is, therefore, justly regarded as the father of engineers, and the principles which he is supposed to have elucidated continued to be acted upon till the invention of gunpowder. History ascribes by a kind of courtesy, the honour of inventions and discoveries to the persons who first make them public, or bring them to use. It is thus that in naval architecture, Usoo, a Phœnician, is considered as the father of the art, because he is the first on record that navigated a canoe; but in this, the courtesy of history goes too far, for Noah has certainly a superior claim.

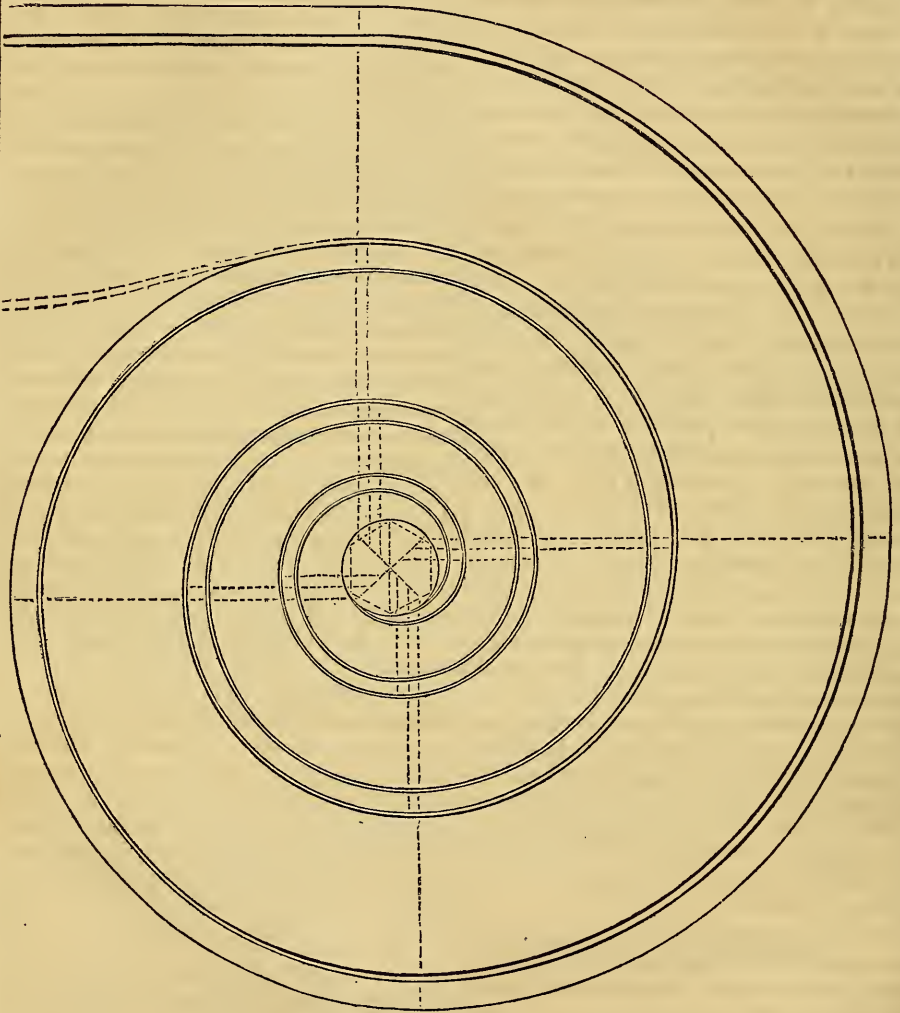
Although the Greeks excelled all the world for the beauty of their works of art, they did not furnish any treatise on the theory of architecture till after they had constructed their finest buildings. This was natural. The rule that instructs us to produce beauties in any kind of art, must be derived from the practice of those who have previously by the instinct of genius produced excellent works. The rules for composing a perfect Epic poem were derived from the practice of Homer, as it appeared in the Iliad. In like manner, the principles of architecture, as a science, are founded on the result—not of rules previously delivered, but of experiments; hence we are assured that by an adherence to the rules we shall produce the same beautiful effects as the result of the experiments from which the rules were deduced. Vetrivius was the first author who established the principles of ancient architecture; but he did not write until the finest specimens of Art had long been completed. He mentions, indeed, the names of many architects, but they were practical men—men of genius who had erected models, and thereby furnished the means of giving rules for the guidance of others.

It is surprising that although the work of Vetrivius is admitted by all students to be deficient, obscure, and ill-arranged; yet it was still the best of the kind, especially in what relates to proper and appropriate use of the different orders. A work embracing the Saxon, Norman, and Gothic styles, in addition to the classic orders, and discriminating the uses to which they are respectively adapted, is a desideratum in the literature of Europe. In England, a work of this kind is particularly required, for the English are, perhaps, less than any other people of Europe, sensible, or even acquaint-

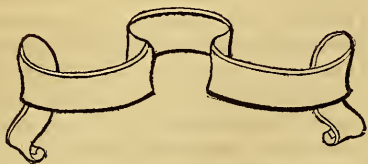
ed with the proprieties of architecture. In Saint Paul's, of London, one of the very finest works of the moderns, and admired by the English equal to its merit, the architect [has employed] the gayest orders, and in the most ornamental style. The sublime magnitude of the building diminishes at the first view, the effect of its preposterous gaudiness. It is not till after contemplating it with relation to its uses that we perceive how much the style of architecture is at variance with the purpose of the fabric. Surely the flaunting luxuriance of the Corinthian and Composite orders are ill-placed on a temple dedicated to the service of God, and appointed to receive the ashes of the great and illustrious men. The decorum of architecture has been equally disregarded in the construction of the theatre at Covent-garden. The portico is undoubtedly a beautiful specimen of the Grecian Doric, and as such, would not have disgraced Athens itself, but the august simplicity of the Doric is as much out of place at the entrance of a playhouse, as the gaudier elegance of the Corinthian or Composite is in the church. Perhaps, if the theatre were entirely devoted to the exhibition of tragedies, the grave majesty of the portico would not be objectionable. Still, however, both the theatre and cathedral are fine monuments of skill of their respective architects; but they are curious examples of the want of that taste for propriety which is as requisite in the art of building as in the composition of the muse. It has been said of the English, that they build their hospitals like palaces, and their palaces like hospitals; it may be added, they ornament their churches like theatres, and their theatres like churches.

Of all the fine arts, architecture is not only that which is most easily traced to its origin in the wants and luxuries of mankind, but that on which all others are dependant. All the others, when compared with architecture, are only representative, and contribute only to the gratification of those wants which arise from the experience of pleasure. But this primeval art is in its rudimental state, almost as necessary to man as food.

Gold in Canada.—The *New York Express* states that Professor B. Silliman, who has recently explored the gold region of Canada, gives an account of his examinations of masses of gold found in the valley of the Chaudiere. They are firmly embedded in what appears to be slate, but which is probably a concrete of deritus, cemented by oxide of iron. The presence of mineralogical features similar to those observed in other gold regions, affords grounds for hope that this may become a rich auriferous region. A few tons of gravel have been washed in a rude way with the Berks rocker, and yielded about four dollars to the ton.



A METHOD FOR STRIKING THE VOLUTE OF THE GRECIAN IONIC CAPITAL.



DESIGNS FOR RIBBONS.—(GOTHIC.)

On the Study of Design, from
Paintings, &c., in Hampton=
Court Palace.

(Concluded from page 78.)

THE reader censured the taste which could leave these pedestals standing with such palpable evidences of despoliation, and also he condemned the presiding taste which continued to denominate this the fountain court, when it had been stripped of the device which adorned the water, and had left standing instead some three feet of small gas pipe. He hoped that the name would be altered, or a person be permitted to receive subscriptions of pence in a box labelled "Assist the poor fountain," and in a few months it would be no longer necessary to think of changing the name.

The chapel was the next place referred to. It offered an important study in what to avoid. He described it as a victim to perverted extremes in proportion, form, and colour, and to the utmost force conceivable of contrasting oppositions resulting in an impressive jumble to warn us against abandonment with pretty wantonness. That which Walpole said of Verrio, would apply equally well in this instance to Sir Christopher Wren, and to "the modern decorator."—"They appear to have spoiled it on principle." Wren spoiled that which Wolsey had left at least "passing good," and the doings of our own times had spoiled in turn the work of Wren.

The open timber roof of this chapel was an elaborate and ingenious construction, somewhat debased in the design of its principal divisions and proportion, as is often noticeable in specimens of late Gothic; the ribs of the arches and the interspaced tracery, broad and massive spandrels, pendants of a singular kind, and other details, which are remarkable for a want of conformity and exaggerated contour. The ribs are ornamented with the egg-and-tongue moulding; the pendants rejoice with ecstasie boys springing out from a basket, and corbel brackets present evidences of burly Italian, ill according with the Gothic character of the roof. All this, however, and even more, it was contended, of strange combination might pass with less censure had it remained simply in oak, as Wren intended; but the incongruities had been rendered more distinct by the power of misapplied colour, and the effulgence of misplaced gold. Repose, light, and shade, may be impressive under certain conditions; but in this instance, all tended

to a "coloured dazzle." The ribs are gilt, the pendants and bosses are gilt, the eggs are golden. The groundwork of the whole ultramine, spangled with stars of gold, some dashes of vermilion laid in the deepest quirks, to give spirit, and displace shadows. By such treatment, as explained and shewn by coloured sketches, he considered the proportions had been again changed in a wrong direction, and the roof had been, in effect brought nearer to the eye. In its previous condition, as left by Wren, the roof of oak, ribs, &c., in quiet and retiring guise of self colour, must have been more in abeyance, more retiring from the eye, and invested with the gloomy repose of deep shadows. Another line of argument was then advanced in support of these commendatory opinions. A comparison was suggested between the gaudy roof and the other features of the interior,—the quiet altar with its Corinthian columns, elliptic pediment, and crimson velvet hangings, the somewhat *petite* character or ornamental paintings by Verrio on the piers and windows, the plain wainscotting around the pews, and the pews themselves. It was maintained that, in a perverse spirit, reason had been trifled with, and the laws of harmonious decoration set at defiance; that we have here an instance of the incongruity in combining Italian with Gothic, literally deep in strong colours. Attention was directed to the well conceived and finely-executed pendantive pilasters, arranged on each side of the picture over the communion table. They were carved by Gibbons, and few of his works are so happily treated in the details as well as in the general outline. Other carvings below the cornice of the wainscotting display much of his style in pleasing variety: a combination of the flowing palm with the acanthus was alluded to as admirable for its simplicity, and being "easily read," as well as illustrating the picturesque manner in which the round fullness of one class of botanical forms may be contrasted with the angularities of others. It was remarked that a large window of similar construction to the beautiful one at the west end of the Great Hall, had been accidentally discovered a few years ago, in excellent preservation, and still remains concealed behind the altar, as left by Wren.

High Art v. Upholstery.—We have money enough to spend on cumbrous furniture, which another generation will throw into the garret as antiquated and absurd; but we cannot afford to adorn our walls with the productions of genius, which delineate the unchanging beauties of nature or the grandeur of man, and to which the lapse of time will impart only new value.—*Channing.*

Gasometer for the Houses of Parliament.

A VIEW was afforded on Tuesday, the 19th inst., to a number of scientific persons, and others interested in the consumption of gas, at Messrs. Glover's Iron-foundry, in Drury-lane, London, of the immense meter constructed and cast under the superintendence of Mr. Defries, of 67, St. Martin's-lane, the inventor and patentee. This machine, which is to be placed in the New Palace at Westminster, is an almost stupendous piece of mechanism, being above ten feet in height, and twenty feet in circumference. It is in form a hexagon, the designs are in the style, and in exact keeping with the interior of the New Houses of Parliament, so that it is an ornamental as well as an useful addition to them, and ought to be placed so as to be seen by the public. The machine weighs four tons, and is of sufficient capacity to pass ten thousand feet of gas per hour, and of supplying two thousand lights with, according to calculation, the loss of only half a tenth of pressure; at which pressure it will work with the greatest ease.

The principle and the action of the machine are very simple, and yet very accurate. There are two chambers, the lower containing three diaphragms; as the gas, in its passage through the valve, acts upon these diaphragms, they move the machinery in the upper chamber, and by these means the quantity of gas consumed is registered. The index consists of six small dials, almost similar to those of watches, and on these the consumption can be calculated with very minute accuracy. The iron has been bronzed, and has a fine surface, the castings being remarkably sharp and clean. This meter far exceeds in dimensions anything of the sort ever before attempted.

The Mineral Discoveries in South Australia.—

The mineral discoveries in South Australia have given quite a new feature to the colony. The extent of these discoveries, and the singular richness of some copper ores, have led to very large purchases of land, which in their turn have amply replenished the Emigration fund, and secured for the colonists a supply of labour; and for many a toil worn, poverty stricken families and individuals, free passages to a country where industry and sobriety are sure of obtaining not only the necessaries, but many of the comforts of life. The impetus given to the internal trade of the colony, by the discovery of the mines is very great.

Observations on the Polychromatic Decoration of the Middle Ages.

(Continued from page 83.)

IN all the arts that minister to society, in the varied hues that meet us at every turn, amid the ruins of Pompeii, in the brilliant paintings that adorn the walls of each apartment, in the profusion of ornament that was lavished on the buildings dedicated to pleasure, in the costly elegance that marked those devoted to the service of religion, in the means of luxury brought within the reach of the humblest, and in the graceful piety that consecrated the choicest offerings to the gods,—we recognise the joyous character of ancient civilization, and the universal and systematic appreciation of art. It was as though, through Polychromy, the ancients gave expression to the brighter and more ethereal impulses of the mind; Polychromy was the link connecting the forms of matter with the airy fancies in which classic genius was so rife. It clothed the massive outlines of Egyptian architecture with a life and grace only subordinate to that deep soul of thought which lives in every stone and lurks in every figure; while the eye of the artist is no less delighted with the exquisite management of colour that can unite the heavy masses of its architecture with the burning soil and shadowless sky of that glowing clime. Nor would there be anything inconsistent in associating similar ideas with our national architecture, adding to the solemnity of our ecclesiastical edifices a winning beauty that should ever be present in the temples of a religion that allures as much as it commands to the observance of its duties, and the participation of its hopes.

Decorative painting has again assumed its place among the Fine Arts; every new fragment that turns up only adds to the mass of evidence that has convinced those who refused to believe in Grecian Polychromy, and every instance of church restoration proves to those admirers of pointed architecture, who were equally zealous in their detestation of whitewash, and love of native stone, that even in the palmy days before the Reformation, walls and stone-work were not only whited or yellow washed, but that the surface of the walls, and even the very shrines and tombs, were diversified with positive and contrasting colours.

Public favour has been again for Polychromy by that most powerful of all arguments, an appeal to public sympathy; and the practice of it, at first regarded as an experiment, is rapidly spreading as a fashion.

(To be continued.)

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

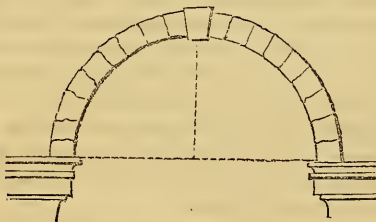
(Continued from page 84.)

HEAD-WORK. A name given to ornaments on the key-stones of arches, frequently representing heads of animals, especially a stag's head over



park-gates; in market-places, a bullock's or a sheep's; and over stables, the head of a horse.

HEIGHT OF AN ARCH. A line drawn from



the middle of the chord, or spanning-line, to the intrados.

HELIOPOLIS. A city of Egypt, and one of the most ancient in the world. It was chiefly celebrated for its temple dedicated to the sun, part of which was consecrated to the breeding of the sacred ox, worshipped there under the name of Mnevis. It was also celebrated for its four obelisks, erected by Solchis, two of which were carried to Rome, one destroyed by the Arabs, and the other still remains. This obelisk is described as one entire mass of reddish granite, about sixty-eight feet high, and six and a half feet wide.

HELIX, or HELYX. A small volute or twist, representing the twisted tops of the acanthus stalk,

placed under the floor in the abacus of the Corinthian capital.

HECATOMPEDON. Any temple of a hundred feet in length, particularly applied to that of Minerva Parthenon, at Athens.

HEPTAPYLOS. A name of the city of Thebes, in Bœtia, so called from its seven gates, whereas that of Thebes, in Egypt had a hundred gates.

(To be continued.)

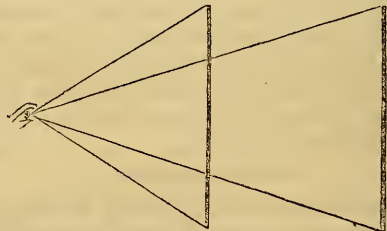
Perspective.

(Continued from page 89.)

THE diminution in the apparent length of a line, caused by its obliquity with reference to the eye, is expressed by saying that the line is foreshortened.

Of the effect of Distance on the Size of the Visual Angle.

Independently of the length and the direction of a line, its distance from the eye contributes toward determining the size of the visual angle, and consequently modifies the apparent length of the line: The line being held upright, and at a certain distance from the supposed eye, forms a visual angle of a certain size; if the line is removed to a greater distance from the eye, keeping it in the same vertical position, it forms a visual angle of a smaller size. In the second position it would therefore appear smaller than in the first.



That this is exactly the effect produced by distance, is made manifest when we look at a row of trees or columns, or a long line of street, road or railway, of which every part throughout the entire length is equally broad; the breadth, nevertheless, appears to diminish as the distance is increased.

For the same reason, if we look at a long row of columns, houses, or lamps, or of any objects which are in reality all equally high, we find that the heights likewise appear to diminish as the distances are increased.

In the same manner, if we look up a circular shaft, or down a circular well, every part of which is, throughout the whole height or depth, of the same width and size, we find that the opening of the shaft at top, or the circular appearance of the well at bottom, appears considerably less than their circular openings near the eye, although we know that no difference really exists. This effect is universal; innumerable instances might, therefore, be cited as examples; but the above, with the illustration will suffice to establish the following rule, namely:—As the distance of a line or object from the eye is increased, so is its apparent length or size diminished.

It follows directly from this rule, that the distance of a line or object may be conceived to be so great that its apparent size would diminish or vanish into a point. Striking examples of this effect are presented by very long and straight lines of railways or canals, the sides of which appear at the extreme distance to meet in a point; at that extreme distance, therefore, the width appears as nothing. The reason of this effect is, that the visual angle formed by the width of the railway or canal at that very great distance is so small as to be inappreciable, or incapable of being estimated by the eye.

(To be continued.)

Observations on Architecture and Building.

COMPILED FROM THE CELEBRATED WORK OF
LEON BAPTISTA ALBERTA.

(Concluded from page 89.)

APERTURES

Are of two sorts—the one for the admission of light and air, and the other for the entrance and passage of the inhabitants. Those for light are known as windows—those for passage are doors. No room ought to be without a window, by which the foul air may be let out and fresh admitted; and they ought to be so accommodated to convenience and the thickness of the wall, as not to admit more or less light, nor stand nearer or more remote than use or necessity requires. We should notice what winds the window opens to, because those which open to a healthy air may be large every way, and it may not be amiss to open them in such a manner that the air may go clear round the bodies of the inhabitants, which may easily be contrived, if the windows are made so low that you may both see and be seen from the inside into the street. But such windows as are exposed to winds not altogether healthy, ought to be proportioned to admit what light is requisite but not larger than is necessary for that purpose; and they should likewise be set high, that the wall may break the wind before reaching us. We should also observe what sun the house stands to, and accordingly make the

windows larger or smaller. In the summer rooms, if the windows are north, they should be made large every; but if they face a sun, south, it will be proper to make them low and small, such being best adapted for the reception of the sun's rays; and there is no danger of such a place ever wanting light when the sun lies continually upon it, so that shade and not light, is what is to be consulted there; but quite the contrary for winter, the windows should be contrived for admitting the sun. Lastly from whatever side we take in light, we ought to make such an opening for it as will always ensure the people within a free view of the sky, and the top of the window should never be too low, as we are to see the light with our eyes and not with our heels; besides if one man gets between another the light from the window is intercepted—the rest of the room is darkened, which never happens when the light comes from above. Doors should imitate windows—that is, be larger or smaller, more or less in number, according as use and necessity may require. We ought so to proportion doors as not to make very little ones in great walls—nor too large in small walls. In these sorts of apertures various rules have been proposed, but all must admit that let them be of whatever shape they will, that they should be accommodated to the size and form of the building. It is also convenient to place the doors in such a manner that they may lead to as many parts of the edifice as possible, and in order to give beauty to such apertures, care must be taken that those of like dimensions correspond with each other, both right and left. It was usual to leave the windows and doors in odd numbers, but so for the side ones to correspond with each other, while that in the middle to be somewhat larger than the others. Particular regard was always had to the strength of the building, for which reason they contrived that their openings should be clear of the corners and all the weakest parts of the building.

STAIRCASES.

The placing of the stairs is a work of such nicety, that without mature and deliberate consideration you can never place them well. Let him that is desirous to have the stairs not to hinder him, take care not to hinder the stairs, but allow it a fair and just portion of the plan, in order to give it a free course quite up to the topmost covering; and no one should repine that so much space should be occupied by the stairs, for it furnishes us with many conveniences, and is no inconvenience to the other parts of the building. The ancients used to make the slope as easy and as little steep as possible. They likewise recommended the treads to be in odd numbers, especially in their temples, because they said by these means they set their right foot upon the temple first. The best houses seldom have more than seven to nine treads in one flight, without making a plain (landing) that such as were weak or tired with the fatigue of the ascent, might rest themselves. And that, if by chance they stumbled, there might be a place to break their fall. Staircases should be well lighted, and of ample and spacious dimensions, though the fewer stairs and the less room they take up in a house, the more they are esteemed.

END OF FIRST PART.

The Chronotypist.

THE Torquay Extension of the South Devon Railway, was opened for general traffic on the 18th —By the last Mail, Accounts from upper Egypt and Cairo, state that an extensive mine of good coal had been positively found in the vicinity of the town of Esneh, on the Nile.—At a council of the Royal Academy, held on the 16th, Eight gentlemen were admitted Students in Architecture.—A Church with chalk columns, pillars, &c. not even seasoned, has of late been in course of erection at Prestwoods, Bucks, according to the local Chronicle and got on swimmingly till the frost began to operate on the moisture in that celebrated "absorbent," when the columns, pillars, &c., split of course, and crumbled into pieces; and besides a damage to the amount of at least £100, it is said, on this, 'cheap material,' will occasion the additional expense of a replacement in stone, making good the old proverb,—penny wise, pound foolish.—The new Savings Bank at Cambridge has been opened. It is in the Italian style, with two fronts, and contains a hall 18 feet square, bank room, and actuary's residence. The architect was Mr. John Smith, of Cambridge.—Mr. Burford, assisted by Mr. Selous, has completed a panorama of Pompeii and the surrounding country which will be exhibited next week at his building in Leicester-square.—A recent fire in Little Portland-street, Regent-street, is supposed to have been occasioned by some unslacked lime on the premises getting wet.—The Paris papers announce the death, at the age of 61, of M. Latronne, Keeper of the French Archives, Member of the Academy of Belles Lettres, Professor of Archæology, and Administrator of the College of France. The Minister of the Interior, on his wayback from the funeral ceremonial, called at the house of M. Durel, the sculptor, to commission him for a marble bust of the deceased, to be placed in one of the Halls of the Archives.—The church of St. Mary-at-hill, is being restored internally, under the direction of Mr. Savage. Mr. Rogers is executing the carvings. The pulpit is new, of oak, and profusely enriched with carved fruit and flowers. A new organ and gallery front has music trophies, branches of palm, oak, and garlands of flowers; the principal pews have wreathed and perforated panels. Works in this style for a church are a very great novelty, now-a-days.

THE recent discovery of gold in Australia is not expected to return large profits for some years.

To Correspondents, &c.

Write legibly and sensibly, so that both the words and their meaning may be readily deciphered by the recipient of thy communication.

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"A. W."—*Try the effect of nitric acid. It has often been found effective.*

"E. H."—*Next week.*

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The method of embossing glass for ornamental windows.

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AN ORIGINAL DESIGN FOR A GABLE CROSS (GOTHIC),

BY J. B. ROBINSON.



Observations on the Present and Future Condition of British Art.



HE question, What will be the probable future condition of British Art—which possesses so much general interest, and which by association, awakens a feeling almost personal in its most favourable solution—cannot, perhaps, be with more propriety considered than at the commencement of a New Year. It is the period when in every varied condition of life we review the past; when our impressions of the space traversed are the most vivid; when reason, disenthralled from momentary passions, is less partial; and we trace the results of action, even as they who recal the memory of the dead, with feelings of pride chastened by regret, and of regret mitigated by hope. Now, the law which governs men in their individual character is applicable also to their social: we examine our own career, we scrutinize national progress for the same end—the means may be different, but the

purpose is identical—moral good. In one case observation is exercised towards the formation of character; in the other it is directed towards the general condition of mental pursuit; in both the design is to ensure advancement. So great is the tendency of the mind, however, to individualize its action, that in extensive views of human life the process of inquiry becomes inducted upon principles strictly analogous to persons. Hence it is, that narrow, limited zeal is engendered, which writes the history of civilization with the spirit of party; and that events are commented upon, not as the results of general causes, but as particular incidents. Apart, however, from these considerations, the knowledge of our comparative national condition, as regards intellectual qualities, competing power, commercial greatness, social advantage or disparity, is, of all destined to the public service, the most important. No great state can exist without it: even China has felt its influence, and we doubt not it has power at Timbuctoo. But not to any nation is this knowledge of so much importance as our own. An insular people are apt too devoutly to worship that wisdom which never goes abroad. Their government, their schools, their arts, their modes of sale and barter, may be all good, they are inclined too fondly to revere them as the best. If wealthy, they purchase the excellence they want; if poor, they despise it; if trading, they estimate it not according to its intrinsic qualities, but their market. Now, the evil consequences of this system we have felt. Relying upon the excellence of our institutions, we neglected education;—treating the productions of Art as simple articles of commerce, we have left them like hay, straw, bricks, and cotton, to find a market where they could; and, proud of mechanical power, we have used it like a brute force, separated from invention, unconnected with design. Thus, like Frankenstein, we have been punished by the demon of our own creation. To place this subject more clearly before our readers, we have in former numbers sketched the progress of British Art, and shall now consider its present condition, and possible future state.

The progress of Art upon the continent, and in England, is the result of very different causes. Christian Art arose in Italy from the

religion which placed that favoured land at the head of modern civilisation. As that religion spread, Art was honoured, kings were its patrons, mighty princes its protectors. With the people it became a religious feeling. Not dissimilar was its condition in Germany and France. But in England, Art, at least "for the million," was ever an alien. Religion withdrew its support, the State never gave it; and from the Heptarchy to George IV., only three kings owned its influence. For centuries it was but the pride and the property of the court and the nobility. To what cause, then, are we to ascribe its recent importance? Not as some would induce us to believe, to the increase of luxury, but the extension of education. Art is a property now inherited by the rich, and worked for by the poor; appreciated as a source of recreation, and acknowledged as a power of commercial prosperity. Still we cannot regard its present condition with unmixed satisfaction. It bears the fruit of rapid and peculiar culture, and shows the consequence of its neglect by religion and the State. Let us consider it under two great divisions—Æsthetic, or the Fine Arts; and Art Decorative and Ornamental. And, first, as to History and Portraits.

HISTORICAL PAINTING in England is a melancholy subject to consider. One would naturally suppose that, among an educated and refined class, the higher branches of Art would be cherished. Yet it is not so. Whether this may be ascribed to the increasing energy of theological discussion, to the keen excitement of politics, or the all-absorbing worship of Fashion, we know not; but this much is evident—the public are too much occupied to spare one moment for the more serious and important branches of Art. Were it otherwise, there can exist no doubt but that talent could be found to meet the demand. The Exhibition of last year proves this. The pictures of "Rienzi Haranguing," and "Luther Listening to one of his Hymns," with others, might be cited to refute opinions uttered not from knowledge, but hazarded to put a gloss upon neglect. But how, after the efforts unsuccessfully made to produce and establish historic painting, can we expect their continuance whilst Memory recalls Hilton perishing from disappointment, and when we can now see

five pictures by a living artist rescued from the neglect of England by the zeal of the Scottish Academy—pictures which would do honour to any age, and which now grace the walls of the Edinburgh Royal Institution?

PORTRAIT PAINTING, once so pre-eminent, is now failing in its importance. Rising artists too often paint portraits, but not pictures, since no portrait can be considered as a valuable tribute to Art, unless, without any reference to resemblance, it is in itself a fine transcript of human nature. Since the days of Sir Joshua, England has been unapproached in pictures of this description, combining that which is endeared unto friends, and most valuable to every mind to which the Fine Arts are a feeling. Few things, indeed, can be more important in Art than the development of mental expression; and still fewer are those objects upon which the mind so willingly lingers as upon those breathing representations of men whose attainments have improved, gratified, or enriched mankind. Yet, if regression be manifest here, is the artist only to be blamed? We think not. He is, like all other men, subject to the humour of the times; and now, as every one will have a likeness, and one to order, and at as cheap a rate as possible, and with the least possible delay, can it be matter of surprise that, thus cabbined and cribbed and left without a choice, the painter should be slight, rapid, and dexterous?

LANDSCAPE PAINTING, in oil and water, has been long eminent in England, both for its truth and poetic merit; and there are examples of the latter which probably are equal to any ever produced at any period of Art. Nor is theirs a limited expression; the sublime, the terrific, the enchanting aspect of nature, the solitude of waste, and each domestic rural scene, are all reproduced with a refined success. Their technical treatment is equal to theirceptive feeling; their chiaro'scuro is unrivalled; for these works require only to be seen, thro' the medium of engravings taken from them, to prove how perfect they are by thus rendering the effect in black and white. We refer particularly to Turner, whose greater works have connected the English school with the storied honours of the past,—evincing as these do the fidelity which recalls, the poetic spirit which enhances, local scenery, combined with that

historic and natural interest which gives a picture a place at once in refined enjoyments and in human life. Whatever, however, the ability of the artist, it must, more or less, be affected by the condition of public taste. Actuated by this, if not derived, painting should give a stimulus to moral, religious, and political improvement, and tend to promote the virtues by consecrating the great examples of mankind.

(To be continued.)

Nobel Contrivance for Preventing the Burning of Steam Vessels.

Mr. Maurice Johnson, engineer of the *Fire-brand* steam vessel, who recommended the application of Kingston's valves to the bottoms of vessels, to aid in extinguishing fires arising from spontaneous combustion or other causes, has, in obedience to the Lords Commissioners of the Admiralty, forwarded drawings of the plan he has suggested for their lordships' inspection. The plan he proposes is very simple, being merely to admit the water through one of Kingston's valves, which can be regulated with the greatest nicety to any quantity, and conducted round both sides of the vessel in pipes, perforated on the upper side, and running parallel a short distance below the water line. On the valve being opened on an emergency, the water would escape from the perforated pipes, and run down [the sides of the vessel to keep the timbers cool, and extinguish fire below the water line. The water can afterwards be easily pumped out in the same manner as bilge water, on the valve being shut. As a proof of the advantage of admitting water into vessels by Kingston's valves, for the purpose of rendering them healthy, it may be mentioned that Mr. Johnson, previous to leaving England as engineer in the *Blazer*, then under orders for the West Indian station, admitted about two tons of water at a time, pumping it out as it mixed with the bilge water, until it was pumped out nearly pure.]

THE *Delhi Gazette* says that the famous diamond, the Koh-i-noor (the largest and most precious in the world), forfeited by the treachery of the Sovereign at Lahore, and now under the security of British bayonets, at the fortress of Govindghur, is likely ere long to be brought to England, and added to the Crown jewels.

Ancient Monumental Brasses.

To the Editor of the "*Decorator's Assistant.*"

SIR,—In No. 82 of your very useful work, appeared a talented article from the pen of Mr. F. W. Fairholt, on the propriety of reviving the ancient custom of dedicating engraved brasses to the memory of the dead, and giving a description of a new process for their decorative enrichment lately discovered or improved upon by Mr. Archer.

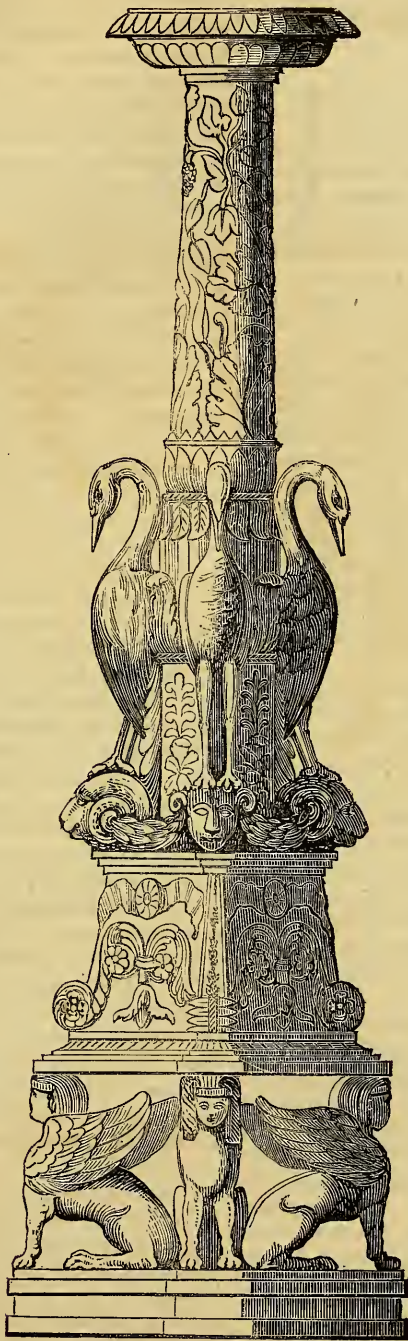
Many of those who have seen the fine old brasses so profusely dispersed among our cathedrals, ministers, and older churches, more especially those of the fourteenth and fifteenth centuries, will readily join in his praises of their beauty and effect, and, prefer them to the efforts of a Canova, a Flaxman, or a Chantry. Still there is something to my ideas more appropriate to such purposes in the "storied urn—the animated bust," than in the quaint, clever, but easily tarnished contrivance of our ancestors. I must also beg to differ from Mr. Fairholt in his opinion that the armour, clerical and other vestments, &c. were strictly indicative of the customs or habits in use at the time of sepulture, as instances have been known of knights, dying at from eighty to ninety years of age, being represented in the armour worn by them on first winning their spurs; they from circumstances, such as a long peace, retirement into private life, severe wounds, loss of limbs, &c., not having further opportunities for its use, but in accordance with the usage of the times, were portrayed as wearing it on their monumental brasses; and when we consider how frequent were the improvements—or, at least alterations—made in armour in the course of half a century, we must admit that many anachronisms might creep in. Besides, there is much reason to believe that "ye workyre in brasse" was very frequently left to indulge his own fancy, or resort to his individual ideas on the subject of costume, which is clearly evinced by the varied style of dress adopted in brasses of the same period in the adornment of persons of similar rank and age.

If properly regulated, however, with a strict observance of chronology and costume, there is no doubt that these memorials would form a valuable historical record, often more valuable for reference than the party statements and wilful perversions of some of our best historians, and I therefore consider that as an adjunct to the noble art of sculpture, brasses would be most valuable as a monumental decorative record; but that standing *alone* in that capacity, they would present too much sameness and flatness in appearance, and without much trouble and attention in the cleansing would soon appear more sombre and meaningless than even the desecrating and eye-grieving whitewash. Used as an entablature, however, in conjunction with those admirable efforts of the chisel the eye is now so highly gratified with, I must subscribe to their usefulness and effect, and hope to see them generally adopted,—but not in a manner to exclude the beautiful and soul-inspiring efforts of those eminent sculptors of whom our country has such just reason to be proud. Sir, yours obediently,

NED RUB.



AN ORIGINAL DESIGN FOR A CORNER AND END PIECE.—(GOTHIC.)



CANDELABRA, NOW IN THE MUSEUM OF NAPLES, AND PREVIOUSLY IN THE FARNESE COLLECTION.

History of Sculpture.

(Continued from page 29.)

A VARIETY of circumstances combined to render the models of beauty subservient to the cultivation of the fine arts. There were no absurd prescriptions, as in Egypt, to encumber the free spirit of the artist. He had the finest opportunities for study in the public places, where the Grecian youth, requiring no other veil than innocence and purity of manners, went through their various exercises, gymnastic or otherwise, naked. The Greeks preferring generally natural accomplishments to artificial ones, the first honours and rewards were often decreed to such as excelled in corporeal agility and strength. Statues were sometimes raised to wrestlers, and the statuary was stimulated to excellence, since the work of his hands was considered as the highest token of honor which merit could aspire to. The number of statues erected on various occasions was consequently prodigious; and, of course, the number of artists must have been great, their emulation ardent, and their progress rapid.

It was under the government of Pericles that Grecian art may be said to have reached altogether its highest point of perfection. At this epoch flourished the illustrious sculptor, Phidias. From the matchless works of this artist has arisen the phrase *signum Phidie*, to denote any piece of sculpture of a decidedly high order. He employed his transcendent talent principally to illustrate ideal beauty, and, above all, to represent grand and heroic subjects, or figures of gods and goddesses. His two colossal statues of Jupiter at Olympus, and Minerva at the Parthenon, were above all praise.

In contemplating the Elgin marbles, the amateur or student may feel confident that he has before him a variety of those inestimable performances which, having been directed and imagined by Phidias (indeed, partly executed by his chisel), were for upwards of seven centuries the wonder of the ancients; having been, according to Plutarch, who wrote in the reign of Trajan, considered inimitable for beauty, dignity, and grace. Plutarch's testimony, in fact, puts it beyond question that the sculptures adorning the Parthenon were the actual productions of this "mighty master," who had been engaged by the magnificent Pericles in the execution of these majestic works, and under whom several other of the most eminent artists were employed.

Winckelmann, in his "History of Art," observes that the *fine* style in statuary was introduced by Praxiteles and Lysippus, and that the manner of managing draperies in sculpture, previously, was extremely simple. This opinion is, however, to be received with great caution. If the art of sculpture received from Praxiteles the germ of any novel fascinations, they probably resided rather in the refinements of the graceful than in that which is properly called the fine or beautiful style. He may have given to the heads of his figures (especially those of his women) an air of greater delicacy or voluptuousness; but we suspect it must be admitted, from a candid and thoughtful examination of the Elgin marbles, that the art of the statuary had attained the limits of its perfection in the age of Pericles and Phidias. "Nothing is more perfect," observes Cicero, "than the statues of Phidias, (Orat. sec. 2.). A connoisseur, used to examining the masterpieces of antiquity, will readily discover, in the detached sculptures of the Parthenon (and more especially in the parts of those statues which have suffered least injury from time), the grand and learned style of the Laocoon, the Torso, and the Gladiator; the same skill in the expression of the skin, the same life inspired, as it were, into the senseless stone, the same harmony of proportion, the same general perfectness. In the statues of females, again, the dignity and grace of posture, and the richness of drapery, whose folds are adjusted with such singular adroitness, if they do not surpass, certainly do not fall beneath the most complete works of the kind, the prescription of which enables us to form a comparison.

In the modern practice of the art of sculpture, the greatest name is, perhaps, that of Michel Angiolo. "Michel Angiolo," says his English biographer, Mr. Duppa, "considered sculpture as his profession, and his studies throughout his whole life were more particularly directed to it, than painting or to architecture. His first work of celebrity was a group of a Madonna with a dead Christ, called in Italian *la Pietà*. The subject its nature is impressive, and the composition is treated with appropriate simplicity; and of all his works, it is that which seems to have cost him the most laborious attention.

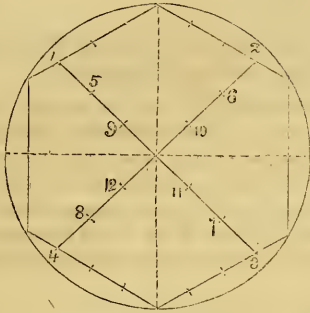
"With Michel Angiolo expression and character were a primary consideration; and although set the antique sculpture before him as an example and a guide, this marked distinction is to be seen between his view of the subject, and that of the ancients. He made ideal beauty and form subservient to expression; they, on the contrary, made expression and animation subservient to form.

(To be continued.)

Diagram.

METHOD OF STRIKING THE GRECIAN VOLUTE, PAGE 94, NO. 86.

FIRST describe a circle, then divide into six equal parts, forming the hexagon; divide each side of the top and bottom angles into four equal parts; afterwards draw the diagonal lines from 1 to 3, and from 2 to 4. Place the leg of the compasses on the point marked 1, and strike the outer arc,



stopping it at the longest dotted line (shown in volute), then from the point 2, extend the compass to the point touching the dotted line, and strike the second arc; then from 3 to the next dotted line, and so on, working round till the volute is complete.

Observations on the Polychromatic Decoration of the Middle Ages.

(Continued from page 97.)

THE art of Polychromy, or practice of painting in positive colours, either on flat surfaces or sculptured forms, has been referred for its origin to other than æsthetic motives; certain existing coincidences in the application of colour, have led to the inference, that tints when applied to sacred subjects, acquired a peculiar expression; hence the theory of symbolism of colours. Of the few facts on which this system is based, there can be no dispute; but it is very questionable whether any such principles were kept in view in later ages, and under the more perfect forms of the decorative art, and highly improbable that the same symbols could, otherwise than by the most casual accident, be expressive of similar ideas at different times, and under religious systems capable of being referred to no common origin.

The object of Polychromy is to heighten the effect of architectural decorations, either by causing a more just subordination of the various parts than

can be obtained by mere chiar'oscuro, or in supplying deficiencies that could not be so well filled up by any other means.

When the details of enrichment are minute, or greatly removed from the eye, the use of strongly contrasting colours is necessary to mark the various details and sub-divisions which would otherwise be lost, or to connect more elaborate with plainer portions of the same work. It is often also used to attract the eye to the more important portions of a building; and the beautiful effect of the brilliant lines, gilded prominences, and rich surfaces, harmoniously toned with diaper, is known to every admirer of mediæval architecture.

It is probable that in the practice of classic antiquity the ornamented colouring on walls and ceilings, and perhaps, in general, even the detail of arabesques, was left to the skill and fancy of the workmen. The style of execution in such instances as remain to us, exhibits great facility of production, accompanied by characteristics that distinguished them in a marked manner from the work of an artist. Yet, in most cases, there exists a certain concordance of parts, and unity of effect, that uneducated taste would be unable to attain. Perhaps we should be correct in viewing the various specimens as diversified reproductions of a few types in fashion at the time, with which the workmen would necessarily be familiar, and capable of applying without further assistance than the general direction of the superior artist by whom the higher class of subjects were executed.

The same observations may be understood in a limited sense, of Gothic Polychromy. The scientific architects of the middle ages appear to have employed not only the hand, but the genius of the craftsman, in the diversified modes of ornament that so peculiarly distinguish Gothic architecture. In the structure, furniture and enrichments of a great church, we see the aggregate of varying taste and genius. Its decorative paintings, its heraldries, its stained glass, its metal work, and even the different carvings, exhibit, each in its own department, and in some cases in almost every article, the impress of a distinct mind; yet all bent to one harmonious result by the influence of their subject, and the fashion of the time.

At the revival of the arts, decorative painting, both pictorial, and as consisting in the application of positive colour to objects whose projections and outlines were previously defined by the carver, was found universally subsisting throughout Europe. It does not appear, however, that Polychromy and figure painting were anywhere cultivated as distinct branches of the art. While Polychromatic decorations required for their execution an artisan of superior skill, the general treatment of pictorial representations, the colours employed, the mode of their application, and the very intimate relation found to exist in works of both branches, induce us to believe them to be the work of craftsmen of the same class, and, when found in juxtaposition, of the same hand. Every degree of merit is found in the works of the middle ages, from the bad copyist of an imperfect school, to the most refined taste in decoration, and intense feeling and truthfulness, if not easy treatment, in pictorial representations.

Perspective.

(Continued from page 99.)

Actual and Apparent Directions of Lines not always the same.

PURSuing our inquiries with reference to the course of the rays of light as they proceed to the eye, we next find that the actual and the apparent direction of lines are not always the same.

If an observer stand in the middle of a long, straight, and level street, and look down the middle of the street, the upper lines of the houses will appear, as their distance from the eye increases, to tend *downwards* towards a point on the level of the eye. The lines of the houses on each side will appear, as their distance from the eye increases, to tend *inwards* towards the same point. Lastly, the street itself, or roadway, will appear, as the distance from the eye increases, to tend *upwards* towards the same spot.

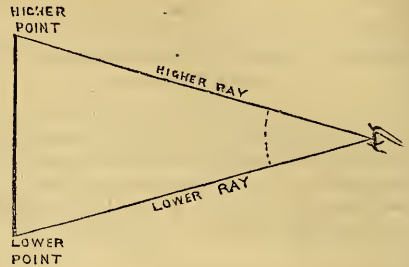
In the same manner, if an observer stand at one extreme end of a vast edifice, a cathedral, for example, and look down the middle of its spacious nave he will notice that the higher lines of the edifice seem to tend *downwards* as their distance from the eye increases; that the side aisles seem to tend *inwards* as their distance from the eye increases; and lastly, that the floor seems to tend *upwards* as the distance from the eye increases.

These appearances are so striking on a large scale, that all who have their attention directed to the fact, cannot fail to observe them: the same causes however, produce similar results with shorter lines, and we shall investigate the causes by considering as before, a simple straight line.

If a straight line is fixed in a vertical position, the lower extremity of the line appears below its higher extremity, and *vice versa*. This is self-evident; there cannot be with any one a shadow of a doubt on this head: but as other positions may be given to the line, in which the relative apparent elevation of its extremities is not so self-evident at the first glance, let us examine why the lower extremity of this upright or vertical line appears below its higher extremity.

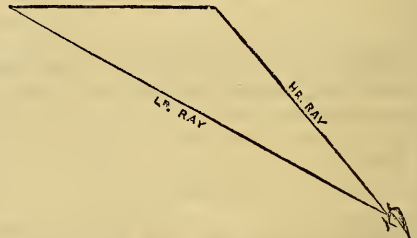
By referring to the illustration of the course of the rays of light, we see that the ray of light which conveys to the eye the image of the lower extremity is lower in its course towards the eye than the ray of light which conveys the image to

the higher extremity; and as it is only by means of the rays of light that the eye receives the image



of the line, the lower extremity of the line appears lower than its higher extremity.

If the position of the line be now changed, placing it at a higher elevation than the eye, with its extremities on the same level, but unequally distant from the eye, we find that the ray of light which conveys to the eye the image of the distant extremity is *lower* in its course towards the eye, than the ray of light which conveys the image of



the near extremity; the distant extremity appears therefore lower than the near extremity: or, as it may be expressed in other words, the line as it recedes from the eye appears to tend downwards from the nearest point.

Comparing this effect with that of the apparent downwards tendency, as the distance is increased, of the upper lines of the houses, in the example before referred to, we perceive that the same reason accounts for the appearance observed, namely, that the rays of light proceeding from the distant points towards the eye are lower in their course than the rays of light passing from the nearer points.

Next placing the line at a lower elevation than the eye, and with its extremities on the same level and unequally distant from the eye, we shall find that the ray of light which conveys to the eye the image of the distant extremity is *higher* in its course towards the eye, than the ray of light which

conveys the image of its near extremity; the distant extremity appears, therefore, higher than the near extremity, or, as it may be expressed in other words, the line as it recedes from the eye appears



to tend upwards from the nearest point. Comparing this effect with that of the apparent upward tendency, as the distance is increased, of the street on which the spectator is supposed to stand in the example before referred to, we perceive that the same reason accounts for the appearance observed, namely, that the rays of light proceeding from the distant points towards the eye are higher in their course than the rays of light proceeding from the nearer points.

(To be continued.)

Decorations of Places of Public Amusement.

LAST week we had a private view of the music hall which has just been fitted up in some of the apartments of the Colosseum in the Regent's park—for the new exhibition called The Cyclorama. The hall is handsomely arranged in the style of a small theatre:—The Cyclorama is an exhibition of Moveable Paintings. Amongst the decorations of the rooms—executed in excellent taste by Mr. Horner—are copies from three of the pictures in the Stanze of the Vatican—'The Parnassus,' 'The School of Athens,' and 'The Inauguration of Constantine.' The present subject selected for the Cyclorama—a series of views descriptive of the City of Lisbon before and after the Earthquake of 1755—is well adapted to show the resources both of the scene-painter and the machinist. In the former department, Mr. Danson and his son have here added to their reputation. Buildings, landscape, water, and vessels are all admirably delineated. The Grand Square, however, with its fine perspective delineation must be particularly noticed as one of the most complete realizations met with in our experience. It is bold and novel. The effects of the storm with the obscured sky and the tossing water are pourtrayed with great effect. The painter has been powerfully aided by the knowledge and mechanical skill of Mr. W. Bradwell; who has here effected one of the most dramatic exhibitions of scenery in a moving series that we know of. The present subject, doubtless, opens better opportunities for the display of variety of effect than the Eidophusikon, in which Louth-

bourg, is said to have been almost the first to make the attempt at heightening the charms of landscape transcription by accompanying imitation of the changes and other phenomena of the elements.—This exhibition is sure to prove attractive at a season of holiday sight-seers: and they who have read Mr. Smith's account of the Marquis de Pomбал will be enabled, by means of this series of movable pictures, to form an idea of some of the services he rendered to his country in the reconstruction of so much of the city into the condition in which we now behold it.—A visit to Mr. Burford's new Panorama in Leicester Square, representing the ruins of Pompeii will afford more than the ordinary gratification derivable from such exhibitions. All the principal points of this most interesting of cities—of which it has been said Vesuvius was rather the preserver than the destroyer—are given with a fidelity, yet masterly feeling, that surpasses all this artist's former efforts.—We looked for the baker's shop into which we had ourselves wandered some seven years ago—and found it, with its neighbouring fountain, as perfect a representation as if the painter had had to give it on the scale of a cabinet picture. All the other favoured localities—the Poet's House, the Forum, the Basilica, are equally true. The present panorama presents some point of view which recent discovery only has revealed—new streets and additional edifices; and the picture has gained in interest from the artist being enabled to give a good prospect of the situation of Stabia, where the elder Pliny perished. The course which he followed from Misenum, when he saw indications of the approaching eruption, may be readily traced in the extended view of the Bay which this picture exhibits. The groups of figures judiciously introduced by Mr. Selous—buoyant in attitudes, and gay in costume—aid the picture greatly by their contrast with the still, sepulchral-looking forms of the building.—The scenery painted by Mr. Beverly, at the Lyceum Theatre, for Mr. Planche's Christmas extravaganza is of the most splendid description. The Chateau de la Beaute is remarkable for its atmospheric effect. The last scene as a production of beautiful combinations of form and colour has never been surpassed. Mr. Phillips has also exhibited his usual ability in the scenery of the new Christmas piece at the Haymarket Theatre.

The Chronotypist.

A SPECIMEN of glass labelling in Liverpool was placed last week over a shop front in Scotland-road. The present operation consists in applying gold or silver leaf to the back part of plate or sheet glass with a glutinous substance, which does not affect the brilliancy of the gold; and after the gold is burnished by the application of heat, the writing or etching is then secured by a varnish, and the surplus gold removed; the ground is then laid as on wood, or any other surface, and the work is finished.—A new Justice-room at the Mansion-house, London, is to be built forthwith.—A premium of 50l. is offered for the approved design of an ornamental building to be erected at Dundee Harbour, in commemoration of the landing of her

Majesty there in 1844.—From the calculations of the persons appointed, 11,819 persons are known to have visited the British Museum on Tuesday and Wednesday; upwards of 2,000 umbrellas passed through the hands of the officers during the first day. The National Gallery had 6,910 visitors. The United Service Museum, Whitehall-yard, 2100.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 98.)

HATCH. A slight erection of boards and slips of wood, for corn and other agricultural produce; also a hollow trap to catch weasels and other animals; or, a hatch is appropriated to feeding of animals. In ships, hatches are a kind of trap-doors between the mainmast and foremast, leading from one deck to another, and the place they occupy is called the hatchway. Flood-gates in rivers and canals are sometimes called hatches.

HEPTAGON. See Geometry.

HELICAL LINE OF HAND-RAIL. The line, or spiral line, twisting round the cylinder, representing the form of the hand-rail before it is moulded.

HELIOTROPIUM. The name given by the Greeks to their dials or solar quadrants, which were also termed gnomons.

HEM. See Volute, page 94, No. 86.

HEEL OF A RAFTER. The end or foot that rests upon the wall-plate.

HEADERS. (In Masonry.) Stones extending over the thickness of a wall; and in bricklaying, the bricks are called headers, which are laid length-way across the thickness of the wall.

HEADING COURSES. (In bricklaying.) Those courses in which the length of the brick is across the thickness of the wall, are called heading-courses.

HEAD-WAY. The clear distance measured from a given landing-place or stair to the ceiling, allowing for the thickness of the steps.

HEXAGON. See Geometry.

HEATHER-ROOF. A covering to wooden buildings used in Scotland, especially in Argyleshire; recommended as superior to straw-thatch.

HOARDING. The timber enclosure about a building when erecting or repairing.

(To be continued.)

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

"An Old Brass Hunter.—The church at Harrow-on-the-Hill, is the depository of many fine specimens of the fourteenth and fifteenth centuries.

"G. Telbyn."—Forward the Essay to our publishing office. Part I. is re-printed.

"Alpha."—Forwarded as desired.

"V. H."—Next week.

QUERIES.

How to produce coloured letters in plain and ground glass as used for gas-lamps, &c.

The method of embossing glass for ornamental windows.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Cases for Vols. I. II. and III. are now ready, price 1s. 3d. each; or the Publisher will undertake to get them bound for 2s. each, if gilt, or marbled, 6d. extra.

** Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 21 is now ready, Price 10d.

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AN ORIGINAL DESIGN FOR AN INSCRIPTION-TABLET.



Observations on the Present and Future Condition of Bri- tish Art.

(Continued from page 103.)



UT is this its destiny? Has it been so? Do we not too often find a well-painted cabinet, a piece of china, or a chair, call forth more admiration than subjects important to social welfare? It is not that this class of Art is bad: on the contrary, it has great merit; and if perfect execution be carried throughout a work, with fine colour, expression, and true perspective, the result must be valuable. Here, however, the failure unfortunately generally is, that everything is painted better than the figures and the flesh, so that the manual often completely supersedes the intellectual. Light pictures are also too much esteemed for their mere quality of whiteness, without any consideration of tone, colour, or general effect; for,

if the objects be presented to the eye but in a tolerably faithful degree, the spectator rarely inquires further. High distinction is attainable in this style, although it never can be the first; and even that must be purchased by effort pushed to the utmost and a great outlay of time. And will the public, as it thinks now, repay the artist for such long and laborious exertion; In the saddest spirit of truth we reply, we believe not. Nevertheless, that Art at the present time is degenerating, we deny; its tendency is to a familiar, lowering style, in which the dexterity for painting mechanical objects is held of more value than the precious results obtained by highly-cultivated mental intelligence. This we think may be received as a just view of the present condition of Art in its higher branches; the possible future advance we shall consider hereafter, and now proceed to examine its state and prospects as applied to DECORATIVE and ORNAMENTAL purposes.

One would naturally suppose that a people so devoutly commercial as the English would seek not alone its extension, would desire not only to create a market in every spot inhabited by man, but to hold the command of that market by every means within their power. This gratifying fact, however, is disproved by every document. Our commerce, indeed, seems to ebb from civilization, and to flow with greater force the more it streams towards savage life. In European countries it declines; with the swarth African, the Chinese, and Hindoo, it increases. This applies chiefly to articles of clothing. For notwithstanding our resources, the enormous capital employed, our great power in machinery, the enterprise of our merchants, the skill and unceasing industry of our artisans, it was urgently asserted that our manufactures were excluded from the Continent by their inferiority in the arts of design, and overborne by the pressure of foreign goods, introduced into the United Kingdom solely from that cause. This created alarm, the Board of Trade became excited, even Downing-street was moved. A committee of the House of Commons was appointed in 1836, which amply justified whatever a frightened interest expressed. Mr. Martin, the celebrated painter, complained of the want of correct design in the china trade; Mr. Pap-

worth, of its absence in the interior decorative architecture of houses, and in furniture; and Mr. Cockerell, of the adoption of bad styles of architecture arising from a similar want of educated information. Nor was this all. It was shown that all ideas of originality were abandoned by our manufacturers; that, whatever the article of trade, its design was either a direct piracy, or to be pirated at the shortest notice; that to blend, imitate, or distort the productions of others, was a prevailing rule. It was their bread, of which they buttered both sides. Nor can it be said they were entirely to blame. Whatever the manufacture, however liberal the manufacturer's expenditure for designs from the best artists (of which, excepting in the higher branches of trade, as goldsmiths, &c., there were but few), they had no protection for capital thus employed. If Rundell and Bridge engaged Flaxman, Baily, Howard, or Stothard, at an outlay of £1000 per annum, within one month the design was copied, with but slight alterations, by the meanest competitor. In decorative iron work; in all branches of the silk trade; calico-printing, paper-hanging, the practice was the same. Thus no man felt disposed to secure talent the profit upon which he could never call his own. And such was the state of the law then—that it recognised no property in design! This was, perhaps, natural, the State never having considered the Arts of Design worth a statesman's notice. But it was not less ruinous. There were also other reasons. Except in cases where the first artists were employed, none existed who could supply the manufacturers with original patterns. Such as were produced were generally those of men employed on the premises, or half-raw boys, the sons of some foreman engaged, unacquainted with all but the merest elements of drawing, devoid of all educated taste, uninstructed by any examples but those common in the trade; ignorant of proportion, perspective, form, and continuity of outline, beauty of colour, and unblest with any, even the slightest knowledge of it as a question of science. At the best, the designer was left to grope on unassisted, and his work was the mere result of talent unguided by knowledge.

With respect to the state of trade, nothing could be worse. One artist of great eminence

showed that chasing was at quite as low an ebb as it was some twenty years ago; another stated upon complaining that a design by Stothard was spoiled by the artisan, he was answered,—“Sir, in this country we can never get beyond a tea-pot!” while in the case of drawings from such works as the Elgin marbles, to be afterwards executed as a frieze on paper, Mr. Crabb, a decorator, excellently explained the difficulties in his way, and proved the great superiority of the French in all details of this business, and his requisite reliance upon them. It signified very little who was examined, the evidence was throughout the same. We could manufacture, but we could not design. The east and west of London. Spitalfields, Coventry, Manchester, Birmingham, all were represented, and this truth was manifest, that although we might compete, and did, with the French in material, in particular colours, and other details, yet that our goods, particularly silk, and fancy articles of commerce, were either universally copied from the French, or were otherwise avowedly inferior.

Thus the spectacle was exhibited of a nation enabled to produce a better article as regards material, yet unable to compete, and even excluded from competition, with the foreign artist, and that upon their own land, by a want of knowledge in design! Nay, more: it was the patron of that artist, to the acknowledged detriment of its own trade. Indeed, the whole affair was a scramble; patterns imported from France were manufactured off hand; the sole desire was to get possession of the market, even for one day, and to sell at the cheapest rate, at the lowest expenditure. Every one admitted the evil; all, even to the humblest workman, felt its deplorable effects. Now, what was the cause?—The want of a SCHOOL OF DESIGN. We were as men endowed with every attribute of physical power, yet unendowed with reason to give that power effect:—like the barbaric chiefs of old, in whose domains the precious metals abounded, but who suffered them to pass into the possession of every trader, from inability to use them properly themselves. This evil was so clearly established, not only by the Report of the Committee of Arts and Manufactures, by one subsequently made to the Board of Trade by Mr. Dyce, and the concurrent testimony of the

best informed men, that the Government resolved upon the foundation of a permanent school for the education of men, principally for the application of Art to manufactures and the higher branches of trade and professions.

The importance of the connexion between Manufactures and Arts has always been admitted. In Greece great artists arose from the manufacturing districts; it is apparent from all their works that those artists who had failed in the higher branches applied themselves to the lower; and we have admirable works of a minute and minor kind, which were executed by men who had been employed upon a much larger scale, and attempted higher things.—Schools of Design were first introduced into France by Colbert, under the auspices of Louis XIV.; and from that period have been widely diffused. In Germany and Bavaria similar establishments have been formed, the efficacy of which has been greatly increased by their several "Industrial Associations." Yet for us—a peculiarly manufacturing nation, to whom the connexion between Art and Manufactures is most important, and whom it behoves, were it only from motives of mercantile interest to encourage Art for the protection and the promotion of commercial industry—no such institution had existed.

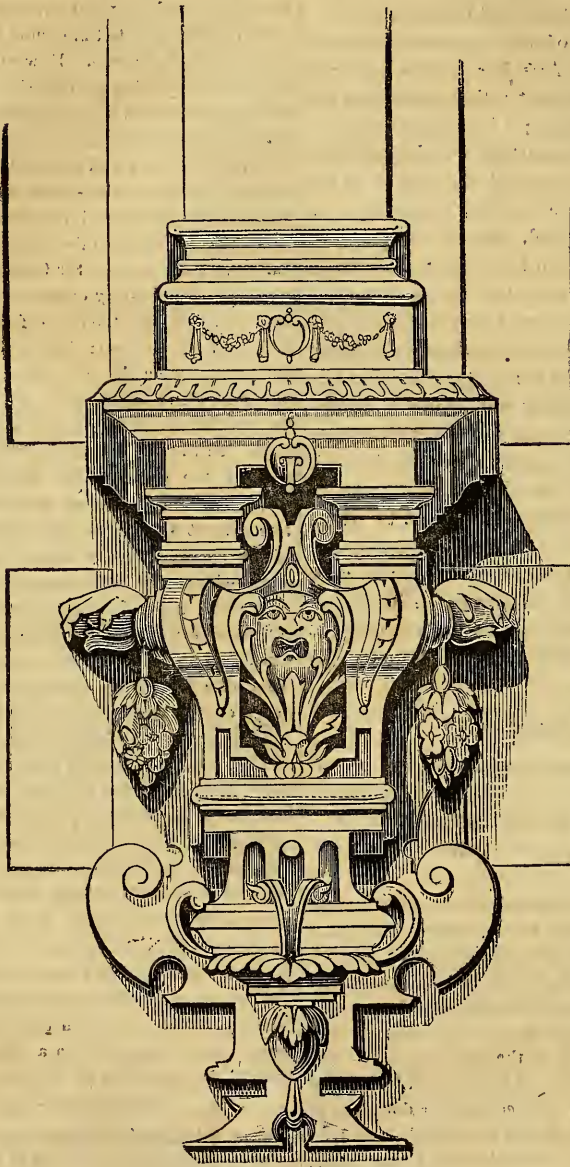
(To be continued.)

Society of Antiquaries.

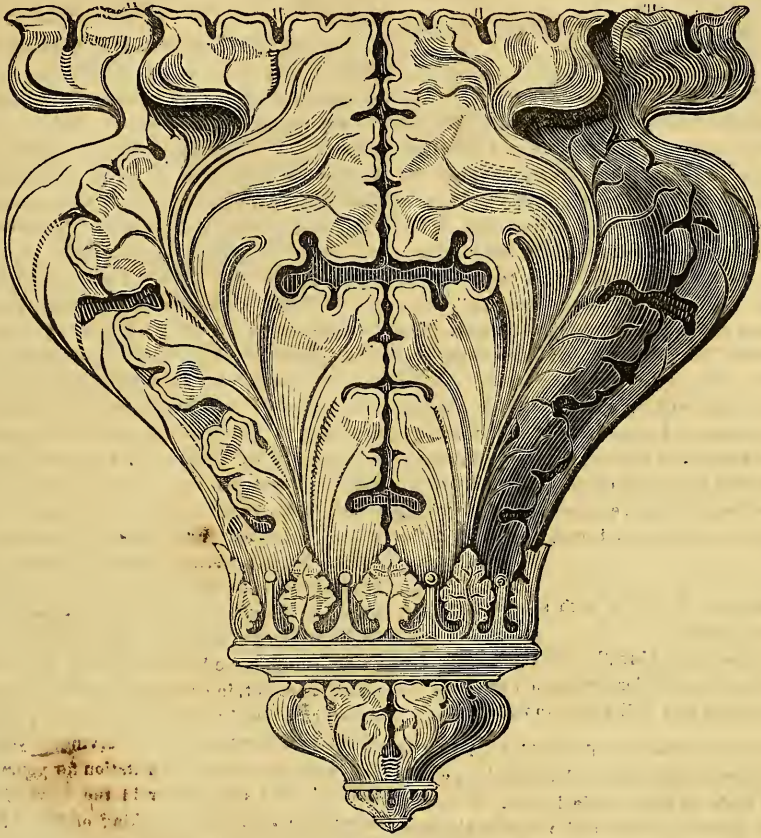
At a meeting held December 14th, the Treasurer in the chair, a number of interesting relics, sent by members and by strangers interested in antiquities, were exhibited, including a curious fibula found, we believe, near Silchester,—and an ornament bearing the appearance of an eagle, picked up in a ploughed field in the same vicinity. The first was supposed to be of Saxon, and the last of Roman manufacture. We confess our doubts as to the eagle; but the fibula was remarkable, and portions of the ancient enamel were visible.—Mr. Arthur Taylor's paper on Roman London was then continued; but a want was felt and generally expressed that the dissertation was not accompanied by any map or plan to illustrate the several new positions on this important question taken up by the author. One of these (and it seemed very startling) was that no part of London, in the time

of the Romans, was on the south side of the Thames,—and that the ground on which the borough of Southwark stands was then little better than a morass. This point seems hardly tenable if we call to mind, as many present did, the Roman remains from time to time found even so far south as St. George's Church. However, we do not feel well qualified to dispute what Mr. Taylor advanced and supported with so much learning.—The second great position was, that no part of London was west of Walbrook; and he adduced in confirmation the fact, that the burial-place was unquestionably between Walbrook and St. Paul's, and that the Romans never interred their dead within the boundaries of their cities. Sir Christopher Wren, it is true, was of a contrary opinion,—and there can be no doubt that after the fire of London he had good means of information; but antiquarian research and science since his time have made such rapid and important advances, as to overturn some of the best founded theories upon this and other subjects. In the explanation and enforcement of this part of the question Mr. Taylor evinced great knowledge and acuteness; and though they militate against the notion that St. Paul's in the time of the Romans was a Pagan temple, we much doubt whether his views can be satisfactorily controverted. After the paper had been concluded a discussion arose upon an incidental question—the word Cole or Cold-harbour; some contending that it meant a deposit for coal,—others that it was so called on account of its coldness and sterility, not a few poor, barren lands bearing the denomination of Coldharbour,—while a third, but less numerous body, maintained that the word in its first syllable had the same etymology as Colewort, and that Cole or Kale had been once grown in large quantities on the Coldharbour lands. One gentleman adduced a decisive passage from Pepys's 'Diary' to show that it sometimes, in the reign of Charles II., meant only a coal-cellar. The truth, no doubt, is, that this word, like some others, has two or three etymologies and applications; one of them, perhaps, being the Latin *coluber*,—which might carry back Coleharbour to a period even antecedent to the occupation of England by the Romans.

Spar.—In England ornamental masonry appears to have been carried on longest in Derbyshire, which is singularly rich in minerals. The objects originally made of spar were urns, vases, columns, and obelisks; but generally they were solid lumps of stone, and from their great weight most inconvenient to move. But later works, besides being copies of the most approved forms of the antique, are manufactured very thin and light, so that a taper placed within displays the most extraordinary and richest colours in the mineral world.



A DESIGN FOR A BRACKET.—(FLEMISH STYLE)



AN ORIGINAL DESIGN FOR A PENDANT.—(GOTHIC)

123456789.

FIGURES OF THE TWELFTH CENTURY.

Modern Town Houses.

BY FRANCIS CROSS.

THE great increase of dwellings and fashionable residences that have been erected in or about London of late years, has not a little astonished and frightened those who had regarded the purchase of house property as a desirable investment; and it affords not a little astonishment to our "country cousins," on their occasional visits to notice the great alterations, termed "improvements," that a few months produce in our great metropolis. The "green lanes" have disappeared; even those spots known as the public fields and commons for years, have been suddenly enclosed, and changed to uncommon good property. Fields! where are they? What will or has become of the Britannia fields, London fields, and others—the resort of the industrious on a holiday, enclosed for brick-making and when the brick-earth becomes exhausted, the ground

"Soon covered 't will be with streets, crescents,
and squares,

Though the houses a breath down could shake 'em;
Just see! how the builders on earth *run up* theirs,
And yet *gulls* they find plenty to take 'em."

Who are they who have done this? A class of speculative men calling themselves builders, whose stock in trade is ready-made houses. They can give you almost as great and varied a choice of their goods as the linendraper; all, however, according to the length of your purse, from the small fourth-rate tenement, to the fashionable and *desirable* family residence; but is the home or dwelling a thing to be used only while in favour or fashion with its wearer? No! it is a necessary and indispensable appendage to the comfort of life; the more, therefore, is it necessary that these homes should in all respects be sound, durable, and convenient. But in the present economical times, cheapness is the ruling genius, and every one is anxious to get as much as possible to look at for his money. The call for new houses and new neighbourhoods has produced dishonest builders, who are the perpetrators of vile productions of condemned bricks and unseasoned timber.

"Of building they'll never tire,
Each end of town's run wild,
And the rents like the houses *grow higher*,
Which are mortgaged before they are tiled.

But though they get tenants for all,
The knowing ones wink their eye,
For they fancy *the rents must fall*
With the houses themselves bye and bye."

In building for immediate sale, what need these builders care about construction?—they erect for the present, not for the future. Let but one-half of the population that are so ready to become tenants watch the manufacture of these London houses, and they would feel some hesitation before they trusted their signature to an agreement to "uphold, sustain, and maintain" for seven years, and leave in good and tenantable repair the property,—however neat and clean an appearance it carried to the eye,—and would pause before they became the purchasers or tenants of crazy and faulty tenements that are only kept upright by one supporting another. Let every one consider this subject in order that he may not find out that it is necessary to reside in a house before its faults or beauties can be known. The present system of building ought to receive a decided check: let the public be no longer content to encourage the erection of shattered brick walls and miserably bedaubed compositings, rather let them build,—let them consider what is requisite for the convenience of their families, and that every department be in its proper situation, and suitable to their wants, and that the building should want nothing which it has not, in order that the home may produce "health and pleasure to you and yours, and surely nothing can be more deserving of your care than a good, substantial habitation for yourself and family." An able writer in the *New Monthly*, some time ago, when speaking of the "Modern Town Houses," gave a clever sketch of the miseries he endured by becoming the tenant of a *crack* house. He says,—

"The house in question was one in a row, building or built, whitened outside in imitation of stone. It was No. 2,—No 1 was not quite finished, for the windows were still stained with whitewash and colouring. No. 2, the one in question, was complete, and the builder asserted was ready for immediate occupation. No 3 was not advanced so far as the others—they were but carcases. 'Why,' said I, 'we shall be smothered by the dust-lime and lime for the next two years.' 'Don't be alarmed,' said the builder, 'every house will be finished this winter.' 'Is the entrance handsome?' observed my wife, 'and neat and clean?' 'To this I had no reply to make, as it certainly looked neat and clean. We went over the house, examined the rooms, which were all allotted by my wife, and of which the builder took good note; finally, we looked at the kitchen, which was admired, as also the coal cellar, pantry, scullery, and dust-hole,—all was declared so compact and nice. 'Don't you think it charming?' said my wife. 'It seems to do very well, but requires consideration,' I observed. 'I

can't give you long,' observed the builder, 'two other parties are after it.' 'Take it,' said my wife, so chimed in my daughters. 'What is the rent, then?' 'Two hundred guineas a year.' 'And the taxes?' 'A mere trifle.' 'What term do you let for?' 'Seven, fourteen, or twenty-one years, at the option of either party,' the builder answered. 'I will take it for three years,' I said, and the builder seeing he would not be able to make me take it for a longer term, assented. We commenced moving, and shortly afterwards I noticed sundry indications that betokened that my wife thought of giving a house-warming, or as she called it, 'a little dance.' Well, the evening came, the ball commenced,—the house warming ended in house breaking! When the four-and-twenty couple were going the grand round, a great noise took place below. 'What is the matter?' said my wife. 'Ma'am,' said Mr. Gunter's man, 'the ceiling of the dining-room has fallen down and spoilt the supper table.' Here was a catastrophe,—we went down stairs, and sure enough, as he said, the mortar had broken the jellies, patties, cold meats, creams, trifle, all into one mass of ruin, mixed with lime and hair. It presented all the appearance of a Swiss avalanche in miniature. 'These new houses won't bear dancing in,' said Mr. Gunter's man. The next day I sent for the builder, and showed him what had taken place. 'Dear me! I am very sorry, but you had too many people overhead, that's very clear.' 'Very clear!—why, we had a ball,' I said. 'No wonder, then,' observed the builder. 'What, then, are we to give no balls? I asked.' 'Why, sir, you see, we don't build private houses, now-a-days, as ball-rooms;—we could not, sir—the price of timber is so ruinous, and the additional strength would never pay us.' Mr. Builder, I expect you to make the ceiling good.' 'Much obliged for the preference; I will do it as reasonable as any one,' replied he, bowing; 'I will send in the men directly.'

"At the end of a month I had to pay a bill—more than the ball and supper cost. Shortly afterwards I thought I would have paintings hung, so I sent for the carpenter. I pointed out a place to the man on the steps, 'But' answered he, tapping with his hammer, "can't find wood, sir. No, there is nothing to nail to, sir; but there never is wood in these new houses.' Confound your new houses, thought I. 'What's the house built of, then?' said I. 'Lath and plaster,' said the man, tapping right and left. The next annoyance was bad smell from the drains. The bricklayer was sent for; he came, and pronounced them choked, and added, 'they make the drains in these new houses so small, sir.' Well, the whole of the basement was taken up, and 40*l.* expense incurred before the nuisance was abated. I hoped now all was right, for I heard a conversation between my wife and eldest daughter which gave me some satisfaction. 'It is really very awkward, one don't know where to put anything; there is not a cupboard or stow-hole in the whole house.' Well, then came some gales of wind and heavy showers of rain; slates blew off, and rattled up and down all night, complaints came from the attics. One had the bed wetted quite through from the water dripping through the ceiling;—another had put a basin to catch the leak—all declared the roof a sieve. I sent again for the builder, who told me I must expect the slates would move a little after such heavy gales, as they were

so light, and the wind got under them. 'You know, sir,' continued the builder, 'we can't put a heavy roof on brick-and-a-half walls.' 'Brick-and-a-half walls!' said I, 'why, that is not surely safe, sir?' 'Not quite, sir, if this was a single house; but then in a row, one supports the other.' Thank Heaven! I took it but for three years,—and six months are gone. I thought of my old house I had left to meet the fashionable wishes of my wife, and sighed to become its inmate once more."

(To be continued.)

Method of Painting Japan-work.

IN No. 61, page 103, vol. III, we gave a description of the colours used in painting Japan-work. We now give the method of laying the colours on. Japan-work ought properly to be painted with colours in varnish; though for the greater dispatch and in some very small works, for the freer use of the pencil, the colours are sometimes tempered in oil, which should previously have a fourth part of its weight of gum animi dissolved in it; or, in default of that, gum sandarach or gum mastich. When the oil is thus used, it should be well diluted with oil of turpentine; that the colours may lay more evenly and thin, by which means fewer of the polishing or upper coats of varnishing will be necessary. In some instances, water colours are laid on grounds of gold, in the manner of other paintings, and are best when so used in their proper appearance, without any varnish over them; and they are also sometimes so managed as to have the effect of embossed work. The colours employed in this way, for painting, are best prepared by means of isinglass size, corrected by honey or sugar candy. The body of which the embossed work is raised, need not, however, be tinged with the exterior colour, but may be best formed of very strong gum water, thickened to a proper consistence by bole armenian and whiting in equal parts, which being laid on the proper figure, and repaired when dry, may be then painted the proper colours, tempered with the isinglass size, or in the usual manner, with shell-lac varnish.

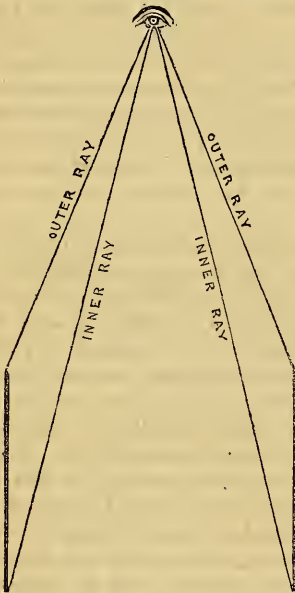
Roman Pavement.—The remains of a pavement considered to be Roman, were a few days ago discovered a little below the surface of the ground, at Eastbourne, by the workmen employed in constructing the sea-wall, between the Wash and the Sea-houses. The spot appears to have been paved in small squares, and at one part the work has been damaged, probably by the operation of the plough. It has been visited by a great number of persons. •

Perspective.

(Continued from page 109.)

THE annexed illustration shows the effect of the sides of the street appearing, as the distance is increased, to tend *inwards* when the spectator stands in the middle of the street.

In this illustration, the rays of light proceeding from the remote extremities are inside of the rays proceeding from the near extremities; the lines as their distance increases would therefore seem to tend inwards to an eye placed in the position of the fixed point. This is an effect precisely similar to



that observed by a spectator standing in the middle of the street, and to whom the sides of the street appear to tend inwards as the distance is increased.

If the observer change his position, and, standing in the middle of the footway on the right of the cut, look down the footway, he will find that, for example, the row of lamps on each side of the street will, in this new position, both seem to tend towards the right as the distance increases; and were he then to change to a similar position on the left of the cut, they would then seem to him to tend towards the left, as the distance increased.

(To be continued.)

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 110.)

HIEROGLYPHICS. (In archæology.) The appellation given to those sacred characters with which the Egyptians decorated the greater part of



their monuments, forming a species of writing understood only by the priests. In the Egyptian paintings, the soul is represented as a bird, with human head and arms.

HYDRAULOS. A pneumatic engine, mentioned by Vitruvius and other ancient authors, the use and form of which are not well known.

HYPERBOLIC CYLINDROID. A solid formed by the revolution of the hyperbola about its conjugate axis.

HYPERTHYRUM. In ancient buildings, the ornament which extends over the aperture of the doorway.

HYPOMOCHLION, the fulcrum or prop of a lever, which, when heavy bodies are raised by that instrument, bears all the incumbent weight; it is applied also to the roller placed under pieces of timber or stones, to facilitate their removal.

HYPOPODIUM. A footstool used in the ancient baths, &c.

HYPOSCENIUM. A term applied by Pollux to the wall before the scene which faced the orchestra.

HYPOTRACHELIUM. A term given by Vitruvius to the slenderest part of the shaft of a column where it joins the capital. It signifies the part under the neck.

(To be continued.)

Banvard's Geographical Panorama of the Mississippi and Mis- souri Rivers.

THE interest that this gigantic and extraordinary work is exciting is a sufficient guarantee of the estimation in which its performance is held by the public. On the occasion of our visit last week the room devoted to the purpose of its exhibition was very much crowded. This may truly be termed an extraordinary work, and one that only an enthusiastic lover of his subject could ever have found patience and energy to accomplish, being, according to the painter, the largest picture in the world; and we can readily imagine it to be so, as it extends over three miles of canvas, and embraces in its details no less than three thousand miles of the Mississippi and Missouri Rivers. The panorama is exhibited as a moving panorama, turning upon large cylinders, and displaying to the spectator the extent of a very large-sized picture, a sort of proscenium being before it; it thus extends its vast length, and the eye takes in the whole range of the rivers, from their sources to their terminations. In so comprehensive a picture, which took the artist four hundred days to make the preliminary sketches, it can scarcely be imagined the painter aims at artistic effect. To use his own words, "he does not exhibit it as a work of art, but as a correct representation of the country it portrays; its high reputation is based upon its accuracy." It is one of those peculiar exhibitions that a single visit scarcely suffices to make us acquainted with its various points of interest; there are several bits of scenery that, in their vast sweep of wood and dale, are truly beautiful, their deep solitude seeming to render them like regions where only the Indian has yet wandered, and recalls forcibly to the mind the history and legends of the Indians in their original state. The legend of the White Fawn, which Banvard has thrown into creditable verse, and delivers with much feeling, enhances the interest of the bluffs he illustrates; whilst the various points of civilised scenery are given with graphic effect. There are some peculiar features about the Rivers that are wildly picturesque—the extraordinary Domes, that seem as if fashioned by the most skilful architect, and which we can scarcely imagine to be only formed by the wind and rain—the brilliant colouring of the Brick Kilns, looking like vast antiquated towers frowning over a wilderness of solitude—the Prairie, one of nature's most extraordinary sights, and the glowing of the fire raging in the distance over its vast extent. The panorama commences at a place called the Yellow Stone Bluffs, and then pursues its course through the Indian encampments, the Plains, with the Sioux in their wild state; passing Rush Island, Herculaneum, Jefferson Barracks, St. Louis, the mouth of the Ohio, Cairo, the Indian Mounds, Plumb Point, Vicksburg, Natchez, Baton Rouge, New Orleans, &c. &c. The scenery embraces the most grand and beautiful of any of the American rivers, and several of the views, are remarkably beautiful, giving an idea of scenery and customs

with which the spectator in this country is not familiar; and not the least curious amongst the accessories are the American steam-boats, that seem like large floating cities, rather than mere vessels of passage. Mr. Banvard himself explains with much spirit the principal topics of interest connected with the various remarkable scenes and places; in addition to which, a small volume is given by him to the spectator, and really constitutes by no means the least interesting feature of the exhibition. The whole is replete with information, and during the two hours the panorama is passing before us, we learn more of America, its resources and customs, than we should gain in the perusal of a dozen volumes of travels. To those of our readers who have not already visited the exhibition at the Egyptian Hall, Piccadilly, we earnestly entreat them to do so, feeling assured that they will be intellectually gratified at the result.

Among the many curious and interesting applications of science which constantly greet us, the application of the destructive gun-cotton to the alleviation of suffering humanity is not the least interesting. Gun-cotton dissolved in ether has for some time been very successfully employed as an application to incised wounds. When washed over the surface, the ether rapidly evaporating leaves behind a film which is impervious to air; and thus the wound, protected from atmospheric influences, heals by the first intention. But now we find this curious compound employed successfully in the cure of the tooth-ache. The cavity of the tooth being cleaned out, a little asbestos saturated with collodion, as it is called, to which a little morphia is added, is placed in it. All soon becomes solid; and thus an excellent stopping and a powerful anodyne are applied at the same time.

A process of much mechanical ingenuity for the purpose of preventing the forgery of bank notes has lately been attracting great attention in Paris. It is now brought forward by M. Seguier as a novelty; but from the communication made to the Academy of Sciences, it appears to us to be but a slightly modified form of compound plate-printing patented many years since by Mr. Whiting, Beaufort House, Strand.

Portrait Painting in Portugal.—We may mention that as regards portrait painting (which generally flourishes even in countries where the Fine Arts have taken no deep root), there is no artist who appears capable of painting a head. Some adventurer of the lowest order came from Madrid a short time since, and painted the whole of those who wished to perpetuate their likenesses, at about £2 10s. per head. The drawing-master of the Orphans' Hospital at Belem painted a portrait of the present Queen, her father, and his second wife: we do not think even the Vicar of Wakefield would have patronised such a painter. If, as must be the case in every civilised country at some time or another, the Arts should flourish here, this work will be preserved in one of the finest buildings, as a curious specimen of what was the state of native art patronised by royalty in Portugal in the nineteenth century.

The Chronotypist.

THE Baths and Wash-houses in St. Martin's in the Fields were opened a few days since, under the presidency of Sir H. Dukinfield, late Vicar.—The Durham papers state that the excavation of the interesting caverns at Kepshead will shortly take place. The investigation cannot fail to be most important to the science of geology.—Mr. Burnard, a Devonshire Artist has been authorised to execute a statue of Mr. Richard Lander, the enterprising traveller in Africa, who was a native of Truro. The figure will be placed on the Lander column, in Lemon Street, Truro; its height will be about 8 feet, and its material will be stone, either Portland or Magnesian limestone. The design will be as simple and effective as possible.—Llandillo Bridge, Carmarthenshire, a noble structure, is just completed. It is nearly 150 feet span, and built, principally of black marble, at an expense of about £18,000.—The building of the new Colleges in Galway, Cork, Belfast and Maynooth, is proceeding towards completion. That at Belfast, is the most forward. The sites for each is about 10 acres, and the style of architecture Gothic; the Cork College occupies three sides of a quadrangle. The extent of the north or entrance front, is 290 feet, 9 inches; east front, 232 feet; and west front, 191 feet. The library is 56 feet by 28 feet. The main quadrangle is 215 feet, 9 inches, by 161 feet.—The £600 a year, to be given by Messrs. Longman's for ten years to Mr. Macaulay, for ten years' copyright of the first two volumes of his 'History of England,' is perhaps the largest sum ever given for a work, in two volumes.—The largest sums heretofore known to have been paid, are—4,000 guineas to Washington Irving for his 'Life of Columbus,' in four volumes, octavo, —2,000 guineas to Moore for his 'Life of Byron,' in two volumes, quarto,—and £4,500 for ten years to the present Bishop of Oxford and his brother for the "Life of Wilberforce," in five volumes, octavo. Mr. Roberts is said to have received 3,000 guineas from his "Life of Hannah More," in five volumes, octavo; Mr. Twiss 2,000 guineas from his "Life of Lord Eldon;" and Mr. Stanley something like 1,500 guineas from his "Life of Dr. Arnold:" but these were receipts upon the sale, not specific sums given by way of speculation, like the payments to Moore, Irving, Wilberforce, and Macaulay. The largest sum ever realised by any one work whilst it continued to be called a new publication, was £18,000, the proceeds of Sir Walter Scott's "Life of Napoleon," the work of twelve months, and

published in nine volumes, octavo, in 1827.—The Dean and Chapter of Canterbury Cathedral have thankfully accepted the offer of various subscribers to provide a stained glass window for the cathedral.—The pinnacle of Pelynt Church spire, says an Exeter paper, was lately struck by lightning, which scattered its granite masses in every direction, and ran through the building, doing some other damage, and boring a hole through a wall like a bullet hole.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

"J. R. J."—*The article is placed in a groove cut in a piece of charcoal, and the breath forced through the flame by means of a blow-pipe, forms a hot-blast which melts the solder. Varnishes of all descriptions are difficult, expensive, and even dangerous to manufacture on a small scale. You had much better procure it of the manufacturer Live and let live.*

"B. S."—*There were some very fine specimens of the kind at Hatfield House, Herts.*

Other Correspondents next week

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

****Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

Part 21 is now ready, Price 10d.

**** Part I, is also re-printed, and will in future be charged at 10d. each.*



AN ORIGINAL DESIGN FOR A BOUQUET OF FLOWERS.



Observations on the Present and Future Condition of British Art.

(Continued from page 113.)



THE School of Design at Somerset-house was consequently opened; and, considering its great importance, we shall now detail the objects it has in view. First, it proceeds upon a principle well established in relation to every direction of the mind—that to elicit genius, or make it the power it may become, you must educate it. The rule applicable to law, to medical science, from the commonest to the lowest pursuits, is still as stringently applicable to Art. Every great artist of the past went through a rigid course of study; every book upon the subject proves this; every aberration from the system attests its necessity. Who designed in the middle ages? Raffaele. From whom sprung even the debased system called the style of Louis

XIV.—more correctly that of his successor? From the examples of Ornamental Art, executed by the Grecians, Romans, and Italians, long accredited as the offspring of high and cultivated taste, as practised by Michel Angiolo and Cellini, as designed by Le Pautre, and given in valuable documents by Piranesi. The style of Louis the Fourteenth was the Roman style, with a more sumptuous expression.

It was by such men, then, that of old the ornaments of palaces, the works to be produced in the loom, in silver, bronze, iron, and wood, were designed. It is to raise up men, if possible such men—at all events men trained in the discipline of such examples—that the Directors of these Schools labour. A rigid course of instruction is adopted; the pupils are taught to draw ornament and the figure; the best works, and the purest models, are supplied; the classic style is adopted as the best; only the most beautiful forms are placed before them; the power of light and shade, the use of chalk, the laws of chiaroscuro, and of colour in all its details, are made a daily study, and the most assiduous practice. The education of all is essentially the same, but as they acquire a knowledge of drawing they have copies placed before them, and their attention is directed to the class of ornament and its application most likely to be conducive to their several future occupations. What that occupation may be, is not, however, incumbent on the School to decide. Their mission is the cultivation of taste, the communication of knowledge, the training of the mind by the discipline of great examples. It is the genius of the pupil, and the wants of the manufacturer, that must determine the employment of the knowledge here obtained. This is well known; and not to derive the advantages this School affords to the capitalist, because it does not supply the practised workman, is not only in the way of all improvement, but of all sane reasoning.

In France, where many artists are employed, it happens, particularly with reference to the loom, that they also are generally the *metteurs en carte*, but this has never been the case here; and whatever advantage may be derived from this practice, time doubtless will secure. Still less can it be expected that artists can at once be reared; but this School can, nay, does rear

excellent workmen as ornamentists, and numbers of practical designers have derived great advantage from their study of Art within its walls. The Queen's summer-house has been already partly painted by one pupil in a style far exceeding the work of any foreign artist employed in this country; others are engaged rapidly as ornamentists, or as teachers in local schools, where the head masters are always, where it is possible, artists of the higher class. Of the silent, gradual influence of this system upon the formation of public taste there can be no doubt. Fashion may counteract its efficacy, and will; but "a breath can make this, as a breath has made." The generation for whose dresses Kent designed the five orders of architecture, we have not the least doubt, has been succeeded by another whose silks and cottons may be made far more attractive by designs from Somerset-house, of a more becoming—more artistic, and less ambitious character. Let not, therefore, those who make, or those who sell, lay the flattering unction to their souls, that the public has no taste, and that there is no wisdom in the manufacture of any article of design, and that the old pattern, the time-worn system—is the best.

Such opinions may suit the warehouse or the counter,—are in accordance with the limited capacity of those to whom the present gain is the be-all and the end-all here; but, *eppure si muove*, opinion advances; and such men will be found, in the dim and dusty waste of their own silent, desolate premises, the becoming memorials of a system they had not the genius to break through, and hardly the cunning to make profitable to their own ends.

Turn we now to the Future of British Art. Like every human prospect, it is one of mingled hopes and fears. Yet assuredly it has more of hope. The gloom that has hung over and accompanied the course of British Art, like mists which gather round the sun, and which seldom fail as it advances to make more palpable the beauty of that luminary whose glory they cannot wholly hide, is now far spent. Religion has become more tolerant of her productions, the state more anxious to promote and to protect them, the people more impressed by their humanising influence, more anxious to extend it, to make Art a companion of their pleasure, the enlivener of their homes, and an additional

power for the furtherance of honourable ambition. Our artists have proved they are equal to national undertakings, and anxious to redeem the past. The schools of France and England seem to evince more original talent than other countries, more novelty in style and conception, although not always equal in execution. The schools in the other parts of Europe fluctuate between Albert Durer and Raffaele, without the originality of the one, or the beauty and completeness of the other. The evil consequent upon the present state of opinion, the Future of British Art will assuredly correct. The demand for works of small value, and at a very low price, the besetting public sin of the present day, will become exhausted from the higher calls for monumental works which we think await the artist; for, as ripple expands into ripple, so from circle to circle does the influence of example, and from the throne to the cottage we are convinced there is now a higher conception and a more generous appreciation of the object and purposes of Art than have ever heretofore existed. Of the advantage of combining industry with education in the Mechanical Arts, as now so ably conducted at the School of Design, none can doubt: it must produce refinements the most liberal; nor can one be carried to perfection without being accompanied in a great degree by the other. The spirit of the age, says Beattie, affects all the Arts; and the minds of men being once roused from their lethargy, and put into a fermentation, turn themselves on all sides, and carry improvements throughout all branches of mental pursuit. The more the Arts advance, the more sociable do men become. As they extend, the political condition of a people becomes more assured, factions are less inveterate, controversy less hateful, revolutions less tragical, authoritip less severe, and seditions less frequent.

"A taste for the Fine Arts," says Lord Kames, "goes hand in hand with the moral sense, to which, indeed, it is nearly allied: both of them discover what is right, and what is wrong; fashion, temper, and education may vitiate both, or preserve them pure and untainted: neither of them are arbitrary or local, being rooted in human nature, and common to all men." A diligent study of the classics might teach us that Rome was vitiated by her

Arts, and not by her Asiatic luxuries; but a diligent study of human nature will assure us the Arts, created by the intellect, will advance with the intellectual destiny of man. That destiny is progress. The material world is governed by fixed laws: the spiritual is an effusion of light from perfection to perfection. The mighty orbs of heaven still roll in the vastness of space, in the sphere designed by the Eternal Wisdom, at whose word they arose; worlds themselves, to give light, and be a theme of wonder and of praise to others. Beauty the most exquisite—in outline the most varied; of every hue and combination of colour; of form the most diverse, clothed with every attribute of gracefulness and strength—invests the earth. In equal wisdom, with an unerring adaptation of nature unto clime, every class of the animal creation attests its Maker. But to these a fixed law of life, an immutable destiny is given. It is not so with man: endowed with the highest powers, taught to aspire to the noblest ends, his mind is free; he is a law unto himself; his destiny is the work of his own will. To him the past is time, the future is eternity, his moral state of being is created coequal with his progressive condition, and the soul, conscious of this law, bursts from the frame of clay,

“Wrapt round its struggling powers.”

No age can transmit to its successors the heritage of the human mind, in the condition it was received. Thought, which creates opinion, refines as it progresses; becomes more enlarged in its conceptions, better founded, and more diffused. From the social union of men, from their daily habitual intercourse, a gradual progression of manners and opinions originates, which nothing can retard. In the general history of civilization it will be found that it is the silent, gradual succession of causes, rather than the fear of powerful influences, which has largely affected the condition of a people. If we review the past, who can doubt society has advanced?—if we consider our own powers, who can doubt we must continue to advance? We have hope, we have confidence in the times to be: in the future of social condition, of government, literature, science, and the **FUTURE OF BRITISH ART.**

THE British Museum is now open to the public. The last vestige of Montagu-house is gone.

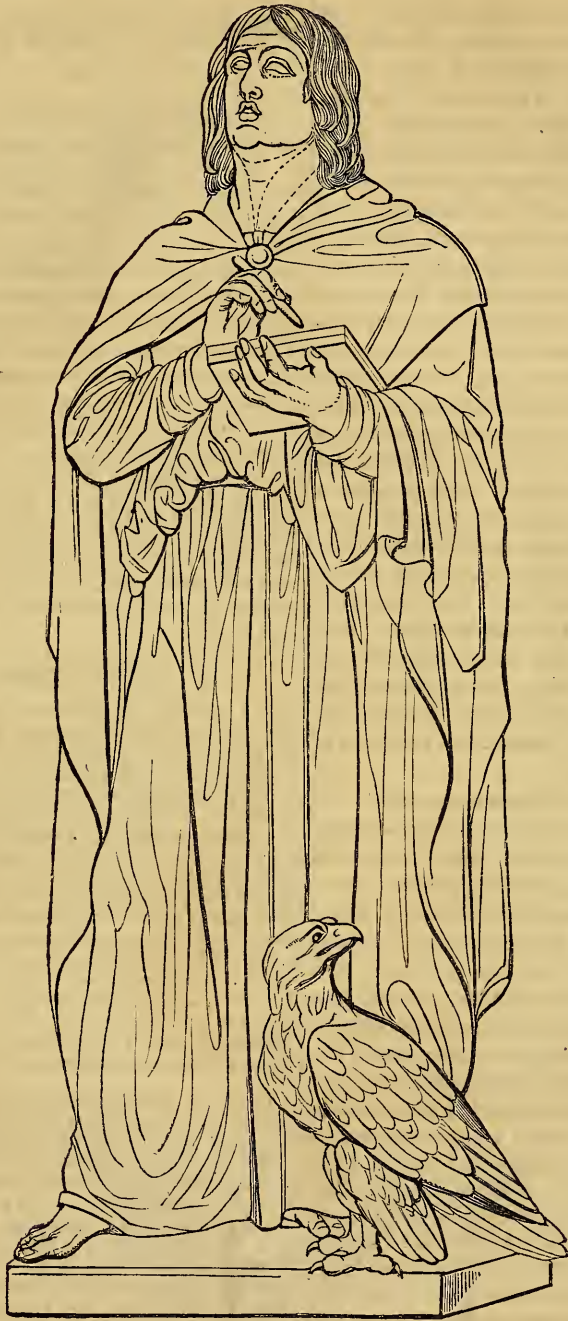
Method of Varnishing Japan-work.

THE finishing of japan-work lies in the laying on, and polishing the outer coats of varnish that are necessary, which is generally done with the best common seed-lac varnish, which is thus applied:—The work to be varnished should be placed near a fire, and made perfectly dry; then the varnish rubbed over, beginning in the middle and passing to one end, again from the middle passing to the other, avoiding to go twice over the same place in forming one coat; when one coat is dry, lay on another, till you have a sufficient thickness to bear the polish, which must be done by rubbing it with a rag dipped in tripoli, or rotten-stone, finely powdered; but towards the end of the rubbing, a little oil of any kind should be used along with the powder; and when the work appears sufficiently bright and glossy, it should be well rubbed with the oil alone to clear it from the powder, and give it a still brighter lustre. In case of white grounds, fine putty or whiting must be used.

SUBMARINE TELEGRAPH.—On Wednesday the 10th, successful experiments were made at Folkestone Harbour, under the direction of Mr. Walker, the superintendent of the South-Eastern Company's telegraphic system, preparatory to the attempt to complete the telegraphic communication across the Straits of Dover. Upwards of two miles of wire covered with vulcanised gutta percha were carried out in a small boat and submerged in the sea along the mouth of the harbour, and at the sides of the pier. One end of the wire was connected with a telegraphic instrument on the deck of the *Princess Mary* steamer, and the other end with the telegraph wire communicating with London. A continued correspondence was then kept up between the steamer and the stations of London, Ashford, and Tunbridge, for three or four hours with the most perfect success.

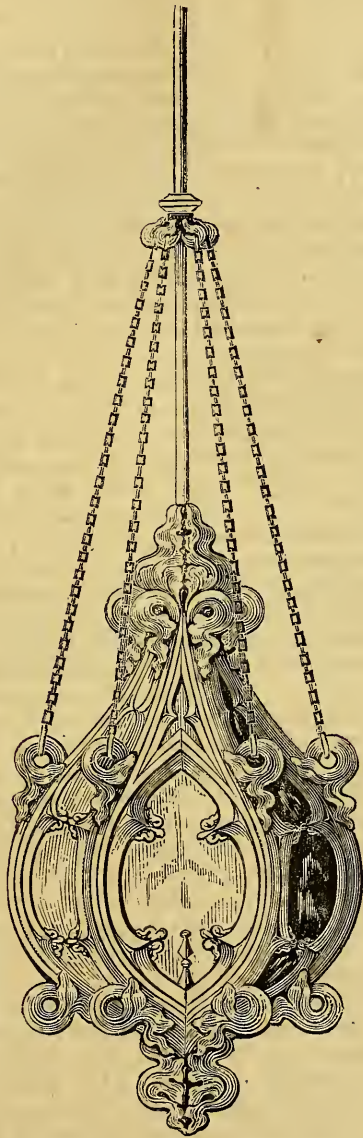
GOLD IN BRITAIN.—While the newspapers of Europe and America proclaim the wonders of the new gold region of California, which appears to realize the dreams of poets,—it is not uninteresting to know that some mineral lodes of this country contain the precious metal. It is well known that the Romans worked the mines of Cardiganshire and Merionethshire for gold; and we learn that East Cwmhesian Mine in the latter county has, from a lead lode, recently yielded six or seven pounds of gold, and that two hundred ounces are now on the surface of the mine.

COAL.—This invaluable substance has recently been found in the Straits of Magellan, samples of which have been transmitted to the Admiralty, and by that Board referred to scientific examination.



St. John the Evangelist.

(AFTER THORWALSDEN.)



AN ORIGINAL DESIGN FOR A PENDANT LAMP.—(GOTHIC.)

BY J. E. ROBINSON.

Observations on the Polychromatic Decoration of the Middle Ages.

(Continued from page 107.)

In point of fact, decorative painting was naturally subject to the same influence of the same external cause that affected Art generally, and in the fourteenth and fifteenth centuries had evolved for itself a style essentially distinct both from the classic and revived manner. In Italy, the style thus formed not only appears from the first to have had a looser hold, but was earlier abandoned for a style in imitation of the antique; all the productions of that country subsequent to the revival are conceived in a distinct spirit, and executed in a manner rapidly deviating from the practice of Northern Europe; decorative painting, in the hands of the Italian school, gradually ceased to be Polychromy, and assumed a form subject to all the laws of pictorial composition.

It would be a matter of great difficulty to reduce the practice of Polychromatic decoration to any precise rules: observations and comparison of remaining examples, will, however, be sufficient for the architect to understand the spirit, and will serve alike as a guide for the restoration of old, or the designing for new works.

In Gothic Polychromy, as in Gothic architecture, notwithstanding the fertility of detail that prevailed, there will be found, during the epoch of any particular style, a vast number of instances in which the ancient architects have imitated themselves; continual repetition of the same idea will frequently be observable in particular districts, or, if differing at all, only in the degree that circumstances or individual taste may have modified the original standard. The skill of the designers was exhibited in the reproduction of certain set forms, and in suiting them to particular localities or requirements, rather than the thirst for novelties which characterise the present day. Copies of a few ceilings, strings, shafts, and canopies, with their mouldings and enrichments, and a few examples of diaper, would form an alphabet of Polychromy which would supply the knowledge of ancient colour an antiquary could require. In churches of almost the earliest date, traces of colour may be found, generally applied in a very rude manner, and frequently consisting of nothing more than yellow wash and red or black bands. This observation holds true of almost all the decorative painting that is supposed to have been exer-

cised during the prevalence of the Saxon and Norman styles. Where any pattern has been attempted, it may be immediately recognised by the resemblance it bears to the sculptured enrichments of the period.

In the north transept of Winchester Cathedral, there exists a singular relic of early painting. The arches of early Norman date have their massive masonry concealed beneath a coat of plaster, which retains indications of colour. On the side of one of the arches that face eastwards, are a series of radiating lines that are drawn to represent the arch-stones, in a blood-red colour, in each of which are intersecting bands, forming a kind of cross saltire, which bands are dotted with spots of a deeper red. The opposite side of the arch is ornamented with a different design, but of the same colour; and a scroll pattern is also existing running round parallel to the arch. A nearer approach to the manner of a later age, is shown in Bishop Gundulph's work in the nave of Rochester Cathedral, where the sculptured enrichments that fill the spandril spaces between the double arches of the triforia, and the large single arch within which they are embraced, are picked out in different colours. In some of these cases, the enrichments resemble the flattened-tooth ornament, with which the walls of Westminster Abbey are covered. The whole of the Norman work in Rochester Cathedral has been covered with colour. The stones of the shaft and arches were painted alternately red, green, and yellow, the whole face of the stone being filled by the same colour, not distinguishing the mouldings. In the south transept, the date of which is early in the thirteenth century, a similar system has been adopted, where the stones, and not the mouldings, are distinguished. The labels only are treated as distinct features. The tier of windows at the south end have each stone of the labels marked in a contrasting colour to those of the arches. Thus, if an arch-stone be green, that portion of the label in contact with it will be red or yellow; and *vice versa*. During the former part of what is commonly called the early English period, that is, from 1189 to 1216, decorative painting made but little progress; and the extant specimens exhibit a similar mode to that formerly in use. Colours were used in masses, without distinction of detail. A screen of about this date, against the north and south walls of the Lady Chapel, at Winchester, has the centre columns of its tripled shafts painted alternately red and black, the columns on either side of the centre being painted in the contrasting colour. In this case, the colour on the columns extends to the adjacent hollows without any other reliefs than a double band of

black encircling those columns that are red, at about every foot in height. When painting was only partially introduced, as was the case in simple works, such as churches in rural districts, red was the favourite tint used in the capitals and bases of the columns; [Two foliated capitals, of early English workmanship, supposed to be part of a former church, were recently discovered at West Wickham Church, Kent, built up in a part of the wall erected in the fourteenth century. They were covered entirely with red ochre.] and often appearing as a margin to the internal window-jamb, if the jamb was without mouldings, of the breadth of two or three inches, sometimes with a narrow black line running beside it on its outer edge. [A similar mode of decorating window-jambes prevailed to a very late date.]

(To be continued.)

Modern Town Houses.

BY FRANCIS CROSS.

(Continued from page 117.)

WHEN the difference is considered between houses built from sixty to one hundred years ago, in "modern town houses," we cannot help thinking had the cry of the magician in "Aladdin" been "new houses," instead of "new lamps for old ones," it would not have appeared so very absurd.

CHAPTER II.

"We should be careful to undertake nothing above our abilities, nor strive against nature. We ought both to consider what we can do, and what it is fit we should do, and in what place it is that we are to build."

In examining the model among the many points to be considered, care must be taken that none of the following are forgotten:—

Not to undertake a thing which is above the power of man to do, and not to strive against the nature of things—for nature, if forced, or wrested out of her way, whatever strength you may do it with, will yet in the end overcome and make through all opposition and hindrance; and the most obstinate violence will at last be forced to yield to her continual perseverance, assisted by length of time. How many of the mightiest works of men do we hear of, that have been destroyed by no other cause than that they contended against nature? What think you will happen to a building built in any place, where you pretend to oppose or repel the violence of the water, or enormous weights of rocks tumbling on you in ruins? This being considered, we ought never to undertake anything that is not exactly agreeable to nature; and, moreover, we should take care not to enter

upon a work which may be so much wanting to ourselves as to be forced to have it imperfect. Besides, it is not amiss to consider not only what you are able, but also what it is decent you should do; for no one can command a courtesan for building herself a sepulchre at a large expense, though she may by her calling have acquired the riches of a queen, yet she is by no means worthy of a royal sepulchre. But, on the other hand, she is not to be blamed who builds a large and stately mausoleum to a beloved consort, though in all things relating to such matters modesty is best.

CHAPTER III.

"After giving great consideration to the disposition of the building in all the parts of the model, we ought to take advice from prudent men, and before we begin the work it will be as well to know how we mean to raise the money it will cost, and also to provide all materials requisite for completing such an undertaking."

Having weighed and considered these things, you must proceed to the examination of the rest, whether each of them be perfectly contrived and conveniently disposed in its proper place,—and to do this effectively it will be necessary for you to bear in mind that it will be a disgrace to you if, through want of proper consideration, you suffer any other building erected at the same expense, or with the same advantages, to gain more praise and approbation than your own; nor should any one be content to have the building unnoticed, but rather that it should be highly commended and then imitated. Therefore, be diligent, and subject each particular point to severe scrutiny, so that everything is excellent and elegant, and all things mutually concur to render the whole handsome and beautiful, inasmuch that whatever you attempt to add, retrench, or alter, should be for the worse, and make a defect, and seek advice from prudent counsellors, whose approbation is founded on knowledge and sincerity, because by their skill and direction you are most likely to attain perfection; and besides, the praise of good judges affords the highest satisfaction. In fact, the opinion of no one should be despised, for you may find advantage in hearkening to everybody; for it sometimes happens that persons of no skill make observations by no means to be despised. When therefore you have well weighed, reviewed, and examined the model in all its parts, so that there is not the least particular anywhere but that you have well considered and reflected upon, and that you have resolved to build in that manner, in every respect, and can raise the money conveniently to bear the expense, then prepare all things necessary for the execution of your work, so that when you have begun nothing shall be wanting to prevent the structure being finished with all proper expedition.

(To be continued.)

EXCELLENCE.—The true way to excel in any work is to propose the brightest and most perfect example for our imitation. We must improve by the attempt, even though we fall short of the full share of perfection.—*Tillotson.*

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 118.)

HERCULES. (In the mythology of art.) One of the most illustrious heroes of antiquity, and the first of the *Dii Minorum Gentium*, or demigods. He was descended from the kings of Argos; but in the Pagan mythology, he is said to have been the son of Jupiter by Alcmena, the wife of Amphitryon, King of Thebes. The period of his birth is uncertain. Herodotus places it about the year 1282, before the commencement of the Christian era; and in Blair's "Chronological Tables," his death is placed in the year 1222, B.C. Hercules was peculiarly honoured among the Greeks by the epithet of *Musagetes*, the conductor of the



Muses; and among the Romans by that of *Hercules Musarum*. In reference to these titles, he is represented, on medals, with a lyre in his hand; and the reverse is marked with the figures of the nine Muses, with their appropriate symbols. The chief attribute of this deity, however, or the distinguishing character of his figure, is incomparable strength. Amongst the others are a lion's

skin, a club, and a bow. The lion's skin is sometimes so put on, that the head and jaws of the beast appear over the head of the hero. The accompanying illustration is taken from the Hercules in the Farnese Palace.

HYDRA. (In archaeology) A celebrated monster which infested the neighbourhood of the lake Lerna in Peloponessus. It was the fruit of Echidna's union with Typhon. It had a hundred heads, according to Diodorus; but accounts vary much on this point, and no wonder, since, as soon as one of these heads was cut off, two immediately grew up, unless the wound was stopped by fire. It was one of the labours of Hercules to destroy this monster, which he easily effected with the assistance of Iolas, who applied burning iron to the wounds as soon as each head was cut off. The ancient artists differ in their representations of the hydra. Sometimes it is a serpent branched out into several others; and sometimes has a human head, with serpents upon it instead of hair, and descending less and less in serpentine folds.

HYDROSCOPE. An instrument anciently used for the mensuration of time. The hydroscope was a kind of water-clock, consisting of a cylindrical tube, conical at the bottom: the cylinder was graduated, or marked with divisions; and as the surface of the water, which trickled out at the point of the cone, successively sank to those several divisions, it pointed out the hour.

HYPERBOLA. (In architecture.) A term for one of the sections of a cone.

HYPOCAUSTUM. (In architecture.) An arched chamber in which a fire is kindled for the purpose of giving heat to the rooms above it. The heat is conducted from the hypocaustum by means of tubes, which are carried through every chamber, thus affording a pleasant and equalised warmth. This method was first adopted in baths, and afterwards became used in private houses. It does not appear to have been known among the Romans until, at least, the time of the Emperors.

HYPOGEUM. A term applied among the ancients to those parts of a building which were below the level of the ground, and more particularly to the vaults where they deposited the remains of the dead. The *hypogæa* in later times were often richly ornamented.

(To be continued.)

The Chronotypist.

THE old butter-cross at Doncaster is being carefully taken down, to be re-erected elsewhere. The bell-turret came down with a crash while letting it through the roof with ropes.—In Ely Cathedral the introduction of stained glass windows is rapidly going on. The large north-east window under the lantern—"the especial glory of the church"—has just been fitted by Wailes, as far as the funds raised by the undergraduates of Cambridge would allow. The principal figures represent King Edward, who was educated at Ely, and his Queen. In addition to the five stained windows provided by the munificence of the Rev. E. B. Sparke, four others, it is said, are in hand, to be presented by the Dean of Ely and others.—The Fine-Art Committee of the Society of Arts have, it is said, not been daunted by the partial success attendant on their experiment in the case of the Mulready Exhibition. They have made arrangements that their rooms shall be re-opened during the ensuing summer with an exhibition of the works of the chief of modern colourists, Mr. Etty. The large pictures by this artist which are so important a feature in the Princes-street Institution, in Edinburgh, will, themselves alone, if secured, be worth a visit.—Each day's experience inculcates the lesson that political commotion is an influence unpropitious to Art. Intelligence has just reached us that one of the most celebrated galleries in Europe is on the eve of being dispersed. Venice is about to lose one of her greatest glories. To supply means for their struggle against Austrian rule, her inhabitants are about, it is said, to dispose of the great national collection in the rooms of the Accademia delle Belle Arte—anciently the Convento della Carità.—At the opening meeting of the Institution of Civil Engineers, on January 9th, Mr. Joshua Field, president, in the chair, the paper read was "A Description of the Improved Forms of Water-wheels," by Mr. William Fairbairn.—The Wicklow gold mines, formerly worked by the Government, are now in the possession of an independent company, and are likely to be worked with advantage to those engaged.—Four companies are already formed in London for sharing in the riches discovered to lie in abundance in California.—The *Dundee Courier* states that a Mr. J. B. Lindsay has preferred a claim to priority of discovery of the electric light.—The new Cattle Market at Islington was opened on Tuesday, the 9th instant.—The Branch Bank of England at Gloucester is about to

be merged into the one at Bristol.—The second tube at Conway was finally tested on the 5th instant, prior to its being opened for traffic.—Mr. John Major, formerly an eminent publisher in Fleet-street, died on the 9th instant at his apartment in the Charterhouse, aged 67. He was well known as the editor of a splendid edition of Walton's "Angler," and of Ireland's "Hogarth," with notes.—A few days since, a quern, or ancient corn-mill, in excellent preservation, was dug up near Blandford, Dorset, by some labourers, in cultivating a portion of a large Roman encampment.—The contract for the Birkenhead Docks is now complete, and before the end of the month they will be in full operation.—The Earl of Aberdeen has given orders for a first-rate barometer, to be placed in a solid block of granite, and fixed in a conspicuous and accessible place on the coast, near Aberdeen, for the sole use of the fishermen of that neighbourhood.—The first anniversary ball in aid of the funds of the Builders' Benevolent Institution took place in the hall of the Freemasons' Tavern, Great Queen-street, on the evening of the 9th instant, and was numerously attended.

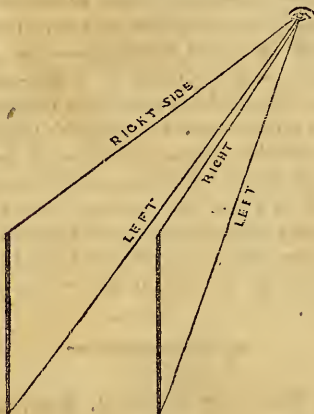
The Wooden Church, Greensted, Essex.

IN this church was enshrined the body of Edmund the Martyr. According to the paper read by Mr. Burkitt, at a meeting of the British Archaeological Association, Mr. Lethuillier, in 1728, drew up an account of this wooden church, which was published in the *Vetusta Monumenta*, at which time there existed nearly entire the series of split trees which formed the four walls of the nave, since which a considerable portion of the old edifice has been removed. The east end opening into the chancel was pulled down to connect the two parts, as well as a large portion of the west end, connecting it with the tower, which is used as the vestry; the south side has also been broken into, to form the modern entrance, leaving the north side the only fair specimen of the original building. The entire length of the shrine was twenty-nine feet nine inches, the breadth fourteen feet. The sill rested on a low wall of brick, which formed the groundwork; the upper part of the frame consisted of rough-hewn timber, with a groove cut in the under part, and the uprights forming the walls being cut in the form of a wedge at the top, by being inserted into the groove, were made fast by wooden pins. The outer timbers were segments of the tree, with a board about two inches thick, taken from the middle, these boards probably serving for the interior lining of the shrine. Neglect has been the cause of decay from the ravages of the *Pinus Pectinicornis*, the well-known enemy of timber and books. Solutions should have been used.

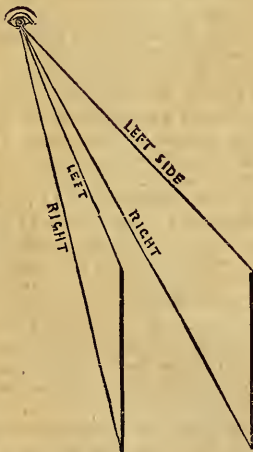
Perspective.

(Continued from page 118.)

THE following engravings show the observer standing on the right and left sides of the street. We have already described their appearance. Want of space prevented their insertion in our last number. (See No. 88, page 118.)



RIGHT.



LEFT.

The first anniversary of the Whittington Club was celebrated on Wednesday night, the 10th instant. Fully 1,500 persons were present.

To Correspondents, &c.

Write legibly and sensibly, so that both thy words and their meaning may be readily deciphered by the recipient of thy communication.

"G. B. S."—The article on "Sculpture" will be resumed next week.

"H. Anderson."—The numbers are procurable in town and country. Your bookseller must have laboured under a mistake, or wilfully deceived you.

"J. C.—n."—Address a letter to Sir Henry Ellis, the Librarian of the British Museum, who, we doubt not, will grant you a card of admission to the reading-room of that Institution.

"W. M."—The numbers you enquire for are in print, and obtainable through any bookseller, or at our office.

"S. E."—Your communication has unfortunately been mislaid: we shall feel greatly obliged by your writing again.

"Andrew Simpson," (Leeds.)—Try a weak solution of nitric acid.

Other Correspondents next week.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

***Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 2I is now ready, Price 10d.

*** Part I, is also re-printed, and will in future be charged at 10d. each.



AN ORIGINAL DESIGN FOR A PANEL.—(FRENCH.)



On Imitation.



E say that a man imitates when either his ideas or actions are not properly of his own origin, but are reflected from those of any other individual; and this may take place in a variety of ways: the child imitates those around him in manner, and language, and way of thinking. His imitation, in fact, reduces itself to mimicry, for he has no power of reasoning on the strength or weakness of the motives which lead to what he sees done: no faculty of judgment by which he may be enabled to discriminate between proper, and improper modes of expression; no experience to teach him the danger of indulging such or such modes of thought. He feels himself subjected to certain wants and desires, and he is urged by these to acquire the method of expressing them, in order that they may be

administered to; besides which, the strong principle of emulation and thirst for knowledge impel him almost blindly onward in the course we have adverted to.

But as the child casts off his puerility, and advances towards manhood—as his intellect expands, and he acquires the faculty not only of observation; but also of comparing and analyzing that which he observes, the headlong principle of imitation is thrown aside as unworthy of a thinking creature; and such things only are adopted as appear to be so by the weighing and reflecting power of reason.

“Thus of the child a boy, the boy a man,
Eager to run the race his fathers ran.”

It is, therefore, sufficiently obvious, that a servile copy of the actions or opinions of another man—whether adopted blindly and without being impressed with a sense of the wisdom, virtue, and talent of the person copied; or, on the other hand, whether the choice of a model has proceeded from reflection, and a deep conviction of the worthiness of such individual, but without having regard to difference of circumstance requiring various modifications—is alike degrading to the judgment and ability of the copyist.

There is, however, a species of imitation which is praiseworthy and honourable—it is that which is usually expressed by the word *free*. In this case, the copyist selects and adopts his model, but sets himself seriously to discover in what points his own work deviates from the nature of that he has placed before him; he exercises the same judgment, by aid of which he had formed his selection, in discarding such particulars as do not seem to harmonise with the whole: if he is endeavouring to imitate the benignity and virtue of some good man, he weighs well his own means, together with the shades of difference, whether constitutional or habitual, that discriminate their characters: if he is following in the course of some eminent artist, he is careful not to be seduced into errors by the brilliancy of a great name, nor to forfeit his own inherent right of opinion and imagination. Thus a work conducted on similar principles to any preceding one, may deserve a far better reputation than that of mere imitation. It may, indeed, by a thoughtful and intelligent execu-

tion of its different parts, almost merit the praise of originality. It was thus that Plautus and Terence imitated the Greek comedy.

Having made these general observations on the principles of imitation, we will in a few words apply what has been said more especially to the fine arts. According to some critics, *all* is here imitation. The imitation of nature consists in their very essence, and they please or offend but as this is true or untrue. In this opinion, there is much truth and some error.

It is true, that the works of the painter or sculptor give pleasure by their lively resemblance to what is natural and real; but, as we have observed before, it is true in a modified sense. Were this otherwise, the performances of Gerard Dow, of Teniers, and other masters of the Dutch school, would be far more excellent and admirable than those of Raffaele, of Michel Angiolo, and the other great names that throw lustre over the history of Italian art: but, in point of fact, it is the splendour of imagination, the creative, and not the mere imitative power, that has affixed to these immortal works the surpassing fame which they have, and will still continue to possess.

If the painter or the sculptor should employ himself only in making close copies of the different objects of a pleasing kind which surround him in nature, and if his success were to be estimated simply in proportion as these resemblances were exact, he would be degraded into the character of a mere draftsman. There are a multiplicity of objects agreeable in nature which are not at all calculated for introduction into a work of art, in the same way as many colloquial phrases, quite proper, and even happy in conversation, are unfitted to the gracefulness of poetry, or dignity of eloquence. It is the selection—the combination—the fancy displayed; it is these things, added to a just eye for verisimilitude, that constitute the artist's greatest success, and characterises his highest achievements.

Let not the young artist hesitate to mould his style on that of some eminent predecessor; or rather let him strive to collect from the works of each of the great masters in art, the peculiar charm by which he was rendered conspicuous, and blend them, so far as may be consistent and harmonious, in his own compo-

sition. Let him remember that this kind of imitation has been recommended and adopted by the most illustrious names; and that even Raffaele himself was indebted, for the main design of his two majestic figures of St. Paul, —namely, the one preaching at Athens, and the other punishing Elymas, the magician, to Massaccio, a preceding painter.

Lecture on Heraldry.

MR. W. PARTRIDGE has recently delivered some lectures on heraldry at various institutions, with the view, chiefly, of shewing that a knowledge of armorial ensigns is not solely the province of the antiquary or archæologist, but is important as a branch of general knowledge, and has a direct bearing on accuracy of taste in many of the arts and manufactures.

After noticing the discordant opinions respecting the origin of heraldry, some seeing the origin of it in the Phonetic alphabets of ancient India, others in the old Mexican sculptures, or in the double shields of Egypt, while others allow it to be not older than the Crusades, he traced it to the necessity for modes of distinction in the early stages of society, for the sake of order and discipline. He then took the two prominent features of heraldry, viz., shields and banners; the shield from its first and simplest construction among the early Greeks, its various shapes, sizes, and materials, from the fabulous, but magnificent shield of Achilles, by Homer,

“The immense and solid shield,
Rich, various artificer emblazed the field,”

down through the historic periods of Greece and Rome to the middle ages, showing the subject to be closely blended with the state of the arts and manufactures in all these ages and countries, and alluding to the superb shield made recently as a present from the King of Prussia to the Prince of Wales.

The banners of various ages, Pagan and Christian, the several abbeys, the crusades, rival roses, tournaments, chivalry, and the important uses of heraldry in war, in property, as a key to architecture, history, and poetry are intimately mixed up with the progress of

every age, shewing the importance of accuracy in all works, and the want of such knowledge in some glaring instances in architecture and painting. In some of the latter, the period of history intended was falsified, and in the former the effect of the edifice often injured by the heraldic devices being both ill designed and incorrect in themselves; making the importance of the subject even to practical men apparent.

Urn Burial.

An interesting group, consisting of a large cinerary urn of hard red earth, a bronze lamp, open earthenware lamp, and two earthen bottles, have been recently dug up in a garden in Lexden-road, Essex. They were about three feet from the surface; the bottles were broken, but the other vessels were perfectly whole.—Since our former notice of Urns, &c., found in the grounds at West Lodge, (No. 80, page 33,) a large number of urns, earthen bottles, lamps, lacrymatories, patellas, &c., have been found, generally about eighteen inches from the surface, resting on the gravelly subsoil. Many of these have been broken by the spade, or too much injured by the dampness and variations of the soil, during the many centuries they have lain there, to be restored. About seventy vessels are nearly ready for the Colchester Museum. Last week a group of five vessels were discovered. It consisted of two sepulchral urns, a bottle of brown earth, and two patellæ, one of black, and one of plain Samian ware: the two last named perfect. Also an urn more than half filled with incinerated bones, the mouth of which was occupied by a bottle of red earth.—In an urn recently discovered, mingled with bones and earth, its contents, were the fragments of a mirror of polished metal, with the exception of some slight corrosion, retaining its original polish almost unimpaired. The greater part of a bronze fibula was found in the same urn.

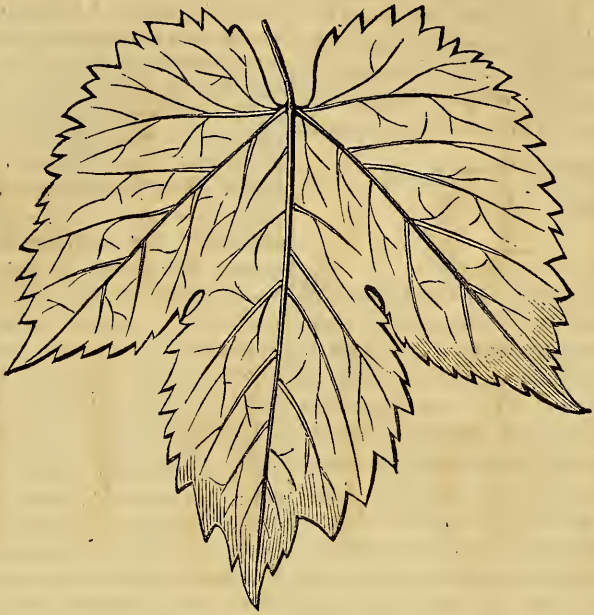
Chinese Paints.

THE peculiar beauty of Chinese drawings is owing, not to the particular nature of the colouring substances, but merely to their being mixed with glue or size, instead of gum-water, as is the com-

mon practice in Europe. In regard to the preparation, two things must be observed; first, that the beauty depends in a very great measure, upon the fineness of its particles, the finest being always the most beautiful. A Chinese painter employs a man for three or four days to grind a small quantity of vermilion in a porcelain mortar, and it is from this they derive their fine reds. Secondly, it must be considered, that most mineral colours are prepared with acids, alkalies, or other salts, and that a small superabundance of those saline substances generally remains with them, which, after a longer or shorter time, produces considerable alteration in their brilliancy, and often entirely changes their colour. In order to obviate this inconvenience, the paint, after having been levigated, must be repeatedly washed in clean water: distilled water is the fittest. In order to effect this properly, put half an ounce of the paint in a half pint glass phial, and fill the rest of the phial almost entirely with water; shake it well: then let it stand for a while, and the coloured powder will soon fall to the bottom; then pour off the water, by inclining the phial gently, so as not to disturb the sediment, and fill it again with clean water, and so on for five or six times; after which, the colour being gently dried, must be ground a little longer, and then it is fit for use. The glue or size to be mixed with the paints is extracted from parchment in the following manner:—Take about four ounces of clean parchment, cut it into bits, and put it to soak in a quart of clean water for about twelve hours; then boil the whole on a gentle fire, and in the beginning take off the scum with a spoon. The vessel must remain always uncovered, and the liquor must be stirred occasionally. After boiling about an hour, take off the pot from the fire, and strain the liquor while hot through a coarse sieve. The liquor must be again put over the fire in a clean pot, and gently boiled till half is evaporated: the remainder is then spread very thinly upon panes of glass, which being kept in a warm place for a day or two, the size will dry, and become very hard. When it is wanted for use, put a small quantity of it in a cup of lukewarm water, and dip the hair-pencil in it. The properties of this glue, which render it much superior to gum-water, are the following:—It does not deaden, nor otherwise alter the colours with which it is mixed: it does not crack like gum; and it becomes so soon hard, as not only to defend the colours from being affected by smoke and other vapours, but even to bear the surface of the drawing being cleaned by means of a wet sponge.

IN New York there are about forty-five miles of sewers, either completed, or in progress.

SKETCHES FROM NATURE.—No. IV.



HOP LEAF.



VEGETABLE MARROW LEAF.

a b c d e f
g h i k l m
n o p q r s
t v w x y z

Interior Decoration.

SIMPSON'S DIVAN IN THE STRAND.

THE improvement which has taken place in interior decoration within a comparatively recent period we view with much satisfaction. We have lately visited the principal room at Simpson's Divan, opposite Exeter Hall, Strand, the general arrangement of which shows considerable talent in invention, together with great beauty of effect. The room has windows at one side and end, and a bar at the end of the opposite side near the entrance. It is entered through a passage, tastefully, though somewhat gaudily, decorated, from the street; and by glazed doors from the passage, and from Ries's Cigar Divan.

The ceiling of the room is intersected by five beams, three being grouped together, across the middle. The beams are, it is to be regretted, somewhat unsatisfactory in appearance, as some of them are supported over voids, which however we remark without knowing what may be their structural office. There is a fireplace at each end of the room; tables are arranged along one side, and the other is divided into boxes. A sideboard occupies the centre, and there is a round table at each end. Long pier-glasses and console-tables are placed between the windows. The general tone of colour is light, and of a warm buff hue, relieved by red colour, and by ornaments in various tints. The soffits of the beams are painted with guilloche ornaments, and the coves by which the beams are united to the ceiling have the honey-suckle ornament, red colour—without attempt to give the effect of relief—being employed with good effect: The spaces of the ceiling are painted with ornaments, of rather a poor character in regard to design and drawing, and relieved by shading. This ornament is arranged in geometrical compartments, similar in design in each division of the ceiling, which gives some of them rather a cramped appearance, from the widths of each division not being the same. There is also a greater mixture of style in the ornament than would have been desirable: but this is a common error. The dark colour introduced in some of the circular ornaments seems to us to be too dark, giving rather a patchy appearance. The walls are divided by pilasters, and are panelled in light green colour, with a pattern of lighter tint, the whole painted in imitation of morocco leather. In the centres of these panels are bas-reliefs, much resembling in design and material those in the Lyceum Theatre. These subjects are in ornamental gilt frames, oblong and circular, and are relieved by pink grounds. The panels are defined by gilt mouldings. The pilaster panels are painted with a pattern in brick red colour, to which some of our remarks upon the ceiling would apply. The furniture is of a novel character,—the round tables being particularly good. Each of them supports a large gilt candelabrum of five lights, with figures grouped round the stem, and having female figures, coloured white, branching out at the top, for the support of the lights. The general lighting is by sconces of two lights, each supported by a

figure similar to those of the candelabra,—ranged along the walls. The chimney-pieces are black, with imitation of inlaid ornament. Beneath the sconces are sea serpents twisting from the wall: these, the use of which we should have long been in doubt about, the visitors have turned into hat-pegs. We take this opportunity of urging that in every design the purpose should be apparent, and that the design should be subservient to that purpose; but the true principle, in several extensively-circulated designs, seems to be wholly unconsidered. In the present case, the thing wanted was, simply and perspicuously, a hat-peg, not something which might be turned to that office. The design is creditable to the architect, Mr. Friend, and to the decorator, Mr. Blackburn, of Grosvenor-street, Eaton-square.

We must not omit to notice the design of the street lamps in front of the building. They are improvements upon the tasteless forms which are seen elsewhere, reminding us how wasteful we are of opportunities of contributing to the pleasure which is derived from looking at beautiful works.

On the Study of Design from Vegetal Growth.

DECORATIVE ART SOCIETY.

At a late meeting of this society a paper was read by Mr. Laugher, "On the Study of Design from Vegetal Growth," illustrated by large sketches recently made in the Royal Botanic Gardens at Kew, by members of the society.

This paper originated from a visit to Kew by some members of the society, who were influenced by a desire to trace the relation which form and colour, as applied in the decorative arts, bear to prototypes of vegetal growth, and also by a wish to render practically evident a mode by which simple and beautiful designs may readily be derived for the purposes of the industrial arts. The writer stated that an effort of this kind conveyed an assurance that the members were fearlessly seeking an acquaintance with the beautiful in nature, being self-dependent, without any other guides than their own reasoning faculties to enlighten their path.—We may read often, and it was generally admitted, it was said, that whatever is excellent in art, is simply so from its harmonizing with natural results, more or less common to human experience. The conceptions and expressions of grand works in painting, sculpture, and the other arts, it was observed, derive their value from such an embodiment of scene, or action, or object, as shall have the harmonising *probability* of a natural aspect rationally sustained throughout. It would be found that it is this kind of probability which at once excites our sympathy, and induces those associative suggestions which are most impressive on the mind, whilst the reflective faculty, comparison—guided as it always is, and always must be, by human experience—constitutes the test-tube, in which refinement in art can properly be estimated.

It was said that, in an endeavour to recognise and develop the beautiful in sketches from vegetal leaves and stems, it is accordingly necessary to

receive and set forth, in the first place, a general probability of resemblance, and that comparison would afterwards enable us, individually, to trace the limits of application and value of purpose in each sketch. Under such restrictions and considerations, it was contended, that a broad and free translation of effect upon the sketch, rather than the actual minutæ of microscopic imitation, should be attempted, for-as-much-as poetic ideality can only be developed under the boldest and simplest aspects of *probability*, so thereby art becomes more congenial with, more readily suited to, and more self-sufficient for, the grasp of the human intellect.

A reference was made to the improbabilities in art, as evinced in the romantic phantasies, the exuberant caprices, of Raffaele's grotesques, on the one hand; and in the inane and meaningless incongruities, so unredeemingly applied, in our day, as decorations for manufactures, on the other. It was asked,—How much of probability can be discovered in the myriads of acanthusian nonentities in the *Femoral* scroll, or “thigh-bone nausea” of the French school, with which every description of manufacture has of late years been infested? None, it was said; and that such should therefore be laid aside, as of degraded class of conventionalities, being without sympathetic appeal to, or influence on, the mind,—in short, as being without art.

After these remarks, the writer observed that it becomes necessary to divest the mind of the spurious elaborations with which the patterns of our manufactures abound, so as to prepare the intellect for detecting and tracing the ever-varying lines of beautiful form, and the endless gradations, contrasts, and harmonies of colour, which pervade all productions of vegetal growth. He said, it was also to be borne in mind that, in thus looking for the beautiful, no two persons are competent to discern it with equal readiness and intensity; practice, and educational training, being necessary to an expert and keen discrimination in such a matter, and more especially so when it becomes the business of life to translate it for the reading of others,—when, as in literature, it would be found that the poetic rendering proves more prepossessing and interesting, as art, to the million, than all the matter-of-fact, dry, and prosy details of merely exact imitation.

To Preserve Fresco Paintings.—Frequent attempts have been made to separate fresco paintings from the walls on which they are executed, in order to rescue them from the destructive effects of time and weather, but all have been unsuccessful. Steffano Barezzi, a native of Milan, has the honour of having been the first to render an essential service to the arts, in transferring to panels, by a most simple, expeditious, and safe process, fresco paintings, of whatsoever size, from the wall, whether level or not, without doing the least damage to the original design. His method consists in laying a piece of prepared linen against the wall, which extracts the painting in such a manner, that the artist, with a sure and uniform motion, can draw off the linen in a perfect state with the painting, so that the wall itself remains quite white.

Modern Town Houses.

BY FRANCIS CROSS.

(Continued from page 127.)

CHAPTER IV.

MATERIALS.—The things to be prepared are these,—lime, timber, sand, stone, as also brass, lead, glass, and the like. But the thing of greater consequence is to choose skilful workmen whom you may trust with the care and management of the edifice, and fixing upon these, it will be of use to you to be somewhat guided by the consideration of other works already finished in your neighbourhood, and by the information you receive from them, to determine what to do in your own case. For by observing the faults and beauties in them, you will consider that the same may happen to yours. We intend, then, in treating of the materials for building, to repeat those things which have been left us by the ancients, because they were learnt more from long observation than from quickness of genius, so that they are best gathered from those who have gathered them with the greatest diligence. We shall, therefore go on to collect those rules which the most approved ancients have left us, and we shall add whatever we ourselves have deduced from antique writers, or from the instructions of experienced artificers; and I believe it will be for you to follow nature itself—to begin with those things which were first of use among men in building, which, if we mistake not, were timber trees felled in woods, though some authors assert differently, stating that men first dwelt in caves, and that they and their cattle were sheltered under the same roof, and they therefore state *he* was the first builder who in imitation of nature erected a house built of mud. But to return to our subject,—the ancients laid down certain rules for the felling of timber. They inform us that most trees, especially fir or pine, ought to be cut immediately they begin to put forth their young shoots when, through their abundance of leaves, you can most easily pare off the bark. But then, there are some trees, as the elm, ash, and others, that should not be cut till the autumn. The oak, if cut in summer, has been found to breed worms, but if cut in winter it will keep sound and not split; and they further inform us that wood cut in winter, during a north wind, though it be green, will burn extremely well, and in a manner without smoke, which plainly shows that the juices are not crude, but well digested.

(To be continued.)

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 128.)

HORN. The horns of animals, literally speaking, formed the most ancient drinking cups. Pindar, Æschylus, and Xenophon make mention of them as being appropriated to this purpose. Philip of Macedon is said to have made use of one. It is from this ancient usage that the general name of horns has been given to a species of drinking cup, as, after the actual employment of the animal substance had been discontinued, the shape remained in use. The horns of victims sacrificed to the gods were gilt, and suspended in the temples—more especially in those of Apollo and Diana.

HORN OF PLENTY. Amalthæa, daughter of Melissus, king of Crete, fed Jupiter with goat's milk: hence some authors have called her a goat, and have maintained that Jupiter, to reward her kindnesses, placed her in heaven as a constellation, and gave one of her horns to the nymphs who had



taken care of his infant years. This horn was called the horn of plenty, or cornucopia, and from it issued fruits and flowers, and, in short, all the riches of art and nature. The cornucopia is found on an infinite number of antiques, and is the characteristic attribute of the goddess styled Abundantia by the Romans.

HORSE. (In painting and sculpture.) This animal, of so vast utility to man, has been made great use of by artists, both ancient and modern. The horse was consecrated to Mars, and still more especially to Neptune, to whom, indeed, has been attributed the origin of this noble quadruped. Many princes and chieftains have been celebrated for their attachment to their horses.

HOUSES, DISTINCTION OF. (Used in heraldry.) The following engraving shows the heraldic signs for representing them.

FIRST HOUSE.



THIRD.



FOURTH.



FIFTH.



SIXTH.



HONOUR. (In the mythology of the arts.) A virtue worshipped at Rome. Her first temple was erected by Scipio Africanus, and another afterwards was built by Claudius Marcellus. We find a personification of this quality on several medals of Galba and of Vitellius. She is represented half naked, holding in one hand a spear, and in the other a cornucopia: upon others, a long rope envelopes the figure, and the spear is exchanged for an olive branch.

HERO. (In mythological painting and sculpture.) A beautiful maid of Sestos (a town upon the European shore of the Hellespont), the priestess of Venus, whom Leander, who lived on the other side, falling in love with, was wont to come to at nights, swimming over the streights. He at last being drowned in one of his attempts, Hero threw herself off her turret into the sea to him.

(To be continued.)

The Chronotypist.

THE Messrs. Mc. Adam of Soho Foundry, Belfast, have recently completed a number of ornamental windows for the Pacha of Egypt: they are of cast-iron, and of very large dimensions, being 20 feet high and 8 feet wide—each window weighing 5 tons. They are to be bronzed and gilt after being erected. The same firm have also erected on the banks of the Nile, for the Egyptian Government, a number of very large steam pumping engines, to raise the water of the river for the purpose of irrigation. These facts are interesting.—The vessel Apprentice, which has arrived in the St. Katherine's Docks from Bussorah, has brought 17 cases of stone, and one figure, consigned to the British Museum. We are not cognisant of the contents of the cases alluded to further than we have mentioned, but they are doubtless of an ancient and valuable character, and the notice of their arrival for the purpose of being deposited in the national establishment will be read with interest.—On January the 8th, at the institute of British Architects, S. Smirke, Esq. in the chair.—A paper was read 'On the various qualities of Caen Stone,' read by Mr. C. H. Smith.—At the Society of Arts, January 17th, W. Tooke Esq. in the Chair.—A. Waterhouse, G. H. Drew, W. Standidge, and J. Gosnell, Esqs. were elected members.—Mr. E. Highton read the first part of a paper 'On improvements in Electric Telegraphs and new plans for Printing by Electricity.—Lord Palmerston has, we understand, appointed Mr. Kennet Loftus, naturalist and geologist to the commission which is now employed, under the direction of Lieut-Col. Williams, in surveying the boundary line between Turkey and Prussia.—Mr. J. R. Gliddon relates in his lectures on Egyptian Archaeology, reported in the *Archaeological Journal* of the past and present month, that "an Arab discovered the northern air-channel of the Great Pyramid to be open from top to bottom, by placing a cat at the outer orifice, and her kittens at the other, shutting them in with stones. The mother soon found her way down, through the pyramid, to her little family; thus proving that this hitherto mysterious passage communicated with the outside. Previous to the clearing of these passages, the air in the pyramid was quite suffocating."—The books at the Stowe sale are realising heavy prices. There is little, however, to record beyond the ordinary occurrences of common sales. A fine copy of Claude's "Liber Veritatis" brought £40 10s.; and an excellent copy, free from stains,

of Gough's "Sepulchral Monuments," £61 10s. The Houbraken Heads—fine early impressions, quite matchless, indeed, in that respect, but unhappily cropped and mounted—brought £91.—On the 17th, the experiments undertaken by Mr. Brunel, at the instance of the Admiralty, for carrying the Cornwall Railway Bridge across the Saltash, were brought to a successful close. For the purpose, two old gun brigs were moored over the spot, and a wrought iron cylinder, five-eighths of an inch boiler plates, strongly rivetted together, 85 feet long, and 6 feet diameter, and of 23 tons weight, was sunk *in profundis*. The necessary apparatus for pumping out the water was then applied, and the experimenters, who afterwards descended to the bottom of the cylinder, had the satisfaction of finding that at eleven or twelve feet below the mud, there was a foundation of solid rock for the piers. The bridge will be of large dimensions, having a clear width of 300 feet between the piers, and a clear height of 180 feet above high water-mark. Over it will pass the entire passenger traffic from Plymouth to the Land's End.—The Hampstead Waterworks were burnt down on the 13th.—The whole of the houses between Pye-street, Pear-street, and the Broadway, and Artillery-row, Strutton-ground, Westminster, will be pulled down forthwith for the formation of the new opening to be called Victoria-street.—The removal of the coffer-dam at Westminster Palace was begun on the 18th.—It is stated that Mr. Robert Stephenson, the celebrated engineer, is now in Egypt, at the instance of the British government, to survey and report upon the practicability of making a railway across the Isthmus of Suez.—Messrs. Sotheby and Wilkinson, of Wellington-street, Strand, have received instructions to sell, during the season, the extensive and valuable collection of engravings at Stowe, including the very rare and interesting series of British portraits, well known as one of the most extensive and valuable ever formed. Also the extraordinary, well known, important, and valuable manuscripts known as the "Stowe Collection."—A beautifully-executed obituary window of stained glass has just been put in the south aisle of the choir of Chester Cathedral, to the memory of three of the children of the Dean of Chester.—The new church of St. Mark, Bredbury, near Stockport, was consecrated by the Bishop of Chester on the 17th.—The *New York Mirror* states that a discovery has been made of a method of producing butter instantly by forcing air through cream.—That part of the South Staffordshire Railway, extending from Lichfield to Walsall is now ready for opening.

History of Sculpture.

(Continued from page 106.)

"THE Laocoon and his two sons have more expression in their countenance than all the other antique statues united; yet Sir Joshua Reynolds has observed, that even in this instance, there is only the general expression of pain, and that the pain is still more strongly expressed by the writhing and contortion of the body, than by the features. In consulting all the examples which are left of ancient sculpture, it would seem, they established it as a general principle, that to preserve the most perfect beauty, in its most perfect state, the passions were not to be expressed; all of which may be supposed, in some degree to produce distortion and deformity in the features of the face. The group of the Boxers is a remarkable instance in favour of this opinion; they are engaged in the most animated action with the greatest serenity of countenance; and, without attributes, it would be difficult to discriminate between the Juno or the Minerva, the Bacchus or the Meleager; nevertheless, in the Apollo Pythius there is a graceful, negligent, and animated air, and in the Discobulus a vulgar eagerness of expression, which deserves to be remarked, to show the nice discrimination of character which the ancients were capable of making, when the expression was not incompatible with what they considered as a higher excellence.

"The Bacchus of Michel Angiolo is an attempt to unite a degree of drunkenness with his character; but, inasmuch as that effect is produced, both the sculpture and the deity are degraded: of this character there are several examples in antique gems, but however skilful the representation may be in so small a size as a gem, it is certainly not a fit subject for a statue of the proportion of life. The two female figures composing part of the present monument of Julius II. are simple and elegant; and those of Morning and Night, in the Lorenzo Chapel, are composed with great grandeur of design.

"The works of Michel Angiolo have always a strong and marked character of their own, his thoughts are elevated, and his figures are conceived with dignity; and if he wants the purity and correctness of the antique (which he certainly does, in an eminent degree) his faults never degrade him into feebleness; when he is not sublime he is not insipid; the sentiment of aggrandising his subject ever prevails, and however he

may fail in the execution, his works are still entitled to the first rank among modern productions in sculpture. Barry has truly observed, when speaking of his statue of Moses, that although that figure may be considered as rather extravagant, yet it contains such proofs of knowledge and capacity as will ever make his name sacred among artists; and this criticism may be extended with equal propriety to his other works, whatever may be their faults.

(To be continued.)

To Correspondents, &c.

SOCIETY MEETINGS FOR THE PRESENT WEEK.

- MON.—Geographical, half-past 8, P.M.—British Architects, 8.
 TUES.—Zoological, 9—Dr. Melville "On the Ideal Vertebra," Part II.—Royal Institution, 3—W. B. Carpenter "On Palæontology."
 WED.—Microscopical, 8.—Ethnological, 8.
 THUR.—Numismatic, 7.—Antiquaries, 8.—Royal Society of Literature, 4.—Royal, half-past 8—Royal Institution, 3—Mr. Gull "On Physiology of Digestion."—Royal Academy, 8.—Architecture.
 FRI.—Philological, 8.—Royal Institution, half-past 8.
 SAT.—Royal Institution, 3—Prof. Brande "On Chemical Philosophy."

"W. Wilkinson," (Witney).—Your request is complied with.

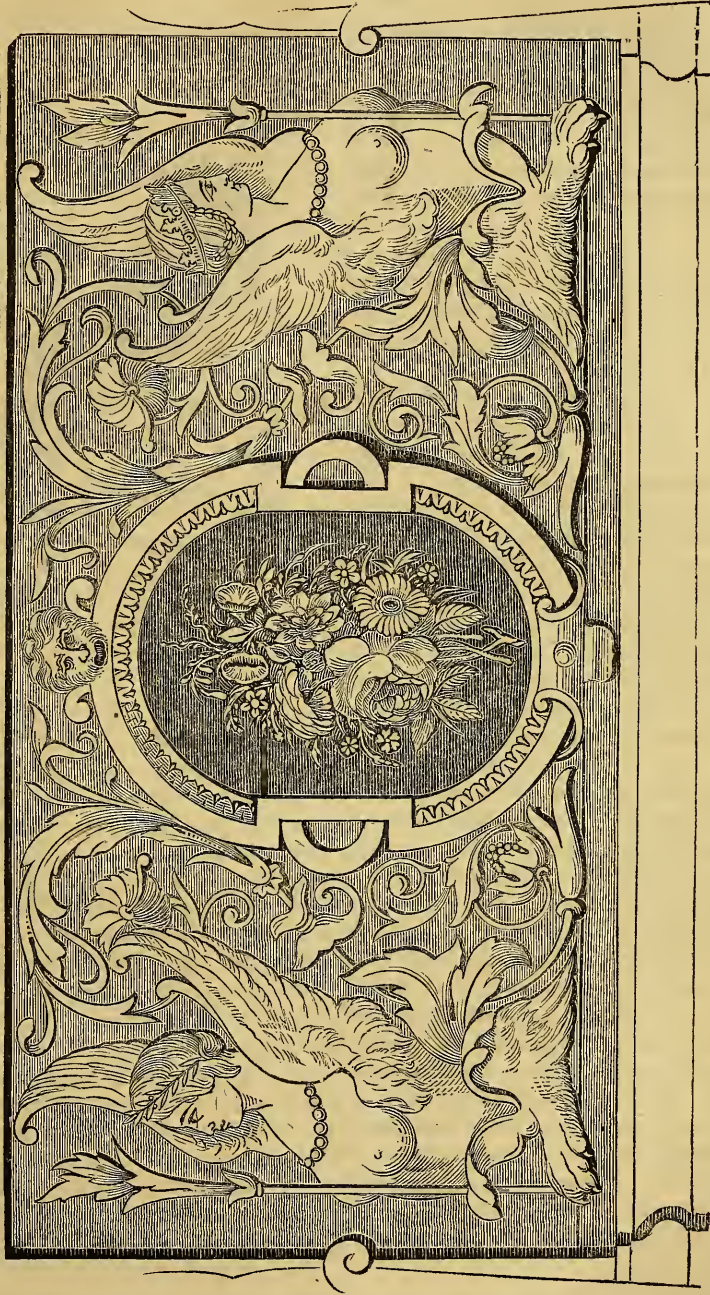
"W. C."—Interiors were first decorated in the way you mention early in the fifteenth century.

"D. W." (Caernarvon).—We are much obliged for the copy of the Alphabet sent, and will use it. Please to write and inform us of the date and description of the MS. In future it will save trouble if you place the date, &c. under the alphabet.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Part 22 is now ready, Price 10d.

* * Part I, is also re-printed, and will in future be charged at 10d. each.



A DESIGN FOR A FRIEZE.—(ITALIAN STYLE.)

Museums of Art.



BEING greatly interested in the future condition of British Art, we consider that we cannot devote our space to a more profitable

purpose than to advocate the establishment of Museums of Art in all the principal towns throughout the country, the importance of which will justify our considering the objects an "the probable result. The plan was introduced into the House of Commons some years since by Mr. Ewart, and to use his own expression, "they were to be for the instruction and amusement of the inhabitants. We will endeavour to explain the objects, the first and most important of which is instruction. It is very generally confessed that English manufactures, however superior to those of continental nations. are inferior to those of France in taste and design. The day has, we trust gone by when Englishmen were believed to have a natural incapacity for beauty and elegance of conception; if we look back for only

a century, we shall find the Fine Arts utterly disregarded in England, and a taste for them condemned as childish, if not stigmatised as something idolatrous. So soon, however, as greater refinement in education led to a larger development of correct taste, —so soon as public appreciation was ready to welcome artistic production,—the arts of statuary and painting sprang into active life, the demand for beauty produced the supply.

Genius is the gift of Heaven, but the spark of etherial fire can only be kindled into flame by the breath of encouragement and applause. We cannot give real artistic inspiration, but we can draw forth the latent energies which Nature has given; God gives the seed, but to man is committed the charge of its growth and increase. Educate the public to estimate Art, and artists will educate themselves. Athens educated her citizens by her monuments, open to public gaze, free to untaxed admiration, fenced round with no beads to demand fees, and no laqueys to look for gratuities. Italy educated her people by throwing wide her galleries to all, opening her cathedrals to the poor as well as to the wealthy, and by refusing to lay a tax on intellectual development, or levy a penalty on the exercise of sympathy with all that is excellent and noble.

A century ago our taste in the Fine Arts was perfectly barbarous, and hence, our artists were just what our taste made them. Our designers for manufactures are very little beyond what our artists were then, and for the very same reason, because our taste in design is just as little advanced as was that of our great grandfathers in the Fine Arts. The painter or sculptor requires only the appreciation of the few; he may even be satisfied if the judicious patrons of Art to whom he appeals are not more in number than the five righteous men who would have redeemed Sodom. But a design, in order to succeed, must be appreciated by hundreds and by thousands; let us, then, in the name of common sense, educate up to appreciation those hundreds and those thousands.

Instruction in the perception of beauty is wanting, because where it is absent there is going on a counter-system of instruction in perversity. There is no such thing as non-education in the perception either of physical

or moral beauty; where there is not a good taste there must be a bad one; it is a natural appetite, and, if not trained to seek wholesome food, it will glut itself on garbage. The Esquimaux prefers train oil to claret, for the same reason that the country girl takes a glaring pattern in preference to a chaste and elegant design; the tastes of both have been educated in perversity from childhood. If all of us had the same taste for train oil it would be a waste of time and money to bring up a race of wine merchants; and if we leave our eyes to undergo the same process as the palate of the Esquimaux, the sooner we shut up our Academies of Painting and Schools of Design the better will it be for all the parties. It would be preposterous to open a market where there would be abundance of sellers and no buyers.

Instruction is particularly wanting in towns where the beauties, harmonies, and sublimities of Nature are hidden from the view of the operative in his factory, and the artisan in his workshop. We have rejoiced to see the progress made in providing parks and public promenades for the use of the working classes; we should still more rejoice if we saw the possessors of ornamental villas, and private pleasure-grounds substituting open railings for unsightly walls and wooden palings. Why should the wealthy grudge to their poorer brethren the sight of natural beauty? Their flowers will not be injured by being gazed upon and admired; no loss will be sustained if the perfume now wasted on the desert air should gratify the scent of the casual passenger, escaping from the smoke of the town to the open suburb. We have far too much of this dog-in-manger policy in England. Would that we understood that this exclusive system is in its way a very effective education. It educates the envy of class, the discontent of station, and the alienation of the grades of society, already too widely dissevered.

Museums are necessary adjuncts to the public parks; they give the comments to the texts of Nature; and they are available under all vicissitudes of season,—a matter of some importance in such a climate as ours. But we must guard against the supposition that we should wish for Museums consisting simply of decorations, curiosities, and objects associated with the higher branches of the Fine Arts.

We have ever insinuated that the useful Arts should never be dissevered from the ornamental, and that such Museums should have sufficient ground attached to contain models of mines, tunnels, embankments, canals, drains, aqueducts, railroads, and the like.

These Museums are particularly necessary as conservative Institutions, to preserve from Vandalism precious relics of antiquity which are every day perishing from the land. We are glad to find that the attention of the country is at length roused, and desires that provision should be made for the preservation of historical memorials.

We have little doubt that Museums once established, would be largely enriched by donations and bequests; a splendid work of Art in the Museum of a man's native town would be as permanent, and a more honourable monument than "storied urn or animated bust" erected in the church or the graveyard.

A School of Design for Leicester.

AN influential and respectable meeting lately took place at Leicester, to memorialise Government for aid in their endeavours to establish a School of Design there. The mayor presided, and a series of addresses followed. Mr. A. Burgess impressed on the attention of the assembly the importance of an idea of our own, that the young should be taught to express or describe their ideas by drawing, or in forms, just as they are taught to express them by writing, or in words; and the allusions of others to the same idea, as well as the responses of the meeting itself, were evidence that it was appreciated. Mr. Hollings remarked that the pursuit of the Fine Arts might be shewn to be necessary to society at large, as materially involving the diversion of labour into various channels. Want of a greater variety of employment was one of the great causes of existing distress. Let it not be said, either, that the advantages of the Fine Arts were to be seen merely in the production of luxuries. What was the luxury of one age, became a necessary in the next. How much occupation was now afforded even there by the employments of carving, gilding, painting, in-

designing of furniture, marbling, engraving on copper and wood, &c. Yet how serious would be the effect, if those engaged in their production were suddenly withdrawn from this field of labour, and thrown into that of the staple manufacture of the town! Moreover, the Fine Arts were so essentially connected, that the study and practice of one almost invariably called forth or involved that of others; and then, too, how much indirect advantage they further afforded, as involving numerous other occupations in themselves not purely artistic. Take, for instance, the manufacture of an ordinary porcelain vase, to be found on the mantelpiece of most of the middle classes in the town. How many branches of industry were connected with it, with which the designer has nothing to do. There was the collection and preparation of the crude material by the various processes of breaking, sifting, and working—the manufacture of the metallic oxides to be used by the artist—the subsequent processes of glazing and firing; all distinct branches these, to be carried on both before and after the impression of the design upon the ornament—the only process upon which art was directly though essentially concerned. In short, the more we multiplied the influence and operations of Art in connection with the production of luxuries, the more we should multiply profitable occupation and employment for the people. For, in this case, the usual maxim of political economy was reversed; instead of the demand creating the supply, the supply created the demand. As an illustration, just let them look at the improvement in the form and material of common earthenware within the last hundred years,—a change entirely owing to the residence of a few cheap Italian modellers in England. It was for the above and similar reasons that he should like to see a School of Design established in Leicester.—The importance of design and variety of pattern and style, even in the staple manufacture of embroidered gloves, fancy hosiery, &c., themselves, was afterwards also pointed out by others ere the meeting closed.

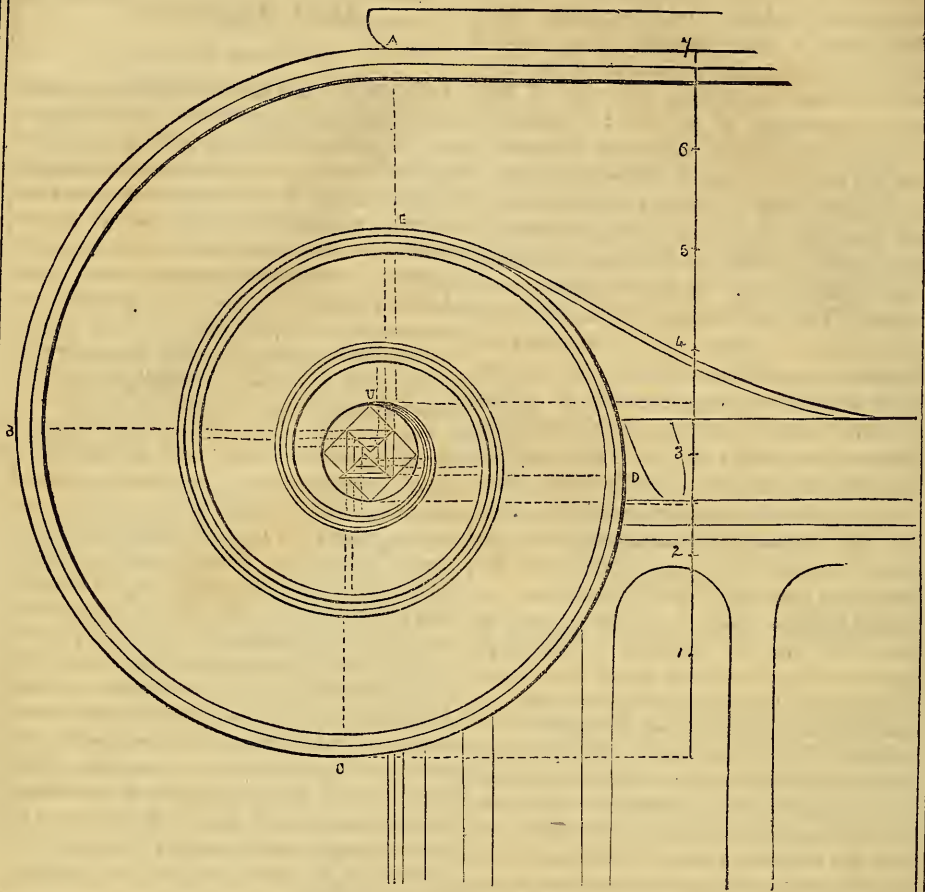
TESTIMONIAL TO MR. VERNON.—The proposal to raise by subscription sufficient funds to pay for the preparation of dies, and to present annually a gold medal, to be called the Vernon medal, for the encouragement of painting and sculpture, and in commemoration of Mr. Vernon's gift to the nation, appears to have found favour with all parties. A committee has been formed, containing many excellent names, and will shortly put the plan before the public.

Street Architecture.

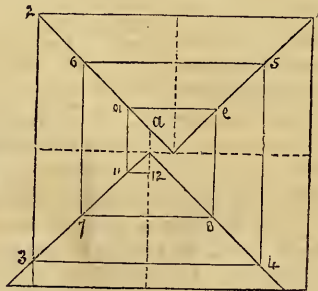
It is very rare that street architecture is treated of as a subject coming under the particular cognizance of professional writers, it being apparently taken for granted, provided streets are but straight and spacious, and so far perfectly commodious for the public, the elevations of the houses may be left either to the taste of the builders or that of their employers. This appears sensible enough, and where no pretension is made to architectural character may be sufficient. Yet if the latter should be attempted in any way, it surely becomes worth while to study it carefully, especially as opportunities for accomplishing anything of the kind on an extensive scale are comparatively few, it becomes necessary that when such do occur they should be turned to the best account. As a specimen, Moor-gate-street could be taken, though not of a superior class, there being too much pomp affected by means of columns and pilasters, those ever ready and convenient expletives, which are had recourse to on every occasion to fill up a front, and thereby conceal an errant *jejuneness* of design and poverty of ideas. Besides that, a palatial aspect cannot by any possibility be kept up in the exterior of houses of the kind;—it would of itself be quite out of character so long as the ground floor must be occupied by shops, which at once betrays the quality of the houses. Shops are decidedly stumbling-blocks to architectural design, not on account of their being *infra. dig.* as marking the habitations of tradesmen, but because they are fatal to architectural expression.

Can all the splendour of plate-glass, and other showy trappings atone for such radical defect?—no other appearance of support to the fronts of the houses being allowed to show itself than what is produced by the ends of party walls. Still, a remedy there is, and one equally simple and efficacious, by merely setting each shop front within an arcade. Due architectural expression would thus be restored, and a satisfactory appearance of substantiality given. This is now made evident enough by an instance of the kind in the lower part of the Royal Exchange. If that example was followed out in a degree, it would not matter were the whole space within the arch filled in with glass, as probably would be done in some instances; and as each front would be completely framed in by the arch and piers, it would not interfere with, or cut up the general design, and might, therefore, be allowed to be treated as an independent composition, according to the fancy of the occupier. It would likewise be a marked novelty in the character of our trading streets, and therefore deserves to be tried in one, at least, of the proposed new thoroughfares.

GEORGE JOHN RHODES.



A METHOD FOR STRIKING THE IONIC VOLUTE.



RULE FOR DRAWING THE VOLUTE.—(See description at page 148.)



IMPERIAL ROMAN HELMET.



ROMAN HELMET

Observations on the Polychromatic Decoration of the Middle Ages.

(Continued from page 106.)

Few traces of colouring of much greater interest will be found prior to the accession of Henry III. The paintings in churches of an early character were often executed at a later period; and this may generally be suspected when the decorations are of an elaborate kind, and when no letters or costumes are represented to determine the precise date: such decorations as we have alluded to, with a few figures on the plaster of the chancel walls, under the east window and on the chancel arch, painted in red or black outline, a few sentences, and a ruder cross or two, are all that the art of the former part of the thirteenth century appears to have been capable of producing.

Henry III. was an active patron of the arts, and found time amidst all the troubles of his reign to commemorate his taste in works of architecture, sculpture, and painting.

A free and bold style in arabesque prevailed from the time of Henry III., until the close of the reign of Edward III. Bright and lively colours were applied in masses, the grounds covered with compositions of foliage and birds, animals, and human figures, sometimes in one tint, sometimes in varied colours. The most beautiful design in use was a pattern of vine leaves, frequently drawn with remarkable freedom and elegance, in which the leaves, the tendrils, and the fruit are here represented in red and green tints, with various coloured birds nestling among the leaves; this is found repeated in groinings of this date; beautiful instances exist at Rochester Cathedral, in the groining of the crypt, and in a piece of wall painting in St. William's chapel in the same cathedral, and under the canopy of the monument of Aveline, Countess of Lancaster, in the choir of Westminster Abbey. Various figures and devices are found incorporated with foliage, in designs of this description; at sometimes free and in composition with the foliage, at other times displaying, within coloured medallions, the faces of men and angels, full-length figures and emblems. The groined ceiling of Adam de Orilton's chantry in Winchester Cathedral exhibits on a straw-coloured ground, among green foliage, with flowers, green and blue medallions, in which are painted the heads of angels surrounded by a nimbus: the groining ribs have their mouldings marked in various colours, and a running enrichment in a chevron pattern is painted in red and black on the centre moulding. The coloured mouldings of this date are often powdered with rosettes, or similar ornaments in red, black, or gold; and it was not unfrequent to cover with a sculptured diaper even those mouldings that were intended to be painted.

Even at this period, however, when the *tout ensemble* of Gothic edifices was perhaps more gorgeously magnificent than at any other time, the antiquarian will perceive a want of that nicety that distinguishes the work of a succeeding age. To the fifteenth century may be ascribed the

perfection of a system of Polychromatic decoration, which, if wanting somewhat in the striking and original character of earlier work, exhibits art acting under the influence of settled laws with greater certainty of effect, a vast improvement in technical skill, and more elaborate variety in the designs. [The difference in the modes of painting that prevailed during the decorated and perpendicular periods, shows itself particularly in the forms of the diapers, which, at the later date, are more set, with a frequent use of geometrical patterns and greater minuteness in the colouring.] We have as yet no modern restoration that exhibits the full effect of coloured decoration as applied in the fifteenth century.

It often happened that throughout the whole interior of a church the materials were no where discernible, [In Rochester Cathedral, even so far back as in the work of the thirteenth century, the Petworth marble columns have been entirely hid with colour.] the walls were painted over with historical subjects, arabesques, or inscriptions; the ceiling one mass of colour and gilding; the floor paved throughout with encaustic tiles; every window filled with stained glass; the strings, the cornices, with their enrichments, and the capitals of the columns, brought out in red, green, and gold; the very form of the mouldings more clearly marked by their enrichments; and all the tints that were diffused throughout the building concentrated in greater intensity and delicacy on the screens and monuments, only to be surpassed in gorgeoussness by the precious ornaments of the altar, rich in drapery, gold, and jewels.

Two methods of enrichment appear to have been used, in one of which colour was sparingly applied, the fair stone of the groinings, wrought in many an intricate pattern, or the mellow tint of the oak-boarded ceilings, is merely heightened in effect by gilded bosses on a vermilion ground, the various mouldings picked out in colour, and the walls adorned with monograms, or black and red letter sentences; but in the more common practice of the day, it was usual, where decorative painting was introduced, to cover completely with colour, and to the total concealment of the material, those portions of a building that were thus adorned. When the roofs were of wood, their ribs were usually picked out in various colours, plain or relieved, and in early work the same member was often painted in alternate colours, the corbels on which they rested were sometimes, if moulded, decorated as the ribs themselves; if carved in foliage, they were gilded; and if in forms of animal life, bearing shields, they were illuminated in various colours, and the escutcheon charged with the heraldic devices of the founders. The bosses at the intersection of the ribs, when they are not charged with arms, gilded, and commonly on a red ground. The panels of the ceiling were generally blue, variegated with gilt estoiles, or sometimes having one large radiating star painted therein, filling the whole compartment. [The soffit of the canopy over Richard the Second's tomb, in the Confessor's Chapel, in Westminster Abbey, exhibits a gold ground diapered with quatrefoils, &c., each compartment charged with a pictorial subject. In that at the east end were depicted two angels, supporting a shield bearing the arms of Richard II. and his wife, Anne of Bohemia. The two succeeding compartments are

embellished with scriptural representations, and the fourth is similar to the first. All the figures, though now much faded, have been painted in bright colours; the ribs between the several compartments are red and gold, and diapered.] In late work, the boarding is sometimes without ribs, painted in imitation of clouds; in the case of groined ceilings, the ribs and bosses follow the same rule, but the spandrils are frequently diapered.

Wall surfaces were generally of a blue or red tint; blue when forming a ground for pictorial compositions, and more commonly red, when unbroken large surfaces of any colour were invariably diapered, and generally in a deeper shade of the same colour; but the diapering is sometimes omitted when figures are introduced. [So attached were the middle-age artists to the use of diaper, that even works in metal, especially effigies, are engraved all over in similar forms to those on coloured surfaces. Nothing exhibits their abhorrence of unbroken tints more forcibly than the minute delicacy of their works in mosaic and enamel.] All enriched work was painted in contrasting colours, the surfaces red or green, [Upon the monuments on the north side of the choir of Westminster Abbey, a sort of bistre colour is made use of, as a counterchange for red, in the panels round the tomb, in the cornices, and in the series of quatrefoils for the display of arms on Valence and Crouchback's monuments. On Lord Bouchiere's monument, beneath the screen of St. Paul's Chapel, green appears in corresponding situations.] with blue introduced for relief in hollows, where the object sought was to give depth. Small column shafts or beads were often painted in a spiral curve, or barber's pole fashion, white and black, white and red, red and black, or red and blue; small fillets were often white; and all bosses, crockets, finials, and prominent edges, gilt; and the whole powdered over with star-like flowers or sprigs, gold or black if on a red ground, and generally gold over all other colours. [In King Sebert's monument the faces of the pyramidal canopies are more plainly coloured, and the faces of the intervening pinnacles have their pilaster faces gilt, relieved by green in the panels.] The octagonal bases of shafts often had their alternate faces painted of different colours, and the various cap and base mouldings picked out and gilded. Strings usually had their plain surfaces and hollows red or green, the bead often gilt, but the concave parts of cornices, when enriched, were often blue. [The very fine effect produced by the use of a very few colours may be judged by the screen in Edward the Confessor's Chapel. The faces here have a red ground, the soffits blue; and over these universal tints the gilded lacework of the tracery must have shown to great advantage.] The favourite arrangement seems to have been red, green, and gold; but when the series of mouldings, requiring to be distinguished by alternate colours, were deep, it was often customary to give greater variety by using different shades of the same colours, and which were often placed adjacent to each other. The same means was resorted to, when the very limited number of positive colours, occasionally in the intricacy of Gothic tracery, brought the faces of two members, having the same colour, into contact with each other.

(To be continued.)

Useful Receipts.

To Remove Stains from Floors.—For removing spots of grease from boards, take equal parts of fullers' earth and pearlsh, a quarter of a pound of each, and boil in a quart of soft water, and, while hot, lay it on the greased parts, allowing it to remain on them for ten or twelve hours, after which it may be scoured off with sand and water. A floor much spotted with grease should be completely washed over with this mixture the day before it is scoured. Fullers' earth and ox-gall boiled together form a very powerful cleansing mixture for floors or carpets. Spirits of turpentine, rubbed for a short time forcibly on grease spots, dissolve the grease in the floor, and make it readily unite with pearlsh or soap, with either of which the parts should be afterwards washed. Drops of tallow may be scraped off. Stains of ink, dried in on floors, are difficult to eradicate. Strong vinegar, or salts of lemon, will remove them. Red wine stains on boards may be removed by laying on them a strong solution of soda. If this be not sufficient, the chloride of lime or bleaching liquid, sold by chemists in half-pint bottles, will remove them.

To Make Lithographic Crayons.—Pure wax (first quality), four parts; dry white tallow-soap, two; white tallow, two; gum lac, two; lamp black, enough to make a dark tint, one; occasionally copal varnish, one. The wax is to be melted over a gentle fire, and the lac, broken to bits, is then to be added by degrees, stirring all the while with a spatula; the soap is next introduced in fine shavings; and when the mixture of these substances is very intimately accomplished, the copal varnish, incorporated with the lamp black, is poured in. The heat and agitation are continued till the paste has acquired a suitable consistence, which may be recognised by taking out a little of it, letting it cool on a plate, and trying its quality with a penknife. This composition, on being cut, should afford brittle slices. When ready, it is to be poured into a brass mould, made of two semi-cylinders joined together by clasps or rings, forming between them a cylindrical tube of the crayon size. The mould should be previously smeared with a greasy cloth.

To Make Lithographic Ink.—Lithographic ink is made as follows:—Take mastic in tears, 8 oz., shellac, 12 oz., Venice turpentine, 1 oz. Melt these together, and add wax, 1 lb., tallow, 6 oz. When dissolved, add hard tallow-soap in shavings, 6 oz. When the whole is combined, add lamp black, 4 oz. Mix these ingredients well; let the mixture cool a little, and then pour it into moulds, or on a slab, and when quite cold cut it into square pieces for use.

It is confidently reported that Mr. Hudson will shortly resign the chair of the Eastern Counties Railway, and Mr. Waddington will take his place, Mr. Peto being called in to take the deputy chairmanship.

Professor Cockerell's Lectures on Architecture.

THE annual course of lectures on architecture at the Royal Academy commenced on Thursday, the 4th ult. The Professor said that the object of these lectures was to place before the students those essential theoretical points which do not present themselves prominently in professional practice. At the outset, the student flattered himself that his time was to be spent in the study of design, and the cultivation of the attractive graces of the art; but in the urgency of his office duties, he soon found that little time was left for these delights. Technical details demanded his attention, and what ought to be first became last. He became appalled at the extent of the demands upon his powers. He soon came to regard the fine art as a thing secondary in importance, whilst he learnt the truth that the urgency of office business is indeed the urgency of daily bread, finding, too, after all, his noble aspirations regarded by the vulgar as vain enthusiasm.

Another contingency which would befall the student, was the special preference which the master under whom he studied might have for a particular style. This the student followed, and to all else became a bigot. Were the style mediæval, he felt no excellence but in copying; if Greek, all else was barbarism. He found, too, that he was subjected to fashions in architecture, which he must follow, as he might those of dress, and unhesitatingly, almost enthusiastically. The adoption of the Egyptian style, and of the Greek were such instances. In the case of the latter, the taste was signalled by complete misappropriation, and every house was built to make-believe a hexastyle Doric temple. The art had long wanted some learned champion, who should take up the cudgels of sound criticism, and battle for the right.

Upon such rocks as these, then, the Professor said, the student might suffer shipwreck, and therefore what should be his means of safety? How should we emancipate ourselves? It was plain that if fashion were to be the arbiter, a doubt would arise in the student's mind as to the true dignity of his art. He might ask,—Is taste but a fashion?—How should he aspire, then, to think, originally? The answer should be found in these and similar institutions.

The Professor then referred to the increased

advantages now within the reach of the student, the different lectures and classes affording the means of acquiring every branch of knowledge; and although, as he showed, they were not so fortunate in this respect as the students in France, yet as these were advantages which our predecessors never had, present time ought to spare something for the art. He also adverted to other requisite qualifications, saying that the architect should be a good workman, and distinguished by dexterity of hand as well as of mind, and cited Anaxagoras, who attributed the supremacy of man as much to the powers of the hand as of the head. He also related an anecdote of Rennie, who, having repaired the wheel of a stage coach, in which he and an aristocratic fellow-traveller had previously been on colloquial terms, found himself, as a workman, treated with great reserve and *hauteur*, and described the amusing discomfiture of the same traveller on finding next day that the most honoured guest of the noble lord with whom he had to dine, was his companion, the workman, who now treated *him* with corresponding distance.

(To be continued.)

Rule for Drawing the Ionic Volute.

(For Illustrations, see page 144.)

DIVIDE the height of the intended volute into seven equal parts; draw a line from the third division, and on it describe a circle for the eye of the volute, whose diameter will be equal to one of the parts; draw the lozenge square, and in that draw another, whose angles must touch the sides of the lozenge square in the middle (see engraving). In order to make the construction of the centre appear plain, we have shown it on a larger scale, the clearness of which does not, we consider, require a written description. The position of the lower angle will, of course, depend whether the volute is to be drawn from the right or left side; the engraving represents the left side; if on the right the position of the letter A must be reversed to the right side of the centre dotted line, and completed as given; then place the leg of the compass at Fig. 1 and stretch the pencil to the seventh division; strike the quadrant A B, stopping at the dotted line; then from Fig. 2 strike the quadrant B C; from Fig. 3 strike the quadrant C D; from Fig. 4, D E, and so on till the circle is touched at τ , the volute will then be complete.

The Chronotypist.

THE extension of the North British Railway from Edinburgh to the St. Boswell's station is expected to be opened on the 10th proximo.—The monument erected at Carmarthen to the memory of Pieton is just completed.—A grant of £200, from the fund for "special service," has been lately made to Mr. Edward William Lane, the well-known author of the "Modern Egyptians," and of a very accurate translation of the "Arabian Nights."—It is said that a lady of the family of a literary French ex-minister now in England is translating "Jane Eyre" into French.—There is another importation of Assyrian sculptures now unpacking in the British Museum. It consists chiefly of bassi-rilievi, some pieces of which join on to the slabs already deposited, and are continuations of the subjects already described—some fine gigantic figures of the king and his cupbearer, admirably preserved, retaining all the minute ornaments on the embroidered robes—and another large figure of the vulture-headed divinity, in excellent condition. So beautiful are these specimens, that they really ought to be protected by glass. We may probably give a detailed account when they are unpacked.—Monday the 9th and Tuesday the 10th of April are, we understand, the days appointed by the Council of the Royal Academy for the reception of pictures and other works of Art intended for the Exhibition.—Sir Richard Westmacott, the Professor of Sculpture, will commence his course of lectures to the students of the Royal Academy on Monday, February the 12th, and continue them on the five following Mondays. The Professor of Painting, Mr. Leslie, will deliver his course on Thursday, February the 15th, and the five following Thursdays.—France having at length succeeded in instituting a *de facto* republic, is to have, after all, it seems, a symbolical figure of the same. From a number of candidates sent in, the Art-constituency have finally elected one—granting honourable mention to two others. Following the course adopted with regard to the real republic, a variety of amendments and alterations were suggested in the symbolical one. The immortality of either the one or the other it were dangerous to predicate. The French people are by turns idolators and iconoclasts.—At the Louvre the Spanish Museum has been opened, under the new arrangement which classes the works of Art according to their schools and nations.—A correspondent of the *Athenæum* writes as follows:—"There is at Fir Grove, Weybridge, the residence

of Sir John Easthope, a fine copy of the celebrated portrait of Jane of Arragon, by Rafael, the history of which is curious. It belonged to the present President of the French Republic, who asked Sir John £5,000 for it,—assigning as a reason for this enormous demand that *it was the original*. He affirmed that his uncle, the Emperor, had had it copied—had hung the copy on the walls of the Louvre—and had given the original to Queen Hortense, his (the President's) mother, from whom he inherited it. Sir John Easthope afterwards bought the picture at the sale of Louis Napoleon's effects, just before the celebrated debarcation at Boulogne. This is a remarkable specimen of '*Les Idées Napoléoniennes*' with regard to honesty. Did the prince really expect to turn his uncle's fraud into hard cash? Did he believe the story, and think it a clever thing, and his own title as against the French nation a good one?"—A new Educational Hospital, making the ninth in the city, is about to be erected in Queensferry-road, Edinburgh, Mr. Daniel Stewart having left £90,000 for the purpose.—A new and beautiful edition of the works of Beethoven has just appeared at Vienna; it consists of fifty-six volumes and 4,500 pages of music.—The Hampton Court branch of the London and South-Western Railway will be opened for passengers on the 1st of February. It is expected to prove a very lucrative line, as, according to the Government return, about 500,000 persons visit Hampton Court annually. There will be five trains run each way daily.—The railway commissioners have approved of the proposal of Mr. W. Harding, Secretary to the London and South-Western Railway, consisting of a series of footboards and hold-fasts along the extent of the train, by means of which, in the event of accident, the guards may communicate with either engine drivers or passengers.—The *Nottingham Mercury* states that an important invention in the manufacture of lace is just about to be introduced there, by which colours can be thrown into the fabric, and all the small beams dispensed with, now applied to the machines, as well as the pieces being extended to three or four times their present length.—Mr. Robert Cadell, of Edinburgh, who, for the last thirty years, held a very prominent situation as bookseller and publisher, but chiefly in connection with the works of Sir Walter Scott, died on the 20th instant, at his seat, near Edinburgh.—The Society of Antiquaries met on the 11th of January, H. Hallam, Esq., V.P., in the chair. Mr. A. Taylor sent a map for exhibition, showing the boundaries which he assigned in his paper, read before the holidays, to Roman London.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

(Continued from page 138.)

ICEHOUSE. A subterraneous apartment for preserving ice during the summer. The best situation for an icehouse is in a chalky or a loose gravelly soil, on a declivity, where a cavity is dug in the form of an inverted cone, and, when the nature of the soil requires it, accompanied with a drain, which may conduct the waste water into a well,

ICHOGRAPHY. The transverse section of a building, which represents the circumference of the whole edifice, the different rooms and apartments, with the thickness of the walls; the dimensions and situation of the doors, windows, chimneys, the projection of columns, and everything that could be seen in such a section, if really made in a building.

ICOSHADERON. A regular body, consisting of twenty triangular pyramids of equal height and bases, their vertexes meeting in the centre of a sphere, which is supposed to circumscribe it.

INCRUSTED MOULDING. A moulding used in



Saxon architecture.

IMPETUS. The span of a building, arch, roof, &c.

IMPLUVIUM. The central part of the court, amongst the Romans, which was uncovered, and the breadth of which was never less than a quarter, or more than a third, of that of the *Atrium*.

IMPOST. The layer of stone which crowns a door-post or pier, and which supports an arcade, &c. It generally projects, and is ornamented with mouldings.

INBOND JAMBSTONE. A bondstone laid in the joint of an aperture.

(To be continued.)

SOCIETY MEETINGS FOR THE PRESENT
WEEK.

TUES.—Royal Institution, 3, P.M.—Mr. Carpenter "On Palæontology."

WED.—Geological, half-past 8.—Society of Arts, 8, P.M.

THURS.—Antiquaries, 8.—Royal, half-past 8.—Zoological, 3—General Business.—Royal Institution, 3—Dr. Gull "On Physiology of Digestion."—Royal Academy, 8—Architecture.

FRI.—Archæological Institute, 4.—Royal Institution, half-past 8—Prof. Brande "On the Theory and Practice of the Production of Light."—Botanical, 8.

SAT.—Asiatic, 2.—Royal Institution, 3—Prof. Brande "On Chemical Philosophy."

To Correspondents, &c.

NOTICE.

On Thursday, Feb. 1st, will be published,

PART I OF

The Book of Ornamental and Early
English Alphabets,

Also embracing Corners and Initial Letters.

To be printed in colours, and stitched in a neat wrapper, price 6d. To be continued monthly.

Office, 17, Holywell-street, Strand.

"Constant Reader," (Glasgow).—We refer you to No. 85, page 83.

"Blucher," (Oxford).—Accepted with thanks. We shall also be obliged to you for your other offer. Vol. IV. will be completed in twenty-six numbers, fourteen of which are now out.

"W. Q."—Use its own numerals.

"J. Greet," (Leamington).—We shall use the Article sent, and also that on "Porcelaine as applied to Inscriptive Art."

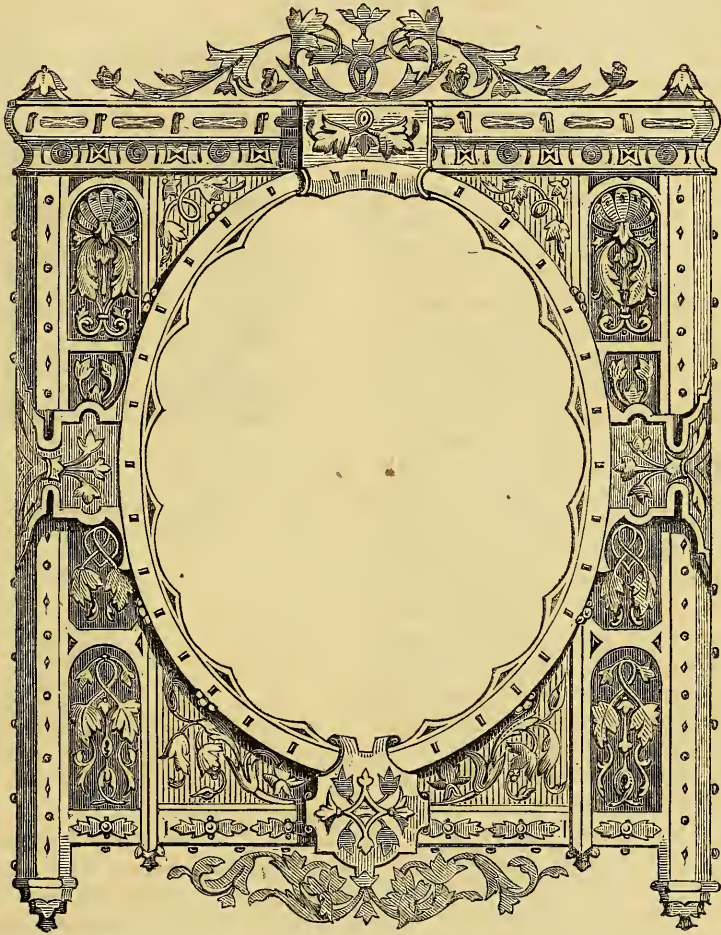
"Quiz," (Brighton).—Wait a little longer—the cause of complaint will soon cease to exist.—The alphabet shall be used at an early opportunity.

"S. H. D.," (Hertford).—Your letter shall receive due attention.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

Part 22 is now ready, Price 10d.

** Part I, is also re-printed, and will in future be charged at 10d. each.



AN ORIGINAL DESIGN FOR A BORDER.—(ITALIAN STYLE.)

On the Necessity of Establishing a
Museum for English
Antiquities.



It does not appear remarkable that in the year 1849, we should be entirely without a gallery, museum, or public collection of any kind of our own national antiquities, containing specimens not only of all the successive styles of Gothic architecture in this country, but also of contemporary productions in other [branches of Art. Several hints have been thrown out of late in regard to such [desideratum; yet, obvious as are its advantages, there is little or no prospect of its being supplied. Nay, it is both disheartening and mortifying to find that the idea of forming such a collection has been rejected in a quarter where it might have been taken with the greatest facility and at the same time with the

greatest propriety. It appears that about six years ago Mr. Lamb, the architect, addressed a letter to the trustees of the British Museum, earnestly but respectfully urging how highly desirable it was that specimens of Anglo-Gothic antiquities should be introduced into their building, and how eminently instructive, as well as interesting, such studies would prove, both to professional men and the public. This however, produced no more than a brief and formal official reply from the secretary, purporting that the trustees were not prepared to recommend her Majesty's Government to provide in the Museum for any additional collection of the kind suggested. This, of course, quite shut—and not only shut, but bolted—the door against anything further on the subject. Whether it received anything like due consideration at all is exceedingly doubtful, the secretary's reply being dated only ten days after the letter addressed to the trustees,—a very brief interval, not, indeed, for an answer, but for a final one in a matter calling for deliberate consultation upon it. No doubt it was unlucky that the author of the scheme did not bethink him of obtaining the signatures of some of his professional colleagues, and other individuals known to the public by what they have done for promoting the study of Gothic architecture and its history. A score of such names, including among them some of the principal members of the Institute, could hardly have failed to command a degree of attention not likely to be given to what proceeded from a single individual. In matters of the kind it requires that a good hearty push should be made in order to overcome the *vis inertia* that will not yield to the gentle "tap-taps" of mere hints and suggestions. In all probability the trustees themselves are perfectly indifferent towards a class of antiquities for which no provision is made in the Museum, and which, having been so long unrepresented there, they may think ought to be neither looked for nor desired.

Nevertheless, their own indifference might have given way to other considerations, had they had sufficient reason to suppose there existed a general demand for a collection of the kind suggested being added to those already formed in the Museum. They would probably then have thought fit to express their readiness

to recommend the matter to her Majesty's Government, leaving this last to take upon itself the ungraciousness of refusal. It may be said that the public have no occasion for examining models and casts when they can behold the buildings themselves: the reply to which is that the information and habit of observation acquired from such representations qualify them for taking greater interest in, and bestowing more earnest attention upon, actual productions of architecture. Besides which, a collection of the kind would possess the great advantage of affording direct comparison of edifices situated widely apart from each other; of becoming acquainted with many that are not to be seen without distant travelling, and by travellers perhaps only once in their lives.

Professor Cockerell's Lectures on Architecture.

(Continued from page 148.)

THE professor then made observations of a similar tendency to some in a previous course, on the influence which was to be attributed to painters, condemning, in the words of Philibert de l'Orme, the "pretty drawings" in which aerial effects, and efforts foreign to the art of architecture, were discernible. He said that the picturesque had been a characteristic of all the arts of "the revival;" but in all cases, whichever art was prominent, the others were drawn towards it. For example, Greek art was sculpturesque, Egyptian art architectonic. This we should do well to bear in mind; and the greatest conceptions of our art had unquestionably been when architectonic art was paramount, and of opposite character, when following the treatment of painting and sculpture. In speaking of drawing, the professor conveyed the impression, that he did not esteem it of the engrossing importance sometimes claimed for it. Wren spoke of perspective, but it did not appear that he was a great draughtsman; but on his works might be inscribed, *numero, pondere, mensura*. Amongst the French architects, who had devoted much time by delineation, and amongst them great skill was to be found, the higher qualities of

design is believed were impaired, whilst he had noticed that the architect of the Hotel de Ville was inferior as a draughtsman. In the present day, we found the great number of our resources was being continually augmented, and calling for fresh adaptation of means to an end; but the art in its principles was ever unchangeable.

Finally, in words which we must give verbatim, the professor said,—I congratulate you on the choice of a profession so entirely that of a gentleman; for as my German friends truly say "no man can be a thorough gentleman unless he has something of the artist in him; and no man can be a thorough artist unless he is (in mind and character at least) a thorough gentleman."

I congratulate you because in this art and science are comprehended all the supremacy and all the faculties of our nature, and all the privileges of the lord of the creation; for all intellectual rank and authority are accorded to him, and all the conquests of the artificer man are his enjoyments,—the whole field of science, exact and natural, are open to his investigation, and explained and tested by him. As a thinker and as a workman, he finds the fullest enjoyment, and an ever fresh pursuit,—he is incapable of tedium, languor, or ennui. His associations are amongst the gifted, the virtuous, and the diligent; with them and from them he is ever learning "wisdom and understanding and knowledge," like Bezaleel or Hiram. He stands before princes, as their counsellor and confidential friend, and holds their purse-strings; and he takes by the hand the humblest artificer. As entrusted and endowed with so many talents and privileges, he is their appointed arbiter, and establishes justice and judgment and equity between the little and great; and thus discharging them with fidelity and modesty and skill, he becomes the keystone of the social arch, and binds all the speculative and industrial classes together in a mutual support.

Curious Invention.—Mr. Coupland, of Skellingthorpe, near Lincoln, has just produced a very curious invention for the purpose of preventing the strong glare of the sun's light being thrown upon windows which front the south. It is both ingenious and useful.

Observations on the Polychromatic Decoration of the Middle Ages.

(Continued from page 147.)

DIAPERS were of several kinds; that most commonly met with extends itself over large surfaces in a running pattern often executed in a deeper shade of the ground colour. [There is a variety of this kind of diaper that may, perhaps, with more propriety, be termed arabesque. Such is shown in the groined canopy over the tomb of Aveline, Countess of Lancaster: there we see an entwining pattern of vine leaves and fruit; the fruit and sprigs red, and the leaves green. The ground shews a straw colour, perhaps originally gilded.] A second form, perhaps better understood by the word, powdering, scatters over the ground a profusion of small sprigs or flowers, generally black or gold. The diaper of a wall sometimes consists of nothing more than the founder's initials, the monogram I. H. C., or like devices in red, geometrically arranged upon an uncoloured ground, that is, a ground which has no other colour but the prevailing tint of the building. [The forms of diapered enrichment are as varied as the fancy of the artists, and not always beautiful. Greater variety than can be found on architectural members are met with in many of the painted effigies, and of great beauty.]

The plain faces of buttresses and pinnacles, and small running bands, are often ornamented with a pattern in two colours; sometimes simple, and extending itself over the whole surface. The prevailing tint for this ornament is white and black, or white with the prevailing ground. It seems to have been the aim of the Gothic artists to avoid as much as possible creating spaces of a single colour; for the smallest mouldings are generally powdered with red, black, or gold sprigs.

The use of diaper is to supply the place of middle tints, the introduction of which destroys the brilliancy, and interferes with the keeping of Polychromatic painting. A mass of colour, of whatever weight, may be enriched by a judicious use of diaper. A great deal of the beauty and freshness of the ancient mode of painting is referable to the pigments that they made use of, and the way in which they were mixed and applied. The colours used in Polychromy were few and simple, but of a substantial and permanent character; the ochres,

red lead and vermilion, azure or cobalt, two or three shades of green, with black and white, comprise nearly the whole of their chromatic scale. In pictorial compositions a wider range was allowed, and compound and neutral tints will frequently be met with.

As far as can be ascertained, very similar menstrua were used to liquify the pigments employed, both in the classic and middle ages. Painting on plaster was practised at both periods; but it is exceedingly doubtful whether fresco, properly so called, was used to any extent in Europe prior to its recorded introduction in Italy. Wax, with the volatile oils, and resin appear to have been the general media; and perhaps the paintings executed in wax may so far be called encaustic, as that term applies to bringing out the wax by means of heat, after the painting is done.

A very considerable proportion of the remains of mediæval colouring appear to have been executed with turpentine and resin, more particularly those that exhibit, after the lapse of ages, much of their ancient brilliancy, and adhere with tolerable tenacity to the surface painted on. Wax dissolved in gum water may also have been employed, as gum was much used for a similar purpose in the middle ages. Ancient paintings executed with honey and wax, possess a high degree of durability; and this method was much in favour among the Grecian artists; but its use in the middle ages, is only conjectural.

Many discussions have taken place as to the date of the use of oil in wall painting, many people contending that it was not known until introduced in the fifteenth century, by John ab Eyck; but it is evident this opinion is incorrect, and that it was known as early as 1239. But it does not appear to have been generally used until the fifteenth century. It might have been considered an experiment, which the mediæval artists were cautious of trying, knowing, by experience, the completeness of their old system.

(To be continued.)

Mediæval Remains.—The original floor of the ancient refectory at Durham has been discovered. About a foot and a half below the joists was an uniform surface of rubbish, on removing a portion of which, to the depth of about three feet, the workmen struck upon the floor of the ancient refectory. It is composed of plain red encaustic tiles, about ten inches square, and of much rougher composition than is now deemed requisite.



GOthic FINIAL ON DOORWAY AT THE INTERIOR ENTRANCE OF CLEEVE COURT.

a a b c d e
f g h i h l
m n o p q r
s t u v x
y z

On the Study of Picturesque Anatomy.

WE are indebted to the *Art Journal* for the following extracts from a lecture delivered by Mr. Townsend to the pupils of the School of Design at Somerset House, "On the Structure and Expression of the Human Head."

"Principles deduced from the structure of man, and the comparative anatomy of animals, lay a foundation for studying the influence of the mind on the body." Such is the correct remark of Sir Charles Bell. Anatomical knowledge, then, is to be followed up by the reflective application of the facts it conveys. If, however, artists rest content with the names and uses of the superficial muscles, and (what is still more noticeable) with a superficial examination of the bones, there will be indeed but a trifling result. Yet such is the end chiefly proposed in most of the treatises addressed, specially, to the students of Art! In the every-day occupations of many who now hear me, there are numbers whose professional employment often consists in making carved or painted, heraldic or imitative, representations of the animal creation; and he who has never seen a portion of the internal structure, has to puzzle himself over the delineation, or the modelling of the beaks, muzzles, joints, or claws of animals; whereas, the knowledge of the leading features of organisation would have instantly guided to a grasp of their true characteristics. Let me, therefore, hope that you will enter, with zeal, on the cultivation of researches that will guide the hand, without imposing fetters upon its liberty. Remember the wise maxim of the poet:—

"Genius again correct with science sage!"

Study with care those minutest varieties of internal structure which in so many parts, directly or indirectly, influence the external conformation of the human body; question your minds as to the relations between mental emotions and the physical manifestations that attend them; and if you find your information deficient, many are the authorities and aids which the Library and Museum of Casts place within your reach. In the latter I may remind you that you have not alone an extensive collection of anatomical plates, but the skeleton and numerous casts of dissected muscles of the human structure and of the inferior animals. Still more would I advise you, wherever it may be in your power, to follow the means resorted to by some of the wisest of our prede-

cessors, and to imitate their zeal in making even dissections of animals. Let it be a great point to institute a careful distinction of tendon from the muscular fibres, marking the direction of the latter in the state of repose or death, and also experimenting on the course of their contractions in the living subject. Moreover, it may be borne in mind that much living interpretation of the mysteries disclosed by anatomy can be sought successfully in the physiognomic expressions of grimace, or even of disease; that the mind of the truly observant artist exercises the knowledge he has acquired even when at a distance from the precincts of his studio; and that, in all his rambles, the passengers in the streets and the beasts in the field are ever undergoing the all-but-unconscious yet treasuring "speculation" of his eye.

And if, with the consideration of man's peculiarities, we connect all those hints to be derived from the careful investigation of the habits and structure of inferior animals, how much greater the range of mental vision over the domains of Expression, and how rich the treasure to be gathered thence for the true philosophy of Art!

And, lest it should be supposed that I am forgetful of the main purposes of this institution, I would argue that in Anatomy,—thereby gaining some insight into the organisation of all animals,—students of Ornamental Design are even *more* interested than many "artists." Of this, when I have hereafter placed certain facts before you, there will appear many convincing proofs.

There is at hand an appropriate diagram, which prompts me to offer at once a single instance. We will regard, then, for a moment, this diagram. [A view of the cartilages of the larynx, the muscles of the neck, &c., which, with numerous other diagrams, were exhibited at the lecture.] Here the head is thrown back so as to display the base of the jaw, and the full front structure of the machinery of the neck. Now, let us consider this in relation to Ornamental Sculpture. "Low relief" is accomplished by very insensible gradations of light and shade, caused by the most trifling variation of surface; combining, however, among its simple projections the highest lights, half tints, reflections, and shadows. Hence, the slightest scraping of the tool, the merest indentation of the surface, may be pregnant with meaning. This can all be rendered, it is true, by the power of un-assisted observation; but who will say that such observation would not be guided to more instantaneous and accurate perceptions by a knowledge of the exact anatomic causes influencing such minute varieties of surface? Let us suppose that such work of Art embodies a figure of small size, and

that this flat relief is in the hands of a silver chaser, who has to render, with exact understanding, the most evanescent touches resulting from the sculptor's feeling in the original model. Before reaching his hands the work will already have been cast in the precious metal; and it just depends on the previous knowledge of the chaser; whether his further translation of the original shall be simply *a peu pres*, a "sufficiently fair" transcript, or a most faithful copy. Think, then, of his having to work out the expression of such complicated machinery as this! Here we have the succession of parts composing the *Larynx*, or windpipe; the depression marking the position of the *Os Hyoides*; this projection, the *Pomum Adami*, with its V-like marking on the upper surface; and again we see on each side the various muscles by which this respiratory tube is elevated or depressed in the multitudinous efforts connected with respiration and deglutition, and those which move the head in its various actions. Depend on it, that although few but a practical anatomist could fully appreciate, when executed, the exactitude with which the imitation resembled nature, yet that anatomic truth rendered with artistic skill is never wasted even on the least learned eye!

(To be continued.)

Useful Receipts.

To take Impressions of Medals.—This may be of use to those who wish to preserve good specimens of fine draughts of curious medals, especially as it is easily executed, and with but a trifling expense. One way is as follows:—Take isinglass, and breaking it in pieces, dissolve as much of it as is necessary over the fire in a quantity of water sufficient only to cover it, taking care to keep it stirring till the whole is dissolved. This done, with a hair-brush, stroke some of the glue over the medals the impressions of which you would take, after placing them as horizontally as you can, and when you have covered them perfectly all over, let them lie till the glue is hardened; and afterwards, with the point of a pin, or needle, raise the edge of the glue from each medal, and the whole impression of the medal in glue will fly off as hard as a horn, with all the fine sharpness of the medal as it was struck. This glue may be made of any tint by mixing the colour in the water the glue is boiled in. The impression must be dried imme-

diately, but very regularly, and not in a hot sun, nor in any damp place. If isinglass is used, without any colour mixed with the water, as soon as the impression from the medals is taken, breathe gently on the concave side of them, and then lay them upon the thickest sort of leaf gold, which will stick to them; and by shining through the isinglass will appear like a gold medal: but to imitate a copper medal, carmine should be mixed with the water in which the isinglass is dissolved. Although water may do very well for dissolving the isinglass in for this purpose, yet brandy or spirit of wine will give the glue a much greater strength, so as not to be subject to soften in a damp air.

To take the Impression of large Medals.—First rub the medals gently over with a tuft of fine cotton moistened or greased with sweet oil; then having some melted brimstone, enough to cover the medal half an inch thick, put a hoop of card-paper round the edge of it, and pour the melted brimstone on it, but not too hot; as soon as it is fixed and hardened, take off the hoop of paper, and the impression on the brimstone will come clean from the medal, which shall serve for a sharp and correct mould, wherein you may cast another with plaster of Paris. But brimstone should not be used on silver medals, because it will effectually change their colour. Therefore, to take silver medals off, bind them round, after oiling them, with a hoop of some stiff paper, as before, and mixing a little plaster of Paris with water, fill the hoop with it; then immediately fill the case in a sprinkling manner with the same plaster, till it hardens; and when it turns dry, take it off from the medals. But from those moulds cast in brimstone that are concave, you must again cast such medals in plaster of Paris, and they will be convex, oiling the mould and using the plaster of Paris as before. By this method any medal or fine bas-relief may be taken with great exactness, even so as to form medals from them in any sort of metal.

A Method of Making Meglyp.—To each pint of cold drawn linseed oil purified by exposure to sunlight for a few months, add one ounce of powdered sugar of lead; place the jar in a sand bath, and boil over a clear fire, stirring until the sugar of lead is dissolved. Two parts of this boiled oil to three of mastic varnish, produces a meglyp that works well and does not separate, although it will not dry quite so rapidly as some that is prepared by the colour makers, yet quite sufficiently so for the safety of any work. It is a great improvement to put it into collapsible tubes as soon as made.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 150.)

INCH. The twelfth part of a foot.

INCERTUM. A term by which Vitruvius designates a mode of building, which consisted of small rough stones and mortar. Chandler is mistaken in giving the name of *incertum* to walls constructed of hexagonal and pentagonal stones without mortar.

INCLINATION. The mutual approach of a line to a plane, or of two planes to each other.

INCLINED PLANE. The inclined plane is one of the mechanical powers, and is not only used to assist in raising ponderous bodies of immense magnitude, to elevations to which they could scarcely be raised by any other way; but also the natural declivities of hills are frequently made to serve the purpose of the quick conveyance of coals, timber, or other articles, to a considerable distance, without the aid of horses. The most remarkable work of this kind is the Slide, or inclined plane, of Alpnach, in Underwalden, in Switzerland.

INCRUSTATION. INLAYING. Anything, such as mosaic, scagliola, &c. applied with mortar, or with mastic, or with cramps, to incisions that have been made for its reception. The lining or coating of a wall, either with glossy stones, rustics, marble, pottery, or stucco work; and that either equally or in panels and compartments.

INDEFINITE. A line, &c. which has but one extreme, which may be produced infinitely in a direction opposite to this extreme.

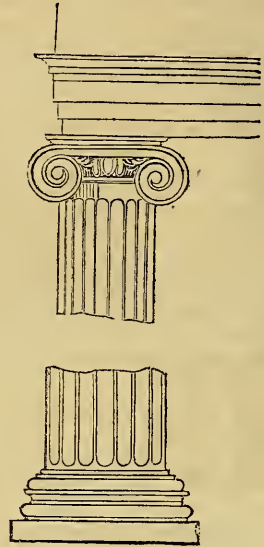
INDENTED. Toothed together.

INDIAN RUBBER. A substance produced from a tree in Cayenne and South America, called the syringa tree. It is most abundant in rainy weather, when it oozes in a milky form from incisions made in the tree, and acquires the consistence, which it has when we get it, merely by exposure to the air. The colour is given to it by exposing it to the smoke of burning vegetables.

INDURATING. Any thing which hardens another.

IONIC ORDER. The Ionic, next to the Doric,

was the oldest order amongst the Greeks. It originated amongst the Ionic colonies of the Lesser Asia, and is more delicate and graceful than the Doric, and yet has more majesty than the Corinthian. The column is fluted with twenty-four channels. The abacus of its capital is scooped on the side, and the chief ornament of the capital is its two spiral volutes. It is supported by the celinus moulding, sculptured with the egg-and-tongue, and borrowed above and below by a headed astragal. The base consists of a torus and



two scotiae, separated by astragals, and resting on a square plinth. But the most favourite base used with this order, both by the ancients and moderns, was the attic. The cornice is in general much divided by moulding and dental bands. In most of the Asiatic remains the frieze is found wanting. A longer description will be found in our architectural series, with copious illustrations.

INSULAE COLUMN. A column standing by itself.

INTAGLIO. Anything with figures in relief on it.

INTERCEPTED AXIS. A term in conic sections; it is that part of the diameter of a curve line comprehended between the vertex and the ordinate; it is also called *abscissa* and *apsis*, or *apsis*, and forms an arch of a peculiar kind, appropriated to the canopy of a kingly or an ecclesiastical throne, and to vaults in churches.

(To be continued.)

The Chronotypist.

At Upleatham Hall, one of the Earl of Zetland's seats in Yorkshire, there have been laid down 900 feet of glass water pipes, forming the longest line of glass tubes in England.—A curious match is about to take place, at Blackburn, for a sum of money, to test the relative excellence of two patented improvements in power looms. A number of looms of each kind are to be worked side by side, and the quantity and quality of the cloth produced will decide the wager.—The King of Prussia has conferred on M. Guizot, member of the French Academy, the Order of Merit for the Arts and Sciences.—The *Rhenish Democrat* states that a gigantic project, the construction of a canal between Kiel and the mouth of the Elbe, connecting the Baltic with the North Sea, is seriously contemplated.—A bronze statue of the late Lord Chief Justice Tindal is about to be placed in the open space in front of the Shire Hall at Chelmsford, Essex, of which town his lordship was a native.—The vessel *Charles Brownell*, from Valparaiso, arrived at Liverpool last week, and has brought gold bars to the value of £15,000 from California.—The inauguration of Mr. Macaulay, as Lord Rector of Glasgow University, has been postponed by the authorities till April.—Mr. Andrew Kinloch, the first man who ever weaved at a power loom, died in Manchester a few days since, having reached his ninetieth year.—The curious and interesting process, but seldom resorted to, of drawing sloping walls, back to the perpendicular by means of iron rods heated and thus lengthened, and then screwed up to the outer side of the wall, cooled again, and thus shortened, pulling the declining wall back to the perpendicular, has just been carried out on the walls of Barrow Church, which were more than a foot out of the perpendicular. They were also underpinned with what was regarded as a firm foundation. Other restorations and improvements have here been effected, both externally and internally, including a new open timber chancel roof of high pitch, with grey tiles, and new gables, above, and a solid body of concrete thrown in around the building below. Carved stalls, encaustic tiles, painted window glass, and other ornamental work have also been partially made use of in the restorations, which do not yet include the nave and other parts of this edifice.—The Paris papers report the death, in that capital, of M. Tastu, the well-known librarian of Sainte G n vi ve.—

Captain Huish has proposed a plan for making the railway stations circulating libraries and the carriages reading rooms. Mr. Huish's scheme is a graft upon the undertaking of the Messrs. Smith. These several circulating libraries are to be the integral parts of one great establishment; and the passenger is to have the power of selecting a book at any stall, paying the price thereof, and after travelling any distance on the railway (where his journey terminates), delivering it at the station, and receiving back the value less a trifle for a perusal. Captain Huish is the director general of the London and North-Western Railway—and his plan contemplates that particular line. It will soon, however, be imitated on the others of its machinery be found to work successfully.—The monument erected at Carmarthen to the memory of Picton is at last completed. According to the *Cambrian*, which terms it a monument of bad management, it is a clumsy disproportioned pyramid, manifesting by the rapid tapering of the shaft that the cash of the managers was exhausted, or that the builder was tired of his job. At the base run out four promontories, from each of which a large cannon, with feeble carriage, frowns on passengers as they approach what they may mistake for the chimney of a manufactory.—The project of a Vernon Testimonial, to which we have already alluded, is about to be carried into substantial effect. A meeting of the committee appointed for the purpose—in which we see the names of Lords Northampton and Colborne, Sir R. Peel, Vice-Chancellor Wigram, Sir George Staunton, Sir John Swinburne, the Dean of Westminster, and thirteen Royal Academicians—took place last week at Messrs. Colnaghi's house.—From Edinburgh, we are informed of the death of one of Scotland's most eminent amateur artists—Sir James Stuart of Alanbank. He was well known in the artistic world by his spirited and characteristic sketches and etchings—more particularly of cavalry skirmishes. Himself originally a cavalry officer, to his professional acquaintance with the subjects on which he treated were owing the truth and beauty with which the action of the horse or the military manoeuvre were rendered by his pencil.—A cylinder, 95 inches in diameter and 10 feet stroke, has been cast at the Novelty Works. No less than 25,000 lbs. of molten iron were used for the casting, which, when finished, will be about 20,000 lbs. This is, probably, the largest and heaviest casting of the kind ever made; and is for the first of Collins's line of sea steamers.—In Paris, a commission has been appointed for the purpose of taking measures for appropriating the Palais National for the next exhibition of paintings and sculpture by living artists.

The Louvre.

THE Minister of Public Works, M. Vivien, has prepared an elaborate report of the present condition of the Louvre, for necessary repairs and embellishments, as well as opening other saloons. The sum required for the present year is 200,000 francs, and 1,800,000 for the following one. The report is at considerable length; the principal features being—1st, The entire reconstruction of the roof of the grand gallery, to admit the light from the top, and to close the side windows. Secondly to re-decorate and alter the disposition of the Grand Salon, and the Salon des Sept Cheminees. Thirdly, the entire reparation of the Gallery of Apollo. In the budget for the present year, the first item is calculated to cause an expenditure of 160,000 francs. The re-decoration of the Grand Salon is estimated at 600,000 francs; the Salon des Sept Cheminees is set down at 400,000 francs; and finally, the expenses calculated to restore the Gallery of Apollo at a million of francs. In consequence of this report, a commission was nominated to consider the proposition, and on its meeting, in the Hall of the Institute, most of the distinguished artists of Paris were present. The plan given by M. Dubau, the architect, was the subject of a very learned discussion. The style of ornamentation especially was investigated. M. Ingres proposed a red ground, with very rich decorative details; his opinion was strongly enforced by Messrs. Drolling and Horace Vernet. M. Delacroix suggested a more sober colour as the ground, with very slight ornament.

SOCIETY MEETINGS FOR THE PRESENT WEEK.

- MON.—British Architects, 8, P.M.—Pathological, 8.—Chemical, 8.—Royal Institution, 2—Monthly Meeting.
- TUES.—Royal Institution, 3, P.M.—Mr. Carpenter, 'On Paleontology.'—Linean, 8.—Institution of Civil Engineers, 8.—R. B. Grantham, M. Inst. C.E. On the Abattoirs of Paris.
- WED.—Society of Arts, 8.—Mr. Highton 'On improvements in Electric Telegraphs and new plans for Printing by Electricity.'
- THURS.—Antiquaries, 8.—Royal Society of Literature, 4.—Royal, half past 8.—Royal Institution, 3.—Dr. Gull 'On Physiology of Digestion.'—Royal Academy, 8.—Architecture.
- FRI.—Astronomical, 3.—Philological, 8.—Royal Institution, half-past 8.—Prof. Owen 'On the Nature of Limbs.'
- SAT.—Royal Institution, 3.—Prof. Brande 'On Chemical Philosophy.'

To Correspondents, &c.

On April the 1st, will be published, Part I,
Price One Shilling, of The
**SELF-INSTRUCTING ORNAMENTAL
 DRAWING BOOK,**
 WITH DIAGRAMS,
 Showing how to hold the Pencil, and general rules
 for Drawing Ornamental Foliage, with
 a letter-press description.
To be continued monthly, in a neat wrapper.

NOTICE.

On Thursday, Feb. 1st, was published,
 PART I OF
**The Book of Ornamental and Early
 English Alphabets,**
Also embracing Corners and Initial Letters.
 To be printed in colours, and stitched in a neat
 wrapper, price 6d. To be continued monthly.
 Office, 17, Holywell-street, Strand.

"*Felix,*" (Leamington).—*Indian ink is the medium by which it is effected.*

"*J. Thompson,*" (Liverpool).—*Place the muslin in a strong solution of double size; then wring it out and strain it on the frame.*

Other Correspondents next week.

***Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics, Institutions, the fine arts, science, &c.

Part 22 is now ready, Price 10d.

*** Part I, is also re-printed, and will in future be charged at 10d. each.*



AN ORIGINAL DESIGN FOR A CENTRE PIECE—(FRENCH.)

On Light, Shade, and Chiaroscuro.



ALTHOUGH the distinction between "light and shade" and "light and dark" may at first sight appear a slight one, it is, notwithstanding, a real and useful one; light and dark being the two abstract terms, the one active and positive,—the other passive and negative; but neither of which, at their abstract maximum, are incidental to our system; our light and shade being offsets and modifications only of their abstract principles, which though they exist, never reach us in their primitive force. Thus one colour—say blue,—is darker than another—say red; and darker still than yellow: but it would be improper to say that blue is shadier than yellow, or black more shady than white, though both one and the other are darker.

Now, though—for want of a secondary term for light, to answer the same purpose that shade does for dark—we cannot say that one part of a picture may be light without being LIGHT; yet another part of a picture may be readily understood to be dark, without being SHADE.

This light and shade, in which is involved the whole of drawing and form, added to that

light and dark, which is thus latent in colour—constitutes the whole range of material for producing expression, from the simple to the terrible, that is discoverable by the visual organ throughout nature, or indeed that visible nature can convey to our perceptions.

The first of these (light and shade) is coincident, and it may be said, coeval with form; and, pictorially speaking, cannot be separated from it; the only difference being, that in nature light and shade is the result of, and uncontrolled by, form; and in Art form is the result of, and is controlled by, light and shade. This part of the art is as much a matter of easy mechanism as drawing: that is, that part of drawing which is the merely correctly circumscribing a certain form from a given distance with a line; all higher drawing than this being invention, as is light and dark, as contradistinct from light and shade; and the properties of each of which may be carried so far, and arrive at so high a pitch of excellence, as to only find appropriate admission to the sublimest heights of Fine Art.

For the sake of a more easy distinction, the term, *chiaroscuro*, may be used in the sense of light and dark, and not light and shade. A lecturer and writer upon Art, of great popularity, says, "Colour, and light and shadow, can do little but express a mysterious sentiment."

If by this it be meant to deny to two powers out of but three, their intrinsic and just importance, it is an extraordinary mistake, to say the least. If it be intended to induce amongst the rising painters a disregard of them as separate subjects of study, it is mischievous, and dangerous to all who may be inclined to hinge their faith and practice rather upon one alone than a number of masters. The acknowledgment that to light and shade belongs a "mysterious sentiment," is something; but it is intended to challenge for them something beyond mere mystery; and it is hoped that their claims to a definite character may be made apparent, to some degree at least, even within the circumscribed limits of an essay. That mystery and doubt belong to darkness by itself, must be acknowledged; but that mind must of itself be darkness, mystery, and doubt, if it may not be added error, which can attribute to light the same charac-

ter which distinguishes its sombre antagonist, or limit to "light and shadow," in combination, the power only of expressing little more than a mysterious sentiment.

Leaving colour out of the question, light and shadow, and chiaroscuro, are capable of expressing, and really do express, all that external nature is capable of conveying to the painter, or the painter can convey to the spectator.

If Nature could "do little but express a mysterious sentiment," then would it not be contended that "light and shadow and colour" could do more. Nature, on the contrary, does express infinitely more than can ever by possibility be imitated by the painter; yet all that can be achieved in such an imitation falls within the province of "light and shadow and colour," to express. Drawing being nothing more (in an accomplished work, or in nature) than an imaginary boundary to form, already consummated by light and shade; and in the hands of an accomplished painter, nothing more than a technical means to an end, in the carrying out of which should be involved its entire suppression.

Sculpture [in Relation to Modern Means and Requirements.

At a *Conversazione* held in the Royal Institution, Manchester, the week before last, Mr. George Wallis delivered an address on the subject, and urged that our artists should use English instead of Greek eyes. He thought the artist should go to nature, but if so, it was essential he should read nature for himself;—that he should not do it without availing himself of the tests and aids which those who had preceded him were able to give him was true, but to bind himself down to the forms of expression produced before him was wrong. If he did so, he thought in a groove which he could not get out of, for he found himself pressed on by the standard set up for him, and he could not give vent to his genius for the realisation of the works he proposed to accomplish. He must look to the productions of antiquity as the standard by which he was to work in the spirit of his own time. Hence it

was that the artist should seek objects from his own times, from his own religion, and for his own times, and endeavour to realize them; he said this of painting as of sculpture. We heard an outcry for originality in art, but they who joined in it forgot that when a new work was produced, it was criticised and judged of by an antique standard, for which we went back to the past.

Speaking of modern architecture he said,—Beauty had not been considered to any extent, and where originality had been studied it had run into absurdity rather than beauty. One great cause of this want of beauty was that we were trammelled by fiscal restrictions, and until we could mould bricks into forms and shapes, with which we could produce beauty in a building, we must be content to go on with square bricks made according to an exciseman's notion. In speaking of sculpture he was not alluding to mere marble statuary, but to all works in any material capable of carrying fixity of shape. Within the last century the mechanical arts had progressed to an extraordinary degree; new materials had been discovered, in which works of art could be produced, and of which the ancients had never dreamt. We had means of production which, fifty years ago, would not have been conceived, and, with them, means of adapting forms of beauty to objects of utility. By getting our sculptors to pay more attention to the generalization of their art, and the diffusion of that beauty which they had been too apt to consider as merely applicable to one department of it, we should produce such an effect on the public taste, as would educate the people to appreciate its higher developments. But to suppose that no man was a sculptor unless he was a carver of marble, was to use the term in a confined sense.

In the course of a discussion which ensued, Mr. Wallis, remarking that we could not expect the public to reward unless their minds were educated, said,—Our institutions were not fulfilling the purposes for which they were established; our schools of design were only drawing schools, and far from inculcating originality of conception or thought in the student, simply taught the mechanics of the art and nothing more.

On Water-colours for Illuminating Prints, &c.

COLOURS are to be distinguished as follows:—the first is the white colour; next the yellow; next the orange; then the red; after that, the purple; afterwards the blue; and lastly, the black. It is to be observed, that white and black are the extremes of colour: yellow is the less point of colour towards the white; the next to that is the green; and after it the blue.

With regard to the colouring of prints, if the paper be pure white, use no colour on it, unless in the shaded parts; and then in painting of flowers, if they tend towards a reddish colour, use a faint colour of carmine with gum-water, upon the shades only; if blueish, use a little faint indigo in gum-water slightly passed over the shades, easily touching upon the lights. Where there is a yellow tinge, either use a faint tincture of gamboge, or of French berries, which will be described among the yellows: or if the whites have a purpleish cast, use a thin lake on the shady side, suffering the colour only to shine a little into the light, which will give a lustre to the whites; and if a greenish cast should be there, use a very faint colour of the sap-green; or in proportion of the sap-green mixed with the verdigris-green.

All these colours, mentioned for shading the whites, may be found in the following directions.

Whites used for Painting in Miniature.

The best white sold for painting in water-colours is flake-white: this is better than white lead ground, and, if it be pure, far exceeds it in beauty; because the white lead is apt to turn blackish, especially if it be used with a hard water.

But some recommend a white made of pearl and oyster-shells, reduced into an impalpable powder, so soft as to feel like grounds of starch, or hair-powder: this is by some called pearl-white, and will mix well with any colour. But if you use white lead, first rectify it with white-wine vinegar, which causing a fermentation, the white will soon settle; after which pour off the vinegar, and wash the white with common water. The method of washing it is thus: Put the powder into a glass of water; stir it about, and presently pour off the water, while it is white, into some other clean glass, or vessel; then letting it settle, pour off the water from it, and you shall have an excellent white, to which, when it is settled, you are to put as much gum-water as is necessary to give it a glaze.

It is observable that white lead will turn black if mixed with water that comes from iron or clay; that is, in the space of a month or two, you may

perceive those places where it lies thickest tinged with black; and if it be mixed with any other colour, it will soon change or alter it.

Some recommend the powder of egg-shells of the brightest colour, and well cleaned and washed, as very good to be ground with gum-water; or you may put a twentieth part of clean white sugar-candy to grind with it in water: it must be ground as fine as possible; that is, to the state of an impalpable powder; and then use it. Some say it is better, if rectified spirit of wine be poured on it, which will clear it from any gross that may be in it: this, it is probable, must be poured off, when the spirit of wine has done its work; and then the parts left behind must be mixed with gum-water again.

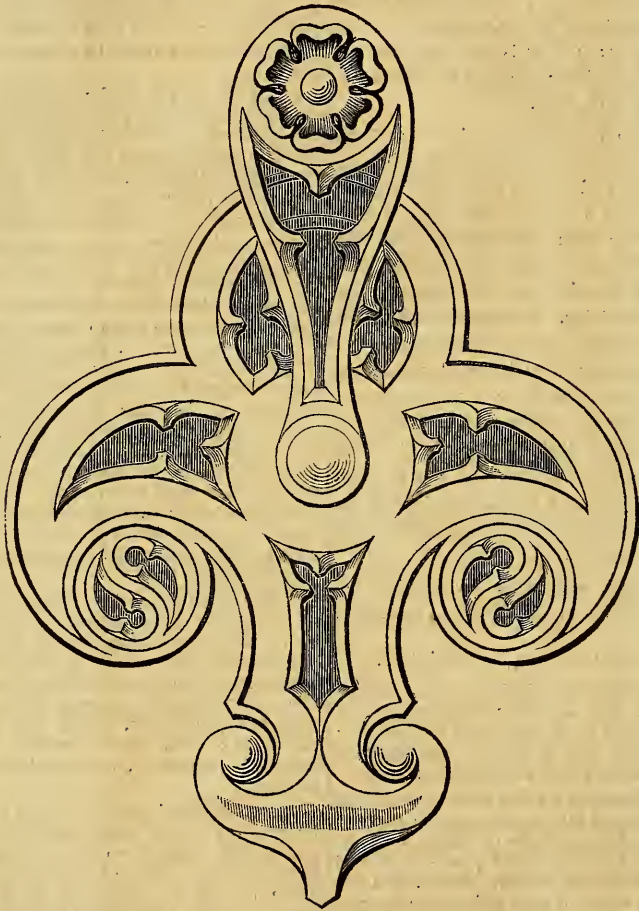
But it has been found by experience, that egg-shell powder is of very great service as a white, in water-colours, and that itself and the oyster-shell powders, well rectified and mixed with the white of an egg well beaten, will make an extraordinary mixture in other colours, and will correct them from changing or altering their qualities.

As to a white for illuminating of prints, the clear white of the paper is to be left uncoloured, and if it happens that the paper is apt to sink, or to spread any water-colour that is laid upon it more than is necessary; then the way to correct it is as follows: Fix the paper in such a station as that it may only receive the colour you lay on to glaze, just as far as you designed it; then take some starch boiled and prepared in water, of a middle strength, and with a large painting-brush, stroke it over the black of the print; and after it has been well dried in the air, or sun, put the print in a book with the weight upon it, to take out the crumplings which it may receive by wetting of it; and thus will any print be rendered fit to receive water-colours, which will be prevented from running farther than one would have them.

A fine white for water-colours is made by dissolving filings of fine silver or silver-leaf in aqua-fortis; then evaporating the aqua-fortis till it looks like crystals in the bottom of the glass: decant the other part of the aqua-fortis, and wash the silver five or six times in common water, till it is freed from the aqua-fortis, which may be known by tasting it; then dry it for use. It must be used with gum-water, and a little water of sugar-candy.

An incomparable fine white-lead colour is made by grinding choice white lead well upon a porphyry with vinegar, so that it turns blackish; then take a pot full of water, and washing the white lead in it very well, let it settle; and pouring off the water, grind it again with vinegar: repeat this once or twice more, and an excellent white both for water-colours and painting in oil will be produced.

Leamington Church Clock.—A clock has been placed in the tower of the parish church: the dials, seven feet diameter, of masonry coated with mastic, are painted purple, and have the surface "smaltd," as it is termed, that is, strewn with pulverised or fragmentary glass. The figures, fifteen inches in height, are gilt.



AN ORIGINAL DESIGN FOR A BELL LEVER.

BY J. B. ROBINSON.



A DESIGN FOR A FRIEZE—(HALF DRAWN.)—ARABESQUE.

Observations on the Polychromatic Decoration of the Middle Ages.

(Concluded from page 153.)

In the fifteenth century, however, oil seems to have predominated [There are instances of the use of oil in the late part of the fourteenth century; and most of the monuments in the choir of Westminster Abbey are painted entirely in oil. In those cases, however, where it is possible to ascertain the original tints, they appear inferior in brilliancy, and certainly in surface, to the other work of the same date. Oil was also used for the pictorial decoration of St. Stephen's Chapel, Westminster, of which we read that Hugh de St. Albans and John Eston were employed as principal painters, on wages of one shilling per day], and about this time came into general estimation among artists. Although scarcely capable of the same fixity of tints as the older compositions, oil has been found to possess many qualities that render it superior in handling, combining more readily with the various pigments, and flowing freely. The modes of preparing oil for colouring, however, appear to have been different to those now in use: few ancient specimens will be found that have received more than a single coat of paint; whereas, on the modern system, the work must be painted over several times before an even surface or an equal intensity of tint can be produced. These repeated coats are destructive of all nicety and finish.

When any extent of wall surface was proposed to be painted, it was usual to cover the stone-work with a thin coat of plaster or whiting, for the purpose of concealing the joints and affording a better ground. [No variation appears to have been made in this practice, even when oil was intended to be used. The oil paintings on what is termed King Sebert's monument, in Westminster Abbey, may be mentioned as executed on a thin coat of plaster, although both the assigned antiquity of these subjects, and the probability of their being the production of a native artist, may be doubted.] The ground thus gained was, in works of importance, very carefully prepared with size, of thin glue or gum arabic dissolved in water, with the addition of a little dry white lead or sheep-skin size, to prevent the too great absorption of colour. [Sterimée gives various recipes, of a more modern date, for the preparing grounds for wall painting. He appears to recommend saturating the cement and the ceruse with drying oil and wax in preference to

boiled oil.] For gilding, sizes similar to those now or lately in use were adopted, and laid as a second coat over the previous ground. The gilding of middle-age works will generally be found to have been performed in a superior manner, and to have stood well. In appearance, these paintings most nearly resemble flatted work varnished: the colours have in general more force than is usually attained by modern oil—glossy, yet free from glaze, and possessing considerable body. They are not absorbed by wood or stone, nor do they adhere very tenaciously. Though easily separable from the ground, they are not liable to crack.

Distemper paintings are very common, and do not differ materially from the appearance of such work in the present day. In buildings of small importance, simple earths, dissolved in water, were often the only colouring media applied, and continued to be used in our village churches down to a very recent date.

It will be observed, in the course of these investigations, that decorative painting is in no case applied with the object of concealing inferior materials or workmanship; the most elaborate care has been bestowed on the details which are painted, perhaps, to a greater degree than in other parts of the same building, which may not be ornamented with colour. The materials are oak, and the finest stone, such as we should expect to find in the richest part of an important building. Yet, in modern structures, it seems by no means incumbent on us, in such cases, to make use of the costly material our ancestors employed: without departing from the spirit of antiquity, the architect may adopt for works intended to be painted, any substantial material capable of being readily wrought or moulded. We ought to bear in mind that the colouring of ancient carved work was very frequently an afterthought, and sometimes distinctly of a later date than the work itself; and, in addition to this explanation, we may take into consideration the circumstance that our predecessors, in the selection of their materials, chose such as were familiar to them, leaving us a hint to do the same by such as are commonly employed among ourselves, and reserve the more costly kinds to situations that display their peculiar qualities.

An examination of the colouring of ancient edifices will lead to the following conclusions:—First, That differences exist in point of style and materials in the work of distinct periods. Secondly, That these distinctions exhibit themselves in a marked manner, at periods corresponding to our usually received architectural chronology. Thirdly, That the decorative art attained its greatest perfection subsequently to the middle of the fifteenth century, following in its development the advances of architectural taste.

Society of Arts.

On the 31st of January (Mr. W. Tooke, F.R.S., in the chair), a paper by Mr. A. Claudet was read, "On the Photographometer, for measuring the intensity of the chemical action of the rays of light on all photographic preparations, and for affording a means of comparing the sensitiveness of the same. The art of photography, observed the author, is founded on the property with which light is endowed, namely, that of producing a photographic effect when it strikes upon certain chemical compounds. The effect being in proportion to the intensity of the light during a given space of time, it is necessary, for the success of the operation, to be able to ascertain the exact power of the light at any particular moment; and the only means of so doing hitherto possessed by the photographer is the effect it produces on the eye. A few only of the rays which emanate from the sun are capable of producing on the chemically-prepared surface an effect which is the cause of the photographic picture; and if it were possible to admit into a room only the rays which are endowed with the power of affecting the photogenic preparation, the objects in the room would not be visible to the eye, as the room would appear to be plunged in darkness, while the objects in it would reflect some invisible rays which are capable of producing the photographic image. The property of absorption possessed by red, orange, yellow, and green glass being known to photographers, and the power of admitting through blue glass nearly all the photogenic rays which are not luminous, combined with the improvements which have taken place since the discovery of the art by Daguerre, enable the photographer of the present time to employ a very soft light, and to place the sitter in the shade. As the result of the photographic operation depends on the intensity of the actinic rays, and also upon the degree of the sensitiveness of the chemical preparation, Mr. Claudet has constructed an apparatus which is not only capable of measuring the photogenic light, but of testing the sensitiveness of the chemical preparation of the Daguerreotype plate. This instrument is constructed so that a plate being placed upon an inclined plane will always fall with the same rapidity for each operation. The plate has seven vertical slits or openings cut in it; these are placed parallel to each other,—the first being 1 millimetre wide, the second 2 millimetres, the third 4, the fourth 8, the fifth 16, the sixth 32, and the seventh 64 millimetres. The photographic surface is placed

at nearly the bottom of the inclined plane, under a metallic plate pierced with seven circular holes corresponding with the openings of the moveable plate containing the proportionate apertures. When the moveable plate passes before the photogenic surface covered with the seven circular holes, the light strikes upon the spaces left open by the circular holes in various intensities. The space lighted by the opening of 64 millimetres will be affected by an intensity double that which is lighted by 32 millimetres, quadruple that of the next under the opening of 16, and so on until the last opening, which, being only 1 millimetre, will have received 64 times less light than the first; so that after the operation, seven round figures, or less, according to the intensity of light, are represented on the photographic plate. The photographer is thus enabled to ascertain how long it will be necessary to submit the plate to the action of the light on the camera, by the length of time required to develop the seven round figures.

ANTIQUÉ JARS.—Last week, as some labourers employed upon the Stour Valley Railway were deepening a ditch upon land purchased by the Company of Mr. Pettit, of Mount Bures, Essex, they discovered, about three feet from the original surface, three amphoræ — vessels used by the ancients for holding wine, oil, honey, &c. They are about three feet in height, with a small neck, and handle on each side of the neck; and the vessel terminates at the bottom with a point, which was let into a stand or stuck in the ground, so that the vessel stood upright. Those found are made of clay, which appears to have been imperfectly burnt. One of them was taken out perfect, the second was deprived of one handle and its pointed foot, the third was broken in pieces in the removal. An iron instrument with three prongs, two of which had knobs of brass on their points, was found at the same time.

THE FLOATING RAILWAY.—The launch of this vessel for ferrying the trains over the Frith of Forth, took place on the 6th instant at Messrs. R. Napier's ship-building yard near Glasgow. The operation excited considerable interest. The vessel is 170 feet long on deck, 34 feet wide between the paddles, and 10 feet deep, and is strongly framed and plated to sustain the great weight of a train of loaded trucks. Her engine is 56-inch cylinder, and 3 feet 6 inch stroke, working each paddle. A chimney on each side allows a clear space in the centre for three trucks loaded abreast, and the captain stands above them between the paddles. The vessel is of iron, ribbed; the plates on the bottom being half an inch thick.

Assertion is like an arrow, shot from a long bow; the force with which it strikes depends on the strength of the arm that draws it. But argument is like an arrow from a cross-bow; which has equal force, whether shot by a boy or a giant.—*Bacon.*

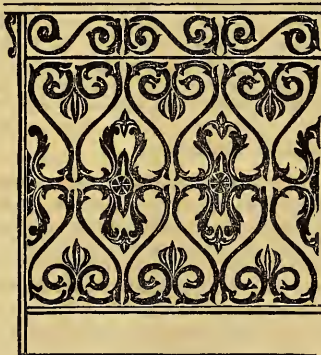
An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 158.)

IRON. A metal common to all parts of the world; and though recorded to have been extremely scarce among the Greeks at the time of the siege of Troy, it is now everywhere the most abundant and the most useful of all metals. Though the lightest of all metals except tin, yet it is the hardest, and, when pure, is naturally malleable. Most of the metals become more brittle as they acquire heat, but iron, on the contrary, is the more malleable as it approaches to fusion. Its specific gravity is to water as 7,632 to 1,000. It is the only known substance attracted by the loadstone.

IRON CHAINS. Under the roofs of circular buildings, are found of great utility in preventing the pressure of the incumbent weight from pushing out the walls, especially in domes of great magnitude. The dome of St. Paul's, in London, has two massive chains for its support, which are sunk into the substance of a circular course of Portland stone.

IRON WORK. The accompanying illustration is



an example of cast-iron railing used in the church of La Villette, Paris.

IRON. *King Posts* and *Queen Posts*, are generally to be preferred to those of wood, and, where bolts and straps are used, are as cheap.

INDIA INK. A preparation manufactured in China and other parts of Asia, and there used in writing. In Europe, this ink is employed in sha-

dowing drawings. By appropriate experiments Dr. Lewis, has shown that this substance is composed of fine lampblack and animal glue.

INSCRIPTION. This word denotes a brief and comprehensive sentence by which any particular or memorable event is recorded upon some monument raised for the purpose, and it also frequently serves to hand down the name of the author or proprietor of any work of art, together with the object for which it may have been designed. The inscription which, on pillars, or other monumental edifices, are destined to transmit to posterity the memory of some interesting event are generally engraved upon marble or bronze. In very remote times, however, they contented themselves with merely setting up a rude stone, or heap of stones, to commemorate the act or circumstance which they were desirous of recording.

IVORY. The substance of the tusk of the elephant. Ivory is esteemed for its beautiful cream colour, the fineness of its grain, and the high polish it is capable of receiving. That of India is apt to lose its colour, and turn yellow; but the ivory of Achem and Ceylon is not chargeable with this defect. Ivory is used as a material for toys, and as panels for miniature-paintings; to prepare it for which latter purpose, it is to be washed with the juice of garlic, or some other absorbent composition to remove its oily particles. The shavings of ivory may be reduced into a jelly, of a nature similar to that of hartshorn; or, by burning into a crucible, they may be converted into a black powder, which is used in painting, under the name of ivory black.

INTRADOS. Is the concavity or interior surface of a vault.

INCERTAIN WALL. A wall formed of stones, of which one direction of the joints are horizontal, and the other vertical: but the vertical courses are not always arranged in the straight line all that need be regarded is to make them brake joint. This manner of walling was used by the Romans antecedent to the time of Vitruvius.

INCIDENCE. (In Mechanics.) Expresses the direction which one body strikes on another; otherwise called inclination. In the incursions of two moving bodies, their incidence is said to be *perpendicular* or *oblique*, as their directions or lines of motion make a straight line or an oblique angle at the point of contact.

(To be continued.)

The Chronotypist.

THE Ancient stone bridge at Inverness, has been destroyed by floods.—A Water Company in Sunderland, supplies 400 poor families, gratis, with service pipes and water taps, and with an unlimited supply of water, at the rate of one penny per week.—Measures are being taken to establish at Lancaster an Athæneum, on the model of the one at Manchester.—A vessel, arrived from Copenhagen, has brought 21,000 bricks as a portion of her cargo, the production of Denmark.—The School of Design had a meeting on the 7th, at the Office of the board of Trade.—A 50 gun frigate to be named the San Fiorenzo, is ordered to be built at Woolwich Dockyard, from a design by Messrs. Read, Chatfield, and Creuze, Members of the School of Naval Architecture, and her keel will shortly be laid in the spacious new slip, No. 4.—One of the improved patent Express Engines, manufactured by Messrs. Robert Stephenson, and Co., at Newcastle, was placed last week, upon the York, Newcastle and Berwick Railway. It is of a new and peculiar construction, combining great power with speed, and is considered one of the most complete and finished pieces of machinery, ever seen. The diameter of the driving wheels, is 6 feet, 6 inches, the single stroke of which will cover a space of nearly 7 yards; and the running wheels, 3 feet, 9 inches. On being tried, it proceeded at a speed closely approximating to the rate of a mile a minute.—Report does not speak very highly of the forth-coming Exhibition at the British Institution—which will open to the public on Monday next. It has been characterised as a landscape exhibit in the main, with the amount of mediocrity usual to its walls for some years past. Very few members of the Royal Academy have contributed—one Academician only, we believe, and three associates. In the figure department the collection is said to be more than usually weak.—The terms of the grant to Mr. Lane, now engaged at Cairo in compiling a lexicon of the Arabic language, seem to be the object of some uncertainty or confusion:—one authority stating that the minister has conferred on him an annuity of £200 a year—another limiting the Government aid to a single sum of £200 from the fund for special service. We repeat our understanding of the matter to be that Government has granted £200 a-year for two years in furtherance of the work on which Mr. Lane is employed—and we presume the term is elastic according to circumstances which may

arise for extending it.—At the Society of Arts on February the 7th, Dr. Roget in the chair.—W. Atkinson, W. S. Hale, and T. Ivory, Esqs. were elected members.—W. E. Highton read the second part of a paper 'On improvements in Electric Telegraphs and new plans for Printing by Electricity.' Various experiments were made by the author: the paper was illustrated by diagrams; and a series of new electric telegraphs were exhibited at work.—A correspondent complains under the signature of "A Student," that the students in the National Gallery, are prevented from making studies from any picture in the Vernon Collection. "If this be only a temporary regulation," says the writer, "it would be unreasonable to complain; but it appears to be generally believed that the prohibition will be permanent, and if so it is not unreasonable to inquire the cause." These pictures being as regards the national property in them in the same category with the others up stairs, our correspondent argues that there should be some intelligible reason why they are deprived of one valuable incident which attaches to the rest, making admitted excellence the guide to excellence in others.—We have, ourselves no doubt that the prohibition is but the accident of the present position of the collection,—and one of the many expressions of the extent to which niggardly and unrefined government have contrived to ignore the munificence of the giver and neutralize the benefits of the gift. That the pictures cannot be copied seems a reasonable enough corollary to the proposition that they cannot be seen.—The Enfield and Edmonton Railway is now completed, and will be opened for traffic in a few days.—A Railway Library is to be opened on the 15th, at the great Western Terminus, at Paddington, with upwards of 1,000 volumes of modern works, chiefly of fiction and amusement. Every Passenger will have free access and use of the Library, while waiting for the trains, for the charge of one penny.—At a meeting of the Institute of Architects, held on the 5th inst., Mr. Poynter in the chair, a donation of great interest and value from Mr. Henry Garling, Fellow, was announced, namely, 20 folio volumes, including an early edition of Palladio, (1750); Hamilton's Vases; Original Designs, by Lewis; Chamber's Civil Architecture, 3rd edition, with autograph of the author; W. Addam's designs (of Edinburgh); Gibb's works; and Rondelet's *Traité Theorique et Pratique de l'Art Bâtir*. This chairman very properly commented on the excellence of the quality as well as the number of the works thus liberally presented by Mr. Garling. The library of the institute is now becoming very extensive and excellent, and will, it is to be hoped,

be made good use of by the students. Mr. John Edward Gregan, of Manchester, was elected a Fellow.—The eight report of the Commission on the Fine Arts, which has just been published, informs us, that the commission is ready to enter into an agreement with Mr. W. Dyce, R.A. for the decoration of Her Majesty's Robing-room in the Palace of Westminster, with fresco illustrations of the legend of King Arthur. Mr. Dyce undertakes to complete certain stipulated works, within a period of 6 years, for which he is to be remunerated (as proposed) at the rate of £800 a-year.

Preservation of Timbers.—A contemporary says,—that in taking down, a few years ago, in France, some portion of the ancient chateau of the Roque d'Ondres, it was found that the extremities of the oak girders, lodged in the walls, were perfectly preserved, although these timbers were supposed to have been in their places for upwards of six hundred years. The whole of these extremities buried in the walls were completely wrapped round with plates of cork. When demolishing an ancient Benedictine church at Bayonne, it was found that the whole of the fir girders were entirely worm-eaten and rotten, with the exception, however, of the bearings, which, as in the case above mentioned, were also completely wrapped round with plates of cork. These facts deserve to be inquired into.

Wise men are instructed by reason, men of less understanding by experience, the most ignorant by necessity, and beasts by nature.—Cicero.

SOCIETY MEETINGS FOR THE PRESENT WEEK.

- MON.—Geographical, half-past 8, P.M.—Royal Academy, 8—Sculpture.
- TUES.—Zoological, 9—Scientific Business.—Institution of Civil Engineers, 8—Mr. J. Richardson, M. Inst. C.E., "On the Coal Field of South Wales;" and "An Account of an Explosion of Fire-Damp, at the Eaglebush Colliery, Neath."—Royal Institution, 3, P.M.—Mr. Carpenter "On Palæontology."
- WED.—Literary Fund, 3.—Microscopical, 7—Anniversary.—London Institution, 7—Dr. Ward "On the Varieties of the Human Race."
- THURS.—Antiquaries, 8.—Royal, half-past 8.—Royal Institution, 3—Dr. Gull "On Physiology of Digestion."—Royal Academy, 8—Painting.
- FRI.—Geological, 1—Anniversary.—Royal Institution, half-past 8—W. R. Grove, Esq., "On Voltaic Ignition."—College of Physicians, 4—Gulstonian.
- SAT.—Royal Institution, 3—Prof. Brande "On Chemical Philosophy."—Asiatic, 2.

To Correspondents, &c.

On April the 1st, will be published, Part I,
Price One Shilling, of The

SELF-INSTRUCTING ORNAMENTAL DRAWING BOOK, WITH DIAGRAMS,

Showing how to hold the Pencil, and general rules for Drawing Ornamental Foliage, with a letter-press description.

To be continued monthly, in a neat wrapper.

NOTICE.

On Thursday, Feb. 1st, was published,
PART I OF

The Book of Ornamental and Early English Alphabets,

Also embracing Corners and Initial Letters.

To be printed in colours, and stitched in a neat wrapper, price 6d. To be continued monthly.

Office, 17, Holywell-street, Strand.

"Blucher," Oxford.—*Thanks for the design sent; it shall be used at an early opportunity.*

"W. W."—*This is the seventeenth number of Vol. IV.*

"S. Allen," (Portsea).—*You will readily obtain them through Mrs. Bonney, Hanover-street.*

***Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics, Institutions, the fine arts, science, &c.

Part 22 is now ready, Price 10d.

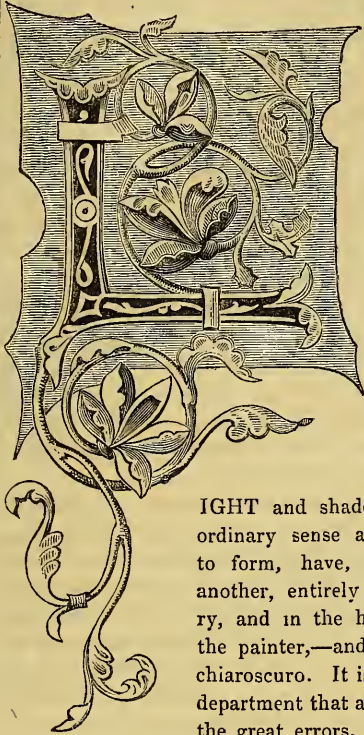
*** Part I, is also re-printed, and will in future be charged at 10d. each.



THE HOLLYHOCK.

On Light, Shade, and Chiaroscuro.

(Continued from page 161.)



LIGHT and shade in an ordinary sense attaching to form, have, besides, another, entirely arbitrary, and in the hands of the painter,—and that is chiaroscuro. It is in this department that are found the great errors, and the great beauties and proprieties. Thus, in taking one subject for illustration, Da Vinci has chosen to give the head of his 'Salvator Mundi' a sombre and grand tone; Carravaggio, one of earth. Rubens has occasionally given to the same head a countenance of brass, highly illumined, with royally gorgeous shadows, and has painted it up to a high and trumpet-like pitch of tone. Indeed, this unapproachable subject has been treated by different men, up to an almost unapproachable lightness, down to the opposite degree of dark.

Now, these treatments, as regards chiaroscuro alone, cannot be all right; it were more easy to imagine them all wrong; and easier still that one of them may be nearer right than any other. If light has its character of cheerfulness, gaiety, and even hilarity, and

shade that of gloom, grandeur, and even horror,—which we think they have, quite independently of association,—it substantiates a necessity, while working up to high impression, for the closest discrimination, in adapting any particular shade of light or dark to any particular subject; and quite separate from, though in associateship with, what is termed natural light and shade.

To this close and appropriate adaptation of the arbitrary chiaroscuro, and the negligence of it, may, to a great extent, be attributed the extraordinary success of some inferior subjects, and the loss of all impression to some very fine ones. The following may be considered as illustrative of the last position.

Reynolds prided himself upon the possession of a 'Moonlight,' by Rubens, which could not be easily distinguished from a sunset; and in lauding the genius of Rubens in adopting such a treatment for such a subject, said something to this effect,—that Rubens knew the value of light too well to relinquish it even in night.

It may be safe in practice to err rather on the side of light than dark; but such an egregious instance as this, of the perversion of the chief characteristic of night, calls for some censure, though the delinquent even a Rubens. And the misapplied eulogy in the case in question savours more of the interested expressions of a picture-dealer than the acumen of a first-rate painter.

It would be not more than generous to hold by the pleasant conviction, that the public as a mass, is lighthearted; and hardly ungenerous to say that it is equally lightheaded, and likely to bow with even too much deference to the dicta of so respected an authority as Reynolds. Along with the public would go a large portion of the profession as well; thus for a time giving to the opinions and practice of Art a stronger bias towards error than might be consistent with a healthy movement through its infancy in this country. It must not be considered as underrating the present state of Art here, to describe it as infantine; and under such an impression, it is but commonly just—should a strong opinion be entertained upon a vital point—to place it naked before the public and the profession, where it will of a certainty be sifted and buffeted about quite sufficiently

to shake away from it everything that may be light, erroneous, and valueless. Error, on the contrary, strongly supported by high authority and interest, is not unlikely to beget error, and should be instantaneously confronted, come from what quarter it may, by all who have the Art at heart.

It required in Rubens a certain amount of that equivocality and variously defined and ambiguously understood quality, genius, to produce this *Moonlight* *alias* *Sunset*; but he should have had at the same time modesty enough to inscribe under it, "This is a moonlight," in the same manner as a sign-painter, who, not being able to paint anything but a blue bell, and receiving orders to paint a white horse, placed on the board his own blue bell, and wrote under it,—“This is the White Horse.”

There are numberless incongruities of this description to be met with in the older and deceased painters, and hundreds are annually produced by ourselves. Too great difficulties attacked cause a great number, and mental imbecility the others; but they are all admired by some one or another. The why and the wherefore being, that Art is not understood; or, being the same thing, though upon a higher scale, they would share the same ridicule with the blue bell and white horse. Thus, in addressing Art to those who may not be able to wholly understand it, an absurdity may be painted; as in addressing mechanism to a person of no, or imperfect mechanical perceptions, you may advocate perpetual motion;—they both, as amateurs instead of connoisseurs, swallow the incongruities: the one suspends the picture on his walls, and the other hangs up in his unfinished mind the mechanical chimaera.

(To be continued.)

Durham College Library and Museum.—For architectural and other remains, a room nearly 200 feet long, and of suitable breadth and height, is to be added to the library of the Dean and Chapter, by the appropriation of some of the old conventual apartments adjoining, vacant by the death of Dr. Wellesley, one of the prebends. [“Sermons in stones, and good in everything.”]

Monuments in Churches.

ON entering our churches and cemeteries, especially in and around the metropolis, the cultured eye is at once struck with the crude and inharmonious black and grey marble backgrounds, against generally white walls, of the various mural monuments which disfigure, in too many instances, rather than adorn our houses of prayer, increased by the deplorable neglect, after once fixing, that these matters experience, the fee being only for the permission to fix, and does not, as it ought, include the proper care and cleansing afterwards.—Among the various reasons for these strong, or cold and inharmonious contrasts being so generally used, is no doubt the association these colours have with mourning, their being most easily obtainable in marbles, and that such works have been too much practised as a mere trade, or directed or dictated by tasteless committees, or individuals.

In the time of black patches, such contrasts might have been admired, but now that taste in art is advancing, these are not only eye-sores, but loudly cry for remedy; and we are called upon, without violating the rules of mourning, to produce unobjectionable contrasts and inharmonious blendings. To effect this, we must first consider that our statuary marble is of a cold tone (not like the fair one's cheek that received the black patches), and can only be successfully relieved by bringing a warm colour to its aid, which exists not in the black or cold grey marble. No one can but acknowledge the beauty and brilliancy of marbles or plaster casts against a red papered wall, and red baize is commonly used when such works are exhibiting. Again, how enhanced is a statue relieved by a sunny painting, and not more so than the painting, if good, and not too near the statue. A few carefully arranged marbles and casts in the picture-rooms of the Royal Academy, to rest the eye upon, would relieve many a sickened brain and confused mind from the glare of colour that meet, without relief, at every point, the wearied spectator.

Nature gives us the lesson; and of her we learn that cold colour should ever be relieved by warm, and warm colours by cool tints. In

monumental works, therefore, if a back-ground be required (for where there is a warm stone ground it is not), and a warm medium cannot be got in marble, we would recommend the use of fresco or encaustic, or other endurable material, by which appliances a vast field is opened to the man of taste and discernment. For with these, without violating, as we have before said, the rules of mourning, warm greys, of every variety of tint, might be substituted for the one miserable, cold dove-colour; and in some instances more positive tints might misplace the melancholy black. And not only would the artist's work be rendered infinitely more pleasing by this substitute, but the church would, at the same time, receive an equal benefit. That monumental tablets are altogether incorrect, of whatever order, with the sacred walls, we believe: but being introduced, our aim is to render them Christian in character, respectful, cheerful, and harmonious. Those who merely know our churches as they are, with their cold, washed walls, the colder marbles, and their colder grounds, will wonder at these bold suggestions; but those who know and find by daily experience the great care taken by our ancestors, and the chaste and elegant decorations they introduced into these same whitewashed buildings, as the first fruits of art and labour offered to the great Being whose houses they are, will, I am sure, excuse my earnestness for wishing to substitute tasteful art for tasteless statuary.

Hints on Picture-cleaning.

If there may be holes or fissures from accident or other causes, on the surface of either the panel or canvas on which the pictures have been painted, before proceeding to any rectification of colour it is necessary to fill up, or, in the language of the craft, to stop all such damages. This is usually done by working in firmly with a palette-knife a paste made of whiting and parchment size of about the consistency of putty; or, instead of parchment size, good stiff glue may be used with the whiting. If the picture has been painted on an oil ground, it may be very carefully filled in with white lead, made into a stiff consistence with linseed oil. In the first case, when the paste is quite hard and dry, the superfluous portion must be rubbed off by the gentle use of a piece of fine grained cork, dampened with a little water. The picture then should be

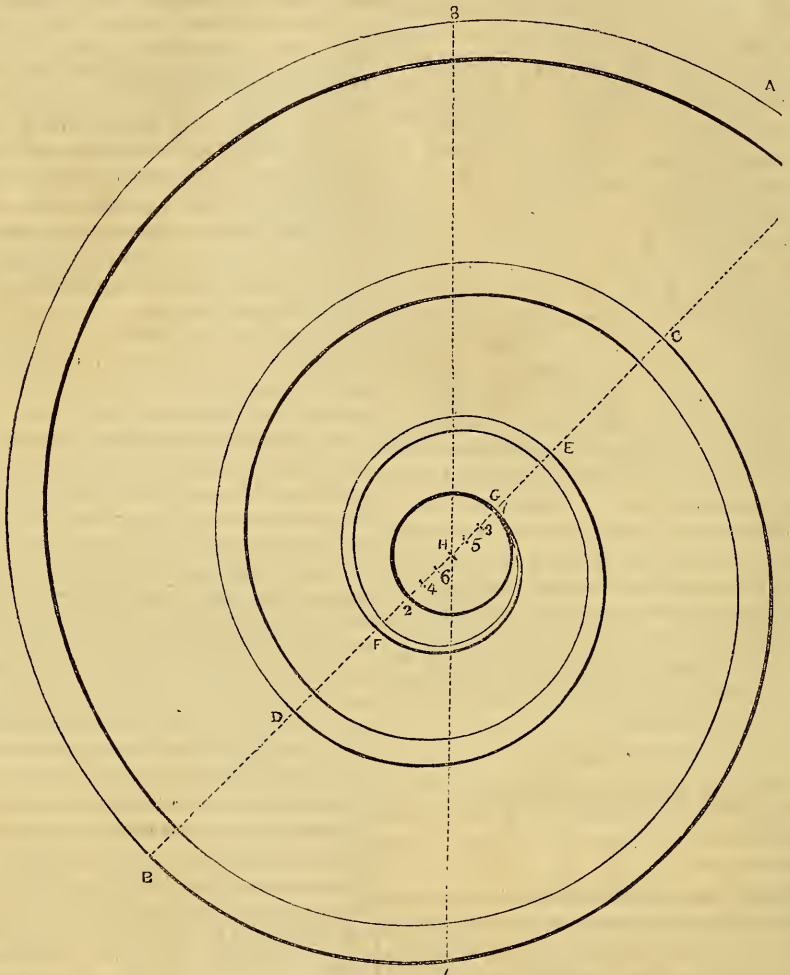
thoroughly cleansed on its surface by a rag dipped in turpentine, to take off all greasy matter; or it may be wiped over by a rag dipped in ox-gall, merely dampened, and not wetted.

Should the picture have become very much obscured from its original colour through having been kept for a great length of time in a very feeble light, if circumstances permitted, it would now be much benefited by being placed opposite to a window, where it might have a strong sun-light on it for two or three months. Many pictures which were nearly obscured from the preceding cause, have been restored to a great lustre and brilliancy by such an exposure alone. This is particularly the case with the early pictures of our English school, which have been so constantly placed in dark portions of apartments, or in ill-lighted halls and staircases.

Before any repair of the paintings takes place, a very thin coat of mastic varnish, diluted and prepared as before described, must be laid on; this is necessary to see the colours in their proper tone.—The few instructions now about to be given are so rigidly important for the success and durability of the work, that it is necessary to call the attention of all artists to them, if they desire their productions to retain the purity of colour and durability of tints for after ages. First, it is absolutely necessary to make use of those colours or pigments only which are permanent. Secondly, in mixing the tints to match the parts to be re-painted, none but very clear and pure tints may be used, by which is meant tints formed of as few colours as possible. It is a certain fact, justified by experience, and the study of the manner of manipulation by the old masters, that a tint compounded of two colours or pigments only, is more permanent than one compounded of three; and equally so is a tint compounded of three colours, in preference to one compounded of four. Therefore, all tints used in repairing must be mixed from pure colours, and not made up, as modern painters too frequently do, from a scumbling together of all the contents of the palette. Such tints are dirty and impure, and certain to become discoloured. The next precaution is to mix all colours composing tints thoroughly, to work them well together with the palette-knife:—any neglect or avoidance of this important labour will cause the tints to darken unexpectedly, or to change their apparent hue; and the use of an ivory or horn palette-knife is desirable, as the abrasion of the steel knife has a sensitive effect on all colours prepared from lead, mercury, antimony, &c. The colour must be used as thick and pasty as possible to work with.

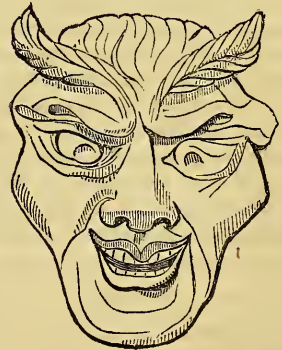
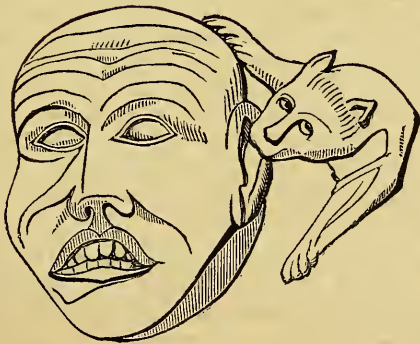
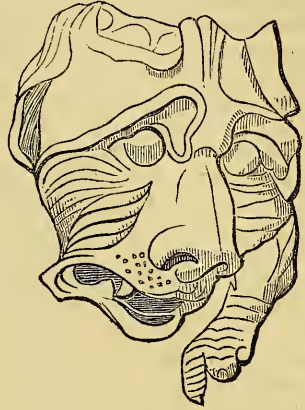
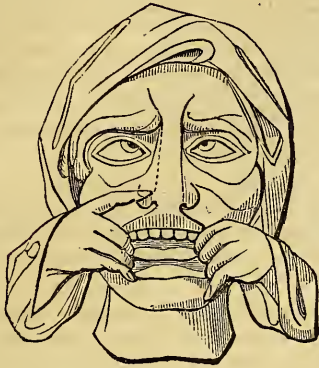
(To be continued.)

THE METHOD OF DRAWING AN ANGULAR VOLUTE.



RULE FOR DRAWING THE ANGULAR VOLUTE.

DIVIDE the perpendicular height into eight equal parts, marked 1—8 in the engraving. Take one division and place the leg of the compass at the point H, and strike the circle forming the eye of the volute. Divide the circle into four equal parts, and draw the diagonal line. (The line must be drawn either to the right or left hand, to suit the position of the volute: the engraving represents the left side.) Divide the line running through the circle into six equal parts; then place the leg of the compass on the point marked 1, and strike the semicircle A B, stopping at either end on the diagonal line; then place the compass at 2, and strike the semicircle B C; from 3 strike C D; 4, D E; 5, E F; 6, F G; the volute will then be complete.



GROTESQUE HEADS, SKETCHED FROM THE TEMPLE CHURCH.—THEY DECORATE FOUR OF THE SPANDRILS OF THE ARCHES FORMING THE ARCADE AGAINST THE WALL OF THE CIRCULAR PORTION.

Elastic Moulds.

At the Sheffield School of Design, Mr. Young Mitchell, the master, gave a lecture, illustrated by experiments, on the art of making elastic moulds. It has great advantages over the old plan. The moulds may be made at small cost, and with great rapidity. That which would occupy five or six days in the modelling may be furnished by this process in half that number of hours. By the facility thus afforded, beautiful forms may be multiplied so cheaply as to be brought within the reach of all. The principal material used for the elastic moulds is glue or gelatine. The best fish glue will answer as well as gelatine; and is much cheaper. The material is dissolved, like glue, in a vessel placed over the fire in a pot of hot water, stirring it during the process. To each pound of gelatine it is necessary to add three quarters of a pint of water, and half an ounce of bees' wax. It is ready for use when about the thickness of syrup. The model must be oiled carefully with sweet oil—and the composition must be poured upon it while warm, but not boiling. Having set, it may be taken off the model. When the model is small, it should be placed in a shoe or case, which gives facility for shaking the mould well when the plaster is poured, so as to drive it well into the crevices.—The plaster should be fine, and in order that it may harden and set quickly, about half an ounce of alum should be added to each pint of water used in mixing it. Before using the mould it should be carefully oiled. Great care is required in mixing the plaster, and watching it when in the mould, for when it is allowed to remain long enough to heat, the mould is destroyed. Mr. Mitchell exhibited moulds, and casts were taken from them in the presence of the audience. Mr. Mitchell also exhibited a specimen of stearine, and explained how casts may be made with a shining and wax-like appearance.

Earthenware Piping.—Mr. Murray, in the *Mining Journal*, in answer to a correspondent, considers an internal glaze for the earthenware pipes altogether unnecessary. Earthenware pipes for the conveyance of water should be so deeply laid in the earth as to be unaffected by the agency of frost, lest the water absorbed by the porous earthenware in the act of expansion by freezing should rend the pipe. The application of *gas* tar to the pipes, when embedded, as an external coating, would act as an insulator in reference to external temperature, and operate as a defence against the influence of frost.

Gold Mines in Wales.—The *Mining Journal* gives an account of two mines which have been opened in the Cwm-heisian Valley, called the East and West Cwm-heisian Mines respectively. The West Cwm-heisian Mine is pitched upon a group of five lodes, one only of which has been explored to the depth of 40 yards. Two rich courses of lead ore have been found therein, and continue in depth. The lead ores are accompanied by blende and sulphur ores, which, as well as the lead ores, contain a sufficient quantity of gold to pay the cost of extraction. About 900 yards north-east of the West Cwm-heisian, is the East Cwm-heisian Mine, situate on a group of 14 large and powerful lodes, or veins, having many different bearings—the prevailing one being north-west and south-east, which intersect each other.

CAST Iron Pipes Enamelled would be a very valuable acquisition in obtaining pure water. A correspondent inquires whether pipes have been so prepared: an answer from any of our readers will prove acceptable.

Zinc Paint.—Some experiments were recently made at the Veille Montagne Zinc Company's Offices, on zinc and white-lead paint, by submitting them to a stream of sulphuretted-hydrogen gas, when the white-zinc paint remained unchanged and the white-lead paint was turned quite black. Some specimens of external painting were also shewn of both zinc and lead, which had been painted some months: the zinc paint still retained its whiteness, whilst that of the lead had very much changed.

The Walls of Etruria.—Nothing, says Mr. Dennis, (in his work "The Cities and Cemeteries of Etruria,") gives a more exalted idea of the power and grandeur of this ancient people than the walls of their cities. These enormous piles of masonry, uncemented, yet so solid as to have withstood for three thousand years the destroying hand of man, the tempest, the earthquakes, the invisible yet more destructive power of atmospheric action, seems destined to endure to the end of time, yet often shew a beauty, a perfection of workmanship that has never been surpassed. The style of masonry differs in the two great divisions of the land, and is determined in part by the nature of the local materials. In the northern district the walls are composed of huge blocks, rectangular in general, but of various sizes and irregular arrangement, according as the masses of rock were hewn or split from the quarry; and in some instances small pieces are inserted in the interstices of the larger blocks. There are, also, a few instances of irregular, polygonal style,—as in the Cyclopean cities of central Italy. In the southern district the masonry is less massive and very regular.

THE appearance of old oak may be obtained by exposing any article of new oak to the vapours of ammonia for a certain period. Every variety of tint may be obtained according to the duration and temperature of the volatile compounds. A new oak carved arm-chair exposed to the vapour of ammonia, will in about twelve hours have all the appearance of its being made 200 years since; and any other wood similarly exposed, will obtain the appearance of oak.

Lectures on Art,

BY MR E. V. RIPPINGILLE.

On the evening of Thursday, the 4th ult., Mr. Rippingille delivered at the London Institution the first of a series of Six Lectures on the Arts of Design. The introduction dwelt upon the advantages of the study of Art, pretension to taste, &c. After a few observations on the philosophy of intellectual culture, the lecturer with much tact divided his view of human acquirement into knowledge and taste, and proceeded to say that the field of the former [has been cultivated with infinite research and assiduity, while the province of the latter has been neglected, and left to produce its own wild and spontaneous fruits. Science in all its branches has been pushed forward with energy and success. All the mechanical Arts, all that is the direct result of manual skill and industry, exists among us almost in a state of perfection. There are colleges and public schools of learning, philosophical and mechanics' institutions, societies for the diffusion of useful knowledge, lectures, libraries, reading-rooms, with books and periodicals on every subject; but what has been done for the cultivation of public taste?—literally nothing.

The existence of taste is on all hands admitted, but who has sought for its principles, or professed to teach them, or even admitted the necessity of their being taught? All we know of taste is that it is some kind of faculty about which men are agreed to differ. Mr. Rippingille continued to observe that no productions of human ingenuity have been honoured with a larger share of the approbation and esteem of liberal and enlightened men of all ages, than the Arts of Painting and Sculpture, but while these Arts have been the theme of praise, and their results the objects of admiration, less has been done to facilitate the study of them than of other branches of refined or useful acquirement, so that in their higher attributes, in their nature and influence, these Arts are less generally understood than any other subjects of interest and importance. To those who would know something of Art practically, it was remarked that a perfect system of instruction should embrace not only the practical details, but those elements and principles which constitute a pure taste in Art, and promote an acquaintance with every order of its productions, with a just estimate of its value, and its claims as a useful and a liberal pursuit.

The lecturer spoke of the errors and defects of the ordinary course of Art-education, and dwelt on

the advantages and enjoyments of that kind of instruction in Art which enables men to judge for themselves apart from the inane absurdities of professed connoisseurship. The opinions of Reynolds and others were quoted in favour of criticism emanating from natural impression, as that kind of judgment whereby the artist is to a certain extent benefited. Hogarth, on this subject observes that those who are "inquisitive after a knowledge of pictures," have their eyes less qualified for judgment than others; and those others must be the less assuming class who judge from natural impression. In closing his lecture, Mr. Rippingille adverted to the custom of speaking of Art rather as an elegant refinement and an amusing resource, than as a means of civilisation. Differences of opinion may exist as to the best means of supplying the required kind and degree of information, but it is an axiom of the wisdom and experience of all who have considered the subject, that the triumph of Art rests upon the exaltation of the public taste. The subjects of the other lectures are Perspective, Analysis of Form, Machinery of Art, Beauty and Beau-ideal, Attributes and Qualities of Art, &c., all of which subjects, in the hands of a lecturer and artist of the skill and experience of Mr. Rippingille, will undoubtedly be amply illustrated.

Old Chinese Art and Industry.—According to the late researches of Mr. Stanislas Julien, of the F. I., the making of iron or other metal ships is not a discovery of the present century. The celebrated Chinese philosopher, Hoai-Haw-Tse, speaks of vessels made entirely of Iron 156 years before Christ. Moreover, the historians of the province of Kiao-tcheou state, that in the district of Nang-ting is yet to be seen the copper craft of King Keon-tsen, who reigned 765 years before Christ. This vessel, buried in the sand of the sea shore, was visible at low water mark. It is, in fine, recorded in the work called "Chi-i-ki," that when King Yen-Kien (about 265 or 419 B.C.) sent his tribute to Peking, his ambassador embarked on board of a vessel entirely composed of copper sheets, in which he reached the capital.

Ammonia Destructive to Leather.—Ammoniacal emanations from manure in stables are most pernicious to leather, it being rendered quite brittle and useless in a very short period; consequently, harness ought never to be allowed to hang up in stables.

To Soften Putty.—In order to remove the glass from frames without breaking it; employ a strong solution of caustic potash, or caustic soda, to be applied by laying on the putty an old rag dipped in the solution.

An Illustrated Glossary of Technical
Terms used in Architectural and
Exterior Decoration, &c.

(Continued from page 168.)

INCURVATION. The act of bending any body, from its natural shape.

INDENTED. Indentee, in Heraldry, is when the outline of a bordure, ordinary, &c., is notched in form of the teeth of a saw.

INDIAN WOOD. Called also Jamaica and Campeachy Wood, is taken out of the heart of a large tree growing plentifully in Jamaica and Campeachy, and is used as a red dye.

INTERTIE. A horizontal piece of timber, framed between two posts in order to tie them together.

JACK ARCH. An arch of only the thickness of one brick.

JACK PLANE. A plane about eighteen inches long, to prepare for the trying plane.

JACK RAFTERS. The jack timbers which are fastened to the high rafters, and the wall-plates.

JACK RIBS. The jack-timbers, or parts of curved ribs, which are fastened to the angle ribs, and rest upon the wall-plates, in groined or domed ceilings.

JACK TIMBER. A short timber, fastened at the ends to two timbers which actually meet in a point, as to the wall-plate and hip-rafter of a roof, the wall-plate and hip of a groin, &c.

JAMBS. Door-posts, or upright posts at the ends of window-frames, also the upright sides of a fire-place, from the hearth to the mantel-piece.

JAMB LINING. The side work of door-ways.

JAMB POSTS. Uprights on the sides of door-ways, on which the jamb-linings are fixed.

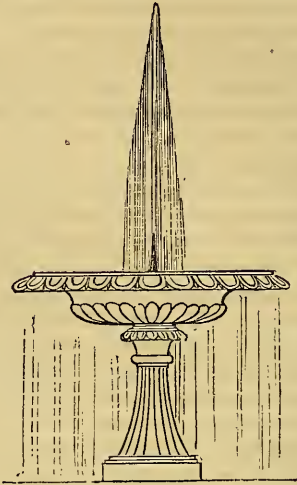
JERKIN-HEAD. Is a peculiar feature in roofs, in which the gable is carried higher than the side walls.

JOGGLE POST. A strut-post for fixing the lower ends of the struts.

JOISTS. For floors of the simplest construction, these are placed with their edges uppermost, extended from wall to wall, and are generally broad and thin; these floors are called single-jointed, expecting large timbers, called beams; all the cross

pieces supporting the boards of a floor are called joists; and if cross pieces are fixed to the beams underneath, to sustain the lath and plaster, these are called ceiling joists. Bridging joists are those to which the boards are nailed. The binding joists are those into which the bridging joists are mortised.

JET D'EAU. Water thrown into the air from a



pipe or tube placed in the middle of a basin, and falling again into the basin below.

JAPANESE HOUSES. According to the statement of a late traveller, these houses are the antipodes of those of the ancient Egyptians, and the inhabitants of the Hauran. While the latter, always aiming at massiveness, constructed their houses of huge stones, and roofed them with the same materials, you here see, upon the green knolls that skirt the road, little delicate habitations of fine wood, or even of paper. But their light and graceful structure, and their gilded ornaments, glittering in the sun, give them the air of fairy dwellings, which the very breath of heaven might dissolve.

(To be continued.)

Free Exhibition of Modern Art.—This association is steadily progressing, the number of exhibitors having increased to nearly fifty above that of last season, some of them being men from whom much may be expected. The prospects of the Exhibition are fully equal to the most sanguine hopes of its most active promoters.

The Chronocypist.

THE vessel *Belhaven*, arrived from Singapore, has brought the large quantity of 10,792 blocks and 39 packages of gutta percha.—It has been ascertained that Chelmorton Church, in the Peak of Derbyshire, which was built in the year 1111, is the highest in England, not from the surface, but above the level of the sea. It is erected on a site nearly two thousand feet above the level of the ocean.—New York, it is said, is about to be supplied with the Saratoga water by a company with a capital of 300,000 dollars, who mean to carry it from the springs to the city, as the *Courier and Inquirer* informs us, through a series of glass pipes passing under ground through grooved bricks, the space between the grooves and the bricks to be filled with cement. The expense is estimated at 1,000 dollars per mile, or 180,000 dollars for the entire distance.—Lady Franklin, an evening paper states, is at present engaged in a pilgrimage to the ports whence the whale ships are likely to proceed to Davis's Straits, "with a view to plead her anxieties and distresses, and to animate the commanders of these ships in her cause." It is true that Lady Franklin—who is living under that most harassing of all dispensations, the sense of mystery and uncertainty shrouding the fate of what she loves—has been down to Hull for the purpose in question; and has met from all connected with the whale ships the sympathy which her sorrow commands, and the promise of active co-operation that she sought.—The total produce of the Stowe Library was £10,355 7s. 6d.—Mr. Ewart has given notice of his intention to move for a Select Committee upon the public libraries of Great Britain and Ireland,—with the view of securing means for their improvement and extension.—The formation of libraries at railway stations, according to the project of Capt. Huish, which we mentioned a fortnight since, is coming fast into execution. One was to be opened on Thursday last at the Great Western Terminus at Paddington. The library table will be supplied with all the London papers, periodicals, and other publications for sale. The contract has been taken by, and the management of this department confided to, Messrs. Marshall and Sons.—It is said that an English company have bought a rich mine in the dominions of Spain. It at one time yielded so much silver ore that the government dues alone sufficed to pay for the building of the far famed royal palace of the Escurial.—Among

the sanitary improvements in the City, we have to mention that interments in the burial-ground of St. Bride's Church have been ordered to be discontinued. The question of enforcing extra-mural burials, though not suffered to lapse entirely, does not progress with that rapidity which every one acquainted with the results of the old practice must desire. The City Board of Health has issued a recommendation to the authorities to prohibit the slaughter of cattle in cellars, vaults, or other places below the level of the ground after a certain day to be fixed—say three months from date of notice.—The ballot on Monday at the Royal Academy for an Academician as successor to Mr. Reinagle resulted in the election of Mr. Wesmacott the sculptor.—The tables at the meeting of the Graphic Society on Wednesday last were so laden with interesting objects that particularisation would be beyond our means without too great a sacrifice of space. It was one of the strongest evenings in the way of contributions that we have seen.—The exhibition of architectural works determined on by the Architectural Association is fixed to take place in March next at the Gallery of the New Society of Painters in Water Colours, in Pall Mall. The committee, says the *Builder*, will be prepared to receive, during the latter part of the present month, drawings of works contemplated or in progress,—designs submitted in competition during the year,—studies and delineations of existing buildings and antiquities,—and architectural models. The drawings should be either in frames or upon strainers. Considering the elevation of their art, by the diffusion of taste among the public, to be no less an object than the direct advantage of the profession, the Society have determined to constitute the Exhibition *free* on all days but Saturdays. This is a feature in their scheme well deserving to have attention called to it.—The annual oration in honour of the late Dr. Hunter was delivered last week at the Royal College of Surgeons, in Lincoln's-inn-fields, by Mr. Cæsar Hawkins, in the presence of His Royal Highness Prince Albert and a vast number of members of the medical profession and of other visitors. Mr. Hawkins stated, in the course of his oration, that the Museum of the institution is at present complete in all its departments, and the Library contains 23,000 volumes.—On Tuesday week the second annual meeting of the Euston-square Baths and Washhouses Association was held in the board-room in George-street, when a report of the year's proceedings was submitted. Every week adds fresh evidence of the usefulness of these new institutions—and furnishes its reasons for a yet further development of the plans already carried into execution.—Some of our readers

may thank us for mentioning that the Lord Chamberlain has given notice that the House of Lords will be open to the public on Wednesdays, between the hours of eleven and four. Tickets are to be obtained at the Lord Chamberlain's office.—In the course of a paper by Mr. Highton, on Improvements in Electric Telegraphs, read at the Society of Arts on the 7th instant, the writer alluded to the rapid oxidation of the iron railings in the squares of London, and showed, as noted by others also, that the effect was due to a galvanisation arising from the use of lead for connecting the iron with the stone walls.—Mr. Branwhite and Mr. Jenkins were elected members of the Old Water-Colour Society last week.—Mr. Richard Westmacott has been elected a Royal Academician.—In Edinburgh, Mr. Saml. Halkett has obtained the appointment of Keeper of the Advocates' Library, against a large list of competitors.

The New Prince's Theatre, Glasgow.—The decorations of this theatre are in *carton-pierre*, and were furnished by Messrs. Jackson, of Rathbone-place; they are in high relief, and comprise festoons of fruit and flowers, medallions, and panels, containing groups of children; a mimic orchestra of these are perched in the box-front, on brackets in the line of the pillars; while over them, in the gallery-front, are termini, with brackets bearing crystal gas-lustres. The enrichments are white, picked out in gold, with pale blue backgrounds in panels, and the fronts of the tiers rose-colour.

SOCIETY MEETINGS FOR THE PRESENT WEEK.

- MON.—Statistical, 8.—J. T. Danson, Esq. "On the Commercial Progress of the Colonial Dependencies of the United Kingdom during the Twenty Years, 1826-46."—British Architects, 8.—Pathological, half-past 7.—Council.—Chemical, 8.—Royal Academy, 8.—Sculpture.
- TUES.—Linnean, 8.—Institution of Civil Engineers, 8.—"An Account of the Explosion of Fire Damp, at the Eaglebush Colliery, Neath," by Mr. Joshua Richardson.—Royal Institution, 3.—W. B. Carpenter "On Paleontology."—Horticultural, 2.
- WED.—Geological, half-past 8.—College of Physicians, 4.—Gulstonian.
- THUR.—Numismatic, 7.—Antiquaries, 8.—Royal Society of Literature, 4.—Royal, half past 8.—Royal Institution, 3.—Dr. Gull "On Physiology of Digestion."—Royal Academy, 8.—Painting.
- FRI.—Philological, 8.—Royal Institution, half past 8.—Rev. J. Barlow "On Mr. Phillips's Fire Annihilator."—College of Physicians, 4.—Gulstonian.
- SAT.—Royal Institution, 3.—Prof. Brande "On Chemical Philosophy."

To Correspondents, &c.

On April the 1st, will be published, Part I,
Price One Shilling, of The
**SELF-INSTRUCTING ORNAMENTAL
 DRAWING BOOK,**
 WITH DIAGRAMS,
 Showing how to hold the Pencil, and general rules
 for Drawing Ornamental Foliage, with
 a letter-press description.
To be continued monthly, in a neat wrapper.

CONTENTS OF PART 2 OF The Book of Ornamental and Early English Alphabets,

To be published on Thursday, March 1st.
 Alphabet of Flourished Cyphers, commencing from
 A. A. to A. Z. (This Alphabet will be continued
 monthly, till the whole is completed, down
 to Z. Z.)
 Two Alphabets of the Fifteenth Century.
 Initial Letters, A. and U. Also an Ornamental
 Border-piece, Fifteenth Century.

To be printed in colours, and stitched in a neat
 wrapper, price 6d. To be continued monthly.
 Office, 17, Holywell-street, Strand.

"Ben Burslem."—*We are much obliged for your good wishes. It is our intention to give designs suitable for ornamental tablets, &c. We are not acquainted with any work of the description you name. Should you require an original design at any time, we shall be happy to forward you one on very moderate terms.*

"A Subscriber" (Durham).—*We are glad that you approve of our Gothic illustrations. We will shortly give some designs for the department you require.*

"Busby."—*The second part will contain more variety, and also originality. (See Advertisement.) We will entertain the idea of printing the alphabets, &c. in colours, but we fear they will be too expensive. We are desirous that the present publication should get into the hands of mechanics.*

"C. J. W."—*It does not depend upon the name or position of the party. Should there not be a crest or arms to the name, an application must be made to the Herald's College.*

"Joseph Hyde."—*Change your Bookseller; he does not act fairly towards the publication. They are all in print up to the present time, and published with regularity every week.*

"X. P."—*Thanks for your sketch, we will find room for it.*

"M. W."—*Your complaint will be remedied in future. Owing to the great demand for the back numbers of the first volume, the first edition has been sold out, but we have now reprinted them, and can supply any numbers that you require. You can have a single number.*

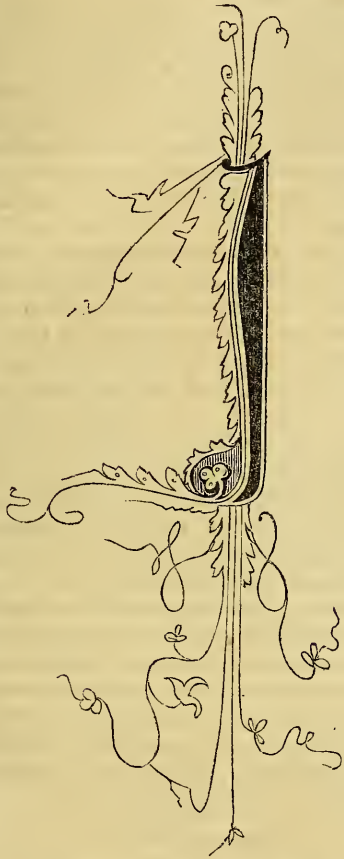
QUERY.—*Can any of our readers inform us of the best method of polishing porphyry marble?*



AN ORIGINAL DESIGN FOR A PANEL.—[ELIZABETHAN.]

On Light, Shade, and Chiaroscuro.

(Continued from page 161.)



If any value is to be attached to the impressions derived from the most impressive or characteristic works in painting—the most correctly passionate and descriptive music—amongst the most successful instances of which may perhaps be reckoned the best oratorios, and some other sacred music—and the opinions imbibed from a search after expression and passion in visible nature, it is safe to conclude, that there is no grandeur, far less sublimity, without a preponderance of dark; that there is no beauty, far less simplicity, without a preponderance of light.

If this be the case, there should be no hesitation, as there can be no difficulty in assigning

to any given subject—coupled by its desired expression or character—its appropriate, and consequently most expressive scale of light or dark. Not to feel this and practise it is to subject chiaroscuro, as an art, to the same varying and uncertain opinions as have involved the subject of colour.

Colour had been by a few illustrious men, carried to an extraordinary pitch of beauty. Ideal form had been, by a few other men, carried to as extraordinary a pitch of grandeur or sublimity. There then appear a few very wise men, who propose to unite the beautiful colour to the sublime conception, and, the failure was a matter of course. Would not common sense, or a sense of the proper, have deprecated so absurd an attempt? But then the unionists were men of genius.

Is genius, then, second to common sense? or does a sense of the proper, transcend genius? Perhaps a sense of the proper, propelled by high power, and controlled by high knowledge and experience, is genius, and the unionists were not men of genius.

Now, chiaroscuro as an art, may be, if it be not already, carried to an extraordinary pitch of beauty by our own school; and as beauty in any shape seems more than any other quality, and that very naturally, to tickle the senses of us proud islanders, a century or so may be lost in an equally absurd attempt to unite it with grandeur and sublimity as regards chiaroscuro and form, unless it be defined, and then distinctly felt, in what circumstances it may be congruous, and in what incongruous. The dicta of the early writers goes to assert, indeed, that the object of Art is beauty alone, and that all that precludes its admission is spurious; and this opinion was held even down to the time of Reynolds, who in his writings supports it.

But what may appear singular is, that from the time of the promulgation of such opinion, down to our own time, the aim of the painters themselves has been divided between simplicity, beauty, and sublimity; and the last style has been at times the favourite, to produce which the most repulsive and sanguinary incidents have been, and perhaps injudiciously, selected. And alongside with Reynolds's advocacy of beauty occur his ravings about the terrible, and Michael Angelo.

Archæological Institute.

AMONGST the antiquities communicated at the meeting on the 2nd ult., a fine collection of ornaments found at Largo, in Fifeshire, attracted especial attention. They were found in a tumulus on the estates of the late Col. Durham, and were exhibited by Mr. Dundas, of Arniston, who gave an account of the discovery. It supplies a remarkable instance of the value of popular tradition; the common belief having always been that some great chieftain lay there interred with a great amount of treasure. There is every reason to suppose that an enormous quantity of precious metal was found: the onerous nature of the Scottish law regarding treasure trove is a fatal hindrance to the preservation of any objects of intrinsic value there discovered. Mr. Dundas stated that for a long time portions of this deposit had been brought to the silversmiths and melted. The few ornaments which Col. Durham had succeeded in preserving are of the most curious character, and bear devices hitherto known almost exclusively in illuminations of the ninth century. Mr. Dundas produced also, some beautiful gold bracelets, found on the coast of Fifeshire; and a discussion ensued on the expediency of some more lenient enactment in North Britain, and the example which had been set by the Government of Denmark in modifying the rights of treasure trove, a wise policy, which doubtless had greatly facilitated the formation of the invaluable collection of national antiquities in that country. Mr. Hawkins complained of the loss of a large collection of silver coins recently found under Glasgow Cathedral, and which would have furnished a valuable addition to our knowledge of the Scottish coinage.

Mr. Talbot read a memoir on the discovery of a large collection of weapons, implements, and ornaments at Lagore, Co. Meath, one of the most remarkable deposits of ancient Irish antiquities hitherto disinterred. A selection from these remains was exhibited; and some chased and enamelled objects, found with bronze swords and weapons sometimes considered to be of the primeval age, attracted much notice. Mr. Talbot stated that they

were found in a tumulus surrounded by a frame of oak, forming a sort of stockade or paling around the place of deposit, which was divided into several compartments or chambers in a very singular manner, and within these was found a great quantity of remains of animals, chiefly oxen, with the bones of deer; goats, large greyhounds, and foxes. Each species, however, was generally found placed in a separate compartment. The heads of the oxen were broken on the forehead, as if by some blunt sacrificial instrument. No Christian emblem appeared on any of the ornaments;—amongst which it was stated that a crown had been found.

The Dean of Westminster brought several Roman urns, found in railway cuttings at Old Ford, Bow. Mr. Wyatt gave a report of the state of the ancient wooden church at Greenstead, Essex, now undergoing restoration under his care, and which had been erroneously reported to have suffered by injudicious renovation. This singular building, formed entirely of logs of wood supposed to be chesnut, will be preserved with the utmost care. The timber was still in a state of extraordinary preservation, having suffered only where it had been constantly exposed to moisture.

Mr. Kemble presented several striking drawings of sculptured remains in the north of England, inscribed with Runes. Various other communications were read, relating to recent discoveries, architectural and other antiquities of interest; and a large assemblage of specimens of ancient art, drawings, and fac-similies of inscriptions were exhibited.

Some curious particulars concerning the estate of Abbotsford at the present time are contained in Mr. Lockhart's new "Life of Sir Walter Scott." It appears that at the death of the last of Scott's children, in February, 1847, it was found that, notwithstanding the very extensive demand for his father's writings, there still remained a considerable debt to Mr. Cadell, and also the greater part of the old debt, secured on the lands. Since then, an arrangement has been effected by which the estate as well as the house and appendages are at last unfettered; Mr. Cadell, in May, 1847, taking the whole debt upon himself on the transfer to him by the family of their remaining claim over Sir Walter's writings.

The Chronotypist.

The Hall of Commerce in Threadneedle Street, built a few years ago, by Mr. Moxhay, the biscuit baker, has been closed, after remaining open to the public for six years, the undertaking having turned out a hopeless failure.—A most important sale took place last week, at Messrs. Sotheby and Wilkinson's in Wellington Street, Strand, consisting of a portion of the rare Manuscripts and Books from the Library of M. Libri, one of the most eminent Book Collectors of Paris. Many of them formerly belonged to Francis the First, Diane de Poitiers, Thuames, the Prince d'Esling, &c.—It is stated that George Hudson, Esq., M. P. has just become the purchaser of the Jarrow Alkali Works, for the sum of Thirty Thousand Pounds.—One of the Norman Windows of the south aisle of the nave of Southwell Collegiate Church, Notts, has recently been filled with painted glass, of a rich and brilliant colour.—The work of restoring the fine old parish church of Thornbury, in Gloucestershire, is rapidly progressing. The east window a five feet decorated one, is to be filled with stained glass.—St. Nicolas Church, Ipswich, has lately undergone considerable enlargement and alteration. During the course of the work, several discoveries were made tending to throw light upon the former structure of the church; amongst the most curious relics are some figures of the Apostles, carved in bas-relief of a very early date, and generally admitted to be of Saxon origin. They have been inserted in the north wall to insure preservation.—At Somerset House an association of the students has just been formed, for the purpose of mutual improvement the first meeting of which was held on Saturday, the 10th ult, in the large room at Somerset House, the use of which has been granted by the council. An introductory paper was read by Mr. D. W. Raimbach, the substance of which we shall give.—Now that the Commissioners have instructions to improve the arrangements of the Museum, it will be well for them to bear in mind the necessity of providing greater conveniences for those who frequent the library. A lavatory is rather a necessity, if only for the protection of valuable works from being soiled, than a luxury. The present arrangement of the conveniences for the gentlemen is very unsatisfactory, and in any alteration the ladies ought to be consulted.—The committee have reported to the subscribers that the restoration of the Norman Tower, Bury St. Edmunds, is completed. £3,100 have been disbursed, and about £300 remain to be paid.—

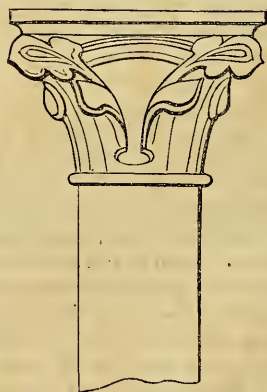
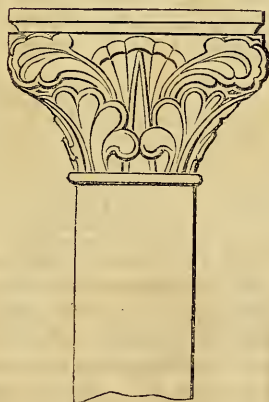
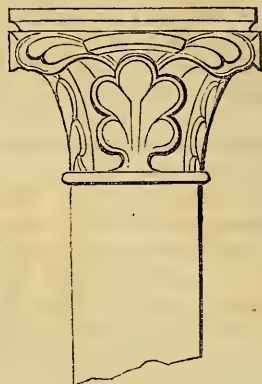
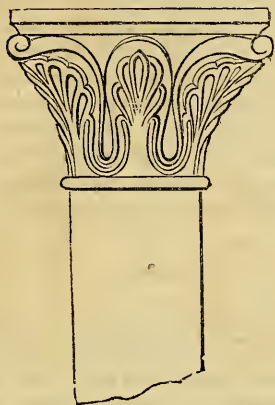
According to the *Chemical Times*, the best means of preventing the corrosion of metals is to dip the articles into very dilute nitric acid, to immerse them afterwards in linseed oil, and to allow the excess of oil to drain off. By this process metals are effectively preserved from rust or oxidation.—It is thought, with reason, that a free exposition of patented and registered inventions would be an advantage to the public, and at the same time, facilitate the object they have in view, viz., making their inventions generally known, and it is intended to open an exposition of the kind at the Baker Street, Bazaar. A manager and assistants will be appointed, for the purpose of explaining the use and advantage of each invention, and to effect sales.

The New Kremlin at Moscow.—The *Moscow Gazette* says:—"The new Kremlin will shortly be finished. The gilded cupola sparkles already in the sun; and recalls to mind the palaces with their golden summits of the ancient Grand Dukes of Russia. In the St. George's Hall, that saint is to be seen on horseback, fighting the winged dragon. Eighteen statues, representing the submission of as many provinces now belonging to Russia, are scathed in complete armour, with shields which bear the date of the period. The Andrew's Hall, or the Throne Room, is ornamented with magnificent golden relief; the Alexander Hall is of red marble, and astonishes the beholder by its beautiful architectural ornaments. It is difficult to describe, so as to give a correct idea, the extraordinary grandeur of these halls, and the exquisite style of the workmanship."

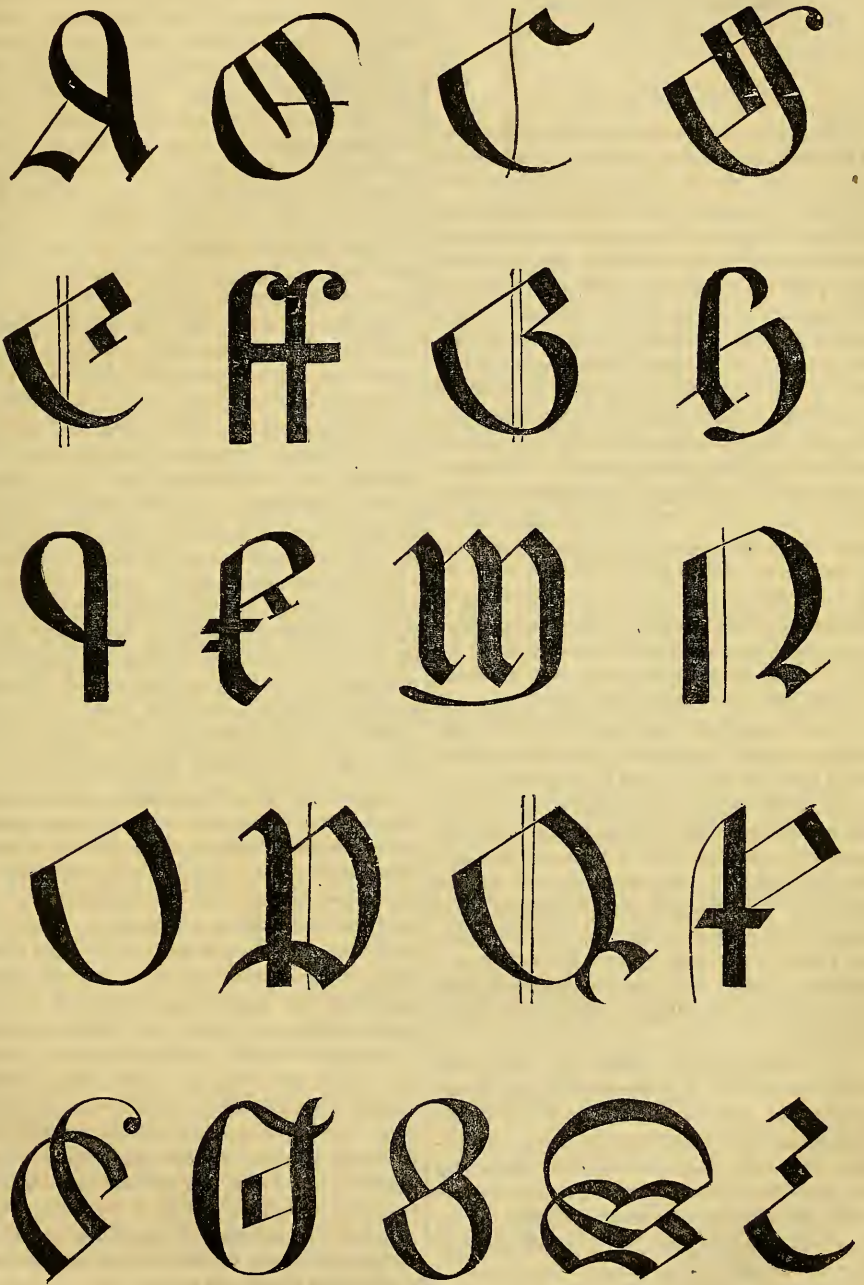
Patents for Invention.—The number of patents sealed at Westminster during the year 1847 amounted to 498, and the amount of fees to £9,387; in Scotland, during the same period, to 168, fees, £2,935; and in Ireland to 76, fees, £583.

Absorption of Moisture in Buildings.—In this humid climate the absorption of moisture is a most important consideration, for all who erect habitations with a view of combining comfort with the order of architecture. Too often is it to be seen that the former, not to say yields to, but is totally neglected for the sake of the latter. One of the great exciting causes of rheumatism, that most common disease, is, I believe, most generally produced by the ill-constructed order of our habitations. Were air visible, we should wonder at witnessing the cascade (if I may be allowed to use this term) that is maintained between the windows and doors towards the fire-place, in the midst of which we are compelled to exist, and when experiencing this we draw towards the very part of the room where the current is strongest—to that imaginary circle which encompasses the fire; here the evil is increased.

MUCH of the supposed Californian Gold dust turns out to be a mere oxide of iron, which evaporates on exposure to heat.



ORNAMENTAL CAPITALS, FROM THE ARCADE IN THE AISLE OF THE CIRCULAR PORTION OF
THE TEMPLE CHURCH.



ALPHABET, TAKEN FROM A CHANCERY MS.—15TH CENTURY.

History of Sculpture.

(Continued from page 140.)

“Michel Angiolo was of the middle stature, bony in his make, and rather spare, although broad over his shoulders. He had a good complexion; his forehead was square, and somewhat projecting; his eyes rather small of an hazel colour, and on his brows but little hair: his nose was flat, being disfigured by a blow he received from Torrigiano, a contemporary student with Michel Angiolo, and a sculptor of great merit, but a proud, inconsiderate, and ungovernable character. Beneveto Cellini, in his own life, has recorded this affair with Michel Angiolo, as it was related to him by Torrigiano himself. His conversation one day happened to turn upon Michel Angiolo Buonarroti, on seeing a drawing of mine made from the celebrated cartoon of the Battle of Pisa. “This Buonarroti and I (said Torrigiano), when we were young men, went to study in the church of the Carmelites, in the chapel of Masaccio; and it was customary with Buonarroti to rally those who were learning to draw there. One day, amongst others, a sarcasm of his having stung me to the quick, I was extremely irritated, and, clutching my fist, gave him such a violent blow upon his nose, that I felt the cartilage yield as if it had been made of paste, and the mark I then gave him he will carry to his grave.”

“B. Cellini’s account of Torrigiano is,—“That he was a handsome man, but of consummate assurance, having rather the air of a bravo, than of a sculptor: above all, his strange gestures and his sonorous voice, with a manner of knitting his brows enough to frighten every man who saw him, gave him a most tremendous appearance, and he was continually talking of his great feats amongst those bears of Englishmen whose country he had but recently left.”

“We are indebted to Torrigiano for the monument of Henry VII. in Westminster Abbey, finished, according to Stow, in 1519, and for which the sculptor received a thousand pounds. His ungovernable and restless habits often precipitated him into great difficulties, and the circumstances of his death furnish a melancholy instance of the vicissitudes of life, and the baneful effects of inquisitorial jurisprudence.

“Upon leaving England he visited Spain, and after distinguishing himself by many excellent works, was employed by the Duke D’Argus to execute in marble a Madonna and infant Christ, of

the size of nature, with high promises to be rewarded in proportion to his merit. As the Duke was a grandee of the first rank, Torrigiano flattered himself with a proportionate expectation. After much study and application he completed his work to his own satisfaction; and his performance was with delight and reverence. Impatient to possess this treasure, the Duke immediately sent for it; and that his generosity might be displayed to the greatest advantage, he loaded two lacqueys with the money to defray the purchase. The bulk was promising; but when the bags were found to contain but brass maravedi, which amounted only to the small sum of thirty ducats, vexation and disappointment roused Torrigiano’s resentment, who considering this present rather as an insult than a reward for his merit, on a sudden snatched up his mallet, and, without regard to the perfection of his workmanship or the sacred character of the image, he broke it into pieces, and dismissed the lacqueys with their load of farthings to tell the tale. The grandee, with every passion alive to this merited disgrace, and perhaps, impressed with horror at the sacrilegious nature of the act, presented him before the court of Inquisition, and impeached him for his conduct as an infidel and a heretic. Torrigiano urged the right of an author over his own creation: Reason pleaded on his side, but Superstition sat in judgment, and he was condemned to lose his life with torture; but the holy office lost its victim—Torrigiano starved himself to death in prison (1522), to avoid his torments and the horror of the execution! He was about fifty years of age.”

Canova and Thorwaldsen, together with our own Chantrey, occupy the topmost rank among sculptors of the present day, or rather did so until death snatched away all these eminent artists. Still we are inclined to think that the performances of Canova have been somewhat overated. Many of them have a studied and theatrical air quite inconsistent with good taste as well as with the higher productions of Grecian art, which this sculptor always professed to copy. Mr. Mathews, in his “Diary of an Invalid,” speaking of Canova’s Venus, one of his most vaunted figures, says:—“The boudoir of the Pitti Palace, in the centre of which stands Canova’s Venus, brilliantly illuminated, and lined with mirrors, reflected the beauties of her figure in all directions, and exhibited the statue to the highest advantage. This is the statue which occupied the pedestal of the Medicean Venus during her flight to Paris, but I can find nothing divine about Canova’s Venus.

(To be continued.)

Enamelling.

In an article in the "Archæological Journal" for June, 1845, on the "Decorative Processes in use during the Middle Ages," by Mr. Albert Way, whose exquisite taste and skill as an amateur artist, and unwearied zeal in investigating every department of knowledge connected with mediæval antiquities, have enabled him to add so many valuable contributions to our store of information on the subject of archæology, will be found a most interesting description of the various kinds of enamel in use at different periods. He states that "the term enamel properly designates vitreous pastes, to which various colours are given by means of metallic oxides: they are either opaque or transparent, and are capable of being applied superficially to several substances, earthy or metallic, forming a decorative covering, or *revetement*, as it is termed by French writers, of admirable brilliancy and durability. The rich blue and green colours which are seen on the little figures of deities, and on various ornaments discovered in Egypt, appear to be enamels: porcelain, pottery, and glass have served as the groundwork, to which enamel has been applied with the most attractive effect."

"The metals capable of being employed as groundwork for enamel, are gold, silver, and copper, brass being of too fusible a quality. No course of experiments has hitherto made known the substances of which ancient enamels were composed, or the proportions in which they were employed: a few ancient recipes for compounding enamel have been discovered. It may here suffice generally to state, that the colouring paste, which forms the base, consists of oxides of lead and tin fused with siliceous matter, in certain quantities, the opaque qualities being given by the oxide of tin, whilst various colours are produced by the addition of the metallic oxides; thus from copper green is obtained, red from gold or iron, and blue from cobalt. The use of this last mineral, and the exquisite colour produced from it, seemed to predominate to a remarkable extent in the earlier enamels; the field of which is almost invariably enriched with the brilliant hue of the substance called smalt."

The recipe above referred to is from a Sloane MS. in the British Museum, and is the most ancient one yet noticed for the composition of enamel. It appears to have been written in England in the earlier part of the fourteenth century.

It deserves observation, as indicating that English artificers were not unskilled in the art of enamelling—that in the roll of the inhabitants of Paris, A.D. 1292, the names of goldworkers appear, designated as Englishmen, or of London; and that of five enamellers then settled in Paris, one entered as "Richardin l'esmailleur, de Londres."

"To make Enamel. Enamel is thus made:—Take lead and melt it, occasionally taking off the pellicle which floats on the surface, until the whole of the lead is wasted away, of which take one part, and of the powder hereafter mentioned, as much; and this is the said powder: take small white pebbles which are found in streams, and pound them into most subtle powder, and if you wish to have yellow enamel, add oil of filberts and stir with a hazle rod; for green, add filings of copper or verdigris; for red, add filings of latin with calamine; for blue, good azure or saffre, of which glaziers make blue glass." The mention of "saffre," if by that term may be understood zaffre or cobalt, deserves especial notice; but some writers suppose that the sapphire of the ancients was our lapis-lazuli.

New Coin.—We have recently inspected a new example of Mr. Wyon's skill, which must be considered as a pattern coin for England; the workmanship being probably too delicate, and the name too foreign, for it to be generally adopted. It is called a florin; and has on the obverse the Queen's bust, crowned and robed in the same elaborate style as upon the beautiful pattern crown by the same artist; around it is inscribed "Victoria Regina, 1843." The obverse has the shields of England, Ireland, and Scotland arranged crosswise; the spaces between being filled by the rose, shamrock, and thistle; the inscription being "one florin, one-tenth of a pound." The intention is to produce a decimal coinage, easily multiplied and comprehended by foreigners. So far it is good, but the *name* is not so happy; it is un-English and strange to the multitude. There is one other thing which strikes us might be altered: when the shields are arranged crosswise, as on this coin, the arms of England occur twice over; why not, instead of this, place the arms of Wales as one? It would be but a just and honourable tribute to an ancient and loyal principality, which never seems to have its fair meed of notice.

At a meeting of the Society of Antiquaries, Feb. 8, Mr. Windus sent two specimens of carving by Cellini,—one representing the Annunciation, the other a profane subject; accompanied by a letter on Mr. Ouvry's exhibition, at the last meeting, of a carving on silver imputed to Cellini. Mr. Windus showed that it was of considerably later date, and that it was by the famous French artist Thélot; and added his opinion that the subject was Joshua causing the sun to stand still on Gibeon.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 178.)

JUFFERS. An antiquated term for pieces of wood four or five inches square.

JUMPER. A name given by masons and miners to a long iron chisel used in boring shot-holes for blasting large masses of stone, by which they may be split into smaller ones.

JASPER. A genus of stones of the siliceous class. It includes the blood-stone, so called from its being supposed efficacious in stopping blood, a quality probably imputed on account of the crimson spots which diversify its green-coloured substance.

KANG, or Chinese Stove. Is heated by a furnace, which casts all its heat into it. The furnace is proportioned and fitted to the stove, and may be placed either in the room, or on the outside of the house.

KEEP. Sometimes styled emphatically the *tower*, the strongest part of the old English castles, forming the citadel of the fortress. It was generally near the centre of the fortified works, but in some instances, as at Portchester, Goodrich, Castleton, and other very ancient castles, it is found placed in a line with the exterior walls. Its massive walls and narrow loopholes were calculated to afford defence in the last extremities of a siege.

KEEP. The slit or cut in a piece of timber, or in a stone, by a saw.

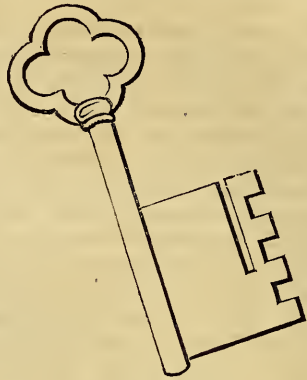
KERKIS. A name which in the theatres of the ancients designated the stairs which crossed the ranges of seats like radii of a circle, and which were carried from the orchestra to the outermost circumference of the seats.

KEYED DA O. So named on account of its being secured from warping by bars grooved into it, on the inside.

KEYS. In naked flooring, are pieces of timber fixed in between the joists by mortise and tenon. When these are fastened with their ends projecting against the sides of the joists, they are called *strutting pieces*.

KEY. In the earliest times, the locks and keys

were very simple, the former being but a bar of wood, and the key a hook by which it was raised or drawn back. By degrees they became more complicated. The keys of the ancients were gene-



rally of bronze; they had an infinite variety of forms, and they were sometimes so large and heavy, as to require to be carried on the shoulder. The accompanying engraving represents the key held by St. Peter on the tomb of St. Sébald, at Nuremberg.

KEY OF A FLOOR. The board last laid down.

KEY-STONE. The stone placed in the centre of the top of an arch or vault. The character of the key-stone varies in the different orders. In the Tuscan and Doric it is only a simple stone projecting beyond the rest; in the Ionic, it is adorned with mouldings in the manner of a console; in the Corinthian and Composite, it is a rich sculptured console. The degree of ornament on the key-stone is usually regulated by the general character of the building. The ancients have left us several fine models of ornamented key-stones of arcades and arches, which generally represented some ornament or figure that related to the building. Those of the arcades of the amphitheatre of the ancient Capua are adorned with heads, in high relief, of the divinities to which it appears to have been consecrated. The key-stones of triumphal arches were ornamented with allegorical symbols and figures allusive to the subject. That of the arch of Titus is the finest known.

KNUCKLE. The joint, of a cylindrical form, with a pin, as an axis, by which the straps of a hinge are fastened together.

KRADE. A machine in the ancient theatres by which the gods and heroes were represented traversing the air, by means of a chair and ropes.

(To be continued.)

British Institution.

To form any estimate of the capabilities of British Art from its displays on these walls during the last three or four years would be very unjust: this year more unjust than ever. A fatality attends the show in these rooms; and contributors who give their wine to other Exhibitions seem here only to chronicle their "small beer." The honourable exceptions are few.

Amongst those in the present Exhibition is Mr. Danby's *Mountain Chieftain's Funeral in Olden Times* (No. 52). It is a masterly conception—breathing in every touch the spirit of its author.

Mr. Martin's large picture, *Joshua commanding the Sun to stand still* (129), contains passages of great beauty; but the general character of the work is, however, detracted from by the inky tone that pervades the whole.

Mr. Creswick has three contributions. His *English Landscape* (144) affords us the pleasure which similar scenes in his hands always convey. His *Welsh Hill* (20) is a fact not to be denied. *The Stepping Stones* (299) has the usual refinements of this artist's style.

Messrs. Lee and Sydney Cooper have again combined their powers in *English Meadows* (47) and *Summer Breezes* (199), and again with success. Mr. Lee's *Mountain Stream* (276) is a choice work.

Mr. Linton's *Scene in Epping Forest* (37) is a worthy representative of his powers: and the *Watering Place* (417) is one of the very best of his cabinet-size works. It is full of beauty and of truth.

The *Scene in North Wales* (257) and *Crossing the Ford* (445) are additional evidences of Mr. T. Danby's talents. A constant recurrence, however, to subjects comprehending the same elements and time of day may finally lead him into mannerism—a sin against which this young painter has to be on his guard. The same remark may be made in reference to the two landscapes by Mr. George Stanfield—*Mapledurham Mill, on the Thames* (5), and *At Pangbourne, on the Thames* (392).

A Misty Morning on the Sands of the River Eze (446), by Mr. F. Danby. It exhibits somewhat more of reference to the father's style: but is a picture of great promise—the effect being admirably realised.

Mr. Edward Cooke's most ambitious effort, and the one most to our taste—is *Dutch Boats on the*

Y, off Amsterdam (8); the details done with his accustomed precision. *Italian Fishing Craft off the Torre del Marzocco, Leghorn* (139), is one of his best Mediterranean views. The *Dutch Coast near Scheveling* (365) is a work of great ability.

Conspicuous among the figure studies are two of children by Mrs. W. Carpenter. It is a matter of difficulty to determine whether we like most *Summer Amusement* (112) or *Winter Amusement* (314). In each Mrs. Carpenter shows her power in the delineation of juvenile form at once scientific and tasteful.

Mr. Stone has contributed two small portrait studies. One is entitled *A Girl of Brittany* (2), the other *Alice* (8). Both are good in their characters of female beauty: the piquancy of the first being heightened by the attractions of a very picturesque costume. Of a similar class are the two portrait studies by Mr. H. O'Neil—*St. Cecilia* (211) and *St. Catherine* (213). The last saint is the most spiritualised in aspect. Both pictures are advances on Mr. O'Neil's works of the kind last year.

Mr. Ansdell's works show enterprise and industry. The composition of *The Successful Deerstalkers* (17) is of his best. *Bringing a Stag from the Hill-top* (404) proves, in addition, his capacity for laying out a combination of forms on a large surface; and it has both vigour and boldness of execution.

Mr. F. Goodall's representation of *Paris, 1848* (33) is an acceptable representation of French *quidnuncs* in all the excitement of political frenzy. *The Old Market at Rouen, Normandy* (4), by his brother, Mr. E. A. Goodall, has some excellent points of a technical character.

Mr. Joy has contributed a picture—*The Celebrated Interview between Charles James Fox and Napoleon, 1801*—*The Peace of Amiens* (181). The painter would do well to leave this walk to those better qualified.

There is so much excellent colour in Mr. Holland's view of *The Rialto* (122), and such a play of fancy in the making up of the picture, as make it a matter of regret that the architectural details should not have been given with greater precision.

Study of a Head (155), by Mr. J. W. Phillips, is a smart sketchy transcript of a physiognomy that recalls strongly the Kemble family.

A Sketch in the British Institution (24), by Mr. C. W. Stanley, though showing but the back of a fair student engaged in copying a Rembrandt portrait, is executed with frankness of style and perception of tone.

Mr. A. C. Hayter's picture of *Prayer before the Mid-day Alms* (66) is a well-chosen incident. It displays the active benevolence of the Franciscan monks of the *Ara Cæli*—administering relief at their convent door to the poor. The merit of the picture lies in the unconventional and probable look of the scene. The figures are obviously studies of facts; and the whole testifies to great vigilance and observation.

Mr. R. W. Buss's *Parson Adams lost in a profound Study of a Passage in Æschylus* (70) resembles in character a series of pictures of wrapt enthusiasts began by the late Theodore Lane, and which Mr. Buss delights to continue. We cannot say that we admire it.

A little unpretending picture of an elderly woman entitled *The Pauper* (216), by Mr. C. Wilson, is remarkable for great truth, and a certain correspondence with the style of Wilkie at the time when he painted "The Blind Fiddler."

A striking example of human patience is Mr. J. D. Wingfield's *Interior of the Picture Gallery, Stafford House* (232). All that relates to the mere imitative qualities of his art Mr. Wingfield may be said to have here carried further than in any of his preceding efforts; but having had on former occasions pleasure in the graceful compositions with which he has peopled the palaces or scenery of English story, we confess to want of interest in the present work.

SOCIETY MEETINGS FOR THE PRESENT WEEK.

- MON.—Geographical, half-past 8, P.M.—Royal Academy, 8—Sculpture.—Royal Institution, half-past 8—Mr. Brodie "On Chemical Philosophy."
- TUES.—Zoological, 9—Scientific Business.—Institution of Civil Engineers, 8—"On Fire-proof Buildings," by Mr. J. Braidwood, Assoc. Inst. C.E.—Royal Institution, 3—W. B. Carpenter "On Palæontology."
- WED.—Ethnological, 8—"Obituary Notice of Dr. J. C. Prichard," by Dr. Hodgkin. "Remarks on some Specimens of Skulls of the Naloo Africans," by G. Whitfield, Esq.—College of Physicians, 4—Croonian.—Royal Institution, 3—Mr. Brodie "On Chemical Philosophy."
- THUR.—Antiquaries, 8.—Royal, half-past 8.—Zoological, 3—General Business.—Royal Institution, 3—Dr. Gull "On Physiology of Digestion."—Royal Academy, 8—Painting.
- FRI.—Archæological Institute, 4.—Royal Institution, 3—Prof. E. Forbes "On the Question, Have New Species of Organised Beings appeared since the Creation of Man?"—Botanical, 8.—College of Physicians, 4—Croonian.
- SAT.—Royal Institution, 3—Prof. Brande "On Chemical Philosophy."—Asiatic, 2.

To Correspondents, &c.

On April the 1st, will be published, Part I, *Price One Shilling, of The SELF-INSTRUCTING ORNAMENTAL DRAWING BOOK,* WITH DIAGRAMS, Showing how to hold the Pencil, and general rules for Drawing Ornamental Foliage, with a letter-press description.
To be continued monthly, in a neat wrapper.

CONTENTS OF PART 2 OF

The Book of Ornamental and Early English Alphabets,

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Alphabet of Flourished Cyphers, commencing from A. A. to A. Z. (This Alphabet will be continued monthly, till the whole is completed, down to Z. Z.)
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QUERY.—Can any of our readers inform us of the best method of polishing porphyry marble?

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

**Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

** Part I, is also re-printed, and will in future be charged at 10d. each.

Part 23 is now ready, Price 10d.



Fig. 1.

1.—CROCKET, SOUTH TRANSEPT, BEAUVAIS CATHEDRAL.

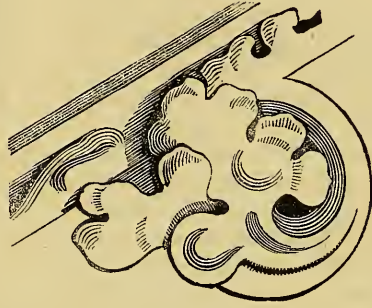


Fig. 2.

2.—FROM ST. GEORGE'S CHAPEL, WINDSOR.

PRESBYTERY, WINCHESTER CATHEDRAL.



Fig. 3.

3.—FROM STONE CANOPY IN THE

On Composition.



COMPOSITION is the arrangement of various component parts to form a whole, whether of figures, trees, vessels, &c. in a painting or piece of sculpture, or of doors, windows, piers, columns, pilasters, cornices, &c. in a building. To compose well is one of the first qualities necessary for an artist, after he has acquired the elements of his art, and commenced an original work.—Composition, in many instances, vies with, and in fact is, invention; and in others takes up only arrangement and disposition, as in the composition of a group of portraits in one case, and of an historical picture in the other.

To be excellent, composition, should be subservient to nature. A study of nature will assist composition, for nature mostly composes and groups well. It may even be said to enter in the arrangement of a single figure. Raffaele's Cardinal Sforza, Titian's Cardinal Bentivoglio, Reynolds's Mrs. Siddons, as the Tragic Muse, the same great master's General Heathfield, holding the key as Governor of Gibraltar, Flaxman's Lord Mansfield, in Westminster

Abbey, and Chantrey's James Watt, are beautiful instances of a happy composition of the parts of a single figure.

General or ideal beauty carried to a system will never aid composition. The beauty of the Faun is of one kind, that of Apollo of another; the beauty of the Venus differs from that of the Diana, yet they are all beautiful. Character is another essential quality in composition, particularly in architecture, for buildings should carry distinctive marks of their qualities and use upon their fronts. The composition of theatrical edifices should differ from municipal buildings. Churches again from assembly rooms, and dwelling houses from the ancient temples. Yet how often are these essential qualities in art neglected.

A composition in painting and sculpture may be rich in figures, and in architecture abundant in parts, and yet be poor in ideas. A composition should be learned, not pedantic. The composition is generally settled in the sketch, and where that is not from the first moment determined upon and good, the work, however good, will never be excellent. Though composition may be considered as the general order or arrangement of a design, yet disposition is the particular order; it embraces every part belonging to the design, whether of a painting or a building. It is a quality in Art that demands the greatest attention. If the objects are placed too closely they appear a jumble, leaving no repose for the eye; and if carried too wide will occasion the work to become scattered or dispersed instead of agreeable and diversified.

Venetian Glass Paper Weights.

THE curious and interesting specimens of the art of enclosing ornamental coloured glass within a shell of colourless transparent glass, which have lately been made familiar to us in the forms of paper-weights, door-knobs, tazzi, &c., is a revival of an art practised by the Venetians five or six centuries since. For at least four centuries we have no indications of any such manufacture; and, indeed, until very lately, it may be regarded as having been lost. The interior patterns are first formed by taking

soft glass, coloured with metallic oxides, which is drawn into small tubes. These tubes are combined to form a pattern, and are fused together lengthways, making one variegated elongated mass of any required diameter. One of these compound tubes is taken, slices of the thickness of a lozenge are cut off, either at right angles to the length, or obliquely. These transverse sections are all of identically the same pattern if cut from the same tube. In this way any required pattern can be formed, and any variety of colours produced. The pattern being thus made by combining sections of this soft coloured glass, it becomes necessary to secure the whole, and give beauty to the design by covering it in front with a white and perfectly transparent glass, and at the back by a white opaque variety. This is done as in the ordinary process, by putting different layers of glass one upon the other. Sometimes the coloured mass, or section of the tubes, is dipped partially into the opaque glass in a state of fusion first, and then the whole is covered with pure flint glass, or sometimes the opaque glass is applied in the melted state to the back after the flint glass has covered the face. The interior coloured tubes being more fusible than the outer transparent glass, soften when the melted flint glass is applied, and in this soft state it admits of any of those operations of the workman necessary to give elegance of form to the finished article; and thus also the two varieties of glass become united into one consistent mass. These articles are sold as of foreign manufacture, but we are assured upon the best authority that very large quantities of them are made in England—indeed, in the metropolis—are sent to France and Germany, and bought in those countries to supply our own markets. This is not the only instance within our knowledge in which our manufactures find their way to the public at a greatly increased price, by re-importation as the productions of foreign industry. Surely it is time that all such ridiculous prejudices should cease.

WE hear with pleasure that the Literary and Scientific Institution established only in December last for Rotherhithe and Bermondsey is giving promise of a healthy existence. The district for which it provides has been, we believe, previously to the formation of this institution wholly without such means of intellectual enjoyment,—though comprising within its circuit fifty thousand inhabitants.

The Tomb of Napoleon.

A French paper gives the following details relating to the works at the tomb of the Ex-Emperor Napoleon.—“An immense circular crypt has been dug beneath the dome; within which, on three shafts of green marble, the sarcophagus containing the emperor's coffin will repose. The block of porphyry which the curious are now flocking to see on the Quai d'Orsay is destined to cover the sarcophagus. A lower gallery, paved in mosaics and lined with marble bas-reliefs representing the principal events in the Emperor's life, will admit the public to circulate about the sarcophagus. Twelve colossal statues in white marble—of which six are already placed—will sustain an upper gallery whence it may be looked down on and its details examined from above. These allegorical statues, from the chisel of Pradier, represent the principal branches of human activity—Science, Legislation, War, Arts, &c., A magnificent altar of black marble veined with white rises in front of the tomb. Four large and beautiful columns, also of black and white marble, support the canopy of carved and gilt wood. Ten broad steps, each cut from a single block of Carrara marble, lead up to the funeral altar. Beneath this altar is the passage to the lower gallery above spoken of; whose entrance is guarded on either side by the tombs, in black marble, of Bertrand and Duroc—dead marshals keeping wait at the door of the imperial dead. The marbles employed in the construction of this tomb cost not less than a million and a half (60,000*l.*) in the rough:—the sculptures and bas-reliefs executed by Simart cost six hundred thousand francs (24,000*l.*) The block of porphyry for the covering of the sarcophagus weighs 45,000 kilogrammes:—its extraction and carriage to Paris cost one hundred and forty thousand francs (5,600*l.*) It comes from the shore of Lake Onega.—Between the tombs of Bertrand and Duroc, a shrine will be erected to receive the sword of Austerlitz, the Imperial Crown, and eighty standards captured under the Empire.

MR. Charles Fox, the eminent line engraver and water-colour draughtsman, died at Leyton, Essex, on Thursday week last of a disease of the heart.

History of Sculpture.

(Continued from page 186.)

"SHE is not worthy to officiate as chambermaid to the goddess of the Tribune. It is simply the representation of a modest woman, who seems to shrink from exposure in such a dishabille; while her Grecian prototype, in native innocence and simplicity, scarcely conscious of nakedness, seems to belong to an order of beings to whom the sentiment of shame was as yet unknown. The attitude of Canova's is constrained and perhaps even awkward. This may arise from the manner in which she compresses that scanty drapery, which the sculptor has given her,—intended, I suppose, to 'double every charm it seeks to hide.' The symmetry, too, is by no means perfect. The head is manifestly too large. Is it perhaps unfair to attribute to the sculptor the faults of the marble; but it is impossible not to remark, that even if the work had been more perfect than it is, the unfortunate flaws, just in those places where they are most *mal à-propos*, must still have detracted much from its beauty. Many of the copies of this statue seem to me quite equal, if not superior, to the original; an infallible proof, if the remark be correct, of its mediocrity of merit."

The same intelligent traveller thus speaks of the talents of Thorwaldsen, a Danish sculptor practising at Rome:—"There is a freshness and originality in his designs, guided by the purest taste. What can be more elegant and beautiful than his *basso-relievo* of *Night*? His *Venus victrix* approaches nearer than any modern statue to the *Venus di Medicis*. There is a *shepherd*, too, which is a delightful specimen of simplicity and nature;—and the charms of these statues is, that while they emulate they have not borrowed any thing from the works of the ancients."

On the works of our own Chantrey, we are disposed to enlarge with all the spirit of nationality; but a recollection of our confined limits, together with that sense of delicacy which restrains us from discussing minutely the merits of any artist, withhold us. Mr. Chantrey's principal productions were busts; but the work which first fixed his high reputation, and is still regarded by many as his *chef-d'œuvre*, is a group of sleeping infants, to be seen in the Cathedral at Lichfield.

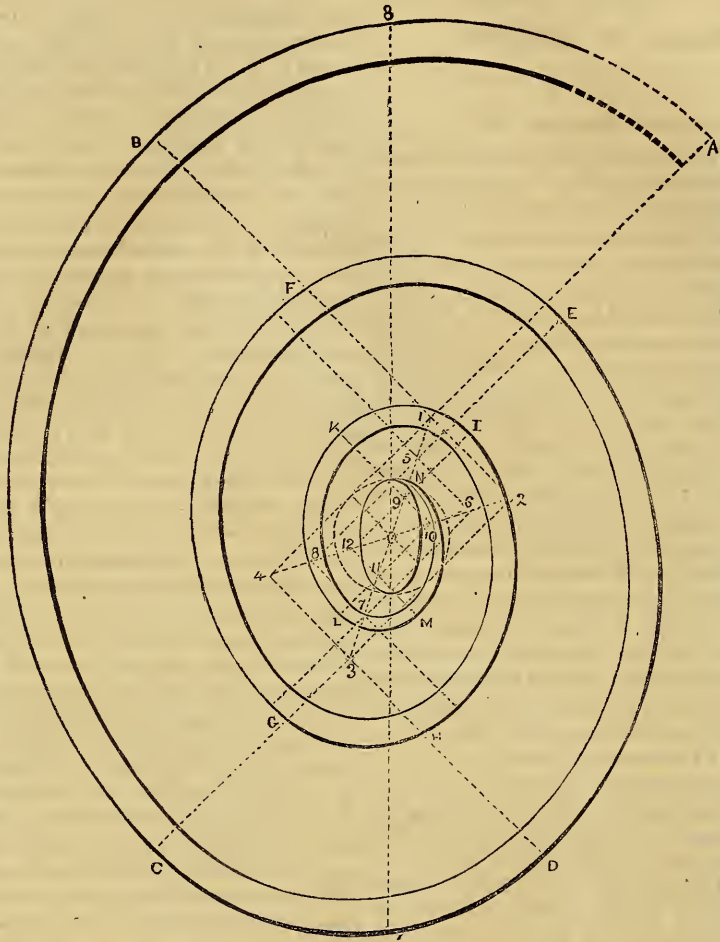
To the productions of ancient art, however, we must after all return, if we are desirous of contemplating the sublimest as well as the most beautiful specimens of sculpture. We shall, therefore,

now proceed to give a particular account of the ideas entertained by the Greeks respecting the standard of beauty in the different parts of the human body. With regard to the head, the profile chiefly admired by them consists in a line almost straight, or marked by inflexions so gentle as scarcely to be recognised as such. The forehead and nose, indeed, in female or youthful figures, form a line which approaches to the perpendicular. It has been often held, as a principle of ancient beauty, that the forehead was extremely high. This opinion, however, is subject to dispute; for many ancient writers, and artists also, assure us that the Greeks considered a small or low forehead essential to beauty. Thus the Circassians suffered their hair to shade the forehead almost to the eyebrows. Indeed, it will be evident that, to give an oval form (the most esteemed) to the countenance, it is requisite that the hair should cover the forehead, and make a curve above the temples; or else the face, which terminates in an oval form in the inferior part, will be angular in the higher part, and the portion consequently destroyed. This rounding of the forehead may be seen in all handsome persons, in all the heads of ideal beauty, in ancient statues, and especially those of youth.

Large eyes are generally considered beautiful; their size, however, is of less importance in sculpture than the form and manner in which they are most used. The eye has often been made a characteristic feature in the heads of different deities. Apollo, Jupiter, and Juno have the eye large and full. In the statues of Pallas they are also large, but by lowering the eyelids the virgin air and expression of modesty are delicately marked. The celebrated *Venus de Medeci*, however, affords sufficient proof that large eyes are by no means essential to beauty. Hers are small, and the gentle elevation of the lower eyelid imparts to them a languishing look and an enchanting sweetness.

(To be continued.)

At a recent meeting of the Society of Antiquaries of Scotland, Mr. Turnbull, one of the Secretaries, exhibited the original MS. of the note-book of cases reported by Dr. John Hall, of Stratford-on-Avon, who married Susannah, the eldest daughter of Shakspeare. This MS., seen and partially used by Malone, is regretfully referred to as lost by the Rev. Mr. Hunter in his 'New Illustrations of the Life and Works of Shakspeare.' The MS. now belongs to a medical gentleman of Edinburgh; who lent it for the inspection of the Society. Mr. Turnbull mentioned that a translation of the MS. had been published by James Cooke at London in 1657, and afterwards in 1683, with a portrait of White. Several amusing extracts were read to the meeting.



METHOD OF DRAWING THE ELLIPTICAL VOLUTE.

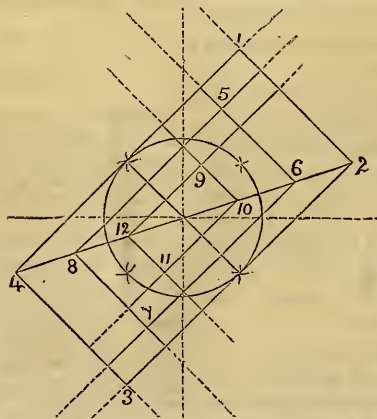


DIAGRAM DRAWN TO AN ENLARGED SCALE.—[For description of drawing Volute, See p. 198.]



PORTION OF A FRIEZE SKETCHED FROM CREWE HALL, CHESHIRE.—[ELIZABETHAN.]

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

LECTURE I.

In comparing Art with Nature we are as apt to underrate it, as in considering it by itself we are sometimes disposed to elevate it unduly; and both errors stand in the way of our improvement.—Though, in a high sense, it be true that “all Nature is but Art,” and “all chance direction,” and though it be of great importance to the student to keep this truth constantly in mind, yet that human Art cannot rival the beauties of Nature is not to be considered a defect, for it can only be defective where it fails to do what is possible; and that the painter is able to do something else—and something which Nature herself refuses to do—apart from his power of recalling the lineaments of the absent, or bringing the scenery of other countries into his own, I hope to show.

The axiom that the most perfect Art is that in which the Art is most concealed is directed, I apprehend, against an ostentatious display of the means by which the end is accomplished, and does not imply that we are to be cheated into a belief of the artist having effected his purpose by a happy chance, or by such extraordinary gifts as have rendered study and pains unnecessary. On the contrary, we always appreciate, and therefore enjoy, a picture the more in proportion as we discover ourselves, or are shown by others, the why and the wherefore of his excellencies; and much of the pleasure it gives us depends on the intellectual employment it affords. Nor does the concealment of Art mean concealment of imitation, or that what it gives is to pass on us for a reality, for we should then immediately want what we never miss in a fine picture. motion and sound.—Both of these it is a great triumph of the painter to suggest. Rubens was pre-eminently successful in giving action to his figures; and Hogarth's “Enraged Musician,” as Fielding says, “is deafening to look at.” But imagine the eye deceived, and from that moment the figures of Rubens stand still and the din of Hogarth's groups ceases:—and indeed, such Art would be unnatural, because, unless in the representation of still life, it would have the motionless and speechless appearance of wax-work—the most lifelike, in externals, of all the modes of imitating Nature, and for that very reason the most lifeless.

These remarks are so obvious that they may appear to be superfluous. I may be told that deception is not attempted, and is, indeed, generally impossible, from the circumstances of pictures being bounded by their frames and the diminutive scale on which natural objects are most often represented. Still, as this lowest kind of truth is sometimes the aim of the painter, though it has never been the aim of a true artist, and as I have often heard it highly applauded when successful, and even by painters, it seems to me of importance that we should clearly understand that the illusion of Art is quite another thing from deception of the eye, and that such deception would, in fact, destroy illusion.

Children and childish minds are most attracted by wonders. I remember when I was a boy seeing a picture that was placed flat against the wall at the end of a long room, representing an open door through which a flight of stairs receded, with the figure of a man of the size of life painted as if walking up them. At the base of the canvas a real step projected on the floor of the room, and at a certain distance it was impossible to distinguish between the painted stairs and the wooden one:—indeed, so complete was the deception, that on first seeing it my only wonder was at the man's remaining stationary. This picture seemed to me perfection, and at that time I should probably have looked on the finest Titian with comparative indifference. It was, however, the work of a very ordinary painter, and I have since learned that deception, to the degree in which it was here with the assistance of a little ingenious management, attained, depends merely upon copying some of the most obvious appearances of Nature, and that her most charming qualities—all that the greatest artists have courted in her throughout their lives with success infinitely short of their hopes—may be omitted without rendering the representation less a deception.

I would ask whether others have not felt what has always occurred to me in looking at a Panorama, that exactly in the degree in which the eye is deceived, the stillness of the figures and the silence of the place produce a strange and somewhat unpleasant effect; and the more so if the subject places us in a city. We then want the hum of population, and the din of carriages, and the few voices heard among the company in the room have an unnatural sound, as not harmonizing with the scene. Even in the Diorama, where the light and shade is varied by movement, and the water is made to ripple, there are still many wants to be supplied, and these wants are indeed suggested the more in proportion to the attainment of deception.

I have no wish to disparage the ingenuity of these contrivances;—the Panorama is an admirably devised mode of conveying much information which by no other means can so well be given. My object is merely to ascertain how it is that there is always something unsatisfactory—to speak from my own feelings, I should say *unpleasant*—in all Art, of every kind, of which deception is an object. We do not like to be cheated even in a harmless way: the wonder excited by the tricks of a juggler is not without a mixture of humiliation; the powers of our minds, instead of being exercised are, for the time, suspended, and even our senses cease to serve us—while the Art of a great actor delights us, not only as an imitation of Nature, but because our imaginations are excited, our understandings appealed to, and we have a secret gratification in the consciousness of the feelings he arouses within us, and these are also among the many sources of pleasure we derive from the works of a great painter. “I feel,” said Reynolds, speaking of Michel Angelo, “a self-congratulation in knowing myself capable of such sensations as he intended to excite.” But neither at the theatre nor before a picture should we feel in this way were we, for a moment, to mistake what we see for reality.

(To be continued.)

Birmingham Brass Work.

IN connection with the projected exposition of manufactures at that place, the *Birmingham Journal* has commenced a series of articles on its importance, wherein the various manufactures of the town are reviewed. We take from one of them the following remarks on brass-work:—The history and progress of brassfounding in Birmingham has yet to be written, and we trust it will be done in brass on the stalls of the Exposition. In no town in all England has the art been followed to greater advantage, as far as regards extensive production;—how far successful as regards elegance and purity of design, we will not pretend to say—let the specimens sent for inspection show. The inapplicability of the various styles of ornament so long in use for their different purposes, was only equalled by the inferior mechanism or tame execution of the articles adorned; the substitution of the bell lever for the meagre-looking cord, and the curtain band for the pin, was an era: it became necessary that a superior style of ornament should be introduced, and give an impetus to the trade generally. Minute and rifling as many of the details are which make up

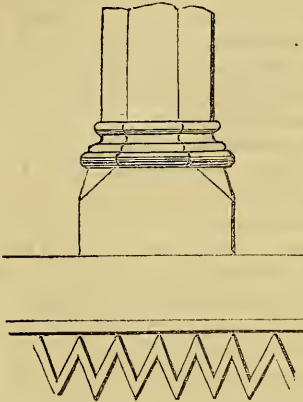
a cabinet brassfounder's trade, there are none, saving those embracing the precious metals, in which greater taste may be shown, or more mechanical ingenuity applied. He who calls to mind the purchases made by the School of Design from the Parisian Exposition, will remember the richly foliated ornaments which covered not a few of the bronze articles containing each a lesson in themselves. But these days of false economy have wrought foul wrong to the trade whose progress we are attempting to describe: the stamp has been exchanged for the casting box,—as a consequence, tinselly and gaudy ornament has taken the place of the quiet and rich leafage, which looked so substantial and natural when finished. That this is not confined to our own country, is most true.—Our market has been deluged with the multitudinous drapery adornments of “Marsaux.” Compelled in self-defence to fight against such fearful odds, it is not to be wondered at that we have to a certain extent been obliged to follow or compete—how unsuccessfully will best be shown by the mention of the disadvantages we labour under: first, that in the knowledge of design we are yet much behind. With us, until of late years, it was impossible to acquire this important branch of education. And secondly, most people are aware that the French mechanic can subsist on a pittance on which our own countrymen would starve. We, however, are of opinion that the evil already mentioned will soon work its own cure, and that a better and more substantial class of articles must speedily take place of the flimsy productions of the day; such are in truth the butterflies of a craft which the first touch of the winter of a severer taste, and the acknowledgment that all is not really substantial which seems so, will speedily dissipate: we trust our Exposition specimens will help to prove this in a satisfactory manner. It may not be improper to remark, that these observations have been made in consequence of the deteriorating influence which the production of brass goods from plates of sheet metal and by pressure, exert upon the progress of legitimate ornament. The process of stamping effectually precludes the possibility of the shelving or undercutting being introduced, which gives relief to the prominent parts, and is the foundation of all effect and true artistic beauty. It must not, however, be supposed that we are retrograding; far from it, there is a sensible improvement; there seems to be a better understanding abroad as to what is right or wrong, and the ornamentation is more applicable to the purposes or use of the object so ornamented: this recognition is in advance, and indicates a step in the right direction.

An Illustrated Glossary of Technical Terms used in Architectural and Exterior Decoration, &c.

KNEE. A part of the back of a hand-railing of a convex form, the reverse of a ramp, which is a back of a hand-rail, and is concave. The name of *Knee* is also given to any small piece of timber, of a bent or angular form.

KILN. A building for the accumulation and retention of heat, in order to dry or burn certain materials deposited within them.

KING POST. The middle post of a roof.



KITCHEN. That part of the offices of a house where the business of cooking is carried on.

KERAMOS. Earth which is tenacious and malleable when moist, but hardens on exposure to the sun or fire. It is used in the construction of vases, bassi relievi, cornices, &c. as well as that of bricks and tiles, and indeed all works the substance of which is commonly distinguished by the term of *terra cotta*.

KERAUNOSCOPEIAN. A machine used in the theatre of the ancients, by means of which they imitated the hurling of a thunderbolt, a thing particularly necessary in their dramatic representations, which frequently ran on mythological exploits and appearances of the heathen divinities. They had also another machine, consisting of small stones rolled upon pieces of bronze, the sound of which resembled thunder. These were placed at the back part of the scene.

KALOS. This word is very often found inscribed on Greek vases, &c. probably to indicate their supposed perfection. In many cases, however, it is joined to a proper name, giving rise to a specula-

tion that the vase was dedicated to some particular individual.

KNOTTING. A process to prevent the knots appearing, by laying on a size composed of red lead, white lead and oil, or a coat of gold size, which last is always effectual, as the preliminary process of painting.

LARMIER. The same as the corona, the upper member of a cornice. In Gothic architecture it is a kind of plinth, the upper surface of which is inclined, and the inferior part hollowed in a round canal, to throw the water from the wall.

LATH. A long narrow slip of wood, nailed on the rafters of a roof, for receiving the plaster. Laths are of three kinds; heart of oak laths, sap laths, and deal laths. The first sort, as the most durable, are used for tiling; the two last, only, for ceiling and partitioning. Laths are cut in lengths of three, four, and five feet; yet the statute only allows of five and three feet lengths, each of which are to be an inch and half in breadth, and half an inch in thickness.

LANDING. The terminating of a stairs or broad step where the entrance to a room occurs in the course of a staircase, or stairs.

LATCA. The simplest kind of fastening to a door.

Rules for Drawing an Elliptical Volute.

Divide the perpendicular height into eight equal parts, marked 1—8 in the engraving. Take one division for the height of the eye, and divide it into two parts: place the leg of the compass on the point o, and strike the circle in which the eye of the volute will fall; divide the circle into four equal parts [shown by the crosses] and draw the diagonal line [this line must be drawn either to the right or left hand, to suit the position of the volute; the engraving represents the left side of the capital.] Form two squares and draw the diagonal line, from Fig. 2 to Fig. 4, divide it into six equal parts; the lines being drawn from each division, will give the points at which the arcs forming the volute, must be stopped, for instance, the points c d; then on the points of the intersecting lines, place the leg of the compass commencing at Fig. 1, and strike the arc a b; from point 2, strike the arc b c; from 3, c d; 4, d e; 5, e f; 6, f g; 7, g h; 8, h i; 9, i k; 10, k l; 11, l m; 12, m n; the volute will then be complete. It is necessary to be very accurate with each measurement, or the exact shape will not be produced.—For Illustration, See page 194.

British Institution.

(Continued from page 189.)

Mr. Lance here maintains his reputation by five pictures; four on the class of subjects for which he stands unrivalled. The best, to our taste, is a *Quiet Couple* (No. 212). It represents a pair of dead ducks, painted to perfection. The whole tone of the picture is deliciously cool and clear. *Study of Light Colour* (205) is an assemblage of fruit, &c. in all the obviousness of chromatic arrangement. *Winter* (230) and *Summer* (101) are capital specimens of this painter's art. *The Biron Conspiracy* (43), a scene from the 'History of Henry IV. of France,' is one of Mr. Lance's figure illustrations. The still life and accessories, painted with his accustomed truth, reflect disadvantageously on the representation of the human forms and expressions. The picture is of great power in colour and effect.

Mr. G. E. Hering's principal work is a *Scene on the Gulf of Spezzia* (1). It is firmly painted, and in bright deep tone. *Red Hill, Surrey* (9) and *Near Reigate, in Surrey* (185) are two capital studies of evening effects. *The Lake of Orta* (88) and the *Temple of Vesta at Tivoli* (98) are contributions from the artist's wanderings in Italy.

Jenny's Lament (51), by Mr. F. Newenham, is an excellently executed whole-length seated figure, which has undergone the baptismal ceremony, to relieve it from the prohibition to which portraiture is here subject.

The Meadow Scene with Cattle (56) by Mr. J. Dearman, is the work of one who has studied Nature and the Dutch masters. Two clever figures are *Una* (82) by M. H. Le Jeune, and *A Girl reading the News* (105) by Mr. C. Wilson. Of all Mr. T. S. Robins's works in oil, *Fishermen preparing to start from Gillingham Creek—the Medway in the Distance* (84) may be considered the best. Of Mr. A. Clint's two sea-skips, the *Coast Scene, Sunset*, (497) is the best. Mr. Redgrave's *Strawberry Gatherers in Norbury Woods* (151), and *Domestic Ducks, after Nature* (154), by Mr. J. F. Herring, deserve especial attention.

In Mr. J. Gilbert's designs there is always much suggestive of poetic power. In the *Murder of Thomas a Beckett* (161) remorse seems to have seized the barons while gazing on the bleeding body of their victim. The *Disgrace of Cardinal Wolsey* (464) is happier in its representation of the haughty monarch than the stricken prelate. The group of gratified and triumphing courtiers is well imagined. A small picture by Miss J. Macleod, the *Interior of the Fisher's Cottage* (206) is well composed. The *Death of the Banished Lord* (214) is outrageous to the sense of those who delight in harmonies of form and colour. In Mr. R. S. Lauder's

Burns and Capt. Grose (223) there is some excellent imitation—in the still life especially. Mr. J. E. Lauder exhibits his version of the *Music Lesson* in the 'Taming of the Shrew' (273). Lucentio is happily expressed both in physiognomy and gesture.—Mr. A. J. Woolmer's *My Pretty Page look out afar* (238) is the best of his three contributions.—*A Bit of Effect* (247) is a caricature without wit to redeem it.—Mr. R. Evans's *Monk in his Cell* (85) is one of the best things of its class here.—A nocturnal subject by Mr. Phillips, is one of the few pictures expressing sentiment, imagination, or taste in the exhibition.—*Admonition* (318), by Mr. E. V. Ripplingille is very successful in its form of presentment.—Mr. Maguire's study of a *Lavender Girl* (329) is exceedingly good.—Mr. Frost's little study of a *Naiad* (359) is a very graceful production.—An excellent little picture is the *Road-side Barn* (336) by Mr. J. Middleton.

Mr. A. T. Derby's *Agnes with the Picture Paper* (373) is a capital portrait study.—Mr. R. M'Innes has a clear and well-executed exposition of *Enforcing the Sanitary Laws* (388)—children being washed at a pump. Full of expression.—Mr. A. Fraser has represented the village artist in *A Painter of Still Life* (386). Working on a sign, to the inexpressible delight of a gaping multitude, he stands on the steps in the full consciousness of superiority—and puts in his finishing touches with all the extravagant action of conceit. The *Little Fife-player* (394) is a clever study by Mr. C. W. Hart.—*Heloise Musing* (395), by Mr. F. Williams, claims attention by the truthfulness of its effect.—*Moonlight on the Thames, near Pangbourne* (406) by Mr. E. Williams, sen., is one of that artist's best works; and Mr. H. Havell's *Pilgrim returning to the Valley of Elz Castle* (410) has one of the atmospheric effects in which he excels.—There is smartness of handling in Mr. Jutsum's *Rabbit Warren* (439), but much monotony of colour.—*A View on the French Coast, near Havre* (458), by Mr. J. Wilson, is, with all its fidelity, injured by the severity with which the lights are loaded—more especially in the sky.—*Love in Humble Life* (459) is an advance on Mr. Rankley's former efforts. *Cymon and Iphigenia* (480) is illustrated anew by Mr. E. Morris, an indefatigable student.—Mr. E. Williams's *Coast Scene*, 490, and Mr. Dawson's *Trent Lock, on the Grantham Canal, near Nottingham*, 492, are the last landscape views that we have to commend for their truth.—A study of *Zoraida*, by Mr. Carpenter, jun. is a remarkably well painted figure—showing a decided improvement on that artist's previous efforts.—Of the pair of pictures by Mr. Shayer, the *Scene on the Moors, Devonshire*, 444, is the best.—By a Florentine artist, the Chevalier Bezzuoli, there is here a picture of the old story, *Giotto on the eve of his Departure from his Parents to accompany Cimabue to Florence, there to Study as an Artist*. It has merit.

Of the Sculpture at this Exhibition, there is, as usual, little to be said. Mr. Foley's beautiful recumbent group of *Ino and the Infant Bacchus*, executed in marble for the Earl of Ellesmere, and engraved in the Sculpture Companion to the Vernon Gallery, is here; and there is a marble statue of *A Satyr*, a work of great excellence, by Mr. Marshall. Twelve other pieces, of no particular mark, complete the sculptors' contributions to this collection.

The Chronotypist.

A most appropriate application of the money subscribed for a memorial to the late Mrs. Fry, has been determined on at a meeting of the committee for its management. The sum raised is to be appropriated to the opening of an asyllum for discharged female criminals, to be called the "Elizabeth Fry Refuge,"—and to be situated within two miles of the Royal Exchange.—An additional ten mile of the Whitehaven and Furness Railway, from Mirehouse to the River Calder, was opened on the 28th, ult. The line is a dead level with easy curves, and is furnished with numerous coal depôts.—Between February, 1848, and the same month 1849, there have been 35 new Journals started in England, 19 stamped and 16 unstamped, of these, 13 have now ceased to appear, viz.,—8 stamped, and 5 unstamped.—Upwards of £1,200 has been already subscribed for the numerous families bereaved by the explosion of the Darley Main Colliery.—The Admiralty have resolved on another Arctic Expedition, in search of the missing one under Sir John Franklin. The 'North Star,' a "donkey frigate" in ordinary at Sheerness is fitting out, and will start for Baffin's Bay, very shortly.—A portion of the Leicester and Swamington Branch of the Midland Railway, extending from the West Bridge Station, Leicester, to Burton on Trent, was opened for passengers on the 1st inst.—A French paper states that an autograph Memoir by Fénelon, hitherto unknown, has been discovered amid a heap of old papers deposited in the Museum of Douas, by the librarian of that institution, M. Duthillœul,—who has caused it to be printed.—The prior's tomb, in the chancel of the church of St. Nicholas, Yarmouth, was opened on Monday week, and found to contain, in a white Purbeck marble coffin, a skeleton in good preservation, but evidently disturbed during a previous opening, it is supposed in 1650. No chalice, pastoral staff, &c., were found, though other traces of high ecclesiastical rank are said to have been noted.—St. John's Church, Hurst, was consecrated on Monday week. It is in the early English style of the 13th century. Internally it is about 69 feet long, by about 43 feet wide, and divided into a nave and side aisles.—The proprietors of the *Sheffield Times* have offered a prize of £10 for the best essay on the present condition and future prospects of the staple trades of Sheffield.—Final arrangements have been made for the removal of the screen in front of the British Museum. During

the week, the materials have been brought to the hammer—and, in the preliminary sense, "knocked down." In a few days, the pile behind will become visible to the passer-by.—At the Institute of British Architects, February 5th, some remarks were made by Mr. Fergusson, in support of his published theory that the Mosque of Omar, with its pointed arches, was the Church of the Holy Sepulchre built by Constantine; which gave rise to some discussion, the author of the paper expressing his opinion that pointed arches were not to be found in buildings erected by that Emperor.

To Correspondents, &c.

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CONTENTS OF PART 2 OF

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AN ORIGINAL DESIGN FOR A BOSS.—(GOTHIC.)

How is Art to be Studied.



E have on several occasions expressed our conviction, that to become adequate judges of the perfection or defects of ancient painters and sculptors, the student must forsake the dead to seek the living,—not only the living artists, but all pervading life. nature is alone the standard by which Art can be judged, a long and diligent study of her laws will alone enable him to arbitrate. Every artist has doubtless in his experience felt humiliated in the presence of this monitor, after having done all in his power to rival her, and may have observed, the more attentive he has been to her instructions the more sensible he has become of falling short of excellence; he may recollect, too, after having neglected the study of nature for any considerable time, in again contemplating his performance, which before disgusted him, while in the habit of referring to his arche-types, that he found his acuteness of perception blunted: the odious comparison forgotten, he wondered at his own power. To the thoughtful, this self-satisfied condition is a strong symptom of decay, and a powerful incitement to future diligence. If we find the artist's power of discrimination falls off when the study of nature is neglected, how shall we estimate the authority and judgment of those who never receive the impetus to observe with the constant and minute attention of the practical man? It may be suggested that art may be understood in theory without the power of practice; we do not believe it possible. Shadowy nothings may, perhaps, be possessed; but such a theory never rises to that power of

perception which appears to be an extension of sensibility, in the direction in which sense is continually exercised by the practical man. How often is wonder expressed at his subtleness of discrimination; his detection of flaws and imperfections quite imperceptible to the ordinary observer?—many consider it to be only an ill-natured disposition to find fault. On the other hand, the practical man regards the want of discriminating power as blindness in those who cannot detect the subtle merits and defects which he does. A man must certainly have some sort of theory before he addresses himself to practice, to preside over action; he must have a pre-notion of the means to attain the end proposed, which may be right or wrong, as results will reveal to him. In his first efforts, his theories are constantly meeting with contradictions,—thus in theorizing, practising, failing, practice and theory mutually act and re-act on each other, till, “dangerous” being marked on every side, he discovers a safe path between. Practical men may record, and by this means critics, perhaps, pick up a species of theoretical experience; but it is knowledge at “second-hand.” Books can never give all the ramifications nor vitality of real experience, for, says the proverb, “experience taught is never equal to experience bought.” It is amusing to hear how men of parrot information lecture those from whom they have imperfectly derived it. Theory and practice are soul and body; separate them, practice is dead—theory soars into impracticability.

We advocate a national collection of pictures and sculptures arranged chronologically, but not an extravagant outlay to obtain the originals of past epochs. Let good copies be commissioned of those pictures and sculptures considered the *chefs-d'œuvre* of each period of development, to teach men that art, like other emanations of life, is progressively developed. The Glypthothek at Munich is a model for arrangement. Commencing with Egyptian, the rubble on which the superstructure of Greek art was raised, the visitor passes on to view remains of Greek sculpture, which bear on them more or less the types of the gods imported by the Asiatic and Egyptian colonists; passing on to the marbles of Egina, thence to the Hall of Apollo, containing the

remains of productions which more immediately preceded the age of Phidias, and in which the rigidity of former periods relaxes; and thus leading him on to the climax of Greek art, and, afterwards, to witness its decline. The contemplation of these sculptures, or those of our own British Museum—of the works of painters, from Giotto to Raffaele, and the decadence of Italian art—do they not all inform us of an ancient and foreign influence first cast aside, then of a servile and rigid adherence to particular forms in sculpture, in painting, hair, wrinkles, and every minute individuality, and that as experience increased, handed down from master to pupil, Art obtained the power of discriminating and selecting? It may be observed that Art has always advanced steadily on the inductive principle—rising from particulars to generals,—a system that has always been attended with good practical results. In all branches of knowledge, the final effort being to systematize the accumulation of experience into order and unity, the perfect understanding of the whole involves the knowledge of its component parts. When the study of Art was substituted for the greater authority of nature, and principles for guidance were attempted to be deduced from it, Art fell. Let it always be remembered that nature was the antique of antiquity.

The slow though certain progress of inductive attainment is opposed to the selfish and mistaken ambition of the present day, which is, too often, we fear, content with the semblance of a front of strength which must be conscious of a frightful hollowess within; failing the strong skeleton and vitality of truth, the fear of being crushed is ever present. To avoid this, let every man walk obedient in the path of duty for truth's sake, always with hopeful delight, reflecting that whatever his attainments may be, the next age will surpass him; recollect there is always to learn—man at his highest is but scholar, never master.

Geometrical Proportion.—At the conversational meeting of the York Philosophical Society, on the 25th ult., Mr. F. Jones read a paper on the geometrical proportion of Gothic architecture, as introduced by Mr. Griffith in his work on that subject; and showed by examples that there was no doubt of the application of the system in the plan of York Minster, Selby, Skelton, and other churches.

On the Abuse of Verandahs, &c.

In our rambles through some of the avenues, streets, and thoroughfares lined with villas, crescents, terraces, detached and semi-detached houses with which the suburbs of our great metropolis abound, we fell to meditating on our changeable seasons that give us a taste of the climates of every country. The day which commenced with an intense frost, with a glimmering of sunshine, turned to rain, giving an appearance of gloominess to everything, which was considerably increased by our passing a crescent with balconies and verandahs to the first-floor windows, and, in addition, a plantation of trees in front. We shrugged our shoulders, and thought how dreary must be that sitting room that excluded the slightest natural warmth of the sun. We are no enemies to verandahs, as in summer they are agreeable; but for that very reason in winter they are very disagreeable. Again, the window itself comes down to the floor, and opens on to the balcony—vastly agreeable in those months when we may lounge outside and peruse a book, but as disagreeable on a winter's evening, as its many draughts prevent the room getting thoroughly heated by the largest fire. "What, then! are we to have our windows plain enough for a workhouse?"—some one might exclaim. No; for a summer room should be shaded and open to the air, while a winter room should be open to the sun. Verandahs should be used only in the summer months, and removed on the near approach of winter. We are in favour of balconies, especially when graced by a few flowering or creeping plants, and would suggest that in small houses, instead of the common cill to windows, a stone shelf should project about a foot, with light iron work round it. This would enable all who had a taste for flowers to place their pots without endangering the heads of those below. We are no friends to creepers against brickwork, knowing their destructive powers; yet we confess that Albert and Victoria villas become almost pleasing when covered by verdure. Who does not recollect the old Ivy House, in the Upper-street, Islington? The destruction of that house did more to bring Islington into London, than all the plastered houses built before its demolition.

Works of Art in Paris.

In Paris, the Exhibition of the works of living artists is fixed to open in the Palais National on the 15th of May. Here, as in so many other directions, the republicanism of a year ago has undergone a serious modification. That calenture of the national brain to which all impossible things seemed easy, has cooled down before the lessons of an instant experience. "Every man an artist, and to every man the first place in Art," being found not to work, as a principal, to the glory of French Art, has been formally ignored. A year ago Parnassus was open ground—like Icarie: now sentinels are again established on the pathways leading to immortality, to examine the credentials of candidates. Works of Art, are once more admitted to exhibition on the verdict of the jury.—but the artists themselves are constituency by whom that jury are directly elected. The new regulations prescribe a special jury for each annual exhibition. Every artist on sending in his work may deposit in an urn the names of the jurors of his choice. The urns will be three in number: one for Painters, Engravers, and lithographers—one for Sculptors and Engravers of medals—and one for Architects.—Every artist in the first of these categories may write fifteen names on his bulletin—in the second, nine—in the third, five. The urns will be opened by the Director of the Fine Arts in the presence of the President of the Academy of Fine Arts, the President of the Commission of Fine Arts, and the Director of the Museums. Out of their contents three special juries will be formed: the first consisting of twelve painters or amateurs, the two engravers, and the one lithographer, who shall have the relative majority in that section—the second, of the seven sculptors or amateurs and the two medal engravers similarly indicated—the third, of the five architects or amateurs. Each jury will be the judge in its own section; determining by the majority, and an equality of votes being a decision in favour of admission. Certain works are exempted from this ordeal—but the cases are those only which denote "foregone conclusions" of the highest kind. The privileges are those of recognised genius—such as members of the Institute, the grand prize-men of Rome, artists who have been decorated for their works, and medalists of the first and second classes. These are titles of art-nobility; and the works of such are to pass unquestioned on the strength of the old testimonial. The "hanging" (as well as the judging) is to be done by the jury—under the presidency of the Di-

rector of the Fine Arts. After the close of the Exhibition, all exhibitors will be summoned to an annual sitting, at which rewards of various degrees will be conferred. The organization is ingenious—and as republican as is compatible with the effecting of its objects.

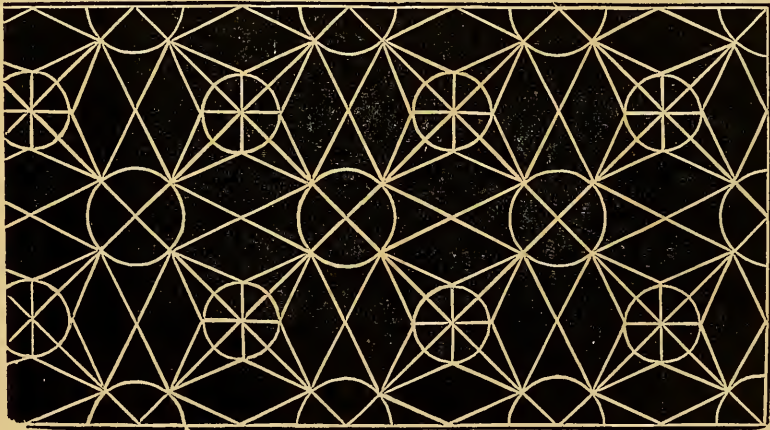
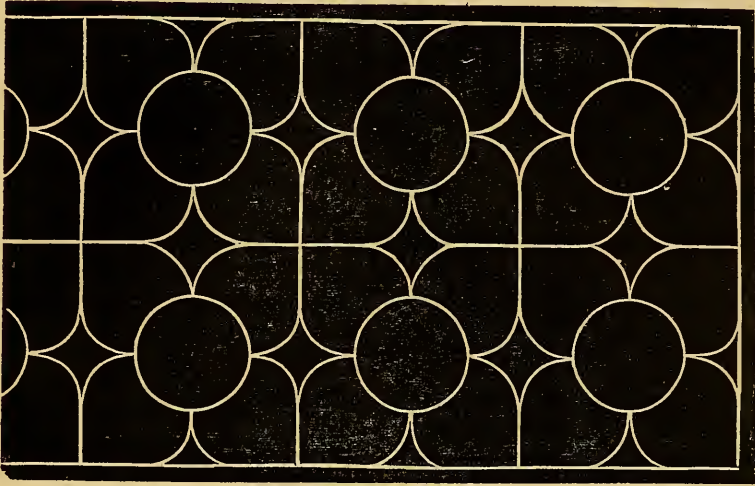
Manufactures and Decorations at the Society of Arts.

A LARGE number of persons assembled in the Society's rooms on Wednesday evening at the opening of the third annual exhibition of specimens of recent British manufacture and decorative art. Sir John Boileau took the chair, in the absence of the Duke of Buccleugh, who was expected, while the energetic secretary of the society, Mr. Scott Russell, read a report, congratulating the members on the important character of the present collection, and the progress of the society (it now numbers 569 subscribers), and entering into some particulars as to the award of prizes.

The exhibition is particularly rich in works in gold and silver, to which her Majesty, amongst others, has contributed.

At the suggestion of Prince Albert, prizes were offered for wood-carvings, executed by artisans who were not professional wood carvers, with the view of encouraging a home occupation. The result appears satisfactory as a commencement: the first prize was awarded to G. Cook, son of the gate-keeper, at Hyde-park-corner.

A *Bowling Saloon*, on the American principle, has been recently got up at Liverpool, in a very showy style, it appears; and with five bowling alleys, and, of course, 'a commodious bar,' and suitable lounges and refreshment-rooms, &c. "The entrance," says a Liverpool paper, "consists of a vestibule, enriched with windows of stained glass, and profusely decorated with ornaments in white and gold, and communicates with the interior by handsome folding-doors. The internal appearance on entering is extremely handsome and striking, the walls being divided into compartments, in each of which is a landscape, drawn in a masterly style by an artist of celebrity, and ornaments of *papier mâché* and gutta percha gilded are introduced in abundance, and with great skill and effect. The bowling-alleys have circular projections at the ends surmounted by statues. The saloon is fitted up in the richest style of splendour." The whole concern was designed and executed by Messrs. Furness and Kilpin.



TWO DESIGNS FOR COLOURED GLASS WINDOWS.



ROMAN HELMET, FROM THE ARCH OF CONSTANTINE.

Professor Cockerell's Lectures on Architecture.

THE Professor delivered another lecture at the Royal Academy, on Thursday, the 25th ult., on the two cardinal principles in design, namely, first, precedent or authority, and second, invention exercised by new elements. With regard to the first, he said that it was the great duty of institutions like the academy to direct attention to the models of antiquity, and to indicate the authors who were to be consulted. It was its office to stand, in the full conservative spirit, in opposition to all depreciation of tried experience. On a proper understanding of these models depends the true value of the precedent. The love of it must not, however, be allowed to hold entire possession of the architect, or it would easily degenerate into superstition. Two states of the mind, therefore were necessary, the one retrospective, the other prospective, and we were to dispense with neither one or the other: each had claims—each defects.

We might reflect that the intellectual man [was compounded of knowledge, stored up in his early days. The appetite was suited to the age. The time came when he repented of every idle hour, and when he had to employ the knowledge he might possess. He would become deeply sensible of the value of information, and would be impressed with a wholesome reverence for precedent, but feeling these, he must guard against the danger of superstition and pedantry, which might tend to the dogmatic belief in no other model than the particular one he set up for himself, or no other master than the one from whom he gained his assumed precepts. Some in the love of novelty might depreciate former things; but it was hardly possible for an artist of sensibility to contemplate, without emotion, the monuments of former art, such as so powerfully impressed the mind of Brunelleschi in the grand monuments of ancient Rome.

We must enter into the considerations of structure in our buildings, and turn peculiar requirements into peculiar advantages.

We must impress our works with a character peculiarly their own, and not afford the opportunity of a contrast, such as that between the old truth and beauty of the portraits of the old masters, and the portraits of our grandfathers.

On the other hand, the professor continued, we had to deal with the innovators in art, and these were of two kinds. We had those who professed have discovered some entirely new principle, or

made some new invention, and who argued with a certain shew of reason. Such theories might, or might not, be correct, but we were not able to get ourselves to understand and assent to them. The injustice to the authors of such theories could not be avoided, and they must be content, if able, to rank themselves with Socrates, and others who were before their age, and whose opinions sooner or later might prevail. Others there were who laboured to shew the defects in the present practice of the art, and what ought to have been avoided in this work or the other. But these gave us nothing in the place of what they condemned,—no stable principles,—but confessed that they must be left to time to unfold. It must of course be recollected that there were two parties to all inventions, namely those who originated, and those who received the invention, that was to say, the public. The elements of our art, indeed, were few, but were capable of a multitude of combinations.

The professor then, to illustrate the subject further, glanced at the progress of invention, as seen in some of the most important examples of architecture. Commencing with the trabeated, or post-and-beam system, he showed that this, whether amongst the Egyptians, the Greeks, the Druids, or other nations, continued for a long period to hold possession of the art. Variations of character were effected by variations of size, or by other means, as for example, sculptured decoration, and the arch known to the early Egyptians, and used at an early period by the Romans in works of utility, did not for centuries create any change in the decorative character of buildings. Instances of the importance of the arch in Roman architecture, were shewn in one of the sections of the temples at Béalbec, and in that of Venus at Rome. In the latter, the vault which formed the ceiling was 70 feet in span. Before alluding to the use of the arch in the Roman *thermæ*, he described the corresponding buildings of Greece, or *gymnasia*. He said, we must still hope for further enlightenment on the arrangement of these buildings, which, existing at such places as Hierapolis, and Alexandria Troas, it would be extremely interesting to find contemporary with Alexander. He gave a striking instance of the importance attached to *gymnasia*, and of their magnitude, in shewing that the gymnasium at Ephesus was one of three which existed in that city, and, by one of his clever comparative plans, that the building would cover a square space extending from the back of the Horse Guards up to the enclosure of the park. He also showed how Mr. Wilkins, who was the first to clear up the difficulties of the other commentators of Vitruvius, developed the plan of the building in accordance

with the description of the author. Passing on to the *therma*, he showed the vast extent of the baths of Caracella, which would cover a space equal to that enclosed by Pall Mall, St. James's-street, Piccadilly, and Regent-street. He pointed out the beautiful forms, and the variety in the plans of the different apartments, and the effective introduction of apsidal and circular forms, and showed the immense size of the *cella solaris*, the dome of which was second only to that of the Pantheon. He also spoke of the ingenuity in providing the necessary abutments for those vast vaults, by disposition of the walls of the different apartments.

Photogenic Drawing.

THE idea of photogenic drawing appears to have been originally suggested by the celebrated Wedgewood, who conceived the possibility of devising some mode of rendering the singular property—which has been long known to chemists—possessed by nitrate of silver of discolouring, or darkening, when exposed to the violet rays of light, subservient to the retention of the beautiful shadowy figures formed by means of the camera obscura.—Mr. Wedgewood communicated his conjectures in this respect to Sir Humphry Davy, and the two then engaged in a series of experiments (recorded in the Journal of the Royal Institution for 1802), which, however, terminated in failure from the inability they laboured under to restrain the further action of the light after the reflection had been produced, or, in other terms, so to arrest a continuous action as to prevent the same natural process which had formed the picture from also destroying it, by blackening the rest of the paper. M. Niepce, a French chemist, about the year 1814, next devoted some attention to this subject, and, after prosecuting his researches for several years alone, he formed the acquaintance of M. Daguerre, whose studies, it so happened, were directed to the same object. These two gentlemen then continued their experiments in concert, and philosophical acumen and perseverance were ultimately rewarded by their being enabled, in 1839, to announce the completed discovery of the Daguerreotype, and effectually to remove the chief cause of the unfavourable result of the previous efforts made by Mr. Wedgewood and Sir H. Davy.

The secret of the Daguerreotype process was kept until the month of July in the same year, when the French chamber of Deputies granted an annual pension of 6,000 francs to M. Daguerre, and one of 4,000 francs to the son of M. Niepce,

with a reversion of half the respective amounts to their wives, in consideration of their making public the details of so important an addition to the powers of science.

But, as it has been subsequently proved, the conjoint discoveries made by the Frenchmen, M. Daguerre and M. Niepce, were only contemporaneous with those of a countryman of our own, Mr. Fox Talbot. Thus by one of those singular coincidences which sometimes produce the association of the same leading idea at the same time in different minds, it now appears that the three gentlemen above named were each pursuing, unconsciously to each other, a course of experiments almost identical, and, yet more surprising, that their respective researches were simultaneously rewarded by similar results. One obvious difference, however, between the thus contemporaneously-discovered process of MM. Daguerre and Niepce, and that of Mr. Talbot, was that the former had metal plates on which to receive impressions, whereas the latter used prepared paper.

A review of these circumstances demonstrates the fact that it was known that an image or picture might be produced by the action of light on nitrate of silver more than a quarter of a century since by Wedgewood and Davy, but that the prime difficulty was to fix the image, and in this consists the value of the discovery made by Daguerre, Niepce, and Talbot.

To this mere outline of the history of photography we shall only add that it has been much indebted to the subsequent researches of Sir J. Herschel, Fyfe, Hunt, Penton, Donne, Draper, Baccquerell, Redman, &c., and proceed at once to make our readers acquainted with the principal modes of practising the science itself, according to the different processes recommended by Talbot and Daguerre. We shall best satisfy the curiosity of such of our readers who may hitherto have merely had their attention excited in this respect by availing ourselves of the opportunity of abridging, and extracting from, the directions contained in an admirable little manual now before us.

We will, next week, first describe the Talbot "art and mystery" of photogenic drawing on paper (the simplest form of photography); then the Daguerreotype process of obtaining pictures on metal plates; and, lastly, the beautiful process of the calotype.

At the weekly meeting of the Society of Antiquaries on Thursday last, an announcement was made from the chair that will give general satisfaction. It was stated that Viscount Mahon had resolved on giving an annual summary of incidents, and an obituary notice of distinguished fellows.

An Illustrated Glossary of Technical Terms used in Architectural and Exterior Decoration, &c.

(Continued from page 198.)

LABEL. In architecture, the drip or hood-moulding of an arch, when it is returned square.

LABYRINTH. A building full of numerous and intricate passages. The most celebrated labyrinth of antiquity was that of Egypt, which was situated above Lake Mæris, near Crocodilopolis, or Arsinoë, in the district now called Fium. The builder of it, or the use to which it was applied are unknown.

LABYRINTH FRET. A very ancient ornament, in form of a labyrinth, with numerous turnings and involutions.

LACUNAR. Panels or coffers in ceilings or in the soffits of cornices; the flat roof of a room; a roof when vaulted was termed camera.

LACONICUM. One of the apartments of the ancient baths, so called from its having been first used in Laconia.

LADY CHAPEL. The name given to a small chapel generally found in ancient cathedrals, behind the screen of the high altar. It is usually dedicated to the Virgin Mary, called by the Catholics Our Lady.

LANTERN. In Gothic architecture, a turret, placed above a building, and pierced with windows. Beautiful specimens of the ornamented open lantern are preserved in the cathedrals of Peterboro', and Ely. Lanterns of open stone-work, erected on lofty church towers, of a more recent date than the Anglo-Norman era, are supposed by some writers to have been intended to hold lights in aid of the traveller. The lantern of the steeple of Boston church, Lincolnshire, Mr. Britton says, was no doubt, intended to be lighted at night for a sea-mark. The church of All Saints, at York, has a lantern much resembling it, and tradition tells us that anciently a large lamp hung in it, which was lighted in the night-time as a mark for travellers to aim at in their passage over the immense forest of Galtres to this city. The name of lantern is also given to a square cage of carpentry placed over the ridge of a corridor or gallery, between two rows of shops, to give light.

LARARIUM. A kind of domestic chapel in the

Roman houses, dedicated to the worship of their household gods.

LATH BRICKS. A particular sort of brick, made in some parts of England, of twenty-two inches in length, and six inches broad. They are used for drying malt, for which they are well adapted, and retain heat a long time.

LATTICE. A reticulated window, made of laths or slips of iron, separated by glass panes, and only



used where air, rather than light is to be admitted, as in cellars and dairies.

LAURA. A collection of little cells, or monkish habitations contiguous to each other, in which in ancient times hermits lived together in a wilderness. Of the most celebrated Lauras of antiquity were that of St. Euthymius, four or five leagues from Jerusalem; the Laura of St. Saba, near the brook Cedron; and that of the Towers, near Jordan.

LAYER. A stratum or row, one laid upon another: applied to stones or bricks, and synonymous with courses.

LAZARETTO. A hospital for the reception of persons sick of contagious diseases, the wards of which are quite isolated.

LEAN-TO. The name given to a small building whose side-walls and roof project from the wall of a larger building.

LEDGERS. The horizontal pieces fastened to the standard poles or timbers of scaffolding raised round buildings during their erection; those which rest upon the ledgers are called putlogs, and on these the boards for working upon are laid.

LEGS (of an Hyperbola). The two parts on each side the vertex.

(To be continued.)

Rewards for Art-Manufactures.

WE insert the following remarks which were addressed to the *Builder*, as a proof of the system which is too often adopted, of rewarding wealthy manufacturers for their productions, instead of the talented workmen employed in their invention and execution. At the exhibition of recent British manufactures and decorative art, at the house of the Society of Arts, there is a copy of the famous shield modelled by Pitts, and the catalogue states that a prize has been awarded to Messrs. Hunt and Roskill for the exhibition of this shield of Æneas. It would be interesting to the public to know on what ground this prize is awarded; is it for the excellence of the electro-type deposit, or simply for the exhibition of the work of another? I presume the latter,—as numerous wealthy manufacturers and dealers figure prominently in the list as exhibitors, while little is said or known of the artists whose works they parade. The wording of the catalogue with regard to this shield is so ambiguous that many persons may suppose Pitts never completed the same; and it is desirable that the public should know that he did so. Pitts after modelling this shield, executed a cast, finely finished, in plaster of Paris, and this cast was seen by many of the Royal Academicians, and most members of the Graphic Society,—and, if my memory do not fail me, it was exhibited at Somerset House. After the completion of the plaster shield, he commenced the execution of a copy in silver, after the old manner of working silver—viz., by taking a cast, in pitch and resin, of one of the compartments of the shield, and laying over it a sheet of silver, and by continual hard pressure and hammering bringing the silver to the form of the pitchy model. The work was then finished by the punch and graver, and such tools as are employed in silver-chasing. He had completed several of these plates, when, in a fit of bodily and mental anguish and despair, aggravated by poverty staring him in the face, he terminated his existence. He left behind him, besides this shield, another, called by him the shield of Hercules; and it would be curious to know what sum his poor widow and children received for these models; also what went with his beautiful group—the Pleiades adorning Night—and some other of his works. The shield of Æneas is the finest composition in the present exhibition: and it is melancholy to think that wealthy exhibitors are receiving a testimonial for the work, while the poor artist, whose poetical genius entered into the spirit of Virgil, and gave form to this grand work, lies forgotten in his grave.

The Chronotypist.

PLANS are required for the erection of a corn exchange and other buildings in the town of Northampton, at an outlay not exceeding 8,000*l.*—St. Mary Redcliffe church, Bristol, is now kept open for visitors the whole day, free of any fee.—A proposition has been laid before the Senate of the United States to construct a telegraphic communication through the Atlantic Ocean, from the coast of Newfoundland to the nearest cape of Ireland.—A correspondent, writing from Naples under date of the 1st ult., says—“Within the last month Versuvius has been singularly active, and two large streams of lava issued forth, taking the direction of Boscotrecase and Ottalajano. After causing much fear and injury, the mouths whence these issued, closed again. Within a day or two, however, the mountain has become particularly active, and a large stream of lava is coming down the east side, in the direction of the villa of Prince Ottalajano, which it threatens to destroy, having already entered the grounds.”—At a recent meeting of the Royal Society of Edinburgh, Prof. Smyth gave a short account of an electrical clock fitted with a new apparatus, which may enable an observer to divide a second into a hundred parts in taking the transit of a star. It is the invention of an officer in the American navy, and consists of a dial plate (attached to the clock), with a scale in which a minute of time occupies a space of nearly an inch. On this scale the moment of transit is marked instantaneously by touching a key. When two towns, however distant, are connected by the wires of the telegraph, their difference of longitude may be found with the aid of this invention, by two observers taking transits of the same stars at the two places, and with great accuracy. Prof. Smyth thinks that the apparatus promises to be very useful, though it may not probably realize all the advantages anticipated by the inventor.—We have to announce the death of Mr. David Robinson, at Wickham, Hants—whither he had gone for the benefit of his health. Though little known by name, Mr. Robinson was for many years a contributor to the leading magazines: his writings in which often displayed great power and excited much attention. Mr. Robinson was however, one of those victims with which the bye places of literature abound,—for want of some institution within the republic of letters itself on which the sick and the destitute might have a citizen's claim. After years of hardly requited toil, his latter days

were tortured by an amount of distress and destitution such as seldom falls to the lot even of the suffering class to which he belonged.—He has left a wife and aged mother to an inheritance of his sufferings aggravated by the memory of his loss.—There is a great scheme on foot for an extensive excavation of the ancient remains of Assyria, at Babylon as well as at Nineveh, in concert with the Sultan, who is himself forming a National Museum. After having acquired for our country at a nearly nominal expenditure a collection of such rare treasures as the Nineveh Marbles, valued at a price varying from 40,000*l.*, to 50,000*l.*, our Government has granted the insignificant sum of 1,500*l.* for further researches. This is not in the spirit with which Mr. Layard's book has been received by the public: for a second edition of 2,000 copies has been sold to the trade before they were ready for issue.

Institute of British Architects.—On March the 5th, T. Bellamy, V.P. in the chair.—R. L. Sibley, Esq. was elected an Associate.—A paper was read 'On the probable Form and Design of the Temple of Solomon at Jerusalem,' by E. Panson, Jun. Mr. Panson alluded to the numerous and unsatisfactory conclusions of the various authors who have written on this subject or attempted to make designs for the restoration of the building in question; and also the circumstance of its still occupying the attention of the curious, has no less than eighteen works on the subject have been recently advertised in a German catalogue. He describes his restoration as partaking more of a Tyro-Egyptian style of architecture than that of Greece,—as been suggested by the late Mr. Wilkins, in his Preface to 'The Antiquities of Magna Græcia.' In the discussion which ensued it was suggested that the discoveries at Nineveh might eventually throw much light on the subject.

SOCIETY MEETINGS FOR THE PRESENT WEEK.

- MON.—Geographical, half past 8, P.M.—Royal Academy, 8.—Sculpture.
- TUES.—Zoological, 9—Mr. Huxley, R.N., 'On the Animals of Trigonion.'—Mr. G. R. Gray 'On a New Species of Glareola.'—Mr. A. White 'On the Species of Fish known to Ancients,' &c.—Institution of Civil Engineers, 8—Royal Institution, half-past 8—Dr. Carpenter 'On Palæontology.'
- WEDS.—Literary Fund, 3—College of Physicians, 4—Lumleian.
- THURS.—Antiquaries, 8—Royal, half-past 8—Statistical, 3—General Anniversary.—Royal Institution, half past 8—Dr. Gull 'On Physiology of Digestion.'—Royal Academy, 8—Painting.
- FRI.—Royal Institution, half-past 8—Prof. Cowper 'On the Mechanism of Telescopes.'—College of Physicians, 4—Lumleian.
- SAT.—Royal Institution, half-past 8—Prof. Brande 'On Chemical Philosophy.'—Asiatic, 2.

To Correspondents, &c.

On April the 1st, will be published, Part I,
Price One Shilling, of The
**SELF-INSTRUCTING ORNAMENTAL
DRAWING BOOK,**
WITH DIAGRAMS,
Showing the position of the hand in describing the primary ornamental curves, &c., and general rules for Drawing Ornamental Foliage, with a letter-press description.
To be continued monthly, in a neat wrapper.
Office, 17, Holywell-street, Strand.

CONTENTS OF PART 2 OF

The Book of Ornamental and Early English Alphabets,

Published on Thursday last, March 1st.

Alphabet of Flourished Cyphers, commencing from A. A. to A. Z. (This Alphabet will be continued monthly, till the whole is completed, down to Z. Z.)

Two Alphabets of the Fifteenth Century.

Initial Letters, A. and U. Also an Ornamental Border-piece, Fifteenth Century.

To be printed in colours, and stitched in a neat wrapper, price 6*d.* To be continued monthly.
Office, 17, Holywell-street, Strand.

"*Samuel Burnett.*"—*Accept our thanks for the sketch sent.*

"*J. Karby.*"—*Address to No. 145, Praed-st. Paddington.*

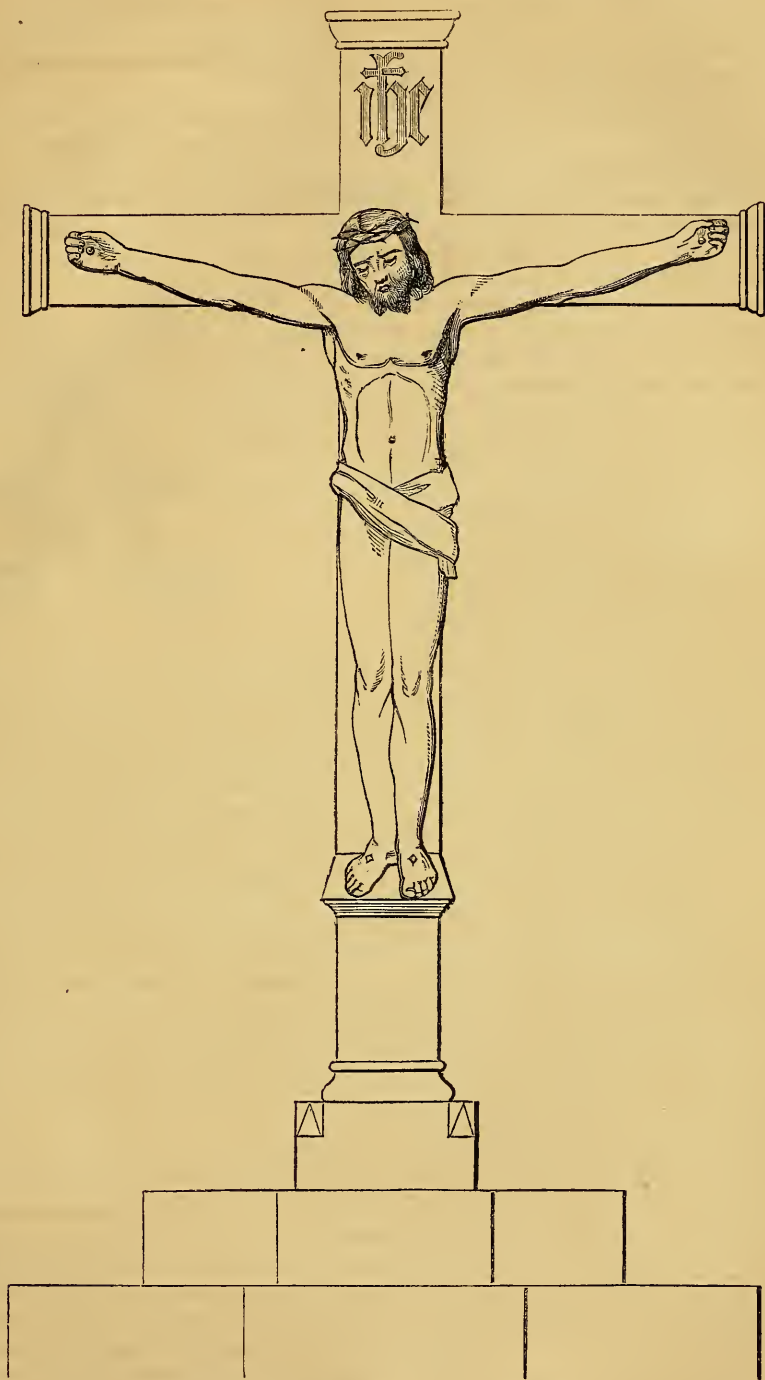
QUERY.

Can any of our readers inform us how Stearine is applied to produce a shining appearance on plaster casts?

Communications, Books for Review, Specimens of Inventions, &c., to be addressed to "the Editor of the DECORATOR'S ASSISTANT, 17 Holywell-street, Strand, London."—We shall at all times be extremely obliged to such of our provincial readers as will favor us with local information connected with lectures delivered at Mechanics' Institutions, the fine arts, science, &c.

****Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.*

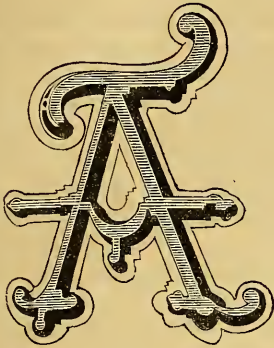
****Parts 1 and 2 are re-printed, and will in future be charged at 10*d.* each.*



AN ORIGINAL DESIGN FOR AN ALTAR CRUCIFIX.

Heraldic Errors

ON THE NEW HOUSES OF PARLIAMENT.



ALTHOUGH royal commissioners have been appointed, and premiums offered and awarded for the most perfect designs for decorating the interior of the new Houses of Parliament, it seems strange, "passing strange," that the heraldic adornments of the exterior should have been left to those who were evidently incompetent to the undertaking; and, although many of the inaccuracies have been pointed out in the proper quarter, no attempt has been made to correct them, even as far as it were possible to do so; and how these egregious errors have been explained away and suffered to remain, is a complete mystery. It seems that the royal commissioners had no control over the decorations of the exterior, and have, perhaps, no power to correct its errors.

Every gentleman is not a herald; and if those intrusted with the selection of the heraldic decorations of the exterior were not sufficiently acquainted with the science of heraldry to judge accurately of the correctness of these designs, the College of Arms was certainly the legitimate source to obtain the information; and the heralds would have furnished the necessary designs with scientific accuracy and proper arrangement, instead of the sad jumble of hieroglyphical, nondescript, ill-formed devices with which many of the shields, surmounted with royal diadems (or what are meant to represent such), are charged, and

which would even disgrace the leaden dump of a school-boy, rudely designed from a still ruder imagination.

Architecture, History, and Heraldry are so nearly allied, and so closely connected, that it is as necessary to preserve the accuracy of the one as the other; for want of this systematic arrangement the two latter might easily contradict each other,—and, if the strange devices upon the exterior of the new Houses of Parliament be called heraldry, it would be equally correct to jumble the different orders of architecture together, with other whimsical fancies that could not be traced to any of them, and call the heterogeneous mass an architectural building. and it certainly would have been more consistent to have selected known devices, however ridiculous—placing them on shields, calling it heraldry—than the nondescript charges which appear on many of them.

Writers who have attempted to prove the very great antiquity of heraldry, have failed in the attempt; and, although Holy Writ has been quoted in support of it, the standards mentioned in the Book of Numbers, which the Rabbis ventured to describe, seem merely to have been taken from the allegorical description by which Jacob, on his deathbed, characterised the families of his children; giving to Judah a lion—Issachar an ass—Benjamin a wolf—and the like. It has also been asserted that Noah gave arms to his sons; other writers have assigned the origin of arms to the Egyptians; but, amid these conflicting opinions, one thing is certain, that much of our heraldry came in with the Conquest, and was not generally borne, or systematically organized, till the first Crusade in the time of our first Richard, in the twelfth century; and, though heraldry may be said to have originated in the earliest feudal times, it only gradually arose into a complete system, under the management of officers of arms, about the time of Henry I.; and the heralds did not act in a collegiate capacity till the reign of Edward VI.—nearly four centuries after the first Crusade.

In England the honourable and gentlemanly science of heraldry never has attained to the rank it held in other countries. The days of chivalry are past—the wager of battle, single combat, the joust or tournament, and other

martial exercises of arms, have long since been laid aside, and knight errantry forgotten, or remembered only in romance or ancient legends; but, although this has been the case, will it be said that heraldry is no longer to be of any consideration in this country—a mere bauble only with which triflers can alone be pleased; and that it is now unnecessary to hand down to posterity the heroic deeds of a Nelson or a Wellington, upon their shields of arms, to stimulate others to future acts of bravery, recording such acts in history only, and to be borne no longer upon the shield as the proud emblem of heroism to after ages? But if heraldry is thus to be set at nought by modern architects, and any kind of hieroglyphic or ridiculous device is to be placed on shields merely for the sake of ornament, rather than the proud trophies of heroic actions, there will very soon be nothing left to record to the eye what may soon be forgotten by the heart, and kings, princes, nobles, and the heroes who have fought our battles by sea and land, and bled in defence of their country, will have no exterior trophy left to show their merit, and define their dignities above the level of ordinary men who can boast neither the one nor the other—a kind of levelling system which the destruction of heraldry would go far—very far indeed—to accomplish

Having said thus much upon the science of heraldry, and the contempt it is likely to be brought into by its subserviency to, or rather degradation in, modern architecture, we will next proceed to the more immediate object of this address, by pointing out the many errors and inaccuracies which presented themselves upon a mere cursory view of the exterior of the building, and which it is feared would have been much more numerous and extensive had better opportunities been afforded for observation.

Importance of the Study of Design.

FREEMASONS OF THE CHURCH.

At a meeting of this institution held on the 13th of February, at 49, Great Marlborough-street, the Rev. G. Pocock, L.L.B., V.P., in the chair, a valuable paper was read by Mr.

W. Smith Williams, “On the importance of a knowledge and observance of the principles of Art by Designers,” a subject of the highest importance to a civilized community, but peculiarly interesting to our readers. The lecturer in accordance with the scientific tendency of the body he was addressing, commenced by an examination of those principles upon which depends the success of architectural endeavours, and gradually descended to a review of the sister arts in their intricate ramifications at the present day, observing that an accurate imitation of style is often mistaken for observance of the principles of Art; but style is only a special part of a general comprehensive whole. By studying the principles of Greek or Christian architecture and ornament, we may imitate these styles to admiration; but something more is required in order to invent. It then becomes necessary to investigate, understand, and act upon those broad fundamental principles which form the basis of all Art, and apply equally to every style, past, present, or to come; for without a due observance of principles, ingenuity becomes perverted, invention runs wild, and then the types of past ages must be the moulds in which alone the ever active mind of genius can pour forth its ideas with the certainty of their assuming shapes of beauty and dignity.

Two distinct movements in opposite directions are now observed in the world of Art:—the one is retrograde, the other progressive. Upon both these movements Mr. Williams offered some lucid observations which we should like to give entire, but we must content ourselves with following him to a portion of his subject which it is indispensable for us to lay before our readers in a condensed form.

We will then pass to the department of Ornamental Art, in which there is most need of principles to guide inventive talent and adaptive ingenuity. “The value of ornament consists in its being used to add beauty to common things, and to relieve the blankness of bare walls, floors, and ceilings. Since the Puritans banished colours from English churches until the present time Decorative Art has performed perpetual penance in a sheet of whitewash, and our national ecclesiastical architecture has been mutilated and deformed, not only by tasteless churchwardens, but by accomplished

architects, who, in respect of English architecture, were as ignorant as their employers. But let us not forget what we owe to Wren; nor that to his discerning encouragement we owe the development of the genius of the greatest ornamentist this country has seen, Grinling Gibbons, whose wood-carvings have been so well appreciated and emulated in our own day by Mr. W. G. Rogers.

"In entering upon the wide field of ornament, it becomes necessary to draw a distinct line of demarcation between the several branches of ornamental design; namely, the ornamentation of architecture, of vessels, utensils, and implements, and of textile fabrics. Each of these is governed by different principles, but in all the practice of illusory imitation is alike objectionable. True Art repudiates shams. The great blank space of raw white plaster that shocks the sense as well as the taste in almost every room we enter, from the poor man's garret to the gilded saloons of the wealthy, is a relic of puritanical aversion to colour, and the drab hues that make dreary our parlours and dining-rooms are only a Quakerish compromise."

(To be continued.)

The Book of Ornamental and Early English Alphabets.

WE consider it necessary to make a few remarks to some of our subscribers who have written to us, complaining of the use of the Alphabets in the above work, which had appeared previously in the "DECORATOR'S ASSISTANT." We were induced to publish the Alphabets in the form above mentioned by numerous applications from subscribers, who were desirous of having them in a separate form, so that they could be easily carried about from place to place, as their professional pursuits might require. The numbers of the DECORATOR'S ASSISTANT, when bound in volumes, were found to be too cumbersome for that purpose, and injury often occurred to those portions containing the alphabets required. Another class were also anxious to possess themselves of the Alphabets, who did not care about the general information contained in the work. However, in future, all difficulty as to the originality of the work will cease; and we may say that it will be henceforth of an original character, principally through the kindness of a gentleman placing at our disposal some four or five hundred alphabets, initial letters, notarial marks, water marks, autographs, &c., principally of the twelfth, thirteenth, and fourteenth centuries,

which have been collected from public and private manuscripts, and not having been previously published, it will form one of the most unique works of the present day, and its utility undeniable.—The book is published monthly in a cheap form, so as to bring it within the reach of the class whom we have the honour to address, and the sincere desire to serve—the workman. We refer the reader to an advertisement in our last column.

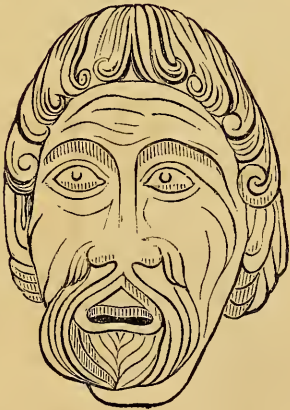
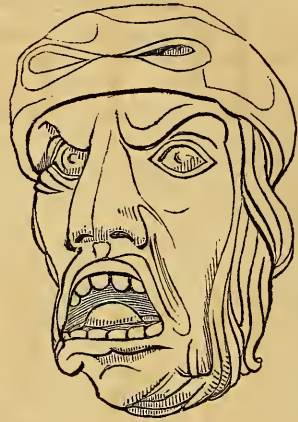
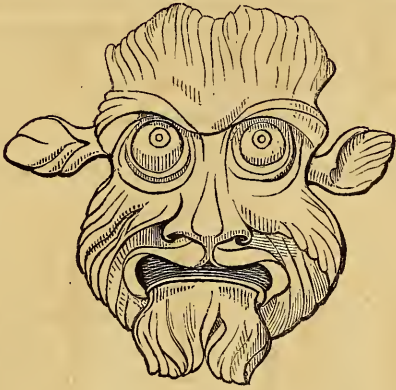
On Water-colours for Illuminating Prints, &c.

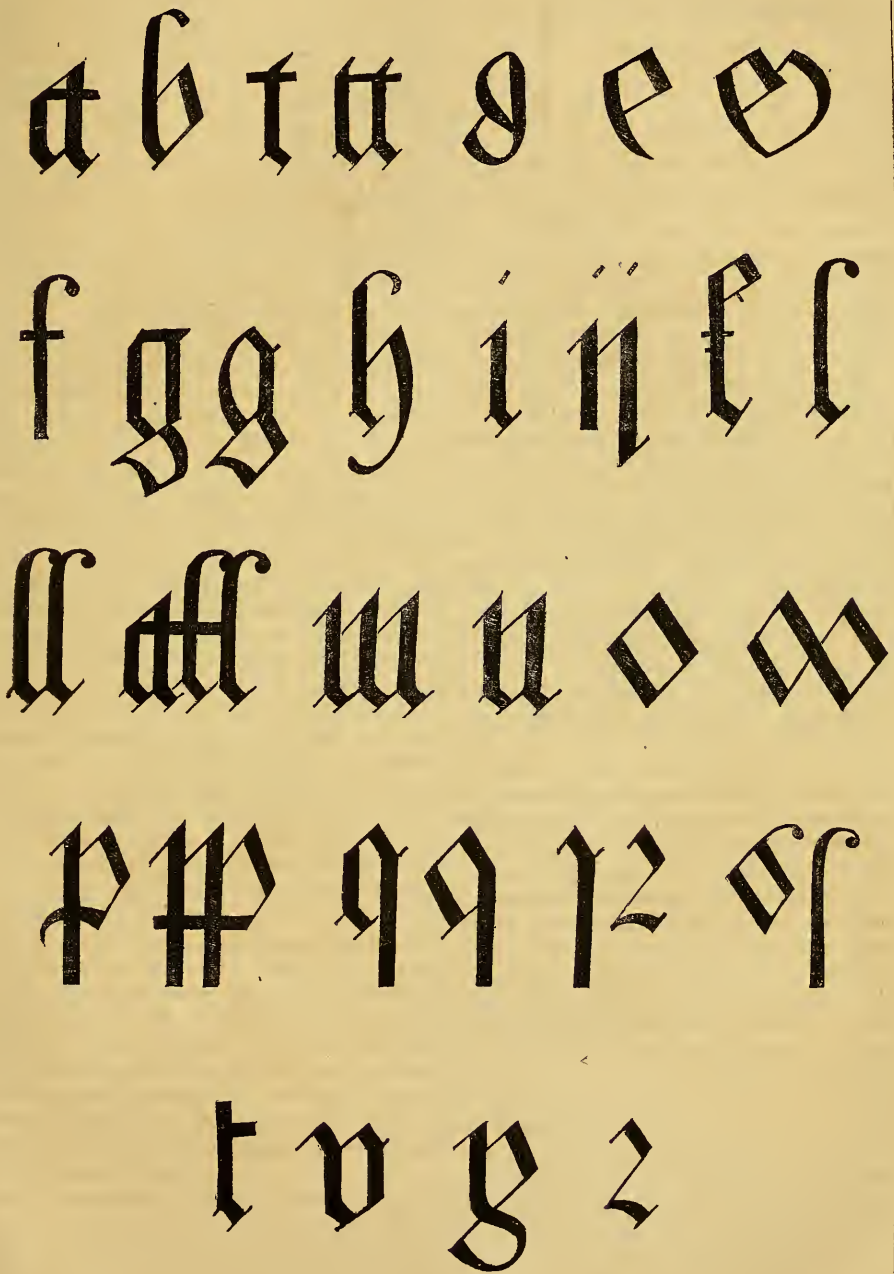
To make a good White for the Ground, for Water or Oil-Colours, proper in Miniature.

TAKE a pound of gloves' clippings, put them to steep in water, and then boiling them in a kettle with twelve quarts of water till it sinks to two, strain it through a linen cloth into a new earthen pan. This is called glove-glue, or size; and to know whether it be strong enough, it is only necessary when cold to try whether it be strong and firm under the hand.

The glue being made, take white chalk, and reducing it to powder, and melting the glue, while it is hot, put such a quantity of white in it as to make it as thick as pap; then leave it to steep for a quarter of an hour, and then stir it with a bristle brush. Then take some of this white, put more glue to it in order to make it brighter, for the first or second layer: this must be applied by beating with the end of a brush. Mind you let every layer dry well before you put on another. If it is wood you work on, you must put on a dozen; but if it is thick paper, six or seven are sufficient.—This done, take water, and dipping a soft brush in it, and draining it with your fingers, rub the work with it, in order to render it the smoother. When your brush is full of white, you must wash it again, and also change the water when it is too white. You may likewise sometimes make use of a wet linen rag instead of a brush. Your work being very even, let it dry, and when it is so, rub it with shave grass, or a bit of new linen cloth, to make it soft and free.

Crockford's Club-house, St. James's-street, is being scraped down externally, and is about to be decorated internally, for (as we are told) a Militia Club. A correspondent remarks on the improvement to the front of this building, which has several good qualities, that might be made by the addition of a portico or porch. The suggestion is well worth the consideration of those concerned in the building.





Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

LECTURE I.

(Continued from page 197.)

"IMITATION," says Coleridge "is the mesothesis of Likeness and Difference. The difference is as essential to it as the likeness; for without the difference it would be copy or fac-simile. But, to borrow a term from astronomy it is a liberating mesothesis: for it may verge to likeness as in painting, or more to difference as in sculpture."

It is of the utmost importance, however, that we should come to something like a clear understanding of this difference between the Painting and Nature, as from mistakes on this point have proceeded all the varieties of mannerism that have in every age sprung up like weeds in the fair domain of Art, and not seldom with their rank luxuriance overrun its whole extent. Every fault arising from indolence, from inability, or from conceit, may be sheltered, as it has been sheltered, under the principle that the object of Painting is not to deceive. Defective colouring, mannered forms, impudent, and tasteless bravura of execution, as well as servile imitation of that which is the easiest to copy, the immaturity of early Art.

Perhaps the best safeguard against mistake on this subject will lie in our perception that the Art of Painting is *in no respect*, except in what relates to its mechanical instruments, a human invention, but the result solely of the discovery and application of those laws by which Nature addresses herself to the mind and heart through the eye, and that there is nothing really excellent in Art that is not strictly the result of the artist's obedience to the laws of Nature, and not because he has willed it to be excellent; just as in morals perfection consists in obedience to laws which no man ever had the power to make.

Now deception, excepting with extraneous assistance, or but for a moment, is impossible. One instant's close examination of a wax figure which we have just before believed to be alive shows us to what an infinite distance it is removed from Nature. And yet, such is the effect of its approach to life, that even after we know what is, we feel as much as ever its want of the power to move, and which we never miss in a fine statue. In all I have said, therefore, of deception of the eye, I have only meant the deception of a moment or at a distance,

for nature allows of no copies that will bear continued or close inspection: And yet while she has placed this beyond the reach of human hands, she has intrusted Art with a peculiar mission—the power, as I have said, of doing something for the world which she herself refuses to do. How many of her most exquisite forms, graces and movements—how many of her most beautiful combinations of colours, of lights, and shadows that are

"—instant seen and instant gone—"

does she not get the painter to transfix for the delight of ages! And indeed he is honoured with another, and often an higher task, that of leading us to a perception of many of her latent beauties, and of many of her appearances which the unassisted eye might not recognize as beauties but for the direction of the pencil. These considerations, alone, are enough to show that Art has a place assigned to it in the great scheme of beneficence by which man is allowed to be the instrument of adding to his sources of innocent enjoyment. "Painting and Sculpture," says Richardson, "are not necessary to our being; brutes and savage men subsist without them; but to our happiness as rational creatures they are absolutely so."

The reasoning of Lessing against the fitness of momentary expressions for Art, seems based on the inference that pictures should deceive. "All appearances," he tells us, "of Nature which, in their actual state, are but of an instant's duration—all such appearances, be they agreeable or otherwise, acquire through the prolonged existence conferred on them by Art, a character so contrary to Nature, that at every successive view we take of them, their expression becomes weaker, till at length we turn from the contemplation in weariness and disgust. La Mettrie, who had his portrait painted and engraved in the character of Democritus, laughs only on the first view. Look at him again, and the philosopher is converted into a buffoon, and his laugh into a grimace. Thus it is likewise with the expression of pain. The agony which is so great as to extort a shriek either soon abates in violence or it must destroy the unhappy sufferer. Where torture so far overcomes the enduring fortitude of a man's nature as to make him scream, it is never for any continued space of time; and thus, the apparent perpetuity expressed in the representation of Art would only serve to give to his screams the effect of womanish weakness or childish impatience."

Lessing argues in this way to show why the sculptor of the Laocoon has not chosen to make the victim bellow with pain, as in the description of his sufferings by Virgil. The attitudes of the entire group, however, are those but of an instant's

duration; and therefore, on the principle urged by the critic against a stronger expression, as inadmissible as if the sculptor had made the victim appear to shriek with extreme agony. The displeasing effect of a laughing portrait, to which Lessing alludes, may be otherwise accounted for. We all feel how disagreeable an unmeaning laugh is in Nature, and in a portrait unconnected with story or incident, a laugh is for this reason unpleasant; and the more so, if as probably in this instance, the face look at us. It is clear that Lessing alludes was insensible, or blinded by his theory, to the privilege which Art, when it does not pretend to be Nature, possessing of perpetuating motion,—a power as undeniable as it is most evidently inexplicable. At the bidding of Michel Angeolo life bursts from the grave, and its tenant rise, fall, or struggle with the fiends who drag them down; and on the canvases of Wilson or Gaspar Poussin clouds open, lightnings flash, and the limbs of trees are shivered,—and we recur again and again to the contemplation of images of terror and grandeur that impressed, as they do us, past generations and shall still impress those to come; and so far from “their expression becoming weaker at every successive view,” it grows, in reality, stronger and stronger; for it is among the most remarkable qualities of every work of genius that it gains on us with time, while that which is merely specious strikes most at first, and never again with the same effect.

(To be Continued.)

Photogenic Drawing.

(Continued from page 207.)

WE now redeem our promise of laying before our readers the art and mystery of photogenic drawing, as practised by Daguerre and Talbot, as also a clear elucidation of the beautiful calotype process, in the hope that a study of the same may not only tend to amuse, but by possibility to develop still farther the wonders and capabilities of the art.

Preparatory Apparatus for Photogenic Drawing.—A few frames of wood, (similar to those used for the common slates), rather smaller than the sheets of paper on which the drawings are to be made, two or three soft camel-hair brushes, some sheets of white blotting paper, glasses for holding the photogenic solutions, and a glass stirring-rod.

Photogenic Solutions or Washes.—Dissolve a quarter of an ounce of chrySTALLIZED nitrate of silver in two ounces of water, and forty grains of common salt, or muriate of ammonia, also in two ounces of water.

Selection of the Paper.—The best paper for photogenic drawing is that termed *blue-wove*, carefully selecting those sheets which are free from spots and uneven texture, such defects being easily ascertained by examining the sheets before a lamp or other strong light.

Preparation of the Paper.—First, slightly damp the paper by placing it, for a short time, between the previously wetted blotting-paper; then carefully paste a sheet on one of the wooden frames, and set it aside until the paper is perfectly dried, when, with the camel's-hair brush, it is to be washed over with the solution of nitrate of silver, observing, however, to pass the brush in a uniform direction over the sheet, removing it as seldom as possible, and avoiding the outward edge of the paper (which should not be moistened) pasted to the frame; set the paper aside as before in a dark place, until it is once more dry, and then use the solution of muriate of soda, or ammonia, in the same manner as the first applied solution of silver. After this, cut the paper, when dry, out of the frame, and it may be preserved, in a condition suitable for use, a considerable time if kept as much as possible from the light and the consequent action of the atmosphere.

Photogenic Drawing Apparatus.—These consist simply of two pieces of plate-glass, the size or somewhat larger than that of the intended drawing, either separate or fixed in a hinged frame, so contrived that the two plates can be compressed together by a screw or weight, and a thin deal board covered with two or three thin folds of flannel.

Objects to be drawn.—The smallest objects, either natural or artificial—such as plants, leaves, flowers, mosses, wings of insects, prints, drawings, lace, &c.—can be easily copied on to photogenic paper, provided they can be flattened without receiving any injury.

Mode of Drawing.—Place a sheet of the paper on one of the pieces of plate-glass, the prepared side (easily to be known by a previously affixed mark) being upwards. Next place the object to be drawn on the paper so as to face it, and then compress the two together by means of the other piece of plate-glass. This done, expose the whole to the light, the object of which you desire an impression being upwards.

Time Occupied in Producing a Copy.—This mainly depends upon the texture of the paper and the state of the weather; but ten minutes in bright sunshine, and half an hour in a clear day generally suffice. By gently sliding the upper glass partially off, without disturbing the position of the drawing, and adroitly raising the part uncovered by the glass, you can ascertain whether a complete impression has been made; if the copy is not sufficiently distinct, replace the glass, and expose it some time longer to the action of the light.

Fixing the Photogenic Drawing.—Directly an impression has been obtained, wash it in clear water, and then partially dry it between two folds of blotting paper. Next pour into a flat dish, sufficiently large to contain the drawing, a previously prepared solution, composed of one ounce of soda dissolved in a pint of water. Soak the drawing in this solution for three or four minutes, and afterwards well wash it in separate portions of water till the water running from it is *tasteless*. This done, the picture is *fixed*, and, having been dried, may be exposed to the light without sustaining any injury.

To Copy Raised Objects.—A correct impression of objects that are not flat, such as leaves, butterflies, and so on, may be obtained by the process above described, interposing a board covered with flannel between the lower glass and the prepared paper (slightly damped), by which means the object will be gently imbedded in the sensitive paper.

Negative and Positive Photographs.—The first impression of an object, a print for example, will have contrary "lights and shades" to its original, because the solar rays pass more readily through the light part of the object, and thus produce shades on the paper, than through the thick or opaque parts, which consequently transfer little or no impression. These reverse shaded impressions are termed *negative* ones, in contradistinction to those which have similar lights and shades as the original, and are, therefore, called *positive* photographs.

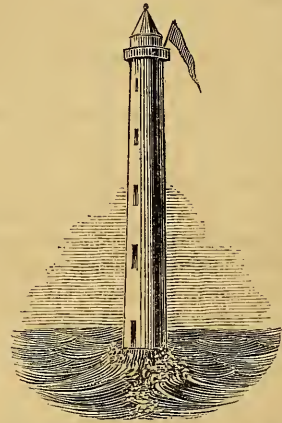
By substituting, however, the negative copy for the original, and then submitting it to the same process as was used in its production, any number of positive copies may be obtained from that one negative impression, because as will be readily perceived, the shades are again reversed, and a *fac simile* of the original thus obtained.

WE learn with pleasure that Lord John Russell has appointed a son of the late unfortunate artist, Mr. Haydon, to a clerkship in the treasury.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 208.)

LIGHT-HOUSE. A high building, on the top of which lights are placed to guide ships at sea. These erections were called by the Saxons becons or beacons, originally signifying signals, and serving either to prevent shipwrecks, or to give notice of invasions. For the latter purpose, the green flame and the fire cross were peculiarly adapted. The light-house is generally erected upon a cape or promontory on the sea-coast, or upon a rock in the



sea. Lamp-lights are on many accounts preferable to coal-fires or candles; and the effect of these may be increased by placing them either behind glass hemispheres, or before properly disposed glass or metal reflectors; which last method is now generally adopted. The accompanying engraving represents the Bell Rock Light-house.

LABYRINTH MOULDING. A moulding used in Norman and Saxon Architecture.



LIBURNÆ. A species of Roman swift ship, with two sets of rowers.

LIKE ARCS. Segments of circles which are contained by equal angles.

LIKE FIGURES. Such as have their angles equal, and the sides about those angles proportional.

LEGS of a Triangle. When one side of a triangle is taken for the base, the other two are called the legs.

LENGTH. Both length and breadth are understood as applied to the ground, or the floors, or the horizontal plane which the building occupies: the dimensions of an ascending vertical line is called height; and the same line measured downwards, gives what is called the depth of an apartment, or a building.

LESCHÉ. Amongst the Greeks, the name of a building or hall, used for public resort.

LEVEL. A surface which inclines to neither side. There are several instruments used to take levels; as the air level, water level, pendulum level, reflecting level, mason's level, carpenters' or bricklayers level, spirit level, &c.

LEVELLING. The art of discovering a line parallel to the horizon at several places, to determine heights or depths.

LIBRARY. An apartment fitted to contain books, prints, &c.

LIKE SOLIDS. Such as are contained under like planes.

LINE. That figure which has only length. (*See GEOMETRY.*)

LIME KILN. Cato has given us a description of an ancient lime-kiln. Its form was that of a cone; its height commonly twenty feet, its breadth at the base ten, at the top three. The greater half of the base consisted of a ditch dug in the ground; the part above the earth was constructed of bricks or stone, plastered with mould. At the summit was a large opening to let out the smoke. In the kiln a vault of limestone was formed over the fire, and afterwards all the superior part was filled with limestone. Under the emperors certain criminals were condemned to work at the lime-kilns.

LINING. Covering for the interior, as casing is covering the exterior surface of a building.

LINING (of a Wall). A timber boarding whose edges are either rebated, or grooved and tongued.

LINING-OUT. The marking lines where timbers are to be cut.

LINTELS. The horizontal piece which covers the opening of a door or window.

LIST, or LISTEL. A little square moulding, serving to crown or accompany a larger, also termed a fillet.

(*To be continued.*)

The Chronotypist.

A CAPITAL little piece by Mr. Planché, has been produced at the Lyceum Theatre, called "A Romantic Idea," in which Mr. Charles Matthews, Mr. Hall, Mr. Roxby, Miss Fitzwilliam and others play admirably, has given Mr. W. Beverly an occasion for two architectural paintings of considerable excellence. The first is the ruins of a roofless hall in a German castle, with the tower at the back, and the whole bathed in the mild moon beams, a beautiful piece of effect, and in no way offending an architectural eye in the details. The second shews the hall restored; and remembering the "villanous compounds" which Gothic interiors some years ago usually presented on our stage, claims for Mr. Beverley great praise for congruous design as well as good painting. The sudden re-transformation to the ruin is very striking and effective.—A correspondent informs us a testimonial has just been completed to the Rev. Dr. Duncan, the founder of Savings Banks in Scotland, by the erection of a new house for the Parish bank in the town of Dumfries—to which has been given the title of "The Duncan Monument." A full length statue of the Doctor, as clothed in the official costume of a Moderator of the General Assembly of the National Church of Scotland, fills a niche in the second story of a chastely ornamented facade.—The *Art Journal*, says, that a superb colossal statue of Sesostris, in red granite entirely covered with hieroglyphics, has just been received at the Egyptian Museum, recently constructed on the ground floor of the Colonnade of the Louvre.—Government consented on Thursday last to the appointment of a select committee of inquiry into the best means of extending the establishment of libraries freely open to the public. This is an important commission, and its proceedings will be watched with interest. The British Museum Library contains, it is stated, 52,000 duplicates.—An American printer of the name of Moreton, the French papers say, has recently died at Paris,—bequeathing £40,000 for a premium to any one who shall construct a machine capable of striking off 10,000 copies of a newspaper in an hour.—It is truly a subject of congratulation to find the Council of the Society of Arts, holding out hopes of power to induce Her Majesty's Ministers to consent to the first of a series of grand national quinquennial Industrial Exhibitions being held in 1851. If the Society of Arts attain this object, and had it already gained no other, it would be sufficiently entitled to our admiration and our gratitude.—

The first part of the Stowe sale of engraved British portraits terminated on Wednesday last. The prices were good to the last.—Mr. Peto the member for Norwich has, we understand, just given two commissions of five hundred guineas each to Mr. John Cross the painter of the celebrated pictures of Richard Cœur de Lion—for two pictures of large dimensions, the subjects to be derived from English history. Mr. Peto has, we learn, also commissioned Mr. Maclise to paint him a large and chivalric composition from English history. This speaks well for the taste and discrimination of the parties.—The new Adelphi drama, by Mr. Buckstone and an Adelphi drama is a thing *per se*, and has been so for as many years as we can remember, consisting of exciting mystery, injudicious love, streaks of broad fun, dreadful murder, and O. Smith, contains three well painted scenes;—the Hall of Raynham Castle, with columns and entablatures; the Hop grounds; and a night-scene in the open country; “The Cross Roads.” The disappearance of the castle on the hill, in the background of the latter, in the increasing darkness, and their re-appearance, illuminated by the moon, is a striking point, and shows consideration. The wheel-tracks in the road give much completeness to the scene. Mr. Pitts is the chief artist here.—Five pounds are offered for a plan (to be approved of by a committee) for the erection of a school-room at Deptford.—We have to record the death, of Mr. Anthony White, the late eminent surgeon, on the 19th ult. His professional abilities, which placed him on many occasions in the Presidentship of the College of Surgeons, would alone justify such a notice at our hands; but Mr. White possessed a higher claim to our regret in that active benevolence which led him at all times to place his skill at the service of men busied in the pursuit of science, literature, and the arts. “To them,”—to use the words of a contemporary, “not unfrequently his purse was as open as his hand in the hour of their distress.”—The National Printing Office of France has just published a work entitled ‘Chronology of the Kings of Egypt,’ by Lesueur. This is the first book in which the new hieroglyphic types of that establishment have been used at any great length. They are said to be extremely delicate and beautiful—very superior to anything put forth by the English or German presses. The work is also the first bearing the new formula used under the Republic to distinguish a book printed at the cost of the Government.

THE commission entrusted with the restoration of Rubens's pictures at Antwerp, was duly installed a few days since by the governor of that province.

To Correspondents, &c.

On April the 1st, will be published, Part I,
Price One Shilling, of The
SELF-INSTRUCTING ORNAMENTAL
DRAWING BOOK,
 WITH DIAGRAMS,
 Showing the position of the hand in describing the
 primary ornamental curves, &c., and general
 rules for Drawing Ornamental Foliage,
 with a letter-press description.
To be continued monthly, in a neat wrapper.
 Office, 17, Holywell-street, Strand.

CONTENTS OF PART 3 OF

The Book of Ornamental and Early English Alphabets,

To be Published on Monday, April 2nd.
 Two Grotesque Initial Letters of the Twelfth century, C. and I.
 Marks used in stamping paper in the reign of Elizabeth.
 Alphabet of Cyphers.
 Elizabethan Alphabet, (Capitals.)
 German Alphabet, (Eleventh century.)

To be continued monthly, price 6d.—Office, 17,
 Holywell-street, Strand.

Cheap Second-hand Books.

G. HEARL'S

CHEAP CATALOGUE

Is just published, and may be had, gratis and postage free, by application to his Warehouse, No. 17 A., HOLYWELL STREET, STRAND,

LONDON.

It contains a Collection of Works on Architecture and General Literature, at prices unusually low for Cash.

“H. J.” (Wolverhampton.)—*In No. 95 we gave some illustrations of Early English Capitals from the Temple church; we intend illustrating the whole of them. The parts 3 and 5 can be obtained through your bookseller. All the numbers and parts are on sale. Please to forward us a sketch of the description of Boss you require; we will endeavour to assist you. No. 97 contains an original design for a Gothic Boss.*

“J. Butler.” (Brompton.)—*We do intend to report Professor Leslie's excellent lectures in extenso. The History of Sculpture will be continued, with illustrations of the tools used by sculptors. Thanks for your recommendation. An increased sale would place us in a position to bestow a greater benefit on our subscribers.*

“Alpha.”—*Two parts of the Alphabets have appeared. They will contain some choice specimens of early English Alphabets, Initial Letters, &c. presented to us by a gentleman for publication.*

“J. J.” (Manchester.)—*Your bookseller has received you—ALL the numbers are in print.*



AN ORIGINAL DESIGN FOR A CENTRE-PIECE OR PANEL.—(ITALIAN.)

The Self-Instructing Ornamental Drawing Book.



ON Saturday, March the 31st, it is our intention to publish a Drawing Book under the above title, and to give our Subscribers an idea of the plan which has been adopted in its production, we will quote the words of the preface.

“The increasing desire manifested for the proper education of the workman in ornamental design, and the very small provision that has hitherto been made for that purpose, would furnish an ample apology, if any were needed, for the production of the present work, it having this especial end in view. THE ORNAMENTAL DRAWING BOOK will be published for the purpose of imparting a knowledge of the *correct* principles of drawing ornament, also to introduce examples of the greatest merit of every description of ornament used in Decoration, either for the Arts or Manufactures. Outline examples will first be given for drawing the primary curves, &c., with the necessary directions for holding the pencil and placing the hand, to be followed by more advanced drawings, in which those curves will be clothed with beautiful and appropriate foliage. A due distinction will also be drawn between the various styles and periods of ornament, and the uses to which they have been, or may

be, applied; for by instructing the workman in the various periods of Art, much of the confusion of styles which designs of the present day exhibit, will be avoided.

The pages will be arranged with the view of affording immediate instruction to three classes of students; two pages will be devoted to those desirous of learning; two to those who possess a slight knowledge of drawing, but require practice; and, lastly, an example of one of the prevailing styles. The Ornamental Drawing Book (which is to be continued monthly), will also contain specimens of Fruit, Flowers, &c., not omitting the Human Figure, as in some cases it is indispensibly mixed with ornamental foliage. In fact, the Ornamental Drawing Book will be made fully to bear out its character of “SELF-INSTRUCTING,” and to those engaged in Industrial Art, it will be found one of the most useful publications of the present day.”

“Office, 17, Holywell-street, Strand,
“April 2nd, 1849.”

We intended to have carried out a similar plan in the columns of the DECORATOR'S ASSISTANT, but upon putting it into practical effect we found that our space would not admit of it. We have therefore determined on the present publication, and we offer it to our Subscribers with sanguine expectations of its usefulness, and the correctness of the principles on which we intend to establish it, and that it will assist in conferring a great benefit on all who are desirous of possessing a knowledge of Ornamental Design.

Importance of the Study of Design.

FREEMASONS OF THE CHURCH.

(Continued from page 213.)

HERE followed some just, but too lengthy to be here introduced, observations on painted ceilings in general; whether of historical or decorative character, and the lecturer continued:—“In painted decoration, and in the patterns of paper-hangings, curtains or carpets, form ought to be regarded chiefly, if not wholly, as a vehicle of colour. How tiresome and tantalizing is the reiteration of patterns in

a paper-hanging, especially when great blotches of red or some other powerful colour are scattered over it, or cutting lines of positive blue divide the walls into strips. Intense colours ought to be used sparingly and distributed skilfully, so as to enliven the mass of secondary tints; for a room is made to seem smaller by strong contrasts of colour or harsh outlines, as ceilings are apparently lowered by deep mouldings or powerful hues. Indeed, vivid colours are not essential either to the elegance or cheerful aspect of a room; the walls should form a chaste but not dull background to the furniture, pictures, and occupants. Gaudy carpets of large patterns are therefore objectionable; if positive colours are used, these should be subdivided by the intricacies of a small and undefinable pattern, like the Persian and Turkey carpets which have never yet been equalled for richness and sobriety combined.

“In designing patterns for textile fabrics the uses to which the drapery is to be applied requires to be more considered than is commonly the case. Obviously, the pattern for a dress should not be so large as that for a curtain, yet one sees silks and satins in the mercers' windows, the wearers of which would certainly appear as if robed in window-curtains or wall-hangings. The elaborate imitation of flowers in dresses is wrong upon principle, because the effect is to direct attention from the *ensemble* presented by the dress and the wearer; the nondescript patterns of India shawls in which the effect is seen in the mass, are still superior to modern designs. A great nosegay of flowers on a shawl, or a dress sprinkled with bouquets, is only a degree less absurd than the horns and trumpets which decorate the dressing-gown of Signor Lablache in ‘Il Fanatico per la Musica.’ The effect of harmonious combinations of colour is what the pattern designer should rely upon; and of these the variety is endless. Form is the medium for displaying colour; in draperies that hang in heavy folds, like curtains, it is evident that the shape of the pattern is not seen truly; its effect as shown in the play of colour is infinitely varied by the folds, and therefore a large bold pattern, as in damask, is preferable. In dresses where the folds are smaller, and especially in scarfs, angular patterns are not only admissible, but pleasing, because the multitude of cross folds

not only destroys the formality of pattern, but gives rise to an infinity of piquant combinations.”

Nothing could be more just than Mr. Williams' suggestions with regard to designs for hard-ware, in which, he observed.—“Form and proportion are paramount; no ornamentation, however rich or fanciful, can redeem bad proportion or ungraceful form, while a beautiful form unadorned is itself ornament of the most refined and pleasing description. Neither should ornament be so prominent as to overlay or prevent the full development of form; while neither form nor ornament ought to interfere with utility. The shape of Greek and Etruscan vases, beautiful as they are, are not more adapted to modern pottery or hard-ware than is the decoration of the fictile wares. We do not want to convert lachrymatories into scent-bottles, funeral urns into tea pots, vases into flower-pots; nor are the forms of amphoræ suitable for decanters, or of pateræ for candle-cups. The material and uses of the vessel should determine its form; tea-pots that will not draw, jugs that can never be washed clean, glasses and cups that one cannot drink out of comfortably, however elegant their form, are essentially defective. And the adaptation of the thing to its purpose, so far from producing ugliness, tends to beauty, and it also induces new forms. The problem to be solved is simply this,—‘Given the use and material of the article, to find a beautiful shape.’ In the commonest, rudest, and oldest implements of husbandry—the plough, the scythe the sickle,—we have examples of simple yet beautiful curves. The most elementary and simple forms, if well-proportioned and of graceful contour, are the most pleasing.”

The lecturer, then, after entering into various points of design connected with the tasteful manufacture of porcelain, and deprecating many practices which are only tolerated from habit, remarked in conclusion;—“There are other points that need to be touched upon, and those that have been adverted to need fuller investigation, but enough has been said, I trust, to prove the importance of a knowledge and observance of the principles of Art by designers; and perhaps to show also that these principles are easily ascertainable by studious attention and rational reflection.”

Professor Cockerell's Lectures on Architecture.

(Continued from page 207.)

As Brunelleschi—when questioned by the pope as to his celebrated boast, replied, “Yes, give me a fulcrum and I can move the world;” so, in the next step in the progress of the arch, the architect of the church of Sta. Sophia might have said,—“Give me an abutment, and I can suspend a dome in the air.” The professor gave a clear explanation of the manner in which this was effected, by means of “pendentives;” he then alluded to the night of darkness in which Europe existed subsequently, and the use of the Byzantine style, and showed how the pointed arch—the next step—might have originated by omitting the crown of the lofty vault of the hall of the baths, and prolong the lines of the haunches, which would then meet in a point. He also showed how naturally the column placed against a pier, in the same apartment, and supporting the portion of the vaulting here concentrated upon it, might have led to the clustered columns and shaft supporting the groining in Gothic buildings. So, said the professor, here we saw instances how, from one link to another, the gradual chain of architectural progress was carried forward.

After describing the plan of Ely Cathedral, he passed to the condition of the art in Italy. In the earlier period of Italian architecture, we found that each house was a kind of fortress, and whatever decoration was practised was reserved for the internal courts. But when, with the revival of learning in Italy, a state of comparative quiet accompanied it, then a new field was open for the inventions of architects. Bramante, for instance, adopted a double order; and this, perhaps suggested by previous works, was certainly not found in the antique. Vignola employed cantilevers in an entablature, as afterwards practised by Sir Christopher Wren. Vignola might have gained some idea of this method from ancient paintings, but certainly not from the temple at Bâalbec, where a similar method is found. For Vignola had never heard of that place. Another feature, the window, underwent important modifications. Previously small, and shuttered below;—in the palace at Florence, it was ornamented with a pediment, and other decorations. At first, so great an innovation seemed as if it would occasion nothing but ridicule, but this method of treating the window

had endured ever since. These features, therefore, and others like these, had never previously been seen in architecture: this, then, was truly invention, and this the only description of novelty which could be successful.

These instances, the professor concluded, he had cited to show that, by attention to points arising out of structure, in our buildings, we might best attain excellence; but we must, at the same time, impress the character of the nineteenth century upon our works, and whilst recognising the value of precedent and authority, not shut our eyes to every other important consideration.

In delivering the next lecture, the professor began by expressing a hope that, in speculating on the subject of classical art, he had not disseminated an idea that no other school was worthy of our regard. Each system had its proper application.—He believed that the supremacy of classical art was as incontrovertible as was our superiority in mental and moral philosophy, and every discovery tended to the establishment of this fact. The Greeks ever would be our masters in art, and those who followed them, as the Romans and the artists of the revival, had their proportionate measure of our regard.

The progress of investigation, from time to time demanded fresh examination of all subjects. In the history of Greece and Rome, all early histories were now as waste paper; in mediæval architecture, the statements of the early writers, since the labours of Professor Willis, would have to be re-cast. It was to the abuse, and not the use, of classical architecture that certain of his strictures had been directed.

On the subject of proportion, the professor remarked that each master had a theory of his own. In some measure we all judged by a natural instinct, and we flattered ourselves that we had an eye for proportion. But whilst, as Vitruvius said, other men than the artist could discover the good and the bad, the difference between the artist and the workman was, that one could foresee, and the other could not. He urged the importance of the study of proportion, in order to avoid those lamentable failures of which there were such frequent instances. The architect of a building often found too late, that with more modesty, and with good advice, and repeated study in drawing, and above all by models, he might have better attained the effect which he sought to impress upon the child of his hopes.

(To be continued.)

Society of Arts Exhibition.

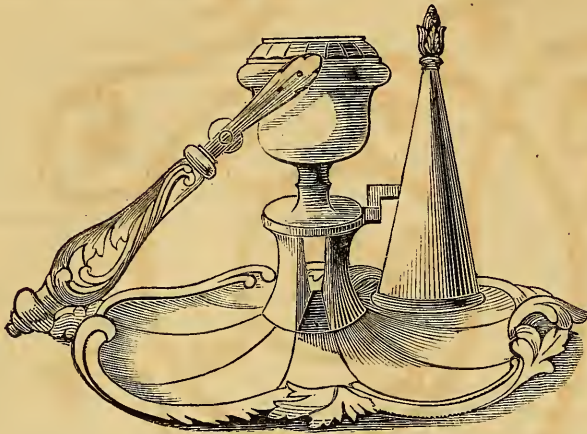
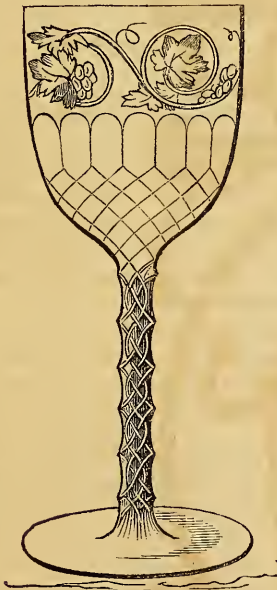
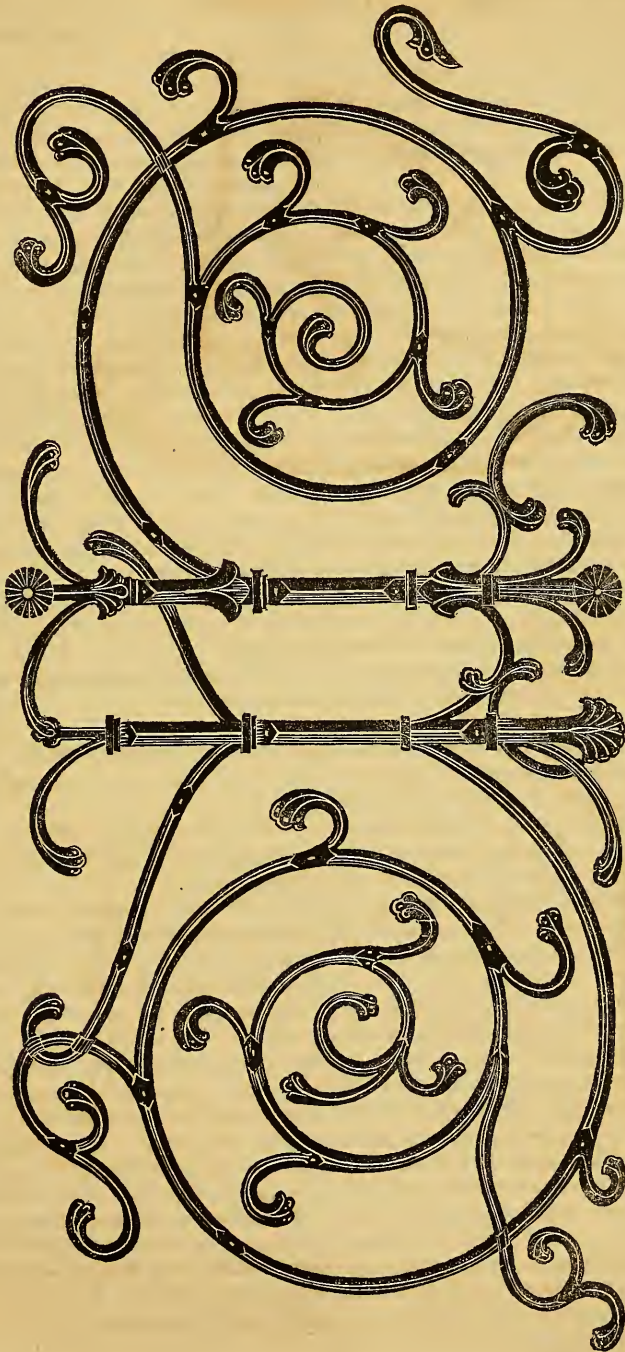
*Fig. 1.**Fig. 2.**Fig. 3.*

FIG. 1.—A SILVER EQUIVEHANT CHAMBER CANDLESTICK.—The Silver Equivehant Chamber Candlestick, manufactured and exhibited at the Society of Arts by Messrs. J. H. and R. Ferrymen. It is termed Equivehant from its carrying itself even, or upright, in whatever position the Candlestick may turn, thus ensuring additional safety in cases of accidental fall.

FIG. 2.—VENETIAN WINE GLASS.—Manufactured by Messrs. Richardson, Stourbridge.

FIG. 3.—WINE GLASS.—Manufactured by Messrs. Pellatt & Co.



IRON WORK TO DOME,--CHESTER CATHEDRAL.

On Lacquering.

LACQUERING is the laying either the coloured or transparent varnishes on metals, in order to produce the appearance of a different colour in the metal, or to preserve it from rust and the injuries of the weather.

Lacquering is therefore much of the same nature with japanning, both with regard to the principles and practice, except that no opaque colours, but transparent tinges alone are to be employed.

The occasion on which lacquering is now in general use are three; where brass is to be made to have the appearance of being gilt; where tint is wanted to have resemblance of yellow metals, and where brass or copper locks, nails, or other such matters, are to be defended from the corrosion of the air or moisture. There was, indeed, formerly another very frequent application of lacquering, which was colouring frames of pictures, &c. previously silvered, in order to give them the effect of gilding, but this is now mostly disused. These various intentions of lacquering require different compositions for the effectuating each kind; and, as there is a multiplicity of ingredients, which may be conducive to each purpose, a proportional number of recipes have been devised and introduced into practice, the more especially for the lacquering brass work to imitate gilding, which is a considerable object in this kind of art, and has been improved to the greatest degree of perfection. We shall, however, only give one or two recipes for each, as they are all which are necessary; the others being made too complex by ingredients not essential to the intention, or too costly by the use of such as are expensive, or inferior in goodness from the improper choice or proportion of the component substances.

The principal body or matter of all good lacquers used at present is seed-lac; but, for coarser uses, resin, or turpentine is added, in order to make the lacquer cheaper than if the seed-lac, which is a much dearer article, be used alone. Spirits of wine is also consequently the fluid or menstrum of which lacquers are formed; as the ethereal oils will not dissolve the seed-lac, and it is proper that the spirit should be highly rectified for this purpose. As it is seldom practicable, nevertheless, to procure such spirits from the shops, it will be found very advantageous to use the method above given for dephlegmating it by alkaline salts; but the use of the allum, directed in that process, must not be forgotten on this occasion, as the effect of the alkaline salts would otherwise be the turn

ing the metal of a purplish, instead of a golden colour, by laying on the lacquer.

The following are excellent compositions for brass work which is to resemble gilding;

“Take of turmeric ground, as it may be had, at the drysalter’s, one ounce, and of saffron and Spanish annatto, each two drams. Put them into a proper bottle, with a pint of highly rectified spirit of wine, and place them in a moderate heat, if convenient, often shaking them for several days. A very strong yellow tincture will then be obtained, which must be strained off from the dregs through a coarse linen cloth; and then, being put back into the bottle, three ounces of good seed-lac, powdered grossly, must be added, and the mixture placed again in a moderate heat, and shaken till the seed-lac be dissolved; or at least such part of it as may. The lacquer must then be strained as before, and will be fit for use; but must be kept in a bottle carefully stopp’d.”

Where it is desired to have the lacquer warmer or redder than this composition may prove, the porportion of the annatto must be increased; and where it is wanted cooler, or nearer a true yellow, it must be diminished.

The above, properly managed, is an exceedingly good lacquer, and of a moderate price; but the following which is cheaper, and may be made where the Spanish annatto cannot be procured good, and is not greatly inferior to it:

“Take of turmeric root ground, one ounce; of the best dragon’s blood half a dram. Put them to a pint of spirits of wine, and proceed as with the above.”

By diminishing the proportion of the dragon’s blood, the varnish may be rendered of a redder, or truer yellow cast.

Saffron is sometimes used to form the body of colour in this kind of lacquer, instead of the turmeric; but though it makes a warmer yellow, yet the dearness of it, and the advantage which turmeric has in forming a much stronger tinge of spirit of wine, not only than the saffron, but than any other vegetable matter hitherto known, gives it the preference; though being a true yellow, and consequently not sufficiently warm to overcome the greenish cast of brass, it requires the addition of some orange-colored tinge to make a perfect lacquer for this purpose. Aloes and gamboge are also sometimes used in making lacquers, for brass; but the aloes is not necessary where turmeric or saffron is used; and the gamboge, though a very strong milky yellow in water, affords only a very weak tinge in spirit of wine.

(To be continued.)

The Process of Painting on New Wood Work.

As the knots in wood (particularly deal) are a great annoyance in painting, great care should be taken to kill them, as the painters term it. The following methods have by experience been found to have the desired effect. Upon those knots that retain the turpentine, it is necessary to lay with a stopping knife a thick substance of lime, immediately after its being slacked, for the purpose of burning or drying up the turpentine. After the lime has remained on about twenty-four hours it should be scraped off, and washed over with size notting, which is made of red and white lead, ground very fine with water on a stone, and mixed with strong double size in a liquid state, which is done by holding it over a fire for a few minutes; it must be applied to the knots while warm.—Another method is to grind white and lead in the same proportions in turpentine, to the consistency of dough, and then reduce it with japan gold size till it becomes like thin paint. Lay it smoothly on the knots, observing to cover it entirely, otherwise a defect will be visible. Another plan sometimes adopted is to apply japan gold size to the knot, and previous to its drying apply a piece of gold or silver leaf upon it. There is a patent knotting now being advertised, which has not been found to fail. It is necessary that the knots should be rubbed on with fine sand paper every time they are covered to prevent their appearing above the surface.—When the notting is thoroughly dry, the priming colour must be laid on, which is made by breaking up (technically speaking) the white lead in linseed oil, the following being the proportions of the mixture. To every 10lbs. of white lead add a quarter of a pound of dryers and a quarter of a pound of red lead; then lay it all over the work required to be painted.

After the priming is thoroughly dry, use a bit of sand paper and rub it gently over the work, so that no lumps or skin may adhere to it. Then apply the second coat, which is mixed in the following manner:—Break up the same quantity as before, with half a pound of dryers in two parts of linseed oil to one of turpentine. After rubbing it down as before directed, when thoroughly dried, the third coat is applied, to be mixed as follows:—Break up the same quantity as before in half linseed oil, and half turpentine; proceed as before. If a fourth coat be given, break up the same quantities, and use two parts linseed oil to one of turpentine. If the work is required to be flatted, the lead must be

thinned entirely with turpentine. In painting stucco it is necessary to give one coat more than wood. The more the colours are mixed with oil, and the less with turpentine, the better, as turpentine is more adherent to water than the oil, and consequently not so well adapted for preserving outside work. For inside work, the above proportions are correct, and in general use.

AMONG the many beautiful objects exhibited at the Society of Arts, to dwell on which particularly would occupy too much of our limited space—we noticed with great pleasure the bronzes of Mr. Hatfield, the exquisitely dyed and woven silks of Messrs. Walters, the admirable racing plate made by Messrs. Hunt, Roskill, and Garrard, the carpets of Messrs. Watson and Bell, the glass of Messrs. Oster, Richardson, and Pellatt, and the greatly improved castings of the Colebrook-dale Iron Company. Among the designs submitted in competition to the Society are many of considerable beauty, and the preparation of which must have involved great sacrifice of time and labour. We have heard much complaint touching the adjudication, non-adjudication, and reduction of these premiums. Would it not be more considerate towards the younger members of the community if the Society were to diminish their promise and increase their performance?

THE Murillo at present on view at Mr. Walton's studio in Bond-street, will, we apprehend, fail to satisfy those acquainted with good examples of the master. Once, it is said, an ornament of the Alcazar, this picture has been confided for sale to some Spanish merchants in London by the Senor Don Jose de Loyzaga, of Madrid. That it has been submitted to the English eye without the intervention of the *impairer* we cannot bring ourselves to believe; missing in it those diaphanous and sweet-coloured tones which reconcile those acquainted with Italian treatments to the peasant-like presentments of the artist. A careful investigation of the contours leads to the belief that the hardness observable, more especially in the heads of the Virgin and of the cherubs by whom she is surrounded, is the result of restorations effected by a hand which had little knowledge of, or sympathy with what Mr. Stirling has so aptly designated as the vapoury peculiarities of the prince of Sevillian painters.

THE daily papers report the death of Mr. Poynder, whose name has been long familiar to the public for the exertions made by him in the Court of the India House and elsewhere, to procure the abolition of human sacrifices and other cruelties attending the worship of Juggernaut.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

(Continued from page 218.)

LISING. The cutting the sapwood out, from both edges of a board.

LITHOSTRATON. A Greek term for a species of mosaic, consisting of pieces of marble of a certain size.

LOBBY. An open space, surrounding a range of chambers, or seats in a theatre; a small hall, or waiting room.

LOCK. An instrument for fastening doors.

LOCK WEIR. A deep basin or reservoir, in a canal, closed at each end by gates, which, successively opening and shutting, allow the water to rise or fall, in order to afford the means of raising boats as they pass up the course of a canal, or lowering them as they pass down.

LOGGE. A small house in a park or forest.

LOGEUM. The pulpitum, or wooden stage of a theatre, placed upon the proscenium, or permanent stage.

LOGHOUSE. Temporary habitations, made of branches of trees, or logs of wood.

LOGISTIC SPIRAL, or Proportional Spiral. A spiral whose radii are in continued proportion, where the radii are at equal angles.

LONGIMETRY. The art of measuring lengths, accessible and inaccessible.

LOOP. A small narrow window.

LORIMER. The name given to a square member, under, or forming part of, a cornice, which projects, and has a groove in its under side.

LOSANGE. A figure of four sides, with two acute and two obtuse angles.

LOTUS. A plant of great celebrity amongst the ancients, the leaves and blossoms of which generally form the capitals of Egyptian columns.

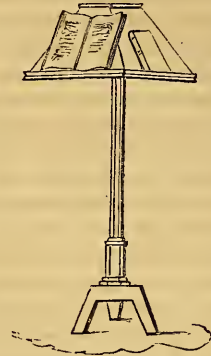
LUFFER BOARDING. Boards nailed on the sides of buildings or lanterns, or across apertures, arranged and fixed so as to admit air, but to exclude rain.

LUNETTE. Cylindric, cylindroidic, or spherical apertures in ceilings, of the same form as the upper

lights in the nave of St. Paul's Cathedral, in London.

LYING PANELS. Those which are cut out with the grain of the wood, not, as is usual, with the grain in a vertical, but a horizontal direction.

LANTERN. A stand used to place books upon.



LYSIS. A kind of plinth, or step, above the cornice of the podium of ancient temples, which surrounds or embraces the stylobate, as may be observed in the temple of Fortuna Virilis.

LION. (In antique painting and sculpture.) The strongest and most magnanimous of four-footed beasts. The lion was consecrated to Cybele, and we find it sculptured upon many monuments erected to that mysterious deity. Sometimes she is borne upon a lion, at others they draw her car, and occasionally are found standing by the throne on which she is seated.

LISTEL. A small square moulding, which serves to crown or accompany a larger, and to separate the flutings in columns.

LUSTRE. A kind of chandelier suspended by a cord or chain from the ceiling, which was the fashion in which the Romans used their lamps. This elegant piece of furniture is often introduced in public places, such as churches, theatres, &c. and is sometimes made of bronze, sometimes of gilt metal, and sometimes (its most beautiful material) of crystal.

LYSICRATES. The choragic monument of, commonly called the Lantern of, Demosthenes.

LEGEND. The motto or words engraved, in a circular manner, round the head of a personage or other representation upon a medal or coin. The meaning of this term is similar to that of an inscription, but the latter relates chiefly to the writing placed in the middle of the coin, while the legend, as we have just observed, surrounds it.

(To be Continued.)

Scientific Meetings.

SOCIETY OF ANTIQUARIES, March 1.—H. Hallam, Esq., V.P., in the chair. A letter was read from Mr. Bruce on the singular brass not long since given to the Society by H. W. Dimond, Esq., representing a man in armour with a crown on his left shoulder. Mr. Bruce contended that it was the figure of a yeoman of the crown; and he mentioned several other instances of brasses or paintings with a similar distinction. It is to be observed, however, that one or two of these were not what is heraldically termed yeomen of the crown, but servants of the king.—Mr. B. Nightingale sent a drawing of a spiral bronze, once the ornament of the staff of an early ecclesiastic; which Mr. J. Y. Akerman, in a paper on the subject, stated to be of date as early as the seventh or eighth century.—A letter by Mr. T. Crofton Croker to the President was read,—the main object of which was to establish that the ancient superstition regarding mermaids was derived from the custom of the northern seamen, in very remote times, making their way to Ireland and Scotland in small hide-boats, in the middle of which they sat and paddled themselves through the waters. This custom, it was urged, accounted for the appearance of a human form and a fish's tail. The notion did not seem to meet with much countenance in the room; and one gentleman asserted it was not new, and offered to produce at the next meeting the volume in which it was first broached. Mr. Croker entered a good deal into Irish antiquities; and strove to support the belief that the relics of combs, &c. found at Kilmainham had some connection with mermaids. There seemed more of fancy than of reason in his positions, and his paper produced a corresponding impression.—The Society at their meeting on Thursday evening received a convincing proof of their President's desire to promote its welfare. Lord Mahon having announced that Mr. Stapleton's continued indisposition compelled him to vacate his office of Vice-President, nominated as his successor in the vice-president's chair Mr. J. Payne Collier, a gentleman who, as our readers well know, has pursued the study of one important branch of our national antiquities—that of our early poetry and drama—with a success that has procured for him a wide and well-merited reputation.

ARCHÆOLOGICAL INSTITUTE, March 2.—Sir J. P. Boileau, Bart., V.P., in the chair.—Amongst objects exhibited not the least interesting were some full-size tracings of the remarkable mural

paintings recently laid bare in Broughton Church, near Newport Pagnell. These frescoes, which appear to have been originally executed about the reign of Henry the Sixth, probably have reference to some monkish legend; for in no other way can the extraordinary and heretical design represented by one of them be accounted for.—Mr. Hawkins exhibited a curiously formed bell, one of a set which is used in the parish of Congleton, in Cheshire, in ringing what are called the "chains" on the eve of the day of the annual wake or fair. This custom is stated to be connected with a dedication similar to that of "St. Peter in Vinculis" in Rome; but the local tradition is somewhat vague.

ELECTRO-TELEGRAPHIC PROGRESS.—Mr. Brotherton, of Preston, has recently patented an invention for prevention of accidents on railways. It consists of an electric apparatus fixed beneath the rails, on which the wheels of the train act as they pass over it. A wire connects this apparatus with any station or junction which the train may be approaching, and at which an electric alarm is fixed. By this invention the attendants at any station or junction may, it is said, be apprised of the approach of a train any number of miles off, and in case any obstruction exists, a signal can be immediately forwarded to the train.—The projectors of the great submarine line across the Atlantic propose to construct it between the coast of Newfoundland and the nearest cape of Ireland. They state that there is every reason to believe that a submarine bank extends from Newfoundland to the British Isles, to which they propose to anchor the wires, supported in cork tubes, at intervals of ten miles. They have appealed to Congress to aid them in the enterprise, by appropriating a public vessel for their use, to ascertain the truth concerning the nature of the bottom. Should they not find soundings, they state they could still manage to anchor the buoys by means of buckets, &c. They exhort Congress "not to allow the British Government to anticipate the United States in this sublime project."

A BLOCK OF GOLD.—An extraordinary report, emanating from a highly respectable source,—and, possibly, the information about which the *New York Herald* expressed itself incredulous—is, that the United States Government has received information of a single block of gold, worth £12,000, having been obtained in its new Pacific territory; the weight being 250lb., whereas 20lb. to 30lb. is, we believe, the heaviest ever discovered in any other part of the world.

The following receipt for restoring old oak to its original whiteness, has been used with success—viz., two ounces of oxalic acid dissolved by friction in one quart of cold water. If the oak has been varnished, it must be scraped clean before using the acid.

Among other artists who are to be employed on subjects from English history, by Mr. Peto, we have heard that Mr. Horsley has received a commission.

The Chronotypist.

IN the Rolls Court, a decision has just been come to, which if not reversed in a higher tribunal, will confirm in favour of the Institution of Civil Engineers a variety of shares in public companies, &c., bequeathed by Mr. Thomas Telford under his will, but resisted by his heir-at-law under the statute of mortmain.—A French paper states—we hope too confidently and broadly—that the friends of Art are profoundly grieved by the pillage and devastation directed by the Romans against the monuments, pictures, and statues which are the glory of the Eternal City. According to *Le Pays*, the republicans raise money by the sale to English and Russian merchants of the great masterpieces of the human mind that have made Rome the seat of a wider worship and more extended pilgrimage than her religious throne.—A company, managed by a board in London, is being formed, with a capital of £600,000, in 300,000 shares of £20 each, with £2 per share deposit, to supply Amsterdam with water from the Rhine. The privilege has been conceded in perpetuity to this company, who are to be entitled to a maximum charge of twice the amount believed to be capable of yielding a return of 24 per cent. The responsibility is limited, it is said, to the amount subscribed.—We commend to the notice of our readers a house in Holborn, between Great Turnstile and Chancery-lane, whose entire front has been daubed over with a blue that is anything but cerulean in its tint. It is a pity that among its numerous clauses, the Building Act does not contain one to prohibit public nuisances and offences of this description, and to prevent our being overrun with *blue bores*.—The water-colour drawing of the late Lord Auckland, by Mr. Lowes Dickinson, now on view in Bond-street, is obviously made up from a larger study; and we think with no great advantage, from the introduction of a figure which has too quadrilateral and cramped an appearance—wanting more contrast in the position of the arms. This would have given a more liberal rendering of the *physique* of the original.—Mr. Archibald M'Donald, of Aberdeen, some time ago discovered a process for reducing Aberdeen granite to a fine clay, which was moulded into form at the Seaton Pottery, and presented an article of the most beautiful and durable character. Since then, Mr. M'Donald has had an experiment tried of working the calcined granite into water pipes.

To Correspondents, &c.

On April the 2nd, will be published, Part I,
Price One Shilling, of The
**SELF-INSTRUCTING ORNAMENTAL
 DRAWING BOOK,**
 WITH DIAGRAMS,
 Showing the position of the hand in describing the primary ornamental curves, &c., and general rules for Drawing Ornamental Foliage, with a letter-press description.
To be continued monthly, in a neat wrapper.
 Office, 17, Holywell-street, Strand.

CONTENTS OF PART 3 OF The Book of Ornamental and Early English Alphabets,

To be Published on Monday, April 2nd.
 Two Grottesque Initial Letters of the Twelfth century, C. and I.
 Marks used in stamping paper in the reign of Elizabeth.
 Alphabet of Cyphers.
 Elizabethan Alphabet, (Capitals.)
 German Alphabet, (Eleventh century.)

To be continued monthly, price 6d.—Office, 17, Holywell-street, Strand.

"P. Thompson." *Accept our thanks.*

"B. Burslem."—*We are much obliged for the trouble you have taken in recommending our work. We made an attempt to imitate Wood and Stone, by printing in colours, but it turned out a failure, we therefore abandoned the idea. We do intend giving designs for the purpose you mention, but you must really have patience; we will address a letter to you in the course of a day or two, but we must consult our artist first.*

"W. James." (Chelsea).—*Banvard's Exhibition is still open at the Egyptian Hall, and continues to attract most crowded and fashionable audiences.*

QUERY.

Can any of our readers inform "An Antiquarian," of the best method of transferring impressions of Old Brasses to paper, the rubbings of black-lead being very imperfect.

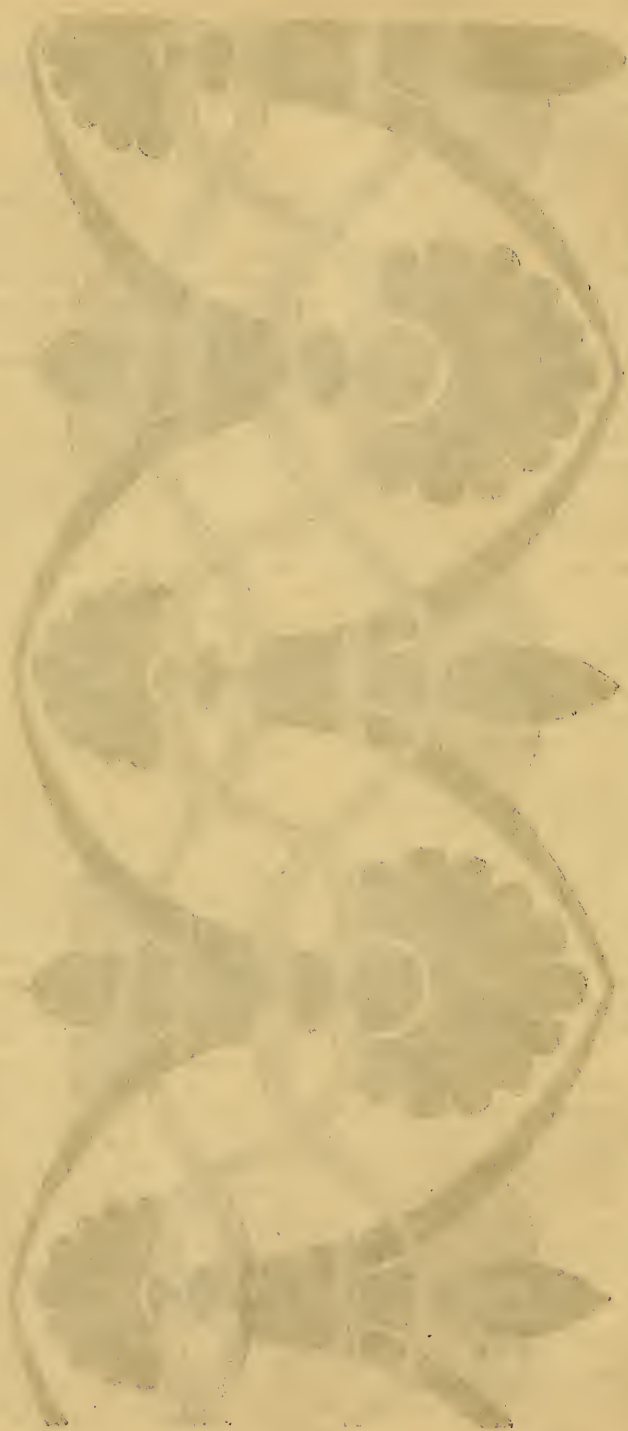
* * Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.

* * Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

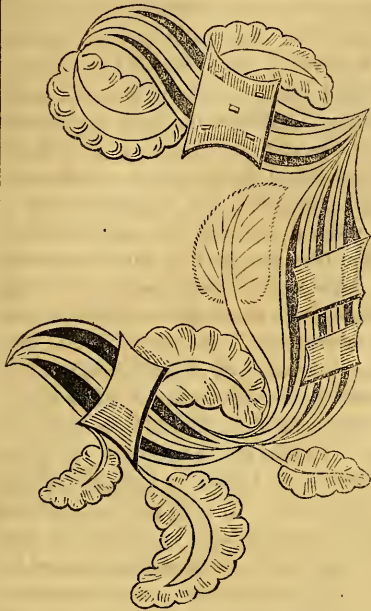
Part 24 is now ready, price 10d.



ETRUSCAN ORNAMENT, FROM A VASE IN THE POSSESSION OF LORD NORTHWICK.



Art Education.



It may be said that of late years, Art has been more appreciated by the English nation than formerly. Absorbed in commerce and politics, her sons unconsciously overlooked the enjoyment it supplied, or forgot its many claims to their attention. Generally speaking, painting and sculpture have alone been regarded as productions of Art.—Many, to whom their ancestors have bequeathed works from the easel or the chisel, not having that knowledge of Art, or that natural and in-born feeling for it, which would prompt them to seek gratification from its resources, suppose themselves indifferent to, or unworthy of its claims.

The most indifferent are influenced by it in a degree greater than they themselves imagine. For all material wants the estate need consist of nothing beyond what will supply sheep and oxen, game, fruit and vegetables. The house, with bare walls only, would yet shield from the scorching or inclement seasons; a deal table, a stool, a wooden trencher, a horn drinking-cup, would be sufficient adjuncts to the repasts which sustain life. The nobles of bygone days had little more. Now, however, who will be con-

tent with such a limited supply? Let those answer who enjoy the luxurious contributions of Art, and who are surrounded by its refinements and its blandishments. Let such imagine their halls, their apartments, and their banquets suddenly bereft of all which Art has contributed to their adornment; let the elegant and sumptuous—the elevating beauty be exchanged for bare and blank necessities—Would they then feel as now they feel? Could they in their deserted halls feel as the same beings? Impossible! These questions apply equally to those who have the smallest share of Art, as to those who have the most abundant; the same reply will be given. All are subject to the pleasing impressions of Art, and all seek it as a necessity in some shape or other, altho' it be often acknowledged as a luxury only, or its presence recognised but in pictures or statues.

It is not necessary here to describe and define distinctly the manner in which Art affects us, or its influence over us: sufficient that it is daily, nay, hourly demanded, and that it is indispensable to the comfort and pleasure of our existence. Without it, nations would lose half their sources of wealth and distinction; wealth its external manifestations, rank and refinement their insignia. Imprinted on all things surrounding us, and perpetually the subject of our contemplation and conversation, it constantly adds lustre to our mental faculties, elevates and refines our emotions, and ameliorates our social and moral nature.

The love of the beautiful in form would seem to be connected with that polish and refinement which education generally imparts to every faculty and feeling, if we may judge by the Greeks, who have left a rich inheritance of the purest form, universally admired. It may fairly be deduced from this that the production of beautiful form is superior to colour, since the barbarian may arrange or even produce beautiful colour, but never beautiful form.

Art has an universal influence, greater in proportion to the degree of beauty it presents. The constant presence of beauty increases our love of it, and our power to distinguish the most perfect, or to observe the least alloy of deformity. There is no object so trifling but may receive its impressions of grace and beauty, and yield its measure of truly pleasurable

sensation. That study, therefore, cannot be deemed unworthy which aims to enhance the beauty of the most humble.

All having the means to obtain Art, strive in various ways to possess it, though not equally discriminating in their choice. All mankind is subject to its influence, more or less; the civilized man and the savage. All derive enjoyment from it, but not in a like amount or degree. The full enjoyment of Art depends, as in other cases whence mental enjoyment is derived,—on EDUCATION.

Modern Town Houses.

BY FRANCIS CROSS.

(Continued from page 137.)

CHAPTER V.

AN ancient author asserted that timber is not sufficiently dry to be converted into planks and joiners' work under three years. Of the principal timber trees suitable for building purposes, may be mentioned the elm, all sorts of oak, beech, poplar, willow, alder, ash, pine, cypress, chesnut, larch, box, cedar, and ebony. Each of these are, however, so various in their nature that they can only be applied to various uses, as some may be used with impunity in external work, while others must be applied only to internal finishings. Some harden by exposure to the air; some will remain sound for a lengthened period, even in damp underground situations; some are peculiarly fitted for flooring, others for beams and the main timbers; some are well adapted to support external coverings, and the alder for piles in making a foundation in swampy ground, as that wood will stand the wet, but will soon perish if exposed to the sun and air. On the other hand, the beech will not stand against wet at all. The elm in the open air hardens, but in other situations splits and decays. The pine underground will last a long time, but the oak is a very hard and close wood, even to its smallest pores, and it therefore absorbs but very little moisture, making it excellent for underground work, being capable of supporting great weights. But though this wood, by its extreme closeness of texture is admirably

adapted for general building purposes, yet it is found when used above ground, as in window-cills, to warp and twist.

The beech and chesnut do not warp in water. One ancient writer recommended the nut-tree (Negropont), for beams and rafters, because before it breaks it gives notice by a crack, which would probably save the lives of a great many persons, as they would have a sufficient time to escape after the warning. But the fir is the best adapted for general use, as the tree grows to a large size. It is possessed of a natural stiffness that will not easily yield to any weight laid upon it, but stands firm, and besides, possesses the rare quality of being easily worked—in short, the eligibility of this wood is very great. The cypress, among the ancients, was considered as most excellent, and not inferior to ebony and oak, and attributed to it the useful quality of resisting both the worm and age. Mention may be made of the gates of the Temple of Diana, at Ephesus, which were of that wood. They lasted four hundred years, and preserved their beauty to the last in such a manner that they always seemed to be new; therefore though the fir was well known and appreciated by our forefathers, yet was the cypress preferred. The pine was also well known and valued, as they considered it to possess many of the properties of the fir; but there is this wide difference between them, that the pine, owing to the sweetness of its juices, is liable to be injured by worms. The larch is durable, and was greatly employed in ancient structures, and is said to possess the united conveniences of the rest, being nervous, tenacious of its strength, immoveable by storm, not troubled with insects, and further, in the opinion of the ancients almost fire proof, its only defect being that in sea water it is liable to breed insects. For beams oak is considered as improper, as by their own heaviness they would give way if much extra weight were laid upon them. It is mentioned that the palm possesses the surprising property of rising, as it were, against the weight laid upon it, and strive to bend upwards in spite of resistance. The chesnut is apt to split, but may be worked with great advantage. Trees or woods with sweet juice easily take fire, and are liable to decay and insects, while in those trees whose juices are bitter the worm never enters, and

they certainly excludes all moisture. The fir is excellent in doors, timbers, and the like, because it is by nature dry and tenacious of the glue. Beech is brittle; the chesnut, elm and ash are inclined to split, and are therefore unfit for beams. Wood of a very hard and close texture can never be fastened securely with glue, neither can two woods of different natures, as for instance, the ivy or laurel, which grow in dry spots, if joined to any that grow in moist places, would never hold long together.—The ancients were so convinced of the impropriety of joining together woods of different natures that they would not so much as place them near to each other. All writers agree that trees bearing no fruit are by nature more strong and sound than those which do, and that wild trees are harder than those that are cultivated. Trees grown in an open country, unprotected by hills, and shaken by storms and winds, are stronger and thicker, though perhaps shorter than those that may grow down in a valley. Again, trees that grow in moist, shady, damp places, must be softer than those that grow in a dry open situation. The heavier the wood is, the harder and closer is its grain; and the lighter the wood the more brittle; the parts nearest the heart may be the hardest and the closest, but those nearer the bark have more firmness, for a tree may be compared to an animal—the bark is the skin, the parts next the bark are flesh, and may be considered as a case enclosing the sap. Of all parts this albumen or juice that nourishes it is the worst enemy to contend against, because it is apt to breed worms. We shall next proceed to a consideration of the different varieties of stone.

(To be continued.)

Free Exhibition of Modern Art.

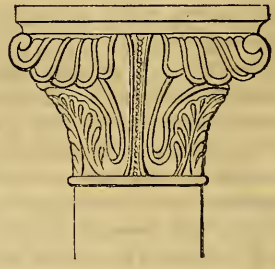
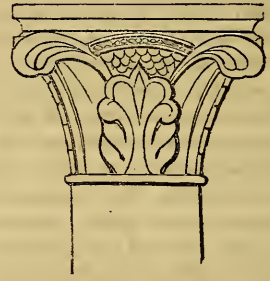
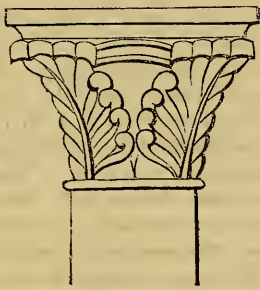
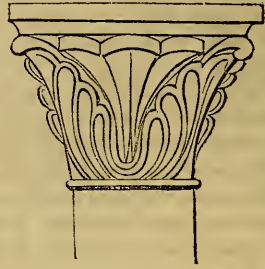
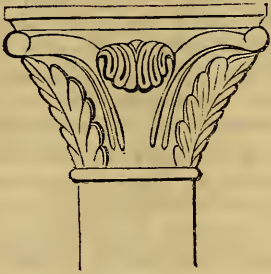
ON Monday, the Association for Promoting the Exhibition of Modern Art opened their gallery. It contains 531 works of art, of which fifteen only have been exhibited before, and is far superior, as a whole, to the collection in the same place last year. At the private view on Saturday, the attendance of visitors was very numerous, including many distinguished names, and eighteen pictures were purchased, being more, as we understand, than were sold there during the whole of last season, leaving out the sales to the Art-Union of London. The attendance of visitors since has been much better than it was last year, and will doubtless increase as the collection becomes known.

Nos. 6 and 7, *On the Trent*, and *A Willowy*

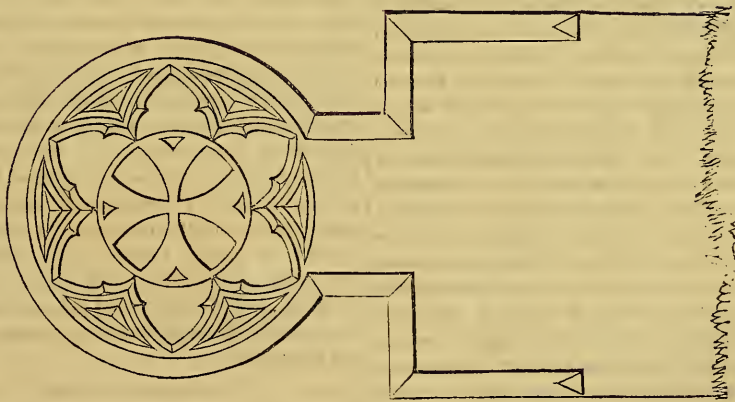
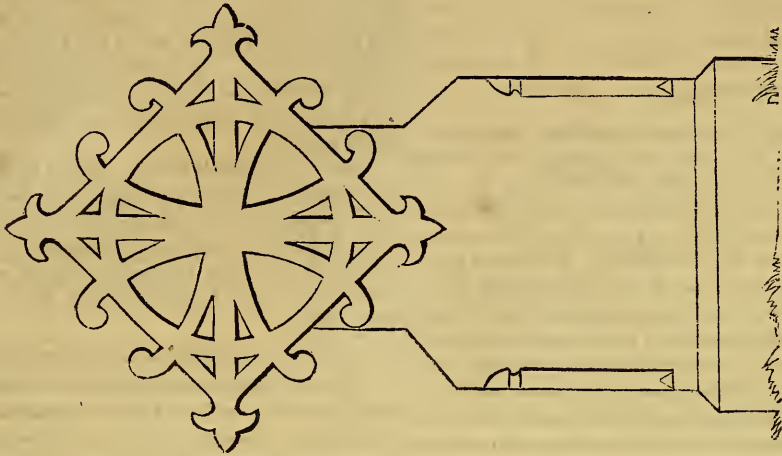
Stream that turns a Mill, are two nice landscapes by F. W. Hulme, at present better known by his excellent drawings on wood than by his pictures No. 14, *Morning Prayers*, by Marshall Claxton, is more to our fancy than some larger works by the same hand. In No. 23, E. H. Carbondl gives a possible view of *The Old Hostellerie, High Road, Knightsbridge*, 1497, (anciently called *Kynge's Brygg, or King's-bridge*, but more commonly known as *Stone-bridge*. 55, *Christ teaching Humility*, a finished study for a large picture, by R. S. Lauder, R.S.A., is one of the finest works in the gallery, and is calculated to raise the artist's reputation. It represents that incident in the life of the Saviour, when, in reply to the question, "Who is greatest in the Kingdom of Heaven?" he exhorted his disciples to become as little children.—Of the many works which have pretension in poetry or history—and of the few which can boast success—is No. 82, an illustration from the fourth act of *Lear*, by Mr. F. M. Brown. It represents the scene where Cordelia apostrophizes her father when asleep.

Mr. J. E. Lauder exhibits two pictures, *Yorick and the Grisette—the Pulse*, (103), and *Columbus* (275), both of which are excellent. 146, *Kilns at Alfreton, Derbyshire*, and 216, *Bonsall Dale, Derbyshire*, are two of the best out of a number of very powerful landscapes by Niemann. One of the best landscapes in the room, is 106, *Lowering Weather—Cader Iris*, by A. W. Williams. This was bought by Mr. Creswick, A.R.A. 295, *Laugdale Pikes, Westmoreland*, is by the same artist. 187 and 188 are two glittering views of the Eternal City, by W. Oliver. 200, *A Willow Bank*, well painted by A. Gilbert. Mrs. Criddle, in 221, *Juliet*, has a head full of deep feeling. 253, an excellent study of *An Old Man*, by Mr. A. Fraser, is entitled *Old Mortality*. Amongst the historical works will be noticed 290, *Claverhouse mortally wounded at Killiecrankie*, by W. B. Johnstone, R.S.A. *Moss Dale Fell*, by W. K. Briggs, is a clever piece of mountain scenery. 341, *Don Quixote prepares for his first Achievement*, by R. Buss, has much character. Mr. H. Parker's *Alarm—Signal—Smugglers Off!* (354) is one of those stirring scenes which the painter has made his own—and which his coasting residence has so peculiarly fitted him to design. 260, *The Ascension of the Just*, is earnest and well-intentioned, though defective in execution.

We must further mention J. D. Passmore, G. Rossetti, W. and H. Barrard, Wingfield, Dukes, Elen, Bullock, (whose Fruit is quite faultless, and almost equals Lance), Desanges, J. T. Houlton, J. Peel, and others.



EARLY ENGLISH CAPITALS FROM THE TEMPLE CHURCH.—(Continued from p. 184.)



TWO DESIGNS FOR HEADSTONES.—(GOTHIC.)

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

LECTURE I.

(Continued from page 217.)

AND now we come to a great and unceasing difficulty of the painter,—the difficulty of choosing from among the qualities of Nature that are most within his reach, which he shall strive to the utmost to attain, and which may be left out with advantage, or but slightly indicated. All the most agreeable traits of Nature as well as all the least, are so variously modified by circumstances and by associations, that to attempt to give anything like general rules for the conduct of selection and rejection—that difficult task in which the painter is engaged from the beginning to the end of his work, and on which all that the mind has to do with Art depends,—to attempt to give general rules for this would only lead to mannerism. Hogarth, in his ‘Battle to the Pictures,’ has with infinite humour opposed his Bacchanalian scene in the ‘Rake’s Progress’ to a ‘Feast of the Gods’; but, when we look at these seriously, we see two subjects brought together in which, whatever they may have in common, the standard of form proper to each would be wholly improper if exchanged.

Coleridge has well guarded the passage I have quoted from him, by calling the difference from Nature, which is essential to imitation a *librating* difference. For example, Poussin’s fine picture of ‘The Plague at Ashdod’ in the National Gallery, you will observe, is more generalized in its execution throughout than most of his works. It seems painted in haste, as if he dreaded to linger on the scene, and though the style does not contradict Nature, yet it is very far removed from matter of fact, which would be intolerable in such a subject. There cannot be a greater contrast to so general a mode of treatment than that displayed in the celebrated picture of ‘The Bull,’ by Paul Potter, in the Gallery of the Hague which approaches the nearest to deception of any really fine work of Art I have seen. The Painter seems to have omitted nothing that he saw in Nature which Art could represent, and yet its reality is free from any still-life unpleasantness. It is admired for its truth, but to a cultivated eye it has that something more than mere truth that is indispensable to a work of Art; it has great taste throughout,—displayed no less in the general arrangement of the masses and forms, than

in the most minute particulars. The grandeur of the sky and the beautiful treatment of the distant meadow, show that the painter had the power of seizing the finest characteristics of the large features of Nature, while the exquisite manner in which the beautiful forms of the leaves of a dock and their colours compose with one of the legs of the young bull display as fine an eye for her most intricate beauties. Throughout the picture indeed we see that the hand has been directed by the eye of a consummate artist, and not that merely of a skilful copyist.

Now, it is impossible for two modes of treatment to be more opposite than the styles of Poussin and Paul Potter in these two pictures, and yet both are right, while in the treatment of subjects of horror the general practice of the modern French school is to aim at a style as literal as that of the last. With them,—

“Nothing is slightly touched, much less forgot,
Nose, ears, and eyes, seem present on the spot.”

This is either the result of a want of imagination, or the neglect to exercise it by omitting anything the artist sees in a model before him, or which he knows belong to the subject in Nature, however revolting. Reynolds, in his ‘Death of Dido,’ indicates the wound in her side by a feint and slight touch of red, while the French system of imitation would draw our attention particularly to its size and shape and colour.

Such a plodding and indiscriminate mode of copying Nature it is which places Gerrard Dow, to me, much below the best painters of the Dutch school. Where he would render with a scrupulous exactness, every wrinkle in the face of an old woman, greater artists, as his master, Rembrandt, for instance, would express the character of flesh, and make the head a means of displaying a beautiful effect of chiar-oscuro, and where Dow would count the threads of a carpet, Terburgh, Metz, or Jan Steen, would express the beauty of its surface or the richness of its colour. His art is, therefore, exactly that which may be accomplished by a clever, a patient, and a laborious man, without imagination, and with but ordinary taste. Perhaps he stands at the head of a class of such painters, and a very large class it is; while the art of Terburgh, of Metz, and of Jan Steen, and I need not say of Rembrandt, like all sterling Art, is ideal,—Nature not altered, but

“to advantage dressed.”

It is not to the high finish of Gerrard Dow that I object, but to the tastefulness of his finish. Where the imitation of minutiae is to stop it is not easy to determine; but it is clear that the finish that belittles, or that suggests, at the first glance,

the labour or time employed in it must be wrong.

Here, however, I feel a difficulty which must always attend an address to a body of students of different degrees of advancement, namely the impossibility of accommodating anything I can venture to offer in the way of advice to the individual wants of all. In the practice of drawing or painting from Nature, there can be little doubt that, until correctness of eye and obedience of hand are attained, the closest possible, the most minute imitation, is the best. The aim at deception can do no harm, until these power are matured; for, as Fuseli remarks, "deception is the parent of imitation," and till the taste is well advanced it is, in a high degree, dangerous to attempt to generalize. We should be able to put every thing we see in Nature into a picture before we venture to leave anything out. I have known young painters commence with generalization, affecting a contempt for the attention to minutiae of some of their contemporaries, the secret of which contempt lay in their own indolence. But the result of this was always, that a vague and uninformed style in the end consigned their productions to oblivion. No painter ever generalized with more taste and meaning than Velasquez, but his early works are remarkable for precision of imitation,—of which 'The Water Carrier,' belonging to the Duke of Wellington, is an admirable specimen. Indeed, it may safely be assumed that no painter ever became great who did not begin with scrupulous finish.

It may be useful to dwell a little on some of the peculiar characteristics of the best painters of the Dutch and Flemish schools of the 17th century. Their great masters of this period, with the exception of Rubens and Rembrandt, have not been much noticed by writers, and for the reason given by Reynolds, that their works "make but a poor figure in description." They want indeed, what language can best dilate on, importance of subject; and they are considered, therefore, as having nothing to do with what is called High Art. But we find in their best productions Art more perfectly carried out, with reference to its aim than we meet with in the works of any other school whatever, and this aim is often a much higher one than is supposed by those who have given to them but slight attention.

All who know anything of Art admit the technical perfection of the Dutch and Flemish painters, but the drawbacks that are urged on such excellence are, that it is often wasted on subjects offensive to decency and on others that have little of interest. In reply to the first objection, no excuse can be offered; but in considering the second, it is clear that the very want of importance in the subject enforced the necessity of the greatest possible

refinement of treatment. It has been remarked that "we derive the pleasure of surprise from the works of the best Dutch and Flemish painters in finding how much of interest in the Art, when in perfection, can give to the most ordinary subject. The great masters of these schools, in their most palmy days, have, therefore, for all who are not too much wrapt up in theories of the sublime to take it their hands, greatly enlarge the boundaries of our innocent enjoyments.

(To be continued.)

On Lacquering.

(Continued from page 226.)

THE Varnish for tin may be made as follows. "Take of turmeric root, one ounce; of dragon's blood, two drams; and of spirit of wine, one pint. Proceed as in the former."

This may, like the former, have the red or yellow rendered more prevalent, by the increasing or diminishing the proportion of the dragon's blood. Where a coarser, or cheaper kind is wanted, the quantity of seed-lac may be abated; and the deficiency thence arising supplied by the same proportion of resin. The lacquer for locks, nails, &c., where little or no colour is desired, may either be seed-lac varnish alone, as prepared above, or with a little dragon's blood; or a compound varnish of equal parts of seed-lac and resin, with or without the dragon's blood.

The manner of laying on the lacquer is as follows. First, let the pieces of work to be lacquered, be made thoroughly clean; which if they are new founded, must be done by means of aqua-fortis. Being ready, they must be heated by a small charcoal fire, in a proper vessel, or any way that may be most convenient; the degree must not be greater than will admit of their being taken hold of without burning the hand. The lacquer must then be laid on by a proper brush in the manner of other varnishes; and the pieces immediately set again in the same warm situation. After the lacquer is thoroughly dry and firm, the same operation must be repeated again four or five times, or till the work appear of the colour and brightness intended. For very fine work, some use a less proportion of seed-lac, which occasions the lacquer to lie more even on the metal; but in this case, a greater number of coats are required, which multiplies the proportion of labour; though where the price of the work will allow for such additional trouble, it will be more perfect for it.

This lacquering tin may be performed in the same

manner as is here directed for brass, but being for coarser purposes, less nicety is observed; and fewer coats (or perhaps one only) are made to suffice, as the lacquer is compounded so very red, that the tinge may have the stronger effect.

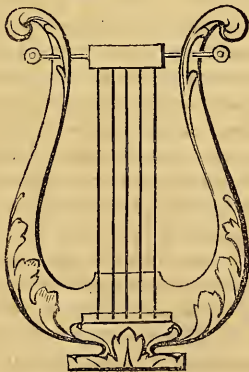
Locks, nails, &c. where lacquer is only used in a defensive view, to keep them from corroding, and not for the improvement of the colour, may be treated in the same manner; but one or two coats are generally thought sufficient; though, where any regard is had to the wear, the coats of lacquer and varnish should always be of a due thickness, when they are to be exposed to the air; otherwise, the first moist weather makes them look chill, grey, and misty, in such a manner, that they are rather injurious than beneficial to the work they are laid on.

The lacquering picture frames, &c., where the ground is leaf-silver, may be performed in the same manner as gilding leather; the circumstances being nearly the same, except with relation to the texture of the subject; to suit which, the different manner of treatment may be easily adapted; but the lacquer, as was before observed, may be the same.

An Illustrated Glossary of Technical Terms used in Architectural and Exterior Decoration, &c.

LYSIS. A kind of plynth, or step, above the cornice of the podium of ancient temples, which surrounds or embraces the stylobate, as may be observed in the temple of Fortuna Virilis.

LYRE. A stringed instrument used by the ancients, and represented in the hands of Terpsichore



and other muses. It varied in shape, but the annexed is the most general form in which it occurs.

M ROOF. The junction of two common roofs with a vallum between. The letter Δ inverted would also correctly represent this kind of roof.

MADRIER. A term applicable to flat beams of wood, placed at the bottom of a moat, to support a wall; to a thick plank armed with plates of iron, projected from a petard against the gate, or any other part of a fortified place, to make a breach; a plank of wood covered with tin and earth, for a defence against fire, is also called a madrier.

MAENIANA. Seats in the upper porticoes of the forum, whence the spectators beheld the performance of the gladiators.

MANTLE TREE OR MANTLE PIECE. The name given to the beam of wood supporting the breast work of a chimney. In modern buildings its place is supplied by an iron bar, or by an arch of brick or stone.

MANTLETS. In fortification, a kind of moveable pent-houses, made of pieces of timber sawed into planks about three inches thick, nailed over one another to the height of six feet, cased with tin, and set on wheels, to be driven before the pioneers or miners in a siege, to conceal them from the enemies' shot.

MACHICOLATIONS. In old castles over gates, are small projections, supported by brackets, having open intervals at the bottoms, through which melted lead and stones were thrown down on the heads of the assailants.

MAHOGANY. A wood sometimes used for doors and window sashes, is seasoned by sawing out and drying in the open air, after exposing to the weather during winter: it ought never to be exposed to fire drying.

MAPLE. A very common tree in almost every part of Great Britain. The timber of the common maples is far superior to the beech for all the uses of the turner; and when it abounds with knots, as it frequently does, it is much esteemed by joiners for inlaying.

MARBLE. A peculiar kind of stone, of a hard and compact texture, and very fine grain. Its varieties are almost innumerable. It is formed in beds or strata in most of the mountainous countries of Europe. In England it is most abundant in Derbyshire. That of Italy is, however, the most valuable of any, particularly the black and milk-white marble found at Carara, in the Duchy of Massa.

(To be continued.)

Photogenic Drawing.

(Continued from p. 217.)

Time occupied in Producing a Copy.—This mainly depends upon the texture of the paper and the state of the weather; but ten minutes in a bright sunshine, and half an hour in a clear day, generally suffice. By gently sliding the upper glass partially off, without disturbing the position of the drawing, and adroitly raising the part uncovered by the glass, you can ascertain whether a complete impression has been made; if the copy is not sufficiently distinct, replace the glass, and expose it some time longer to the action of the light.

Fixing the Photogenic Drawing.—Directly an impression has been obtained wash it in clear water, and then partially dry it between folds of blotting paper. Next pour into a flat dish, sufficiently large to hold the drawing, a previously prepared solution, composed of one ounce of soda dissolved in a pint of water. Soak the drawing in this solution for three or four minutes, and afterwards well wash it in separate portions of water till the water running from it is tasteless. This done, the picture is fixed, and having been dried may be exposed to the light without sustaining any injury.

To Copy Raised Objects.—A correct impression of objects that are not flat, such as leaves, butterflies, and so on, may be obtained by the process above described, interposing a board covered with flannel between the lower glass and the prepared paper (slightly damped), by which means the object will be gently embedded in the sensitive paper.

Negative and Positive Photographs.—The first impression of an object, a print for example, will have contrary lights and shades to the original, because the solar rays pass more readily through the light part of the object, and thus produce shades on the paper, than through the thick or opaque parts, which consequently transfer little or no impression. These reversed shaded impressions are termed negative ones, in contradistinction to those which have similar lights and shades as the original, and are therefore called positive photographs.

By substituting the negative copy for the original, and then submitting it to the same process as was used in its production, any number of positive copies may be obtained from that one negative impression, because, as will be readily perceived, the shades are again reversed, and a fac-simile of the original thus obtained.

The Chronotypist.

A CORRESPONDENT of the 'Leicester Mercury' says that a subscription is on foot for erecting in Westminster Abbey a monument with bas relief and bust, to the memory of the poet Cowper. It is said, too, that measures are likely to be taken by a committee at St. Ives to appeal to the country for funds to erect a monument to the Protector. St. Ives was the place at which Cromwell resided at the commencement of his public career, and his signature still exists in the church books. Slepe Hall (the site of his house) has just been pulled down, and a portion of the inhabitants think that upon that spot the monument should be erected.

—The Electric Light is about to shine again after a temporary darkness. Mr. Staite is announced to give two lectures on its commercial value at the Western Literary Institution, where it was first exhibited to the public.—Among the great variety of sites which have been proposed for the marble arch removed from the front of Buckingham Palace, a correspondent of the *Builder* now suggests the front of the British Museum.—The Edinburgh papers announce the death of Mr. David Scott, an artist of reputation and promise—but very little known, even by name, south of the Tweed. His last great work was a large picture of 'Vasco de Gama';—but his best work was 'Paracelsus in the Lecture Room.' His father was a landscape engraver,—and he himself for some time followed his father's profession. He wrote clearly and cleverly about Art, and was an enthusiast in his calling. His funeral was attended by the members of the Royal Scottish Academy and by several gentlemen connected with literature and art who knew and understood his worth. He was in his forty-second year.—It is our task to record that the pleasant Oriental novelist, Mr. James Morier, died within the last fortnight, at Brighton. It will be long, we fear, ere we have anything so racy, so natural, at once so Oriental and so sympathetic with our tastes, as his 'Hajji Baba,' 'Zorab,' and 'Ayesha':—and great in proportion is our regret that the casket from whence these came is broken for ever.—The Commissioners of Woods and Forests have accepted the tender of Mr. Robert Hicks, of Stangate, for the masons', carpenters', and joiners' work required in the repairs and ordinary works to the royal palaces and public buildings of the metropolis.—Most of our readers will be glad to hear the Free Architectural Exhibition has hitherto more than realised the anticipations of

the projectors, the number of visitors having just prior to the extremely cold weather reached to 560 and 670 in the day. His Royal Highness Prince Albert has honoured the association with a visit; and among other distinguished visitors have been the Marquis of Northampton, Sir Robert Peel, Lord Codrington and others.—The second and last part of the Stowe sale of engravings of British portraits terminated on Tuesday last. The proof prints after Sir Joshua sold at very high prices.—The ceremony of Mr. Macaulay's installation in the office of Lord Rector of the University of Glasgow took place in the Common Hall of the College on Wednesday in the week before last. If Mr. Macaulay's allusions to the close of his political life are to be accepted as a deliberate announcement he may be considered as won back to the fields of literature on which his earliest laurels grew.—It has been urged, that while almost every house of any respectability in the country, and nine-tenths of the corn ricks and homesteads are insured, scarcely any of the churches have had the same precaution used with regard to them. It is said that a legal opinion of high ecclesiastical authority was given in respect of Portsmouth Church, not many years past, to the effect that "the churchwardens would be censurable, I had almost gone the length of saying punishable, for omitting the necessary precaution of insuring the parish church from fire." Churches erected under the Church Commissioners are all insured, and generally to the amount of two-thirds of their costs.

New Saw-Filing and Setting Machine.—The Messrs. Norton and Cottle, of Holme's Hole; have recently patented a machine for filing and setting saws, enabling the operator to whet and set the teeth of saws in such a manner that every tooth will be equal in size and length, the proportion being graduated by an index, and so adjusted as to suit the teeth of saws of every description. Saws that have been used and become useless in consequence of bad filing, can be re-cut. The set is attached to the machine in such a manner, that when the filing is completed, no alteration is required in the adjustment of the saw to complete the setting. The inventors have found by experience, that the hardest saws can be set without breaking or injuring the teeth. Saws considered in a measure useless having passed through this machine are said to work perfectly easy, and perform much faster than those filed in the usual manner; and the teeth being all of an equal length, will not require filing as frequently. These machines, if not too expensive, we think, will come into extensive use.—*New York Mechanic.*

Discoveries at Fountains Abbey.—In a thicket of underwood, near the lady chapel, and where the

river Skell is arched over, some interesting remains of the abbot's house have been discovered. In repairing the arches, and on reaching a level just above the perfect parts of the structure, the workmen came to pavements of encaustic tiles, the bases of two rows of clustered Early English columns, and broken Netherdale marble shafts, similar to those now to be seen in the choir and lady chapel. Here, too, in what appears to have been the common ash-hole, were found some Ralley or Railage coal, and a silver tea-spoon! The remains seem to be spread over an extent not much less than the nave and choir of the Abbey Church, and, from what has already been uncovered, it appears that the whole ichnography of this important building may yet be retrieved by a careful excavation.

To Correspondents, &c.

On April the 2nd, was published, Part I,
Price One Shilling, of The
SELF-INSTRUCTING ORNAMENTAL

DRAWING BOOK,

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Showing the position of the hand in describing the primary ornamental curves, &c., and general rules for Drawing Ornamental Foliage, with a letter-press description.

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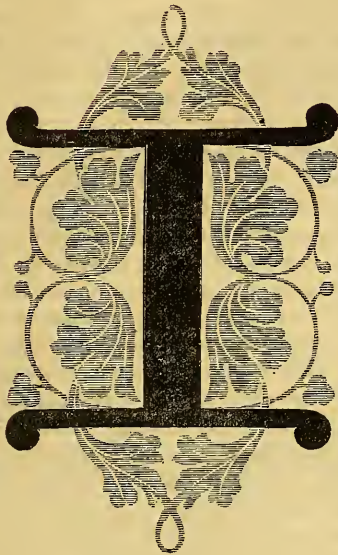
**Any of our Readers having complete ALPHABETS of an ornamental description, suitable for decorative purposes, will greatly oblige us by lending, or sending copies of them.

Part 24 is now ready, price 10d.



A SKETCH TAKEN FROM A BOOK-COVER OF CARVED OAK, LATELY SOLD AT THE STOWE SALE,
SUITABLE FOR A PANEL.—(RENAISSANCE STYLE.)

On the Study of Natural
Foliage.



T would seem needless to impress on the Designer of Ornament the necessity for a constant study of the natural growth of plants, their blossoming and fruitage, as the true source of new and ever-varying ornament, if it were not but too apparent that this path to excellence and variety is almost entirely neglected for less original, if less laborious modes of study. The way to excellence is the same in all arts: and it will be found that our labours give pleasure to others in proportion as we take an original view of things, and are able to impress this on other minds.

Such original view, it is very certain, however, can only be taken by a direct reference to the object itself, and is hopelessly sought in the conventionalised treatment which the passage through other minds is sure to produce; and yet this latter method has been the usual course of study of the ornamentist. He collects a stock of examples in the Greek, Roman, Mediæval, and other styles; and turning over the pages of his authorities, selects here a Greek

honeysuckle, and there an acanthus leaf,—a ram's head from the horns of one altar, a festoon of flowers from another,—happy if his taste is sufficiently discreet to save him from mixing Greek with Roman, or both with the Revival; introducing with ruthless indifference the ornaments of a sarcophagus into an epergne, or a wine cooler—not that he would intimate that there is death in the abuse of the juice of the grape, but that it matters not to him, so that the forms are agreeable, whether the vase that inurned the ashes of the dead figures again as the cup of the Eucharist, or the altar of a Greek deity adorns his church as a memory-stone to his friend. How hopeless of producing anything new or original, such a practice as this! What should we think of an artist who selected his figures or groups from “The Last Supper” of Da Vinci, or the Cartoons of Raffaëlle; yet on such practice has the ornamentist hitherto but too often been allowed to rest his claim for talent. We have, however, cause to hope that a change is taking place for the better, and trusting that ere long Nature will be more constantly resorted to,—that in her endlessly varied forms of beauty and grace, we may find the true source of original ornament.

It is with this view that we attempt to turn attention to the study of the natural untrained growth of plants and flowers—to the graceful lines of Nature's handiworks—to the hints that she is constantly holding before the eyes of men—that they who have long “gone through the world with their eyes shut” may be tempted to open them upon wealth that may well shame the niggard poverty of their former resources. He that would be great as a designer of ornament must be in the hedge-rows and fields at all times, sketching with patient diligence the form and curvatures of leaves, fruits, flowers, &c. their groupings and foreshortenings; studying them as a whole, and in their minutest details, together with their growth and structure; not to repeat as a mere imitator, but to display them as ornament, to dispose them geometrically, to arrange them to suit the various fabrics or manufactures for which he may be called on to design; and to give them life and words as it were, by using them as emblems of some living thought or poetical allusion. And this is, indeed, one of the most important parts

of his study; one that will require the talent of the artist, the powers of an original mind. It is this that lifts the ornamentist to his true place, and elevates him from being a mere pattern drawer, to take proper rank in the world of art; for who would limit the art of the ornamentist to the mere mechanism of drawing, leaving out of the question the poetry of association which must be added to the skill required to adapt the forms and colours of Nature to fabrics and textures, requiring a treatment suitable to the powers of the manufacturer, or the qualities of the material.

Modern Town Houses.

BY FRANCIS CROSS.

(Concluded from page 233.)

CHAPTER V.

STONES.—An ancient authority advises that the stone be dug in summer, and that it should lie in the open air for two years, that it may by degrees become hardened to the atmosphere, and indifferent to changes of wind, rain, and frost, all of which are unknown to it in its natural bed. For if stone is used immediately after it is quarried, it will, through being impregnated with its native moisture and humidity, upon being exposed to severe winds and sudden frosts, split and break to pieces. It should be kept in the open air in order to prove the goodness of each particular stone, and how far it may be able to resist the attacks that may befall it. The stone should not be used until it has been subjected to this trial for two years, in order that sufficient time may elapse to show such as may be weak and unfit, and at the same time such as are fit for building; and this is most important when we recollect that there exists oftentimes a great difference in one and the same kind of stone. While some will harden upon being exposed to the open air, others will contract a kind of rust or vegetation, and so moulder and decay away. But the best instructions that can be given relative to the goodness of any particular sorts of stone, and its fitness for this or that situation, are to be found from use and experience, and by strict examination into old build-

ings, rather than to deeply learned works. To speak briefly however, of stones in general: it will be found that all white stone is softer than red; the clear is more easily wrought than the cloudy, and the more like salt the block looks, the harder it is to work. Stone that appears as if covered with bright shining sand is harsh; if little sparks are intermixed, it will be stubborn; if it has little black points, it will be hard to get out of the quarry. That which is spotted with angular drops is harder than that which has round ones, and the smaller these drops are, the harder the stone will be; and the finer and clearer the colour, the longer it will last. The stone with the fewest veins will be the most entire; the smaller the veins, the more beautiful the stone; the more winding they run and knotty, the more inferior the stone. A multitude of veins show the stone to be deceitful and apt to crack. Upon breaking a stone the more fine and polished the fragments appear, the closer bodied it is; and that which when broken is outside the least rugged, will be more easily worked than those that are rough. If you wish to make the experiment of how long your stone will hold out against time, soak a piece of the stone in water; if it increase much in weight you may be sure that stone will rot if exposed to moisture, and that which flies to pieces when exposed to fire, will stand neither sun nor heat.

BRICKS.—We find in buildings of the greatest antiquity, that bricks were used in lieu of stone. The original purpose for which they were invented is almost self-evident. The scarcity of stone, or the great difficulty of working the blocks led man first to supply their place with bricks in their buildings, and finding how easy they were in working—how strong and durable they were, they proceeded to build not only ordinary structures, but even palaces of bricks. They are the best material that can be used, provided they are made and baked in a proper manner. Of soils, a whitish, chalky earth has been much recommended, and reddish earth is also much approved of. Sandy or gravelly should be avoided, but anything like a strong earth should be avoided more than all, as in baking they are apt to warp and crack. We should dig out the earth in autumn, and leave it to digest during the winter, and convert it into bricks in the spring; for in winter it is

certain the frost would crack it, while in summer the excessive heat would make it peel off while drying. It has been noticed that the ancients mixed sand with earth to make a harder and stronger brick, and it is certain that if bricks were well mixed together before baking, like bread, until perfectly clear of any particles of stone, after being burnt, they will attain the hardness of flint.

LIME, SAND, &c.—Stone from the quarry is the best for making lime, especially that dug out of a shady moist quarry, rather than a dry one. The lime considered best, is that which loses a third of its weight in burning. Lime may be soaked in lumps, but should be plentifully saturated before it is used, so that if there be any lumps not sufficiently burnt, they may become dissolved by its laying in water; because if it is used too soon there will be found to be small stones which will throw out little pustules, and so spoil the neatness of the work. There is no occasion to flood the lime with water, but wet little and little, sprinkling it several times over, until the water has thoroughly impregnated every part; then put it in some shady place, moderately moist, clear from all mixture, and covered over with a little sand till it has thoroughly fermented, for by this process it is conceived that the mortar will acquire the greatest strength.

There are several kinds of sands, as black, red, white, or gritty, known under three sorts, as pit-sand, river-sand, and sea-sand. In the public buildings in Rome, the red sand was chiefly used. The gritty is useful, especially in foundations;—the white is the worst. The river-sand is much esteemed, and in some countries sea sand is esteemed very little inferior to pit-sand. Of sea-sands the best is that dug from under the rocks, and which has the coarsest grain. It takes long to dry thoroughly, is continually moist, and is apt to dissolve by reason of the salt. The river-sand is somewhat moister than the pit-sand, which is the most easy worked, and well adapted for plastering, being tenacious. That sand is best that is sharp and gritty in the hand—not mealy. Sand that has been dug some time and exposed to the sun or frost, becomes useless and apt to rot.

We have now treated on timber, stone, lime, and sand, but in some places these things are not to be found, especially with the qualifications we have laid down; but in different places there are different conveniences; therefore we should make use of such as offer themselves, and out of them

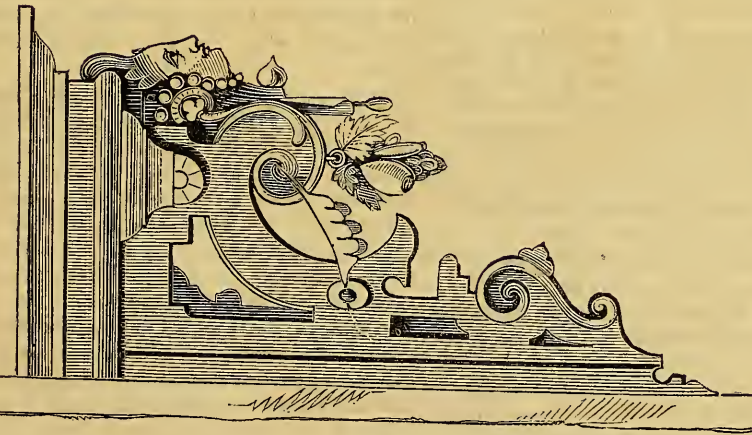
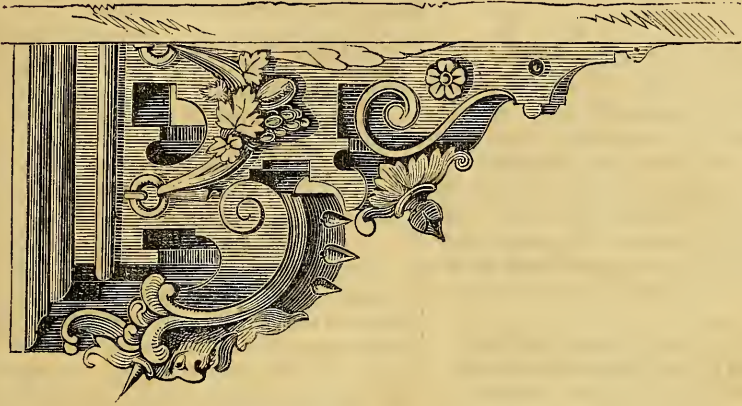
it is our duty to select the best and the most proper, and finally we should allot to each its fit place and situation. It will not now be necessary to treat of iron, brass, lead, glass, &c., beyond saying—have them in readiness before you begin building, so that the work shall not stand still for the want of them. We should consider the season of the year; for buildings begun in winter are apt to be injured by frost; and if in summer are dried up. For these reasons we should begin according to the climate of the country. Without referring to any of the superstitions of the ancients, we should begin the undertaking with a clean heart, that we may have a prosperous and happy ending; and with good wishes to the future inhabitants we conclude wishing them content of mind, increase of fortune, and a successive continuation of good things.

A Steam Stone-Drill.—Mr. Joseph J. Couch, of Boston, has invented a steam-drill, which, it is said, can be worked so as to apply the force at any angle with the requisite rotary motion, and to do the work of seventy-five to eighty hands at once by the aid of two. The "*Atlas*" in describing it, says—"The drill is attached to a shaft by means of a socket. The shaft is made to play with great force by simple mechanism, and as the drill approaches the rock is detached as by throwing by hand, only momentarily. At every blow a rotary motion is effected by means of a small ratchet on the drill shaft. In horizontal positions the power depends on the momentum of the drill shaft; in vertical and inclined position the momentum is assisted by gravity. At the trial, the machine was placed in a *horizontal* position, and perforated a block of the hardest granite with a 4-inch drill at an average rate of 22 inches in the hour; with a 3-inch drill, it executed from 25 to 30 inches in the hour. A medium rate is 125 blows per minute. But by heightening the speed, not only is the number, but the force of the blows increased. The machine can be seen at Mr. J. Fowle's, No. 16, East Orange Street." A machine of a like nature, we may here observe, but worked by hand or by horse, with a crank and fly wheel, has been invented, or improved rather, by Mr. E. Nicholson, of Newcastle. It appears, however, to be only capable of drilling vertically. The drill is made to rotate also, and to be detached in falling and gripped in lifting. With large drills, four men, or a horse, will thus cut a 4-inch hole in hard stone, it is said, at the rate of $2\frac{1}{2}$ to $3\frac{1}{2}$ feet an hour, and two men, with smaller machines, a 4-inch hole in free stone, at the rate of 5 to 6 feet an hour.



CIRCULAR COMPARTMENT FOUND UPON A PLATE FORMERLY IN THE CABINET OF M. EUGENE PIOT.

Suitable for a Centre-piece.—(Italian Style.)



TWO DESIGNS FOR BRACKETS.—(FLEMISH STYLE.)

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

LECTURE I.

(Continued from page 237.)

Such painters as Ostade, Nicholas Maas, De Hogge, the younger Teniers, Cuypp, and Ruysdael, have shown us that, in the humblest spheres of life and amid the homeliest scenery, the grandeur, the beauty and the sublimity of Nature may be found, for that she visits all these with the same splendid phenomena of light and shade with which she looks on the palace or on her own most favoured haunts.

It is well, too, for Art sometimes to draw our attention to—

“The short and simple annals of the poor.”

And though it is to be regretted that Ostade in doing this is often grossly repulsive; and here he is an instance of what we sometimes meet with,—a union of the best and worst taste,—a fault more or less shared with him by many of the most natural painters,—yet his best works have always redeeming traits of domestic interest by which he penetrates to the heart—to where the cold mechanism of Dow never yet reached. The hard working, and therefore, prematurely old-looking parents caressing their old-looking children with that natural simplicity which this perfect master of expression knew so well how to give, the relish of their enjoyments increased by their fewness, are, I confess, far more to my taste than the cottage incidents of many other painters who more ambitious of story, aim to be sentimental; and though such painters avoid all that is objectionable in Ostade, and take care to give beauty enough, yet like Greuze, for instance, the best of the class of which I am speaking, they carry the mind more into the theatre than into true rustic life. And here I cannot but look back to a greater painter but lately among us, whose exquisite pictures of the domestic life of the peasantry of his own country are wholly free from falsehood—need I mention the honoured name of Wilkie!

Ostade's predilection for ugliness is, however, a serious fault, though it places in a strong light his redeeming power, transcendent excellence as a painter, and which, to me, has but one drawback—namely, that whether or not from the use of the convex mirror, his figures do not suggest the size of life, like those of Jan Steen, of Maas, and of De Hooge, but seem of Lilliputian dimensions—a fault also of Dow, of Mieris, of Wouvermans and others,

who are not, for anything else, to be named with Ostade. This objection is not to be met by the principle that Art is not to be mistaken for Nature. For there is nothing more constantly to be borne in mind, along with this principle, than the rule than whatever in Art contradicts Nature is wrong: a rule applicable even to supernatural, which must have a seeming truth to be tolerated.

Of all the Dutch painters of familiar life, Jan Steen is acknowledged to be the greatest genius. The humour and whim in his compositions disclose to us a mind quite distinct from the rest, and the love of childhood displayed in the frequent and inimitably natural incidents of it in his works show that with all his eccentricities there was something good in his nature; and, indeed, unless that be the case, I doubt the power of any painter, whatever may be his genius, to interest us deeply. You will all remember the very fine picture by this admirable master belonging to the Duke of Wellington, which was exhibited last summer at the British Institution, I mean 'The Wedding. Overflowing with obstreperous mirth, its great charm to me is that of its genial tone. Constable painted a view of a gentleman's house, which he called 'A Picture of a Summer Morning, including a Houee;' and to me, this magnificent work of Jan Steen is a picture of a summer evening including a rustic wedding.

I know not that any other painter combines such a completion of finish at so apparently small an expense of labour as this master does in his best pictures. But haste, perhaps occasioned by his necessities, towards the close of his life, made him throw off works which, though they might have made the reputation of other men, are scarcely worthy of him.

All his pictures have, however, more than those of most painters an apparent artlessness of contrivance,—the result not of ignorance, but of that originality which, disregarding common rules, works out its purposes by methods of its own and yet faultlessly. Jan Steen seems, indeed, from the unmistakable evidences of rapidity of production his works present, to have had the whole of his art, not only always present in his mind, but at his fingers' ends. He seems to have painted as quickly and as surely as Shakspeare is said to have written. Others have no doubt equalled him in this, but who with such results? excepting only a still greater genius, Rubens; nor must I quit Jan Steen, without remarking that there is more of personal beauty in his pictures than in those of any others of the Dutch painters, with the exception only of Terburg and Metz, though it is beauty, as it should be, not elevated above the sphere of life from which is subjects are mostly taken.

(To be continued.)

The Method of Making Enamels of Various Colours for Gold or Silver Work.

The Ground Work of Enamels.—Take thirty pounds of fine lead, thirty-three pounds of fine tin, searse them when they are well calcined in a kiln, boil this calx a little in clean water in earthen vessels, and when you take it off decant the water by inclination, and in it will be the finer part of the calx; put fresh water on the remainder, boil and decant it as before, as long as the water carries off any calx, and then recalcine what remains gross, and draw off the most subtle part of it, as before; after that evaporate the water that carried off the finer calx over a gentle fire, that the calx may not fly out with it, but remain at the bottom; then take crystal frit made with tarso finely ground, and of this calx, of each fifty pounds, white salt of tartar eight ounces, powder, searse and well mix them; put the composition into a new earthen pot, giving it a fire for ten hours; then powder it, keeping it close covered in a dry place. Of these materials all the ground of enamels are made, of what colour soever.

Materials or Utensils for this Work.—First, let the pot wherein the enamels are made be well glazed with white glass, and that it bear the fire well. Secondly, incorp rate, and mix well the stuff and colour of the enamels. Thirdly, when it comes to be refined, and the colour proves good, and all well incorporated, take it off the fire with a pair of tongs for the workman's use.

The Manner of making Enamel.—Powder, searse, and grind well the colours, having mixed them together as occasion requires; then with the stuff of the enamel, set them in pots in the furnace; being melted and incorporated, cast them into water, and when dry set them again in the furnace to melt, which will be soon, so make an essay, and if the colour be too high take out some of it, and add more of the stuff of the enamel; if too light, add more of the colour, till you bring it to a due proportion.

White Enamel.—Take six pounds of the stuff for enamel, forty-eight grains of maganese, cast it thrice into water; being refined, melt it, and it will produce a white enamel.

Turquoise-Coloured Enamel.—Take six pounds of the stuff of enamel, melt, refine, and cast it into water; then again set it in the furnace, and when it is melted, and well refined, put in three ounces of calcined brass, at thrice, ninety-six grains of prepared zaffer, and forty-eight of maganese like-

wise prepared; mix these well every time, and let them incorporate; make a proof with your eye as to the colour, and when you find it right, take it out and keep it for use.

Green Enamel.—Take four pounds of the stuff for enamels, place it in the furnace, and in ten or twelve hours it will be melted and refined, so cast it into water, and place it again in the furnace in its own pot, and being refined, put in two ounces of brass thrice calcined, mixed with two ounces of scales of iron well ground, put these in at three times, mixing and incorporating them well every time, and so work it up to a pure colour, and take it from the fire, &c.

To make Violet-Coloured Enamel.—Take six pounds of the finest enamel stuff, three ounces of maganese well prepared, forty-eight grains of thrice calcined brass, mix the powders very well together, and then do the like with the enamel stuff; put them into the furnace, cast them into water, and being dry, put them again into the furnace, and when the stuff is refined and well coloured, make it up for use.

To make a Sky-Coloured Enamel.—Take four pounds of enamel stuff, brass of sky colour and sea green each two ounces, prepared zaffer forty-eight grains, and mix them well; then in other respects use them as the former.

To make Purplish Enamel.—Take six pounds of the stuff for enamels, two ounces of maganese prepared, of brass thrice calcined, six ounces; mix them very well together, set them in the furnace, and in all things else use or order them as in the other.

To make Gold Colour or Yellow Enamel.—To make this, take six pounds of enamel stuff, three ounces of tartar, seventy-two grains of maganese prepared, grind and mix the powders well together, and after that, with the stuff of the enamel, melt and order them as other enamels, and it will be of a fair golden yellow, proper to enamel on gold; but it will not show so well there, unless it be worked on with other enamels, that may make a pleasing variety of colours.

To make a Black Enamel.—Take four pounds of the enamel stuff, maganese and zaffer prepared, each two ounces, mix them well together, and then incorporate them well with the stuff; put the pot with these materials into the furnace; let the pot be large, and when they are melted and refined, cast them into the water; then put them into the furnace again, and they will quickly refine, and become of a curious velvet black.

Another Black Enamel.—Take four pounds of the enamel stuff, of tartar four ounces, well prepared maganese two ounces, mix and grind them well, and mix them well with the enamel stuff.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

MASONRY. The art of arranging and joining stones together for the formation of walls, in the construction of buildings. Vitruvius mentions seven kinds, distinguished by the different modes of arranging the stones: of these, three are of hewn stones. The reticulated Masonry, consisting of stones squared in their courses, forming a regular appearance with the intersecting lines, parallel, diagonally, and perpendicularly; it is agreeable in appearance, but the weakest mode of masonry.—Bond masonry, is that wherein the stones of each succeeding course are laid, not exactly over those below, but projecting, as tiles of roofs are arranged; so that the joint that mounts and separates two stones always falls directly over the middle of the stone below. The appearance of this work is less beautiful, but more durable than the net work masonry.

MARQUETRY. Inlaid work of fine hard pieces of wood of different colours fastened in thin leaves on a ground; called also inlaying.

MARMORATUM. A plaster of pounded marble, or mortar of lime and marble beaten together, mentioned by Varro as employed in walls, terraces, &c.

MARBLE. The polishing of marble, was well understood by the ancients, and performed differently in different countries. It is first brought to even face, by rubbing with freestone; afterwards with pumice stone; and lastly emery, if of several colours; but white marble is finished with calcined tin. The Italians polish with lead and emery.

MALTHA. Originally a native bitumen, with which the ancients plastered their walls. An artificial kind was made of pitch, wax, plaster, and grease; another sort was composed of lime slacked with wine, and incorporated with melted pitch and fresh figs.

MAUSOLEUM. A building erected by his wife to the memory of Mausolus king of Caria, whence the term was afterwards applied to every sumptuous sepulchral monument.

MEDALLION. Any circular tablet on which are embossed figures or busts.

MEDIANS. The middle columns in a portico, where the intercolumniation is enlarged.

MEDIAEVAL ARCHITECTURE. The architecture of England, France, Germany, &c. during the middle ages, including the Norman and early Gothic styles.

MEGALOGRAPHIA. A name applied by Vitruvius to a kind of painting, representing the history of the gods and heroes, which the ancients employed for the interior ornament of their houses.

MEMBERS. The different parts of a building; the different parts of an entablature; the different mouldings of a cornice, &c.

MEMEL TIMBER. Imported from the town of that name, in Prussia.

MEMNONIUM. A grand building which encircled the celebrated statue of Memnon, in Egypt.

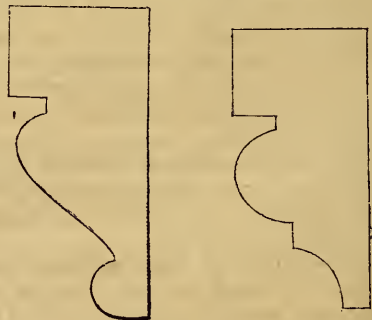
MENSURATION. The science which teaches us to estimate the magnitudes of bodies, superficies, and lines. The most important parts of it will in general be found under their different articles.

MERLON. In fortification, the part of a parapet which terminates by two embrasures of a battery: its height and thickness is usually the same as the parapet; its breadth about six feet on the outside, and nine within; it serves to cover those on the battery from the enemy's attacks.

MENAGERIE. A building to keep rare and foreign animals in. The ancient Romans had generally private menageries, a kind of small parks, in which they had all kinds of animals, attached to their villas.

MEROS. A triglyph consists of six parts, two and a half are on either side, and the meros is in the centre, and constitutes one part.

MOULDINGS. The small projecting ornaments of columns, &c. The two annexed sections are engraved (the full size) from a set of planes comprising some twenty-six varieties of mouldings, manufactured by Messrs. Moseley and Son,



New Street, Covent Garden. We have lately had an opportunity of examining them, and were much pleased with their beautiful style of workmanship and finish.

Professor Cockerell's Lectures on Architecture.

(Continued from page 223.)

YET the architect should not consult too much his friend, nor too much his enemy, but rather endeavour to avoid the prejudices of each. He impressed upon his hearers the importance of recollecting the wonderful power of proportion. By it, not only character but magnitude was given to a building; it could make the small look large, and the large look small. In illustration of the former characteristic, he quoted a passage from an author, descriptive of a small figure of Hercules, which, though it might be held in the hand, as you looked at it seemed to expand into a Colossus; and of the latter, he instanced the interior of St. Peter's, at Rome, which was so ill devised that it actually appeared smaller than it was, a great error, and in expense extravagant in proportion to the result. Why were these opposite effects?

Proportion, he defined to be of three kinds:—1st. Proportion of elements, expressed in the orders; 2nd. Proportion of cubes and solids, which would govern that of halls and apartments; and 3rd. The proportion of areas, courts, and squares. In the orders we found expressed, in the most perfect manner, the charm of quantities. The best masters had constantly devoted their attention to these features of architecture; so much so, that Wren complained that architects attended to them as though they were the whole matter of the art. In considering the question of magnitude, it was to be remarked, how in the early Doric there were larger capitals and rapidly diminishing shafts, as compared with the late Doric, in which we noticed a gradual tendency to the vertical and pyramidal. Greek architecture was characterised by a certain finality, and it resulted from that characteristic, that where applied as a lower story it was bad, as we saw it in Buckingham Palace. He inferred that it was bad to diminish greatly the Doric in street architecture, and that it was from this application of it by the Romans that the altered diminution resulted. He inferred, too, that the large capital was found incompatible with the altered position, and that it was intended to give magnitude by being diminished.

The Grecian Doric order, when alone, would never look large; whilst the Roman columns, as that of Trajan, showed the perfect consideration for this object of proportion. In the Corinthian order, varying the height of the capital altered the appearance of length in the columns; a lofty

capital made the column look short; whilst by diminishing the capital, magnitude was attained. Similar means were apparent in all three of the orders. The system was found in the Parthenon especially. He found from Vitruvius, that the ancients recognised that the proportion should alter with the magnitude. In the temple of the Giants at Agrigentum, the columns of which had a diameter of thirteen feet, we found base mouldings,—an entirely new feature in the Grecian Doric. At Pæstum, instead of the ordinary number, the columns had each twenty-four flutes. But at Sunium, where they were small, and where breadth of effect in the temple, viewed from the sea, was desirable, they had sixteen flutes. I am not, said the architect, raising a toy or a model, but a building in which I must take into consideration all circumstances of size and position. He thought, therefore, that had he large columns to deal with, he should increase the number of the flutes, and diminish the capitals, whilst in small columns he might have sixteen or twelve flutes. As we found in nature, the youthful face had smooth outlines; but with the new dignity of strength and manhood, the features became more marked. The oak, as a young sapling, differed in like manner from the full-grown tree, with its arms set at right angles, and the corrugated surface of its bark. To give magnitude, therefore, multitude of parts was necessary. Comparing the front of St. Peter's at Rome with that of the Parthenon, how inferior was the former. The four columns in the front were of immense size, yet the façade was one which would have been better suited to a parish church than to so vast a cathedral. It was to give magnitude that the new Parthenon had eight columns, instead of six, the number in the former building.

(To be continued.)

The Royal Cyclorama.—We spoke in terms of commendation of the Cyclorama of Lisbon's Destruction by Earthquake, at the Colosseum, when it was first opened, but its effect upon us then was less powerful than it was on a second visit lately. Mr. Bradwell has the machinery more under control now than at first, especially for the management of the lights, on which much depends. The sunrise in the opening view at the mouth of the Tagus is beautifully managed, and the effect of the storm is appalling. We were somewhat surprised to hear that neither her Majesty the Queen, nor the Prince, has yet seen this work. A visit from these illustrious personages, so well qualified to judge of its merits, and usually willing to give their countenance where it is deserved, would be a gratifying reward to those who have carried out this undertaking, and one which, considering the elegance of the building raised for the exhibition, the extent of the painting, and the costliness of the experiment, they might not unreasonably hope for.

The Chronotypist.

MR. Peto has presented a petition from Norwich, praying for a reduction of duties on bricks and windows.—The financial disputes in Walbrook being at last settled, we understand that the parish have now funds in hand to repair and adorn the church. We trust that no time will be lost in commencing this much-needed work, and that it will be done under proper direction, and thoroughly.—It is stated that a fine stratum of clay suitable for Terra Cotta has been laid open in the grounds of the Queen's private residence at Osborne, and that some works are likely to be made in it.—We are glad to hear that the Society of Arts have nominated a Special Committee to investigate the laws bearing on Arts and Manufactures. It will be a most useful work if executed properly, and in co-operation with manufacturers, who are better qualified than lawyers to tell where the shoe pinches—as the former wear it.—It is reported that the restoration of Wells Cathedral is about to be suspended, owing to a deficiency in the funds to carry out that purpose.—A baptismal font has just been added to the Holy Cross Church, Pershore. It was executed by Messrs. Gibbs and Son, Oxford, and cost 30*l.* raised by the curate.—On Wednesday evening a meeting was held at the old Crown and Anchor, in the Strand, to petition Parliament for the immediate closing of burial places in cities and towns. Lord Dudley Coufts Stuart, M.P., took the chair; Mr. Mackinnon, M.P., Mr. G. A. Walker, Mr. Ivat Briscoe, and others spoke, and there were from 800 to 1,000 persons present. It was the most important meeting on the subject which has yet taken place, and shewed clearly the hold the question is beginning to take on the public mind. Mr. Walker spoke with the earnestness of one who feels his subject deeply.—We understand that the importations at the present time of window glass, especially from Belgium, are very large. One vessel, the Princess Victoria, has just arrived in the river, from Antwerp, with 990 cases of the article on board, consigned to a firm in the metropolis.—The Tron Steeple at Glasgow being out of repair, a small part of the ashlar work gave way, when some of the town council coolly proposed to save all future trouble and expense by razing this characteristic old feature of the Tron gate to the ground. Bailie Orr indignantly expressed his astonishment at such a proposal, and the Lord Provost warmly concurred in the bailie's protest. The proposal itself accordingly fell to the ground, and the steeple was forthwith ordered to be repaired by the Finance Committee.

To Correspondents, &c.

On April the 2nd, was published, Part I,
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CONTENTS OF PART 3.

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Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

(Continued from page 237.)

WHEN, indeed, Anthony and Cleopatra are his hero and heroine, they naturally become in his hands a Dutch tavern-keeper and his wife. Of Cuyp and Ruysdael and the younger Teniers, in his landscape compositions, it may be remarked that what is striking in their art is the grand impression they often produce by combinations of the fewest possible and the simplest materials. Their breath is, indeed, not emptiness. Most of you are well acquainted with the small 'Sunset' by Cuyp, in the Dulwich Collection. It has not a tree, except in the extreme distance, nor scarcely a bush, but it has one of the finest skies ever painted, and this is quite enough, for its glow pervades the whole, giving the greatest value to the exquisitely arranged colour of a near group of cattle,—bathing the still water and flood in a mellow light, and turning into gold ornaments a very few scattered weeds and brambles that rise here and there from the broadly shadowed foreground into the sunshine, gaining great importance from their nearness to the eye.

In the hands of Ruysdael a windmill and a stunted tree or two are sufficient to enable him, by the effects with which he envelopes them, to display in an extraordinary degree the true poetry of Art. Solemnity is the prevailing charm of his pictures—and it charms because it does not degenerate into melancholy. Though I never saw a work of his hand that did not command admiration, I confess I like him best in the flat and open scenery of his own country or of the sea that washes its shores—where he shows himself by far the greatest of all the marine painters of his time.

Of David Teniers, whose landscape compositions are, as I think, incomparably his best works, there are admirable specimens in Dulwich, and one very fine one in the collection of the Marquis of Westminster; and I may observe that the power of giving importance to trifles which Fuseli ascribes to Rembrandt,

who, as he said, "could pluck a flower in every desert," is shared with that great genius by those of whom I have been speaking; while the general character of their art, felt by all true painters but little noticed by critics, is the proof it gives that greatness of style, from which, when we speak of them, we must omit what relates to human form, is not dependant on the square feet of the canvas. I know a fine picture by Nicholas Maas, of a kitchen, of which it was not ill said that, had Michael Angelo painted such a subject, he would have painted it so; nor is the style of Emanuel De Witt, the admirable painter of the interior of churches, sometimes with a few figures and sometimes with entire congregations, less broad and grand.

In speaking of Rembrandt I cannot but notice what appears to me a misconception of his character by a modern writer, the author of 'The Handbook of Painting for the German, Flemish, and Dutch Schools,' who repeatedly ascribes to him gloominess of mind: a mistake arising from confounding an admiration of the grandeur of shade or of the breadth of nocturnal effects with metaphysical gloom. Instances might be cited of pictures exhibiting not only gloom but wretchedness of mind in their authors with very little shade in their treatment.

To me, the prevailing character of the art of Rembrandt is sincerity, as clearly as that of Raphael is urbanity, where the subject allows him his natural disposition seems always to have led him to tranquility,—serious, but as I feel it, anything but gloomy. Gloom is restless:—it is the character of Salvator Rosa's art as it is that of the congenial school in which he was reared. But Rembrandt, often solemn in the highest degree, and often in the highest degree pathetic, shows nothing of constitutional melancholy. He is the painter of repose, as Rubens is the painter of action; and you will observe that in his portraits, as in those of Reynolds, the expression is most frequently that of calm thoughtfulness. Whatever else, therefore, there may be in common between the style of Rembrandt, and that of Caravaggio or Spagnoletto, the gloomy, the melancholy, and the savage, are qualities that it does not share with theirs. He delights in the stillness of night, but not as one who hates day; while Caravaggio seems inspired by the wish to turn day to night.

The Chronotypist.

THE sale of the Stowe Manuscripts by Messrs. Sotheby will, it is now understood, take place in June next. The anxiety so generally felt by all who take an interest in our national history that this collection should find a resting-place within the walls of the British Museum—an anxiety hitherto founded solely on the general reputation of the collection—will, we have no doubt, be considerably increased when the importance and variety of the manuscripts shall have been made known by means of the sale catalogue.—On ground belonging to Mr. J. Taylor, of West Lodge, near Colchester, about 250 funeral vessels, and a great variety of other Roman remains, have been found in such circumstances as lead to the supposition that there are at least twelve times as many urns in the same ground still unexhumed. Mr. R. Smith and some other members of the Archæological Association have been at Colchester inspecting these remains.—A subscription has been raised, or rather partly raised, as we have announced, for the purpose of erecting a monument in Westminster Abbey to Cowper, the poet. If Westminster Abbey is to be looked upon as a sort of Temple of Fame for British worthies, the author of "The Task" certainly deserves a niche in Poets' Corner. His marble monument should be placed beside the marble monument to Thomson; for "The Seasons" and "The Task," though different in style, have much in them that is like,—and that which is like is of the best sort. Cowper, who was a Westminster scholar, observes in one of his charming letters that he knows all or most of the monuments in Westminster Abbey "by heart." Since this was said, the labour of recollection has been made considerably greater—bad monuments have increased more rapidly than the good. But Cowper, we are glad to think, has little chance of suffering like his biographer Southey—for the monument to the poet of "The Task" has been entrusted to Mr. W. C. Marshall, A.R.A., whose works are seldom wanting in the poetry of Art.—The subterranean map of Paris, commenced in 1844, is said to be nearly completed, and will form an atlas of forty-five sheets. It will exhibit, quarter by quarter, all the labyrinthine sinuosities of the ancient quarries and catacombs over which Paris is built, with the corresponding edifices, squares, and streets above ground.

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The Book of Ornamental and Early English Alphabets.

CONTENTS OF PART 3.

Published on Monday, April 2nd, 1849.

Two Grotesque Initial Letters of the Twelfth century, C. and I.

Marks used in stamping paper in the reign of Elizabeth.

Alphabet of Cyphers.

Elizabethan Alphabet, (Capitals.)

German Alphabet, (Eleventh century.)

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W. Bennett (Camden Town).—*We cannot give you any more information at present than you possess; we have consulted several painters and also books, and the result is the same. Do not apply it so thick; silk only requires a wash to remove the glaze and sleekness. We cannot undertake to answer letters privately; it would take up too much time.*

T. M. (Liverpool).—*Accept our thanks for the two designs for gravestones; we will engrave them, and shall be happy to receive anything suited to the publication. The word you mention is a misprint; it was only printed so in a few numbers.*

W. C. (Gloucester).—*We presume your request will hardly be complied with by any of our correspondents; it is too much to ask, without offering a remuneration for time, &c. Send us a description of the style you require, enclosing a postage stamp, and we will endeavour to assist you. Original designs, if good, are expensive.*

J. B.—*The Ornamental Drawing Book is designed, expressly, to teach without the aid of a master.*

B. Burslem.—*We will endeavour to meet your price with regard to the value of the design, should you require one, and will engage that it shall be in a first-rate style. G. Hearl's catalogue shall be forwarded.*

Henry W. (Salford).—*Yes, it can be done in the manner you mention. The Drawing Book is very much approved of by all parties who have seen it, therefore we have the more confidence in recommending it. Buy Part I. and judge for yourself.*

Wire Drawing.

WIRE DRAWING is the art of drawing out long bars of metal, by pulling it through holes in a plate of steel, or other fit metallic compound. In order that a wire may be drawn, it is requisite that the metal should have considerable tenacity. Gold, silver, iron, steel, copper, and their compounds, are most commonly used in the arts. The process is of considerable simplicity. A number of holes, progressively smaller and smaller, are made in a plate of steel, and the pointed end of a bar of iron being passed through, one of them is forcibly drawn by strong pinchers, so as to elongate it by the pressure arising from the reaction of the greased hole: this is the wire, and it is again passed in like manner through another hole a little smaller; and, by continuing the process, the wire has its length increased, and its diameter diminished, to a very great degree. The largest wire may be nearly an inch in diameter, and the smallest we have seen was about one-thousandth part of an inch; but we are assured, that silver wire has been made one-fifteen-hundredth of an inch in diameter. The size of these small wires may be ascertained from the weight of a known measure of length, and the specific gravity of the metal. Or, less correctly, the wire may be wound round a pin, and the number of turns counted, which make a given length.

Wires are drawn square, and of other figures in their sector. In particular they are drawn grooved, so that any small part will form the pinion of a clock or watch work.

As the violent action of the drawing plate renders the wire hard and brittle, it is necessary to anneal it several times during the course of drawing. Very small holes are made by hammering up the larger, and the point, in very thin wire, is made by rolling or crushing the end by a smooth burnishing tool upon a polished plate.

Gold and silver wire is made of cylindrical ingots of silver, covered over with a skin of gold, and thus drawn successively through a vast number of holes, each smaller and smaller, till at last it is brought to a fineness exceeding that of a hair.

That admirable ductility which makes one of the distinguishing characters of gold, is nowhere more conspicuous than in this gilt wire.

A cylinder of forty-eight ounces of silver, covered with a coat of gold, only weighing one ounce, as Dr. Halley informs us, is usually drawn

into a wire, two yards of which weigh no more than one grain; whence, ninety-eight yards of the wire weigh no more than forty-nine grains, and one single grain of gold covers the ninety-eight yards; so that the thousandth part of a grain is above one-eighth of an inch long.

He also, computing the thickness of the skin of gold, found it to be 1-114,500th part of an inch. Yet so perfectly does it cover the silver, that even a microscope does not discover any appearance of the silver underneath.

M. Rohault likewise observes, that a like cylinder of silver, covered with gold two feet eight inches long, and two inches nine lines in circumference, is drawn into a wire 307,200 long—i. e., into 115,200 times its former length.

Mr. Boyle relates, that eight grains of gold, covering a cylinder of silver, are commonly drawn into a wire 13,000 feet long.

Silver wire is the same with gold wire, except that the latter is gilt, or covered with gold, and the other is not.

There are also counterfeit gold and silver wires; the first made of a cylinder of copper, silvered over, and then covered with gold; and the second of a like cylinder of copper, silvered over, and drawn through the iron, after the same manner as gold and silver wire.

Brass wire is drawn after the same manner as the former. Of this there are divers sizes, suited to the different kinds of works. The finest is used for the strings of musical instruments, as spinnets, harpsichords, manichords, &c.

The pin-makers likewise use vast quantities of wire, to make their pins of.

Iron wire is drawn of various sizes, from half an inch to one-tenth of an inch diameter.

The first iron that runs from the stone when melting, being the softest and toughest, is preserved to make wire of.

Institute of British Architects, March 19.—A. Poynter, V.P., in the chair.—Mr. S. Smirke, V.P., gave some account of the contents of a work by Sir Balthazar Gerbier, written in the seventeenth century, and entitled "Counsel and Advice to all Builders."—Mr. J. Taylor explained his patent mode of facing walls with stone, by which he professes to avoid the disadvantage existing in the usual mode—viz., the injurious weighting of the stone by the subsiding of the mortar joints of the brickwork. By his method he suspends the stone on to the brickwork, and securely binds each by weighting it by the superstructure; the bed-joint, however, being left open until after the subsidence of the brickwork, when the stone may be pointed up and become a part of the construction.

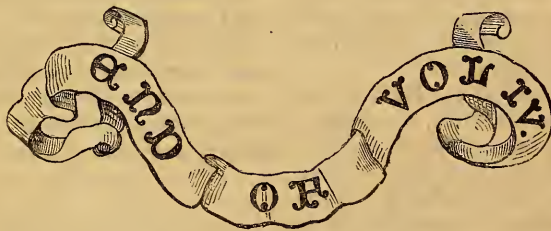
Professor Leslie's Lectures.—In illustration of a portion of the last of his recent lectures on painting, he exhibited a drawing—a copy from a portion of Michael Angelo's 'Last Judgment.' It represents that group which Charon has under his charge at the bottom of the fresco. By whom the copy is executed we have been unable to ascertain; but it is a drawing of much consequence to artists as an example of the great school. Its author has given in it so much of the style and feeling of the original, which presents such examples of the delineation of the nude, as to make it desirable that it should find a place in one of our public art institutions, where it might be hourly consulted by the profession. Those who have not had the good fortune to see the Sistine, might thus form some idea of the *terribil via* as it has been called. In Paris the government commissioned Mons. Sigalon; who was many years employed on the copy of the great picture—Ecole des Beaux Arts—and had afterwards a pension granted him in consequence. The acquisition of the drawing in question—if it is for sale, and could be purchased—though but a portion of the picture, would be a worthy imitation of the example set by the French government.

Art Union of London.—We mention as news, that the council of the Art Union proposes to electrotype the two rewarded bas-reliefs, and to issue a certain number of copies of them in bronze as prizes. This is an excellent step. The illustrated edition of "*L'Allegro*," having been very success-

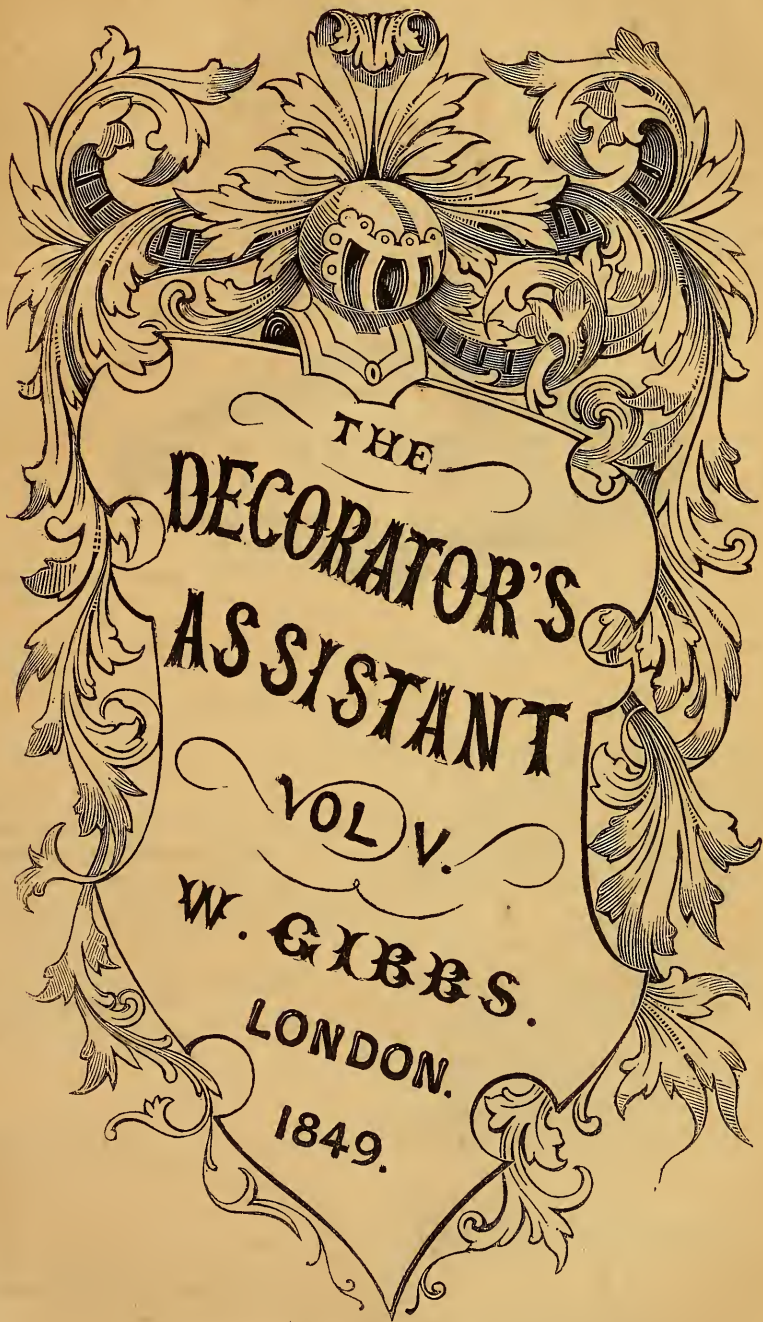
ful, the council determined on illustrating Goldsmith's "Traveller," and issuing it to all the subscribers. The Art Union of London has done good service and will do more.

St. James's Church, Clerkenwell.—The trustees have given instructions to Mr. W. P. Griffith, architect, to take the necessary steps] for the erection of a scaffolding to repair the steeple of this church, which is to be done by public contract, of which due notice will be given.

Method of Making Flint Glass.—Mr. Cooper, in his communication to the Royal Scottish Society of Arts, states as a known fact, that crown glass, a manufacture peculiar to this country, answers very well for optical purposes; but hitherto there has been great difficulty in obtaining suitable flint glass of a uniform density, and free from striæ, wreaths, &c.; and this may be attributed to the excise restriction formerly altogether preventing, by heavy penalties, the necessary trials being made to produce a suitable glass, and hence we were driven to France and Switzerland for a supply, where no obstacles exist in the way of making it. The mixture given by Mr. Cooper was stated to produce a glass suitable for optical purposes; and the excise restrictions being removed, and being possessed of materials and every other facility for making it equally good, it is expected that the manufacture of optical glasses will be perfected in this country.









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T

THE
Decorators Assistant
 AND
 WEEKLY RECORD OF POPULAR SCIENCE.

To Our Readers.



THE Proprietor of this Publication has lately observed, with great concern, the growing inattention of the public to discussions connected with Designs and Decorations in the Arts and Manufactures. This is a matter in which the interests—nay, the very existence of this periodical are obviously involved.

The Proprietor would, notwithstanding, have the courage to persevere in his exertions, if he thought that the time and abilities consumed hitherto in this undertaking would meet with a speedy recompense—a renewal and continuance of the sturdy patronage hitherto awarded

to him. Of this he despairs. The little encouragement he has, for some time past, met with, convinces him of the utter futility of perseverance.

But while making this confession, he conceives that this recent decrease of patronage is a fault neither of the public nor himself, but the result of adverse circumstances—the natural effect of the general stagnation of trade.

Aware, then, of the present depressed state of commerce, and convinced that even those who are most willing to assist him, are compelled, by the pressure of the times, to withhold their valuable patronage from him, he stops at once, and abruptly—within but a few numbers of the completion of the volume—like a sagacious general, who precipitately retreats from the field immediately he becomes persuaded of the inutility of rallying his forces, and marshalling them in order of battle for fresh encounters.

At the same time, the thought comes over the mind of the Proprietor that it is at all times, painful to part from old friends; and, above all, from *such* friends!—so kind and encouraging;—so generous and indulgent;—firm in their support, and lavish of their contributions! To all and each he acknowledges

his obligations, the more highly valuable, he trusts, at this important and, to him, sad crisis.

And now, one word more, before the axe is laid to the root of the dear nurseling.

Though touched by the contagion of the languid state under which all commercial speculations are now labouring, the vital parts of the "DECORATOR'S ASSISTANT," it is to be hoped, are yet sound. And should brighter days ever dawn upon the trade of this country, —and dawn they assuredly will, and briefly— the "DECORATOR'S ASSISTANT" may, in all likelihood, arise from its ashes, like a phoenix.

Then gathering strength from past experience, and inspired by the recollection of its once brilliant and successful career, it will, unquestionably commence a vigorous existence with renewed regivencesence.

But whether this glad day should ever come or not, the Proprietor respectfully bids, for the present, all his friends, including subscribers and contributors, with many deep and bitter regrets for their sudden separation, a warm, tender, and thankful farewell.

September 1st, 1849.



AN ORIGINAL DESIGN FOR A GABLE CROSS (GOTHIC).

BY J. W. ROBINSON.

SATURDAY, APRIL 23, 1849.

Vol. V.

No. 103.

THE
Decorators Assistant
AND
WEEKLY RECORD OF POPULAR SCIENCE.

To Our Readers.



ON issuing the first Number of the Fifth Volume, we consider it a favourable opportunity to again express our desire to serve as effectively as possible the advancement of Decorative Art, and the more general diffusion of a correct taste. It appears

to us, that it may be accomplished by suggesting to the practical man the application of new facts, not only in the Arts, but in Science as applied to the useful Arts. It rarely occurs that the Artist or Art-Manufacturer becomes acquainted with facts until a long period after their discovery, unless some accidental circumstance proclaims them; and even then, a peculiar order of mind, or a train of thought in a given direction, affords the only chance of their speedy and appropriate application.

At the same time, we shall devote our pages to descriptions of the various appliances with which the genius of past ages has enriched the worlds of Art and Manufacture, it is our intention to record those facts both by pen and pencil, that come to our knowledge, which promise—though remotely—to be available to the great purposes of utility and refinement. We hope by so doing to render real assistance to both Science and Art, by playing the part of a collector of information and designs from which selections may be made, as the advancing necessities of the age may demand such aid.

In speaking of the importance of Art to the manufacturer, and the beneficial results which may reasonably and surely be expected from the formation of more intimate relations, and a close alliance between the artist and the manufacturer, we do not forget that there is another large and important class most deeply interested in the issue;—we mean the operatives. To them, we are persuaded, that every enlargement of the sphere of artistic production, and every consequent extension of artistic influence, is fraught with greater and more de-

cisive advantages than to any other class of the community.

Art affords the best antagonistic force to the demoralizing and dementalizing results which are, to some extent, necessarily involved in the excessive division of labour; but this, to a great extent, may be remedied by establishing a connexion between occupation and intellectuality of result. We have always urged that the progress of Art in manufactures will necessarily raise the wages of labour;—skill and training must always command their price in the market, and the greatest service that can be rendered to the operative is to show him how intelligence can most largely be combined with industrial pursuits. Good Art, cheaply rendered, will serve the high purpose of teaching the people, and improving their powers of perceiving the beautiful as it exists in nature, and as it is reflected in Art.

By supplying this want, a taste for works stamped with genius, will be created, and a large demand must be the result. With this view we submit the first Number of our fifth Volume to our Readers, and trust that at the expiration of the Volume our labours will have the effect of advancing the peculiar Art it is our province and pleasure to advocate.

Metallurgy.

THIS science comprehends the whole art of working metals, from the glebe or ore to the utensil; in which sense assaying, smelting, refining, parting, smithery, gilding, &c. are only branches of metallurgy. Under the general name of metal we class not only those properly so called, but also the semi-metals, or all matters which have the essential metallic properties which we shall here recount. Thus the word metal and metallic substance will be synonymous in this article.

Those metallic matters which when struck by a hammer, or strongly compressed, are extended, lengthened, and flattened, without being broken (which property is called ductility or malleability), and which also remain fixed in the most violent and long-continued fire without diminution of weight, or other sensible alteration, are called perfect metals.

These perfect metals are three—gold, silver, and platina.

The metallic matters which are ductile and fixed in the fire, to a certain degree, but which are destroyed by the continued action of fire—that is, changed into an earth deprived of all the characteristic properties of metals, are called imperfect metals. Of this kind are copper, iron, tin, and lead.

The metallic substances, which, as well as the imperfect metals, lose their metallic properties by exposure to fire, but which also have no ductility or fixity, are distinguished from the others by the name of semi-metals. Of this class there are seven—regulus of antimony, bismuth, zinc, nickel, regulus of cobalt, regulus of arsenic, and of manganese.

Lastly, mercury, which has all the properties of metals, makes a class separate from all the others; because impurity and gravity it is similar to the perfect metals, and in volatility to the semi-metals. Its fusibility also so far surpasses that of any other metallic matter, that it is sufficient to distinguish it from all, and to give it a distinct class. We have enumerated in all, fifteen metallic substances, four of which were unknown to the ancients, namely, platina, regulus of cobalt, of manganese, and nickel.—The order in which metals compared with each other possess most eminently their principal qualities, is the same as that in which they are enumerated, beginning always with that metal in which the property is most considerable.

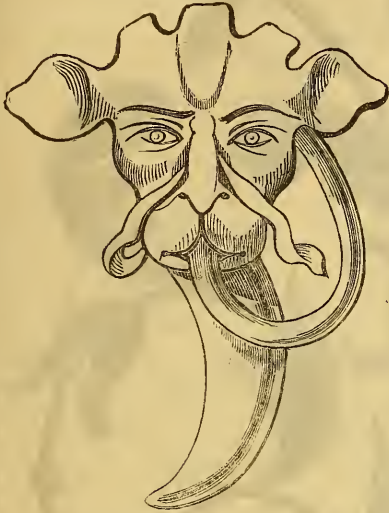
Specific Gravity.—Platina, gold, mercury, lead, silver, copper, iron, and tin.

Opacity.—We cannot well compare metals with each other in this respect, because it is so considerable in all that it seems complete. If, however, they differ in this respect, the same order will serve for opacity as for density.

Metallic Lustre.—The same observation which was made concerning the last mentioned property, is applicable to this also. We must, however, observe, that as by polish bodies are rendered brighter, and that as whiteness contributes much to the reflection of light, the whitest and hardest metals therefore reflect best. Hence, according to the best authorities, platina ought to be placed first, and then iron, or rather steel, silver, gold, copper, tin and lead.

Hardness of metals may contribute much to

the duration of their polish; but certainly soft metals, if their texture is equally compact, are no less capable of receiving a polish than hard metals. Some hard metallic alloys have been found to be less liable to tarnish than softer compounds, and have for this reason also been chiefly used for speculums. The property of these and other metals will be treated of more fully in our next.



A GOTHIC WATER-SPOUT.

Enormous Application of the Electrotype Process.—An enormous application of the electrotype, or galvano-plastic process, has been made in the sculpture of the Cathedral of St. Isaac, at St. Petersburg, by the architect. After having made very important experiments, he was authorized to adopt this mode in the execution of the metallic sculptures and carvings for the following reasons: 1. The identical reproduction of the sculpture without chiseling. 2. The lightness of the pieces, which enabled the architect to introduce sculptures of higher relief than any hitherto known, and to fix the pieces suspended from the vaultings, without fear of accident, or of their being detached. 3. The great saving of expense between these and castings in bronze. The gilding also was effected by the same process, and presented equal advantages. The seven doors of the cathedral will be of bronze electrotype, the frame work being of the former, and the sculptural parts of the latter. Three of these doors are 30 feet high, and 44 feet wide, the four others 17 feet 8 inches wide. They contain 51 bas-reliefs, 63 statues, and 84 alto-relievo busts, of religious subjects and characters. The quantity of metal employed in the dome is as follows: Ducat gold, 247 lb; copper, 52½ tons; brass, 321½ tons; wrought iron, 524½ tons; cast iron, 1,068 tons. Total 1,966½ tons.

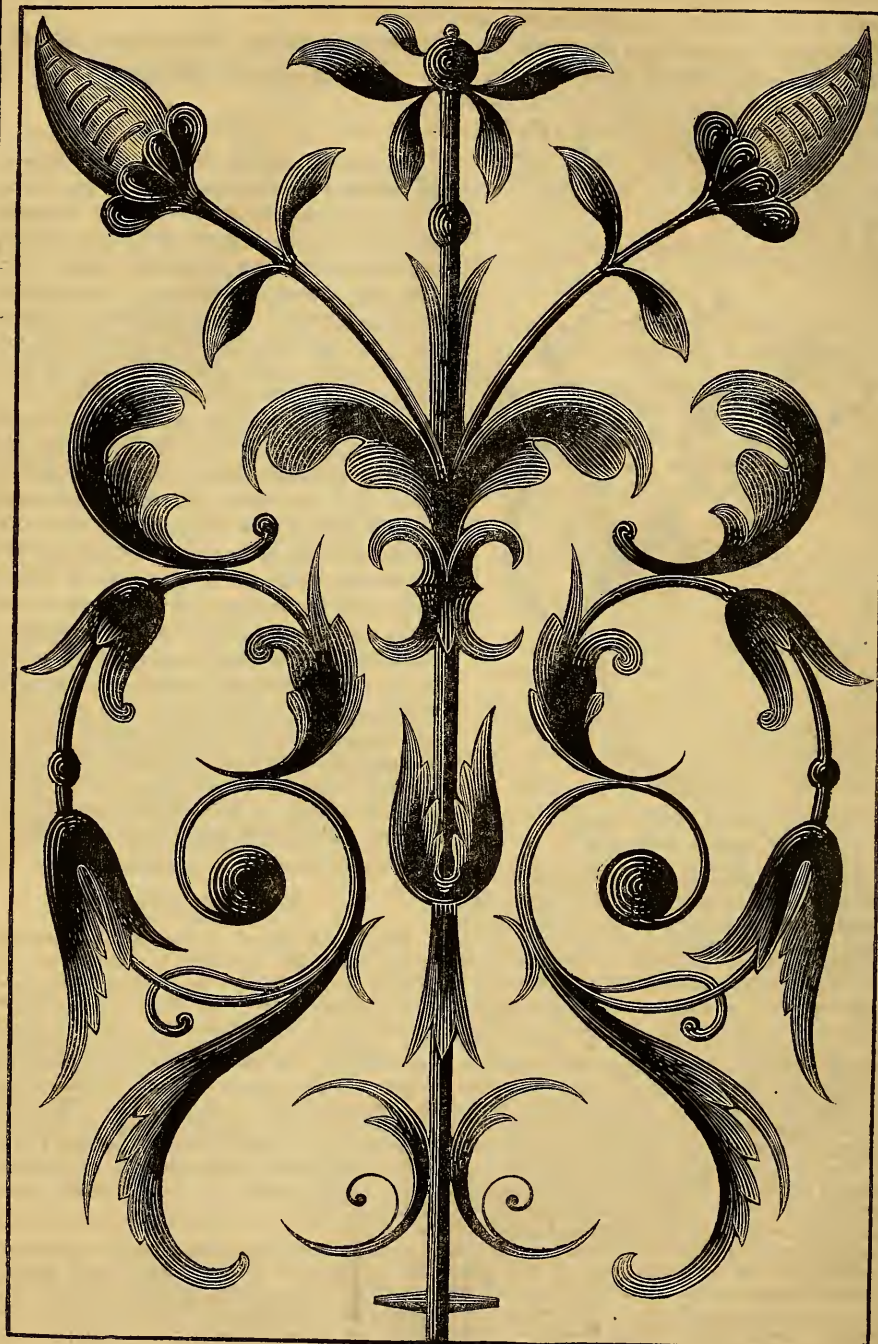
Panorama of the Mississippi River, Leicester Square.

THE gigantic scale on which Nature operates in the regions of the Far West, no doubt, gave those clever artists, Messrs. J. R. Smith, and Professor Risley, the idea for the production of this Levathan Moving Panorama of the Mississippi River. And right worthy of its subject is this Picture, covering, as it does, some four square miles of canvas. The views extend from the fall of St. Anthony to the Gulph of Mexico, representing at least, four thousand miles of American scenery, passing as it does through nine states of the Union, (16 degrees of latitude, from the wheat of the north to the orange of the south), and introducing the numerous towns which have, of late years been created, as if by magic on the banks of the mighty river. We can personally vouch for the extraordinary truth of the pictorial representations of some of the phenomena which are, at times, to be seen, in the course of the vast river—sunlight, moonlight, firelight, explosions, &c. The huge dimensions, too, of the giant river, are admirably depicted, causing us, for the moment, to suppose, that we were once more on board one of the steam craft which navigate it. The exhibition lasts nearly two hours. We cannot conclude without returning thanks for the lively anecdotes related by the exhibitor, relieving, as they do, the somewhat monotonous (monotonous, only from its great length) pictorial voyage.

Floating Church.—The *English Churchman* describes an ecclesiastical edifice of a novel kind. It is a real church afloat—a new Gothic structure with tower and spire, belfry and bell—capable of accommodating 550 worshippers. Its seats are all free. Built of wood, it is painted to represent brown stone. Its dimensions are 86 feet by 34,—with a passage all round it. From the deck to the ball on the spire is 80 feet in height. The whole rests on two boats of 90 tons burden. It was constructed at New Jersey, for the Churchman's Missionary Association:—and it is to be moored at a wharf in Philadelphia, for the use of the sailors and boatmen.]

Invitations from the University of Edinburgh, the corporation of the city, and its Royal Society, have been addressed to the British Association, suggesting that the meeting of that body for the year 1850 shall be held in the northern metropolis.

The Thames Tunnel.—It is said that the number of passengers who passed through the tunnel in the week ending March 31st, was 43,761. Amount of money received, £182 6s. 9d.



PANELLING FOR A PICTURE, BY LEONARDO DE VINCI, THE PROPERTY OF LORD NORTHWICK,
NORTHWICK PARK.

The Self-Instructing Ornamental Drawing Book.

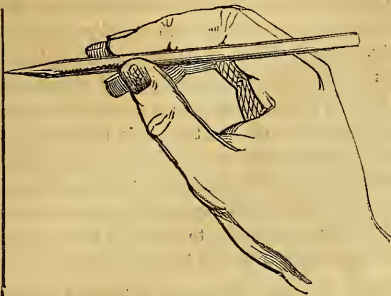


Fig. 1.

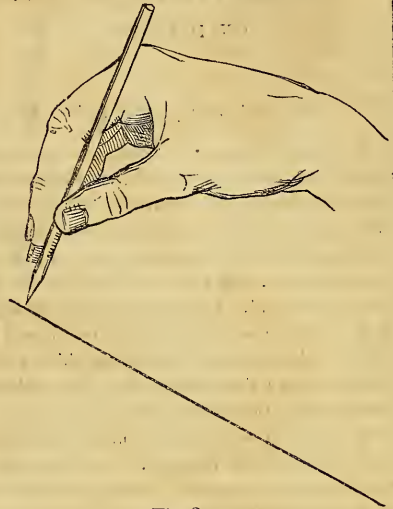


Fig. 2.

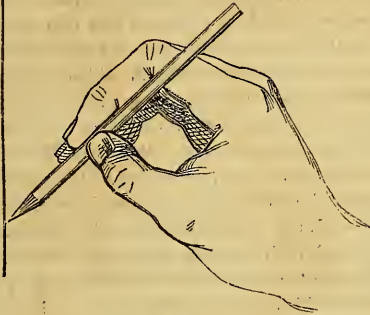


Fig. 1.

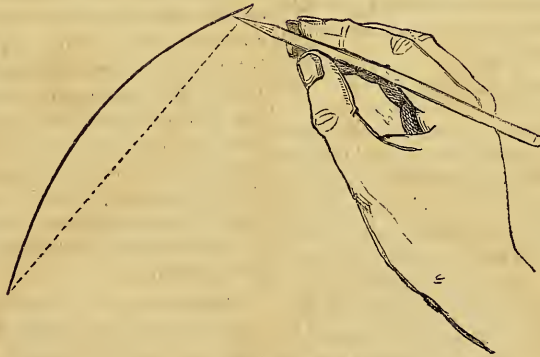


Fig. 3.

THE numerous letters we are daily receiving, enquiring relative to the plan of the SELF-INSTRUCTING DRAWING BOOK, has induced us to adopt the present mode of showing and explaining to our Subscribers and Friends the principle upon which we have acted in its production. The above illustrations will at once convey the principle, the arrangement being so simple that anybody desirous of acquiring a knowledge of Ornamental Drawing can do so without the aid of a Master. The whole of the primary lines are illustrated in the same manner. The three illustrations are, FIG. 1, Perpendicular line. FIG. 2, Diagonal line. FIG. 3, Curve line. The others, embracing the Horizontal line, the Reverse Diagonal line, the Reverse Curve line, Double Curve line, or Ogee, and the Reverse. A full letter-press description is given of each method of drawing the lines; also five examples for practice for those who possess a knowledge of drawing. The Work will be continued in monthly parts, and will contain specimens of all the styles used in Decoration.

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

(Continued from page 251, Vol. IV.)

How far the style of Rembrandt grew out of that of the Italian *naturalisti*, as they are called, it grew at any rate into much greater importance, and became for more interesting, and this was the result not only of his superior taste in the imitation of Nature, but also, as I think, of the placid tone of his mind. I know no work of Rembrandt that strikes me as more entirely after his own heart than a night scene—an interior, in which a woman is reading by a light which her person hides from the spectator, to an older woman who has a cradle at her feet, in which an infant is sleeping, and a spinning-wheel by her side. In description all this sounds very ordinary; but the picture is one of the most impressive that ever came from the hand even of Rembrandt. The shutters of a window near the group are closed—the world is shut out—and it requires no stretch of imagination to suppose that the book with which both are engaged relates to a higher world—a thought with which the sleeping babe is in unison. But however we may read the picture, its effect is in the highest degree tranquilizing and soothing, and akin to that produced by Cowper's exquisite description of evening, beginning with

"Let fall the curtains,"

A higher subject by the hand of this great painter, and a much more solemn one, 'Our Saviour and the two Disciples at Emmaus,' possesses the same charm of the silence of night, broken by a gentle voice which the painter makes almost audible. In such Art I fancy I see the real tone of Rembrandt's mind; serious and meditative, but placid, and as far removed from gloom as the subjects of these pictures; and of all the portraits he has painted of himself this is the character; in the Head particularly, in Her Majesty's collection, a mind at peace with itself and with all the world is most charmingly expressed.

The treatment I have noticed in Dutch Art, and in which Rembrandt led the way, of producing a grand effect by the fewest and simplest materials, is diametrically opposite to the principle of Rubens, which is that of a magnificent profusion. Both are however, equally founded in Nature, who delights us at different times and under different circum-

stances by extreme simplicity, by few and small things, as she does by luxuriant combinations and varieties of splendour of which even a genius like Rubens can convey but a faint impression. Still there is one great end which both knew to be indispensable, and which both equally attained—*unity*. Every picture of Rubens is as single in its effect as the most simple subject of Rembrandt; for there is not on its surface a touch of the pencil that has not reference to the whole as strictly as it has to the smallest part. Hence, however complicated are his compositions, it gives us no trouble to look at them, for the eye is never fatigued or bewildered in attempting to thread a maze through the intricacies of which it is led by Rubens.

When the want of taste of this great master in form, and the much greater similar defect of Rembrandt's dwelt on, it must always be borne in mind that human form alone is meant; and that in this it is want of choice only, and not any want of knowledge of its structure with which they are chargeable. Of the beauty, the grandeur, and the harmony of abstract forms they had the truest perception, whether of single objects or the result of combination. Thus, the shapes of their masses of light and of dark, however simple or however complicated, are always impressive in the highest degree, and their pictures attract our admiration at a distance too great for us to distinguish the particulars of which they are made, and have in them that which would rivet the eye even were they placed upside down. This sense of abstract beauty and grandeur which is to be felt, but neither described nor analysed, excepting very imperfectly, it is true they but possess in common with every other painter of a high order. The rounded outline of the back of a boor, amounting to a deformity, which we often see in the pictures of Ostade, is always made to contribute to the general beauty of the composition,—while the contour of an Apollo may, if ill-combined with other forms, or injured by a bad choice of light and shadow, affect the eye disagreeably.

The capability of delineating forms of specific beauty is one comparatively of very easy acquirement; and there are probably few eyes that may not, by cultivation attain to the power of avoiding what is most offensive in accidental shapes; but to perceive at once and be able to transfer to canvas, in their perfection those beauties in which Nature leaves us a choice, as in the wreathing of smoke, or the undulations of a flag, is the real test of a painter's taste. Such taste, I need not say, constitutes a great charm in the art of Rubens. He is the master who most united ornament with Nature. and though imitated with more or less success by

the mechanists of later times, yet the life and truth of his style will always keep him entirely distinct from that large class of painters.

It is not difficult to copy the general effect of a picture, the forms of its masses of light and shade, or its arrangements of colours, at the same time varying all the materials that contribute to these, substituting, for instance, a light object for the light of a window, or a dark-coloured object for a shadow; or we may farther disguise the theft of a general effect by reversing or inverting it. We may thus get credit for what is not our own; but this will not in the least help us to the power of originating a fine general effect any more than the copying incidents or expressions from pictures merely, will enable us to invent stories, or to portray the passions. A sense of the one indispensable thing in a picture to which all minor beauties that would interfere with it are to be unhesitatingly sacrificed, however captivating in themselves,—which all the parts co-operate to produce, and without which, though it be a painting, it is not a work of Art,—such a sense the great masters no doubt acquired by allowing their studies of Nature and of pictures to go hand in hand; for as an artist, who himself possessed in an eminent degree the power of rendering every production of his pencil impressive as a whole, said to me, “there is such a thing as the Art, and Nature will no more make a painter without it than the Art will without Nature.”

Style is a comprehensive term applying to everything in painting—to composition, to form, to colour, to chiar-oscuro, and to execution: of the last, indeed, there are as many styles as painters, and in all as many styles as schools. But there is nothing analogous to these diversities of Art, in Nature. Sun pictures might be made from every variety of scenery in the world, and yet what we may call their style would be but one. Style, however, rightly understood, is so far from objectionable in painting that it forms one among its valuable prerogatives. The observation of Reynolds that “peculiar marks are generally, if not always, defects,” is directed against manner—not style; but as these are often confounded, it is well that we should clearly understand the difference.—Style in form, in character, in expression, in colour, and in light and shadow, is the result of the choice of the best of these with reference to the subject. It is, therefore, synonymous with the ideal, and abstractedly considered, is Natural, but almost always above individual Nature. Manner is a departure from Nature, sometimes resulting from a dissatisfaction with her ordinary forms without the ability of correcting them by comparison and se-

lection, but more often from the indolence that adopts compendious modes of arrangement, expression, execution, &c. The styles of the greatest painters are, perhaps, in no instance perfectly free from some alloy of manner, while the manner of a great painter, as Fuseli has remarked, in many instances becomes the style of lesser ones.

It by no means follows, however, that because styles are different—I take the word now in its highest signification—that some are right and others wrong. Apart from manner, the style of every genuine painter is right: the difference consisting in his giving some quality or qualities of Nature in more perfection than they have been given by any other; and if it be asked whether Nature can supply every individual with something which in the same degree is denied to the rest?—I would answer that if the principles on which Nature works are simpler than we are apt to imagine, the combinations of effects resulting from these principles are endless.

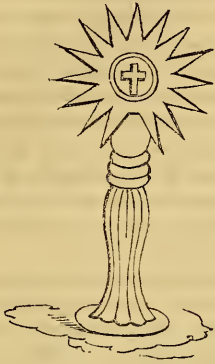
To enter now on any consideration of the connexion between style and subject would lead me beyond my limits; and I will merely remark that they are sometimes confounded with each other by writers, and that in ordinary conversation, nothing is more common than this mistake, the consequences of which I trust I shall be able to point out at another time.

In regarding early Italian Art, to which attention is now so strongly attracted, it is of great consequence that we consider its distance from Nature not as a departure from her, but as the nearest approach the painters could make to her; a distance they laboured to shorten, and which was gradually shortened with a remarkable steadiness of advance to its consummation in the hands of Michael Angelo and Raphael. It seems to me a great mistake to ascribe so much as is ascribed in the peculiarities of the styles of the mediæval painters to religious feeling. That they were generally influenced by sincere devotion to the degree attributed to them, I do not for a moment doubt, but the general character of their imitation is the same as that of Chinese Art, and is evidently a style, if such it may be called, which must chiefly mark immaturity everywhere, and under all circumstances.

To Cast Steel.—Take about one pound of the finest steel and break it into bits, put it into a strong crucible, and anneal it to a bright red colour. Then add from sixteen to twenty-four ounces of good common steel, and anneal it thoroughly, and add ten ounces of arsenic glass; give it a violent fire, and it will melt and flux. With this composition you may cast what you please.

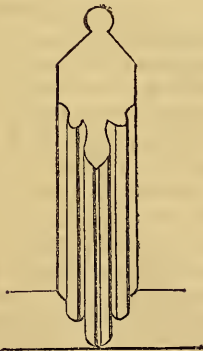
An Illustrated Glossary of Technical Terms used in Architectural and Exterior Decoration, &c.

MONSTRANCE. Used in Catholic churches. It is a representation of 'The Glory,' mounted on a



stand, it is carried by the Priest on particular occasions, on ascending the altar.

MULLIONS OR MUNNIONS. The frame-work of



a Gothic window.

MUTULE. A projecting ornament of the Doric cornice, which occupies the place of the modillion in the other order, and supposed to represent the



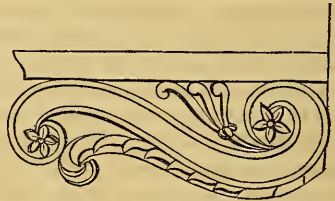
ends of rafters.—As mutules had their origin from

imitating the ends of wooden rafters, these are properly represented with a declination towards the front of the corona.

MINSTER. A monastery; an ecclesiastical fraternity; a cathedral church. This name is yet retained at York, Beverly, and Litchfield.

MITRE. In carpentry, is the name given to the joint formed between two pieces of wood fixed to each other by the formation of an indenture in each to correspond to the other, so that the two surfaces may coincide when brought together. This mode is sometimes employed to hide a dovetail, and is called lap-and-mitre joint. It is also an angle of forty-five degrees, a half of a right angle.

MODILLION. A projection under the corona of the richer orders, resembling a bracket. The Grecian Ionic has no modillions, and the Roman Ionic but seldom. The modillions of the frontispiece of



Nero at Rome, consist of two plain faces, separated by a small cyma reversa, and crowned with an ovolo and bead. In the frieze of the fourth order of the Colosseum, the modillions are cut on the outside in the form of a cyma reversa.

MITRE BOX. A block or frame for cutting mitres.

MODULE. The semi-diameter of the lower part of the shaft of a column equal to 30 minutes. Vignola divided the module into 12 parts in the Tuscan or Doric, and 18 in the other orders.

MOAT. *Ditch, fosse, or vallum,* terms used to express a hollow space on the outside of the walls or ramparts of ancient fortresses. When the moat was dry, there were sometimes subterranean passages, through which the cavalry could sally.

MOINEAU. In perfect fortification, a little flat bastion raised before a courtin which is too long.

MOLE. A pier of stone, to shelter ships from the violence of the waves. Amongst the Romans, the name was given to a kind of circular mausoleum, as that of the Emperor Adrian.

MODULAR PROPORTIONS. Is a term applied to building, in reference to the module, according to which they have been erected.

The Roman Period of Greek Decorative Art.

IMPORTANCE OF SYSTEM IN STYLE, AND OF
TASTE AND SUBORDINATION IN ORNAMENT.

In pursuance of his course of lectures on Decorative Art, at the Government School of Design, Somerset House, Mr. Wornum proceeded to follow up his remarks on the Periclean age of Greek Art, with some account of its progress, or decline rather, under Roman auspices.

In the last lecture, said he, we reached the culminating point of Greek Decorative Art, illustrated in the Parthenon, the Erectheium, and the Choric monument to Lysicrates. We have now to trace its decline, or point out that deterioration of style which immediately followed the period of Alexander, and which has caused this later age to be termed the period of decline. The designation appears to be just, though, as regards the mere production of ornamental works, it exhibits not only a more profuse expenditure, but even more energetic enterprise in, perhaps, every species of ornamental art, than any preceding age. The decline was in the *art*—in the manner in which the decorations were applied—not in the ornaments themselves. These were the same, and in most cases, equally well executed; but that quality which we term taste—that is, judicious selection and arrangement—seems to have experienced a total revolution. Quantity was apparently mistaken for quality; and the whole decorative art of this period, viewed generally, well illustrates that deficiency of power in the artistic mind which Apelles so aptly exposed. If the Roman works are not beautiful, they are at least rich. When I say Roman works, I by no means allude merely to works executed at Rome, but to all efforts of this period in any part of the ancient world to which Roman influence extended. And from the time of the conquest of Greece, about a century and a half after Alexander, few great works were undertaken which did not owe their origin immediately to Rome, though perhaps in nearly all cases executed by Greek artists. The Romans even collected and exhibited works of Greek art at Rome within a century after the death of Alexander, as the works brought by Marcellus from Syracuse, 214 B.C.

Under these circumstances we may, perhaps, safely term this period of decline—that is, from Marcellus to Constantine the Great—about five centuries—the Roman period of Greek art. We

cannot call the art of these centuries Roman art, but it was strictly Greek art under Roman influence, and its chief monuments, even in the Oriental provinces, were raised by the orders of Roman Governors or Emperors—as at Petra, Palmyra, Baalbec (Heliopolis), Athens, Pola, and Spalatro.

The decline, then, which characterises this remarkable period is not one of poverty, but rather of luxury; it was an embarrassment of riches—an injudicious application of ornament, from the want of that proper discrimination which we term taste, or rather, perhaps, that want combined with the ostentatious rivalry of a luxurious age. And yet, with all its enterprise and boundless expenditure, this age has added but one single new form to those which constituted the elementary types of the preceding age. This new form is the *SHELL*, which we find cut on the modillions of the arch of Titus, at Rome. This species of net-work is not new.—Net-work of gold was introduced largely in the funeral car of Alexander the Great. It appears to be a mere imitation of basket-work, or what it literally is—net-work. We have in this period, also, vertical reeding, rare in Greek art, unless in furniture.

Style and system may be looked upon as synonymous terms in ornamental art. Besides the ornaments themselves, we must have some system of applying them. And if the prominent and characteristic members of certain established styles are promiscuously thrown together, the principal features of one style applied as secondary to subordinate features of another, the value of all is diminished or lost, and the general effect has but its vagueness to characterize it. The same ornamental types may be used in the development of new styles, distinction of style depending not so much on the types themselves as on the mode of using them. But in the development of any particular historic style of ornament we are strictly limited to the elements belonging to that style;—and in combining styles, the various members belonging to the same style should preserve their relative degree of importance.

The general decorations of the Roman period, however, and especially those of Pompeii, exhibit an utter disregard to these observances; and thus all distinctions of style and consequent peculiarity of manner and character are lost. Systematic designing exhibits the art of the ornamentist in a highly intellectual light. Whatever style prevailed in a particular period, it is one expression of the spirit of that age; and by thus attending to these periodic or local developments of ornament, the designer affords not only the complete delight and

gratification arising from the contemplation of a beautiful work of art, but at the same time presents an agreeable and instructive record of the past, full of the most valuable suggestions.

(To be continued.)

The Chronotypist.

THE chancel window of Crosscannonby Church, near Maryport, has been filled with stained glass, supplied by the parishioners. The window consists of three lancet lights; in the centre one of which is represented the Crucifixion. In the left lancet is St. Peter, and in the right, the saint to whom the structure is dedicated. The remainder of the window is fitted with flowered quartre-foils, enclosed in circles. The designs were furnished and the work executed by the Messrs. Scott, of Carlisle. —The church at Heywood, Westbury, built at the expense of Mr. H. G. G. Ludlow, of Heywood, was consecrated on Thursday week. The building is in the early English style, with open benches for about 360 persons. The old parish church has lately been restored at £2,000 cost. —Workmen have been boring near the centre of Mansfield Market-place, to ascertain the nature of the proposed foundation of a structure for the Bentinck Testimonial, which is to be erected from a design by Mr. Hind, after an early English Market-cross. —The repairs of the rood tower of Lincoln Cathedral are proceeding. The south and west sides have been repaired, and the east side is in progress. —The new chapel at Copston, near Monk's Kirby, Warwickshire, was consecrated on Tuesday week. It is in the decorated style of architecture, and capable of holding 200 persons. It has been built at the expense of the Earl of Denbigh. The cost was £1,000 exclusive of carriage of materials by the Earl's tenants, free. —A hotel built by Messrs. Grissell and Peto, near the Colchester Railway station, at a cost of £12,000 to £15,000, has been charitably converted by Mr. Peto into an asylum for infant idiots. —On Thursday week the inscription stone of the Birmingham Free Industrial Schools, in Gem-street, was laid with the usual ceremonies. The cost of the erection will be upwards of £2,000, and the accommodation sufficient for 270 children of both sexes. —The foundation of the Durham Mechanics' Institute was laid, on the 30th ult., by the leader of a procession of Freemasons. —Some English portraits and other pictures, the property of the late Mr. Watt, of Aston Hall, near Birmingham, were sold at the Hall on Tuesday last by Messrs. Christie and Manson.

Aston Hall is a fine old Jacobean mansion, in the spirit and style of Holland House, Kensington, and Woolaton Hall, near Nottingham, and the portraits, chiefly of James the First, were in keeping with the walls on which they were hung.

To Correspondents, &c.

On April the 2nd, was published, Part I,
Price One Shilling, of The

SELF-INSTRUCTING ORNAMENTAL DRAWING BOOK, WITH DIAGRAMS,

Showing the position of the hand in describing the primary ornamental curves, &c., and general rules for Drawing Ornamental Foliage, with a letter-press description.

To be continued monthly, in a neat wrapper.
Part 2 will be published on Tuesday, May the 1st.
Office, 17, Holywell-street, Strand.

The Book of Ornamental and Early English Alphabets.

CONTENTS OF PART 4.

To be Published on Tuesday, May 1st, 1849.

Two Initial Letters of the Twelfth century, C. and I., from the Record Office.

Two Initials of the Thirteenth century, F. and H. Elizabethan Alphabet, (Capitals.)

A Centre-piece, and the Device of Richard Pynson, supposed Assistant to Caxton, 1493—1531.

Alphabet, (Thirteenth century.)

To be continued monthly, price 6d.—Office, 17, Holywell-street, Strand.

The Fourth Volume of

The Decorator's Assistant,

Is now ready, price 6s.

J. C. M. (Old Ford).—*We will endeavour to ascertain whether there is a cheap work on the subject you allude to, and give you an answer in our next number. We are informed that the composition used by grainers is a professional secret; therefore, you must pay to get the information. Venice turpentine or rosin is used to dip the bit into when soldering.*

S. M., (Sheffield).—*You should obtain the Laws of Cricket, with Explanatory Remarks and Illustrations, by J. W. Burden, Cricketing Reporter to Bell's Life. It is published annually, early in May, at 17, Holywell-street, Strand.*

* * Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.

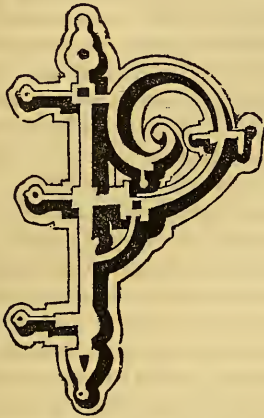
Part 25 is now ready, price 10d.



AN ORIGINAL DESIGN FOR A CENTRE-PIECE.—(GRECIAN.)
BY FRANCIS MULHOLLAND.



Scenery of the Stage.



PERHAPS there are no buildings so fully destined to influence public taste as the temples of the drama; for therein are nightly assembled a varying audience, who come expressly to be pleased. When all that can address the senses through the ear, impassioned declamation, elegant language, and the enchanting strains of music forming the staple of the mental feast, it would be but an actually abridged gratification if the eye were abandoned to absolute vacuity. Hence the necessity of magnificent costume, appropriate scenery, and an ornamental interior to perfect the unity of illusion.

But apart from the theatre being a dispenser of innocent amusement, or a mere relaxation from the severer duties of life, it controuls the habits and ideas of an attentive audience, a similar power being exercised upon the organs of vision by the dresses and scenery. The propriety of attire gives the pictorial history of costume in all ages more completely elucidated than the painter or graver can supply, or the movements of the actor elicit, an unceasing variety of combinations in form and fold. The scenic adjuncts are not less influential in instruction. The architecture, interior and exterior, of all ages and nations, becomes a rigid necessity to develope the clime or epoch of the action, and locality demands of landscape-art that the mind should become harmonised by its

beauteous tones and natural representation. — There can be no doubt, either, that an elegantly decorated hall has a cultivating influence on the manners and the bearing of the uninstructed classes of the community.

Advancing beyond the merely pleasing influences of the pictorial art, and surveying it with higher aspirations, we cannot but regard some of the scenic effects as of the highest interest to all who desire by the magic influence of the pencil to create new tastes and feelings, and learn to survey the beautiful and grand with souls open to receive the holy agencies which, like an atmosphere, surround the earth, and illumine all things with their radiations.

In theatrical undertakings it too frequently occurs that every thing must be done with precipitation, and time is not allowed for consideration to create unity of design. To decorate the interior of a theatre is not a light undertaking, if Art is to be accomplished. It too often happens that the decorator is selected whose staff of subordinates is strong enough in numbers to perform quickly their evolutions over the space that has to be covered. However, we must be content with any display of intention which minutely indicates a desire of progressing; and so far we are willing to laud the smallest particle of good that gleams among much that is indifferent. As examples of improved taste in scenic effects, we may direct our Readers' attention to the Haymarket and Lyceum theatres.

The Roman Period of Greek Decorative Art.

IMPORTANCE OF SYSTEM IN STYLE, AND OF
TASTE AND SUBORDINATION IN ORNAMENT.

(Continued from p. 9.)

These remarks apply as much to furniture as to decoration, and also, though in a less degree, to designs for costume and ornamental manufactures. For unless the designer for cabinet work, papers, furniture damasks, and stuffs generally, conforms as much as the decorator with the distinctions of style, these manufactures cannot contribute anything towards that complete development of ornamen-

tal art which it is the object of these schools to foster. There is, perhaps, only one department of manufactures in which this discrimination of the various styles of ornament can be considered a matter of indifference,—that is in the printed or woven fabrics for ladies' dresses. Here it should rather be avoided, as we do not wish to see our mothers, wives, and daughters look like antiques, or even as middle age ladies. For this class of fabrics, the most appropriate design is such as shall be completely unobtrusive, and while ornamental, at the same time strictly subordinate. To make so conspicuous a design as to attract the attention from the lady herself to the pattern of her dress is to commit a capital error: it then no longer adorns, but rivals the person. This elaboration of an accessory at the cost of the principal object, is an error too often committed in works of art, of which even the Greeks have afforded a sufficient number of examples; as Androcydes, the contemporary of Zeuxis, who painted a picture of the six-headed sea-monster, Scylla, in which he gave so much care to the fish he introduced in the composition, that the monster herself, really the picture, was comparatively unimportant, and Androcydes was ever after ridiculed for having forgotten his art for his appetite, for he was known to have been very fond of fish. Protagoras, too, the rival of Apelles, in his celebrated picture of a "Reposing Faun," had introduced a quail so admirably painted that the first exclamation of the spectator was,— "What a beautiful quail!" This so annoyed the great painter, that although the picture was already dedicated, he solicited and obtained leave to efface the offending bird.

Now it is quite as easy for the ornamental designer to fall into this error as for the painter. His ornaments may become so prominent as completely to obscure the intention or destination of the object he has ostensibly endeavoured to adorn. Every addition by way of ornament should tend only more completely and elegantly to express the designer's purpose; otherwise what is principal is sacrificed to what is but secondary. It is the more or less strict observance of this principle which constitutes good or bad taste,—not the mere character of the design itself; for what might make very handsome carpets, oil cloths, or papers, would

in most cases appear quite ridiculous if used for dresses.

Thus a deteriorated age may use all the elements of the most refined,—possess even the same imitative or mechanical skill in execution,—and yet by a want of discrimination in the application of design, exhibit even a barbarous character in comparison with the design of that period, in which a due attention has been paid to the propriety of application, whether in quantity or quality. And thus a barbarous style of design may, perhaps, more easily arise out of too much ornament than too little.

This, then is the character of that period of decline which supervened upon the great age of art which attained its highest development in the time of Alexander the Great, and gave evidence of a decay even in the time of Alexander himself, the description of whose funeral, preserved by Diodorus, shows how completely the taste of the Greeks had become orientalized. Sumptuous splendour had taken the place of taste. The decline, however, was very gradual, especially in sculpture. Some of the most prized productions of ancient art are maintained by many critics to belong to a much later age than that of Alexander—as the Laocoon, the Torso of Apollonius, and the Apollo Belvidere—all of them assigned to the time of the Roman emperors. The school of Rhodes was the latest of the Greek schools that maintained a great reputation. Painting seems to have been much less enduring. Mere technical excellencies of art became prominent, and higher qualities were overlooked—*form* became paramount over *essence*. Such was the decline of Grecian art which rapidly supervened on the close of the Alexandrian age. That it never revived from this decline is not remarkable. Greece not only became a Roman province, and lost her artists, but almost every important work that could be moved was transported either to Egypt or Italy. The Romans were not contented with removing pictures and statues, but the very walls were stripped of their plastering, and the pieces transported in wooden cases to Rome. The spoiliations of the Grecian kingdoms of Asia and of Sicily continued uninterruptedly for about two centuries, yet such was the inconceivable wealth of Greece in works of art, that Rhodes alone contained upwards of 3,000 statues, and there were as many at Olympia and Delphi.

On Water-colours for Illuminating Prints, &c.

OF YELLOWS.

THERE are some objects which have the appearance of gold shining through the colours of green, red, or blue; such as some sort of flies and beetles, and the cantharides. This golden transparency is very well imitated by laying some gold-leaf on the shaded part of the drawing, giving in a little to the light side of the print. The way of laying on the gold-leaf is by washing the part where the gold is to be met with strong gum-water, and when it is somewhat dry, by laying on the gold as smooth and even as possible, pressing it down close with cotton. But in doing this, care must be taken that in laying on the gum-water, you do not exceed the limits you would have the gold appear to shine. In this case the gold is to shine only through the transparent colour which is to be laid on.

It must be observed that the gold-leaf will not receive the water-colours regularly, and for this reason it must be stroked over with a little thin liquor of ox-gall in a painting brush of camels-hair, by which means it will receive any colour you wish to paint upon it, and will hold it. The greens may be, first, the verdigris-green, or sap-green (which colours shall be described in their places); the reds may be lake or carmine; the purples, lake and fine indigo, or carmine and indigo; and for the blues, indigo on the dark side, and on the light a little stroke of ultramarine blue, just to shine into the light, which will have an admirable effect.

There may be found upon rose-trees in June and July, a kind of beetle of a gold and green colour, which may serve for a direction in this kind of painting. But if gold itself be used, it will be best to polish it, which may be done in the following manner:—There may be seen in some manuscripts fine golden letters which rise above the surface of the vellum or paper. The composition which raises them thus is said to be made up of vermilion and the white of an egg beaten up to the consistency of an oil, and worked together like a kind of paste, and with a stamp fixed to the vellum or paper with gum-arabic. On this figure of a letter wash some strong gum-water with a camel-hair pencil, observing that the gum does not reach more than the outlines; then lay on the gold-leaf close with some cotton, and being dried, rub it with some dry cotton, and then polish it with a dog's

tooth. This will make it appear as if it were really cast in gold.

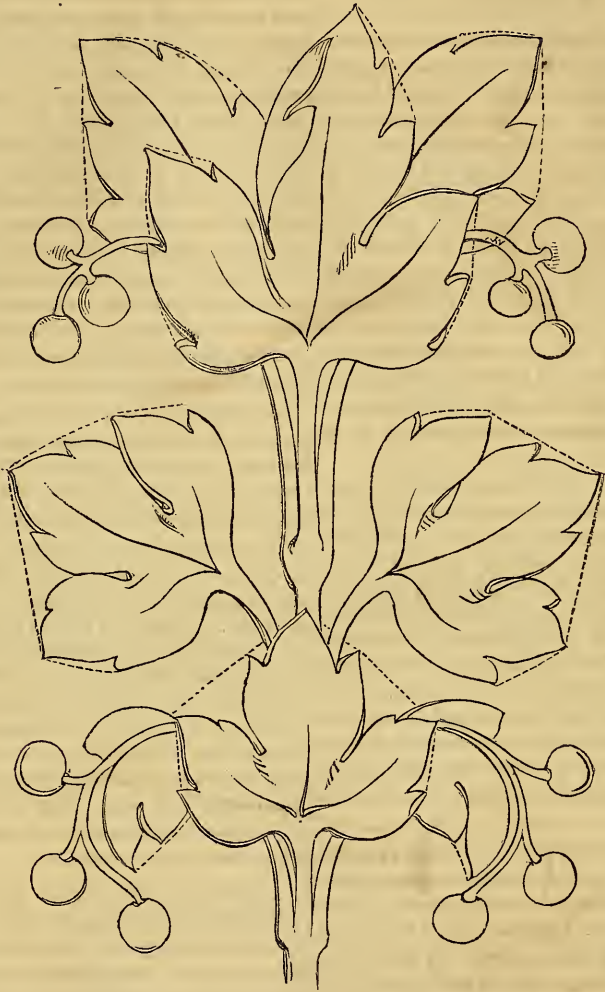
There is, besides this, another way of working in gold, and that is performed by shell-gold, but then it must be pure gold, and not that brought from Germany, which turns green in a few days. Before you use this gold, cover the shady parts with vermilion; and after your gold has been well rectified with spirit of wine, lay it on with gum water, which will readily mix with it; and when it is dry polish it with a dog's tooth. In laying on gold, it will be best to leave the lights without it, because it will make a much brighter appearance than if the object was covered all over with it. But if, by accident, or otherwise, the whole piece happen to be covered with gold, there is no better way to set it off than by tracing over the shady parts with gall-stone, or the yellow of French berries; but it is the deepest that is to be used in this way. A little minium heightens it very much, but observe to polish the gold before you use it.

After this colour of the gold, the yellows shall be treated of as they increase gradually in their strength. The first yellow is a kind of straw colour, and is made of flowers of brimstone, which of itself is fine enough to mix with gum-water.

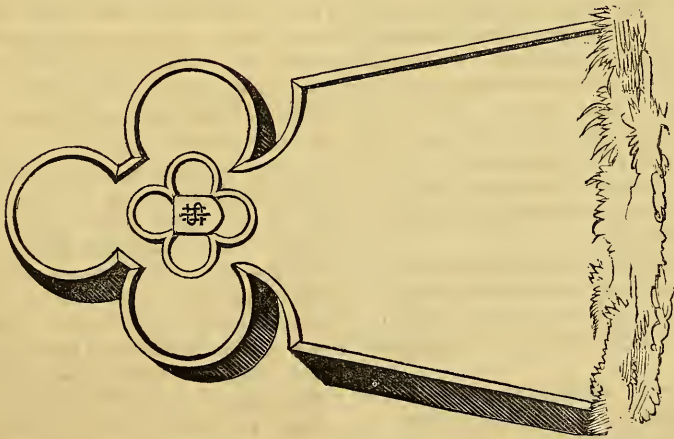
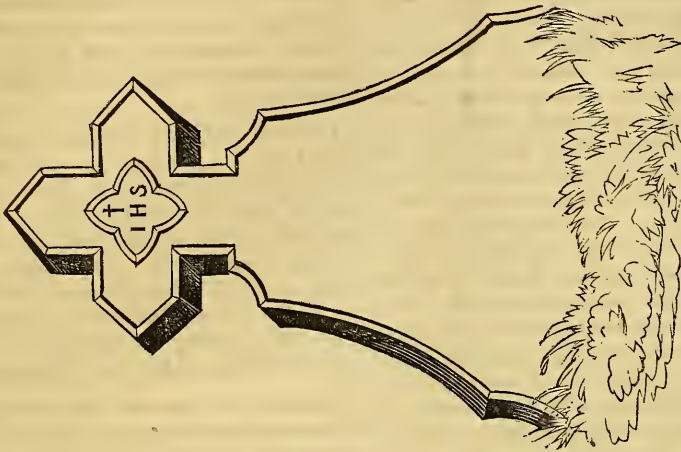
A common way of illuminating prints is, by giving the tincture of gamboge for a yellow; and this may be of two or three sorts, either fainter or stronger; the last to be a shade to the first, and to be shaded with the preparation of French berries. Roots of barberries cut fine and put into a lixivium made stong with water and pearl ashes, will produce a very fine yellow. A transparent yellow may be made by boiling the root of a mulberry tree, well washed from the earth, in a strong lixivium of pearl ashes and water. This will afford a yellow juice, from which may be extracted a tincture much deeper than the former.

Yellow ochre will likewise make another good pale yellow, but it is a colour rather too much body for illuminating prints. The plant celandine will afford another good yellow by infusing it in water and pressing it gently, and then boiling the liquor with a little alum. This yellow will incline somewhat to green.

A yellow which many prefer to the rest, and may be used in several capacities of lights, is one made of French berries, prepared as follows. Boil two ounces of French berries in a quart of lixivium made of pearl-ashes and water till the liquor gives a fine tinge of yellow to a bit of paper dipped in it, and then pour it off from the berries; let the liquor cool, and bottle it up for use. We shall resume the subject in our next.



A PIECE OF ITALIAN ORNAMENT.—(For description see Part 2 of the "Orna-
mental Drawing Book.")



TWO ORIGINAL DESIGNS FOR HEAD-STONES.

Metallurgy.

THE property of reflecting light seems chiefly to depend on the closeness of the particles or on the density, on the smoothness of the surface, and on the colour being most similar to the colour of the light to be reflected. The white metals, silver, mercury, tin, reflect light more abundantly than others. Gold, being the densest metal next to platina, and perhaps because the colour of solar light has a slightly yellowish tinge, does also reflect light very copiously. Hence speculums made of leaf-gold have been found to be very powerful. Iron or steel reflects much less light than any of the above-mentioned metals, although Mr. Macquer has considered it as capable of a great reflective power. Platina is generally in so small grains, that its reflective power cannot easily be determined. The precise degrees of that power which ought to be assigned to each of the above-mentioned metals, cannot without accurate experiments be ascertained. Perhaps, however, their reflective powers will be found to be more nearly in the following order, than in that above-mentioned from Mr. Macquer. Silver, quicksilver, copper, tin, gold, iron, and lead.

Ductility.—Gold, silver, copper, iron, tin, lead. The ductility of mercury and that of platina, are not yet determined.;

Hardness.—Iron, platina, copper, silver, gold, tin, and lead.

Tenacity. By tenacity we understand the force with which the integrant parts of metal resist their separation. This force appears to be in a compound ratio of their ductility and hardness. The comparative tenacity of metals is measured by the weight which wires of the same diameter, made of the several metals, can sustain without breaking. Gold is the most tenacious; then iron, copper, silver, tin and lead. The tenacity of mercury is unknown: that of platina is not yet determined, but is probably more considerable.

Fusibility.—Mercury, tin, lead, silver, gold, copper, iron, and lastly platina, which cannot be fused by the greatest fire of our furnaces, but only by the solar focus, or by a fire excited by dephlogisticated air.

The substances found naturally combined with metals in the earth, are, particularly sulphur and arsenic, sometimes separately, but generally conjointly. Metals combined with these substances are called metals mineralised by sulphur, or by arsenic, or by sulphur and arsenic; and these matters are called mineralised substances.

Besides the sulphur and arsenic with which metals are strictly combined in the mineral state, they are also intimately combined with earthy substances of different natures, and more or less divided.

The different matters united closely together form masses which are compact, heavy, brittle, and frequently possessed of much metallic lustre. These substances are properly called ores, or the matter of mines.

These ores are found in earths and stones of different kinds, as sands, flints, chrystals, slates, indurated clays, according to the ground in which they are contained. But two kinds of stones in particular seem to accompany ores; and have therefore been considered by several mineralogists as matrixes in which metals are formed. One of these is a kind of chrystal, generally white, milky, and semi-opaque, striking fire with steel, and of the class of vitrifiable earths. It is called quartz.

The other stone is less hard, which does not strike fire with steel, and is sometimes milky like quartz; sometimes transparent and of different colours, consisting of rhomboidal chrystals, which are composed of plates and faces. This stone becomes more soft and friable by being exposed to fire. It is called spar. Spar is more like gypseous stones than to any other, but it differs from gypseous stones in possessing a much greater density. Some spars are so heavy, that they exceed in this respect all other stones.

These earthy and stony substances form the matrix of the ore. Metals and metalliferous ores are found in various places. Under water; in beds of rivers, lakes and seas, and chiefly at the flexures of these; such are the auriferous and ferruginous sands, grains of native gold, ochres, and fragments of ores washed from mines. Dissolved in water: such are the vitriolic waters containing iron, copper, or zinc.

Upon the surface of the earth. Such are many ochres; metalliferous stones, sands, and clays, and lumps of ores. In the northern part of Asia ores are almost always found upon or near the surface of the ground. Under the surface of the earth. When the quantity of these collected in one place is considerable, it is called a mine. Subterranean metals and ores are differently disposed in different places. Some are infixed in stones and earths, forming nodules or spots diversely coloured.

Some are equably and uniformly diffused through the substances of earth and stones, to which they give colour, density, and other properties. Such are the greatest part of those earths, stones, sands, clays, chrystals, flints, gems, and floors, which are coloured. Some form strata in

mountains. Such are the slates containing pyrites, copper-ore, lead-ore, silver-ore, or blend. These lie in the same direction as the strata of stones betwixt which they are placed; but they differ from the ordinary strata in this circumstance, that the thickness of different parts of the same metalliferous stratum is often very various; whereas the thickness of the stony strata is known to be generally very uniform.

Fragments of ores are frequently found accumulated in large subterranean cavities, in fissures of mountains, or interposed betwixt the strata of the earth. These are loose, unconnected, frequently involved in clay, and not accreted to the contiguous rocks or strata immediately, nor by intervention of spar or quartz, as the ores found in veins are. Tin and iron mines are frequently of the land here described.

Large entire masses of ores are sometimes found in the stony strata of mountains. These are improperly called cumulated veins, because their length, relatively to their breadth and depth, is not considerable.

Some instances are mentioned of entire mountains consisting of ore. Such is the mountain Taberg in Smoland; and such are the mountains of Kerunavara and Luosavara in Lapland, the former of which is 1,400 perches long and 100 perches broad. These mountains consist of iron-ore.

Lastly, and chiefly, metals and ores are found in oblong tracts, forming masses called veins, which lie in the stony strata composing mountains.

Lord Rosse's Soiree.—The new President of the Royal Society, the Earl of Rosse, gave his first *conversazione* on Saturday evening last, which was attended by a large number of persons. The President having no house in town, it was held in the suite of rooms occupied by the Royal Society and the Society of Antiquaries, in Somerset House. This change, from the private residence of the late President, Lord Northampton, is not by any means an improvement: it gives the entertainment the character simply of some special meeting of the society itself, and takes away the charm of a private reception. This feeling was increased by the circumstance that Prince Albert, who was present, came early, and being necessarily attended round the rooms by the noble host, the latter could not personally receive his guests, so that it became simply a public assembly where a number of celebrities might be met. Amongst the many interesting objects in the rooms were models of the President's colossal telescopes, a clever machine for cutting ship-timber, Mr. Whishaw's telegraphic arrangement for obtaining uniformity of time, a number of the best Daguerreotypes we have yet seen, and some of Mr. Rogers's most recent carvings. There was also an extraordinary and beautiful tryptych, attributed to Lucas de Cranach.

New Photographic Process.—It was announced many months since that M. Edmond Becquerel had discovered a process by which he was enabled to make photographic copies of colored objects with distinct impressions of the colours on the body so copied. The *Comptes Rendus* contains the report of M. M. Biot, Chevreul, and Regnault on M. Becquerel's memoir. The ordinary silver plate, well polished with English rouge or tripoli, is connected with the positive pole of a Bunsen's battery of two series, and then plunged into a large vessel containing 610 cubic inches of muriatic acid diluted with an equal quantity of water. In the same fluid is placed a thin plate of platina, which communicates with negative pole of the battery. This plate is brought very rapidly a short distance from and parallel to the other. Under these conditions the plate assumes successively the colours of thin films: at first a grey, then a yellow and a violet tint, which passes soon to a blue and to a green, becomes afterwards a light grey, then rose coloured then violet, and at last blue. The operation must be stopped as soon as a lilac tint appears; the plate withdrawn rapidly from the bath, plunged into distilled water, and being placed in an inclined position, dried over a spirit lamp. The plates thus prepared may be preserved in the dark for a long time; and before they are used it is recommended to rub the surface with a little cotton, which renders it more brilliant and the colours formed under the influence of the spectral rays more lively. In diffused light the surface of chloride of silver thus prepared becomes grey; but if we project upon it a very concentrated prismatic spectrum it receives at different rates impressions from all the visible luminous rays below the red, and beyond the violet. By warming the prepared plate some curious changes are produced; and if warmed on a stove to about 212 deg. Fahr., M. Becquerel states that the best condition for imprinting the spectral colours is brought about. The photo-chromatic images of M. Becquerel may be preserved for a considerable time in the dark; but as yet no means have been discovered by which they can be rendered permanent against the continued action of light.

Society of Antiquaries, April 19.—H. Hallam, Esq., V.P., in the chair. The Rev. W. H. Jones was elected. The most remarkable of the exhibitions were a gold necklace discovered in Etruria, and some drawings of the Roman antiquities recently dug up near Colchester, on the estate of Mr. Taylor. The drawings were made by Mr. Penrice, and gave a distinct and accurate notion of the originals, being of the same dimensions. There were about a dozen; and they were the more satisfactory, inasmuch as they showed precisely the situations in, and the accompaniments with, which the originals were found. The drawings were accompanied by an explanatory letter by Mr. C. R. Smith, giving all the necessary information. The reading of the evening was confined to the conclusion of Mr. Bruce's historical paper "On the Gowry Conspiracy;" which contains much new information on that remarkable event.

We last week mentioned a rumour that the Stowe manuscripts were about to be disposed of to a private purchaser. We are now informed that they have been bought by Lord Ashburnham, for the sum of £8,000.—*Athenæum.*

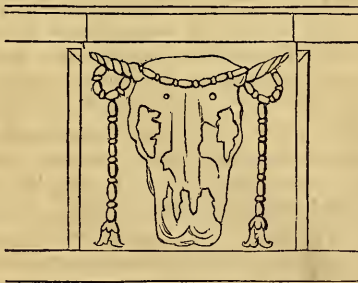
An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

MACHICOLATIONS. Projections over the gates of castles, so constructed as to admit of melted lead, stones, and other missiles being poured down on the heads of the besiegers. They are supported by brackets inserted in the masonry of the walls.—They were not always projecting works, but sometimes consisted of rows of square holes in the



vaulting of portals for the same use. As castellated edifices became more magnificent, these became ornamental works over the principal gates. Sculpture, however rude, was admitted at an early period, either over the machicolation of the gates, or in the grotesque figures used as water-spouts.

METOPÉ. The space between the triglyphs of the Doric frieze. They were sometimes adorned



with carved work, as the heads of oxen, vessels, and other articles used in sacrifices.

MASTIC. A resin produced by making incisions in the *Pistacia Lentiscus*, a tree cultivated in the Levant, and chiefly in the island of Chios. It comes to us in yellow, brittle, transparent rounded

tears, which soften between the teeth, with a bit-terish taste and aromatic smell. Its solution in spirit of wine constitutes good varnish; it dissolves also in oil of turpentine.

MINARET. A circular turret rising by different stages or divisions, each of which has a balcony. They are very common in the east. The first minaret was erected at Damascus, contiguous to the church of St. John the Baptist.

MEZZANINO. A low story between two floors.

META. The mark or goal in the Roman circus, where the chariots run to.

METOCHE. The intervals between two denticuli in the Ionic entablature.

MILLIARE. The stone or column placed by the Romans in their public roads, to mark the distances from one mile to another, and also from Rome. Hence we often find in Roman writers such expressions as *tertio ab urbe lapide, ad quartum lapidem*, &c. to mark the distance of three or four miles from Rome.

MINION. An ore of iron used in mortar; with lime and sand, it forms a water cement.

MONOLITHAL. Works constructed out of one stone. M. Denon has given representations of several subterraneous structures worked in single rocks, with sundry little monolithal temples.

MONOPODIUM. A table with one leg.

MOOR-STONE. A kind of granite found in Cornwall, and some other parts of England, and of great value for the coarser parts of buildings. Its colours are chiefly black and white, and it is very coarse. It is found in some parts of Ireland.

MONKEY. A name given to a block of iron with a catch, used in gins for driving piles.

House-Painters' Brushes.—Mr. Nash, a manufacturer, has registered a supposed improvement in painters' brushes: it consists in the use of a metal binding, of a circular form, flattened into a somewhat oval shape at the upper part of the brush near the flags of the bristles, with a view to cause the top of the brush to be flattened at the back and front of the same, in order to afford better surfaces for use. The asserted advantages of this arrangement are, that by the substitution of the metallic binding for strings wound round the flags of the bristles—as now in common use—or of wire, the brushes are not so liable to come to pieces or allow loose hairs to come out. Whether or not the increased strain on the workman's wrist, slight though the extra weight may be, will be found disadvantageous, remains to be seen.

Society of British Artists, Suffolk-street.

It does seem to us more than passing strange, that when the present Society, and the tottering old Royal Academy, are beating about in every quarter for a quotation to append to their catalogue, they never thought of the old one of "*Arx longa vita brevis est*" (they need not inflict the original Greek of Hippocrates upon their visitors). It would save a world of criticism, and put the question in the right point of view, by reminding us that we are always reaching excellence, and yet life stops ere it is attained; so it is, from year to year, we find some artist fast approaching excellence, when suddenly he disappears, and the same course has to be run again. In the present Society, there is so much fresh blood infused into it, that the aphorism applies less to it than to the Royal Academy; for the British artists certainly do advance, whilst it is but too palpable that the Royal Academy has long been retrograding, and, like other elderly gentlewomen, her *fadé* airs and graces only remind us of times bygone, when there were men amongst them who somewhat approached excellence. The number of pictures in the present exhibition is 635, of which 497 are oil paintings, and the remainder water-colour; and in looking round the rooms we feel that the exhibition is fully equal to those of previous years; there are several really excellent pictures, with a vast many that are but mediocre, and savour of the manufacture of the Art-Union standard, where showy colouring, a catching subject, and but little finish, are the chief characteristics, and which are suited to the bulk of small prizes of the Art-Unions. This may not advance art; but artists must live; and if the Art-Unions are their best customers, it is but the old story, that "those who live to please must please to live." Hurlstone has nine pictures, which run more than is customary with him in portraiture, they, generally speaking, evince his vigorous and effective style, though the first that attracts attention, No. 46, *Children of George Gibson, Esq.*, is not one of his best productions: it has a muddy tone; and, more than that, the very canvas seems as if it were spotted from some exposure to the weather.—No. 60, *Waiting for a Contingent Reversion*, is, however, in the artist's best style; the boy gnawing the bone, and the dog, with watchful attention, looking for the reversion, are excellent.—Herring has risen "like a giant refreshed," after his last year's absence, and sends this time eight pictures, some

of which are amongst his best productions.—23, *Nanny*, is a charming picture.—99, *Winter*, is also a highly finished and clever painting.—148, *Market Gardeners*, is a very large and elaborate picture, and is finished with great care: the horses in the foreground are full of life and strongly marked character; whilst the whole working up, even to the vegetables lying on the ground, and the whole of the scene, is most artistic.—Pyne has some of his vivid and graphic landscape scenery, but scarcely so elaborate as usual.—47, *Wreck Ashore*, is an effective picture, and shows how much can be done with a few judicious touches, and very little finish; still it is a really clever picture.—91, *An Italian Pass*, is so full of atmosphere that we are almost lost in a chaos of mountain heights.—233, *Oberweisel*, is, however, a very charming picture, and quite in his best style.—Clint has eight pictures; and 170, *Sunset*, is clever, but of that wild character as to colouring that evinces the peculiar feeling of artists for depicting hues such as nature does not reflect; vivid and brilliant it certainly is, and striking as a picture—but still it is not nature.—487, *On the Coast near Boulogne*, is a picture of much merit, and is painted with care. It is near the spot where the Amphitrite was lost; and is one of the artist's best pictures.—*Burlington, on the Yorkshire Coast*, is also another clever painting.—Allen has in his large picture, 207, *The Borrowdale Pass*, one of the best works he has yet done; the sweep of valley is charmingly touched in, and the mountain range, and all the accessories, are artistic and highly effective.—Hassell, in 11, *Stopping to Bail*, has a well-painted picture. The atmospheric tone is excellent, and the whole picture is worked up with excellent effect.—Tennant's *Scene in Jersey*, 26, is an admirable landscape—the effect of the storm passing away being very good.—86, *A View near St. Helen's*, is also a painting of much merit.—Anthony has several pictures: 77, *Thoughtful Hours*, is a small picture, yet perhaps one of his most effective.—185, *A Round Tower in Ireland*, is a clever and striking picture, and attracts much attention.—278, *The Last Gleam of Day*, is one of those fanciful pictures that may mean sunset or anything.—Mountague has a charming picture, 137, *A Dutch Port*, and it is surprising how much he has made with very little apparent effort.—407 is also another excellent picture of this artist's.—Woolmer has several clever pictures.—Zeiter has some good pictures, in which the Hungarian features are as usual prominent, whether the subject be English or not.—Boddington's 110 and 111, are certain, from the quietude and beauty they display, to find ready purchasers; and Prentis, with his humorous

pictures, especially 235, *Second Thoughts*—a widow bethinking herself of the fascination of a second husband—is entitled to favourable notice. We have also marked, as worthy attention, 67, *A Revel*, by J. Hill.—94, *First Love*, by Clater, is a good picture, so far as the woman is concerned; the man seems, however, but an insipid lover.—105, *King John signing Magna Charta*, by J. and G. Foggo, is a good historical picture.—393, *A clever Cattle Piece*, by Shayer.—464, *The Holy Well of Brittany*, by J. Jenkins, is one of the best pictures in the room.—In the water-colour room, 500 and 530, by J. Penley, are excellently finished.—515, a humorous picture, by Mrs. Hurlstone, of a *Child's First Use of the Easel*; and 587, *Dead Game*, by Mrs. Withers, are the most prominent.—The sculpture portion may be classed as *nil*.

The Chronotypist.

AMONGST the works now exhibiting at the Cosmorama, in Regent-street, is a remarkably beautiful model of Cologne Cathedral, with its spires completed, and forest of 5,000 pinnacles. It is the work of a German, Herr Charles Schropp, and is formed in wood and iron coloured; the niches are filled with their statues, and the windows with painted glass. It is 8 feet 8 inches in length, 4 feet wide, and 8 feet high, and was completed, the modeller says, in eight years. It gives an admirable idea of this wonderful structure, and deserves a visit.—It is stated that another new church is about to be built in Westminster, at the cost of the Rev. W. H. E. Bentinck, one of the canons residentiary of Westminster.—St. Jude's Church, Bradford, is at present under repair and renewal.—The London and Brighton Railway Company have made considerable reductions in the charge for periodical tickets, with the view of encouraging building, and extending facilities for suburban residence in connection with the short stations between London, Croydon, and Epsom.—The daily papers report the death of Major Shadwell Clerke—long the editor of the *United Service Journal*:—and known amongst scientific men for the active share which he took in the business of the Geographical and Geological Societies, and in that of the British Association.—A return obtained by Mr. Cocks, M.P., shows the duty paid on bricks in the several excise collections of England in the year 1848 to have amounted to £448,310, of which £10,386 were paid in the metropolis alone.—Another obituary window has been put up in Chichester Cathedral. It is the work of Mr.

M. O'Connor, of London.—The restoration of the west front of Gloucester Cathedral is about to be resumed, it is said, with vigour.—The new dock at Gloucester was opened on the 18th ult. The new basin nearly doubles the quayside accommodation, and there are two additional cranes, each capable of lifting upwards of 20 tons. At present the basin will be appropriated to the discharge of cargoes sent by rail.

To Correspondents, &c.

J. C.—*We will procure you the Canterbury Arms.*
T. J.—*An oriel window is a projecting angular window, commonly of a triangular or pentagonal form, and divided by mullions and transoms into bays and compartments. Thanks for the receipts sent.*

J. C. M.—*Not procurable.*

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SELF-INSTRUCTING ORNAMENTAL
DRAWING BOOK,
WITH DIAGRAMS,
Was published on Tuesday, May the 1st.,—Part 1 contains several Diagrams, Showing the position of the hand in describing the primary ornamental curves, &c., and general rules for Drawing Ornamental Foliage, with a letter-press description.
To be continued monthly, in a neat wrapper.
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The Book of Ornamental and Early English Alphabets.

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Two Initial Letters of the Twelfth century, C. and I., from the Record Office.
Two Initials of the Thirteenth century, F. and H. Elizabethan Alphabet, (Capitals.)
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With Explanatory Remarks, by J. W. BURDEN,
Cricketing Reporter to "Bell's Life."
To which will be added

AN ESSAY ON CRICKET,

BY NED RUB.
Embellished with Four Engravings on Wood.
Published by Gibbs, 17, Holywell-st., Strand, and to be had of all Booksellers and Dealers in Cricketing Materials in Town and Country. price 6d.

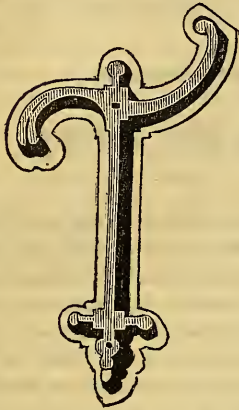
The Fourth Volume of
The Decorator's Assistant,
Is now ready, price 6s.



BORDER SKETCHED FROM A CURIOUS DRUG BOTTLE.—(ITALIAN.)



Education of Designers.



HERE is a difference of opinion even amongst the friends of instruction, as to the extent to which it is expedient to dispense information; but reason, as well as constant experience teaches that no compromise whatever should be made with ignorance; the unavoidable occupations of life, the negligence of some, and the indolence of others, render it quite unnecessary to take any precautions for preventing the mass of mankind from becoming either too learned or too rational. All true knowledge is good for all human beings; but untrue or doubtful information, instead of enlightening the mind, tends only to mystify it. Knowledge is not only agreeable and beneficial in itself to its possessor and those about him, but it produces contingent advantages of incalculable magnitude. When men of only ordinary education meet together, how many bickerings and animosities arise from the misinformation of individuals! The same subject which would be instantly dismissed with an unanimous decision by an assembly of learned men, would, amongst uninformed persons, create as many conflicting opinions as the caprice of unbridled fancy might happen to suggest. Knowledge is the purest and greatest delight of a rational being; the surest bond of friendship, and the firmest basis upon which the prosperity of a nation can repose. Abundant and triumphant arguments might be adduced to prove that great benefit must accrue to all classes of

society from an extensive system of practical education in the art of ornamental designing. Our opinion on the subject of instruction, however humble it may be, is unwavering and uncompromising; we desire to see the greatest possible amount of information afforded to every individual, without limit or condition.

If the master manufacturer depended upon the workman for patterns, that circumstance must necessarily increase the power as well as the value of the journeyman; the highest degree of instruction would not enable every one to excel where taste and invention are required, but every man who chose to devote his spare time to study, would have a fair chance of raising himself above his less assiduous colleagues; and surely the education of our children is not a consideration of so little importance as to justify us in renouncing it upon any slight grounds?

If any one should doubt that the appropriate education of children, according to their destined vocations, assists them greatly in after life, we point to the flourishing city of Geneva, where the experiment has been long tried to the full extent. Ample and various education is there provided by the nation, and all classes of citizens have an equal unalienable right to participate in its benefit. Geneva is celebrated for enamelling, chasing, engraving, and other ornamental work; and children who are intended to be brought up to trades of this kind, are accordingly instructed in the art of design; while others intended for trades connected with mechanical science, are instructed in those branches of the mathematics which are essential to the proper understanding of the action of machinery; and every child is, as far as can be foreseen, educated according to his individual wants. It is to this system of good, accessible, and almost unavoidable education, that Geneva is chiefly indebted for the honour of producing a greater number of distinguished men than any other place containing the same amount of population: very many of them have sprung from the working classes, and all (or nearly all) have been educated in the same school with the children of magistrates, and those of labourers. The influence of this salutary system of education upon trade and labour, is equally notorious. Notwithstanding the enormous duty imposed by our government upon their produce, and its absolute prohibi-

bition in France, such has been (and is now in some respects) the inimitable superiority of their articles, that they have never ceased to carry on a prosperous trade with both England and France, in spite of the obstruction of the one, and the veto of the other. The merchants concerned in this trade, compelled by the inauspicious policy of France and England, organised an extensive and excellent system of contraband trade, and men of the highest respectability in the commercial, as well as in the ordinary meaning of the term, insured the regular delivery of goods from one country to the other for the charge of from five to six per cent. upon the value which the merchant chose to fix upon his goods. After twenty years' experience of their inability to annihilate trade, both France and England at last relaxed the severity of their laws, and allowed the introduction of merchandise into their respective countries at a price which they thought would entirely put down smuggling; they are, however, deceived, for experience has shown that goods are safer in the hands of responsible smugglers, than with irresponsible custom-house officers, notwithstanding the occasional depredations of the latter.

Wherever, there is a great demand for any manufactured article, there must also be a great demand for labour; and when that is the case, there must be some sad mismanagement if labour is not adequately paid. The Geneva workmen are, in general, so remunerated, that they often make as good a figure in the world as many little masters, and, possessing equal education, they are of equal rank in public estimation, as well as in their private intercourse. It would be a pleasing sight in London to see masters and journeymen all indiscriminately mingled, and co-operating for the general good; but, alas! we are far, very far, from that desirable state of things. Not only the journeymen, but the masters also, are in want of instruction; masters should be taught that they form but one small link in the chain of commerce which connects the various departments of trade.

It is well for all men to treat each other with becoming respect; but a rich man must be infatuated indeed, if he thinks that the workman owes him any additional respect or gratitude for his being rich. In conclusion we

hope our friends will make a step towards that state of ample education, which not only enables its possessor to obtain the material comforts of life, but promotes virtue and honour, as certainly as ignorance and its frightful attendant, poverty, engender misery, vice, and imbecility.

Gold and Silver Fillagree.

THERE is no manufacture in any part of the world that has been more admired and celebrated than the line gold and silver fillagree of Sumatra. What renders it a matter of great curiosity is, the coarseness of the tools employed in the workmanship, and which, in the hands of an European would not be thought sufficiently perfect for the most ordinary purposes. They are rudely and inartificially made by the goldsmith (pandi) from any old iron he can pick up. When you engage one of them to execute a piece of work, his first request is usually for a piece of iron hoop to make his wire-drawing instrument. An old hammer-head stuck in a block, serves as an anvil, and a pair of compasses is often composed of two old nails tied together at one end. The gold is melted in a piece of earthen rice pot, or sometimes in a crucible of their own make of ordinary clay. In general they use no bellows, but blow the fire with their mouths through a point of bamboo; and if the quantity of metal to be melted is considerable, three or four persons sit round their furnace, which is an old broken quallie or iron pot, and blow together. At Padong alone, where the manufacture is more considerable, they have adopted the Chinese bellows. Their method of drawing the wire differs but little from that used by European workmen. When drawn to a sufficient fineness, they flatten it by beating it on their anvil, when flattened they give it a twist, like that in the whalebone handle of a punch-ladle, by rubbing it on a block of wood with a flat stick. After twisting, they again beat it on the anvil, and by these means it becomes flat wire with indented edges; with a pair of nippers they fold down the end of the wire, and thus form a leaf or element of a flower in their work, which is cut off. The end is again folded and cut off, till they have got a sufficient number of leaves, which are laid on singly. Patterns of

the flowers or foliage, in which there is not very much variety, are prepared on paper of the size of the gold plate on which the fillagree is to be laid. According to this, they begin to dispose on the plate the larger compartments of the foliage, for which they use plain flat wire of a larger size, and fill them up with the leaves before mentioned.

To fix the work, they employ a gelatinous substance, made of the red hot berry called bocca sago, ground to a pulp on a rough stone. This pulp they place on a young cocoa nut, about the size of a walnut, the top and bottom being cut off. After the leaves have been all placed in order, and stuck on bit by bit, a solder is prepared of gold filings and borax, moistened with water, which they strew over the plate, and then putting in the fire for a short time, the whole becomes united. This kind of work on a gold plate they call *corrong-papon*. When the work is open they call it *corrong-troose*. In executing the latter the foliage is laid out on a cord or soft kind of wood, and stuck on as before described with the sago berry, and the finished work being strewed over with their solder, is put into the fire, when the cord or soft wood being burnt away, the gold remains connected. If the piece be large they solder it at several times. In the manufacture of badjoo buttons they first make the lower part flat, and having a mould formed of a piece of buffalo horn indented to several sizes each, like one half of a bullet mould, they lay their work over one of these holes, and with a punch, they press it into the form of a button. After this they complete the upper part. When the fillagree is finished they cleanse it by boiling it in water with common salt and allum, or sometimes lime juice, and in order to give it that fine purple colour they call *sapo*, they boil it with water and brimstone. The manner of making the little balls with which their works are sometimes ornamented, is as follows:—They take a piece of charcoal, and having cut it flat and smooth, they make in it a small hole which they fill with gold dust, and this melted in the fire, becomes a little ball. They are very inexpert at finishing and polishing the plain parts, hinges, screws, and the like, being in this as much excelled by the European artists as these fall short of them in the fineness and minuteness of the foliage.

The Chinese, also, make fillagree, mostly of silver, which looks elegant, but wants the extraordinary finish and pure delicacy of the Malay work, and is also very inferior both in beauty and chasteness of design, and general artistic conception.—In neither Malay or Chinese do we trace in even the most elaborate of their works, a fitness in the design to the purposes for which the article is in-

tended, now so desirable a point in our own Art-manufactures, and to the advocacy of which we have devoted a considerable portion of our space. We can scarcely censure these semi-barbarians for this defect, seeing that the same object has been so long neglected by ourselves, who possess far more means and appliances for the purpose than our rude but ingenious competitors.

The price of the workmanship depends upon the difficulty or uncommonness of the pattern; in some articles of usual demand, it does not exceed one third the value of the gold; but in matters of fancy, it is generally equal to it.

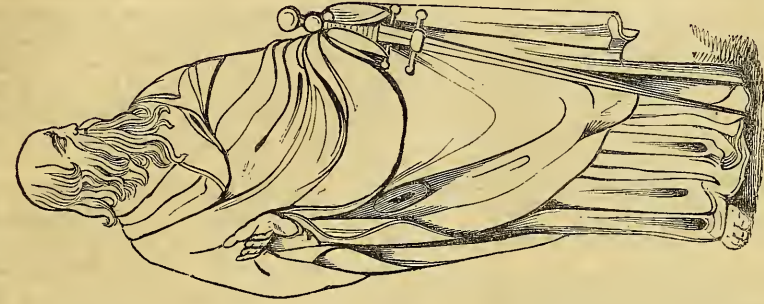
Monument to Mr. Peter Nicholson, Architect at Carlisle.—In respect to the statue, or other suitable and lasting memorial of this useful member of our profession, which it is proposed to erect in Carlisle, a correspondent, "Alpha," suggests that the fact ought not to be lost sight of that he died in very poor circumstances. It is to be hoped, therefore, that while his talent is honoured his family will not be neglected, otherwise a monument to his memory would be but a sorry mockery of the man.

The Tyne Glass Trade.—According to the *Newcastle Guardian*, is only now reaching the climax of its decline. Out of the numerous firms formerly engaged in the window glass trade, two only remain, and these appear to be not only languid but expiring also. Ridley and Co., a firm of a century standing, have suspended their works, and will probably not resume them again. Only two of the flint-glass works remain. Various causes, none of them our authority thinks sufficient, are alleged for the depreasure of this trade.

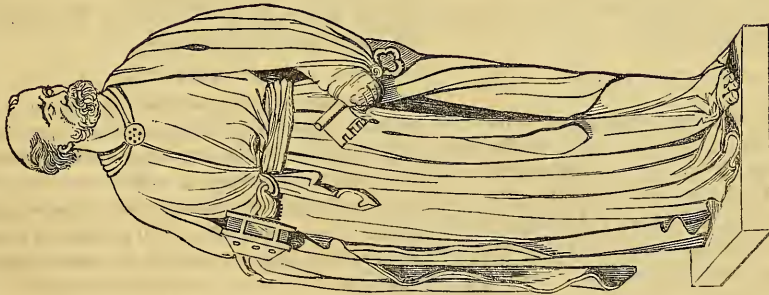
Yorkshire Architectural Society.—At the meeting of this Society, the Hon. and Rev. P. Y. Savile, rector of Methley, gave notice, that at the next meeting he should ask for a grant of 10*l.* for the restoration of a fine oak roof, which he had discovered during certain repairs in his church, concealed above a flat plaster ceiling, and he also particularly invited the attention of the members to the peculiar features of the building. It was accordingly resolved that a special meeting of the society should be called at Methley early in May, for the purpose of examining the church. A paper was read by Mr. W. H. Dykes, architect of York, "On the form and management of Churches," giving some account of the various types of churches which had been common in different ages, through the Christian world, and showing that, nevertheless, they had all agreed in certain peculiar features, and especially in their having had a distinct chancel, separated by screens from the body.



AN ORIGINAL DESIGN FOR A VASE.



ST. PAUL.



ST. PETER.

SKETCHED FROM THE TOMB OF ST. SEBALD, AT NUREMBERG.

On Water-colours for Illuminating Prints, &c.

OF YELLOWS.

(Continued from page 13.)

PUT a pint of the same lixivium to the berries, and boil them till the liquor is as deep-coloured as gall-stone, and this will be fit for the shade of any sort of yellows you can use. This may be boiled till it produces a brown colour, and will, with a little ox-gall, serve to shade any leaf-gold that is laid on paper, and is much preferable to gall-stone in imitating any gold colour; and it answers well upon a tincture of gambouge, or any of the former yellows.

Next to this may be reckoned the tincture of saffron in common water only, which affords a bright reddish yellow, such as would be required for an orange-colour, in covering the shadowed parts of a print; and when saffron is infused in rectified spirit of wine, there is nothing higher; but then it will fly, unless it be loaded with gum-arabic.

As for deep yellow, with a body, Dutch pink comes the nearest of any to the forementioned strong yellow made of French berries in point of colour: but the English pink which is still made of French berries, is of a lighter yellow.

Also a good yellow colour for illuminating prints may be extracted from the roots of ginger; and with transparent verdigris it makes a fine green.

It is to be observed, that the English and Dutch yellow pinks are made with French berries ground to a fine powder and boiled.

OF ORANGE COLOUR.

An orange-colour for washing prints is made by laying on a teint of gambouge; and over that some minium or red lead washed, and rendered fine and fit for use: it not being fine enough to paint with, as it is bought at the shops; and besides, it will change, or turn black in a few weeks, if it be not refined; but being well prepared, it will be very lasting and beautiful. But this you must take notice of, that an ounce will not produce above 20 grains of a good colour to stand the test of painters. This colour may be mixed with gambouge upon a white Dutch tile, to render it of the teint you would have it, either softer or stronger; or else the gambouge may be glazed over, and strengthened with the tincture of saffron, which will make it glare into a strong orange,

OF MINIUM THE BRIGHTEST RED LEAD; THE MANNER OF PREPARING IT.

The minium or red lead is as heavy and strong a colour as most we have; and prepared, is the most beautiful one, when it is well washed and cleansed of its more weighty parts, which causes it to turn black.

Put four ounces of it into a quart of rain water; then stirring it, pour off the water immediately, and let it settle to the bottom of every cup or glass you pour it into; then pouring off that water, in a days time you will have colour dry, and as fine as can be desired. Afterwards put a little gum-arabic into each glass or cup, and as much water as will moisten each of them.

Any of these may be afterwards used with gum-arabic; but if the gum you put in it at first make it strong enough to glaze it, then you need only to add to it common water: and according as your colour is more or less gummied, use more or less gum-water; for it is of itself a dead colour. When you use this colour, touch it very gently on the yellow above mentioned that is made of the yellow berries, into the light side; and if it wants a shade, you may put a little vermilion upon it; but vermilion is too heavy to paint with, when you illuminate your prints, because it hides the shades of the engraving, though sometimes they had better be hidden than appear. Some generally shade this minium with carmieu, which gives it a fine effect, and renders it equal to the brightest red flower that is to be seen; leaving still the lights uncoloured, only dashing a little way into the lights with the minium.

When the carmine has shaded the minium, it may be shaded again with lake in the stronger part, to bring it to a deeper red.

OF OTHER REDS.

Scarlet red may be represented on a plane with minium a little mixed with vermilion; but if you have occasion to paint a flower of a scarlet colour on a print, let your lights as well as shades be covered very thin with minium; and the shaded parts glazed with carmine, which will produce an admirable scarlet, such as is seen in the flower scarlet martagon.

Crimson red is represented with carmine; but it is necessary that the buyer be informed, that there are several sorts of it, some darker, and some much coarser than others: therefore it should never be bought by candle-light, unless of such as a person can confide in: for between the best and the worst there is ten shillings an ounce difference: nay, indeed all the money that an ounce will cost, because bad carmine will but spoil the work.

Professor Cockerell's Lectures on Architecture.

(Continued from page 249, Vol. IV.)

VITRUVIUS had given directions for observing the different 'styles' or dispositions of columns, as $1\frac{1}{2}$ diameters apart for the pycnostyle, and so on. These directions were very important; but there was another practical point to be considered along with this—viz., varieties of height, according to the character of the building, whether tall or short. Now, this had never been sufficiently well attended to, for the commentators had drawn their illustrations to all scales, or according to the size of the paper. To render this as clear as requisite, the different 'styles' should have been drawn to the same scale. Taking the pycnostyle aræostyle as the two extremes, it would then be apparent there were certain characters; as in the latter instance, the low and compressed, and in the former, the tall—the other 'styles' ranging between these extremes. Each of these distinct orders of disposition, no doubt, had its appropriate application. Now, instead of observing such a system as that here shadowed forth, each of us had a type by which we measured all things. One artist invariably made his figures tall, another short—but this was not nature. An architect wanting a door, would go to an example, or to Sir William Chambers, and, without reflecting, would apply any proportion or size of aperture indifferently to a broad or tall disposition of columns. The professor shewed that the aræostyle to the door should be large in proportion to the order; whilst in the pycnostyle, the opposite method should be practised; and so, he said, every aperture, and indeed stone, should have a general harmony with the design and character of the particular building. But, in opposition to this, one master was for the broad, another for the narrow gauge.

The professor vindicated the authority of Vitruvius from the aspersions cast upon it, through ignorance of its true value, as shewn in several instances by modern writers, who were certainly not artists. He quoted lines from the Iliad, in which Helen describes the figures of Agamemnon, Ulysses, and Ajax, and said that these were no doubt designed by the poet to express what we found in the works of Albert Durer, Titian, and sometimes Raffaele, viz., *character*. Each of the characters we might affect had its own proper modulus or type, and by applying each in its place, we obtained that contrast and beauty which was

the charm of architecture. He instanced the guard house at Cologne, by Schinkel, as admirably suited to its position. He also mentioned Nottingham Castle, said to be the work of Inigo Jones, which contained some singularities, but had an admirable effect at a distance. Another building was the Loggia of the merchants, at Venice, by Sansovino. It was only 30 feet high, and in any case, to give dignity to a building which was at the foot of a tower 300 feet in height, was not easy. The professor pointed out how this was effected, and said that the result was a compressed character, which was in complete contrast with the tower above. Other occasions, had shown how he could feel like an artist, when he had opposite circumstances to deal with, when he adopted the tall character: his art was not that of a bigot; he suited the character to the place. In giving examples of successful attention to these principles, the church of St. Paul, Covent Garden, could not be forgotten, as an instance of the fine effect of the low broad character.

It would be recollected, the professor said, in considering subjects of this kind with the aid of books, that illustrations were not drawn to the same scale. He said that considerations of this sort were much neglected in buildings. For example, we found the eustyle in relief, which made all the difference, and windows imprisoned as it were between the columns. He instanced the front of Lord Spencer's house, in the Green Park, as an example of the successful treatment of an engaged order with windows, the columns being there placed diastyle, and consequently there was complete space for the windows, and all dressings. In our copies of Greek temples on the contrary, we had generally fallen into the error which the architect of that beautiful building had avoided. We had, indeed, been Greek mad, but not from too much learning, but from too little. We believed that, some day, a type of proportion would be discovered, applicable to every kind of building. Wren had an eye to this. The interior of St. James's Church, Piccadilly, had a certain proportion of height, and magnitude was gained by that proportion. He instanced Sir Robert Taylor's garden-front of the Bank, as an instance of successful proportion. Sanmichele was a great master in this; his gate in front of the Lido had a rusticated Doric order, managed with the hand of a giant. In civic buildings he said, where frequent piers could not be avoided, character might be given by decorating the alternate windows.

The principle of a certain modulus of proportion, applied to interiors. St. Peter's at Rome, ought to have had the bridge-like expanse, rather than, with a more vast dimension, the ordinary proportion of

a church. In Mediæval architecture, height was governed by the point of an equilateral triangle, and Wren, was so true a mason, that he followed the same method. He concluded by remarking, that although there were many things which could hardly be taught, it behoves us still to reflect, and acquire all the skill which we could possess, by learning on every side, in preference to depending upon the inspiration of genius.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

NAILS. Small spikes of metal to fasten parts together. Sir W. Gell has given figures of the round-headed bronze-headed nails, which he found in the treasury of Atreus, at Mycenæ, which were made of copper and tin, in a proportion of 88 to 12. Bronze nails were used, according to Winkelmann, in the bronze doors at Herculaneum. The heads of those in the doors of the Pantheon, are five inches in diameter. The head of a bronze nail in the cabinet of the Roman college has nearly the figure of a parasol, or mushroom. The length of the square tail of the nail is engraved with many characters.

NAKED. A term applied in architecture either to a column or a wall, to denote the face or plain surface from which the projections rise.

NAOS. The enclosed apartment of an ancient temple, before which stood the pronaos, and behind it the posticum.

NATURAL BEDS. The surfaces of a stone from which the laminæ were separated.

NAVE. The middle part of a church. Naves of churches extend from the west end of the choir or chancel. In great churches they contain numerous small altars placed between or against the columns. The top of the middle aisle, with windows above the arches, is called the clere-story. Some have compared the form of the Christian churches with nave and aisles to the hypæthral temples of the ancients, in the cella of which a row of columns down each side separated the sides from the centre. The Egyptian temples of Hermontis and Ysambul are separated by two rows of piers or pillars, into three alleys. A similar disposition was observed in the Roman Basilicæ. In English churches the nave belongs to the parishioners, whose business it is to keep it in repair.

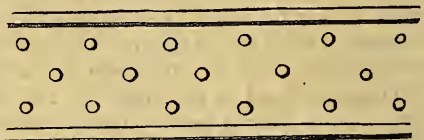
NEBULE. In Saxon and Norman architecture, a zig-zag moulding without angles.



NOBBED MOULDING. A moulding used in Saxon architecture.



NAIL-HEADED MOULDING. Used in Saxon architecture.



NECK. The space between the cannelures and annulets of the Doric capital, in Grecian examples; and in Roman, that between the astragal and the annulet. It is seldom found in the Ionic, but it occurs in the capitals of the temples of Erechtheus and Minerva Polias, at Athens. (See page 125,—Vol. 2.)

NECK-MOULD. In Gothic architecture, the moulding which separates the capital from the shaft, or that under the finial of a pinnacle or canopy. (See Finial, page 25, Vol. 3.)

NERVES. The mouldings of the ribs of Gothic groins.

NESSOTROPHIUM. A place in the Roman villas for breeding ducks.

NET, or RETE. The covering of a geometric solid.

NET MEASURE. A term used when no allowance is made for finishing, in buildings, or for waste of materials.

NEWEL. The upright cylinder or pillar, around which winding stairs turn, thence called newel stairs.

NORMAL LINE. A line which intersects another at right angles.

The Roman Period of Greek Decorative Art.

IMPORTANCE OF SYSTEM IN STYLE, AND OF
TASTE AND SUBORDINATION IN ORNAMENT.

(Concluded from page 12.)

BUT all these were nothing compared with the myriads of works, pictures, and statues which were collected together in the public buildings of Rome. Cassiodorus says that Rome was one vast wonder, a statement we can well understand, if we are to judge from the temporary theatre constructed by Scaurus in honour of his ædileship, which he decorated with 3,000 bronze statues.

Considering this unparalleled wealth, then, in works of fine art, it is quite consistent that the Romans should endeavour to decorate their buildings in a style of commensurate splendour and profusion, and thus we find that the most florid examples of purely Greek ornament are plain when compared with the Roman treatment of the same forms, although it is very probable that Greek artists were employed to execute their elaborate designs.

By help of numerous illustrations the lecturer then proceeded to contrast the Greek and Roman orders, and to trace their variations, enrichments, transformations, complications, and confusions during their 'decline and fall.' Examples of ancient ornamental art in the forms of armour, helmets, shields, &c., and of sculpture, candelabra, and other designs, were also referred to and described, with various preposterous combinations and fanciful decorations deprecated by Roman writers themselves as illustrations of a beautiful system of ornament run mad—a bed of flowers overrun with weeds. The barbarous forms and colours of specimens of stucco-work and other decorative details from Pompeii were exhibited in justification of such complaints. That even Pompeii, however, a small provincial town, exhibited occasional traces of a magnificent system of decoration, was freely admitted.

Having passed in review every element of classical ornamental art, continued the lecturer, or at least, every element of importance, we will now briefly consider what is the exact object of this historical investigation. This is the view with which we study the history of art—to discriminate and to individualise the styles of the various epochs, and by thus developing distinct characters, to multiply to an equal extent our means of view-

ing nature, and our powers consequently of representation. The real object of historical knowledge is not the mere copying what has been done before, but the acquisition of a power which not only supersedes all copying, but which alone will ensure the production of that variety of ornamental design which the simplest theory must make manifest, is the ostensible effort of every designer.

A knowledge of the various styles not only gives a very great command over the elements of ornamental art, but will enable you to view what comes under your own observation in several distinct lights. For instance, take a walk in one of our fields some summer's day, and 'make a series of different designs out of what you find there—say a blade of grass or a dock-leaf, butter-cups and daisies, an ear of wheat and a poppy or any other simple plant. First throw them together in your own way, and as you would do if you had no knowledge of ornamental design. Then, for example, consider how an Egyptian would have treated these things, and arrange them into a frieze ornament, such as we have many examples of in the temples of Egypt. Then make an attempt at the Doric, and do not forget the anthemion; from that age pass to the Alexandrian, producing a more expansive and rich arrangement, bearing in mind the acanthus; and finally, try the Roman, in which you may put all the gorgeous exuberance of display of which your materials are capable, not forgetting the scroll, and that in both the Alexandrian and Roman styles fabulous animals are admissible. This is only one of a thousand useful experiments or exercises that your historical knowledge will enable you to make in the arrangement of new materials in established forms; and it is a field of enterprise that, without historical knowledge, would be wholly closed to you. I may observe that you will ensure a much greater variety by disposing the same materials in different forms than by arranging different materials in the same forms.

By following out this system with a thorough knowledge of ornament, you cannot fail to produce variety and beauty at once—the end of all these studies, and the object of every ornamentist, whatever may be the ultimate destination of his design.

New Royal Mausoleum.—Her Majesty the Queen having purchased a large space of ground in the Kensall-green Cemetery, has ordered to be constructed, for the Royal Family, an elegant mausoleum, to which will be removed the remains of her late Royal Highness the Princess Sophia, now deposited in the Company's catacombs. The site which was selected by His Royal Highness Prince Albert, is in conspicuous part of the Cemetery, opposite the monument of his late Royal Highness the Duke of Sussex.

The Chronotypist.

THE National Assembly of France has determined that the annual exhibition of the modern productions of art shall take place in the ci-devant palace of the Tuileries, now named the 'Palais National.' It will not open before the 15th of June. The Exposition of Industrial Art will open June 1. —The wing of the Louvre called the gallery of Appollo is undergoing extensive repair, and a great number of workmen are employed in it. The timbers of the roof were found so much decayed that entire reconstruction became necessary. Visitors to Paris before the Revolution of February may recollect the statue of the unfortunate son of Louis Philipe, the Duke of Orleans, adorning the centre of the Court of the Louvre. This has been removed; as offensive to republican notions, and preparations are making to transport the fountain of the 'Marchè des Innocens' to replace the statue, which is, *for the present*, condemned to oblivion. —A special exhibition of machinery, frames, looms, and implements of trade (of Belgian or foreign make) employed in the manufacture of yarns and tissues of all sorts, is to be opened at Ghent (on the occasion of the exhibition of the produce of Flanders) in the month of July. Special rewards, consisting of commemorative medals, of gold, silver, and bronze, will be awarded to such exhibitors as shall appear to merit such a distinction. —An interesting discovery is reported to have been made in the Archives of the North by M. de Laborde. He has found, it is said, in the registers of the Dukes of Burgundy, very curious details relating to the early efforts in Art of John Van Eyck,—as well as to his works in general and to his death.—We are glad to find Prince Albert amongst the patrons of Dr. Bialoblotzky's adventurous Expedition in search of the sources of the Nile. The Prince has subscribed a sum of 10*l.* towards the expenses of the undertaking.—A joint meeting of the Northamptonshire Architectural Society and the Bedfordshire Architectural Society is appointed to take place at Higham Ferrers, on Tuesday, the 8th. The Marquis of Northampton will preside, and an excursion is proposed to some neighbouring churches on the following day.—In the Iron trade the present prices of wrought and pig-iron are pretty well sustained, though we fear very little of the former has realised the nominal price of 7*l.* 10*s.* per ton.—The Paris papers announce the death of M. de Gènoude, the well known editor in chief of the *Gazette de France*.—The American papers report the death at New York of

Mr. Daniel Appleton, one of the leading publishers of that country—and the testimonies of respect offered to his memory. A meeting of the principal publishers and booksellers from various states of the Union have put on record their sense of his character and of the services long rendered by him to literature.—The feeling of regret which is expressed that the Stowe MSS. are not destined to enrich the national collection in the British Museum, is diminished by the consideration that since they *were* to become once more the property of an individual, Lord Ashburnham has become their owner. The character of that noble collector gives assurance that highly as he may prize his newly acquired treasures they will not be destined to return to the sort of jealous seclusion in which they were kept at Stowe.

To Correspondents, &c.

- J. L., From the first.—*You can have the whole of the numbers of the Decorator's Assistant, except No. 9, which is reprinting. Your Bookseller is deceiving you. If you think proper to send us Postage stamps, together with the amount of postage for the numbers you require, they can be forwarded to you by return of post. There is no cheap work of the class you require.*
- W. J.—*May crystallize glass windows with a hot solution of Epsom salts, or still better with sal ammoniac. Wet the glass with this solution, and lay it on equally with a soft brush; the moisture will almost instantly be evaporated, and the salt will be deposited on the glass in a beautiful radiated form.*
- H. B.—*Tracing paper may be made by rubbing common tissue paper with poppy oil or Canada balsam; which, when dry, being laid over a drawing, it appears through the transparent paper, consequently can be copied.*
- Enquirer, Leeds.—*In order to render gold malleable, it is alloyed in various proportions with silver or copper, the amount varying with the object for which it is required, and also with practice of various artizans.*
- Now Publishing, Price One Shilling, Part 2, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale.—The *Book of Ornamental and Early English Alphabets*, Price 6*d.* Parts 1, to 4, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6*d.* Office, 17, Holywell Street, Strand.
- * * Parts 1 and 2 are re-printed, and will in future be charged at 10*d.* each.
- Part 25 is now ready, price 10*d.*



AN ORIGINAL DESIGN FOR A CENTRE-PIECE.—(FRENCH.)

On the Cultivation of Taste in the Operative Classes.



T the present time we consider that if a large infusion of industrial and artistic education was added to our natural system of education, it would have a great and decided influence in securing the foundations and strengthening the bonds of social order. A man is necessarily dissatisfied when he finds himself in possession of something which he values very highly, but which he finds to be undervalued by others. Now the value of literary instruction in a workman is not always apparent, while skill and taste are ever sure to command a superior price in the market. The great requisite for producing the success of Art, is that it should be appreciated. Appreciation produces demand, and demand leads to supply. If the best designers were trained, their labours would be vain so long as a perverted public taste would content itself with inferior patterns. It is necessary to make the development of taste a part of a system of our national education, and to bring it especially within the sphere of its influence on our artizan and operative population. No man can now doubt but that National Education must proceed, especially in the decorative branches ;

and all that we can do is to assist in guiding the movement. One valuable result of the development of taste in the artizan would be, that when applied to his productions, it would have a very powerful effect in making him satisfied and contented with his condition and his work. Carpenters have been as proud of constructing a neat cart as statesmen of forming a strong cabinet. This pride is not merely harmless, but most useful ; it is an incentive to production, and a motive for that satisfaction which renders men anxious for the maintenance of tranquility. Thus Taste has an Economic, a Moral, and a Social value, for it tends to increase production—it produces healthy feelings of content, and it renders men disinclined to disturb Law and Order.

Every one is aware of the necessity of taste in the upholsterer, the painter, the paper-stainer, the carpet-manufacturer, and the cabinet-maker, and even the housemaid who arranges the furniture in our rooms. The results of their taste tell upon us and upon our children : the objects by which they are surrounded exercise a most powerful educational effect on the minds of the young, and thus, artizans whom we have never seen in that capacity before, become, in fact, teachers of the young. When we elevate the taste of the working classes, we render them agents in improving the taste, and by consequence, in increasing the patronage and consideration of the superior orders ; for the intellectual characteristics of the different classes of society act and re-act on each other more rapidly and efficiently than the physical and material.

The great defect of a national system of education is that we give precisely the same course of education to the labourer and the artizan ; and to this we may add that the prescribed course for both is not that best adapted to the present or future condition of either.—We are the more anxious to impress the importance of the cultivation of taste on the artizan, because the condition of Europe offers to this country the most favourable opportunity for strengthening the elements of its wealth, and increasing the resources of its manufactures.

We can only plead, as an excuse for pressing this subject so strongly upon our Readers,

that it is the dearest wish of our heart, and has ever been, to combine the interests of British Art with those of British Taste and Industry.

Manufacture of Tapestry.

TAPESTRY is distinguished by two kinds—high and low warp; but the difference is more in the manner of making, than in the work itself, which is, in effect, the same in both, only the looms, and consequently the warps, are differently situated; those of the low warp being placed flat and parallel to the horizon, and those of the high warp erected perpendicularly. Our own countrymen once excelled all the world in the tapestry of the high warp, and they still maintain their reputation, but with some little change. These low warps are still much admired—the high ones are quite laid aside by the French.

Tapestry of the high warp is manufactured as follows:—The loom on which it is wrought is placed perpendicularly, and consists of four principal pieces, two long plants, a cheek of wood, and two thick rollers or beams. The planks are set upright, and the beams across them; one at the top, and the other at the bottom, about a foot from the ground. They have each their trunnions by which they are suspended on the plank, and are turned with bars. In each roller is a groove from one end to the other, capable of containing a long sound piece of wood fastened therein by hooks. It is used to tie the ends of the warp to each other. The warp, which is a kind of worsted, or twisted woollen threads, is wound on the upper roller, and the work, as fast as wove, is wound on the lower. Withinside the planks, which are seven or eight feet high, fourteen or fifteen inches broad, and three or four feet thick, are holes pierced from top to bottom, in which are put thick pieces of iron, with hooks at one end, serving to sustain the coat stave. These pieces of iron have also holes pierced, by putting a pin in by which the stave is drawn nearer, or set farther off; and thus the coats or threads are stretched or loosened at pleasure. The coat stave is about three inches in diameter, and runs the whole

length of the loom. On this are fixed the coats or threads which make the threads of the warp cross each other. It has much the effect here that the spring stave and treddles have in the common looms. The coats are very little threads fastened to each thread of the warp, with a kind of sliding knot, which forms a kind of mark or ring. They serve to keep the warp open for the passage of broaches, wound with silk woollens or other matters used in the piece of tapestry. In the last place, there are a number of little sticks of different lengths, but all about an inch in diameter, which the workman keeps by him in baskets to serve to make the threads of the warp cross each other, by passing them across; and that the threads thus crossed may retain their proper situation, a packthread is run among the threads above the stick.

The loom being thus formed and mounted with its warp, the first thing the workman does, is to draw on the threads of this warp the principal lines and strokes of the design to be represented on the piece of tapestry, which is done by applying cartoons made from the painting he intends to copy, to the side that is to be the wrong side of the piece, and then with a black-lead pencil following strongly out the cartoons thereof on the thread of the right side, so that the strokes appear equally both before and behind. As for the original design, the work is to be finished by it; it is hung up behind the workmen, and wound on a long staff, from which a piece is unrolled from time to time, as the work proceeds. Besides the loom, &c., here described, there are three other principal instruments required for working the silk or the wool within the threads of the warp. These are a brooch, a reed, and an iron needle. The brooch is made of a hard wood, seven or eight inches in length, and two thirds of an inch thick, ending in a point with a little handle. This serves as a shuttle; the silks, woollen, gold, or silver to be used in the work being wound round it.

The reed or comb is also of wood, eight or nine inches long, and an inch thick on the back, whence it grows less and less to the extremity of the teeth, which are more or less apart according to the greater or less degree of fineness of the intended work. Lastly, the needle is made in form of a common needle, only bigger and longer. Its use is to press

close the wool and silk when there is any line or colour that does not fit well. All things being prepared for the work, and the workman ready to begin, he places himself on the wrong side of the piece, with his back towards the design, so that he works, as it were, blindfold, seeing nothing of what he does, and being obliged to quit his post and go to the other side of the loom whenever he would view and examine the piece, to correct it with his pressing-needle.

To put silk, &c., in the warp, he turns and looks at the design, then taking a brooch full of the proper colour, he places it among the threads of the warp, which he brings across each other with his fingers, by means of the coats or threads fastened to the staff—this he repeats every time he is to change his colour. Having placed the silk or wool, he beats it with his reed or comb, and when he has thus wrought in several rows over each other, he goes to see the effect they have, in order to reform the contour with his needle if there be occasion. As the work advances, it is rolled upon the lower beam, and they unroll as much warp from the upper beam as suffices them to continue the piece;—they do the same with the design behind them. When the pieces are wide, several workmen are employed at one time. We shall next week give a full description of the manufacture of High Warp Tapestry.

Precipitation of Metallic Gold,

FROM THE NITRO-MURIATE ON SILK, SATIN, IVORY, &c., BY HYDROGEN GAS.

IMMERSE a piece of white satin, silk, or ivory in a solution of nitro-muriate of gold, in the proportion of one part of the nitro-muriate to three of distilled water. While the substance to be gilt is still wet, immerse it in a jar of hydrogen gas; it will soon be covered by a complete coat of gold.

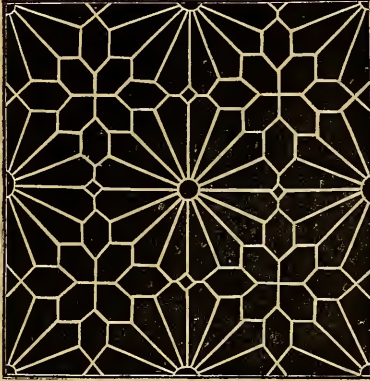
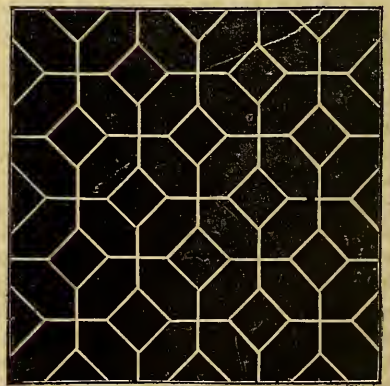
The divisibility of gold by precipitation in this manner, is astonishing; for the coating is hardly the ten millionth of an inch thick. The foregoing experiment may be prettily and advantageously varied as follows. Paint flowers or other ornaments with a very fine camel-hair pencil, dipped in the above solution of gold, on pieces of silk, satin, &c., and hold them over a Florence flask, from which hydrogen gas is evolved during the decomposition of water by sulphuric acid and iron filings. The painted flowers, &c. in a few minutes will shine in all the splendour of the purest gold. A coating of this kind will not tarnish on exposure to the air or washing.

Observation.—Porcelain is gilded by mixing nitro-muriate of gold, gum-water, and pulverized borax. The mixture is laid on by a brush, and the porcelain is burnt in an oven. The gold is thus revived in great splendour. Porcelain and other wares may be platinized, silvered, tinned, and bronzed in a similar manner.

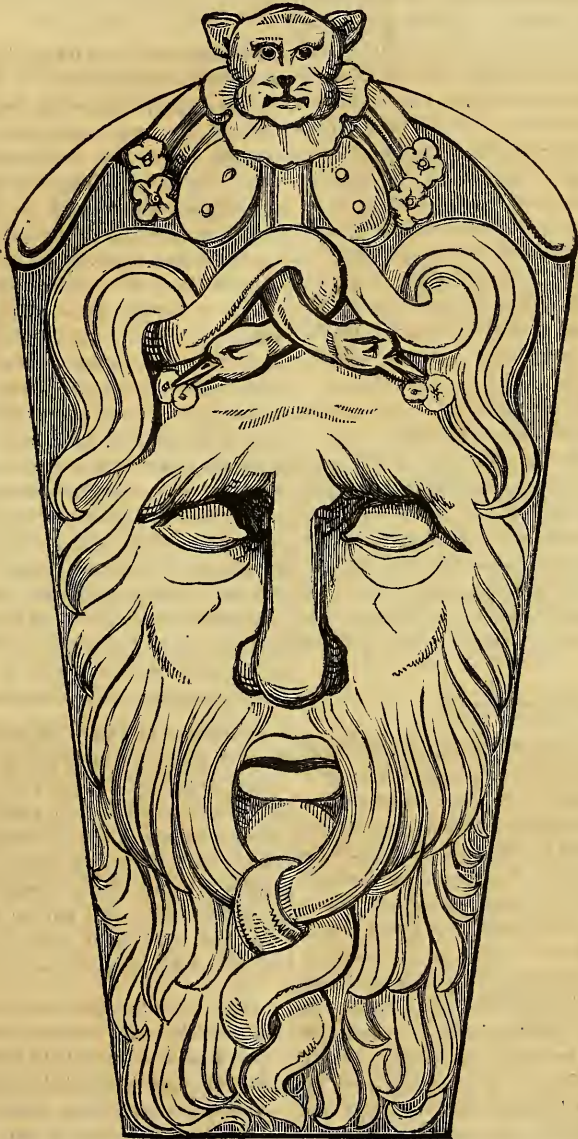
Architecture at Oxford.—An Oxford paper mentions various architectural improvements with which the liberality of the University, of particular colleges, or of individuals, as well by the restoration of ancient buildings as by the erection of new ones, has lately adorned Alma Mater. One is the restoration of St. Mary's the Virgin, under the direction of Mr. Blore, at an expense which they think cannot be short of £3,000. In the cathedral church, from the nave two cumbersome pews have been ousted, and their places supplied by low and massive benches, the carving on their standards designed to harmonize with the very massive Romanesque architecture of that portion of the cathedral. The principal and fellows of "the King's Hall and College of Brasenose" have caused no small portion of the old walls, built originally of the crumbling Headington-stone, to be renovated and repaired, that they may hand down to posterity their college buildings in a more perfect state. The new hall of Pembroke-college quadrangle is third pointed, with a tower at the end, and is well spoken of. There are new cemetery chapels, situate respectively in Jericho, Osney, and Holywell. The first of these is Romanesque, while the two others are in the pointed styles.

Exhibition of Machinery at Ghent.—The King of the Belgians has issued a decree to the effect that an Exhibition of machinery, frames, looms, and implements of trade (of Belgian and foreign make) employed in the manufacture of yarn and tissues of all sorts, shall be opened at Ghent, on the occasion of the Exhibition of the produce of the industry of Flanders, in the month of July. It should be understood that the royal ordinance expressly and exclusively refers to mechanical agents properly so called, and not to motive or transmissive powers. Special rewards, consisting of commemorative medals of gold, silver, and bronze will be awarded to such exhibitors as shall appear to merit such a distinction. The Government reserves to itself the right of making the acquisition—as models, either for the immediate use of trade, or for deposits in the State collections—of any machines or implements presenting important improvements. Every facility of conveyance will be afforded to foreign exhibitors, and no import duties will be levied on machines unless imported for use.

DESIGNS FOR GLAZIERS.

*Fig. 1.**Fig. 2.**Fig. 3.**Fig. 4.*

Figs. 1 and 4 are from the Church of St. Denis, St. Omer.—Fig. 2. From the Church of Aire, Flanders.—Fig. 3. From the Church of St. Etienne, Beauvais.



KEY-STONE SKETCHED FROM THE LOWER STORY WINDOW OF THE IMPERIAL ASSURANCE OFFICE, CITY.

Beverley Church.

THE great window at the west end of the church of St. Mary being in an unsafe condition, it was resolved to have it restored. The cost of the restoration of the window, west front, doorway, and turrets, was estimated at about 1,000*l.*, and this the churchwardens hoped to effect by the funds of the church in two years, at the rate of £500 a year. To restore the window with common glass would have cost £50: but Mr. Pugin proposed to put in a superior stained glass for £300, and furnished a design, which was approved of by the parishioners and also by the Architectural Society. The necessary sum has been subscribed, and it is expected that the window will be restored and the painted glass put in during the present year. The subject of the design is our Saviour and the twelve apostles, with the patron saint of the church, filling the fourteen compartments of the window. — One or more of the nave windows, it is expected, will be restored and decorated in a similar way.

The Church of St. Mary, Beverley, is well worth the attention of every one who admires or appreciates beautiful design and execution, and it is lamentable, here as elsewhere, to observe how little the decay of centuries has been arrested, and how dilapidated the structure has become. Here however, there has been no daubing or defacing, and although there is much to restore there is little to pull down.

England in an American's Eyes.—Mr. Ralph Emerson, in a lecture on England, at Boston, after his recent visit, referred to the elements of that power which the English now hold, and have held for centuries. After looking at her manufactories, scattered all over the land, her commerce, her agriculture, her arts, and witnessing the stupendous results which have been brought out, one is convinced, said he, that if he would see the best development of common sense (the standard sense), he must go to England to witness it. The land, in every part so like a garden, shews the triumph of labour; the fields look as if finished with the pencil, and not the plough. Every arable spot has been cultivated, and every thing turned to the best possible use. England, he continued, is a huge mill, a grand hotel, where every thing is provided to one's mind. On the railroads we ride twice as fast, and with one-half the shaking, that we do upon our roads. All England is a machine—every body moves on a railway—no Englishman ever

touches the ground. England has the best working climate in the world; it is never hot nor cold; their winter days are like our November days in the early part of the month. One of the few drawbacks which Mr. Emerson mentioned was the dark, dense smoke of many of the manufacturing towns, pervading and completely enveloping at times every surrounding object.

Religion and Art.—When, after the long period of darkness which followed on the decline of the Roman empire, the fine arts began to revive, the first and, for several ages, the only impress they received was that of the religious spirit of the time. The first great object to which reviving art was destined, was to render the Christian places of worship a theatre of instruction and improvement for the people; to attract and to interest them by representations of scenes, events, and personages already so familiar as to require no explanation, appealing at once to their intelligence and their sympathies; embodying in beautiful shapes (beautiful at least in their eyes) associations, feelings and memories, deep rooted in the very hearts, and which had influenced in no slight degree the progress of civilization—the development of mind. But, if I have not much sympathy with modern imitation of mediæval art, still less can I sympathize with that narrow Puritanical jealousy which holds the monuments of a real and earnest faith in contempt. All that God has permitted once to exist in the past should be considered as the possession of the present; sacred for example or warning, and held as the foundation on which to build up what in better and purer.—*Mrs. Jameson.*

Ornament for Glass or Slate.—Spread on a plate of glass a few drops of nitrate of silver, dissolved in double its quantity of rain water; place at the bottom of it, and in contact with the fluid, a zinc or copper wire, bent in any form you please, and let the whole remain undisturbed in horizontal position. In a few hours a beautiful crystalization of metallic silver will arrange itself around the wire, and continue to increase until the whole of the fluid has been acted upon by the wire.

THREE hundred specimens of the curious and important find on Whaddon Chase, of ancient British gold coins are about to be brought to the hammer. The sale will include examples of all the varieties discovered. These varieties, we understand, are merely modifications of two. There is not, we believe, a single inscribed piece in the whole lot. About one third are plain on one side, with a rude figure of a horse on the other. The rest exhibit a better executed horse on one side, and a confused copy of some well-known type on the other.

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

(Continued from page 7.)

IN the infant Art of every country, the accidental appearances of Nature are omitted, not so much from their being unperceived as from a notion that they would interfere, and when imperfectly given they do interfere, with beauty and expression; both of which have always been the first objects of all serious Art. The Chinese, for instance, though much of their ornamental painting belongs to the grotesque, yet in their representations of real life, they aim to the utmost at beauty, grace, and expression. To those enthusiastic admirers of mediæval Art who may think there is something almost sacrilegious in comparing anything done by Chinese hands for an instant with it, I might mention that Flaxman, than whom no man ever more fully appreciated early Italian Art, and who indeed was the first among the moderns to direct attention to it, saw how much, apart from subject, Chinese painting had in common with it, for I remember seeing Chinese pictures hanging on the walls of his parlour, which he admired as well for their grace and simplicity as for the peculiar beauty of their colour.

The severity of critics on the sameness of the works of one hand is not always just. Where it is sameness of an excellence, we should be grateful for it. The gentleness so utterly removed from insipidity of Raphael, the sublimity of Michael Angelo, the almost invariably golden tones of Titian, or the pervading silver of Paul Veronese, are things of which true taste never tires. To demand that every work of one master should be distinct in all its characteristics is something which the conditions of human nature refuse to grant. We have sufficient variety in the varieties of the minds of men; and the endeavour of a painter to go out of himself and into another, to give up what may be called his birthright, is always to be lamented if he have genius. A friend of Stothard, on being told he had painted a picture very like Rubens, said, with much good sense, "I would rather see a picture by him very like Stothard." Gainsborough occasionally stands on the same level in portraiture with Reynolds, because he kept himself distinct; but had he attempted the same style he must at once have fallen below his illustrious rival there to remain.

These observations, however, would lead us to a consideration of how far the mind of every painter is reflected from his canvas, and which for the present I must defer; remarking only that the varieties of Art, occasioned by such various manifestations of mind, form much of its real value, and that the criticism that would dethrone one genuine painter on account of imperfections which, by the conditions of humanity, are in some form connected with each, to elevate another in his place, is as unjust as it is mischievous, for there is room enough for all, and need enough—and I have remarked that the taste that cannot tolerate the aberrations of genius for the sake of its real merits, is mostly disposed to elevate mediocrity; for being in reality blind to the highest qualities of Art, it does not perceive the vast separation between a true perception of Nature and that commonplace imitation which passes with the multitude for that which is natural.

END OF LECTURE II.

India-Rubber Rigging Springs.—Mr. Newall, wire rope manufacturer, has patented an elastic support for rigging. It consists of a long box of iron plates, at each side of the ship, containing square blocks of india-rubber divided by thin plates of sheet-iron. By a regulating screw the rigging can be strained to any degree of tightness, and whatever strain is afterwards produced by winds, lurching of the vessel, or other cause, the spring, by its reaction, pulls the rope back to its place when the strain is removed.

St. David's Cathedral.—According to *Archæologia Cambrensis*, the restoration of this venerable structure has been going on since the subscription for that purpose in 1846. The stone rood-screen has been restored, and the unsightly wood-work which surrounded it cleared away, and replaced, where necessary, by parcloes of wrought-iron. A projecting cornice of oak has been substituted for the balustrade which formerly disfigured the rood-loft. The choir arch, before walled up, has been partially opened, and the large platform before the screen and the passage into the choir, have been laid with encaustic tiles.

The Nimrod Sculptures.—With reference to the second portion of these sculptures, the *Quarterly Review* remarks—"These articles, by the negligence or unwarrantable curiosity (we are unwilling to use stronger terms) of persons at Bombay, have suffered considerable damage. Some of the smaller ones, particularly those of glass, had been carefully repacked, were found broken to atoms; some including the most valuable specimens (these are Mr. Layard's words) were missing,—it is to be hoped not purloined by some over-tempted collector.

THE novelty which attended the exhibitions of the Electric light in the metropolis, by Mr. Staitt and M. Le Molt, has passed away, and the gas-lights now shine in their original brightness, no longer fearing the eclipse which threatened them.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

NICHE. A cavity or hollow in a wall, for the reception of a statue, &c. They are found sometimes square in ancient buildings. Niches are seldom found in pure Grecian buildings, except when they have been made afterwards by the Romans. Those in the Pantheon at Rome, are rectangular



recesses, dressed in the same manner as the apertures of doors. The exedrae or large niches on the sides, have cylindrical backs, finishing at the top with the soffit of an architrave of the general entablature.

NIDGED ASHLAR. Is brought to the square by means of a cavil or hammer with a sharp point, and is used in Aberdeen when the stone is so bad as to resist the mallet and chisel.

NILOMETER. An instrument used in Egypt to measure the increase of the Nile.

NODATED HYPERBOLA. A name given by Sir Issac Newton to a hyperbola, which in turning round decussates or crosses itself.

NOGS. A term used in Lancashire for *wood* bricks.

NORMAN ARCHITECTURE.—The style of architecture in Germany, termed by some writers Byzantine and Romanesque, corresponds with the style in England which we term Norman, though in some respects they vary considerably. Thus we never find in the German Churches the ponderous cylindrical piers which occur in English buildings;

the piers are not carved and channelled, except in a very few instances, as the crypt of St. Gereon; the German buildings have not the deep rich succession of mouldings to which we are accustomed in the door and pier arches, the latter being in Germany quite plain. They have not there the same extraordinary multiplicity and fantastical variety of mouldings and ornaments which so distinguishes our Norman: the beak-bead, the embattled fret, &c. are scarcely known, but the zigzag and the triple billet, are found in abundance.

NOGGING. A kind of brick-work carried up in panels between quarters. The horizontal boards which are nailed to the quarters to strengthen the brick work, are termed *Nogging-pieces*.

NONAGON. A figure of nine sides and nine angles.

NORMAL LINE. A line which intersects another at right angles.

NOSINGS. The parts of the tread-board of steps, which project over the riser, and are generally rounded.

NOTCH-BOARD. A board which is grooved or notched for the reception and support of the ends of steps in a staircase.

NOTCHING. A hollow cut from one of the faces of a piece of timber, generally of a rectangular form,

NUBIAN ARCHITECTURE. The antiquities of Nubia are in reality but a continuation of those of Egypt, their origin and style being decidedly the same.

NUCLEUS. The middle part of the flooring of the ancients, consisting of cement, which they put between a lay or bed of pebbles, cemented with mortar made of lime and sand.

NYMPHÆUM. A name given by the ancients to picturesque grottoes in rocky and woody places, supposed to be dedicated to, and frequented by the nymphs. The Romans often constructed Nymphæa in their gardens. One of the most celebrated amongst these ancient grottoes, was the Corycian cave on mount Parnassus, which was very extensive and enclosed a spring of unusual size and clearness.

LITERATURE has sustained a great loss—greater than many would imagine—in the sudden death of Mr. Thomas Rodd, the second-hand bookseller of Newport-street. Mr. Rodd was seized with paralysis while transacting business with the officers of the British Museum, and survived only three days.

Useful Receipts.

Sulpho-cyanic Acid is most readily obtained by the following process, contrived by Vogel:—Mix equal weights of flowers of sulphur and powdered ferrocyanate of potassa, and keep the mixture melted in a flask for half an hour; when cold, reduce the mass to powder, and digest it in water, filter the solution, and add a sufficiency of liquid of potassa to throw down the iron held in solution. The liquid thus obtained is a solution of the sulphocyanuret of potassium, from which liquid sulphocyanic acid may be obtained by distillation with phosphoric or sulphuric acid. Thus procured, it is of a pinkish hue, with an acetic odour, and is characterised by the peculiar blood-red colour which it produces when mixed with persulphate of iron. It reddens litmus, and neutralizes the alkalies, and forms a white insoluble salt with a protoxide of copper. When concentrated, its specific gravity is 1,022. It boils at 271°, and at 150, it crystallizes. Most of its salts are soluble in alcohol. Its combinations are called *sulpho-cyanates*.

Sulpho-naphthalic Acid.—It can be obtained pure, by the following process:—Naphthaline, fused with half its weight of sulphuric acid on cooling, forms a red crystalline compound, soluble in water; carbonate of baryta, added to its solution forms sulphate and sulpho-naphthalate of baryta, the former insoluble, but the latter soluble; its solution is to be filtered off, and sulphuric acid to be added to it in sufficient quantity to precipitate the baryta. An aqueous solution of sulpho-naphthalic acid is thus obtained, of a bitter acid taste, and powerful reddening litmus; concentrated by evaporation, it becomes brown, thick, and ultimately solid, and very deliquescent. By renewed heat it melts and chars, but does not inflame, and ultimately gives sulphuric and sulphurous acid vapours, and leaves charcoal. Its salts are termed *sulpho-naphthalates*.

Society of Painters in Water-colours.

THE forty-fifth Exhibition of this Society shows an addition of three hundred and sixty-five works to the aggregate figure of the four Exhibitions of pictures, in oil and water colours, which we have this year already noticed. That the demand can equal such a supply might be matter of doubt;—

yet the annual recurrence of that supply suggests that there is a sufficient market. The fresh blood infused by the presence of new competitors both compensates for the secession of others, and does something more by introducing novelty of style, and imparting variety and freshness to the whole. Messrs. Topham and Jenkins among the painters of figures, and Messrs. Dodgson and Duncan in Landscape, amply supply the place of those who, aspiring to the honours of another society, have quitted the ranks of this.

Mr. C. Fielding, the president, well justifies his place. His *View near the Head of Loch Tay*, 23, will satisfy his most ardent admirers of his undiminished power in a class which if not presenting the charm of novelty, presents that of success. He has rarely surpassed the beauty of the morning effect in 126, the *View of Snowden*, or the stormy character of 130, *Scarborough, Yorkshire*. The view of *Seaford and the Cliffs, from near Newhaven, Sussex*, 143, and the *Head of Loch Fyne*, are admirable specimens of the master. If Mr. Cattermole does not exhibit any work of a large scale, *The Chapel*, 242, is an extremely picturesque and solemn combination. In the *Call at the Monastery*, 253,—a burly priest stopping with all his retainers to seek refreshment, we recognize a very clever work. Among many other of the same artist's works, we do not remember to have seen his power as a colourist better asserted than in the composition entitled *The Goldsmith*, 328. Mr. Gastineau's *View of the Hospital with the Pass of St. Gothard, Switzerland*, 94, is that one of his contributions which best claims consideration. The *Interior at Levens, Westmoreland—the Seat of the Hon. Mrs. Col. Howard*, 32, by Mr. J. Nash, asserts his accustomed pre-eminence. In the same class of subject Mr. L. Price figures in a picture of *The High Altar, Cathedral of Toledo*, 82. It is a gorgeous combination of architectural and human forms. Mr. Jenkins is, as we have said, one of the recent additions to the ranks of this Exhibition. *Shrimping—Coast of France*, 95, and *Devotion*, 208, are little more than single figures, yet he has imparted to them much sentiment—to the latter more especially. A more pretending composition is the two figures in a boat *Going against the Stream—Brittany*, 125. A yet larger one, *Jealousy*, 162, represents a French peasant girl leaning over a fragment of rock, and regarding with mixed emotions the bridal procession of her former lover. *After a Romp*, 31, is an excellent study; and *On the Way to England*, 69, a very good group,—a couple of Italians with their primitive pipes. Our limited space precludes further notice till our next week's publication.

The Chronotypist.

It is said, that the first tube of the Britannia bridge over the Menai Straits, will be crossed and placed at the latter end of this month, or early in June. The tubes appear to be nearly all finished, and all the mason's work, except that of the Britannia Pier is quite done.—The first section of the Shrewsbury and Birmingham Railway, from Shrewsbury to Oakengates is completed, and nearly ready for opening.—A very handsome piece of plate was presented a few days ago, to Dr. Forbes, late Editor of the British and Foreign Medical Review, by a number of admirers of that journal.—The general opening of the Huddersfield and Manchester Railway, will take place on the 18th of June.—Moine the Sculptor, who had obtained some celebrity, has lately committed suicide.—The first *Soirée* under the new Presidency of the Royal Society was recently given by the Earl of Rosse:—an extensive suite of rooms in Somerset House being thrown open for the occasion. The *soirée* was attended by Prince Albert and about five hundred noblemen and gentlemen. Some interesting models, &c. were on the tables; but that which attracted the greatest attention was a highly finished working model of Lord Rosse's celebrated sixty-foot reflecting telescope. The model was made under his Lordship's personal superintendance. It is constructed on the scale of half an inch to a foot, and shews in miniature all those beautiful mechanical arrangements so effectually carried into operation in the large instrument.—Some Daguerrotypes on a remarkably large scale were exhibited by Mr. Mavall.—The Suspension Bridge at Pesth, it is said, has been destroyed by the Austrians, in order to cover their retreat before the Hungarians; the bridge of boats is also said to have been burnt for the same purpose.—A considerable number of iron houses and warehouses have been lately shipped for California from Liverpool and other towns. One of these structures has just been erected by Messrs. Edw. T. Bellhouse and Co., of Manchester, for Messrs. Pim and Roberts, who are proceeding to San Francisco. The total length is 60 feet, the width 24 feet, the height to the caves 10 feet, and to the ridge 17 feet.—The valuable stock of Messrs. Town and Emmanuel, was sold a few days since by Messrs. Christie and Manson's, and formed one of the most attractive exhibitions of London during that time. Amid much that was modern or made up, and somewhat dazzling to the eye, there were a few good things which obtained high prices and good purchasers.

—A petition has been presented to the House of Commons from certain parties, stating that great injury was done to the public morals in consequence of the objectionable character of some of the pictures in the National Gallery, and praying that the objectionable portions might be painted over or expunged.—A valuable picture has been discovered at Leeds, according to the local *Intelligencer*, in one long deemed valueless. It is said to be one of Gerard Lairope's. The subject (the Abduction of Ariadne, by Bacchus), consists of twenty-two figures, grouped and painted in the manner of Nicholas Poussin.—Last week a sale of Honduras mahogany took place at Birkenhead. It was well attended, and the spirit of competition ran high. One of the cargoes offered, and sold without reserve, realized the high average value of 8½d. per foot.—Mr. Farrer has obtained a capital full length portrait of the Countess of Castlemaine and Duchess of Cleveland, from the pencil of Sir Peter Lely in his best period. It is a duplicate—or rather perhaps the original.

To Correspondents, &c.

W. W.—*The following receipts are given by the celebrated Weigleb for producing colored lights: White.—Gunpowder and Steel filings.—Red.—Gunpowder and Ironsand.—Pale White.—Gunpowder and Camphor.—Greenish.—Sal Ammoniac and Verdigris.—Lemon.—Raspings of Yellow Amber.—Russet.—Crude Antimony.*

J. W. N.—*The Minerva Hall is situated in the Haymarket, and is open both day and evening, for the Exhibition of the Poses Plastiques. A young sculptor, or modeller would improve himself by witnessing them. There is a change of performance every week.*

H. S., (Rochester).—*The Fourth Volume of the Decorator's Assistant, has been complete this three weeks, and can be procured by your giving an order to any Bookseller. The price is Six Shillings, or you can have it sent direct from the Office by Post, upon payment of One Shilling extra for postage.*

Now Publishing, Price One Shilling, Part 2, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale.—*The Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 4, are now ready.—*The Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * * Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.

Part 25 is now ready, price 10d.



A DESIGN FOR A GROUP OF ANGELS.

**On the Style of Furniture in Use
During the Reigns of Elizabeth
and James I. and its Applica-
bility to Modern Purposes.**

EXTRACT FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, FEB., 28TH, 1844, BY
GEORGE FILDES.



THE great prevalence of the Elizabethan style, both in the exterior and interior decorations of the present day, renders the subject one of great interest and importance to all those connected with decorative art.

In the following paper, my principal aim has been to collect from different sources as much information as possible on the interiors of the Elizabethan age, to present it in a clear and condensed form, and afterwards to apply it to the uses of the present day.

It was at first my intention to give a brief sketch of the state of domestic interiors previously to the time of the Tudors, and the progress of improvement in the arts connected therewith; but finding that even the slightest approach to detail would occupy more time than could be devoted to the subject, I will content myself with a slight reference to the reigns of Henry VII. and his immediate predecessors, and then pass to that of his son,

during which were introduced those changes that caused so material an improvement in the domestic decorations of the age, and led to the formation of what we call the Elizabethan style.

From the time of Henry IV. to that of Henry VI., the style of furniture in use in England was of a rude substantial character, occasionally varied by sumptuous and splendid novelties introduced from Italy and the East; such exceptions, however, proving more forcibly the utter want of comfort in the general arrangements of the period. The princes and nobles wasted their revenues either in foreign or domestic warfare, or in the exercise of the most wasteful and lavish hospitality, without seeking or estimating the comfort which is so essential an ingredient in the enjoyment of modern existence.

During the succeeding reigns of Edward IV. and Richard III. some improvement was undoubtedly taking place; but it is not till the accession of Henry VII. that any material change is perceptible. That wise prince, with the view of breaking up the remains of the feudal system and controlling the power of his nobles, endeavoured to lead their minds to the re-edifying and decorating of their mansions and halls; hoping by inducing them to exhaust their wealth in such pursuits, to deprive them of the means of keeping up the large bodies of retainers by which, in former reigns they had arrived at such a height of power as to become formidable neighbours of royalty, and keep the occupant of the throne in a constant state of apprehension.

An anecdote is related of this monarch, illustrative of his policy in this matter. After a visit to the castle of one of his nobles who had exerted himself to the utmost in endeavours to welcome his sovereign with suitable hospitality, he had, on taking his departure, to pass through a lane of gentlemen sumptuously clad, all of whom were the nobleman's retainers. The king, instead of expressing approbation, intimated to his host that the laws could not thus be broken, and that his chancellor must communicate with him on the subject. The result was that a heavy fine was levied on him for this exhibition of his state.

It is to views of this kind, it may be feared, rather than to any innate love of Art, that we

may attribute the favour which this monarch showed to builders and decorators. It is evident from the testamentary records of the time, that the dwellings of the higher orders were furnished with many costly and splendid articles; for we find in them continually bequests of embroidered beds of satin and gold, tapestry hangings and magnificent plate; the greater portion of which must have been of foreign make, and imported chiefly from Venice, Genoa and Florence. But whatever improvement he may have introduced, either externally or internally, in the palaces of himself and his nobles, it had but little effect beyond his immediate circle; the general body of the people were still little above a state of barbarism in these matters; for even at a later date, we find Erasmus complaining of the imperfect construction of the dwellings of the common people. In a letter written by him to Wolsey's physician, he traces the cause of the plague and sickness that so continually visited England to the defective style of building, and the dirty habits of the people. "In the first place," he says, "they pay no regard to the aspect of their doors and windows; next, their rooms are so constructed as to admit no thorough draft; then, many of the windows are glazed to admit the light, but shut out the wind; notwithstanding which, the air makes its way through chinks in the wall, and when it has once got in, not being able to get out again, ripens into pestilence. The floors are mostly of clay strewed with rushes; fresh rushes are periodically laid over them, but the old ones remain as a foundation for, perhaps, twenty years together; and these successive layers form a deposit of spitting, slops of beer, fragments of meat, and fish bones, and other filth. On every change of weather a vapour is inhaled which cannot be healthy."

This want of ventilation rendered it necessary to fumigate their rooms occasionally.—Shakspeare makes one of his characters give orders to

"Burn sweet wood to make the lodging sweet,"

and, in another passage speaks of "smoking a musty room."

The general introduction of chimneys, which took place about this time, was, therefore, a material improvement for health as well as

convenience. Holinshed mentions in his Chronicle, that within his own remembrance, there were not above two or three chimneys, "if so many, in most of the uplandish towns of the realm, (the religious houses and manor places of their lords always excepted, and peradventure, some great personages,) but each man made his fire against a rere-dosse in the hall, where he dined and dressed his meat!" In spite, however, of their mean dwellings, their mode of living was not in a similar style, for we find continual expressions of surprise from foreigners of the time at the abundant hospitality exhibited by men who were content to live in houses of "sticks and dirt."

The style of the interior decorations of this period took its character, such as it had, from the architecture of the exteriors; and as that gave way before the new fashion introduced from Italy, so the character of the interior fittings-up was changed with it. The Tudor style of architecture which prevailed in the dwellings of the nobility and clergy, was an elaborate alteration of the Gothic, the principal characteristics of which were numberless gables, groups of bulbous turrets, and clusters of chimneys.

Among the works of Skelton, a poet of Henry VIII.'s time, who wrote in a coarse, rambling vein, with occasional passages of great force and expression, is a satirical poem on the clergy, which drew on him the persecution of Wolsey, and in it we find the following allusion to their dwellings:—

"Building royally
Their mansions, curiously,
With turrets and with toures,
With halls and with boures
Stretching to the starres,
With glass windows and barres," &c.

The style of Wolsey's living at this time exceeded even royalty in pomp. The author just quoted observes:—

"The king's court
Should have the excellence,
But Hampton Court
Hath the pre-eminence."

(To be continued.)

THE sale of Mr. Macaulay's History of England has reached to the enormous number of 14,000.

Manufacture of Tapestry.

LOW WARP.

THE high warp tapestry goes on much more slowly than the low warp, and takes nearly thrice the time and trouble; but all the difference that the eye can perceive between the two kinds consists in this—that in the low warp there is a red fillet of about the twelfth of an inch broad, running on each side from top to bottom, which is wanting in the high warp.

In the manufacture of tapestry of the low warp the loom or frame on which it is wrought, is much like that of the weaver; the principle thereof being two strong pieces of wood, forming the side of the loom, and bearing a beam or roller at each end. They are sustained at the bottom by other strong pieces of wood in the manner of trusses, and to keep them firm they are likewise fastened to the floor with a kind of buttress which prevents any shaking, though there are four or five workmen leaning on the fore beam at once. The rollers have each their trimmers by which they are sustained, and they are turned by large iron pins three feet long. Along each beam runs a groove wherein is placed the wick—a piece of wood of about two inches in diameter, and almost the length of the roller. This piece fills the groove entirely, and is fastened thereon from space to space by wooden pins. To the niches are fastened the two extremities of the warp which is wound on the farther roller, and the work as it advances on the bearer.

Across the two sides, almost in the middle of the loom passes a wooden bar which sustains little pieces of wood, not unlike the beam of a balance. To these pieces are fastened strings which bear certain spring staves, wherewith the workman by means of two treddles under the loom, whereon he sets his feet, gives a motion to the coats, and makes the threads of the warp rise and fall alternately.

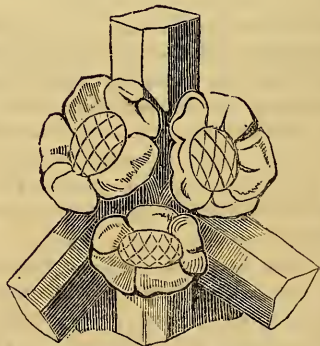
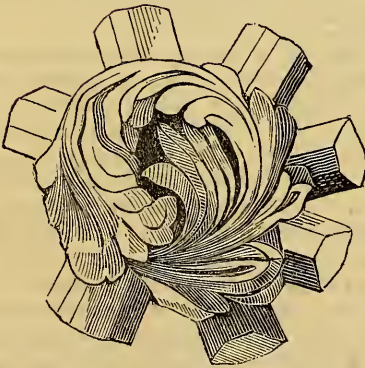
Each loom has more or less of these spring staves, and each staff more or less coats, as the tapestry consists of more or less threads. The design or painting the tapestryman is to follow, is placed underneath the warp, where it is sustained from space to space by springs, by means of which the design is brought nearer the warp. The loom being mounted, there are two instruments used in working it—viz. the reed and the flute. The flute does the office of the weaver's shuttle. It is made of a hard polished wood,

three or four lines thick at the ends, and somewhat more in the middle, and three or four inches long. On it was bound the silks or other matters to be used, as the woof of the tapestry. The comb or reed is of wood or ivory; it has usually teeth on both sides, and is about an inch thick in the middle, but diminishes each way to the extremity of the teeth. It seems to beat the threads of the woof close together as fast as the workman has passed and placed them with his flute amongst the threads of the warp. The workman is seated on a bench before the loom, with his breast on the beam, only a cushion or pillow between them, and in this posture separating with his fingers the threads of the warp, that he may see the design underneath; and taking a flute mounted with a proper colour, he passes it amongst the threads, after having raised or lowered them by means of the treddles moving the spring staves and coats.

Lastly, to press and close the threads of the silk or yarn, &c. thus placed, he strikes each course—that is, what the flute leaves in its passing and coming back again—with the reed.

Mineral Wealth of Russia.—The metallic produce of the Russian empire in 1848, was, according to official documents as follows:—1,826 poods of gold, a quarter of a pood of platinum, 1,192 poods of silver, 254,569 poods of copper, and 8,513,673 poods of wrought iron. The pood is equivalent to a little more than 36 lbs. avoirdupois. The gold from Russia therefore represents a value of £3,944,832, making due allowance for English alloy. The silver at 5s. 6d. per ounce, represents a value of £188,000.

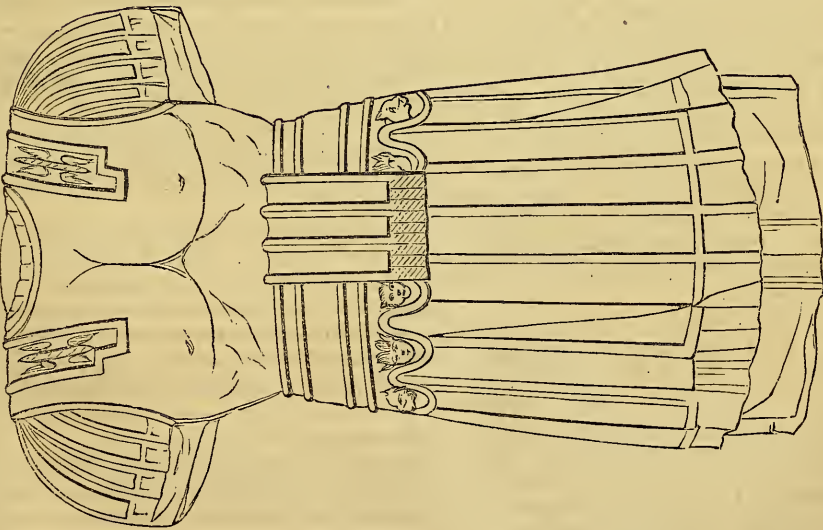
At the sale of the Countess of Blessington's effects at Gore-house, the articles averaged great prices, amongst which we may mention the following. A pair of old Bleu du Roi Sevres vases, supporting a candelabra for five lights, formerly in the possession of Marie Antoinette, realized 72 guineas. A portrait of Masaniello, painted by his friend, Salvator Rosa, £57 15s. Portrait of a favorite dog, presented to the Countess by the King of Naples, painted by Ed. Landseer, R.A., £157 10s. The Countess of Blessington, by Sir Thomas Lawrence, realized the extraordinary sum of £336, and was bought by the Marquis of Hertford. The Duke of Wellington, by Count D'Orsay (the portrait so well known from the engraving), sold for 180 guineas to the Earl of Normanton. The Emperor Napoleon in three quarter length, by Count D'Orsay, £63. Model of the Countess of Blessington's hands, in silver, weighing 100 ounces, was sold for £34.



BUSSES, FROM ALL SAINT'S CHURCH, MAIDSTONE.



HELMET FROM TRAJAN'S COLUMN AT ROME.



CORAZZA, IN BASSO RELIEVO, FROM THE PALACE MATEL, ROME.

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

(Continued from page 37.)

LECTURE III.

TURNBULL, a writer on Painting of the last century, considered Historical Painting as belonging to Moral Philosophy, and Landscape Painting to Natural Philosophy. But it would be more accurate to view every class of Painting as connected both with Natural and Moral Philosophy; for Landscape and even Still-life, as the interpreters of those beauties of Nature which escape common observation, tend to increase our admiration of the works of the Creator, and have, therefore, not only a moral but a religious tendency.

There is, however, a marked difference between the progress of all the Fine Arts and that of Natural Science, which, since the revival of learning, has always been one of improvement. The knowledge of Nature acquired in one age has been retained by the next, and fresh knowledge added to the regularly increasing stock. The chemist, the geologist, the astronomer, the anatomist of to-day, correct the mistakes of their predecessors of yesterday, authenticate discoveries that may have been doubted when made, and decypher new pages from the book of Nature.

Now, though the advancement of Painting, from the commencement of its restorations, was also one of tolerably regular improvement up to the point to which it arrived in that proud epoch in which Leonardo da Vinci, Michael Angelo, Raphael, Titian and Correggio were, at the same time, producing works of such varied and transcendent excellence, yet a rapid decline followed. Painting again rose, at first with feebler powers, and afterwards in her strength, in Italy, Spain and the low countries, again sink into mediocrity,—again to be revived, and by Englishmen.

But at every re-appearance we see her much changed. She has lost some things and gained others, the relative value of which will always vary in the estimation of critics according to the varieties of their minds and temperaments. One thing, however we may gather from the history of Art—a great painter never seems destined to supersede the great ones before him—he never takes possession of all that was known and keeps it in addition to his own discoveries, as is the case with the astronomer, the chemist, or the geologist. Rubens does not

eclipse Michael Angelo, nor Reynolds Titian; and the attempt in one age to repeat *exactly* what has been done in another is a deception practised by the artist on himself and on the world, which though it may gain him immediate fame and profit, invariably ends in shutting out his name from the high places of fame. I am aware that I am here but repeating what I have more than once said. But it seems to me so important that the history of Art, with which we have now ampler means than ever of becoming acquainted, should be studied to our profit, that I would rather incur censure for saying too much, than lose any opportunity of placing in the strongest light; what I may conceive we learn from the past of the true principles of Imitation.

How it is the discoveries of Art are not to be held fast like those of Science may be accounted for by a combination of causes, among which I will only mention the uncertainty of taste and caprices of fashion. These cannot interfere, or if they can but very slightly, with the pursuits of science. Fashion, which will patronize what is right if it be new, is always as ready to adopt what is wrong, if it be specious, for the mere sake of novelty with which it requires 'to be constantly fed. Reynolds, in the height of his popularity, was deserted by the fashionable world for Madame Lebrun, and instances of the like inconsistency might be multiplied from every period of Art. Even the times of Lorenzo de Medici and Leo the Tenth, which are supposed to unite in a golden age of taste, are marked by some unaccountable caprices. There is, I believe, no evidence of any notice having been taken by Lorenzo of his townsman, Da Vinci,—and the mighty powers of Michael Angelo, while in their full prime, were allowed to be shamefully wasted during the entire pontificate of Leo.

I will not, however, prolong this enquiry,—but will proceed to the subjects to which I ask your attention, this evening, Invention and Expression in Painting.

Properly considered, they are both inseparable from everything in Art. Without expression landscape is of no value, and even when strictly topographical, unless it be elevated by choice in all its appearances in which there is freedom of choice (the basis of invention), it is not Art. I shall, however, confine myself for the present to the consideration of the invention of story, and the expression of passion and sentiment.

Whatever there may be of difference among men in the fertility of the inventive faculty, there can be no doubt but that habits of observation are of the greatest importance to its development.

(To be continued.)

Useful Receipts.

A Varnish for all sorts of Colours.—Take gum anime, one ounce—mastic and gum sandarac, of each two ounces; reduce them to fine powder and put them in a glass vessel, pouring a pint of spirit of wine over them. Hang it in the sun till the ingredients are dissolved—then filter the liquor through a clean cloth, and keep it in a bottle well corked. When you would use it, mix the dry colour with some of it.

To make a Lacquer that looks like Gold.—Take of gum lac in grains 8 oz.—of clear gum sandrac 2 oz.—1 oz. and a half of sago in blood—1 oz. and a half of black rosin; beat them to a powder, and put them in a glass vessel. Pour a quart of rectified spirit of wine over them, and place the vessel in a very gentle heat till they are dissolved, and when it is cold strain it through a cloth. This is to be laid on tin or picture frames, and they will appear to be gilt.

To make Ink to rub out at pleasure.—Burn flax so that it may be mouldered rather than burned to ashes—then grind it with a muller on a stone, putting a little aqua-vitæ to it—then mix it with a little weak gum water, and what you write, though it seem fair, may be rubbed or washed out.

To make Brass resemble Gold in colour.—Bruise sal ammoniac in a brass mortar into fine powder; mingle it with fasting spittle till it becomes liquid, or like an ointment, and with this composition anoint your brass things. Hold them over a charcoal fire till the brass becomes pretty hot, and then rub it over with whiting and bran well dried, and you will perceive it look like burnished gold, which will astonish those not in the secret.

To Clean Silver or other fine Metals.—Take whiting and burned alum, mix them with the ash of burned wheaten straw, and when finely beaten, rub the plate, &c. with a woollen cloth well dried and heated at the fire, and your expectations will be fully answered.

To restore the faded Colour in Cloth.—Take of wood ashes one part, quick lime two parts and put them into a lye made pretty strong with wood ash finely drawn off and cleared from the settlings.—Then boil your cloth in a copper vessel with them, and rinse them out in warm water wherein a lump of alum has been dissolved. Press it, and it will look glossy and of a fine new colour.

To make Iron look as though Gilded with Gold.—Burn an ounce of roch alum till it looks of a

reddish colour—then take of sal ammoniac an oz. and of nitre half an ounce. Beat them to a fine powder, and put them into strong boiling vinegar, in a brass pan or other vessel, and when the liquor is a third part consumed, strain it well, and rub over smooth iron with it, and it will appear as if it were gilt with gold.

A Varnish for Wood or Metal, representing a Gold Colour.—Take two ounces of sandarac, one ounce of litharge of gold, and four ounces of clarified linseed oil. Boil them in a glazed earthen vessel till they look of a transparent yellow, and varnishing your materials with it according to art, they will appear as gilded.

Sale of John of Gaunt's Palace, Lincoln.

THE old mansion called "John of Gaunt's Palace," has lately been sold, and the beautiful oriel, or bay window, at the south end of the building, was offered for sale separately. It has not yet been taken down, nor has any part of the building been pulled down or altered, and it is to be hoped that the destruction may be prevented. There is a view of this old mansion, done by Nathaniel Buck, in 1726, which gives a general idea of the whole of the eastern front. A great part was taken down soon afterwards, but the oriel and a window which is engraved in Pugin's Specimens, from sketches by Mr. E. J. Willson, of Lincoln, were left standing, and yet remain. The former is blocked up, and a modern chimney stands behind it.

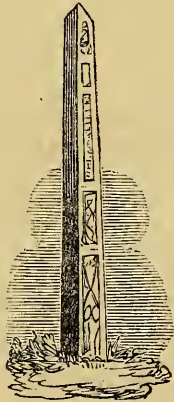
Part of the eastern front remained standing till the early part of the present century, and a drawing of it is in the British Museum. This was made by Mr. Grimm, an artist who was employed by Sir Richard Kaye, Bart., when Dean of Lincoln. It is to be feared that the beautiful oriel (to use a common term, if not strictly a correct one,) will tempt some amateur to a purchase, and then it may be pulled down and stuck into a modern villa, and thus be deprived of its real value. It has never been thoroughly examined withinside, and, consequently, the delineations that have been made are imperfect. It is unequalled for richness and elegance. The other window is also very elegant; it has been adopted by the late Mr. Wilkins, at Cambridge.

CRABS and lobsters, of species related to the recent, have been discovered in the clay of Highgate, and in the Isle of Sheppey.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

OAK. From its strength, hardness, and durability, this may be considered as the most useful of all timbers. It is found in almost every climate of the globe, and sometimes grows to an extraordinary magnitude.

OBELISK. Lofty pillars of stone, of a rectangular form, diminishing towards the top, and generally ornamented with inscriptions and hieroglyphics; amongst the Egyptians mostly placed in



the space before a temple. The period of their first origin is unknown, but we often read in ancient historians of their being erected by the Egyptian kings, and the Arabs still term them "Pharaoh's needles." The Romans moved many of them into Italy, and erected them in the public places of Rome, and several are now preserved at Constantinople.

OBLIQUE ANGLE. One quarter, or less than a right angle.

OBLIQUE ARCHES. Such as cross a river, canal, rail-road, &c., in an oblique direction.

OBLONG. A rectangle of unequal dimensions.

OBSERVATORY. A building erected on an elevated spot of ground, for making astronomical observations. The Observatory at Greenwich was erected in 1676, by order of Charles II., at the so-

licitation of Sir Jonas Moore and Sir Christopher Wren. The Observatory at Paris is one of the finest in Europe, and was constructed between 1667 and 1672, from the drawings of M. Claude Perrault. The Observatory at Oxford was built after the designs of Sir James Wyatt, at an expense of nearly £30,000; that at Cambridge has been built at an expense of £60,000.

OBSTRUCTIONS. As applied to currents of water, are produced by square ended piers, abrupt projections, &c.

OBTUSE ANGLES. One greater than an obtuse angle. (*See Geometry.*)

OBTUSE SECTION OF A CONE. A name given by the old geometers to the hyperbola.

OCTAGON. A figure of eight sides and angles. (*See Geometry.*)

OCTAHEDRON. One of the regular solids, consisting of eight equal and equilateral triangles, which may be conceived to consist of two quadrilateral pyramids, joined at the base, and consequently its solidity may be found by multiplying the quadrangular base (or the square of one of the sides) by one third of the perpendicular height of one of the pyramids, and doubling the product.

OCTOSTYLE. A temple with eight columns on its principal façade.

ODEUM OR ODEON. A species of theatre among the Greeks, in which the poets and musicians submitted their works to the approval of the public. It resembled other theatres in form, but was of less extent. The Odeon of Athens, was probably the first building of this kind erected in Greece.

OCUS. The banqueting-room of a Roman house.

OFFICE. In general, an apartment for the discharge of any particular duty or employment.

OFFSETS. When the face of a wall is not one entire or continued surface, or when it is formed by two or more continued surfaces, each rising from the horizontal base which forms the top part of the wall below, the part thus connecting the two surfaces is called an *offset*.

OGEE. A moulding the same as the cyma reversa.

OGIVE. An arch or branch of a Gothic vault which, instead of being circular, passes diagonally from one angle to another, forming a cross with the other arches.

On Water-colours for Illuminating Prints, &c.

OF OTHER REDS.

(Continued from page 26.)

NEXT after crimson comes lake, which is of use in shading and heightening carmine. But it must be observed that in laying carmine upon a print, you must touch your lights only with such a thin tint of it as can scarcely be observed; laying it on strong just on that part of the light which enters upon the shade, and afterwards laying some lake on the stronger part of the shade. Lake is to be had at most colour shops, ready prepared for use.

To make a fine lake, take half a pound of good brazil, and boiling it in three pints of ley made with the ashes of vine-twigs till half the ley is evaporated, let it settle and then strain it; which done, boil it again with a quarter of a pound of fresh brazil, two ounces of cochineal, and half an ounce of turmeric, adding a pint of fair water.—Let this boil till it is half evaporated as before; then set it by to settle, and strain it. But when you take it off the fire put in half an ounce of calcined alum, reduced to an impalpable powder, and dissolve it by stirring it about with a stick, adding a quarter of a drachm of arsenic.

To give it a body, reduce two cuttle-fish bones to a very fine powder, and throwing it in, let it dry up at leisure. Then grind it with a good quantity of fair water, in which leave it to steep, and afterwards strain it through a cloth, and making it up into a few tablets or cakes, set it to dry on some pasteboard. To make this lake redder, add lemon juice; or to make it deeper still, add oil of tartar. Another lake may be made as follows:—Boil shavings or shearings of scarlet in the ley of the ashes of burnt tartar. This ley having the property of separating the dye from the scarlet shreds. When it has boiled enough take it off, and putting in cochineal, powdered mastic and roch-alum, boil them again, and while it is quite hot strain it through a fine bag two or three times; the first time the bag must be squeezed with two sticks from the top to the bottom—then the gross matter remaining being taken out of the bag, wash it well. After this, pass the liquor you expressed with the sticks through the bag again, and you will find a paste sticking to the sides of the bag, which you may either spread upon a pasteboard, or divide into small parcels on paper, and set it aside to dry.

To make lake-columbine, steep half a pound of the finest brazil-wood of Fernambuca rasped, in

three pints of the finest distilled vinegar for at least a month—the longer the better. Then sethe the whole in balneo mariæ till it boils up three or four times, letting it settle for a day or two. After this prepare a fourth part of powdered alum, and putting in a clean earthen pan, strain the liquor upon the alum, and let it remain for a day. Afterwards heat the whole again till the liquor simmers, and let it settle twenty-four hours; then reduce two cuttle-fish bones into powder, and having warmed the liquor, pour it upon them and stir it with a stick till cold, and leave it again for twenty-four hours before you strain it. It must be strained upon the alum before it is poured on the cuttle-fish bones.

(To be Continued.)

Death of Antonin Moiner.—A death has recently taken place in the world of French Art which the journalists of that capital surround with a sort of sentimental mystery. Antonin Moine, a painter and sculptor—but far more eminent in the latter character, well known to English visitors by his fonts in the Church of the Madeleine—has died by his own hand. It is very difficult to arrive at meaning—still more so at truth—through the wearisome unrealities and affectations of M. Jules Janin's style; but this artist would seem to have been the victim of a nervous shock communicated by the suddenness and completeness of the Revolution, and a morbid state of mind fed by brooding on its destructive influences in the world dear to his own habits and imagination. According to the fantastic writer above named, the sculptor could not breathe in an atmosphere unspiritualized by the coarse breath of insurrection. To vulgar minds like M. Jules Janin's, Revolution seems always—as she is—a *parvenu*. The shape of the Phrygian cap is distasteful in such eyes.—We do not class in the same category poor Antonin Moine. A mind inclined like his to dissate will find the morbid ailment anywhere; and the unfortunate artist would probably have died a suicide even had the Bourbon still reigned.—In the same capital the Arts have sustained another loss by the death of the landscape-painter, M. Edmond Joinville.

Caution to Artists.—Mr. A. F. West, a young artist, died on the 23rd ult.; and after a *post mortem* examination, a jury returned a verdict, “That the deceased died from the effects of Carbonate of lead.” It appeared that he was in the habit of drawing his brushes through his lips.

Decorative Art.—Miss Wallace, a lady of fortune, has discovered a mode of gilding and coloring the interior of glass tubes, which, when so prepared form a beading for the decoration of rooms.

Archæological Discovery.—We learn from Winchester, that during the progress of the restoration of the Church Stoke Charity, now in hand, a very curious discovery was made, namely a sculpture representing a bishop celebrating mass, he holding the host in one hand and the chalice in the other, above whom is a representation of the deity, at-

tended by angels. It was found concealed in a niche in the chancel, which had been bricked up for the probable purpose of concealing the sculpture, which doubtlessly occupied in Catholic times some other situation in the church. Mr. F. Baigent of Winchester, has taken a sketch of it, which he has forwarded to the Archæological Association. Stoke Charity is about seven miles' distance from Winchester, the church is of Norman structure, and contains, in addition to the above, several curious monuments and sepulchral brasses.

THE summons issued for the General Meeting of the Society of Antiquaries on St. George's Day, contains two announcements of interest to its members. The first is that of Lord Mahon's intention to deliver what has been long looked for—an annual address: the next, the nomination in the house list of Mr. Bruce as Treasurer. Mr. Bruce is a contributor of many valuable historical papers to the Archæologia.

The Chronotypist.

THE copyright of the *Satirist* Newspaper, was put up to Auction on the 19th, at the Auction Rooms of Mr. Page, 28, Moorgate Street, City. The first price bid was £800, and after an active competition it was knocked down for £1,040.—The Hailsham and Eastbourne branches of the London and Brighton Railway were publicly opened last week, thus opening a direct communication from London to the sea bathing places.—It is reported in accounts from Charleroi, France, that two layers of coal of rich quality has been discovered, and the produce is most likely to prove abundant.—The library of the late Daniel O'Connell was announced to be sold on the 22nd, being of no use to any members of his family. It is very extensive and well selected, and contains a great variety of the modern works. Lot 1,146, is the gem of the collection. It consists of four MS. volumes of the cases from 1798 to 1806, in which Mr. O'Connell was employed as Counsel, with brief notices (some of them sarcastic) of the various judges and barristers. Along with them are his Cash Books of Income and Expenditure down to 1831.—It is expected the Manchester, Buxton and Matlock Railway, will be opened for passenger traffic to Matlock and Rowsley, about the end of the present month. Rowsley is about two miles from Chatsworth.—The Fine Art Exhibitions of the past fortnight have not been confined to the several public galleries and the newly opened exhibition at the Royal Academy. Messrs. Christie and Manson have been inviting their friends and the public generally to the private view of some

Dutch pictures, the property of the late Mr. Charles Brind; Mr. Grundy, of Regent-street, has been exhibiting a picture called 'The Halt', the joint compositions of Mr. Ansdell, the animal painter, and Mr. Frith, A.R.A.; and Mr. Squire, of Cockspur-street, has had private and public view of an original picture of Jenny Lind from the Daguerreotype of Mr. Kilburn, in the possession of Her Majesty.—A letter has been received in town from Lord Torrington, Governor of Ceylon, announcing the sudden death from apoplexy, of Dr. George Gardiner, Superintendent of the Botanic Garden, Peradenia, Kandy, Ceylon. This zealous naturalist was a pupil of Sir W. J. Hooker when professor of Botany in the University of Glasgow.—Steps, we are informed, have been taken in Manchester to concentrate the efforts of the City Council, and of the various literary and philosophic societies in the town, so as to make a successful application to the members of the Meeting of the British Association at Birmingham, to hold their meeting for 1851 in the former city.

To Correspondents, &c.

Q. C. M., (London).—*We are informed that there is no place in this country where you can obtain Italian alabaster with certainty. You may occasionally meet with a lot. Derbyshire spar can be obtained at the plaster of Paris manufactories.*

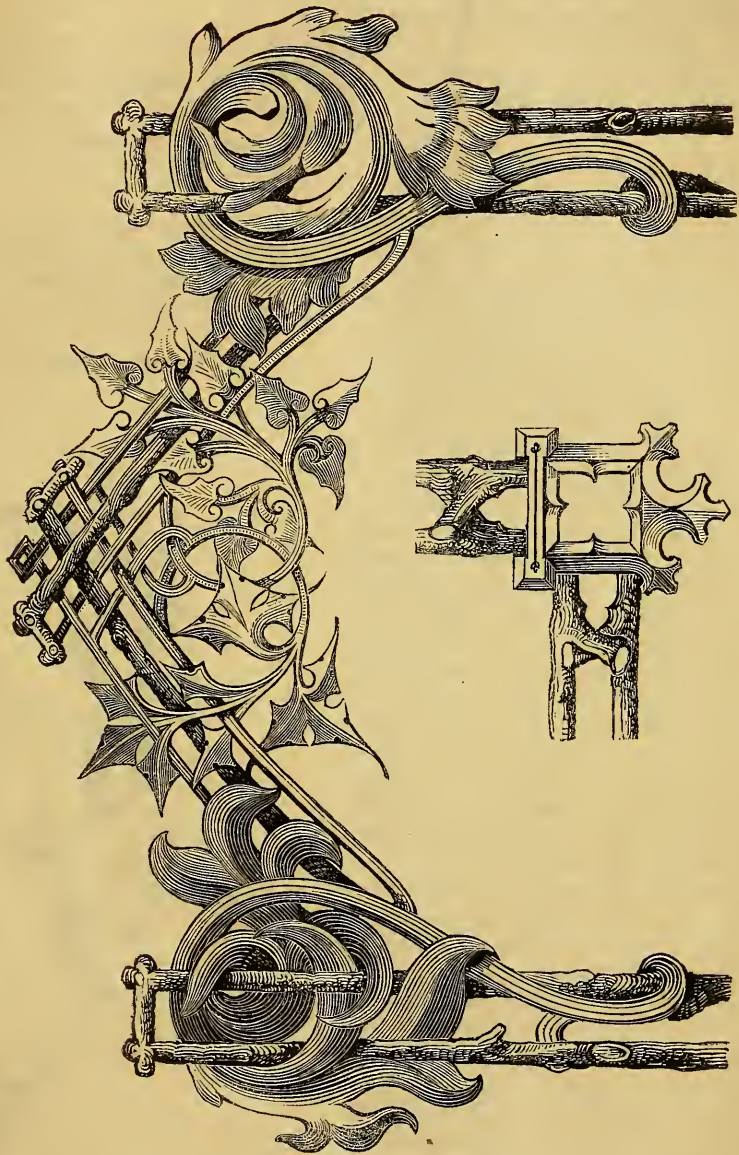
A Silversmith.—*There is no other way of plating silver than by means of galvanism, as the metal is required to adhere to the surface in the form of a finely divided powder.*

Pencil.—*A thin aqueous solution of isinglass will fix either black-lead or hard black-lead chalk, so as to prevent it from rubbing out. The same effect will be obtained by the simple application of skimmed milk; in using the latter, lay the drawing flat upon the surface of the milk, and afterwards suspend it by one corner to drain and dry. The milk must be perfectly free from cream, otherwise it may soil the paper.*

* * Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.

Part 26 is now ready, price 10d.

Now Publishing, Price One Shilling, Part 2, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale.—The *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 4, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.



AN ORIGINAL DESIGN FOR A BORDER AND CORNER.—(GOTHIC.)



On the Style of Furniture in Use
During the Reigns of Elizabeth
and James I. and its Applica-
bility to Modern Purposes.

EXTRACT FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, FEB., 28TH, 1844, BY GEORGE FILDES.

(Continued from page 42.)



IN the biography of Wolsey, by Cavendish, his private secretary, we find an account of a sumptuous feast given by him at Hampton Court to the French ambassadors by command of the king. The following are extracts:—

“The cookes wrought both day and night with subtleties, and many crafty devices, where

lacked neither gold nor sylver, nor other costly thing meet for their purpose; the yeomen and groomes of the wardrobe were busied in hanging of the chambers, and furnishing the same with beds of silk, and other furniture in every degree.”

“Then wrought the carpenters, joiners, masons, and all other artificers necessary to be had to glorify this noble feast. There was carriage and re-carriage of plate, stuff, and and other rich implements, so that there was nothing lacking that could be imagined or devised for the purpose. There was also provided two hundred and eighty beds, furnished with all manner of furniture to them belonging, too long particularly to be rehearsed.”

“The chamber where they supped and banquetted, was hanged with rich arras as all other were, and furnished with tall yeomen to serve. There were set tables round the chambers banquet-wise covered; a cupboard was there garnished with white plate, having also in the same chamber, to give the more light, four great plates of sylver set with great lights, and a great fire of wood and coales. The next chamber being in the chamber of presence, was hanged with very rich arras, and a sumptuous cloth of estate furnished with many goodly gentlemen to serve the tables, ordered in a manner as the other chamber was, saving that the high table was removed beneath the cloth of estate towards the middest of the chamber covered. Then there was a cupboard, being as long as the chamber was in breadth, with six desks of height garnished with guilt plate, and the nethermost desk was garnished all over with gold plate, having with lights one paire of candlesticks of sylver and guilt, being curiously wrought, which cost 300 markes, and standing upon the same, two lights of waxe burning as bigge as torches, to set it forth.— This cupboard was barred round about that no man could nigh it, for there was none of all this plate touched in this banquet, for there was sufficient besides. The plates that did hang on the walls to give light were of sylver and guilt, having in them great torches of waxe burning, a great fire burning in the chimney, and all other things necessary for the furniture of so noble a feast.”

In spite, however, of all their unwieldy pomp and external glitter, domestic comfort

during the reigns of Henry VII. and VIII. was a mere desideratum; and though the latter monarch was so lavish in his expenditure on dress and ornaments, the inventory of his furniture was ridiculously scanty. We learn from the Harleian MSS., that his bed chamber contained nothing but a couple of joint cupboards, a joint-stool, two andirons, a fire-fork, a pair of tongs, a fire-pan, and a steel mirror covered with yellow velvet, (this, however, must have been exclusive of the bed and bedding,) and notwithstanding the princely style of Wolsey's living, and the quantities of brocade and plate employed in his palaces, the ordinary furniture was neither plentiful nor costly, most of the tables being made of wainscot, and other domestic appliances being of a corresponding character.

The Earl of Northumberland, in 1512, was ordinarily served on wooden trenchers, and plates of latten (or pewter) were used in his family only on holidays. In the privy-purse expenses of Henry VIII. there are also entries regarding trenchers, as for example, in 1530;

"Item, paid to the S^tgeant of the pantrye for certain trenchers for the king, 23s. 3d."

And even at a later date, in Shakspeare and other authors of the time, we find continual allusions to men being each other's "bed-fellows;" and though the word is sometimes used as equivalent with "bosom friend," still its very use shows the necessity which existed for two persons occupying one bed; and it is a tolerable proof that the furniture of the time was remarkably scanty.

In fact, it is not till the reign of Elizabeth was somewhat advanced, that we need look for anything like an approach to the comforts and conveniences of modern times; but by her practice and example an impulse was given, which spreading through the nobility and gentry, reached at length to the middle classes; for we are told by Harrison, that farmers, and even mechanics were then able to "garnish their cupboards with plate, their beds with tapestry and silk hangings, and their tables with fine napery." This appears somewhat incredible, and should be taken with some grains of allowance, although Harrison is generally considered a most faithful and trustworthy writer. It cannot, however, be doubted that the house-

hold furniture and domestic comforts of the middle classes were now greatly superior in many respects to those of the nobility in the preceding reigns.

But classical taste in architecture was reviving at this time in Italy, and, spreading as from a centre among the other nations of Europe, was pervading the public mind. The Gothic, however, being more firmly established in those nations, still struggled for supremacy, and the dispute ended in a compromise between the two styles, the Classic and the Gothic, combining in what we call in England, the Elizabethan style.

This blending of the Classic with the national style was attended with better effect in England than in France and Flanders; our buildings having escaped the disfigurement of the high pointed roofs which form so striking a feature in the architecture of their cities.

The introduction of this new style may be attributed to the desire evinced by our Henry VIII. to rival his contemporaries of the continent. Being himself in some degree conversant with architecture and the fine arts, with the purpose of embellishing his court, and to improve the taste of the time, he invited several foreign artists of eminence, with whom were Raffael and Titian. These celebrated men, however, did not choose to exchange the lofty consideration which they had attained at home for the doubtful courtesies of so capricious a monarch: but he obtained several from Italy and Flanders; Jerome de Trevisi, painter and architect; Luca Penni, who had previously decorated Fontainebleau for Francis I.; John o. Padua, who was "Deviser of his Majesty's Buildings" in 1544; and the celebrated Hans Holbein, for whose talents, like the trunk of the elephant, nothing was too high or too low; he was equally at home in designing a palace or a button, some designs for the latter of which are understood to be still extant. According to Henry's household accounts, his salary was thirty pounds a year; but this was exclusive of payment for the pictures he painted. Another celebrated name is that of Pietro Torregiano, a Florentine sculptor of superior talent, though ungovernable temper. He is mentioned by Benvenuto Cellini, in his Memoirs, who introduces him boasting of his exploits among "those brutes the English." We shall conclude our extracts from this interesting paper in our next.

Useful Receipts.

To make Porcelain.—Take the glaire of eggs, and calcined egg shells finely powdered; put these beaten together into gum-arabic water, let them stand a while over embers and thicken, so that they may be made into pastils, and when you have moulded them into proper forms for your purpose, dry and harden them in the sun, and the work is then finished.

To whiten Copper quite through the body of the Metal.—Take such copper as kettles are usually made of, tough and pliable,—lay the plates in a crucible, and between every one of them a strewing of white arsenic finely powdered, and being melted, when the smoke is over, the copper will be as white as tin.

To melt Amber.—Mix strong vinegar with the juice of citrons, one part of the latter to two of the former; into this put the amber, and it being set over a slow fire, you will find the amber melt or grow soft, so that you may mould or turn it like soft wax.

To whiten Pearls.—If they turn yellow or spotted, so that they become unsightly, losing their native lustre, burn tartar to ashes and make a ley of it with spring water wherein a little alum has been dissolved, and putting in the pearls, let them stay over a stove fire, and it will restore the pristine whiteness as orient as ever, and render them more durable and weighty, and consequently the better for use.

To soften or dissolve Horn of any kind.—Burn the pods of beans well dried to ashes, and make a lye of them, drawing off the liquid part from the dross, and put a third part of strong vinegar to it; add quick lime and tartar, and boil them over a good fire, putting in your planchets or pieces of horn, and it will soon be soft to work or mould in any fashion, and if long boiled, become a jellied substance; but exposure to the cold air will soon harden it again.

To Soften Ivory and Whiten it.—Distil strong white-wine vinegar three times, and decoct red sage leaves in it with a little quick lime; the ivory being put in when the liquor is boiling hot, will soon become soft, and much whiter than it was;—and this simple process will also take out yellow stains from ivory, &c.

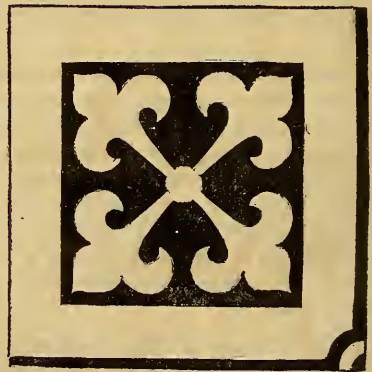
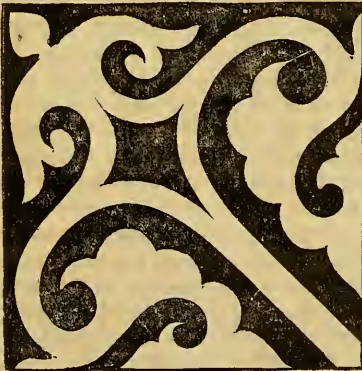
To restore the faded Colour in Tapestry and Turkey Carpets.—When you have beaten them,

and with a hard brush cleansed them well with water in which bran has been boiled, rub them over with fullers' earth, and let it lie thinly on till well dried in the sun, and do so twice or thrice;—then being well cleansed from this by a thorough beating, brush them well over with alum water, and dry them in the shade, and the faded colour will return almost as fresh as new.

Metallic Work and its Artistic Design.

AT the Society of Arts, Mr D. Wyatt read a paper on "Metal Work and its Artistic Design." He commenced with some remarks on the absolute necessity of the study of specific design, in order to confine the errant imaginations of artists within reasonable bounds, and in order fully to take advantage of all the natural properties, mechanical capabilities, and recorded experiences, peculiarly belonging to all materials, in the elaboration of which it is requisite that an alliance between use and beauty may be effected. The author maintained that all propriety and perfection in manufacturing design were derivable from the result of such studies, and that the more clearly the objective individuality of every ingredient was preserved and enunciated in the finished article, the more satisfactory to both eye and mind would the character of its ornamentation appear.

The specific design of metal work was, he said, based on three great studies. The first was that of the distinctive characteristics and appliances of each metal; the second, its form as modified by all the mechanical processes of manufacture; and the third, a thorough analytical and critical acquaintance with all the best models in which reasonable and good principles of art can be traced, and through modifications of which pleasing associations of idea may be commanded at the will of the designer. The author then described the process by which almost all objects in metal must be produced, dwelling on those best harmonising with the character of each substance, and the accredited conventionality of its use. Having disposed of the structural processes, he rapidly analysed the decorative or superficial, sketching out the leading peculiarities of engraving, matting, niello, cooking, burnishing, the six chief divisions of enamel, and three or four varieties of damascening. He then passed over the mediæval portion of the subject, and concluded by calling attention to the examples by which he was surrounded, and urging a systematic recognition of first principles and practical details in the study of beauty and fine art.



DESIGNS FOR TESSELLATED PAVEMENTS.

A B C D E
F G H I K
L M N O P
Q R S T U
V X Y Z

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

OPÆ. The cubilia, or beds of the beams of a roof, on which rest the Mctopæ.

OPENINGS. Those parts of the walls of a building which are left unfilled up, for admitting light, air, &c.

OPISTHODOMUS. The same as the Roman porticum, a term applied to the hinder part of a temple, when there is a regular entrance, and a façade of columns, as in front. It was a custom with the ancients to preserve their treasures, public records, &c. in this part of the temple, which was often extensive, and situated immediately behind the cella. Doubts have lately existed whether the treasury of the state in the Parthenon was not a distinct building, separate from the opisthodomus, or treasury of the temple.

OPPOSITE CONES. Two similar cones, which have the same common vertex, and the same axis.

OPPOSITE SECTIONS. Hyperbolas made by cutting opposite cones by the same plane.

ORANGERY. A kind of hot-house for the growth of orange trees.

ORATORY. A closet for private devotion, near a bed-chamber, in Roman Catholic families, with altar, crucifix, &c.

ORB. A knot of flowers or herbs placed at the intersection of several ribs in a Gothic ceiling to conceal the mitres of the adjoining ribs.

ORCHESTRA. The place in the ancient theatres where the chorus used to dance: in modern theatres the name is given to the place where the musicians sit.

ORDER. The five orders of architecture, as transmitted to us from antiquity, are the Doric, the Ionic, the Corinthian, and the Composite; of the peculiarities and origins of which an account will be found under those heads.

ORDINATES. In Conics, parallel lines, terminating in a curve, and bisected by a diameter. The Ordinate of an Ellipse, is a straight line drawn perpendicularly to the axis major, from any point in it to meet the curve.

ORDONANCE. The giving to all parts of any building the just dimensions, &c., which they ought to have according to the model.

ORGANICAL. A description of curves upon a plane by means of instruments.

ORLE. (In Naval Architecture.) Wherries, or small boats.

ORIEL WINDOW. A projecting angular window, commonly of a triangular or pentagonal form, and divided by mullions and transoms, into different bays and compartments.

OVERLAPPED MOULDING. A moulding used



in Norman and Saxon architecture.

ORILLON. A small rounding of earth, lined with a wall, which is raised on the shoulder of those bastions which have casements, to cover the cannon in the retired flank, and to prevent their being dismantled by the enemy.

ORLE. A fillet or band under the Ovolo of the capital. Palladio applies the term also to the plinth of the base of a column.

ORNAMENTS. The smaller and more detailed parts of a work of art, which are not essential, but only serve to enrich it. The ornaments of the architecture of the most ancient people are confined to the representations of nature,—flowers, leaves and branches; afterwards the figures of men and animals were introduced.

ORTHOGONAL. Rectangular.

ORTHOGRAPHY. The elevation of a building at any of its particular parts. In Geometry, it is applied to the art of delineating the fore-right plan of any object, and of expressing the heights or elevations of each part. In perspective, orthography is the fore-right side of any plane, that is, the side or plane that lies parallel to a straight line, which may be imagined to pass through the outward convex points of the eyes, continued to a convenient length. In fortification, it is the profile or representation of a fortress made after such a manner that the length, breadth, and height of its several parts may be represented.

OSCULATING CIRCLE. The circle of curvature.

On Water-colours for Illuminating Prints, &c.

OF OTHER REDS.

(Continued from page 49.)

Liquid colour not much inferior to carmine itself may be made of the rasping of Brazil-wood: this colour is in the transparency of crimson, and is made as follows: boil an ounce of the raspings of Brazil-wood, sold at the dry-salters, and at some colour-shops, in twelve ounces of pale stale beer, and a little alum, till the colour of the liquor is as strong as you please, which may be discovered by dipping a slip of white paper into it. When this colour is as you would have it, pass it when cooled into a linen cloth, and bottle it up for use.

And if you would bring this colour to a body, take ox-blood, and dry it till it can be reduced to a powder, which being done, mix it with the liquor, and it will communicate a colour to it little inferior to a middling carmine: some say, that the blood of an ox or cow dried will make a good body for any colour.

For crimson, take the fruit of the berry-bearing spinach, which being pressed, will yield a beautiful red-coloured juice; boil this, adding a fourth part of alum to it; then letting it cool, put it up for use.

The red beet-root baked with a little strong vinegar produces an elegant red colour equal to a tincture of carmine: then pour it on alum, and it is fit for use, where carmine should be used in washing prints, for it is a fine transparent red.

Another crimson colour for washing prints, &c. is prepared as follows:—Put thirty or forty grains of bruised cochineal into a gallipot, with as many drops of tartar-lye as will just wet it, and make it give forth its colour; then immediately adding to this mixture half a spoonful of water, or more, if the colour be still too deep, you will have a delicate purple liquor or tincture. Then taking a bit of alum, scrape very finely with a knife a small quantity of it into the tincture, and this will take away the purple colour and make it delicate tincture. Strain it through a fine cloth into a clean gallipot, and use it as soon as you can, because this is a colour that will always look exquisitely fine, if it is soon made use of; but will decay if it stands too long.

Next to these is the Indian red, which though it is a colour of a body, yet it is very useful

for a back ground for flowers at a distance, when used with gum-water.

There is also an earth brought from the Isle of Wight, which has been found to mix extremely well with gum-water, though, being of a viscous nature, it requires less gum than most other colours; and as it is naturally fit for use without grinding, and is viscous, so it will no doubt mix with oil as well as with water. There is one thing very extraordinary in this earth, which is, that if you rub a deal board with it, it will make the board the exact colour of mahogany-wood, and stain it so deep, and with so much strength, that it is hard to get it out with washing.

Silvering Glass by aid of Gun Cotton.—M. Vohl has recently discovered that a solution of gun-cotton, in a caustic ley, possesses, in a high degree, the property of precipitating silver from its solutions in the metallic form. On pouring into it a few drops of a solution of nitrate of silver, and adding ammonia until the oxide of silver formed is re-dissolved (the mixture being slowly heated in a water bath), the liquor will, at a certain period, assume a deep brown colour, and effervesce, the whole of the silver being precipitated on the sides of the vessel. The mirror thus produced is much superior in brilliancy to those produced by means of etherial oils or ammoniacal aldehyde; and the facility with which it is produced will doubtless render it of practical importance.

Fountains Abbey.—The excavations of the site of the Abbot's house at Fountains Abbey are proceeding very satisfactorily. The arches on which the house has been built, cover the river for nearly 300 feet; but how far the building has extended north and south it is at present impossible to say. According to the *Times*, the most interesting apartment brought to light within the last week or two is the private oratory of the Abbot, near the eastern portion of the remains. It has been an elegant little chapel, of a style of architecture quite different from any hitherto noticed at Fountains, viz., the dog toothed Early English, and has been, no doubt, as Mr. Walbran, of Ripon, states, the work of an immediate successor of the three Johns, sometime between 1245 and 1290.

Dublin School of Design.—Mr. M'Manus who was so uncerimoniously bowled out at Glasgow, as some of our readers will remember, has been appointed head Master of the Government School of Design in Dublin, with full power to carry out the objects of the institution.



ST. ANDREW.—SKETCHED FROM THE TOMB OF ST. SEBALD, AT NUREMBERG.

Military, Naval, and County Service Club-house. The club-house at the Piccadilly end of St. James's-street, formerly known as Crockford's, has been taken by a club of military, naval, and militia officers, and has been decorated and furnished in a costly manner. The walls of the library are sage-green, with the mouldings gilt; the drawing-room cream-colour, mouldings very richly gilt (the old ceilings, also heavily gilt, remain);—and the writing-room has a deep blue paper on the walls, cream-coloured woodwork, and more gold mouldings. On the staircase, too, with very good marblings, it is gold—gold—gold; so that it might be thought, whether originally or now, that the tradesman, rather than the artist, had been the director of the works. The effect, nevertheless, is one of magnificence.

Art Exhibitions.—The aggregate number of

works of art exhibited in the six galleries open in London at this time last year, was 4,023, and the total number produced, calculating that at least 1,500 were returned to the artists, 5,523, without counting those exhibiting only in the provinces.—In the present year the number exhibited is rather less, namely, 3,796, and is thus made up, viz.—at the British Institution, 518—the Society of British Artists, 639—the Free Exhibition, 541—the Water-colour Society, 365—the New Water-colour Society, 402—and at the Royal Academy, 1,341. The number produced, however, was doubtless as great, if not greater. From the Academy alone, we understand, 1,300 pictures were sent back—many of them, as we can assert from our own knowledge, very meritorious productions.

There are said to be 621,000 engravings deposited in the British Museum.

The Architectural Association.

SOME spirited members of the Architectural Association, a few months back, successfully attempted to start an Annual Exhibition, peculiarly architectural. The very attempt itself was not only fraught with pecuniary risk, but there seemed something bold and novel in the idea of the youthful members of the profession making an appeal to an enlightened British public, while the Elders, even with an "Institute," should be content with being annually united with the sister art of painting at the Royal Academy;—but so it was. Not only was the attempt made, but a really good Exhibition was got up, numbering upwards of three hundred "works of Art" from various architects in all parts of the kingdom, open free to the public for six weeks, at the Gallery of the Society of Painters in Water Colours, honoured by the presence of Sir Robert Peel, Earl Grey, and several of the most enlightened of our countrymen. The result was so far satisfactory that the mere sale of catalogues defrayed a considerable portion of the expenses. With a view to entirely clear the committee of any debt, a private dramatic performance took place at Miss Kelly's theatre, on Wednesday evening, May 16th, when the "Prisoner at War," by Douglas Jerrold, "The Critic," and "The Corporal's Wedding" were the pieces represented, the entire cast of male characters being members of the Association. The whole of the dramatis personæ acquitted themselves in a creditable manner, and afforded much pleasure to a crowded and fashionable audience. It would be hardly fair to particularize the efforts of any one individual when all were successful; still, we would wish to express our estimation of the admirable acting of Mr. W. W. Deane, one of the Hon. Secs. to the Exhibition, who, in assuming the old man, *Captain Channel*, threw so much heartiness into the part as to repeatedly call forth applause, though scarcely, we imagine, has he reached one third of the three score and ten, yet he looked and capably acted the old veteran. We are happy to add the result is most satisfactory, a sufficient sum being realized to discharge the whole of the expenses incurred by the committee. So good a commencement augurs well for the next Exhibition.

FLEMISH literature has sustained a heavy loss by the death of M. Van Ryswyck, a poet of considerable popularity, who died at the early age of 38.

Method of soldering Cast Iron with Wrought Iron.—The following process has been recommended for this purpose:—First melt filings of soft cast-iron with calcined borax in a crucible; then pulverize the black vitreous substance which is thereby produced, and sprinkle it over the parts which are intended to be united; after which, heat the pieces of cast and wrought-iron and weld them together on an anvil, using only gentle blows. This method is peculiarly applicable for the manufacture of iron articles which are intended to be made red hot, and are required to be impervious to fluids or liquids, as such a result cannot be obtained by simple fastening.

Munich.—In its account of the late Exhibition at Munich, the *Knutsblatt* speaks at some length of a series of interiors by Zauth, showing some of the principal apartments in the royal villa of Wilhelm lately erected from his designs in the park of Rosenstein, near Stuttgart. These are said to be marvellous productions of the pencil; and this we can readily believe, having ourselves seen one or two interiors by that artist astonishing for the witchery of their execution. The building itself is said to be in the Arabo-Moorish, or Alhambra, style:—that being the one prescribed by the architect. It appears, however, that Zauth has greatly modified it in order to adapt it to the requirements of a modern habitation and actual habits of living. With what success he has done this we cannot say—and may not soon learn: for those who visit Germany, architects included, seem studiously to avoid bringing home, either in notes or in sketch-books, any information relative to what has been there done in architecture of late years—though this is certainly not a little. Mrs. Jameson is the only exception we know of: at least the only one who communicates such information to the public.

Amphitheatre at Arles.—The care expended by the city of Arles on the preservation of its monuments—the memorials of its palmy state when it was the Rome of Gaul, as Ausonius calls it—is highly creditable. Its exquisitely proportioned little amphitheatre, a veritable miniature Coliseum is still under the hands of the masons. Indeed, the only fear seems to be lest the authorities should fall into the fault so common to the French in such matters, and push the indispensable work of preservation too far towards an attempt at restoration. It has been at length thoroughly isolated from the mean surrounding buildings, which well nigh suffocated it; the interior has been well cleared out; and a light railing as a defence from wanton injury has been erected around it. Evidently, the good city has not spared cost in the matter.

The Chronotypist.

THE admirers of the late Sir Francis Chantrey and his works will be glad to know that a biographical notice of the eminent portrait-sculptor will be given to the world at no distant day. The keeper of the Academy, Mr. George Jones—an intimate friend and one of the executors of the deceased artist, and who has had the best sources of information accessible to him—has, we are informed, just completed the manuscript of such a work.—The oil picture painted by Mr. A. Solomon from the Daguerrotype of Jenny Lind, taken by Mr. Kilburn—and now exhibiting at Messrs. Squires's in Cockspur Street—labours under just the disadvantages which the mechanical process presents. Had the painter been allowed sittings immediately from nature, the result, from his well-known talents, would have been a more certain likeness—and there would have been probably no reason to lament a hardness and severity which are foreign to the features of the original.—The congress of the British Archæological Association will be opened at Chester on the 30th of July. An influential local committee has been formed.—The Turkish Government, it is announced, is about to execute a geological map of the Ottoman Empire; and the Colonel of Engineers appointed to have charge of the same has been sent to Paris to obtain from the Government of the Republic the aid of French Officers.—The repair of Salisbury Cathedral spire has been resumed.—A recent report of the boring at Northam, for the Southampton Artesian well states the depth arrived at to be 286 feet, and that the workmen could not bore any further with safety till they had iron piping to the depth of 290 feet, and the present depth of the bore 296 feet in hard clay.—Some further improvements are now being carried out at Southsea, in the drainage and planting of 100 acres of ground called Webb's marshes. A number of villas are to be afterwards erected on the site.—St. Margaret's Church, Whalley Range, in the parish of Manchester, was consecrated on the 29th ult. It is geometrical in style (the transition from Early English to Decorated), has a tower and broach spire, and was built from the designs of Mr. James P. Harrison.—The colossal statue of Dr. Jephson, by P. Hollins, is to be publicly inaugurated at Leamington the 28th inst.—Some alterations and improvements are about to be made at the Salford Town-hall from plans from Messrs. Travis and Mangnall, at a cost of about £500, according to estimates sent in.—The whole work of restora-

tion at Scarborough Church is to be continuously prosecuted, in place of being stopped and resumed, as was intended.—It is said that upwards of 40 boxes, containing sacred vases, marbles, statues, and pictures, have been sequestered by the French custom-office. These articles were purchased at Rome, by an association of German Jews, formed at Frankfort under the direction of M. Brucker. The advantageous terms on which Mr. Francis Warton had obtained the Virgin and Angels of Benvenuto Cellini had excited the cupidity of all the merchants of works of Art. The catalogue of articles sold by the Revolutionary Government of Rome amounts, it is said to 2,500; they only produced 3,000,000*fr.*, although worth 10, 000,000*fr.* at least. Their restitution will not be easily effected though the names and addresses of the buyers are inscribed on the margin of the catalogue.—The Commissioners of Railways have issued their report, dated the 1st inst.—Public attention in Sunderland being generally directed to the establishment of public baths and wash-houses give publicity to the following results of the institution in Newcastle. During the two last months, 1,200 warm baths have been taken, showing (if the average be taken individually) that one in every 84 of the entire population of Newcastle and Gateshead has had a warm bath within the last two months. The average weekly number of houses occupied by those who got their clothes washed, dried, and ironed, in a very few hours, during the same period, amounts to 4,300. The receipts amounted to £28 15*s.*; and if March and April could fairly be taken as average months, the annual receipts in that case would be £172 10*s.* It is confidently asserted that the baths will be self-supporting this year, and yield a profit afterwards.

To Correspondents, &c.

R. J.—*The sketch has been received quite safe.*

G. Edwards.—*It shall be forwarded to you.*

* * * Parts 1 and 2 are re-printed, and will in future be charged at 10*d.* each.

*Part 26 is now ready, price 10*d.**

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale.—The *Book of Ornamental and Early English Alphabets*, Price 6*d.* Parts 1, to 5, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6*d.* Office, 17, Holywell Street, Strand.

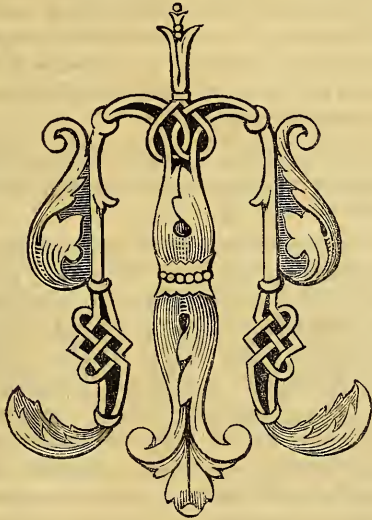


AN ORIGINAL DESIGN FOR A TABLET.—(GOTHIC.)

**On the Style of Furniture in Use
During the Reigns of Elizabeth
and James I. and its Applica-
bility to Modern Purposes.**

EXTRACT FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, FEB., 28TH, 1844, BY
GEORGE FILDES.

(Continued from page 52.)



R. HUNT, in his work on Tudor architecture, objects to these Italian artists that being utterly unacquainted with either our style or that of the ancients, they used a mongrel style of their own: but it does not follow that they were devoid of classical taste and knowledge because they endeavoured to meet the peculiar views of their employers, and graft it upon the national style.

The predilection for foreign art and artists which has ever been, and still continues, an unpatriotic distinction of English society, was at this time most prevalent; pressing like an incubus upon native talent, and condemning it to move in the servile track of imitation. The inferiority of the English artists of the time may, however, be doubtless attributed to the nation's not having yet wholly recovered from

the desolation caused by the ruinous wars of the Roses; during which many skilful artisans had perished, without leaving competent successors in their several branches; hence the importation of foreigners became in a great degree unavoidable. We may easily believe, likewise, that it was owing in some measure to the absence of that patronage which the Church of Rome had ever dispensed to art and artists, and to which the Reformation necessarily put an end. Another reason of the great employment of foreigners appears to have been the greediness and self-conceit of such English workmen as remained, "the said foreigners," Harrison says, "being more reasonable in their takings, and lesse wasters of time by a great deale than our owne."

It is impossible, in treating the subject of Interior Decoration, to avoid recurring frequently to the architecture of the time, from which it copied its peculiar character, both as to solidity of structure and elaboration of ornament. A recent author observes, "the characteristic of the scroll ornaments which enter so abundantly into the decoration of this period has been well described as 'an intricacy of design which defies explanation;' but the knobs and the bosses, with the fanciful cut work round them, peculiar to the Elizabethan style, were evidently intended to represent jewels. They are clearly alluded to by Laneham, in his account of Kenilworth Castle, as 'great diamans, rubys, and sapphyrs, pointed, tabled rok and round, garnished with their gold, &c.;" a poor substitute, even with all the help of blazonry, for the precious marbles and pietre dure of Italy. In the sculptured decoration, the taste of the age displays itself no less in the subjects than the style; and the staple commodities of armorial bearings and devices are mixed up with figures and allusions, allegorical, mythological, and classical. The chimney-piece occupying the whole height of the room, and forming part of the general design when it possesses an architectural character, is generally made a focus for the display of decorations of the kind. These were often executed in a grand and imposing style, but more often deformed by extravagant allusions and conceits. These conceits, however, far from being considered deformities, were doubtless estimated by their devisers as their greatest beauties. We may observe how the literature

of the age was disfigured by this kind of false ornament, from which no department was free. Neither the pulpit, the bench, the senate, nor the stage were exempt. The divine quibbled in the pulpit, the judge condemned the criminal with a *jeu de mot*, and the greatest debates in council were disfigured with far-fetched conceits; and as to the stage, those at all conversant with the dramatic literature of the time, need only recall to memory how often even in the finest and most pathetic passages some absurd allusion or palty quibble will occur, marring their beauty, and sadly injuring their effect on the mind of the reader. Even in Shakspeare himself (with reverence be it spoken), this is too often the case.

These conceits, however objectionable in literature, were still more so in architecture; and though so many magnificent edifices exist, yet the details are often barbarous and involved, and in the smaller buildings constitute sometimes their entire character. Even in the plans of buildings, propriety was often sacrificed to this prevailing folly. Many of the mansions of the time were built with two projecting wings and a porch in the centre, the ground plan of which was similar in form to the letter E, and is supposed to have been intended as a compliment to Queen Elizabeth. Far-fetched as this may appear, it is perfectly in accordance with the taste of the age. Such absurd fancies as these could not but be prejudicial to the art; still, however, it flourished, although the encouragement it had received from Henry seems to have been in some measure withdrawn by Elizabeth, whose taste for the fine arts may be reasonably doubted, as she appears to have patronised them chiefly when ministering to her vanity, if we may judge from the multiplicity of her portraits; which she forbade to be executed by any but "special cunning painters," a proclamation to which effect she issued in 1563.

The style continued to flourish during the whole of the reign of Elizabeth, and seems to have reached its utmost point of perfection at the commencement of James's reign, from which time we may date its decline; as the artists of the day, in their search for variety, grafted upon it all manner of incongruous ornaments, every one thinking himself privileged to introduce whatever ideas his wayward fancy might suggest, thus inducing combinations

which Walpole, in after times, somewhat harshly stigmatised with the name of "King James's Gothic."

It is worthy of remark, that while the architectural taste of the time was declining, the domestic fittings-up of the interiors were increasing in comfort and accommodation. It continued in this progressive state till the accession of Charles I., whose well educated mind and refined taste led him to the adoption of an entire change.

Having now arrived at the period when Inigo Jones, by the revival of a classical spirit, and the introduction of the architecture of the Palladian school, had virtually put an end to the Elizabethan, we may conclude this imperfect historical sketch of the progress of the art, and pass on to the detail of the fittings-up of Elizabethan interiors.

Before proceeding to describe the moveable furniture of the time, it may be advisable first to notice the flooring, ceilings, &c.

Previously to Elizabeth's reign, the floors were of different materials. From a very early date we find them described as sometimes paved with tiles of various colours, and laid in chequer-work:—the Hall at Hampton Court was "floored with painted tyle;"—they were also of stone, and when boarded floors were adopted, they were of coarse substantial workmanship—sometimes, instead of crossing, laid parallel only with the joists, and not depending on them for support.

The doors also were of a rude character, being seldom framed, as they were usually covered by the arras. But in Elizabeth's time, doors of all kinds were pannelled, as well as the ceilings and waincoting of the walls, and often decorated with paintings and devices.—The elaborate fretwork of some of the ceilings of the time, ornamented with bosses and pendants, is admirable both in design and execution; and the framed roofs of the great halls were so well put together, and of so ornamental a character as to form one of the principal features in old houses. The roof of the Great Hall, at Hampton Court, is an admirable specimen (though partaking more of the Gothic than the Elizabethan), and has the advantage of being easily accessible to an enquiring observer.

History of Sculpture.

(Continued from page 193, Vol. IV.)

In ideal beauty, the eyes are always deeper than in nature, and, of course, the eyebrows have more prominence. By deepening the cavity of the eye, the statuary increases the light and shade, thus imparting to the head more expression and reality. In ancient statues the eyebrows are sometimes completely joined.

The mouth is, after the eyes, the greatest vehicle of expression, and therefore demands to be next considered. The Grecian artists made the lower lip fuller than the upper, in order to give an elegant rounding to the chin. The lips are generally closed in figures of mortals, and a little open in figures of gods. Those of Venus are half open. The teeth are seldom shown, except in laughing satyrs.

It was not deemed consistent with the principles of ideal beauty to interrupt the rounding of the chin by the introduction of a dimple. Hence, it may fairly excite suspicion, when dimples are found either upon the chin or cheek of an ancient statue, that they are the innovations of a modern hand.

Modern artists appear often to have overlooked the ear, as a portion of the head undeserving of careful attention; but they should bear in mind that the Grecian artists, whom they affect to admire and imitate, bestowed much consideration and great pains on this to them unimportant feature; and were particularly anxious, in taking likenesses, to copy the precise shape of their subject's ear.

The disposition of the hair presents another test by which the undoubted works of ancient art may be recognised. On coarse, hard stones the hair was short, and appeared as if it had been combed with a wide comb, this kind of stone being difficult to work, and requiring immense labour; but when the finer sorts of marble were submitted to the chisel of the Grecian artist, the obedient locks descended in thin and ample ringlets; in the heads of women they were thrown back, and tied behind in a waving manner, at considerable intervals, thus affording an agreeable variety of light and shade. This method was adopted with the hair of the Amazons. On the other hand Apollo and Bacchus have theirs falling down their shoulders, which was the common habit of youth.

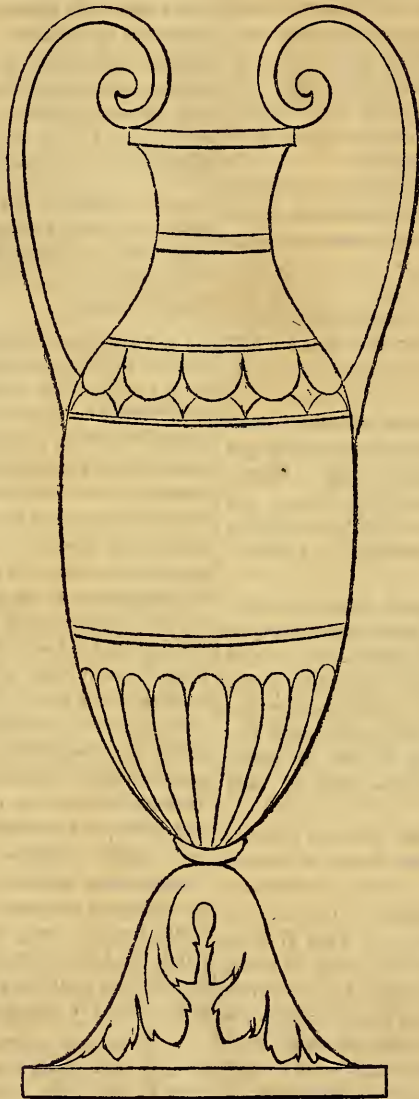
It is a curious fact that, with the Greek statues, it seemed to be a point to enlarge the na-

tural appearance of the breasts in men, and to suppress it in women. The figures of their deities, indeed, have mostly the breasts of a virgin, the beauty of which they evidently held to consist in a gentle elevation, for so desirous were their women to conform to this standard of taste, that various arts were put in practice to restrain exuberant prominence. The breasts of the nymphs and goddesses were never represented swelling, that appearance being peculiar to women who are suckling. The paps of Venus contract and end in a point, which is considered an indispensable characteristic of perfect beauty.

In the statues of men, the lower part of the body was formed similar to the state of the living body after tranquil sleep and good digestion. The navel was considerably sunk, especially in female subjects.

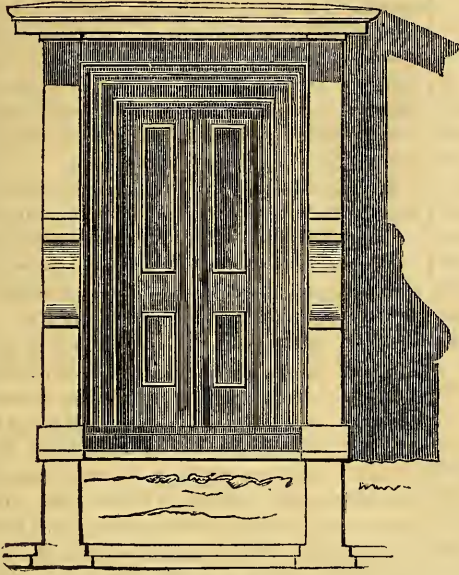
In the figures of young men, the joints of the knee are slightly expressed; that member uniting the leg to the thigh without making any remarkable cavities or projections. Winckelmann observes, that "the most beautiful legs and best turned knees are preserved in the Apollo Sauroctanes, in the Villa Borghese; in the Apollo which has a swan at his feet; and in the Bacchus of the Villa Medicis." The same able connoisseur remarks, that it is rare to meet with beautiful knees either in the elegant representations of art or in the persons of young people themselves. With respect to feet and hands there are sufficient relics to prove how scrupulously attentive the Grecian artists were to develop in these members every possible perfection; although, unfortunately, the ravages committed by time or negligence have sadly reduced the number of instances. These extremities are, of course, most subject to mutilation, and, accordingly, we find many statues wholly destitute of them. The hands of young persons were moderately plump, with little cavities or dimples at the joints of the fingers, which tapered very gently from the root to the point, the joints being scarcely perceptible. The terminating joint was not bent, as it is so commonly found in modern statues.

It is scarcely necessary to observe that, as beauty never appears in equal perfection in every part of the same individual, perfect or *ideal* beauty can only be produced by selecting the most beautiful parts from different models. This however must be set about with delicacy and judgment, in order that these detached beauties, when united, may form the most exact symmetry. The ancients, nevertheless, even in the most flourishing age, occasionally confined themselves to one individual.

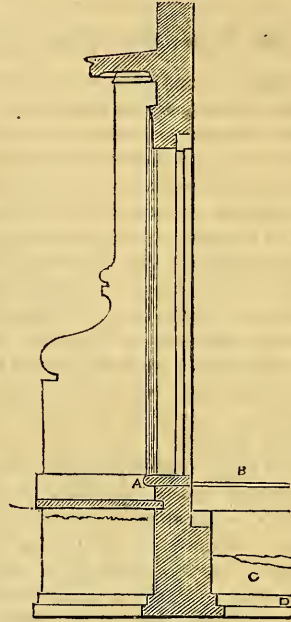


ETRUSCAN VASE.—For description, see "*The Ornamental Drawing Book*," Part 3.

PORCH IN FRONT OF VEGITARIAN COTTAGE, DALSTON,
Executed in Brickwork, and covered with Parker's Cement.—Drawn to a quarter-in. scale.

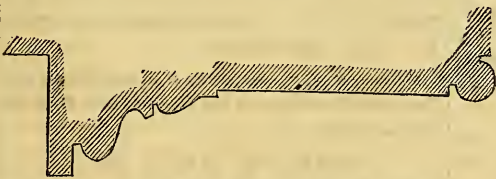


Front Elevation.

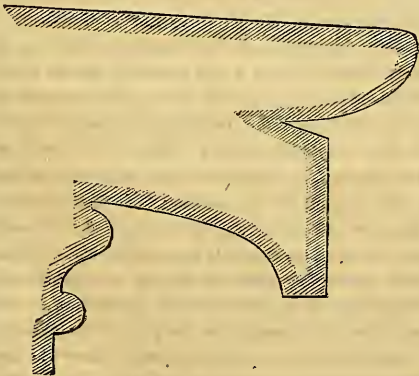


Section through Entrance, showing the
 Screen Sides.

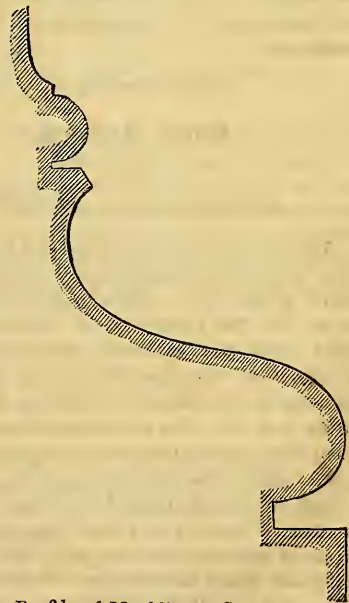
- A. Stone Facings.
- B. Hall.
- C. Earth.
- D. Footings.



Architrave Moulding,—quarter full size.



Moulding of Cornice,—quarter full size.



Profile of Moulding to Screen Side,
 1 in. to a ft.

On Porticoes.

(For Illustration see the preceding page.)

EVERY dwelling house should have its porch, or portico of corresponding pretensions to the house, for two reasons:—one being that it serves to keep off the wind, and protects the entrance, and also points out that particular part to strangers. Again, how great an improvement in the external appearance of the most humble abode may be effected at a small cost;—not that we advocate the employment to small houses of two or more Tuscan, Doric, Ionic, Corinthian, or Composite columns of miserable proportions, with green vegetation all over their sham stone casing, resting on a flight of steps lofty enough to serve for an ancient temple, and further embellished by dead or sleeping lions, dogs, or sphinxes. “Oh, it offends me to the soul to look upon a range of Alpha or Omega Villas full of cunning devices, abounding in sphinxes and obelisks, and enormous porticoes and large brass plates, dedicated to the Joneses, Browns, and Smiths;”—they considering, no doubt, that the great name even gave an addition of dignity to the place. We commence our illustrations of this subject with the drawing of a porch erected in front of a small cottage residence, the property of Mr. G. Dombusch, in the Malvern-road, Dalston. It is very effective, and the entire cost was £7.;—truly an improvement in the external appearance at a small cost.

Royal Academy.

EXHIBITION OF PAINTINGS.

Mr. Patten produces the largest and most ambitious work in the present Exhibition, the subject of which is taken from Anglo-Saxon history. This is No. 372, *The Destruction of Idolatry in England*; *Cofi, the High Priest, on his conversion to Christianity, destroying the Idols of his former worship in the presence of Edwin, the Saxon King, A.D. 625.* The pictures contributed by Mr. Cooper, the Academician, show a larger amount of variety than is usual with him. In the *Wounded Greek*, 101, and the *Oasis*, 118, he has, in combinations of human and animal forms, given evidence of his ability to realize other incidents than Highland scenes and subjects. *Returning from Deer-stalking—Urquhart Castle in the distance,*

377, is the best of these latter themes. The sloping surface of the ground and its inequalities have helped him to the production of a very picturesque composition; we have never seen him more to advantage in this class of subject. *Aliwal*, 143, is the study of an Arab charger, the property of Sir Harry G. W. Smith, Bart., ridden by him at the Battles of Aliwal, &c.—and *Surplice*, 461, represents the winner of the Derby and St. Leger, 1848. Both are capital portrait studies in a department in which Mr. Cooper stands almost alone.

Mr. Egg well justifies his recent selection as Associate. He appears here with improved means in an affecting incident—that of *Henrietta Maria in distress, relieved by Cardinal Retz*, S. *Launce's Substitute for Proteus's Dog*, 478, is a pictorial version of the well-known scene in Shakspeare.

Though small in scale, and unambitious in material, Mr. Linton has never succeeded better than in a picture of the *Temple of Female Fortune, with the Aqua Felice*, 285. It is marked by an originality of feeling which yet sacrifices no whit of truth. Another example of the same treatment is exhibited in the *Scene near Villettri*, 518. The effect of this, while less serene, includes more richness of colour. Though placed so high, the picture which the same artist calls *Retirement*, 1098, shows such soundness of principle in the management of its effect as to bring it clear out from among the mass of common-places by which it is surrounded. As a poetical suggestion, it is one of Mr. Linton's best thoughts.

In lieu of any composition of magnitude, Mr. Frost exhibits this year the *Syrens*, 127, from the line in *Comus*,—

“And the songs of Syrens sweet.”

It is an excellent example of the powers which have gained him reputation.

There is as decided a contrast in the treatment of two pictures by Mr. E. W. Cooke as in the sympathies suggested, or the elements recorded. *A Dutch Calm*, 130, is a very excellent Van de Veldish selection; and we say this in the language of compliment—without imputing plagiarism to Mr. Cooke. In its pendant, a *View of the Castle of St. Angelo*, 153, Mr. Cooke has well secured the general aspect of the climate. *A Fern Cave, a Scene in Mount's Bay, Cornwall*, 436, presents one of those geological formations which from some great disruption of nature, or gradual encroachment of the sea, furnish speculation to the naturalist, and imagery to the poet or the painter.

Mr. Elmore is prominent among those who are advancing in the ranks of his art. The quality and variety of his works testify alike to his fertility

of resource and to his industry of purpose. A *Religious Controversy in the time of Louis Quatorze*, 13, has supplied the subject of his largest and most important undertaking this year. The same artist's *Subject from Tristram Shandy*, 378, shows Mr. Shandy leaning on his cane, reading to the tailor at work on a pair of breeches "a lecture on the *latus clavis*, and pointing to the precise part of the waistband where he was determined to have it sewed on. The subject is not well chosen, but is cleverly treated.

[Want of space precludes a more extended notice this week, but the subject will be resumed in our next number.]

Fac Similes of Busts and Sculpture.

A MECHANICAL process is said to have been invented at Paris, by M. Collas, whereby accurate copies can be taken to any size of even the most elaborately executed pieces of sculpture. Copies of Michel Angelo's Apotheosis of Augustus, seven inches high, thus taken, are said to be wonderful productions. Mr. James Gall, of Edinburgh, long the indefatigable honorary secretary of the Royal Physical Society there, is also said to have discovered a method of taking a strictly accurate likeness in form of a bust, by means of a mask of so peculiar a kind that the sitters are able even to read at ease while the mould is being taken, and which is so light that not a feature is falsified by the pressure or weight. We are not told what the precise nature of the substance is, but we shall venture to guess that his friend, Dr. Simpson's invention of the Samaritan oil of gutta percha dissolved in chloroform, for pouring into wounds, has something to do with it. The chloroform evaporates in an instant, leaving a skin of gutta percha, which repeated until thick and resistive enough, would form a mask which at all events, we will venture to say, Mr. Gall's will not excel in either lightness and delicacy, or convenience and comfort. He, too, it appears, has invented a mechanical process, or machine, for reducing a full-sized bust with mathematical accuracy to a miniature size, and if so, surely also sculpture, as in the case of M. Collas's process. We recollect, by the way, a rumour many years since, that a Parisian had invented a machine for copying sculpture, or taking likeness-busts, which consisted merely of a crop, as it were, of needles or fine wires, so fitted into a frame, that on pressure towards the face or other object to be copied, they yielded to the form, and were then

screwed tight, or fixed in the form or mould so taken, which served the purpose of a mask for the reproduction of the bust or sculpture. There was here no reduction of size, however, spoken of, but that we should think was quite possible, too, with a modification of such a machine.

Hyde Park Gallery of Modern Art.—We are much pleased to hear that the committee of the "Hyde Park Exhibition," have granted free admission to their gallery to the students of the Government School of Design, Somerset House. This is an example we hope to find followed by other exhibitions in this metropolis, as such a step is well calculated to improve the taste of our designers.

Public Record Office.—Mr. Moncton Milnes has given notice of a motion—That a humble address be presented to her Majesty, praying that she will be pleased to give directions for the immediate commencement of a building suitable to contain the public records and State papers, and relieve them from that dangerous condition to which Mr. Braidwood, superintendent of fire brigade, has stated in evidence—"no merchant of ordinary prudence would subject his book of account."

Astounding Liberality to Preserve Ancient Works of Art.—The Earl of Guilford has ordered that the beautiful frescoes (?) which literally cover the walls of the Church of St. Cross (Winchester), shall next week receive an additional coat of whitewash!

Bookbinding.—Some idea may be formed of the extent of the London bookbinding trade from calculations which have been made, to the effect, that the weekly consumption of leaf gold, for enriching the exterior of books, amounts to about 3,600,000 square inches; and that 350 tons of paper shavings from books edges are sold annually by the London binders.

The File Trade.—We have learned with very great pleasure that there are some very palpable indications of an improvement in this branch of trade at Sheffield.

Richborough Castle.—Mr. Rolfe has been excavating round the *castrum* at Richborough, and has laid open some square towers, and two circular ones at the angles.

A CURIOUS encaustic tile, richly embossed, was found a few days since in excavating for a new sewer in Broad-street, city. It was presented by Mr. Haywood, the surveyor, to the Commissioners of Sewers. The design, we are told, represents an empress wearing a crown, the hands being uplifted as if in amazement.



ST. CATHARINE.

From a Fresco painting on the Recess of Bishop Wotton's Tomb, All Saints, Maidstone.

Useful Receipts.

To fix Drawings in Chalk and Crayons.—The Marquis de Varrennes has discovered a method which is equally simple and ingenious, of giving to drawings in pencils and crayons the fixidity of painting, and without injury. He succeeded in obtaining this result by varnishing them on the back; that is, by spreading over the back an alcoholic solution of white gum-lac. This quickly penetrates the paper, and enters even into the fine marks of the crayon on the other side. The alcohol rapidly evaporates, so that in an instant all the light dust from the croyons and chalk, which resembles that on the wings of a butterfly, adheres

so firmly to the paper that the drawing may be rubbed and carried about without the least particle being effaced. The following are the accurate proportions of the solution:—10 grammes of common gum-lac are dissolved in 120 grammes of alcohol; the liquid is afterwards bleached with animal charcoal. For the same purpose may be used even the ready made paint to be purchased at the colour shops, containing a sixth of white-lac, and adding two-thirds of rectified spirits of wine. After it has been filtered, spread a layer of either of these solutions at the back of the drawing, in order to give them the solidity required. This plan has been adopted with uniform success by many artists of the first celebrity.

An Illustrated Glossary of Technical Terms used in Architectural and Exterior Decoration, &c.

OVA. An ornament in form of an egg.

OVAL. A geometrical figure, bounded by a curve line returning to itself, including the ellipsis or mathematical oval, and all figures resembling it, though with different properties.

OVICULUM. The diminutive of Ova, a little egg.

OUTLINE. An exterior or bounding line.

OUT OF WINDING. Perfectly smooth and even, or forming a true plane.

OUT TO OUT. To the extremities or utmost bounds.

OUTFALL. A canal or drain to carry off waters.

OUT-WORKS. In fortification, all works raised without the enclosure of a place, to cover it from the enemy.

OXYGON. An acute-angled triangle.

OLIVE CROWN. This crown was awarded to those who had signalized themselves by feats of gymnasium in the different arenas. The olive tree was originally a native of Asia, whence it was transplanted into Egypt, and the south of Europe, the wood is heavy and of an agreeable odour; the fruit is of the form of a damson, with a soft oily



pulp, and hard nut in the centre. The olive was consecrated to Minerva, by the Athenians, who regarded the culture and protection of the olive tree as a religious duty. The oil of the olive is pre-eminent among vegetable oils, and has not always had an extensive use in culinary purposes, but formed the menstruum, or vehicle, for the most celebrated perfumes.

OVAL CROWN. The Romans had various crowns which they distributed as rewards of military achievements. The oval crown was composed of myrtle, and was bestowed only on such generals as had the honour of a triumph.

OIL. In painting. An unctuous inflammable substance, drawn from various bodies, both animal and vegetable. From the peculiar properties of different oils, they are naturally divided into two kinds, the fixed or fat oils, and the volatile or essential oils: the former demand a high temperature to raise them to a state of vapour, but the volatile oils are volatilized at a temperature of boiling water, and even at a lower one. Both the volatile and fixed oils may be obtained from plants, and sometimes from the same plant, but always from different parts of it. While the *seeds* yield the *fixed* oil, the *volatile* is extracted from the bark or wood.

OVERSE. That side of a coin or medal which bears the head of a chief or sovereign by whose direction it was struck.

OCHRE. A genus of earths, slightly coherent, and composed of fine, soft, smooth, and argillaceous particles, rough to the touch, and easily diffusible in water. These earths are of various colours. Yellow is the one most prevalent and best known: but the varieties of ochres comprise also red, green, blue and black.

OCULAR. Antiquaries have appropriated this term to certain stones whereon are found the name engraven of some surgeon-oculist, together with the remedies proper for the diseases of the eye.

OBJECT. In general any thing which attracts and fixes our regard. The word is also applied to signify the end or purpose which a man proposes to himself in any given pursuit. The object of the fine arts, to speak in an enlarged sense, is to answer the ends of utility and of mental accomplishment in the most graceful and agreeable manner.

OBSCURITY. Certain modern artists have personified obscurity by a figure wrapped in a long black veil. She extends over her head another thick veil or canopy, by means of which the rays of the sun are hindered from penetrating to the spot on which she stands. An owl is perched upon the head of the figure, and other nocturnal birds fly around her.

OBRYZUM. According to a passage in Pliny, this name was appropriated by the ancients to a species of gold which had been several times purified with fire.

The Chronotypist.

At a meeting of the Court of Common Council held on the 17th ult., permission was given to Messrs. Blunt, Civil Engineers, to lay down an electric telegraph in the river Thames, to communicate with a coast line telegraph.—The celebrated Maria Edgeworth, the once popular novelist, died after a few hours illness on the morning of the 21st ult., at Edgeworthstown, in the County of Longford, Ireland. She was in her 83rd year.—The opening of the new station of the London and North Western railway at Euston-square, took place on the 2nd of June. The building extends 220 feet in length, and 170 feet in depth, and was designed by Mr. P. C. Hardwicke. It appears that no expense has been spared to make it convenient, spacious, and ornamental. The cost is said to be about £150,000.—Mepal Church is about to be restored at an estimated expense of about £600.—The example of Sir C. Anderson is about to be followed in the erection of a stained glass memorial window in Lincoln Cathedral.—The public baths at Hinckley are in an advanced state. The building is in the Tudor style, and has been erected by Mr. Harrold, builder, who is also to form a swimming bath, 60 feet long, by 20 ft. wide.—The monument proposed to be erected to the memory of the late Archbishop of Paris, has been re-committed to competition, the first attempt having failed to produce an acceptable design.—A drawing and designing class has been formed at the Literary and Mechanics' Institution, Chelmsford, and the authorities at Somerset House have presented their elementary course for the use of the students, twenty in number, and almost all operatives.—Methley church has been extensively repaired, and was to be opened on Thursday last. The oak ceiling has been restored. Messrs. Hugall, of Pontefract, were the architects employed.—Two painted windows have been put up in the chancel of St. Mary de Lode Church, Gloucester, at the expense of Miss Coglan, sister of the Vicar. The artist was Mr. Rogers, of Worcester.

Ancient British Barrows.—The circumference of the smallest barrows is about 13 or 14 feet, that of the largest 33 to 35 feet; and they are generally surrounded by a shallow trench. The cists in which the bodies are deposited, usually vary in depth from one to six feet. Douglas states that he found some which exceeded ten feet. More recent excavations on the downs beyond Canterbury, under the direction of Lord Albert Conyngham, have

added a few new objects to those already discovered, proving incontestably that these barrows are not the burial places of the slain, but the sepulchres of a people in quiet possession of the country. "Their situation," observes Douglas, "near villages of Saxon names, their numbers proportioned to a small clan of people existing at a peculiar era, afford the critical evidence of their owners. They are scattered all over Britain, in places which the Saxons occupied, and are not discovered in the parts of Wales which they had not subdued. The relics compared with those discovered in the urns found at Walsingham, in Norfolk, the subject of the beautiful old treatise on urn-burial, by Dr. Browne, shew the identity of people, and evince the funeral customs of the Saxons, on their visiting this country, to be that of burning, as well as interring the dead." Those who have been engaged in researches of this description, will testify to the accuracy of these remarks; but some will be disposed to question the propriety of the inference which the author draws, when he states his opinion that the Saxons extirpated the Britons from the parts which they then occupied. That the Romanised Britons were entirely subdued by the Saxons is evident, but the total annihilation of the people formerly in possession of the country by their invaders is not proved by these relics, some of which, but more particularly the urns, which are occasionally found in these graves, reminds us of the pottery of the Roman British period.

To Correspondents, &c.

T. Y. K.—*Your Design shall be used.*

Blucher. (Oxford.)—*It shall appear in an early number. Patience is not only a great, but a necessary virtue; especially as regards a work of so varied a nature as this. The Cases are procurable as usual.*

* * Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.

Part 26 is now ready, price 10d.

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale.—The *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 5, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.



THE term, DESIGN, admits of various explanations, according to the nature of its intended purpose; the most concise and specific meaning is—delineation of objects, through the acquired medium of Geometry, Optics, and Colour. A knowledge of these may be possessed, and the faculty of delineation exist, without any creative power of mind, and therefore the real and true meaning of the word is discovered when to these capabilities is added the genius of originating; embodying such combinations as have not been previously known, and are capable of amalgamation under the admitted governing laws of nature and taste. This power is found to result from a careful study of nature, and an accumulation of the sound principles and excellencies of our great predecessors in Art;—producing in combination new arrangements and beauties, in proportion to the originality of conception and power of invention of the artist. Manufacturing Design requires diffe-

rent modes of treatment, that it may accord with the nature of the material to receive embellishment; but the laws or great principles are known to be unchangeable; thus, a silk damask or an iron railing may be designed from the same given quantities of proportion. A division under the heads of outline, light and shade, and colour, will enable us to make a classification for its distinctive application to weaving, printing, wood, metals, and other great branches of trade; each requiring special instruction to produce successful design. Fitness of purpose is another essential, and doubles the value of the art; nowhere can we so perfectly study this portion of design as through the works of nature, where it is discovered in unity with embellished elegance of form, and wisdom of application.

The human figure is a beautiful illustration of the possibility of combining great mechanical power with the most graceful contour and action; the general design affords extensive varied power of motion,—the detail shows the most profound skill in adapting the form of each bone to its respective office, the provision of pro and antagonistic muscles, their form, insertion, and beautiful mechanical action discover a profound design, and the disposition of each part being considered with relation to the production of a perfect whole, we have the upright and commanding figure of mankind, capable of showing the athletic muscular massiveness of a Hercules, or the feminine loveliness of a Venus. The animal creation is replete with graceful beauty, subject to fitness of purpose. The horse and his numerous varieties, present noble examples.—What majesty is exhibited in the lion!—ponderous limbs, breadth of shoulders, clothed with a magnificent mane, thin flanks, and enormous muscular strength. Opposed to this king of the forests we find the lightly moulded and elegant gazelle, whose pace is on the wind, and

“Who glads one by its fond blue eye.”

In the vegetable world no grace of form, no colouring is wanting; the most studied productions of man are as nothing, compared with the resulting effects of a gorgeously varied tropical vegetation: through all the striking varieties of the stately palm and small-leaved cedar, to bowers of citron and acacia, with

colouring and contrasts frequently displayed upon a gigantic leafage, instructing, but defying the humble imitative art of man; from the most delicate hue of green, warm or cool, to those of most intense depth, mingled with bright scarlets, deep crimsons, and a profusion of brilliant and secondary colouring, blending into repose with the tertiaries. Imagine, for one moment, a woody scene under the effulgent tropical sun, with all its curious varieties of shape in tree and foliage, the jungle half choked by tall grass and knotted reeds; then picture the gay and glittering plumage of the birds, from pale amber to deep golden yellows, rich purples, russets, the finest reds and glistening blues! what a study for the decorative colourist! 'Tis thus nature teaches the principles upon which her sister art should found the theories of her charming imitations. Unpossessed as we are of tropical advantages, let us endeavour to appreciate the value of those we enjoy. The horticulturist presents the choicest flowers of every clime, and the botanical garden will give us some idea of the palm and olive; we have the acasia, the stately chesnut, the mountain ash, with its peculiar leafage and clustered bright berries: our fields, our hedges, and the varieties of trees so common amongst us, afford materials for studying portions of design in a way that may be rendered most profitable and most agreeable. Many a common plant presents a diminishing elegance, a graceful flow of line, colouring, and hints of much value; the fine shaped leaves in this class are replete with instruction; exquisite tints are frequently seen on the withering moss-rose leaf; the whole science of colouring is there exemplified; yellow, a primary, continued through the russets to the primary red, very brilliant.

Who that has viewed the rich hues of autumnal colouring, but must feel the varied tones to be a source of admiration?—and how much more so when he can deduce the whole apparently endless variety from three simple original colours? But apart from other considerations, there is scarcely any ornamental production in which some object from the vegetable world is not introduced, and for correct delineation we ought therefore to be intimate with its original source and habits. The trees bursting into bloom will afford delightful examples; render them, therefore, useful to

yourself by making notes of your observations; there will be the deep pink of the almond, the delicate hue of the clustered apple blossom, and the pyramidal flower of the chesnut, a fine mellow white, of peculiar crisp-like character, relieved and inspirited by a dash of crimson.

Flowers offer to us a much more extensive field for observation, from the humble primrose, with its straw-tinted bloom and warm-toned leaf, to the magnificent japonica, whose elegant heart-shaped glossy leaves—stiff, dark-blue green—display its superb flower to the most advantage. So true is nature to her principles, that you will not observe any flowering plant, shrub, or fruit-bearing tree whose bloom does not only harmonize in colour, but finely contrast with its own foliage; it is equally remarkable that the shape of the flower or the arrangement of petals is such as to improve by contrast the form of leaf. The tribe of fuchsias is a remarkable exemplification; of several distinct sorts, the bloom bears the exact relative proportion of colour and contrast to its leafage, that a skilful colourist might use in matching his tints to execute a work in stained glass.—This observation brings home to immediate application for manufacturing purposes generally the principle advocated; and I am most firmly of opinion that persons desirous of acquiring the power of understanding grace in form and beautiful tone and colour, will derive the utmost advantage by following out an intimate acquaintance with the productions of nature. I would consequently present the vegetable world as a truly instructive source from whence to derive beneficial studies; outline and colouring from flowers and leafage, and gracefulness from the whole.

An enthusiastic admirer of nature, I take pleasure in tracing the varied excellencies of art to their original source. The most perfect productions of the sculptor are but copies of nature, placed in attitude and moulded into perfect form by the resulting skill of long study and experience; and assisted by the highest attributes of genius, we find it eventually creating the matchless frieze of a Parthenon. Architectural proportions are deducible from the same source, and in those magnificent paintings bequeathed to our admiration by the most profound colourists, we discover their principles to have been those of nature, and their compositions are more delightful the nearer they approach to simple natural

dispositions. Raffaele was the poet of nature. I am offering these desultory remarks to induce you to examine the very source and origin of all design; not to remain satisfied with results drawn from other men's labours, but to go to the fountain head at once.

(To be Continued.)

Royal Academy.

EXHIBITION OF PAINTINGS.

[SECOND NOTICE.]

Mr. Redgrave's *Sun and Shadow*, 169,—the *Stream at Rest*, 174,—and the *Solitary Pool*, 392, excellently illustrate that especial disposition to details which the painter is sometimes led into where their introduction is less useful and characteristic. *The Awakened Conscience*, 357, is a figure subject—a pictorial moral on the sin of drunkenness, based on some passages in the Proverbs.

It is difficult, in speaking of the pictures by Mr. Sidney Cooper, to add anything in the way of comment to what has been said in former years. *Autumn*, 312, we like better, nevertheless, than the *Clearing off at Sunset*, 37. It is more refined—less commonplace. In *Cattle returning from the Meadows*, 227, and in *Mountain Scenery—North Wales*, 455—two joint productions with Mr. Lee—Mr. Cooper has introduced the animal forms with his accustomed mastery.

By Mr. Uwins there is but one work: that an illustration of Spenser:—*Sir Guyon fighting for the virtue of Temperance under the conduct of his spiritual guide, destroys the enchantments that have tempted his companions from their duty*, 188. This is another of the moral allegories which are the frequent form for the expression of this artist's fancy. The poet or the painter who deals with allegory must expect, in this age, to meet with but limited sympathies.

Mr. F. Goodall's *Hunt the Slipper*, 263, is not calculated to confirm him in the reputation which has been somewhat too hastily assigned.

There is a particular spot of wall in a particular room to which by some sort of arrangement or admission Mr. John Martin seems to enjoy a prescriptive right. This place on the present occasion is conspicuously occupied by *Arthur and Ogle in the Happy Valley*, 566. It is a wild preternatural affair, in which the constellations shed down disastrous influence on the unconscious lovers,—and they walk amid blue

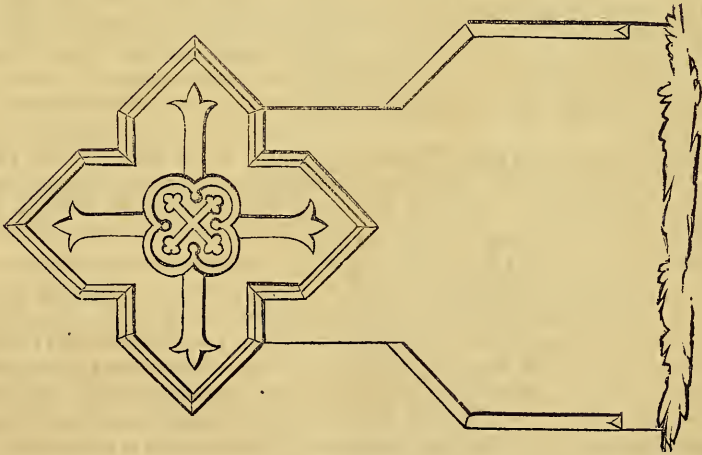
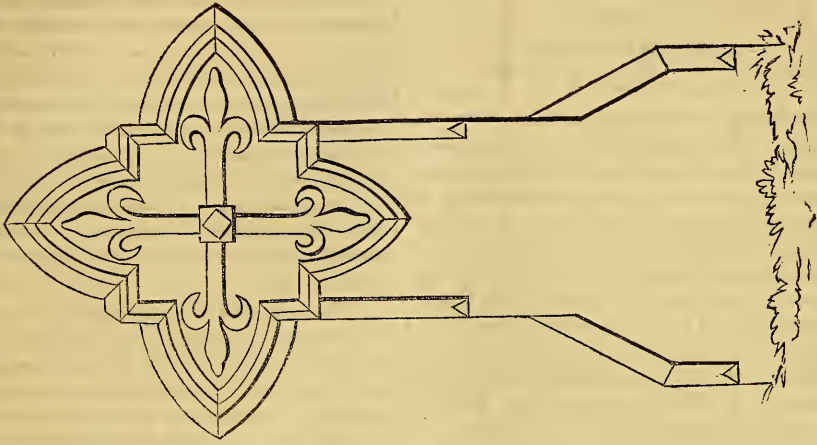
lights which have no original on earth, and which we do not remember in romance, to their doom.

An anecdote in the life of the late President West has furnished the subject of a picture which Mr. E. M. Ward has entitled *Benjamin West's first Effort in Art*, 303. In the late Mr. Allan Cunningham's "Lives of the British Painters" we read that "little Benjamin was placed with a fly-flap in his hand to watch the sleeping infant of his eldest sister, while his mother gathered flowers in the garden. As he sat by the cradle, the child smiled in sleep; he was struck with its beauty, and seeking some paper, drew its portrait in red and black ink." The incident has proved in Mr. Ward's hands a good one for illustration; and he has not lost sight of its great point,—the young enthusiasm with which the future artist sets himself to the work. The gesture and the action represent to the life the entire absorption of juvenile attention; and the corresponding earnestness in the face gives good presage of future success. A work of larger scale and more important aim is, *Daniel Defoe and the Manuscript of Robinson Crusoe*, 318. "The manuscript of Robinson Crusoe passed through the whole circle of the trade before it could find a purchaser. When at length accepted, the sale was so immediate and rapid that no less than four editions were published in as many months." Hazlitt is the authority on which Mr. Ward has founded his picture,—and it has the true congenial and Hogarthian spirit. The humble author discussing the possible chances of his work with the dandy clerk, presents a true and eloquent picture of the indignities which patient literary merit has too often had to endure from the trader in the produce of the brain. The author of one of the most popular romances in the world is here writhing under the sting of wounded pride and mortification and hopelessness—in strong contrast with the fashionable lady whose application finds entrance at once into the bookseller's back parlour. Mr. Ward has lost no point that might assist his moral in forcible art-language. In technicals, Mr. Ward, in both these pictures, has shown a marked improvement: his drawing is better than of old,—his colour clearer. The local tints are more truthful; and in the general handling a more refined style prevails.

East Anglian Architectural Society.—On Monday last, a number of the members of the East Anglian Architectural Society had an excursion, upon which occasion they visited Ely Cathedral, when the Rev. Mr. Boutell, of Downham Market, delivered a lecture on the various styles of architecture.



ANTIQUE JUG.



TWO DESIGNS FOR TOMB STONES.—(GOTHIC.)

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

(Continued from page 46.)

LECTURE III.

THUS Raphael has well been called an "examiner of men."—The perception of what is false is, at least a step towards the knowledge of what is true; and it will be found that the conventional and the affected are the result of that species of mind that will not let Nature have her own way;—that has formed, indeed, its notions of consistency independently on observation. To explain what I mean, I would say that had such a mind to deal with a story of love, like that of Romeo and Juliet, it would have deemed it a profanation of the passion to make, as Shakespeare has done, Juliet the successor of Rosaline in the heart of Romeo.

The ideal of such writers or painters is not an ideal of selection but an ideal of their own, or more properly, I believe, in most cases an ideal imitated from other similarly constituted minds; for in all their productions there is a remarkable family likeness. Throughout their delineations of life there is an absence of all that delicate discrimination of the subtle lights and shades of character which a thorough and unbiassed acquaintance with the men and women that surround us can only teach. Instead of such representations in painting real life, they give us faultless heroes and heroines opposed to characters of motiveless atrocity;—and when their subjects are above the world, they mistake the conventional so entirely for the ideal as to keep themselves equally out of the sphere of our sympathies.

Such minds remain in a state of perpetual childhood;—often they are highly amiable and as often cold and unsympathizing. With the best intentions, they can effect no good, but may very much mislead,—for a writer or a painter can only serve the cause of morality in the degree in which he is true to Nature. In Shakespere we discover no aim to enforce a moral, but he is the most moral of all the delineators of life, because he is the truest.

It is a mistake to suppose that human nature may not be studied within a confined limit. The constant inhabitant of a village may learn far more of mankind, if he be a close and fair observer, than he whose life is spent in traversing the world if he observes not carefully, and above all if he studies not himself. Indeed, the opportunities of knowing a few individuals long and intimately are more fa-

vourable to a knowledge of Nature than seeing much of the surface of life, which is nearly all that is seen in travelling. Few men ever travelled less than Shakespeare, few less than Raphael, few less than Hogarth.

In referring to the assistance Painting may derive from Science, I should omit a duty were I not to call your attention to a most valuable contribution of knowledge and taste to Art,—Sir Charles Bell's work on the 'Anatomy of Expression.' On consulting such a book, the painter will find how little he can trust to his own unassisted observations of Nature, in many cases, and particularly in all with which disease, either of mind or body,—or death in its many forms, have to do. And so it is with every thing in which scientific knowledge may assist the eye.

In the study of Art we may take an hint from what Burns has recorded of his study of poetry. After enumerating the stock of books to which he had access, when about sixteen years of age, he adds that a collection of English songs was his *vade mecum*. "I poured over them," he tells us, driving my cart or walking to labour, song by song, verse by verse; carefully noting the true tender or sublime from the affectation and fustian; and I am fully convinced that I owe to this practice, much of my critic craft, such as it is." We here see how constantly the art that was to distinguish Burns was in his thoughts. This spoiled him for a farmer, but enabled him to leave an undying name.

In the loose language in which the productions of Art are spoken of we often hear of the *creations* of the poet or the painter. But invention is *combination*, not *creation*; and in Painting whatever may with any degree of correctness be called *creation* can only be the monstrous or the false. Mannered Art of every description is properly a creation of the pencil. It has graces, expressions, styles of composition, lights, shades, and colours all its own, and all mistaken, by the mannerist himself and by his employers, for the ideal.

Selection and Combination are then the principles on which invention, like everything else in art, must proceed; and in recurring so frequently to these, I would observe that I wish as much as possible to avoid splitting general principles into rules, as I constantly find that wherever a rule is laid down for practice in particular cases, instances will be found in Art in which it has been "more honored in the breach than the observance." The only mode therefore in which instruction can be conveyed, after the general principles derived from Nature are stated, is to draw attention, in detail, to the varieties of practice, that have prevailed in

different ages and schools; and ascertain how far they are founded in truth,—not so much to recommend their imitation as to form tastes for ourselves that may serve for safe guides in new and untried ways.

Invention and Expression are the powers that have always first displayed themselves in Art, modified, of course by the existing conditions of society. In the dark ages, Religion was driven by the ferocity of the times into the Monastery and the Hermitage, whither she was accompanied by all that remained of Learning. Convents, therefore, became the nurseries of Art and of Science as well as of Religion, and Painting, in the hands of the mediæval artists, was consequently employed almost exclusively on contemplative and devotional subjects. Giotto was I believe, the first dramatic painter of much genius, and whether, in the age of Julius or Leo, he might have been what Raphael was, is a question that it may be honourable to both to ask, but which it is fair to both that it should be left without an attempt towards an answer. As it is, the advantage, if it be but that of time, is on the side of Raphael, and he stands forward pre-eminently as the painter of Christianity, not confined to the cloister, but entering into the world, adapted to the world,—sympathizing with all that is human, relieving the infirmities and satisfying all the real wants of our nature, to purify and to elevate it. And to be this it was necessary that Raphael should be, as Fuseli calls him, “the warm master of our sympathies,”—as well as heir to all the highest powers of the artists who preceeded him.

(To be continued.)

On Water-colours for Illuminating Prints, &c..

OF PURPLE.

(Continued from page 57.)

A FINE transparent purple may be made either redder, or nearer the blue, as you would have it, by boiling four ounces of rasped Brazil-wood in a pint of stale beer, with half an ounce of logwood, or Campeachy-wood, till the liquor is heightened to the colour you desire, which may be known by dipping a piece of paper into it.

If you find it too red, add an ounce of logwood to the Brazil-wood, which will make it much nearer to the purple than the former; and by this method you may humour it to any degree of purple, by putting in either more or less logwood to

the former composition, and fixing the colour with alum. This will produce such a clear purple as no mixture of solid reds and blues will do, and the receipt has been for a long time kept secret. It is said, that the best purple colour that can be made, may be composed between the carmine and indigo, to strengthen which, on the red side, you may add lake between the lighter and darker part; and so lake, when it is used in the same way, on the foregoing purple, or the liquid crimson, produces a very fine effect.

The colour may be varied, and made either redder, by putting more carmine, or bluer, by using more indigo, which being mixed on a white Dutch tile, will shew itself. A fine purple may be made of the gross part of sediment of lake-columbine, both for oil and water-colours as follows:—Take the sediment of lake-columbine, which falls to the bottom of the vial in which is the bone of the cuttle-fish, let it dry, and grind it; there will be no lake so fine as this; and if you mix it with lake it will give it a better body, besides more strength and vigour.

OF BLUE.

The ultramarine blue is not only the first, but the best sort of bright blue we have, as it gives a spirit to all paintings where blue are used. This colour is made from the lapis lazuli divested of its gold, and ground into an impalpable powder, which is done as follows:—Take half a pound of lapis lazuli, and putting it upon red hot coals, let it stay there till it is red-hot: then quenching it in very strong vinegar, and grinding it on porphyry, or any such hard stone, with rectified brandy to an impalpable powder, make a pastil, with which the lapis is to be incorporated: for the making of this pastil, take bees-wax, turpentine, resin, and linseed oil, of each a quarter of a pound; and melting the whole together over a slow fire, when it begins to boil, pour it into a glazed pot; this is the paste of ultramarine. Take of this paste an equal quantity equal to that of the lapis, knead them together upon the marble, and being well incorporated, let them remain for one night; after which, to bring out the ultramarine that is in the paste, pour water upon it, and knead it with your hands as paste is kneaded, and the ultramarine will come out; for the receiving of which, place a porringer or other proper vessel under your hands, and let it settle in this water till you see the ultramarine at the bottom of it.

The annual election of Fellows at the Royal Society took place on Thursday last:—the Earl of Rosse, President, being in the chair.

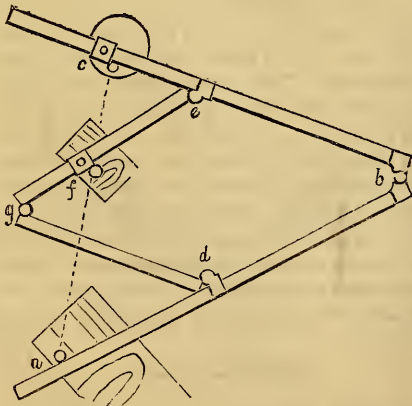
An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

PACE. A measure of five feet.

PAGETTING. A name given to rough plastering, especially to that used in the interior of chimney flues.

PAINTING IN FRESCO. This is very common in the remains of Egyptian buildings. It is also traced in the architectural remains of India. In the middle ages, the place of painting on the walls was supplied by embroidery and tapestry. This practice appears to have been brought from the east, and probably originated from the costly hangings of the palaces of the kings of Persia and Phœnicia. Ceilings, stair-cases, and works which require no great care and preparation, are generally painted in common water colours, that is, with earths infused in water and diluted in size. All kinds of colours may be ground in water only, when the tint is made; and when they have been infused in water, they must be mixed up with size. If on new plaster, the colours require more size.

PANTOGRAPH. An instrument for copying and enlarging or diminishing drawings. It was invented in the seventeenth century, and a description of it appeared at Rome, in 1631. The inventor of this instrument is supposed to have been Christopher Scheiner, a Suabian jesuit. The figure of the pantograph is here shown. It con-

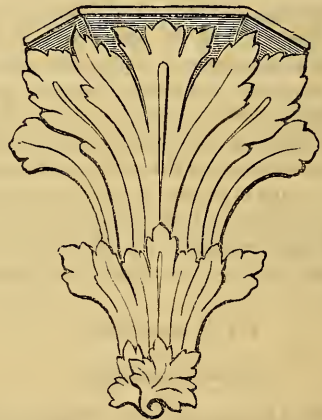


sists of four brass or wooden rules, two of them from 15 to 18 inches long, and the other two half

that length. On the exact fittings of the holes and joints chiefly depends the perfection of this instrument. Those in the middle of the long rulers at *e* and *d*, are to be at the same distance from those at the ends of the longer ones at *b*, and those of the short ones at *g*, so that when put together they may make a parallelogram.—The joint at *b* must have a little pillar, round at the end, underneath for the instrument to slide upon; of the two parts of the long rulers which extend beyond the parallelogram, one, *c*, should have a piece of lead attached to it by a moveable socket, so as to keep the instrument firm whilst in use, and at *f* and *a* should be sockets for pencils and points; that at *f* being moveable. The mode of using it is evident from the figure.

PAGODA. The name given to the temples of India, China, &c.

PENDANT. A hanging ornament in very rich



Gothic groined roofs.

PALACE. The dwelling house of a king, prince, or bishop. In China it is customary to build palaces in honour of celebrated ancestors, and in the year 1263, Hu-pi-lay, of the Mogul empire, built one for his ancestors, after the example of those of China.

PELESTRA. That part of the Grecian Gymnasium more particularly appropriated to wrestling and other gymnastic exercises. The term was sometimes applied to the whole building. The palaestra contained also baths, which were thrown open for the use of the public. Vitruvius asserts positively that there never were any palaestra at Rome.

Industrial Knowledge.

Extracted from the *Voice of the People*.

C. Knight, London.

WE are sometimes told that education has very little to do with manual industry; that the one relates to the head and the heart, while the other deals only with muscle and sinew. "Look," it is said, "how many are there, who, having received an efficient education, start in trade, and fail. Look, again, how many succeed eminently in trade, who have received no education worthy of the name!" Yes: if education consist in making Greek and Latin an end, instead of means to an end—if a whole course of school instruction pass without one lesson relating to the physical world around us—then, indeed, may we well understand how an educated man may fail in trade or manufacture. But if education consist in the right development of all the faculties that God has given us; then is the man who steadily watches and studies the external world, and the power he has over it, acquiring industrial knowledge at every step. Nearly all industry consists in the transformation and adaption, by human means, of materials abundantly scattered around us; and he who uses his external senses and his "common sense" in studying the properties of these varied materials, is acquiring the elements of industrial knowledge, which, even if he had not the advantage of that more systematic education which expands the intellect and warms the heart, will one day be fruitful of good to him, though the mode and the moment may be equally beyond his ken. "A young man," says Sir Robert Kane, "wanting to sell spectacles in London, petitions the corporation to allow him to open a little shop, without paying the fees of freedom, and he is refused. He goes to Glasgow, and the corporation refuse him there. He makes acquaintance with some members of the University, who find him very intelligent, and permit him to open his shop within their walls. He does not sell spectacles and magic lanterns enough to occupy all his time; he occupies himself at intervals in taking asunder and re-making all the machines he can come at. He finds there are books on mechanics written in foreign languages; he borrows a dictionary, and learns those languages to read those books. The University people wonder at him, and are fond of dropping into his little room, in the evenings, to tell him what they are doing, and to look at the queer instruments he constructs. A machine in the University collection wants repair-

ing, and he is employed. He makes it a new machine. The steam-engine is constructed; and the giant mind of Watt stands out before the world—the author of the industrial supremacy of his country, the herald of a new force of civilization. But was Watt educated? Where was he educated? At his own workshop, and in the best manner. Watt learned Latin, when he wanted it for his business. He learned French and German; but these were tools not ends. He used them to promote his engineering plans, as he used lathes and levers.

The Ascot Race Cup.—The Royal Hunt Cup which was run for last week at Ascot, is a cup of novel design, and of a shape different from any former ones which have been prizes of a race course. It is a Tazza, supported on a foot, on which are represented in relief devices, emblematical of field sports. There are the heads of stags and does, and the mark of buckhounds, and on the summit of the cover of the cup, is a very spirited group of dogs mastering a stag. The workmanship is very elaborate and the design elegant. The style partakes of the Italian and Elizabethan characteristic. It has been modelled at the establishment of Messrs. Hunt and Roskell, of Bond Street, London, under the direction of Mr. Bailey of the Royal Academy, and is one of the best specimens of this species of art hitherto produced.

Silkworms.—It appears from the statement of a late writer, that it requires thirty thousand worms to produce five pounds of silk. If we reckon that at the present time a million and a half pounds are imported annually, it therefore requires nine thousand millions of insects to supply the raw silk for British manufacture.

NAIL-MAKING.—Mr. Moses Poole has obtained a patent for some improvements in machinery for making nails. The metal is passed between the edges of a top and bottom roller, to split it into rods of the requisite thickness, which are then passed between the edge of a second top roller and the other edge of the bottom roller, whereby they are formed into a succession of rectangular triangles. These triangular-shaped rods are then forced between a pair of vertical or horizontal matrices, to point them, and likewise a pair of cutters to separate them, and subsequently through a punching machine, by which the heads are formed. *Claim.*—The mode of arranging machinery for making nail-rods, by first splitting the metal and then shaping it. Making nails by means of the matrices in combination with the heading machine. The application of the machine as described.

The Chronotypist.

Preparations have commenced for the removal of the celebrated marble arch from the east front of Buckingham Palace. It will be re-erected at the principal entrance to the Home-park at Windsor Castle.—The first stone of the Printer's Almshouses at Wood Green, near Tottenham, was laid by Viscount Mahon, M.P., on the 11th inst.—The Duke of Northumberland has presented £100 to the fund which is being raised for completing the United Service Institution by the creation of a lecture theatre.—Mr. Portal, of Christ Church, Oxford, has been elected chairman of the heraldic section of the Architectural Society of Oxford. At the meeting on the 30th ult., Mr. Norris Deck read a paper on legendary coat armour.—His Royal Highness Prince Albert laid the foundation-stone of an addition to the Licensed Victuallers' Asylum in the Old Kent-road. This addition is to be called the "Ladies' Wing," and is to cost £4,000. It will contain twenty-five dwellings.—The Metal Trades Pension Society held a general meeting, on the 28th ult., at the London Tavern, for the election of six additional pensioners, and other business. There are now twenty-five annuitants on the roll of this useful society, with pensions, as we understand, of twenty guineas each per annum. More than 200 names of new subscribers or donors appear in an appendix to the report, and 100 more are greatly desired before the 1st of August, to enable six more pensioners to be added to the list.—We learn from the *New York True Sun* that what is called soluble glass is now beginning to come into use as a covering for wood, and other practical purposes. Some of our clever artisans may like to experiment upon it. It is composed of fifteen parts of powdered quartz, ten of potash, and one of charcoal. These are melted together, worked in cold water, and then boiled with five parts of water, in which it entirely dissolves. It is then applied to woodwork, or any other required substance. As it cools it gelatinizes, and dries up into a transparent colourless glass, on any surface to which it has been applied. It renders wood nearly incombustible.—The reduction of £1 per ton in the price of iron has been generally adopted, and it now appears that many of the masters never sold at the advanced rate resolved upon at the January quarterly meeting. Some dealers are of opinion that it will be difficult to maintain even the present price, and that a further reduction may be expected at or before next quarter-day.—

—The Paris Exposition was opened on the 4th instant, and comprises 4,500 exhibitors. The building is 800 feet long and 350 feet wide, containing three courts, one of which is filled with metal work, chiefly cast-iron and zinc. The erection of the building alone is said to have cost £36,000, but this seems scarcely credible.—An exceedingly interesting collection of sketches and studies from nature by English painters, 239 in number, is now being exhibited by Mr. Hogarth, at his gallery in the Haymarket.—We have to report the recent death at Rome of Mr. Henry Timbrell, the sculptor. Mr. Timbrell was a pupil of Mr. Baily, the Academician,—and in 1837 obtained the gold medal of the Royal Academy, for his group of "Mezentius tying the living to the dead." In 1843 he was elected travelling student,—the election being gained by his "Hercules throwing Lychas into the Sea." The *Art Journal* reports that at the time of his death Mr. Timbrell was engaged on two figures for the new Houses of Parliament, to be cast in bronze.

To Correspondents, &c.

W. S. S.—*You can obtain this work of any bookseller in your neighbourhood. They will communicate with their London agents.*

E. B.—*Send the ground plan.*

J. S. N.—*You will find it in the Fourth Volume All are in print.*

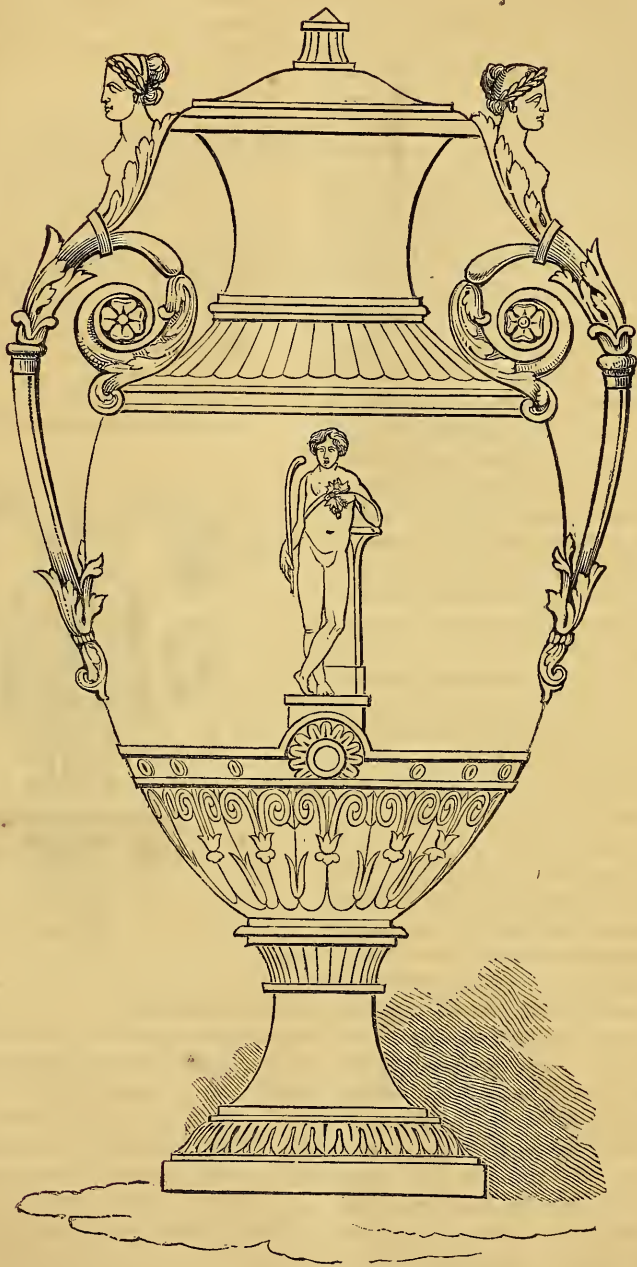
F. B. T.—*Try a strong solution of yellow soap*

W. W.—*We do not think it procurable.*

* * *Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.

Part 26 is now ready, price 10d.

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. the *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 5, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.



A DESIGN FOR A VASE. (GRECIAN.)

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABE.

(Continued from Page 46.)



AKE but a common serrated leaf and see with what mathematical precision it radiates from one centre, and how perfectly each point is shaped. The elegant, but casual disposition of the acanthus over a basket originated the Corinthian capital. The beautiful ornaments of foliage in Gothic architecture may be directly traced to nature; they are faithful copies, gracefully and skilfully arranged. Examples from various styles might be usefully adduced, and each would be found to contain some peculiarity and marked principle, deserving the designer's careful attention. The most celebrated and successful artists in the highest walks of Art have recommended the study of nature, as originating their chief beauties. To the manufacturing designer, who has less opportunity for deep study, a contemplation of the beautiful productions of the

meadow and woodland will at once afford elegant recreation and valuable improvement.

I know not a word so completely misappropriated and misunderstood in England as *design*; it being generally used to express drawing, or a pattern, which is not its signification in Art. The linen-draper aims to catch a stray buyer of a *mousseline de laine* by pinning to it "new design;" various trades are bitten by the same mania, and we may anticipate the butcher frizzing a sheep's head and ticketing it "*new design*." It is of the utmost consequence that design should be popularly known as an important art *including much beyond mere drawing*. Design cannot receive its true appreciation until this takes place; therefore every opportunity should be taken to remove an error by no means confined to the lower classes. It is a word of but recent use, forced into notice by our continental neighbours' successful application of educated art to their manufactures;—occasioning a world of grumbling among our old fashioned tradesmen, who were well disposed to adhere to their fathers' notion of all foreigners being *humbugs*, and as a consequence, stuck to the perfection of their own taste; but some younger men, adopting those foreign notions, sadly confused their trade. The ladies naturally possess a more lively perception of the beautiful than man, and will always be found the first to appreciate the elegancies of refinement. It was thus that, guided by their natural taste, they chose dresses whose improved colouring had come from France, bought French ribbons for similar reasons, and eagerly sought the nicely-fitting French slipper and French glove; all this was declared prejudice, protective duties were tried without success, for he will be a clever tradesman to defeat a woman when dress is concerned. Customers of a quarter of a century's standing looked at their neighbours, admired the taste or novelty, and bought elsewhere; it became high time for both tradesmen and manufacturer to accommodate themselves to the growing change; deficiency of intelligence upon the origin of true taste prevented enquiry into the causes which produced the improved articles in France, and they sought, *and still seek*, to meet the difficulty by importing and *copying patterns*. Then came a parliamentary enquiry, and a great mass of evidence was collected; among many others I contributed to state our defi-

ciencies. Subsequently a School of Design was instituted, which has continued putting forward excellent theories, but unsuited for practical purposes, and a continued series of failures has resulted from an unbusiness-like management.

There are very many persons, who, without much thought, and with a deficient capability of comprehension, consider the art of *Devising* or *Design* to be nothing more than mere drawing, and as easily learned as any mechanical craft. By taking this deteriorating view of the Art, it immediately ceases to be held in the estimation to which, from the importance of its varied and extensive application, it is justly entitled.

A creditable designer requires to have naturally a fine perception of the beautiful, a feeling for the charming versatility of form and colouring, a lively imagination, facility in associating ideas and applying the materials collected by study to produce invention, and an extensive acquaintance with the sources of ornament and principles in which the Arts of Design originated among the nations of antiquity, and ultimately arrived at very great perfection. A peculiar knowledge separate from artistic skill, is also requisite for the application of design to manufactures. Judicious culture, aided by experience, will produce a purity of taste, a power of adjusting and adapting the separate principles with sound judgment, so as to create the highest excellencies.

A man thus endowed claims respect and attention; and we find in all countries, and in all times where the elegant arts have been appreciated, the artist, in his several gradations, placed in a conspicuous position, and supported in honour and opulence. The nation that would live in after ages, by acquiring distinction in the refinements of Art, must elevate the artist, and however indisposed we may be to admit the fact, it is unquestionable that in England this has not been done. A want of appreciation of the artist's labours for the application of Fine Art, has caused secondary design to be neglected, and the inordinate desire to accumulate wealth has caused the softening, elegant refinements of universal Art, to be subverted by the British standard of man's worth—*money*.

But brighter prospects are dawning; the successful cultivation of Design by our conti-

mental neighbours will tend to place us in our proper position. The most powerful and wealthy kingdom must not continue to do less for the encouragement of Art than such a state as Bavaria. Although a nation of shopkeepers, we may hope to see a taste spring up among our merchant princes that shall demand a revival of the sumptuous decorations of the old Italian trader. What a cheering hope to think of our City companies and corporate bodies all over the country, sparing a little wealth from gross feasting, to decorate their halls, encourage Art and do honour to themselves! The *Egyptian Hall* may yet present other than its newly poverty-stricken attempt at decoration: some Medici in embryo may spread one dinner less, and cover its naked surface with decorations suitable for the chief apartment of the first (i.e. *the richest*) of corporations.

Once enable the public mind to understand the real beneficial purposes of Art, and it would be fostered: fewer discreditable public edifices erected, and a desire for the universal embellishment of interiors arise, with the capability of appreciating the ennobling and humanizing qualities associated with a love of the fine arts. Architecture, Painting, and Sculpture are all equally incomplete without each other; and design for the manufacturer is indispensable. It is in the power of each one of us to contribute towards the better understanding and consequent appreciation of these social benefits, which are obtained by cultivating the refinements of understanding; and it will be found a means of accelerating the advancement to superior feeling for both Art and artist, especially for its appreciation when applied to manufactures.

It is necessary we should constantly keep before us the fact, that our own more humble branches of art *are inseparably associated with the success of the higher branches*. They cannot be cultivated apart, and when speaking of one I include both. A noble architectural mansion requires the rich embellishments of historic painting, decoration and gilding, sculpture in its halls, elegant furniture and costly plate, more or less in good taste, as the owner is influenced by liberality and fine feeling toward art. Dress and ornaments partake of the splendour, and thus we have a universal benefit, creating and extending itself to a variety of minor employments.

Royal Academy.

PROFESSOR LESLIE'S LECTURES
ON PAINTING.

(Continued from page 77.)

LECTURE III.

THE Cartoons make me present at the scenes they represent more than the works of any other painter who has treated such subjects; and it is only in the recollection of them that I can fancy I have seen the Apostles. It may be unfair to judge entirely of Leonardo's "Last Supper" from our copy, fine as it is, or I should say that, with the exception of that of the Saviour, all the heads there, are less satisfactory than those of the same personages in the Cartoons.

In their representations of humanity, the earlier Italian painters, as far as I can judge, seem to have given portraits of persons about them, with little attention to propriety of character; in this respect resembling the *naturalisti* of the latter part of the sixteenth century. They were ideal only in their impersonations of the divine. Where, however, their subjects were dramatic, their inventions are often very fine, and the engravings from the Campo Santo at Pisa will show you from whence many of the materials of Raphael and Michael Angelo were derived. But whatever Raphael adopted, either from this great treasure-house of mediæval art or from other sources, he adopted to improve, which cannot perhaps be so strictly said of Michael Angelo, whose "Last Judgment" might probably have been better planned, as unquestionably the principal figure might have been more finely conceived, had he never seen the "Last Judgment" of Orcagno.

The great work of that early painter, "The Triumph of Death," has, however, not been imitated, to my knowledge, in its principal feature; indeed, the conception is so fine as to preclude amendment. Nothing could be added, nothing taken from it without injury. Our associations of the skeleton form with Death have, it is true, to be got rid of at the first sight of the beldame of Orcagno, an Atropos armed with a scythe, with streaming hair, and the wings and talons of a harpy. She disregards the solicitations of a group of beggars, and hastens towards a party of fair dames and gallant cavaliers who are seated under the shade of orange trees listening to minstrelsy, while Cupids are fluttering above them. This group is separated from the beggars by a heap of the dead and the dying, kings,

queens, churchmen, warriors, lords, and ladies, many of them still grasping in their hands the things of the world. No finer sermon was ever painted; and it has a passage which I cannot but notice, because it does the highest honour to the painter's feelings, when we consider the spirit of the age in which he lived. Among the poor and the miserable who are calling on Death for relief, a wretched man extends towards the phantom his arms, from which both hands have been lopped by the barbarity of the law, which is evident from the mutilation also of his features. Now, though the obtusion of objects of horror is, in most cases, unjustifiable, yet here the humanity of the motive, undoubtedly that of interesting the better feelings of the rulers of his time, and opening their eyes to the cruelty of their laws, places the painter among the benefactors of his species.

Thus it is that intentions and circumstances was to entirely change the character of the imagery of painting as to render it impossible to lay down any mere rule to which an exception may not prove an excellence of the highest order.

Hogarth, in his "Gin Lane," has accumulated objects of horror far beyond this. An admirable critic, speaking of the coarse etching of this subject, which was published by Hogarth at the lowest possible price, that it might be accessible to the poor classes for whose instruction it was intended, says, "Everything in the print, to use a vulgar expression, tells. Every part is full of 'strange images of death.' It is perfectly amazing and astounding to look at. Not only the two prominent figures—the woman and the half-dead man, which are as terrible as anything which Michael Angelo ever drew,—but everything else in the print continues to bewilder and stupify; the very houses, as I heard a friend of mine express it, tumbling about in various directions, seem drunk—seem absolutely reeling from the effect of that diabolical spirit of frenzy which goes forth over the whole composition. To show the poetical and almost prophetic conception of the artist one little circumstance may serve. Not content with the dead and dying figures which he has strewed in profusion over the proper scene of the action, he shows you what (of a kindred nature) is passing beyond it. Close by the shell, in which, by the direction of the parish beadle, a man is depositing his wife, is an old wall, [which, partaking of the general decay around it, is tumbling to pieces. Through a gap in this wall are seen three figures, which appear to make a part in some funeral procession which is passing by on the other side of the wall out of the sphere of the composition.



DESIGNS FOR TESSELLATED PAVEMENTS.



TWO DESIGNS FOR BRACKET LUSTRES. (GOTHIC.)

The Wooden Roofs of Old England.

At a recent meeting of the Hereford Archaeological Society, after other communications (reported at length in the local papers), Mr. Beloe read some remarks on wooden roofs.

Mr. Beloe observed that the timber roofs of the ancient regal and baronial halls merited in an eminent degree the attention of all to whom the science of construction is an object of interest, although he was unable to enter into it, then, at the length which its importance demanded. He could then only furnish a few observations, which might prove not uninteresting. He remarked that the artificers of the early Saxons appeared to have been, for the most part, either monks or slaves. They were, in fact, nothing more than mere necessity made them; and they lived and died poor, unhonoured, and unimproved. Mr. Sharon Turner, the historian, had remarked that "the habits of life were too uniform, its luxuries too few, its property too small, its wants too numerous, and the spirit of the great mass too servile and dull, to have that collection of ingenious, respected, and inventive men, who make and circulate our internal and external commerce, with eager but not illiberal competition, or to have those accomplished artificers and manufacturers, whose taste in execution equals the most elegant fancy of its invention." Mr. Beloe went on to remark that the Anglo-Saxon carpenter was considered as part of what we are accustomed to call the *plant* of an estate, transferable with the land. He was called the *Treow-wyrta* (tree or wood workman), and the Anglo-Saxon verb used in speaking of building is *getymbrian* (to make of wood). It was well known that churches were at times constructed of wood, one of them—Greensted, Essex—still remaining.

The Norman period was touched upon by the lecturer, who observed that it was marked by the introduction of more durable materials, which were used for several centuries before the construction of any wooden roof. This art the Norman architects practised with such admirable skill and effect, that their works have not unfrequently been considered beyond the pale of *modern* imitation. After alluding to various instances of this style, the lecturer passed to the Semi-Norman (1154 to 1189), which, he remarked, possessed all the characteristics of the Norman, combined with the pointed arch. Castle Acre Priory was selected as an example. The Early English or Lancet (1189

to 1272) was next explained, the illustration being a doorway at Paul's Cray, Kent, and the lecturer referred to the beautiful windows of this style in our cathedral, as well as at York, Salisbury, &c.

The lecturer then proceeded to explain the form and idea of the open-timbered roof, remarking that the upright strut or queen-post, which rises from the extremity of the hammer-beam, in most of these roofs, suggested the idea of a pillar being cut away at that point. The whole roof, therefore, reminded one of two rows of pillars, dividing the area into three aisles. He observed that the palace of the Bishop of Hereford, and Westminster Hall, as originally built by William Rufus, were built on this plan, which indeed seemed to be the usual mode of constructing halls of large dimensions previous to the fourteenth century, when an improved manner of constructing arched roofs of timber superseded the necessity of columns.

The Decorated period, including the greater part of the fourteenth century, was next referred to. After explaining the architectural characteristics of the style, the lecturer remarked at length upon the timber roofs of Nursted Court, Kent; Balsall Temple, Worcestershire; Coventry School; Croydon Palace, &c. The roof of Crosby Hall, and other buildings, though erected in that period, was perfectly distinct in principle from those yet considered, being based on the property of the triangle to resist racking or change of form.

He then passed on to consider the Perpendicular style (1377 to 1485), illustrating the architecture from a sketch of a doorway in St. Mary's, Beverley, and explaining its characteristics. In considering the timber roofs of the period, he gave a detailed description of that of Westminster Hall. That edifice was rebuilt by Richard II., almost from the foundation; he said *almost*, because Mr. Pugin says that some of the lower portions of the side walls are the original works of the time of William Rufus. As it now stands, the span of the roof is nearly double the ordinary width of Gothic groined roofs, which seldom exceeded 35 feet. Numerous obstacles to the erection of a stone roof in that case must have presented themselves, and the builder was thrown upon the resources of his art. The result was a novel as well as elegant application of that great element of lightness and beauty in the arch. The former ponderous and friable material was exchanged for one equally susceptible, and greatly superior in both tenacity and tractability. The lecturer went on to refer to the roof of Romsey Abbey Church, and that of Eltham Palace. The nearest example to the latter in this locality was the roof of St. Martin's Church, in this city; but the idea was not carried out to its

fullest extent of beauty, some parts being plastered over. The lecturer then referred to the Guard-room, Lambeth Palace.

At that period, he remarked, ceilings were valued ornaments of palaces. They usually contained representations of memorable actions; but our azure church ceiling with stars occurs in ancient crypts; in other cases the ceiling is in black, with painted and gilt lattice-work, and grotesque heads, &c.; and others were of wood, painted or plastered in panels. After explaining the construction of the roof of King's College Chapel, Cambridge, the lecturer went on to allude to the interesting specimen of the roof of the cloisters of Hereford Cathedral, at the same time expressing his acknowledgments to the Very Rev. the Dean, for having drawn his attention to that roof, and to the President, for a specimen of carving.

In speaking of the Tudor period, the lecturer referred at some length to Wolsey's Hall, Hampton Court, perhaps the most elaborate specimen extant of the style. As a scientific construction, it was much inferior to the roof of Westminster Hall, although it displayed much ingenuity. Reference was then made to Westminster School, the Middle Temple Hall, and other excellent specimens of the period.

The lecturer proceeded to glance briefly at the general heaviness and inelegance of the Debased style (1547 to 1640). The illustration was from St. Peter's-in-the-East Church, Oxford. An interesting roof of this period exists in the chapel on the estate of Mr. C. T. Bodenham, of Rotherwas.

He concluded by dividing Gothic roofs into four classes:—first, those of simple arched ribs; second, those which have a grand arch spanning the entire width; third, those that have the arch supported on brackets; fourth, such as are formed of two intersecting triangular frames, in which the lateral pressure is counteracted by the longitudinal stress upon the connecting beams. After that period it became very difficult to trace the principle of the style at all.

British Museum.—The total amount expended on the new buildings and fittings of the British Museum, and for ornamental sculpture, from the commencement of the rebuilding in 1823, up to the 31st March, 1849, amounts, as shown by a Parliamentary return, to £696,995. The total amount of expenditure that will be required for new buildings and fittings is estimated at £56,500.

The sale of Mr. Hope's collection of bronzes, &c. took place last week at Messrs. Christie and Manson's, King-street, St. James's, and it consisted of a very fine collection of Etruscan vases, bronzes, enamels, &c. Some of the specimens were very rare, and they all fetched good prices, as may be seen by the following:—Lot 50, an amphora, of elegant form, of fine Nolan ware, 50 guineas. Lot 62, an amphora, with the death of Achilles, 75 guineas. Lot 69, a rare two-handed cylix, 70 guineas. Lot 81, an amphora of Nolan ware, 88 guineas. Lot 82, a pelice and cover, 93 guineas. Lot 85, a pelice, 55 guineas. Lot 97, a tall circular Etruscan vessel and cover of bronze, 105 guineas. Lot 98, an Apollo of Greek work, of bronze, 400 guineas. The sale excited considerable interest.

In a collection of drawings and sketches now on view at the house of Mr. Hogarth, the printseller, in the Haymarket, much valuable information may be obtained on the nature and progress of a branch of Fine Art in which the school of England may be said to have taken the lead:—we allude to painting in water-colours. In this exhibition are some of the earliest specimens of the art, when it consisted rather in *tintings* of Indian ink or of bistre than of *painting*; and the development of its powers may be traced onwards until the examples of the present time, when the full force of the palette is employed with a power and brilliancy in no degree inferior to those of the oil material. Several of the chalk studies of the nude by Mulready are fine; but there is a late drawing in pen and ink, *An Academical Study*, 141, by him, that is quite a marvel of intelligence. In the back view of the form presented there is all to satisfy the requirements of the physiologist; for Mr. Mulready has expressed in it his acquaintance with the structure of muscular development, and his observation of the most subtle of its movements in complicated action. The studies for the figures in the *Game at Whist*, by Mr. Webster, Nos. 142-3-9 and 150, are evidences of this painter's careful preparations. There is an admirable study of *A Lioness* by the veteran academician Ward, 145; and there is an early study of a *Dog's Head*, 165, by Mr. Edwin Landseer. A portrait of the last-named artist at the age of thirteen is 175, drawn by Mr. John Hayter. There are some capital studies about Hampstead Heath, by Mr. Stanfield; views about Seville, Granada, and the Alhambra, by Mr. Roberts; excellent little studies for oil pictures, by Mr. Frost; and scenes in the East from the pencil of Mr. Dadd. There are also studies by other artists too numerous for us to particularise.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

PALE. A pointed stake, and piece of board, used in making enclosures.

PALISADES. Pales or stakes set up for an enclosure. Or strong sharp pointed wooden stakes, sometimes armed with iron spikes, fixed in the ground, are used in fortification.

PALING FOR TREES. A sort of fencing for separate trees, formed by three small posts, connected with cross bars.

PALLIER. A French term, which signifies a landing place in a staircase, which is broader than the rest of the stairs, and serves as a resting place.

PALLIFICATION OR PILING. The act of piling ground-work, or strengthening it with piles.

PAMPRE. An ornament composed of vine leaves and bunches of grapes, with which the hollow of the circumvolutions of twisted columns are sometimes decorated.

PANCARPEI. Garlands and festoons of fruit, flowers, and leaves, adorning altars, doors, vestibules, &c.

PAVEMENT (TESSELLATED). A pavement of mosaic work used by the ancients, made of square pieces of stone, &c. called *tesserae*. The Romans greatly delighted in this kind of ornamental floor, which succeeded, Pliny tells us to the old painted



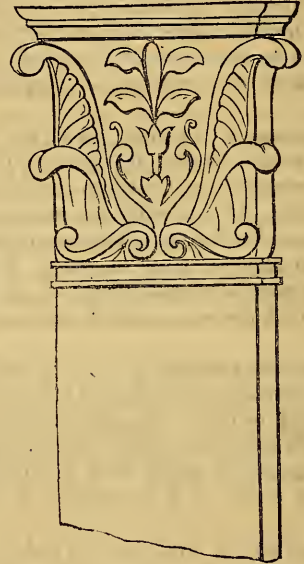
pavements which originated in Greece. Many specimens have been found in various parts of England, as well as in every part of the continent which was under the Roman dominion,

PARTY WALLS. Partitions of brick between buildings, in several occupations.

PATE. In fortification, a kind of platform in shape of an horse-shoe, encompassed only with a parapet, and, having nothing to plank it, usually erected in marshy grounds to cover a gate of a town.

PATERNOSTERS. Rows of beads carved on mouldings.

PILASTER. A kind of square column, which has its proportions and ornaments, such as flutings, &c. like those of the columns of the order



from which it is named. It is generally engaged in the wall, having a projection of the third, fourth, fifth, or even only the sixth of its breadth.

PANEL. A thin board having all its edges inserted in the groove of a surrounding frame. A *panel*, in masonry, is one of the faces of a hewn stone.

PARGET. A name applied in a general sense to the several kinds of gypsum, which, when slightly calcined, forms plaster of Paris, but more particularly applied to the gypsums brought from Derbyshire and Montmar tre.

PATERA. A vessel used in the Roman sacrifices, in shape of a dish, sometimes introduced as an ornament in friezes, &c.

PARVIS, Formerly a room over the church porch, where schools used to be held.

Useful Receipts.

Cleaning of Engravings.—Put the engraving on a smooth board, cover it thinly with common salt finely powdered; then squeeze some lemon juice upon the salt so as to dissolve a considerable portion of it; elevate one end of the board, so that it may form an angle of about 45 or 50 degrees with the horizon. Pour on the engraving boiling water from a tea-kettle until the salt and lemon juice be all washed off; the engraving will then be perfectly clean and free from stains. It must be dried on a board, or some smooth surface, gradually. If dried by the fire or the sun, it will be tinged with a yellow colour. Any one may satisfy himself of the perfect efficacy of this method, by trying it on an engraving of small value.—J. F.

To Dissolve Copal in Spirit of Turpentine without the use of Camphor.—Reduce two ounces of copal to small pieces, and put them into a glass vessel capable of containing four times as much, with height in proportion to its breadth; then mix a pint of spirit of turpentine with one-eighth of spirit of sal-ammoniac; shake them well together, and put them to the copal; cork the glass, and tie it over with string or wire, and make a small hole through the cork. Set the glass in a sand heat, so regulated as to make the contents boil as quickly as possible, but so gently that you may count the bubbles as they rise from the bottom. The same heat must be kept till the solution is complete. It requires the most accurate attention to succeed in this operation. After the spirits are mixed, they should be put to the copal, and the necessary degree of heat be given as soon as possible; it should likewise be kept up with the utmost regularity. If the heat abates, or if the spirits boil too quick, the solution will immediately stop, and it will be in vain to proceed with the same materials; but if properly managed, the spirit of sal-ammoniac will be seen gradually to descend, and attack the copal, which swells and dissolves. It is of great consequence that the vessel should not be opened till some time after it is perfectly cold, for if uncorked, even when not warm enough to affect the hand, the contents will most probably blow out with considerable violence.

To Dissolve Copal in Alcohol.—Dissolve half an ounce of camphor in a pint of alcohol, put it in a glass vessel, and add four ounces of copal in small pieces; set it in a sand heat, so regulated that the bubbles may be counted as they rise from the bot-

tom, and continue the same heat till the solution is completed. Copal will dissolve in spirit of turpentine, by the addition of camphor, with the same facility, but not in the same quantity, as in alcohol.

On Water-colours for Illuminating Prints, &c..

(Continued from page 77.)

OF BLUE.

If your colour seems to be clammy or nasty, you may correct it thus: add thereto tartar, dissolved in water, as much as will drown it, and let it rest for one day at least; then wash it in warm water, and you will by this means have it correct and well purified. Ultramarine must be chosen of a high colour and well ground, which may be known by putting it between the teeth; for if it feels gritty, it is a sign that it has not been well ground.

To know whether it be pure and unmixed, put a little of it into a crucible, and heating it red-hot, if the powder does not change its colour after trial, it is certainly pure; but, on the contrary, if there be any change or black specks in it, then it has been adulterated.

The Prussian blue is next to ultramarine in beauty, if it be used in oil, though it is not agreed on whether it will hold so well as the other, particularly as not having the body of the ultramarine. The Prussian blue does not grind well in water, because there is such an oily quality in it, that it does not mix kindly with water, and at the best will change, as it is now prepared in the common way. Attempts have been made to make it a blue ink, which indeed has held the colour for a month or two, but then turned to a muddy yellow. And when you put your pencil with gum-water into a shell of this blue, you will find that where the water spreads, the blue will turn yellowish, till the body of the colour is well stirred up; and after all that can be done with this colour in water, it will only serve to shade ultramarine with: but in oil it may serve very well, for the present, to supply the place of ultramarine.

Blue bice is a colour of good brightness, and the next to the Prussian blue. It is also a colour of a good body, and will flow pretty well in the pencil, especially if it be well washed, as is directed to be done of the whites and minium.

The Chronotypist.

MR. JOHN CROALL, the coachmaker of Edinburgh, is now manufacturing an extensive series of mail coaches for the Emperor of Russia.—The President of the Royal Society, the Earl of Rosse, held his last *soirée* for the season at Somerset House on the 16th. Some interesting models of recent invention and several scientific objects were exhibited in the saloons. Amongst them were Alman's patent Electric light, and a model of a new description of a Harbour of Refuge, after a design of Mr. W. H. Smith, and several specimens of home grown flax, which attracted great attention.—The sale of Mr. W. W. Hope's valuable collection of pictures, concluded on the 16th, at the rooms of Messrs. Christie and Mason, King Street, St. James's, and the lots, fifty-nine in number, fetched good sums.—A return obtained by Mr. Ewart, M.P., shews that in the new House of Commons there will be seats 20 inches wide, for 462 members. There will not be any partitions or elbows between the seats. There will not be any shelves below the seats, as they would interfere with the ventilation; but presses, affording a closet under lock and key, for each member, are proposed to be made in the private gallery between the refreshment room and the library. Each lobby will afford accommodation, on divisions, for from 450 to 500 members. There will be seats for the public in the "Strangers' Gallery," 18 inches wide, for 96 persons, besides other accommodation for 54 persons, either standing or seated, as may be determined. There will be seats 20 inches wide, in the Speaker's and Peers' Gallery for 52 persons, and seats for 28 official persons attending the House, under the gallery, 18 inches wide. Lastly, there will be seats for 32 newspaper reporters in a gallery at the back of the Speaker's chair.—The Society of Arts has opened an exhibition of the works of William Etty, R.A., at their rooms in John Street, Adelphi. Amongst the collection, which is very large, will be found some of the best paintings of this popular artist.—The northern portion of the main line of the North Staffordshire Railway is now completed, that is to say, the part between Congleton and the junction with the London and North-Western at Macclesfield. The directors opened it for passenger traffic on the 18th. The viaduct over the Dane Valley is a great work, and on the opening of the line the Potteries will be permanently placed on the shortest route between Manchester and Birmingham, and both places and London.

The Britannia Bridge.—The tubes forming this bridge are eight in number, four of which, smaller than the rest, are to be seen in the course of construction, on scaffolding of great strength, occupying the spaces between the land towers and the inland abutments, which are 230 feet apart, at either extremity of the bridge, two tubes being placed parallel to each other, forming the roadway to and fro. The four larger ones are placed together on stages reaching into the river, and covering a long distance along the Carnarvonshire shore, each measuring 472 feet in length, and weighing 1,800 tons. Three piers, of masonry of stupendous dimensions, the highest of which rises on the Britannia Rock in the middle of the straits some 230 feet, being about 70 feet higher than the arch hollowed out for the reception of the tubes, stand towering over the foaming waters. The traveller is also attracted by the colossal sculpture of four monster lions, which distinguish the entrance to the tubes, two at each end, crouched on the summit of lofty pedestals. They contain about 8,000 cubic feet of limestone. Near to the stage on which the tubes are erected are eight pontoons, two of iron, and the others of wood, ready for floating the first tube to its resting-place between the pillars. This has just been completed. The piles on which it was built have just been removed, and it now rests on two walls of masonry, erected at either end, affording sufficient room for placing the immense pontoons beneath. Its strength has been tested with satisfactory results.

To Correspondents, &c.

G. Jones.—*The First Steps to Geometry, will be found in Volume I. of this work.*

J. F.—*You will find your article inserted in the present number.*

W. G.—*Many thanks for your suggestions, we will avail ourselves of them, and that, perhaps, very shortly.*

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. the *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 5, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.

Part 26 is now ready, price 10d.



BLUE-BELL.

From the Basso-relievo by R. Westmacott, A.R.A., in the Collection of the Right Hon. the Earl of Ellesmere.



GOTHIC TERMINALS.

Portraiture.



ORTRAITURE in its true and complete intent and meaning, we take to be that Art-presentment in which we read the history of the original as much almost as his immediate individuality. Not merely should we have the forms and the distinct and peculiar action characteristic of the individual as distinguished from all others, but the moral impress—the result, as it were, of the habitual thought—that stamps the idiosyncrasy of the subject. In this way it is that a portrait gallery would be an informer of the highest interest, handing down to us the very presence, as it were, of the men who are yet morally with us by their influence on the condition of things amid which we live. The history of Art accordingly shows us Portraiture early associated with the highest names, and with the loftiest aim. In its first form this branch is not seen narrowed to the exclusive practice of a professor—but mingled with the general practice of the highest painters of imagination. We need only recall the attention of our readers to the fact that from the hands of Giotto, in his portrait of Dante, we obtain our most authentic knowledge of the personality of the

Tuscan bard. By means of the art of Simone Memmi we are made acquainted with Petrarch and the host of his contemporaries—literary, artistic, and political—in the adornments of the far-famed chapel of the Spaniards. Both these aim at individuality—have that intense rendering of the intellectual speciality to which we have alluded, with a beautiful simplicity of the means employed in their artistic revelation. Proceeding onwards, the evidences are continued of adherence to the same integrity of views, with an improvement in the Art-language of the record,—in the Medicean family and other distinguished characters in the Pisan Campo Santo by Gossoli: and yet higher forms of portrait expression meet us at a still more advanced period in the frescoes by Ghirlandajo, occupying the space behind the altar of Sta. Maria Novella, or in the chapel of the Trinita. Here the more enlarged Art-intention never induces the painter to lose sight of the individual look and bearing. We may refer also to the constant occurrence of the head or figure of the donatore in votive pictures. The same spirit which Raffaelle, inheriting this practice, infused into many of these votive pictures—as in the heads of the donatori of the Madonnas del Foligno and St. Sisto—he carried into these minor performances in which the objective truth was unassociated with religious influences.

We are thus brought down to a period when the art of portraiture was in the hands of the “divine painter”—constituting quite a distinct branch. In the early portraits of Angelo Doni and of his wife,—in the “Leo between the Cardinals”—in the warlike Julius—in the Cardinal Bibbiena—are seen the same high sincerity of purpose arriving at the true perception of character; the powerful presentment of habitual expression being helped probably by the advantage which the painter enjoyed in constant personal intercourse with his originals. For it must be borne in mind that in those days—as will be seen also in the works of Holbein—it was not the habit of the artist to “chronicle small beer.” The time and talents of the portrait painter were not then dissipated in the record of insignificance or deformity—and the art had not degenerated to a trade. The sitters were a picked class, and the painters were impressed with the im-

pressed with the importance of rendering them to posterity. That Holbein, with whose works the English student may make such intimate acquaintance, wrought with such motive is proved by the fact that his portraits are corroborated by the estimate which must be formed from our knowledge derived from other sources of the lives and histories of his originals. It was with sounder feeling and improved art that the painter of "Cadore" so wrought in the treatment of the magnificos of Venice as to make a proverb of the "senatorial dignity" which he imparted to them: and Tintoretto, if he did not surpass his master, at least degraded not the model of his stern and simple grandeur. In Sebastian del Piombo the same dignity of native character was preserved; and of Leonardo da Vinci, whose portraits are not abundant, we may point as an example to the celebrated portrait, in Vienna, of Francis Sforza, Duke of Milan. All these artists followed Plutarch's maxim, laid down in his "Life of Alexander:"—"Therefore as painters in their portraits labour the likeness in the face, and particularly about the eyes, in which the peculiar turn of mind most appears, and run over the rest with a more careless hand; so we must be permitted to strike off the features of the soul, in order to give a real likeness of these great men, and leave to others the circumstantial detail of their labours and achievements." This remark is of importance at a time when we give up so much time and consideration to the elaboration of occasional particulars, and lose sight of the noble qualities of this department of Art. Of Titian it has been observed that the sacrifice which he made to the delineation of the human eye was great: yet though unequalled in its imitation, and with an execution that leaves us wondering as to the manner of manipulation employed, all things were with him subordinated to the more noble and elevated aim of conveying the habitual expression and dignified look of the class who sat to him. The attitudes are simple and unaffected in all his portraits; and no extrinsic or unnecessary details were ever permitted to interfere with the conception of character. Before his time, form more than colour was the element studied for such representations. Holbein aimed at the reproduction of the object before him by means of more force of mere

actual truth in form, and the result was more of formality and rigidity than the truth of light and shade and colour would have given him. This was probably the result of national character. The Venetian presented the more picturesque and luxurious senatorial dignity of his land; while the German brought with him into England the more ascetic Teutonic tastes. Titian gives more of the fluctuating emotion; Holbein more of the fixed and permanent aspect of the general character; Raffaello the most sublimated yet vital conception of the countenance, in which we read the workings of the inner soul developed in the absence of all Art pedantry and without any professional effort.

Our limits compel us to this mere sketch, and to pass on at once to later times, when the dignity of portraiture was differently expressed by Rembrandt. This great artist obtained his results, with a congenial absence of effort or affectation, by means of masses of light and shade and colours, producing the largest amount of general breadth and truth. The "Dutch Burgomaster" survives in equal force of individuality with the "Venetian Senator." The dashing and intrepid pencil of Velasquez puts the *hidalgo* on the canvas in all the vitality of his grave deportment and with the most consummate art; just insisting on the main features, and the main features only, of the character, in a language that fascinates as much from its wonderful truth as from its daring execution. In Rubens, the severity and integrity of this art are already on the wane. The principles of the Venetian School are in him seen diluted; and the artist himself and his palette divide the attention of the spectator. Richness of colouring, vigour of light and shade, and the commencement of a taste for accessorial introduction are seen gaining ground. His canvasses are given up to combinations that sacrifice to the desire of engrafting the resources of historic art the separate integrities of the abstract and the actual. The same influences are seen directing his scholar Vandyke; and in *his* hands have resulted in some of the most refined and varied specimens of painting (technically viewed) that are now extant.

(To be continued.)

Dulwich Gallery.

At this season of the year, we advise all our readers living in and near London, who can spare an afternoon from their employments, to visit the Dulwich Gallery of Paintings. It is a beautiful collection, and the public are admitted without having to pay anything either for admission, or to the attendants at the gallery. The paintings were bequeathed to Dulwich College by Sir Francis Bourgeois in 1811, on condition, we believe, that the public should be admitted to view them *gratuitously*; and the directions of the testator have been acted upon in a liberal spirit, which it would be well for the public if the trustees of other bequests for the benefit of the nation would imitate.

Dulwich Gallery is situated about five miles from London Bridge. From April to November, it is open from ten o'clock in the morning, till five in the evening. During the winter season, from November to April, it is open from eleven till three. It is closed on Fridays and Saturdays throughout the year. In order to be admitted it is requisite to procure a card, which must be presented to the keeper of the gallery. It may be obtained from any of the Printsellers in London, who, all give tickets of admission on being applied to for them; and it is requisite that those who wish to view the paintings should provide themselves with tickets before leaving town, as they will experience great difficulty in obtaining any at Dulwich. The door-keeper will not admit any visitors without presenting a ticket; but one is sufficient to introduce a party. On entering the visitors have to enter their name in a book kept for the purpose; and they are then at once allowed to enter the gallery. It consists of one long room, divided into compartments, and contains between three and four hundred paintings, which are nearly all in very good condition. Some few want cleaning; and some—one in particular—we think it would be advisable to remove altogether, although to the artist and connoisseur such paintings as that which we allude to, may not appear to overstep the modesty of nature, we are inclined to believe that the majority of the visitors of the gallery think otherwise. We are no advocates for the modesty that would clothe the Appollo Belvidere in breeches, but a painting that might not be improper in a private collection, is sometimes unfitted for a public exhibition, and we think this to be the case with the one alluded to. We suppose however that the trustees, or governors of Dulwich College, to which the gallery is attached, have good reasons for continuing the painting in the collection, and also for removing

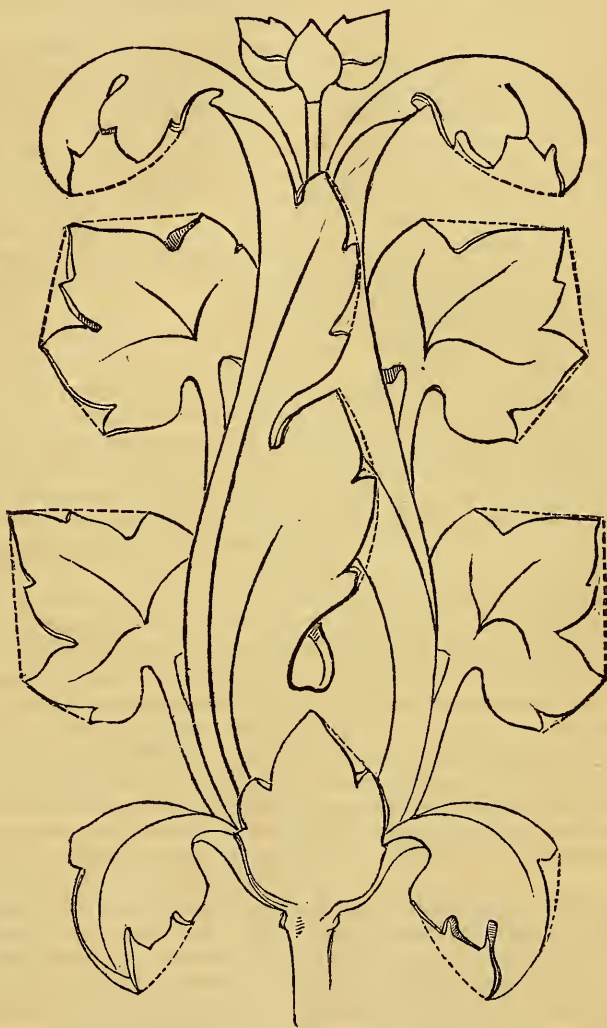
the veil, which we believe was once placed before it. Among the paintings the visitor will find the celebrated portrait of Mrs. Siddons as the Tragic Muse, by Sir Joshua Reynolds; the Descent from the Cross, by Vandyke; the Martyrdom of Saint Sebastian, by Guido; and the Group of Cupids, by Rubens. Besides these the gallery contains some very excellent specimens of the Italian and Flemish schools; and the works of our English masters will be found equally worthy of attention. Artists wishing to copy any of the paintings, can obtain permission to do so on making application by letter to the Master of Dulwich College, and forwarding their name and address,

The excellent state of preservation of the pictures, and the entire absence of any of those scratching and scrawlings by which many persons like to make it known that they have visited and disfigured any work of art, &c., affords, we think sufficient proof of the injustice of the charge that the exhibition of works cannot be thrown open to the public without leading to their mutilation and disfigurement. It is true that the public being admitted to this gallery by tickets, there is some slight check upon those who might otherwise be inclined to misconduct themselves; and the attendants also protect the paintings; but when it is borne in mind that many places to which admission can only be obtained either by a *douceur* to the attendants, or by paying a certain fee, have not escaped the "English propensity," we think there is very good reason to conclude, that where the visitors of an exhibition, being admitted free, feel that an injury to the works exhibited, is an injury to themselves, there is far less likelihood of their permitting it to be effected, than where they feel they are only viewing some person's property, about the preservation of which they may feel but little interest or concern.

Polishing Powder.—Certain of the French manufacturers of polishing powder use in their manufacture scraps of old iron, which they put in a tub and cause to rust quickly by sprinkling with water. When a sufficient quantity of rust has thus been formed, it is collected by washing, and after allowing it to settle, it is dried and calcined in a crucible. The longer the calcination is continued, the more the oxide approaches to a violet hue, and the harder its grain. At a very high temperature the oxide is partly reduced, its colour becomes more gray, and the grain is too hard for polishing. The red oxide serves for polishing gold or silver, the violet oxide is fit for polishing steel. When taken out of the crucible it is first triturated, and then levigated, in order to collect the finest parts.



CURVILINEAR FOLIAGE.—(ACANTHUS.)



ITALIAN ORNAMENT.

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

(Continued from page 83.)

LECTURE III.

THIS extending of the interest beyond the bounds of the subject could only have been conceived by a great genius. Shakespeare in his description of the painting of the Trojan War in his 'Tarquin and Lucrece,' has introduced a similar device where the painter made a part stand for the whole :—

“For much imaginary work was there,
Conceit deceitful, so compact, so kind,
That for Achilles' image stood his spear,
Griped in an armed hand; himself behind
Was left unseen, save to the eye of mind
A hand, a foot, a face, a leg, a head,
Stood for the whole to be imagined.”

This he well calls imaginary work, where the spectator must meet the artist half way; and it is peculiar to the confidence of high genius alone to trust so much to spectators or readers. Lesser artists show every thing distinct and full, as they require an object to be made out to themselves before they can comprehend it.”

I was unwilling to abridge this eulogium on Hogarth, which is as just as it is eloquent and instructive. It is from the pen of one of the most refined, one of the purest-minded and warmest-hearted of men—Charles Lamb; and it is only to be regretted that in his Essay on the great moral painter—the best ever written—he has introduced a comparison between him and Reynolds, disparaging to the latter. Hogarth neither needs nor can gain any elevation in this way. Sir Joshua and he are as two great luminaries in the Art of their country, neither of which is in the slightest degree dimmed by the other.

Christian Art was checked in its earlier stages by the dread of Idolatry; and it seems from this fear that the first Christian Artists refrained, or were prohibited from any attempt to introduce representations of the real person of our Saviour into their works. Another reason for this is supposed to have resulted from a literal construction of the passage in Isaiah in which it is said, “He hath no form or comeliness; and when we shall see Him, there is no beauty that we should desire Him.” The figurative image of the Good Shepherd was, therefore, adopted; at other times a lamb or a vine where the types resorted to, and even Orpheus alluding the beasts of the forests by the sound of his

lyre became, though less frequently, a type of Christ teaching. This system of typical representation accounts for the frequent preference of subject from the old Testament. Abraham in the act of sacrificing Isaac, alluded to the one great sacrifice, —the rock struck by Moses “was the spiritual Rock, the stream, the Well of salvation,” and the ascension of Elijah to Heaven the ascension of our Lord.

This system was adopted also by Michael Angelo in the Sistine Chapel,—where Christ appears only as the Judge of the World; and Raphael, in the frescoes of the Vatican, complimented the Popes Julius the Second and Leo the Tenth by typical allusions to passages in their lives. The subjects in which he has done this were no doubt suggested to him, and not perhaps such as he would have chosen; but the skill with which he has managed the unavoidable anachronisms cannot be too highly praised.

When, however, near the close of his life, Raphael was employed by Leo to furnish a series of designs for tapestry, from the New Testament, to adorn the Sistine Chapel, he was no longer fettered by any other than the direct meaning of the story,—and he produced the Cartoons, of which the seven that (so fortunately for this country) belong to the Royal collection, and which are the only ones that exist, would alone have given him his transcendent reputation, were they the only series of his works known to us, containing, as they do, the highest soarings of his genius.

In ‘The Miraculous Draught of Fishes,’ we see the Redeemer selecting his friends and ministers from the humblest class of men. In ‘The Charge to Peter’ the choice is ratified in a still more solemn manner. In ‘The Death of Ananias’ and ‘The Punishment of Elymas’ the gospel purity is vindicated,—at Lystra, and at the Beautiful Gate, its beneficence is manifested,—while at Athens it opposes the pride of philosophy, and demands of the sophists that they should become as little children. It is true these subjects might have been selected, as some of them have been, by other painters, but, the peculiar feeling with which Raphael has treated them belonged to himself alone,—and there is not an instance in which any story of the series has been repeated by another hand, however great which is not comparatively a failure.

In ‘The Sacrifice at Lystra’ the centre group, consisting of the kneeling priests and the man who is about to strike the victim is taken from an antique bas-relief. But this group, though occupying the larger portion of the picture, is but accessory to the story of the miracle.—have before noticed the introduction of the two sweet children at the

altar—an exquisite emanation of Raphael's own gentle mind. The charm is not in their being there, but in their inattention to what is going on about them;—so natural and so unlike the mode in which children are represented by inferior painters with expressions beyond their years;—and I would here remark, in passing that Raphael as well as Michael Angelo, in their 'Holy Families,' suffered themselves (and very lightly) to be guided by nature rather than by prescription. This, I think, will generally be found in comparing such subjects by them, with the treatment usual among Mediæval painters. In the beautiful unfinished marble by Michael Angelo in our Library, you would particularly observe the preference of a natural to a mystical treatment.

The happy invention by which the story of the miracle at Lystra is told by Raphael has been so often the theme of praise, that I need not dwell on it. But if on this most admirable work, so filled with the very highest quality of Art, I might venture any remark in the way of objection, it would be on the action and expression of St. Paul. Nothing can be more elegant than the lines of the figure; but (and this is rare indeed with Raphael) the meaning is not clearly expressed. The left hand does not hold the drapery so that it could be torn, and the attitude altogether seems to me wanting in that energy that so peculiarly characterised St. Paul.

How different is he from the earnest man, who on the steps of the Areopagus, directs the group of philosophers before him to the true God, you cannot fail to perceive. We here see St. Paul himself,—the Paul whose fervid eloquence made Felix tremble and almost persuaded Agrippa to become a Christian as he stood in chains before them. In the whole wide range of Raphael's compositions I know not one, indeed, in which truth of expression and discrimination of character are carried farther than in this cartoon. The Stoic whose principles of self-denial and endurance may in some degree have prepared him for the reception of the new doctrine, or at any rate do not demand its rejection, stands with his head declined on his breast, his eyes closed, and his mantle closely wrapped about him, "thinking from head to foot," as it has been happily observed. Next to him a Cynic, with a mind as hard as the crutch on which he leans, listens not without some interest to a doctrine so little palatable to the rich man, the luxurious. The Epicurean (the next figure) is amused rather than interested; and behind him an older man is solving in his mind some doubt to which the arguments of the apostle have given rise. The space between these and the saint is filled by the "eager disputants of the Academy," while on the steps close behind

him sits a *caviller by nature*, who is craftily watching for some contradiction—some illogical deduction in the chain of argument, and beyond him we see gross figure, the personification of a sensuality that stands entirely between its victim and the pure religion that is preached for the first time in Athens.

(To be continued.)

Useful Receipts.

Receipt for making Blue Writing Ink.—Take of Prussian blue one drachm, oxalic acid two drachms, powdered gum half a drachm, water four ounces. Rub the Prussian blue and oxalic acid together in a mortar to a fine powder, then add the water gradually, and lastly add the gum, which is necessary, as without it this ink will sink deeply into the paper, and consequently fade in colour.

Another Blue Ink that turns Black.—Dissolve indigo in sulphuric acid, by powdering the indigo and boiling it in the acid; then add gradually boiling water until the colour is sufficiently diluted; it will then be a solution of sulphate of indigo; add chalk to neutralise the acid, and you will then have a solution of indigo in water, while the insoluble sulphate of lime will fall to the bottom of the vessel; add to a pint of this solution one ounce of powdered galls, one ounce of log-wood, and half an ounce of sulphate of iron.

To make Pink Ink.—Pink ink may be made by infusing, three or four days, Brazil wood, chopped into small pieces, in vinegar; the infusion must then be boiled for an hour, strained and thickened slightly with gum Arabic and sugar. A little alum improves the colour. About two ounces of Brazil wood to a pint of vinegar is the proper quantity.

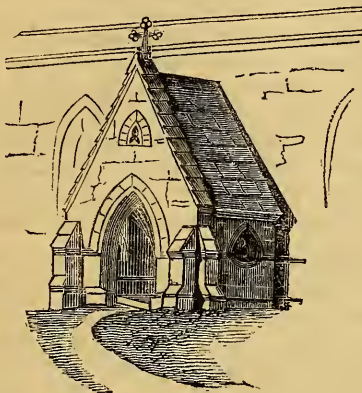
Preparation of Gold Powder for Gilding.—Gold powder may be prepared different ways—viz., put in an earthen mortar some gold-leaf with a little honey or thick gum-water, and grind the mixture till the gold is reduced to extremely minute particles; when this is done, a little warm water will wash out the honey or gum, leaving the gold in a pulverulent state.

Another Method.—Dissolve pure gold (or the leaf) in nitro-muriatic acid, and then precipitate it by a piece of copper, or a solution of sulphate of iron. The precipitate, if by copper, must be digested in distilled vinegar, and then washed by pouring water over it repeatedly, and dried.

**An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.**

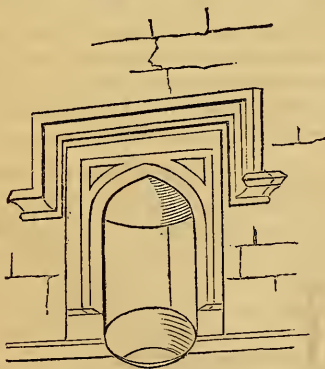
PEDIMENT. An ornament generally of a low triangular form, which crowns the ordonnances, finishes the fronts of buildings, and is used as a decoration of windows, doors, &c.

PORCH. An arched vestibule at the entrance of



a church, or other building.

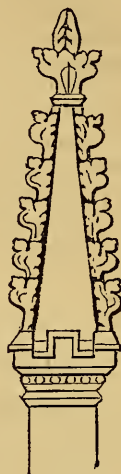
PISCINA. Among the Romans was a fish pond; a shallow reservoir for persons to bathe in who did not know how to swim; or a place for watering horses and washing clothes. In ecclesiastical ar-



chitecture, the piscina was a bowl for water, generally in a niche in the wall of the church, in which the priest laved his hands.

PINNING. Fastening tiles together with oak pegs.

PINNACLE. The top or roof of a house terminating in a point, most frequently used in Gothic architecture. Amongst the ancients it was almost



entirely confined to temples. Pinnacles with vanes mark the fifteenth century.

PEDESTAL. The square support of a column, statue, &c. and the base or lower part of an order of columns.

PECTINATUM TECTUM. A kind of roof among the Romans, which was shaped like a comb, and threw off the water in two ways.

PEND. In Gothic architecture, a vaulted roof without groining.

PENDANT. A hanging ornament in very rich Gothic groined roofs.

PENDENT BRIDGE. A wooden bridge, with buttments only at the ends, and supported by posts and pillars.

PENDENTIVE. The whole body of a vault, suspended out of the perpendicular of the walls.

PENDENTIVE BRACKETING. Or cove bracketing, springing from the rectangular walls of an apartment upwards to the ceiling, and forming the horizontal part of the ceiling into a circle or ellipse.

PENDENTIVE CRADLING. The timber-work for sustaining the lath and plaster in vaulted ceilings.

PENTAGON. In Geometry, a figure of five sides and five angles.

The Fine Arts.

ALLAN CUNNINGHAM, in his "Lives of the most eminent British Painters, Sculptors, and Architects,"—a work that we cordially recommend to the notice of those who wish to learn something of the history of the progress of art in this country,—gives a very happy description of the intimate connection that exists between the Fine Arts—showing their relation to each other, and the peculiarities by which each are distinguished. Poetry, painting, sculpture, and music are the natural offspring of the heart of man. They are found among barbarous nations; they flourish among the most civilised; and springing from nature, and not from necessity or accident, they can never be wholly lost in the most disastrous changes. It may indeed be said that the tongue of poetry is occasionally silent, and the hand of painting sometimes stayed; but this seems not to affect the ever-living principle, which may be justly claimed as their characteristic; they are heard and seen again in their seasons, as the birds and flowers are at the coming of spring; and assert their title to such immortality as the things of earth may claim. It is true that the poetry of barbarous nations is rude, and their attempts at painting uncouth; yet even in these we may recognise the foreshadowings of future excellence, and something of the peculiar character, which, in happier days, the geniuses of the same tribe is to stamp upon worthier productions. The future Scott, Lawrence, or Chantrey may be indicated afar off in the barbarous ballads, drawings, or carvings of an early nation. Coarse nature and crude simplicity are the commencement, as elevated nature and elegant simplicity are the consummation of art. When the Spaniards invaded the palaces of Chili and Peru, they found them filled with works of art. Cook found considerable beauty of drawing and skill of workmanship in the ornamented weapons and war canoes of the islanders of the South Sea; and in the interior recesses of India sculptures and paintings, of no common merit, are found in every village. In like manner, when Cæsar landed among the barbarians of Britain, he found them acquainted with arts and arms; and his savage successors, the Saxons, added to unextinguishable ferocity a love of splendour and a rude sense of beauty, still visible in the churches that they built, and the monuments which they erected to their princes and leaders. All those works are of that kind called ornamental: the

graces of true art, the truth of action, and the dignity of sentiment are wanting, and they seem to have been produced by a sort of mechanical process, similar to that which creates figures in arras. Art is indeed of slow and gradual growth: like the oak, it is long of growing to maturity and strength. Much knowledge of colour, much skill of hand, much experience in human character, and a deep sense of light and shade, have to be acquired, to enable the pencil to embody the conceptions of genius. The artist has to seek for all this in the accumulated mass of professional knowledge which *time* has gathered for his instruction, and with his best wisdom, and his happiest fortune, he can only add a little more information to the common stock, for the benefit of his successors. In no country has painting risen suddenly into eminence. While poetry takes wing at once, free and unincumbered, her sister is retarded in her ascent by the very mechanism to which she must at last owe half her glory. In Britain, painting was centuries in throwing off the fetters of mechanical skill, and in rising into the region of genius. The original spirit of England had appeared in many a noble poem, while the two sister arts were still servilely employed in preserving incredible legends, in taking the likeness of the last saint whom credulity had added to the calendar, and in confounding the acts of the Apostles in the darkness of allegory.

Mines and Collieries.—A bill, prepared by Mr. T. S. Duncombe, Mr. Hume, and Mr. Aglionby, providing for the better ventilation of mines and collieries, &c., is now under the consideration of Parliament. Three Government inspectors are to be appointed, with regular salaries, for the supervision of the mines and collieries, and the protection of the lives of the persons employed. [The wages of colliers and workmen are to be paid according to the weight of coal raised, and not to be paid at greater intervals than two weeks. Wages are also to be paid by the owners of mines to each workman severally. No gunpowder is to be used in mines where it is unsafe to work with naked lights, under a penalty of £20.]

A New Oscillating Steam-Engine.—A model of an improved oscillating steam-engine has been constructed by Mr. Hick, of the firm of Hick and Son, Bolton, Lancashire. The whole strain is taken off the trunnions upon which the cylinders oscillate, by having two pistons in each cylinder, the rods of which communicate their power direct at opposite ends to the crank-shaft.

The Chronotypist.

THE new church of Christ Church, Greenwich, was consecrated by the Lord Bishop of London on the 19th. It is of large dimensions, and capable of containing nearly 1,400 persons.—The church of St. Stephen, in Kent-street, Borough, was also consecrated on the 19th by the Lord Bishop of Winchester. It is in the Early English style of architecture, and is built of brick with Bath stone dressings. It consists of a nave, north and south transepts, and chancel, which are all of equal length, owing to the ground on which the church is built being a perfect square. The tower, which is 95 feet high, occupies the angle formed by the nave and north transept; the vestry, which is of an octagon form, occupying a similar position on the south side.—At Rugby School, the Queen's gold medal for the best historical essay has been awarded to G. Goschen.—Lord Frederick Fitzclarence has given orders for two full-length statues, one of Nelson and the other of the Duke of Wellington. That of Nelson is to be placed on the spot where he trod his native land for the last time; and that of Wellington upon the place where he first stepped again on British ground after his last great triumph.—It is reported that the Dean and Chapter have it in contemplation to throw Salisbury Cathedral open to the public.—At a meeting last week, at Leicester, it was resolved, "That a bronze statue of the Duke of Rutland, on a granite pedestal, be erected in the market-place at Leicester, provided a site can be procured for the same.—The Archæological Society of Athens held their annual general meeting on the Acropolis on the 6th instant. The King was present, and the attendance was very numerous.—The Topic, which has arrived at Liverpool from Valparaiso, has brought gold from San Francisco to the amount of between £40,000 and £50,000.—On the 23rd the ceremony of laying the first stone of the new almshouses of the Fishmongers' Company, at Wandsworth, took place.—On Wednesday evening, the 20th, the exploit of depositing the tube of the Britannia Bridge, with one or two trifling misadventures, was accomplished, after two hours of the most anxious and critical toil, in its bed of masonry at the base of the piers. The tube was floated obliquely, and then gradually swung round, with its face to the space between the piers. Arrived here, the next step was of a most difficult nature, seeing that if, from anything in the run of the tide, or any giving way in the great network of tackle, the tube overstepped then its line of desti-

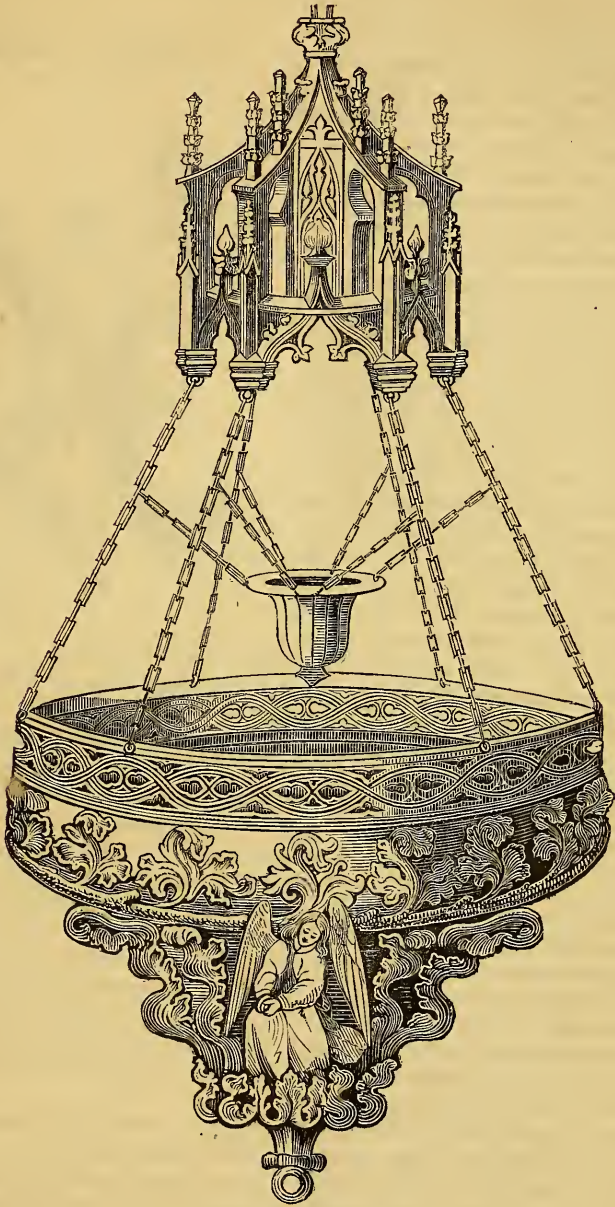
nation parallel with the piers, the experiment must have failed, and the process of bringing it back would have been of great difficulty. Fortunately however, such were the nicety of the measurements, and skill and quickness of the directing power on the top of the tube, and the moment of its march to the spot so geometrically measured, that the success of the final step was unerringly secured by the vigorous action of a giant vice upon the Anglesea end of the tube, which, having clenched its extremity, locked it in an unreleasable embrace. The next operation, that of elevating the tube to its permanent position, will be accomplished as soon as possible. This is to be done by huge hydraulic presses, of a magnitude commensurate with the whole of the works, one cylinder alone being large enough at the entrance to contain a man standing, and of the prodigious weight of forty tons. It is the most powerful machine ever constructed.

To Correspondents, &c.

- E. V. (Bayswater.)—*Yes. The word mixed is omitted.*
- T. Y. K. (Hertford.)—*Accept our thanks for the Design sent, it shall appear shortly.*
- G. G.—*For fixing copper upon copper.—Use powdered quick-lime and bullock's blood. To fix the same upon zinc, we should say, either brass or zinc solder.*
- T. James.—*The Bude or Gurney Light is an oil Argand lamp, with a jet of oxygen thrown up in the centre. The commonest oil may be used; indeed the more smoky the oil burns in common, the better is the light. When the oxygen is made to pass through the flame, the oxygen strikes the nascent carbon and vapour of the oil, and produces an intense light.*

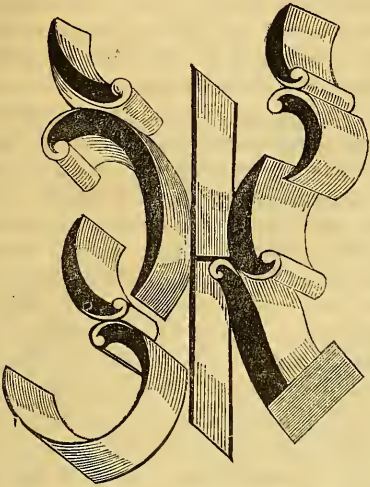
Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. the *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 5, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * * Parts 1 and 2 are re-printed, and will in future be charged at 10d. each.



A DESIGN FOR A GOTHIC LAMP.

Painting on Glass.



T the time when vast sums of money were expended by pious individuals in endowing churches and chapels, and in repairing and building cathedrals, the art of glass painting attained a very high state of perfection. From this state, however, it soon declined when the patronage it had been used to receive was no longer extended to it, until at last it was so much neglected that it was supposed to be a lost art. This, however, it appears, is not the case. A knowledge of the means by which the artists of the middle centuries were enabled to produce such beautiful specimens of stained glass still remains. A correspondent of the "Philosophical Magazine" communicates the following interesting particulars.

It is a singular fact, that the art of glass-painting, practised with such success during former ages from one end of Europe to the other, should gradually have fallen into such disuse, that in the beginning of the last century it came to be generally considered as a lost art. In the course of the eighteenth century, however, the art again began to attract attention, and many attempts were made to revive it. It was soon found by modern artists, that by employing the processes, always in use among enamel painters, the works of the old

painters on glass might in most respects be successfully imitated; but they were totally unable to produce any imitation whatever of that glowing red which shed such incomparable brilliancy over the ancient windows that still adorn so many of our churches. For this splendid colour they possessed no substitute, until a property, peculiar to silver alone among all the metals, was [discovered, which will presently be described. The art of enamelling on glass differs little from the well-known art of enamelling on other substances. The colouring materials (which are exclusively metallic) are prepared by being ground up with a *flux*, that is, a very fusible glass, composed of silix, flint-glass, lead, and borax: the colour with its flux is then mixed with volatile oil, and laid on with the brush. The pane of glass thus enamelled is then exposed to a dull red heat, just sufficient to soften and unite together the particles of the flux, by which means the colour is perfectly fixed on the glass. Treated in this way, gold yields a purple, gold and silver mixed a rose colour, iron a brick-red, cobalt a blue; mixtures of iron, copper, and manganese, brown and black. Copper, which yields the green in common enamel-painting, is not found to produce fine colour when applied in the same way to glass, and viewed by transmitted light; for a green, therefore, recourse is often had to glass coloured blue on the one side and red on the other. To obtain a yellow, silver is employed, which, either in the metallic or in any other form, possesses the singular property of imparting a transparent stain, when exposed to a low red heat in contact with glass. This stain is either yellow, orange, or red, according to circumstances. For this purpose a flux is used: the prepared silver is merely ground up with ochre or clay, and applied in a thick layer upon the glass. When removed from the furnace, the silver is found not at all adhering to the glass; it is easily scraped off, leaving a transparent stain, which penetrates to a certain depth. If a large proportion of ochre has been employed, the stain is yellow; if a small proportion, it is orange-coloured; and by repeated exposure to the fire, without any additional colouring matter, the orange may be converted into red. This conversion of orange into red is, I believe, a matter of much nicety, in which experience only can ensure success-

Till within a few years this was the only bright red in use among modern glass-painters; and though the best specimens certainly produce a fine effect, yet it will seldom bear comparison with the red employed in such profusion by the old artists.

Besides the enamels and stains above described, artists, whenever the subject will allow of it, make use of panes coloured throughout their substance in the glass-house melting-pot, because the perfect transparency of such glass gives brilliancy of effect, which enamel-colouring, always more or less opaque, cannot equal. It was to a glass of this kind that the old glass-painters owed their splendid red. This in fact is the only point in which the modern and ancient processes differ, and this is the only part of the art which was ever really lost. Instead of blowing plates of solid red, the old glass-makers used to *flash* a thin layer of lead over a substratum of plain glass. Their process must have been to melt side by side in the glass-house a pot of plain and a pot of red glass: then the workman, by dipping his rod first into the plain and then into the red glass pot, obtained a lump of plain glass covered with a coating of red, which, by dexterous management in blowing and whirling, he extended into a plate, exhibiting on its surface a very thin stratum of the desired colour. That such was the method in use, an attentive examination of old specimens affords sufficient evidence. One piece in the possession of the Editor of the "Philosophical Magazine" exhibits large bubbles in the midst of the red stratum; another consists of a stratum of red inclosed between two colourless strata: both circumstances plainly point out the only means by which such an arrangement could be produced. In this state the glass came into the hands of the glass-painter, and answered most of his purposes, except when the subject required the representation of white or other colours on a red ground; in this case it became necessary to employ a machine like a lapidary's wheel, partially to grind away the coloured surface till the white substratum appeared.

The material employed by the old glass-makers to tinge their glass red was the protoxide of copper, but on the discontinuance of the art of glass-painting the dependent manufacture of red glass of course ceased, and all

knowledge of the art became so entirely extinct, that the notion generally prevailed that the colour in question was derived from gold. In 1793 the French government actually collected a quantity of old red glass, with the view of extracting the gold by which it was supposed to be coloured! Le Vieil was himself a glass-painter employed in the repair of ancient windows, and the descendant of glass-painters, yet so little was he aware of the true nature of the glass, that he even fancied he could detect the marks of the brush with which he imagined the red stratum had been laid on! It is not a little remarkable that the knowledge of the copper-red should have been so entirely lost, though printed receipts have always existed detailing the whole process. Battista Porta (born about 1540) gives a receipt in his *Magia Naturalis*, noticing at the same time the difficulty of success. Several receipts are found in the compilations of Neri, Merret, and Kunckel, from whence they have been copied into our Encyclopædias. None of these receipts, however, state to what purposes the red glass was applied, nor do they make any mention of the *flashing*. The difficulty of the art consists in the proneness of the copper to pass from the state of protoxide into that of peroxide, in which latter state it tinges glass green. In order to preserve it in the state of protoxide, these receipts prescribe various doxygenating substances to be stirred into the melted glass, such as smith's clinkers, tartar, soot, rotten wood and cinnebar.

One curious circumstance well deserves to be noticed, which is, that glass containing copper when removed from the melting-pot sometimes only exhibits a faint greenish tinge, yet in this state nothing more than simple exposure to a gentle heat is requisite to throw out a brilliant red. This change of colour is very remarkable, as it is obvious that no change of oxygenation can possibly take place during the recuisson.

The art of tinging glass by protoxide of copper flashing it on crown glass, has of late years been revived by the Tyne Company in England, at Choisy in France, and in Suabia in Germany, and in 1827 the Academy of Arts at Berlin gave a premium for an imperfect receipt. To what extent modern glass painters make use of these new glasses I am ignorant; the specimens I have seen were so strongly coloured as to be in parts almost opaque, but this is a defect which might, no doubt, be easily remedied.

Royal Academy.
 PROFESSOR LESLIE'S LECTURES
 ON PAINTING.

(Continued from page 97.)

LECTURE III.

How striking is the contrast presented to all these by the two nearest figures of the composition, — Dionysius, the Areopagite, and Damaris. Their hearts are penetrated, they regard what they hear not as a system of philosophy, but as divine truth, and they advance with a modest and earnest reverence to the Apostle, expressed as Raphael alone could express it.

If the head of the Saviour even as it appears in the copy which we possess of Leonardo's great work be, as it seems to me, the best image of a countenance of which no representation can ever satisfy us—the heads in "The Miraculous Draught of Fishes" and "The Charge to Peter," are perhaps the next in value. The expression "divine" is often applied to human works by an hyperbole of language which custom has sanctioned, but where is the power that is to give the divine in expression, or where the authority by which the attainment is to be confirmed? With a lofty conception of humanity we must be content. In Leonardo's work such a conception shows us the "Man of Sorrows," in "The Miraculous Draught of Fishes," the gentles of masters, but in "The Charge to Peter," where we expect so much more, Art could go no higher.

Are, then, such subjects as this or "The Transfiguration," or "The Last Judgment," not to be painted? Whatever may be the answer to this question, an objection that rests on the inadequacy of human powers would exclude a great deal from Art that we should be sorry to lose. It would exclude, for instance, Claude's representations of the sun, or those of the matchless pencil of a great living master; and if Art may attempt nothing but with the hope of entire success it would be limited indeed. In all that relates to the imitation of material nature this question is settled by the principle I have endeavoured to illustrate, that deception is in no case the end of Art; and in what relates to higher things it is a question that had better perhaps be left open. At any rate, I will not presume to settle it.

In speaking last season of that often-repeated subject, "The Sacrifice of the Innocents," I omitted to notice the only instance within my knowledge with which it has been touched, as I

think, with true taste—an instance among the works of a painter of whom I know nothing, but from two or three very coarsely-executed engravings in the volume published at Brussels of the collection of prints from the gallery of which Teniers had the care. It is a very small engraving from Domenic Feti; an Italian painter who lived in the early part of the seventeenth century. He has made the subject subsidiary to "The Flight into Egypt." Joseph, as usual, leads an ass, on which Mary sits holding the Babe; and as they cross a narrow causeway, they cannot avoid passing close to the bodies of two infants. The Virgin Mother lifts her veil with one hand as she looks down on them, and presses her child, with the other, closer to her bosom; while far off, among distant hills, a single mother flies with her child in her arms pursued by two horsemen, from whom the Holy Family are screened by some trees. In this way the two subjects are made to assist each other, and enough, and not too much, is indicated of the massacre. I am not aware of any similar treatment of the story, nor can I learn anything of Feti excepting from these small engravings, in none of which is the treatment of subject comparable to the one I have described.

Though Titian stands secondary to Raphael in dramatic power, as Raphael does to Titian in colour, yet instances may be selected from his works in which neither the expression nor the story could be carried further. His "Entombment of Christ," in the Louvre, is a picture of the deepest and truest pathos, and would be so even were it unaided by its solemn evening effect. Nothing was ever conceived finer than the Mother in this picture, bowed down by sorrows but supported by the Magdalen, and contrasted by her different though equally poignant expression of grief.

(To be continued.)

London University.—After the delivery of Mr. Donaldson's concluding lecture on the 19th ult., to the students in the classes of architecture for this session, the senior student of the classes made a gratifying address to the professor, and offered to him, in the name of the class, a parallel ruler, with silver mountings, as an earnest of their appreciation of his exertions and uniform kindness.

Public Museum and Library at Salford.—The town-council have resolved to provide and keep up the requisite accommodation and attendance for donations, &c., in a mansion-house in Peel's Park, to which the public will have free access at all reasonable times. A rate of one halfpenny in the pound may afterwards be granted.



CURVILINEAR FOLIAGE—(ACANTHUS).

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

PATRA. An ornament something like a rose,



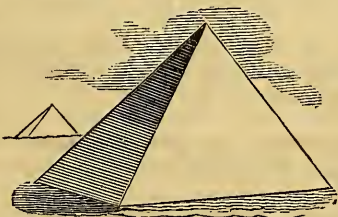
used to conceal small openings.

PHOENIX. A bird famous in antiquity, but generally considered by the moderns as being fabulous. The ancients speak of this bird as unique, and their artists represent it as of the size of an



eagle, its head finely crested with a beautiful plumage, its neck covered with feathers of a golden colour, and the rest of it purple, with the exception of the tail, which is white. The eyes are extremely sparkling like stars.

PYRAMID. A building of a pyramidal form. The most ancient people raised pyramidal struc-



tures to serve for monuments. The most famous pyramids of antiquity are those of Egypt.

PLUME. Plumes of feathers were often used by the ancient artists to decorate the heads of their divinities and other personages, both male and fe-



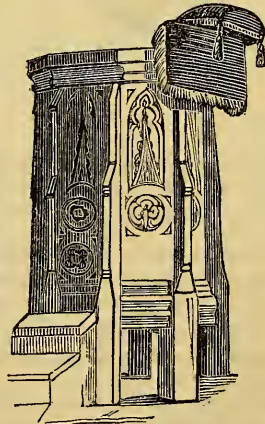
male. The nine Muses are frequently to be met with thus adorned.

PROFILE. A portrait, or bust, is said to be in *profile* when they are presented in a side view; as, when in a portrait, there is but one side of the



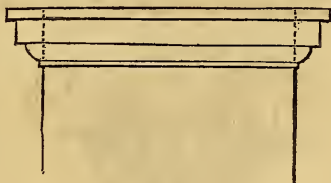
face shown, and nothing of the other. On almost all medals, this is the manner in which the head is represented.

PULPIT. An elevated place for public speeches; the place in a church whence the sermon is pro-



nounced. Some of them, particularly in Roman Catholic churches, are richly ornamented.

PROJECTURE. The prominence of the mouldings and members beyond the naked surface of a



column, wall, &c.

PALLET. A small oval table used by painters, to plan the several colours upon. It is held on the

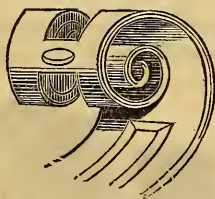


left hand, with the thumb placed through the hole.

PENTASTYLE. Having five columns in front.

PERIPHERY. The circumference of a circle, ellipsis, parabola, or other regular curvilinear figure.

PERFORATED SCROLL. Used in Elizabethan



architecture.

PENTASTASTOS. A machine mentioned by Vitruvius, which was used to raise great weights, such as stones, to a certain height in building.

PERISTYLE. A range of columns within a court or building, as the internal colonnade of an hypæthral temple. One of the courts of the Roman villas, which was defended from the rays of the sun by a colonnade, which was called a peristyle.

PILE ENGINE. Or Pile driver, a machine invented by M. Vanloue, to drive in the piles for the foundations of Westminster Bridge. A great improvement has since been made by Mr. S. Bunce.

PILASTER MASSES. In Gothic architecture, rectangular pillars or portions of wall, with impost mouldings.

PILASTER DEMI. Or Membretto; a pilaster supporting an arch.

PHALANGÆ. A name given by Vitruvius, to a kind of wooden rollers, which were used to transport heavy burdens from one place to another.

PHEASANTRY. A building for rearing pheasants in.

PERPENDICULAR LINE. (*See Geometry.*)

PERSPECTIVE. (*See articles on Perspective, commencing page 126, Vol. 3.*)

PILE PLANKS. Have their ends sharpened to drive in the ground, and form a dam in a canal, &c.

PILLAR. An irregular, and rude column. The supporters in Saxon, Norman, and Gothic architecture are pillars not columns. The form and dimensions of pillars are guided by no rules: they have generally a kind of foot or base, and a sort of cornice above; but are sometimes without either.

PITCH. The vertical angle of a roof; the proportion between the height and span. When the length of the rafters is equal to the breadth of the building, it is denominated a Gothic pitch.

PITCHING PIECE. A horizontal timber with one of its ends wedged into the wall, at the top of a flight of steps, to support the upper end of the rough strings.

PLAIN TILES. Or Plane Tiles, tiles that have their surface planes.

PIX. In the architecture of the middle ages, a box or shrine, sometimes called a tabernacle, and intended to contain the host, or consecrated wafer, suspended under the cibarium, or canopy of the altar.

PLAN. The draught of a building, taken on the ground floor, shewing the distribution, form, and extent, of its several rooms, passages, &c.

PLANE. In Geometry, a surface which coincides every where with a right line, which is every where perfectly true and level.

PLANIMETRY. The part of geometry which treats only of lines and surfaces.

PILLAGE. A word used sometimes for a square pillar, with a round base and capital standing behind a column, to bear up the arches.

Public Amusements.

CREMORNE GARDENS.

ON previous occasions it has been our pleasing duty to speak in terms of unqualified praise of this delightful place of public resort, but the present notice affords us a greater opportunity in consequence of the numerous additions made—not only to the gardens, but also to the increased attraction in the scenic effects. The storming and capture of Mooltan, aided by ingenious scenic, mechanical, and pyrotechnic effects, is the great feature in the entertainments at these agreeable suburban gardens. The storming incidents of that memorable military enterprise have been so completely and beautifully realized that the spectator has some difficulty of divesting himself of the feeling that he is actually witnessing the terrible scene presented to him with such extraordinary skill. The power of attraction is unprecedented in our experience of public amusements. In No. 66, vol. 3, we gave an illustration of one of the beautiful panels in the Banqueting-hall; but it requires to be seen to be fully appreciated. No expense seems to have been spared by the proprietors in keeping up an excitement for the pleasure-seeking public. From three o'clock every afternoon a never-ceasing round of entertainment is in motion. Among the attractions we may enumerate the archery and rifle-shooting, California, and the Emigrant's Hut, statues, and the Nelson tableaux. The present delightful weather is most favourable for the enjoyment of the gardens and grounds of Cremorne, which Mr. Ellis has spared no pains or expense to render attractive to the public.

Fossil Remains in Southwark.—A singular circumstance, alike interesting to the geologist and natural philosopher has occurred within the last week or two—we allude to the finding of a large quantity of bones of the megatherium, the mylodon &c. not far from one of the railways in the borough of Southwark. The number of bones in many instances in perfect condition is considerable, and the *mélange* of mediæval and Roman *debris*, with which they are mixed up 'in most admired disorder,' seems at first to baffle all conjecture as to the time of the deposit; they seem however, to lie mostly superimposed upon a soft muddy clay. The discovery is due to Mr. Gwilt, of Southwark.

Reviews.

DESIGNS for Gothic Monuments, Gravestones, &c., by J. B. Robinson, Architectural Sculptor. Published by Weale, High Holborn.

This is a new work by Mr. Robinson, and we feel assured, that any of our readers requiring designs of this class, will hail it with delight, as it has long been wanted, and to which, the author has devoted much time and study, producing a work useful to the Architect, Sculptor, and Mason. The designs are drawn to a scale of one inch to one foot, with details quarter size, sufficiently plain, that any workman of moderate abilities may execute them. The Gothic ornament introduced is very chaste, Mr. Robinson having taken Nature as his guide, has produced it without that stiff and formal appearance, peculiar to Gothic carving. We trust that his exertions may be rewarded by an extensive sale, as the work is produced at a low price, and executed in the first style of lithography. In conclusion, we cordially recommend it to our readers as the best work of its class, published.

The Glazier's Diamond.—The art of using the diamond for cutting glass has undergone within a few years a very important improvement. A glazier's apprentice, when using a diamond set in a conical ferrule, as was always the practice about thirty years since, found great difficulty in acquiring the art of using it with certainty; and, at the end of seven years' apprenticeship, many were found but indifferently skilled in its employment. This arose from the difficulty of finding the precise angle at which the diamond cuts, and of guiding it along the glass at the proper inclination when the angle is found. Almost the whole of the time consumed and of the glass destroyed in acquiring the art of cutting glass, may now be saved by the use of an improved tool. The gem is set in a small piece of squared brass, with its edge nearly parallel to one side of the square. A person skilled in its use now files away the brass on one side until, by trial, he finds that the diamond will make a clean cut, when guided by keeping this edge pressed against a ruler. The diamond and its mounting are now attached to a stick like a pencil by means of a swivel allowing a small angular motion. Thus, even the beginner at once applies the cutting edge at the proper angle, by pressing the side of the brass against the ruler.

Indian Methods of Working Iron and Steel.

On the Damascus Gun Barrels—The gun-barrels made at Bombay, in imitation of Damascus, so much valued by the Orientals for the beauty of their twist, are manufactured of iron hoops, obtained from European casks, mostly British. The more these hoops are corroded with rust, they are proportionably acceptable to the workmen: should there be any deficiency of this necessary oxidation, they are regularly exposed to moisture, until they are sufficiently prepared for welding. Being cut into lengths of about twelve inches, they are formed into a pile, an inch or an inch and half high, laying the edges straight, so as not to overlap each other: a long piece is then so fitted as to return over each end, and hold the whole together in the fire. This pile is then heated to a welding heat, and drawn out into a bar of about one inch wide, and one third of an inch thick; it is then doubled up in three or more lengths, and again welded and drawn out as before; and this operation is repeated generally to the third or fourth time, according to the degree of fineness of twist required. The bar is then to be heated about a third of its length at a time, and being struck on the edge is flattened the contrary way to the stratification. This part of the operation brings the wire or vein outwards upon the strap. The barrel is then forged in the usual way, but much more jumping, or upsetting endways, by striking the barrel against the side of the anvil while it is of a welding heat, than in the English method, in order to render the twist finer. The most careful workmen always make it a practice of covering the parts exposed to the fire with a lute, composed of mud, clay, and the dung of cows or horses in order to guard against any unnecessary oxydation of the metal. When the barrel is completed, the twist is raised by laying the barre from four to five days, either in vinegar, or a solution of the sulphate of iron, until the twist is raised; this process is called the wire twist.

To produce the curl, the bars or straps are drawn into bars about three quarters of an inch square, and twisted, some to the right and others to the left hand; one of each sort is then welded together, doubled up and then drawn out, as before described; and according to the skill and experience of the workman, any intricacy of twist is produced, by thus drawing out, doubling and twisting.

Sometimes, to save trouble, and economise the iron thus prepared, the artist will rough file an

English barrel, weld a strap of Damascus iron spirally round it, or several straps are laid longitudinally along it, and welded on. A native artist never works with pit coal, under any consideration: charcoal from light wood forms his only fuel.

On the Damascus Sword Blades.—In making the sword blades, there are several methods used: some workmen make a pile of alternate layers of softer and harder cast-steel, with powdered cast-iron mixed with borax, sprinkled between each layer. These are drawn out to one-third more than the length of the intended blade, doubled and heated, twisted, and re-forged several times; the twist is brought out in the same way as that in the gun barrels, namely, by the use of vinegar, or a solution of sulphate of iron.

Some sword-blades are forged out of broad plates of steel thus prepared, with a narrow plate of good iron welded between them, toward the back, and thus leaving solid steel for the edge, to a considerable depth. Others prefer to make them of one plate of steel, with a lamina of iron on each side of it, to give them strength and toughness.

The Hardening Composition.—The blade is covered with a paste, formed of equal parts of barilla, powdered egg-shells, borax, common salt, and crude soda, heated to a moderate red heat; and just as the red is changing to black heat, quenched in spring water.

From the information of the workman, it appears that Damascus obtains all its steel from the upper part of the Deccan, where it is called *fontone hend*, or Indian steel, of which there are great quantities, and but little or no demand for it. The Damasque (or joar) is natural to this steel; and the veins in it are raised by immersing the blades in acid solutions.

The Birmingham School of Design.—On Friday week the annual exhibition and distribution of the prizes took place at the Society of Arts, New Street, and was very numerously attended. The Bishop congratulated the donors and the subscribers on the progress made since last year. The number of students, as well as their proficiency, had much increased. In the female school the classes are full. Announcement was made of the increase of the Government grant, and the appointment of Mr Kidd, a modeller, as second master, and of a pupil of last year, Mr. W. O. Williams, as third master. The drawings, models, &c., have since been publicly exhibited.

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Continued from page 82.)

DESIGN, or creation of form and enrichment, being as essential to manufacturers among the ancient nations as at present, we may consider the arts to have then originated, and to have been systematically encouraged; and, although the existing sources for obtaining certain information are limited, we can arrive at highly interesting general conclusions respecting the actual formation of Art, and the embellishment of their manufactures.

Scripture informs us before the deluge, when the habitations were in tents, God had discovered to his people the arts of spinning wool and flax, and the weaving it into stuffs and linen,—and also of polishing brass, iron, &c. The metals being thus rendered subservient to the uses of man, of course received shape for their several purposes. Soon after the deluge, human industry made several discoveries conducive to the improved beauty of their fabrics: among others, the art of spinning gold thread and interweaving it, if not the actual embroidery of a pattern upon stuffs. The extreme ductility of gold was also known, as we find it beaten into thin leaves, and applied to the surface of wood and metals,—and the secret of casting metals, brass, silver, and gold. They were used to produce figures in imitation of nature, and even statues, vessels for use and ornament, and warlike weapons. Carving upon wood, stone, and marble was in use—and the imitation of natural objects by colour (*i.e.* painting). They became exceedingly celebrated for dyeing their stuffs and silks, giving to them the most exquisite variety of beautiful colours. To all these several discoveries, the art and practice of design must have been an essential addition in their progress to perfection. The East was the cradle of the arts and sciences, and it is sufficient purpose to mention the Eastern empires, which, through their long duration and immense extent of power became associated with other nations of note, as the Egyptians and the Greeks.

Egypt was contemporaneous with the Assyrian empire, which made way for the Babylon, Median, Persian, Macedonian and Roman. In discovering and tracing the invention, cultivation, and im-

provement of the Arts and Sciences, their origin and progress, we perceive the nearer we approach those countries once inhabited by the sons of Noah, the more perfect is the knowledge of those arts; so that in after times, when men desire to revive the forgotten arts, they found advantage in going back to their original source. The people of Asia were of a warlike cast, varying according to the nature of the country they inhabited; thus the arts of manufacture would be early applied to offensive weapons and armour. They had helmets and cuirasses of brass, which, it is recorded, fitted so well to the body as not to intercept motion and agility of limb. Greaves covered the legs and thighs of the horsemen; their brazen shields of great length were very celebrated, and their horses were usually armed, the faces, chests, and flanks, being covered in brass. Now we read that this armour was distinguished for its elaborate workmanship, its richness and costliness; *design* must therefore have largely entered into its original construction and subsequent embellishment. Their chariots, body and wheels, were elegant, and of great strength, the pole, axletrees, &c., armed with scythes. In later ages, luxury and extravagance rose to excess: it became the custom of the court and wealthy men to make the most profuse display of magnificence and pompous splendour, calculated to dazzle the eyes of a people. In war they went to the field accompanied by their wives and concubines, each in proportion to his ability. The equipage of such a troop must have been immense, and the most exquisite dainties were to be procured wherever this host might be encamped. They had their jewels, and vessels of gold or silver; their garments were richly shining with gold,—the dresses of the women, of the nobles, of the king, were equally numerous and magnificent. A people thus disposed to luxurious enjoyment would naturally seek to enrich and embellish with the refinement of art every manufacture that could promise the creation of new ideas or new pleasures. *Design* would be lavished upon their robes, their armour, weapons, and plate, and upon all the artificial wants of a vast voluptuous nation.

Their cities in time became of wonderful magnificence. Nineveh was one of the most extensive and celebrated. A description of Babylon may probably give us the most perfect idea of the gigantic grandeur of their undertakings. Babylon was situated upon the banks of the river Euphrates, in an immense plain of fat rich soil, intersected by long straight canals, bordered by lofty poplars or lime trees.

(To be continued.)

The Chronotypist.

THE new church at Cranoe, near Market Harborough, in Leicestershire, was opened on Friday, the 20th ult. The style is of the commencement of the perpendicular period of architecture. It is fifty-four in length, twenty-three feet in width, and the height to the crown of the roof twenty-seven feet. In the centre light of the east window is a medallion, representing the taking down from the Cross, after Rubens. In the tracery immediately above the centre light, angels are represented bearing appropriate texts of Scripture. The seats are open, with carved hobbyheads; the pulpit is of wood, with carved panels and a stone base; the reading desk is of beautifully carved open work.—There is a subscription on foot for the purpose of erecting a small column, with an appropriate inscription, to the memory of James Thomson, the poet of "The Seasons," in some part of Richmond.—The first electric telegraph erected in Ireland has just been constructed on the Great Southern and Western Railway, for two miles, between the company's works at Inchicore and the terminus at Kingsbridge.—A "crow's nest," very similar in structure to that which was on the top of St. Paul's Cathedral, has just been completed on the tower of Gloucester Cathedral, for the purpose of taking observations for the survey of the river Severn.—The new Fishmongers' Almshouses at Wandsworth are to be built in the Elizabethan style. They are forty-two in number, and will form three sides of a quadrangle, each about 320 feet long, and one of which will, with the chapel and school in the centre, look upon the river Thames. The edifice is expected to be completed about Midsummer next.—On Monday, the 25th ult., when the mould from Mr. Carew's noble design of the "Death of Nelson" was perfected, the molten metal was successfully transferred through the great feeding apertures of the bas-relief, and in a few minutes the most important figures of the composition were faithfully secured in enduring bronze. The cannon which furnished the chief material were sent from Woolwich—spoils of war taken by the hero himself from his country's enemies.—Two new churches are to be erected at Lambeth.—We observe that Messrs. Southgate and Barrett are about to sell by auction the library of the Rev. H. F. Lyte. The sale commences on the 4th of July, and will continue for sixteen days; and we draw the attention of those who may propose being present to the fact

that it is to take place in the evening of each day at six o'clock.—Rods of zinc rolled for bolts being considered chargeable with duty as being in a partly manufactured state, importers recently urged the authorities for their decision. Directions have accordingly been given for the free admission of zinc rods.—The first stone of the Pawnbroker's Almshouses was laid, at Forest Gate, Essex, on the 22nd, by the Lord Mayor. The architect, in the newspaper accounts, is said to be Mr. Francis.

To Correspondents, &c.

H. W. (Chelsea).—*Brass must be dressed in aqua fortis, to make it pale yellow. After dipping, it must be rinsed in some water, and brushed dry in saw-dust. You may bronze brass with borax and spelter. Mix your spelter and borax in a little water, and lay it on enough for your work; if it do not run to your wish, throw a little dry borax on the spelter when hot. You must heat your work over a forge, or you can do it with the blowpipe if the work be small.*

T. T. (Leeds).—*The best plan is to procure cardboard of the colour required, such as stone, slate, or lead colour, and shade it with warm sepia. In all cases where brick colour is required, colour the cardboard with Indian red, and shaded as above.*

F. G.—*The "Theatrical Programme" is published weekly, and contains the bills of the performances of all the principal places of amusement. It also contains a list of the Hackney Coach and Cab Fares, with other useful and interesting matter. It may be procured of any bookseller.*

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. the *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 6, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * * Parts 1 and 2 are reprinted, and will in future be charged at 10d. each.

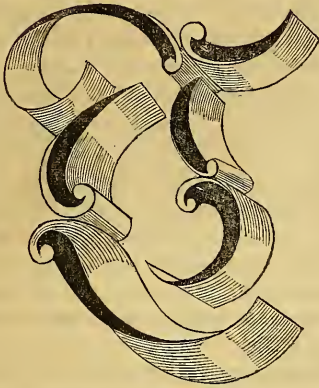
Part 27 is now ready, price 10d.



ROMAN HELMETS.

Painting on Glass.

(Continued from page 102.)



HOUGH it is difficult to produce the copper glass uniformly coloured, it is easy to obtain streaks and patches of a fine transparent red. For this purpose it is sufficient to fuse together 100 parts of crown glass with one oxide of copper, putting a lump of tin into the bottom of the crucible. Metallic iron employed in the same way as the tin throws out a bright scarlet, but perfectly opaque. We shall now conclude these observations by a few notices respecting glass tinged by fusion with gold, which, though never brought into general use among glass-painters, has, I know, been employed in one or two instances, flashed both on crown and flint glass. Not long after the time when the art of making the copper-red glass was lost, Kunckel appears to have discovered that gold melted with flint glass was capable of imparting to it a beautiful ruby colour.

As he derived much profit from the invention, he kept his invention secret, and his successors have done the same to the present day. The art, however, has been practiced ever since for the purpose of imitating precious stones, &c., and the glass used to be sold at Birmingham for a high price under the name of Jew's glass. The rose-coloured scent bottles now commonly

made, are composed of plain glass flashed or coated with a very thin layer of the glass in question. We have made numerous experiments on this subject, and have been completely, and at last uniformly successful in producing glass of a fine crimson colour. One cause why so many persons have failed in the same attempt, I suspect is that they have used too large a portion of gold; for it is a fact that an additional dust of gold, beyond a certain point, far from deepening the colour, actually destroys it altogether. Dr. Lewis states that he once produced a potfull of glass of beautiful colour, yet was never able to succeed a second time, though he took infinite pains, and tried a multitude of experiments with that view.— We find that a degree of heat sufficient to melt cast-iron, is not strong enough to injure the colour. It would appear, that in order to receive the colour it is necessary that the glass should contain a proportion either of lead or of some other metallic glass. We have found bismuth, zinc and antimony to answer the purpose, but have in vain attempted to impart any tinge of this colour to crown-glass alone.

Glass containing gold exhibits the singular change of colour on being exposed to a gentle heat, as has been already noticed with respect to glass containing copper. The former when taken from the crucible is generally of a pale rose colour, but sometimes colourless as water, and does not assume its ruby colour till it has been exposed to a low red-heat, either under a muffle or in the lamp. Great care must be taken in the operation, for a slight excess of fire destroys the colour, leaving the glass of a tingly brown, but with a blue transparency, like that of gold leaf. These changes of colour have been vaguely attributed to change of oxygenation in the gold; but it is obviously impossible that mere exposure to a gentle heat can effect any chemical change in the interior of a solid mass of glass, which has already undergone a heat far more intense. In fact, we have found the metallic gold gives the red colour as well as the oxide, and it appears to admit of scarcely any doubt that in a metal so easily reduced, the whole of the oxygen must be expelled long before the glass has reached its melting point. It has long been known that silver yields its colour to glass while in the metallic state, everything leads one to suppose that the case is the same as gold.

There are still some other substances by means of which we find it is possible to give a red colour to glass, and that is a compound of tin, chromic acid, and lime; but our trials do not lead us to suppose that glass so coloured will ever be brought into use.

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Continued from page 109.)

Its area was about sixty miles, and an exact square, enclosed by walls every way prodigious, 350 feet in height, and 87 feet in thickness, built of brick, cemented by bitumen, a glutinous slime arising out of the earth, binding far stronger than lime, and even growing harder than bricks or stone. Exterior, and lined, was a vast ditch, and the earth-dug in forming it composed the bricks. On every side of this square were 25 gates, 100 in all, of solid brass, with towers ten feet above the wall. From each gate in this great square went 25 streets in straight lines, being 50 streets, each 15 miles long, and 150 feet broad, crossing from gate to gate at right angles, cutting the city into 676 squares; around these squares were built the houses, detached, and three or four stories high—their fronts richly decorated. The hollow of the square was as gardens, or open space, not building; thus, half the area of the city formed pleasure grounds; the river ran through the city, bordered by quays and a wall, having brazen gates to each street, and steps to the water; and a kind of tunnelling covered the river for three miles. The plan of erecting this singular structure is on record, and deserves our attention. The snow melting on the mountains of Armenia, caused, in summer, the Euphrates to overflow the country, much as the Nile does Egypt. To preserve the city an immense lake was dug, and canals connecting it with the Tigris; when this was ready the course of the river was turned into it, and subsequently the lake remained as a

reservoir to supply the canals, which, intersecting the immense plains, fertilized the country all the year. The bottom of the river was sandy, and to secure for the arches a firm foundation, large stones were bound together by chains and melted lead; the immense structure was then erected, and the channel through the city lined with brick. At either end of this bridge was a palace, connected by a tunnel, built under the bed of the river. Near the old palace stood the Temple of Belus, and to the new one was attached the hanging gardens. The latter surrounded by three concentric walls, seven miles in circumference; considerable space existed between each wall, and they were adorned by an infinite variety of sculpture and fine ornament,—one represented Semiramis on horseback, throwing her javelin at a leopard, and her husband, Ninus, piercing a lion. These works of art must have been in relief, and a knowledge of their existence is highly interesting.

The hanging gardens of all these mighty structures became the most celebrated; they contained a square of 400 feet each way, and were carried up in a succession of decreasing arched terraces to a level with the city walls;—stairs ten feet wide led from the terrace, stones were laid upon the arches, then rushes floated in bitumen, and two rows of brick, covered by thick sheets of lead, upon which lay the mould of the garden, so deep that the greatest tree might take root. Groves, plants, and flowers adorned the gardens, and an engine was contrived to raise water for its use; in the spaces between the supporting arches were spacious apartments commanding magnificent prospects. The Temple of Belus was a prodigious tower, used for worship and for astronomical purposes, for which the people were famed. The riches of the temple are described as immense, consisting of statues, tables, censers, cups, and various sacred vessels, mostly of pure gold, and richly wrought.

Of the extent and magnificence of these cities there can be no doubt, and it is equally certain that a people so powerful and luxurious would as far as possible embellish their manufactures with elaborate workmanship; slight traces remain to guide our enquiries, but from the unvarying habits of the Eastern nations, we may presume the many beautiful fabrics of India to have descended from them. Rich carpets and woven shawls of elaborate design remain a staple commodity of Persia.

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

(Continued from page 103.)

LECTURE III.

In a small picture by Titian, belonging to Mr. Rogers, of the apparition of our Lord in the garden to Mary, the treatment is scarcely below the subject even in the principal figure,—but the conception of the Magdalen is beyond all praise. She seems to run forward towards her Master on her knees,—her streaming hair and drapery denoting utmost rapidity of action, while her hand extending to touch him, is suddenly checked by his words. It is to me by far the most expressive conception of the subject with which I am acquainted, not excepting its treatment by Raphael himself.

The Venetian painters dealt much in allegory;—but in some instances their meaning is obscure; and of one of the finest pictures of this class by Titian the key seems to be entirely lost. I allude to that of which the Academy possesses a copy by the late Mr. Geddes, from the original in the Borghese Palace at Rome. It is called, for want as I think of the true name, 'Sacred and Profane Love,' and is a striking proof of what I have insisted on—that the Poetry of Art is something wholly independent on subject; for this splendid work is of the most poetic order. Not but that the want of its meaning is very tantalizing—and it is evidently full of meaning.

Had Titian intended the picture for what it is called, I am confident that he would have felt no difficulty in characterizing the personifications more clearly. But I have fancied that I could entirely read the meaning of a lesser work, "The Ages of Human Life," in the possession of the Earl of Ellesmere.—On the right of this picture two children are asleep close to a road (the road of Life). One has been gathering flowers by the way-side, which are dropping from his hands, while a third child, who is the only one winged, is climbing the stem of a tree which is withered, signifying, possibly, the worthlessness of human pursuits. In the middle distance an old man sits on the ground in deep meditation, with a skull in each hand. Age has brought convictions that are unthought of by a young shepherd and shepherdess in the foreground. She is but little more than a child, and the youth seems for the first time to regard her with love,—while she, wholly unconscious of this, looks innocently in his face. Nothing can be more

charming than the expression of this pair, though they might certainly have had more of personal beauty, and I remember, when I first saw the picture I felt this as a drawback, which has long ceased to be one with me, for it is with pictures as in real life,—we cease to regret the absence of beauty in those with whom we have become interested by long acquaintance.

In looking at such pictures the allegory is apt to be forgotten in the actors. You will remember the fine Paul Veronese, belonging to Mr. Hope, which was exhibited last summer at the British Gallery. I mean that in which the painter has represented himself between Virtue and Vice, and choosing Virtue. Yet he looks back, and no wonder, for Vice is the more beautiful to the eye, and the almost invisible talons that he has placed at the ends of her fingers do not interfere with the exact symmetry of her hands and arms. Many other instances might be mentioned of allegoric invention in which the moral intention, to say the least, is rendered nugatory by the mode of treatment.

The truth is, that such subjects have probably been more often chosen with a view to the picturesque than with any other serious aim by Paul Veronese and by Rubens. The picturesque was indeed always uppermost in the mind of the latter, when the choice of his subject was left to him. In the autograph letter, preserved at Cologne, he gives as a reason for selecting the "Crucifixion of St. Peter" as a subject to present to the church in which he was christened, that the circumstance of the head of the saint being downward made a novel and fine incident for a picture. This is the ruling principle also of his magnificent history of Mary de Medicis, a series of subjects which he was fortunately allowed to treat entirely in his own way;—for, however our individual tastes may object to this or that mode of treatment, it is best always that the painter should do that which he can best do. When Reynolds expressed great admiration of a style of Art entirely distinct from his own, Northcote asked him why he did not attempt something like it,—and the reply was—"A painter cannot always do what he may wish,—he must content himself with doing what he can."

I must here notice the difference between allegory, so lightly treated, in the hands of Paul Veronese and of Rubens, by what may be called subjective Art, that where Art is nearly everything, and the noble use to which it may be applied, as in the example I have taken from Orcagna's "Triumph of Death," in which the allegory is paramount and so simply as to be intelligible to every mind. To Orcagna the Art of Painting was unknown, and an objective treatment was the only one possible to him.



DESIGNS FOR TESSELLATED PAVEMENTS.



I.

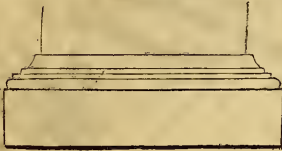
FROM A MS. IN THE RECORD OFFICE.—(12TH CENTURY.)



C.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

PLINTH. The lower member of a base. Every body placed in an upright position, ought to have its base or foot, and the part inferior to this is the plinth, by which the place of the former is often



supplied. In a wall, the term is applied to two or three rows of bricks which project from it, to any flat moulding in a front wall, to mark the floors, sustain the eaves, or the larmier of a chimney.

PLANNING. Laying the first courses of stone on foundation.

PLASTER. A composition of lime, with sand, &c. to cover the walls of a building.

PLASTER OF PARIS. A preparation of a species of gypsum or alabaster, dug near Monmartre, a village in the neighbourhood of Paris. It is calcined by fire into the fine plaster, which is so valued for modeling, &c. When diluted with water to a thin paste, plaster of Paris quickly sets, and has its bulk increased at the instant of setting.

PLASTER FLOORS. Are exceedingly useful in cottages, &c. where they may be constructed at no great expense, and afford a great security against fire. The plaster must be composed of lime of a strong binding quality, and is laid on a kind of strong reed, or on laths nailed to the joists, which must be laid in the usual manner. These kinds of floors are in general use in Nottinghamshire and Rutlandshire.

PLATBAND. Any square moulding with a little projection; the fasciæ of an architrave; the list between flutings, &c. The platband of a door or window is the lintel, when it is made square, and not much arched.

PLATFORM. A row of beams, which support the timber-work of a roof, lying at the top of a wall. A terrace, or open walk at the top of a building or in gardens.

PLUG AND FEATHER, or Key and Feather. A mode of dividing hard stones by means of a long tapering wedge, called the key, and wedge-shaped pieces of iron, called feathers, which are driven into holes previously drilled into the rock for that purpose, and thus forcibly split it.

PLUMBING. The art of casting and working in lead, and using it in building, principally in roofs, windows, pipes, &c.

POINTED STYLE. (In Architecture.) A name given by some writers to the Gothic.

POLYGON. See *Geometry*.

PORCELAIN. A beautiful and semi-transparent kind of earthenware, principally manufactured in China.

PORTICO. A long covered space, composed either of vaults supported by arcades, or flat roofs supported by pillars, the sides being quite open.

POLISH. To make smooth in enamelling. We say of those paintings in enamel which, placed to the fire, acquire thereby a high lustre, that they have taken a good polish.

POLISHER OR BURNISHER. An instrument for the purpose of polishing or burnishing things calculated to undergo that process.

POLISHING. The operation of giving a gloss or lustre to certain substances, such, for example, as glass, metals, marbles, &c. The usage of polishing marble figures appears to have been very common in ancient times, and remains so still.

PLATTE. In old church architecture, a mode or plan.

POST AND PALING. A close wooden fence, made by posts fixed in the ground, and pales nailed between them. This kind of fence is sometimes called post and railing.

POSTERN. A small door or gate at the back of a building. Posterns in ancient castles, were entrances for the private ingress of messengers to the governors.

POSTICUM. The porch in the back front of an ancient temple.

POSTIQUE. An ornament, &c. added after the rest of the work is done.

PROSCENIUM. The front part of the stage of a theatre, immediately beyond the orchestra, and under the sounding board.

PROPORTIONAL COMPASSES. (See *Compass*.)

History of Sculpture.

(Continued from page 63.)

THEODORUS, who was visited by Socrates and his disciples, served as a model for the artists of his day. Phryne also seems to have been a model both for painters and sculptors. On the other hand, Zeuxis, when about to paint Helen, united in his picture the various charms of the most handsome women of Crotona.

Having thus exercised the most patient attention and care on the several portions of the human body itself, the Grecian sculptors proceeded with equal scrupulosity to invest them with becoming drapery. The vestment of the Grecian women usually consisted of linen cloth, or some other light stuff, in latter times, either of silk or occasionally of woollen cloth. In the works of sculpture, the linen may be distinguished by its transparency and small undited folds. The principal garments worn by the Greeks were the tunic, the robe, and the mantle. The tunic, or that part of the dress next the body, may be seen in sleeping figures, or in those in dishabille; as, for instance, the Flora Farnese, and the statue of the Amazons in the Capitol. The robes of women commonly consisted of two long pieces of woollen cloth, destitute of any particular form, attached to the shoulders by a great many buttons, and sometimes by a clasp. They had straight sleeves, which came down to the wrists. The young girls, as well as the women, fastened their robe to their side by a cincture, as is still done in many parts of Greece. The cincture formed in the side a knot of ribbons somewhat resembling a rose in shape, as has been particularly remarked in the two beautiful daughters of Niobe. The mantle was round rather than square, and when the ancients speak of square mantles, they allude to the addition of four tassels, which were fixed to them, two visible and two concealed under the mantle.

Women seldom wore any other head-dress than hair: using the corner of their mantle when they wished for further covering. Sometimes, however, we meet with veils of a fine transparent texture. The covering for the feet consisted of shoes or sandals, the latter generally up an inch thick, and composed of sundry soles of cork.

The colour of vestments peculiar to eastern statues is curious, and must not be omitted. To begin with those of the gods:—the drapery of Jupiter was red, that of Neptune according to Winckelmann, sea-green, which colour belonged likewise

to the Nereids and Nymphs. The mantle of Apollo was blue or violet. Bacchus was clothed in white. Martianus Capella assigns green to Cybele; while Juno's vestments were sky-blue, with the occasional addition of a white veil. Pallas was robed in flame colour, and Venus (in a painting at Herculaneum) is in flowing drapery of a golden yellow. Kings were arrayed in purple; priests in white; and conquerors sometimes in sea-green.

Of the different Modes of Process in Sculpture.—Works of sculpture are performed, either by hollowing or excavating, as in metals, agates, and other precious stones, and in marbles of every description; or by working in relief, as in bassi-relievi in the materials just mentioned, or in statues of metal, clay, wood, wax, marble, or stone.

The excavation of precious stones forms a particular branch of art called *intaglio*, which, together with the working them in rilievo, when the term *camayeau* is applied to them, belongs to the art of seal-engraving.

The excavation of metals constitutes the art of engraving, in its various branches, on metal of any kind; and its relief comprises enclashing, casting in bronze, &c.

The process of hollowing hard stone or marble will need no particular description; especially as it is now wholly in disuse, except for the forming of letters in monumental or other inscriptions.

In working in rilievo the process is necessarily different, according to the materials in which the work is performed.

As not only the beginning of sculpture was in clay, for the purpose of forming statues, but as models are still made in clay or wax, for every work undertaken by the sculptor; we shall first consider the method of modelling figures in clay or wax.

Few tools are necessary for modelling in clay. The clay being placed on a stand or a sculptor's easel, the artist begins the work with his hands, and puts the whole into form by the same means. The most expert practitioners of this art seldom use any other tool than their fingers, except in such small or sharp parts of their work as their fingers cannot reach.

If clay could be made to preserve its original moisture it would undoubtedly be the fittest substance for the models of the sculptor; but when it is placed either in the fire, or left to dry imperceptibly in the air, its solid parts grow more compact, and the work shrinks, or loses a part of its dimensions. This diminution in size would be of no consequence, if it affected the whole work equally, so as to preserve its proportions. But this

is not always the case: for the smaller parts of the figure drying sooner than the larger; and thus losing more of their dimensions in the same space of time, than the latter do; the symmetry and proportions of the work inevitably suffer.

This inconvenience is obviated by forming the model first in clay, and moulding it in plaster of Paris before it begins to dry, and the taking a plaster cast from that mould, and the repairing it carefully from the original work; by which means you have the exact counterpart of the mode in its most perfect state; and you have, besides, your clay at liberty for any other work.

In modelling in wax, the artist sometimes uses his fingers, and sometimes tools of the same sort as those alluded to for modelling in clay. It is at first more difficult to model in wax than in clay, but practice will render it familiar and easy.

Of the Use of the Model.—Whatever considerable work is undertaken by the sculptor, whether basso relievo, or statue, &c. it is always requisite to form a previous model, of the same size as the intended work; and the model being perfected, according to the method before described, whether it is in clay, or in wax, or a cast in plaster of Paris, becomes the rule whereby the artist guides himself in the conduct of his work, and the standard from which he takes all its measurements.

Of Sculpture in Wood.—A sculptor in wood should first take care to choose wood of the first quality, and the most proper for the work which he intends to execute. If he undertakes a large work, requiring strength and solidity, he ought to choose the hardest wood, and that which keeps best, as oak and chestnut; but for works of moderate size, pear or apple tree serves very well. As even these latter woods are still of considerable hardness, if the work consists only of delicate ornaments, the artist will find it preferable to take some more tender wood, provided it is at the same time firm and close; as, for instance, the Indian tree, which is excellent for this purpose, as the chisel cuts it more neatly and easily than any other wood.

The ancients made statues out of almost every different kind of wood. At Sicily was a statue of Apollo made out of box; the statue of Diana at Ephesus was of cedar. As these two sorts of wood are extremely hard and undecaying; and as cedar, in particular, is of such a nature as, according to Pliny, to be nearly indestructible, the ancients preferred them for the images of their divinities. In the temple built on mount Cyllene in honour of Mercury, Pausanias relates that there was a statue of that god made of citron-wood, eight feet in height. This wood was also much esteemed. The cyprus likewise, being a wood not apt to spoil, nor

to be damaged by worms, was also used for statues; as were the palm tree, olive, and ebony, of which latter, according to Pliny's account, there was another statue of Diana at Ephesus.

Several other kinds of wood were equally employed for this purpose, even the vine, of which the same author says there were statues of Jupiter, Juno, and Diana.

(To be Continued.)

Useful Receipts.

The method of Quicksilvering Glass Globes, like Looking-Glasses.—Take of quicksilver two ounces, of bismuth one ounce, lead and block-tin, of each half an ounce; melt the lead and tin together, and then put in the bismuth, and when that is melted, let it stand till the mixture is almost cold; then pour in the quicksilver. Take care that the inside of the globe be clean, and with a paper funnel pour in the mixture very gently, and then move it about, that the mixture may touch every part; if it does not lay on equally, warm it over the fire, and then it will freely flow. If the amalgam, or mixture, be too thin, put a little more lead, tin, and bismuth. The finer and clearer the globe, the better the looking-glass will be.

To Prepare Red-Lead.—This is prepared by calcining lead upon a reverberatory hearth with a slow fire, and frequent renewal of the surface with a rake, till it becomes an oxide, taking care not to fuse it. The calcined mass triturated into a fine powder in a paint-mill, where it is elutriated with a stream of water, to carry off the finely-levigated particles, and to deposit them afterwards in tanks. The powder, thus obtained, being dried, is called massicot; it is then put into trays, and piled up on the reverberatory hearth, where it absorbs more oxygen, and it becomes partially red lead. This, after being stirred about, and subjected to a similar low calcined heat again, will be red lead.

To remove Fruit and Wine Stains.—Put about a table spoonful of muriatic acid into a teacup and add about a teaspoonful of powdered manganese, then set the cup in large one filled with hot water, moisten the stain with water, and expose it to the fumes that rise from the teacup. If the exposure be continued a sufficient length of time the stains will disappear. This solution can only be applied with safety to white goods, as it discharges all printed and dyed colours.

To make Black Sealing Wax.—Half a pound of gum-lac, or shell-lac, and one ounce and three quarters of ivory black.

The Progress of Cutlery Manufactures.

ENGLISH steel makers, it may not be generally known, give much higher prices for the Swedish Danemora (or Oregrund) iron than for English iron, and the sales have been to such an extent as to give a monopoly to the sale of the produce of such mines to England: hence it has been worth the attention of Sheffield cutlers to perfect most elaborately articles manufactured from Danemora iron. The cause of the superiority of this iron over English for the fine articles of cutlery, has never been explained; but whether it be the presence of manganese, or silica, or the nature of the peculiar process employed, the first character razors can be made from no other iron. The patentees (C. Stewart and Co.) of the new razor—which invention we noticed on its introduction as a great improvement, the razor having a simple moveable guard adjusted to it with such precision and nicety, that a complete protection to the skin is secured, even if the razor were used in a railway carriage, and the beard is removed with the most perfect freedom and accuracy—have exhibited, at their establishment, 22, Charing-cross, some specimens of this Swedish iron, and the razor forged from it. The specimens show the progressive stages of the manufacture of steel for the razor, from the iron in a crude state, or pig, to the rough or blistered steel, the latter in a refined state, the ingot broken to show the fineness of the grain in comparison with the blistered steel; refined steel drawn out in bars preparatory to being forged into razor blades, and the latter in their several states of forging, hardening, grinding, and fitting on the guards, to the completely finished and highly polished razor. The simple arrangement of these specimens, each of which is described, is highly interesting, and gives a good general idea of the manipulation of iron and steel, and the various changes it undergoes in the course of manufacture. The processes of tempering razors, pen-knives, and table-knives are different. A temperature of 430 to 450 deg. Fah. being required for razors; for pen-knives, 470 to 490 deg. Far.; while table knives require 510 to 550 deg. Fah. The tempering of a razor is not less important than the grinding, since the fineness and durability of the edge depend greatly upon both. Each cutler uses such a heat, and tests it by such signs as seem best to accord with the result of his own experience.

Many razors are made of iron, without being

converted into steel; and thousands are sold at a cheap price, made of English iron, which, if submitted to the test the Swedish iron can alone undergo, would fritter away in the subsequent processes, or become honeycombed and porous. Razors are often made from sixpence to several guineas per pair, and it is, consequently, folly to attempt to persuade practical men that a shilling razor, which at the price can only be made of English bar-iron, from which the commonest character of hardware is manufactured—for instance, fire-irons, &c.—has the same fine enduring edge as the razor made from the Swedish iron converted into steel. It gives us pleasure to draw attention to the exquisite superiority and finish of Stewart's patent razors, which must ultimately restore this beautiful class of British manufactures; for, as we have before stated, they make all their razors from the Swedish Danemora iron, applying the best workmanship to its conversion into steel, and the tempering and finish when the razor is forged; and it is gratifying to think that the result shows that we were not wrong in our conclusion, that this patent razor, with its guard, would soon become an established favourite, and ultimately supersede the ordinary make of razors.

Gutta Percha Tubing.

A SERIES of interesting experiments has just been concluded at the Birmingham Water-works, relative to the strength of Gutta-percha Tubing, with a view to its applicability for the conveyance of water. The experiments were made under the direction of Mr. H. Rolfe, engineer, upon tubes of three quarters of an inch diameter and one eighth thick of gutta-percha. These were attached to the iron main, and subjected for two months to a pressure of 200 feet head of water without being in the slightest degree deteriorated. In order to ascertain, if possible, the maximum strength of the tubes, they were connected with the water company's hydraulic propping pump, the regular load of which is 250 pounds to the square inch. At this point they were unaffected, and the pump was worked up to 337 pounds, the tubes still remaining perfect. It was then proposed to work the pump up to 500, but it was found that the lever of the valve would bear no more weight. The utmost power of the hydraulic pump could not burst the tubes. The gutta percha being slightly elastic allowed the tubes to become a little expanded by the extraordinary pressure which was applied, but on its withdrawal, they resumed their former size.

The Chronotypist.

BOTH ends of the Reading, Guildford, and Reigate railway, namely, from Reigate, on the South Eastern railway, to Dorking—eight miles,—and from Reading, on the Great Western railway, to Farnborough, on the South Western railway,—sixteen miles,—were opened on the 4th inst.—That portion of the Norwich Extension of the Eastern Union railway to Diss and Burton, within 17 miles of Norwich, was opened on the 2nd inst.—The Colchester and Stour Valley railway was publicly opened on the 2nd inst.—The Commissioners of Woods and Forests have allotted two pieces of ground in Holyrood-park, each between three and four acres in extent, to be used as public washing and bleaching grounds.—The 'Contemporaneo' of Rome, states that a cannon ball has struck the celebrated 'Aurora' of Guido Reni, a fresco painting, and on the same day a 36-pounder broke a piece off the cornice of the Temple of Fortune Virilis.—The Dean and Chapter of St. Paul's have given a site for a new church at Wood-end, in the parish of Ardeley, Hertfordshire, and the Rev. W. M. Malet, the Vicar, has liberally contributed to the cost of erection.—As the daily papers announced that the Diorama was about to be disposed of by public auction, it may be well to inform the public, and especially visitors from the country, that it was not sold, and therefore continues open as usual.—It is said that the choice to be made of an artist for the restoration of the Rubens Masterpieces in Antwerp Cathedral is becoming a matter of competition; many men of note looking out for the appointment with no ordinary ambition.—At Malines there have been, this week, a series of fêtes on occasion of the inauguration of the statue of Margaret of Austria. The King and his children were to be present.—A new monument is now about to be erected to replace the stone pillar, on the spot where General Wolfe fell, on the memorable 13th of September, 1759. It is from a design by Sir James Alexander, forming a very neat column of about 40 feet in height—and is visible from the St. Lewis road. The column is surmounted by a bronze helmet and sword, the former being encircled by a wreath of laurel.—A farmer of Ny, near Marche, has discovered a jar full of silver coins, nearly 2,000 in number. They are of the same model and nearly the same weight as a quarter of a franc piece. They comprise 28 varieties of coins of the princes of Liège, from Albert de Cuik down to

Robert de Langers (1194 to 1258), and some of them of the Empire of the same period. Samples have been forwarded to the governor of the province. The village of Ny was in the neighbourhood of some of the villages of the Liege country, the money of which had currency in Luxembourg.—The steeple of Saint Martin's church, Birmingham, is said by an architect to be in a dangerous state. On examination, he finds its departure from the perpendicular to be far greater than it was, and its vibration during bell-ringing to be rather alarming. The whole edifice is thought to require restoration or rebuilding, which there are surely people in Birmingham quite rich enough and ready enough to do.—At a preliminary meeting of iron masters, on Saturday week, a further reduction of 10s. per ton was resolved on, and it is considered to be very doubtful whether even the prices that now remain after the deduction of the recent nominal or admitted reductions of 30s. can be maintained. A notice of further reductions in wages has also been given.

To Correspondents, &c.

- E. N.—*Send the design you mention, and if suitable it shall be used.*
- P. L.—*Try flour of sulphur.*
- I. F. K.—*You can procure this work either in numbers, parts, or volumes, of any respectable bookseller.*

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. the *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 6, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * * Parts 1 and 2 are reprinted, and will in future be charged at 10d. each.

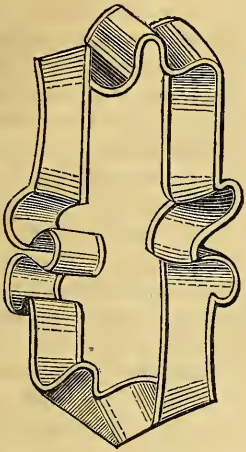
Part 27 is now ready, price 10d.



DESIGNS FOR CHARIOTS.



On Architectural Ornament.



ORNAMENT, observes Mr. Foggo, in his lecture on Architectural Ornament, is the source of much beauty and pleasure when judiciously applied in subordination to the principles of architecture as a science, and in character with the building and its purpose, but becomes ridiculous when it presumes to supplant the main principles of utility and construction, as in many Christian churches, where the emblems of heathenish sacrifice profane the temple of mercy.

In looking back to past ages, we find the history of architecture written in characters too plain to be misunderstood; from the simple forms of the pyramid and other Egyptian edifices, which all partake of the simple outline of the tent, to the Doric temple, of which that of Solomon is an early and important example of Phœnician construction, and in the description whereof in holy Scripture, every ornament is defined with accurate detail. From the heavy Doric examples still to be found in Sicily, near Corinth, and at other places of antiquity, down to the more elegant specimens of the time of Pericles, and onward to its corruption, first in Italy, and thence degraded, as knowledge failed into the clumsy Saxon, we see a course of progressive improvement in proportion to the state of general civilisation, and a proportionate decline under circumstances inimical to the cultivation of the human intellect.

After a period of unusual degradation, when science began once more to dawn on the pursuits of man, architecture again assumed more elegant proportions, more variety of forms and of ornaments, and gradually a style, both new and characteristic, was produced to astonish future ages. Roman edifices are corrupted from the Grecian, but the Gothic is in most respects quite different from either, and for its main purpose, far superior to both.

As a public mart and treasury, as a place for the exhibition of merchandize without, and noble works of art within, as an arsenal for the preservation of warlike stores, and at the same time, an edifice consecrated to a divinity, whose name added to the other terrors, by which it was prohibited from the outrage of surrounding barbarians, the Doric temple was at once beautiful and efficient; and under other circumstances, the vast cathedral, along whose pavement lengthened processions marched in solemn array, and amidst the dim splendour of a thousand torches, raised the swelling anthem to the lofty vaultings, shot up into majestic groves and varied imagery, subordinate to science. Two styles more opposite can be scarcely imagined; the one exhibits the perfection of simplicity and symmetry; the other effects a gorgeous display of fanciful caprice. The one, from its horizontal and square form, seems to hold fast to the earth, and well suited to bridges and other constructions of one story; the other, in its upward growth points heavenward, and that way leads our imagination; but in both, ornament is subservient to the main principle, and presumes not to usurp the privilege of useful science. In Grecian architecture, ornaments are light in character, and superficially applied to the construction, not embedded in its substance, as we find in the works of the Romans, who lost sight of their propriety in their thirst for superfluous beauty, often placing an egg-shell, or a delicate flower, as a support to a mass of incumbent stone, cutting away the solid cup around which the acanthus entwines so elegantly in a Corinthian column. The same good sense is observable in the best Gothic edifices, as in the Grecian ornament, being added to, or made to disguise science, but not to supplant it.

Having explained the different principles of

construction in Grecian and in Gothic architecture, the only two styles which he considered worthy to be compared, or great, peculiar, and distinct, Mr. Foggo observed, that however distinct in appearance, the peculiar circumstances in which they flourished were nearly similar, and highly interesting. Whilst slavery was the lot of most men, and they were fixed to the soil, and doomed to ignorance and oppression, a small part of mankind, devoted to science, and subservient to the religion of their time, were blessed with freedom, honoured and esteemed. When one place of worship was completed, they travelled in perfect safety into other states, where the cause of religion claimed their ingenuity. Slaves were abundantly supplied to assist in the heavy drudgery; but in all cases they were bound to live in community by themselves, apart from the ignorant multitude. The chief or grand master architect was their chief or judge, and if any wanderer claimed protection or employment, his claim was decided according to the mathematical knowledge he evinced in the examination he was subjected to, and his rank as a free mason or architect, was determined. Hence in the eyes of the ignorant the appearance of mysticism in those societies which flourished wherever slavery and privilege necessitated a monopoly of practical knowledge, which societies became merely mystical when their talent was suffered to decline, and the desire for preserving the advantage of exclusive privilege outlived the object of their institution. The great shock to Gothic freemasonry in Europe, was given by Edward the First employing some of the architects as military engineers. That monarch, by first introducing mathematical talent into his army, rendered warfare a highly cultivated science, and opened a wider field for the educated than even the hierarchy could afford. Deprived of its supremacy of talent, real freemasonry dwindled, and in place of the sciences mystical forms alone were clung to by the ignorant successors of the architects of Gloucester, York, Lincoln, and of Salisbury cathedrals. Then ornament supplanted construction, without reference to judgment.

That the florid and unmeaning beauties of Henry the Seventh's Chapel should be more admired than the stern merits of Westminster

Abbey, or the elegant cloisters and chapel of St. Stephen's (erected by Henry III. and Edward), can only be accounted for from the circumstance that the period which followed its creation up to our own time, was one of perfect ignorance of the principles of Gothic architecture. Even Sir Christopher Wren, by much the most scientific of our architects of those days, has, in his restorations of the Abbey, especially in the towers added by him, amply proved his total want of that knowledge. During the whole of that period the French court led the fashion and taste of Europe.—Louis the Fourteenth was esteemed supreme in art, and the gorgeous, heterogeneous style introduced to please him, endured undisturbed, until the genius of Wedgwood and Flaxman, of Hamilton, Hope, and others of our countrymen, revived a purer taste for nature and the antique.

The style of Louis the Fourteenth and Louis the Fifteenth was, in reality, borrowed from the Italian of the fifteenth century. It was eminent for the quantity, size, and prominence of its ornament, and the abundance of gilding usually introduced into it; for the admixture of birds, fishes, animals, or vegetables, without order or propriety, often distorted in form, and regardless of proportion, but with an effect of bold relief, and therefore of light and shade, adapted to make it appear solid and weighty; and, therefore highly prized in works to be executed in valuable metals, either gold or silver, wherein the effect of money value so often supersedes pure form. There are many excuses for the adoption of this barbarous style in these substances. The difficulty of finding a modeller a caster, a silversmith, a chaser, and a burnisher of adequate talent, and all equally bent on the production of a specimen of combined taste, is hopeless, in respect to elegant forms and simple elegance; but in the incongruous display of heterogeneous splendour, the facility and economy of the gaudy performance is a strong temptation—besides, its coarser merits are conspicuous to most persons; the other can only be appreciated by a few of refined taste. That period is most to be envied, when good taste is most diffused; for it is secure of most happiness, most moral worth, and most real wealth and comfort.

MR. BARRY, the architect to the new Houses of Parliament, has applied to the Commissioners for an increase of the stipulated remuneration.

Colours for Painting on Velvet.

DISSOLVE three or four pieces of gum dragon in a teacupful of hot water; in two days it will be fit for use. A little of this must be mixed with the colours when you lighten them for a first coat or ground work, otherwise the colours will run on the velvet. Rose, carmine, and golden-yellow, are excepted. Neither of these colours will mix with water.

Orange.—Pour an ounce of white wine vinegar on a little bay saffron—when the colour is extracted pour it off clear, and add gum water when used.—This colour does not keep brilliant more than ten days in its liquid state, therefore make only a little at a time.

Scarlet.—Pour a few drops of orange colour on a pink saucer; stir up as much of the pink as may be necessary to produce a rich scarlet.

Rose.—This may be made to any shade, by adding more or less of the lemon juice with the pink saucer.

Crimson.—Lay a coat of pink saucer very deep on your intended crimson flowers, and afterwards a coat of carmine.

Lilac.—Same as purple, but made much lighter with gum water.

Green.—Vary the tints of green by adding dark blue, or leaf-yellow, as required.

Leaf-yellow.—French berries three ounces, water half a pint—to be boiled gently till reduced to a quarter of a pint. A few moments before you take it from the fire add a quarter of an ounce of finely-powdered allum. When cold, strain and bottle it for use.

Brown.—Vary the tints by adding black, carmine, orange, or leaf-yellow.

Black. India ink, with light gum water.

Stone.—Mix very little black, and very little leaf yellow in a quantity of gum water.

Slate.—Mix very little black and dark blue in a quantity of gum water. The two last colours are for shading white roses and other white flowers.

Dark Purple.—Liquid archill one ounce; a teaspoonful of strong solution of potash, and as much fine powdered alum as will cover a sixpence. Shake it well in a bottle.

Golden-yellow.—Turmeric root, two ounces,—

gambouge a quarter of an ounce, put into a bottle with three ounces of the very best rectified spirit of wine; in three days strain it off, and it will be fit for use.

Carmine.—This colour must be mixed with spirits of hartshorn.

It is necessary to have three brushes and a scrub for each colour.

Useful Receipts.

To make Green Paint.—Add to a hot solution of blue vitriol a little solution of carbonate of soda; a beautiful powder, known by the name of French green, will be precipitated. The powder is sub-carbonate of copper.

To make Green Ink.—Mix the solution of sulphate of indigo with a decoction of French berries or fustic wood, and then dissolve gum arabic in the mixture.

To make Pearl-powder.—Dissolve bismuth in nitro-muriatic acid, and gradually add to the solution cold distilled water, upon which a beautiful white powder, which is an oxide of bismuth, will be precipitated.

To make Balls to remove Spots from Linen, Silk, or Woollen.—Take one ounce of fuller's earth and break it in a stone mortar, adding twenty drops of spirit of turpentine, and twenty drops of spirit of wine among it. Rub them together, and make a ball. Some use pipemakers' clay instead of the fullers' earth.

To make Strops for Setting Razors.—Take a long piece of leather, about two inches broad, and smooth and clear at the flesh side. Glue it to a piece of thin board the same size, and when it is dry smear it over with a tallow candle, and hold it over the fire till the grease is soaked into the leather. Repeat this three times, and then strew on some tripoli, clean washed, and work it into the leather till the grease becomes warm, and repeat the operation three or four times, and then the leather will be fit for use. Likewise glue some leather and tallow on the other side, and work in some fine powdered emery with a bit of smooth ivory, or a burnisher. This strop is extremely useful to give a razor a fine edge. Emery and tripoli can be bought at 1*d.* per ounce.

DRAWINGS of two ancient reedoss, discovered in the church of St. Cuthbert, Wells, were presented by Mr. Ferrey to the Archæological Institute.

A B C D E

F G H I J

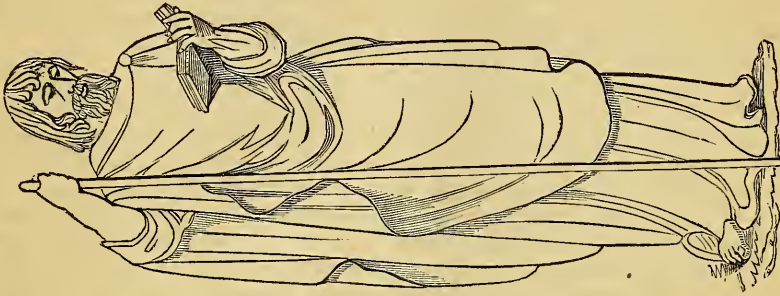
K L M N O P

Q R S T U

V W X Y Z



ST. MATHEW.



ST. THOMAS.

Sketched from the Tomb of St. Sebald, at Nuremberg.

Royal Academy.

PROFESSOR LESLIE'S LECTURES ON PAINTING.

LECTURE III.

(Concluded from page 113.)

It may seem presumptuous in one who has never been in Italy to speak of the Sistine Chapel.— But I have done so on former occasions, and without as good an excuse as I can now offer, the opportunity of showing you some drawings from Michel Angelo, and among them a very fine copy of the full size of the head of his Delphic Sibyl, made by the distinguished artist who preceded Mr. Howard in this place. On comparing it with the best existing engraving, you will see how impossible it is to form anything like an estimate of the character and expression of the heads in the heads in the Sistine Chapel by the transcripts we possess, and how invaluable would be a series of copies of the size and excellence of this. Of the inventions and compositions only of Michael Angelo can we judge from the prints.

The Cartoon of Pisa is, as you know, a work of entire invention; and varied and admirable as are its incidents, one of the finest consists in itself of nothing more than the tearing of a stocking. Connected, however, with the story, and expressive of the eagerness of the veteran who forces his dripping foot through it in his haste to obey the summons of the trumpet, it becomes heroic. Nicolo Poussin has almost exactly copied this finely-conceived figure in his 'Sacrament of Baptism,' but there the action wants the motive that animates the old soldier of Michel Angelo; the garment is not torn, and the translation of the figure, bereft of so much of its meaning, cannot well be justified.

Apart from Rembrandt's want of choice in character, his powers as a dramatic painter are of the highest order. His etchings, I believe, are in no instance from his pictures, but form a large and distinct class of his works. Though it is not my purpose, at present, to speak of *chiar-oscuro*, yet I cannot but notice one instance among these of a truly original conception resulting from light and shade. You are all acquainted with his little picture, at Dulwich, of Jacob's Dream, so poetic, and so entirely unlike the treatment of the same subject by any other painter.

Among his etchings there is another version of the Dream, equally original, and quite distinct from this. Jacob sleeps on a platform of ground,

midway in the composition, before which and him a ladder of light descends to the base of the picture, his figure being seen through the steps; a single angel ascends above, and others hover over him. We must call them angels, but they are the strange little animals that always appear as such in the works of Rembrandt, and however unwillingly, we must be content so to receive them. Still it is impossible not to regret that this beautiful conception, so truly dream-like, had not occurred to a painter whose notions of angelic beings accorded better with the received ones.

Another of these etchings, the Reception of the Prodigal Son by his Father, is a very fine and natural conception of the story. The poor penitent has sunk on his knees on the threshold of his early home, and with his hands clasped, and not daring to look up, seeks to hide himself in the arms and ample robes that are extended in forgiveness over him. The expression of the father is equally true nor can the common objection to Rembrandt's characters be made to the parent, though in the prodigal, one of his ugliest figures, there is some excuse for the emaciated limbs and shaggy head, as indicating the extreme wretchedness to which his follies had reduced him.

But among the etchings of Rembrandt, from which I prefer to take examples rather than from his pictures, as they are more accessible, the most admirable conception is, perhaps, that from the history of Abraham, in which the Patriarch and his son are alone in the mountain. The youth stands before his father, his hands resting on the bundle of wood. Behind Abraham is a pan of fire, and Isaac has just asked,—“Where is the lamb for a burnt offering?” The unconscious manner of the boy, who does not even look at his father while asking a question that pierces through his heart, is finely contrasted with that of Abraham, who draws near his son, looks him steadily in the face, and with one hand on his breast, as if to keep down the pangs he feels, points to Heaven with the other, while he yet avoids a direct reply. We see in his expression all we may suppose him to feel. It is supposed that but one feeling can fill the breast at one moment; yet may we not imagine that one feeling a bitter compound of many thoughts? I believe so,—and though it is very true that it is not in the power of Art, in every case, to explain by itself the nature of a strong emotion, yet it has to the utmost fulfilled its office when the expression, as in this instance, entirely corresponds with our previous knowledge of the subject.

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Continued from page 112.)

THEIR silver and arms are skilfully worked, and elaborately inlaid in intricate and often extremely elegant patterns. The existing architectural edifices and interior decorations of India are full of peculiar beauty, and deserve our attentive consideration; the design is made to produce effects not known elsewhere, and we must regret the deficiency of popular acquaintance with their detail and ornamental disposition.

With Egypt and Egyptian Art we are better acquainted; its prodigious edifices stand at this day, attesting the truth of what might otherwise be considered fabulous,—the pyramids, labyrinth and mighty temples. Egypt was an extraordinary country; two narrow strait lines of vivid green bordered the river; mountains on one side, desert on the other, with a cloudless canopy of deep blue sky. The popular habits and architectural partook of the stern, unchangeable, colossal character of the country. All art was imbued with the feeling; their statues received an ideal god-like expression; every head alike and the same in sentiment, whatever the action of the body. This remarkable trait was adopted and preserved by the Greeks. The trunk was moulded perfect, yet but one unvarying expression of feature marked the embodying of poetical symbols in stone. The head of the Memnon in the British Museum is full of beauty, and is one of the finest known. Their Temple of Karnac covered forty acres; ten acres occupied with buildings, and its approaching avenue of colossal sphinxes one mile in length. It is considered that these vast spaces were not solely devoted to the priesthood; the Pharaoh himself probably residing there, upon the broad terraces which such vast buildings afforded, raised in the air, removed from vermin, inundations and annoyances, to which the inhabitants were peculiarly subject; the Arab villages are built upon them at the present day. This temple palace was approached by an avenue of sphinxes, and the

Pylon were seen from afar raising a vast front of uniform surface; upon one was engraved in square sunk lines, the Pharaoh's warlike attributes, battles and sieges; upon the other his peaceful attributes and sacred duties. The first court was of immense extent. There, under a colonade, the king sat in judgment, the sculpture and paintings of the ceiling being appropriately designed to symbolize the passage of the soul through human vicissitudes to final judgments. The columnar grove came next, 325 by 266 feet, being a luxurious cool waiting-hall for the whole court. Above was a paved surface, upon which buildings of wood were erected, and concealed by the external face of the temple walls. They were very extensive, and called the ivory palaces, habitations of cedar and sandal wood, where the Pharaoh might be glad, and exempt from inconveniences of the nether world. Design must have entered largely into the construction, embellishments and ordinary service of the Egyptians. We know the son was bound to follow the trade of his father—that manufacturing Arts were fostered, and the higher Arts diligently though peculiarly cultivated. The design and execution of single colossal figures, also, the Sphinxes, are full of fine artistic feeling;—usually, they emblematically represented kings. The two lions in red granite, given by Lord Prudhoe to our Museum, were sculptured 3,000 years ago, and are remarkable for their treatment being fully equal to the best efforts of Grecian art. The working of so hard and unkind a material displays a knowledge of anatomy and other great principles of sculpture truly surprising: they must also have required excellent tools.

Basso relievos were frequent, and Art appears to have been in its highest excellence about 800 B. C.; after which, the great principles of design were lost amid exuberance of ornament, which, as in Greece and Italy, at all subsequent times, accompanied a decline of the Arts.

In the description of their festivals, with the vessels and ornaments used, we arrive at some little notion of the ordinary applications of Art to manufacture. Take the inauguration of Ptolomy, 300, B.C., when Egypt was at an extraordinary height of grandeur and power. It is one of the most celebrated solemnities in ancient history, and is fully described in Rollins's 'Alexander's Successors;' we find separate processions and decorations, emblematical of each god; priests, troops, and multitudes of persons clothed in robes of purple, deep red, and saffron, brocaded habits and rich embroideries of gold

thread; elaborately wrought and sculptured plate, to an immense extent; cups set with jewels, and profusion of rich manufactures. The ambition of the king upon such occasions was to display the greatest possible amount of treasure. During the games which succeeded, forty-three crowns of gold were given to the victors.

Just glancing at Tyre, the abode of those haughty and voluptuous merchants, kings of the sea, whose riches accumulated by dealing in all the fabrics of the East, and whose bales would discover the embroidered Tyrian wool, we pass to the most celebrated and illustrious nation of the world—Greece; the favoured of climate and geographical position. Wars and admixture with the great contemporaneous nations, especially the Persians and Egyptians, may in a great measure be considered to have introduced the Arts to her in considerable advance. Her laws, institutions, chariot races, games of gymnasium, and all others of which they were passionately fond, were directed to exalt the mind and refine the understanding.—rendering it capable of appreciating, and desirous of obtaining the highest perfections in fine Art. Civilization had just arrived at that state when the manners of men became polished, without ceasing to be natural, and consequently their attitudes and gestures expressive and emphatical, without degenerating into coarseness or violence. The Greeks were idolators, and their love of beauty was a principle of their religion. The more beautiful a face or form could be rendered, the greater chance of the artist receiving the present blessing and immortal honours of the gods. Beauty was so much prized among this acute and highly gifted people, that all those possessing it were ambitious of making it known through great artists to the world; statues were erected to the most beautiful children, and the Lacedemonian women kept in their bed-rooms models of the finest forms.

The philosophers recommended to all classes the study of Art, and the government seconded those recommendations. The priests found the religious feeling rendered more acute by painting and sculpture; and the authorities discovered that, by commemorating great national events in temples and public halls, they gave an additional impulse to the ardent emotion of patriotism.—Add to these, the natural inherent genius of the people, and we find in result those miracles of perfection of Art upon which the world continues to gaze with almost incredulous wonder.

Carbonic acid was discovered by the late Dr. Black, of Edinburgh, in 1757, under the name of fixed air, which is still a familiar name.

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

PROSTYLE. Having pillars or columns in front only: according to Vitruvius, the second order of temples.

PROSTYRIDE. A name given by Vignola to the key of an arcade, formed by a bunch of foliage between two listels and fillets, and crowned by a Doric cymatium.

PYCNOSTYLE. The method of intercolumniation which has but a diameter and a half between each column. The pycnostyle intercolumniation occurs in the ruins of Palmyra.

PURFLED. Ornamented with carving, resembling embroidery, lace-work, fringes, or flowers. It is also applied to the inlaid lines running round the edges of the better class of violins, and other stringed instruments.

PUTLOGS, or Putlocks. Pieces of timber about seven feet long, used in building scaffolds.

PUTTY. A kind of paste, made of whiting, a little white lead, and linseed oil well beat together.

PROPYLON. A vestibule.

PUGGING. A coarse kind of mortar laid on the boarding between joists.

PUG-PILING. See *Pile*.

PUNCHION. A common name given to all the iron tools used by stone-cutters, &c. for cutting or chipping. Also, a piece of timber placed upright between two posts which have too much bearing. A piece of timber which is raised upright under the ridge of a building, and in which are jointed the small timbers, &c.

QUARRY. A pane of glass cut in a diamond or lozenge form.

QUARTER-ROUND. The same as the Ovolo. (See



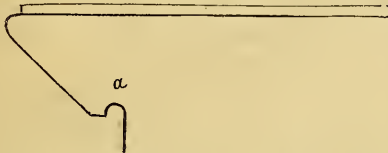
Moulding.

QUARTERS. Slender pieces of timber placed between the puncheons and the posts to nail the laths to in partitions. They are four inches square, and called double quarters,—or single when four inches broad and two thick. It is an established rule to place exactly fourteen inches of space between them.

QUAY. A bank of masonry on the side of a sea or river, for the purpose of lading or unloading goods conveniently.

QUIRK. A piece taken out of any regular flat, ground, or floor.

QUIRK MOULDINGS. The concave part of Grecian mouldings, when they recede at the top,



(marked A. in the engraving) forming a re-entrant angle with the surface which covers the moulding.

QUOINS. Stones, or other materials, put in the corners of buildings to strengthen them.

RADDLINGS. An old term, applied to the cooping or bowing-in of walls.

RADIAL CURVES. In Geometry, curves of the spiral kind, whose ordinates all terminate in the centre of the including circle, and appear like so many radii of that circle.

RADIUS. The semi-diameter of a circle, or a right line drawn from the centre to the circumference. In mechanics, the spoke of a wheel.

RAFTERS. The secondary timbers of a house, which are let into the great beam.

RAILS. In framing, the pieces that lie horizontal are called rails, and those that are perpendicular are termed stiles. Two rails and two stiles enclose a panel. The upper and lower part of the banister of a stair-case is called the hand-rail and the foot-rail. Pieces of timber which lie horizontally from post to post in fences are likewise called rails.

RAILING. A fence entirely composed of posts and rails.

RAILWAY, or Tram-road. A track of iron, stone, &c. intended by diminishing friction, to facilitate the conveyance of heavy goods. At first they were made only of wood, and employed only to carry coals from the pits to the warehouses, &c.,

but they have since been carried to a wonderful degree of perfection, monopolizing nearly three fourths of the goods and passenger traffic of this country.

RAISER. The upright board on the foreside of the steps of a flight of stairs.

RAISING PIECES. Pieces which lie under the beams, over the ports or puncheons, by the side of the house.

RAKING. A term applied to mouldings whose arisies are inclined to the horizon.

RAKING TEMPLE. A member hollowed in the square of a pedestal.

RAMP. A concavity on the upper side of hand-railings, formed over risers, or over a half or quarter space, made by a sudden rise of the steps above.

RAMPANT. A term applied to an arch whose abutments spring from an inclined plane.

RAMPART. A massy bank or elevation of earth, &c. raised for the purpose of covering a place from the direct fire of the enemy. It is made of sufficient thickness effectually to resist the impression of the cannon balls, and is formed into bastions, curtains, &c. The term, rampart, is also applied to the space left void between the walls of a city and the houses next to it.

RAMPS. In fortification, gentle slopes made for the cannon to be drawn up and down by, and to facilitate communication, raised either on the side of an elevated work, or against a salient angle on each side of an entering angle.

RANGE. A term applied to the edge of a number of bodies which run straight in the same surface or line.

RASANT Line of Defence. That part of the curtain or flank whence the shot exploded glances or razes along the face of the opposite bastion.

RAVELIN. A flat bastion, anciently placed in the middle of a curtain. The term is now applied to a detached work which is formed by two faces making a salient angle, and raised before the curtain of the counterscarp of a place, to cover it and the adjoining flanks from the direct fire of the enemy.

RAY. The perpendicular distance between the edge and the vertical point of a table.

RABBIT. (*See Rebate.*)

The Chronotypist.

THE first stone of the new church at Birch was laid on the 26th ult. It is to be in the Middle Pointed style, and to consist of nave and aisles, chancel, tower, and spire. Material—flint with Caen stone quoins—accommodation for 500; cost £3,000. Mr. S. Teulon is the architect, and the Messrs. Baldiston and Son, of Ipswich, are the builders.—The rebuilding of Cranoe Church in the Ealy Pointed style, with nave, chancel, and porch has been completed, and the edifice opened for service. It is roofed with red and black Newcastle tiles, with crested ridge. The old tower has been retained. The chancel windows have been filled with stained glass by Messrs. Powell & Co. —The foundation stone of a new town hall and market house was laid at Brentford, by Rord R. Grosvenor, on Thursday the week before last.—The restoration of Salisbury cathedral spire is far advanced towards completion. The vane has been replaced.—The General Hospital burial-ground opposite the Commercial-rooms, Bath, has been covered with concrete 5 inches thick.—The Chester Baths and Washhouses were opened on Monday week before last, and during the first three days 2,406 persons availed themselves of the baths, 2,184 being admitted at the charge of one penny. —The nave roof of Hatton Bonville Church, near Northallerton, for some time in a precarious state, fell, lately, and broke the pews and seats to pieces; a boy was much hurt, but the workmen employed in making a new roof were fortunately absent.—The foundation stone of a new congregational church was laid at Cockermouth on 27th ult. It is to be of white stone in the Pointed style, from a design by Mr. Eaglesfield, of Maryport. Length 72 feet 6, breadth 45 feet 6, height 60 feet. There will be seats for 550 adults and 200 children. Cost 1,700*l.*, of which 700*l.* is yet to be subscribed.—The foundation stone of a new parish church was lain at Drigg, according to the "Carlisle Journal," on Friday week.—The Lord Provost and magistrates of Edinburgh are determined to use every exertion to have the Wellington monument, designed by Mr. Steele, and destined for the front of the Register House, placed in preference on the grand terrace to be laid out with statues, &c., along the Princes-street Gardens, at the Scott monument, certainly a very eligible site for such a monument. —At a meeting of the Geographical Society, held

on the 25th ult., Capt. Smyth, R.N., in the chair, a proposal for the construction of maps upon the walls of the corridors and committee-rooms of the new houses of Parliament, by Mr. Saxe Bannister. was read, with remarks upon the subject by Mr. G. B. Greenough. Mr. Bannister proposes the construction of maps on a large scale as useful decorations to the new palace at Westminster; such as that constructed by Sebastian Cabot, suspended in the gallery at the palace of Whitehall, and as are in the Gallery of Geography of the Vatican. The idea is capable of very extensive amplification.

Birmingham Workhouse Competition.—Forty-three sets of plans have been received in competition, and Mr. John Shaw, London, Mr. Edge, Birmingham, and Mr. Stevens, Derby, have been requested to act as selecting architects.

Granite.—A block of granite was lately blown out at the Dartmoor works, the length of which was 30 feet, breadth 23 feet, height 24 feet; cubical contents, 16,500 feet; it weighed no less than 1,330 tons. It is intended for the Government works at Morice Town.

To Correspondents, &c.

J. S. S.—*Too late.*

W. W.—*You can obtain them all at our office.*

J. L.—*Your request shall be complied with next week.*

Amateur.—*It shall be used.*

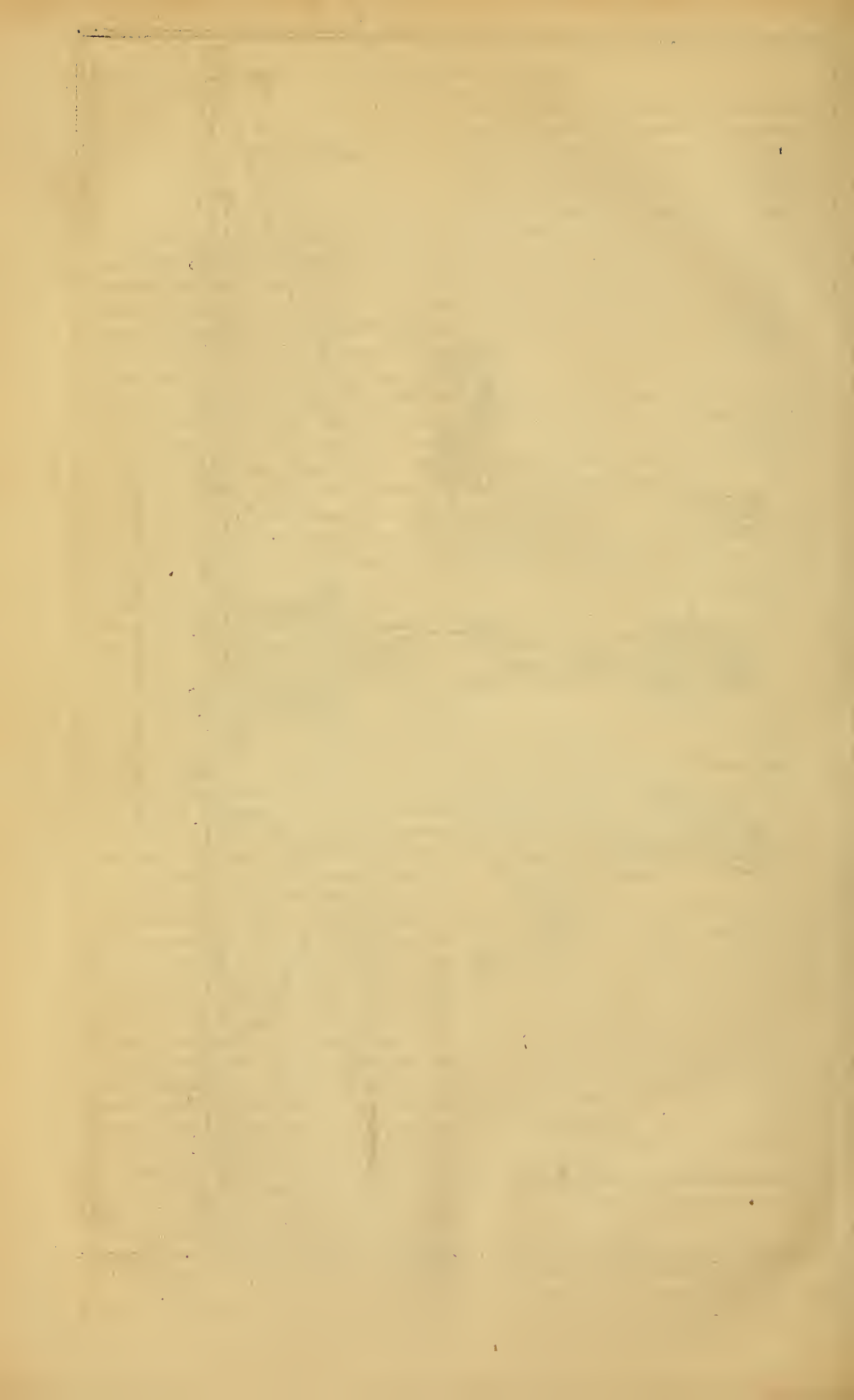
Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. The *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 6, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * Parts 1 and 2 are reprinted, and will in future be charged at 10d. each.

Part 27 is now ready, price 10d.



A DESIGN FOR A CENTRE-PIECE.—(GRECIAN.)



Of the Various Qualities of Caen Stone.



ALL well-regulated concerns of an extensive kind, a judicious division of labour is indispensable: an architect would require his life and faculties to be prolonged to the extent of the patriarchs of old were he to attempt, by his own personal observations to gain a thorough knowledge of the numerous materials employed in an extensive edifice. It is a duty incumbent on every member of society to use his best endeavours, however insignificant, to facilitate the advancement of knowledge, and to make his fellow-creatures around him and as much wiser and as much better informed as lies in his power.

The stone in most general use for ornamental architecture, in the south of England, is obtained chiefly from that extensive tract of country usually denominated the "Oolitic district," which passes from Yorkshire through the various counties until it reaches the coast

of Dorsetshire. The same kind of stone again appears in Normandy, and its characteristic features prevail in the celebrated quarries near the city of Caen. Diverging into several branches or ranges of hills, it traverses France, forms the great mass of the Jura mountains, and constitutes part of the chain of the Alps. The Oolitic rocks of Normandy present a close analogy in their general, and even in some of their minor divisions, to those of southern England. Commencing in the vicinity of Havre de Grace, and extending our observations to the neighbourhood of Caen and Falaise, we find a series of beds corresponding with those of the Oolite in our own country. It would thus appear that throughout a considerable portion of France and England, the causes which produced the Oolitic rocks did not differ materially; shewing that at the time of their production, similar general causes were in action over a particular portion of the two countries, probably long before the sinking of the land which produced the English Channel.

The entire country from the sea to some distance beyond Falaise, and from Bayeux to a considerable distance east of Caen, is composed of the same mineralogical description of strata; remarkably horizontal, and in all probability continuous, or without interruptions. The comparative insignificance of elevations or depressions, merely of a few yards, up or down, is unimportant when considered on the principle of a general level. It rarely happens that a district of 30 or 40 miles in area, presents so tame and unpicturesque a scene, so apparently undisturbed by any geological phenomena, as is to be found in the neighbourhood of Caen.

All these various beds of Oolitic limestone are of marine origin—consequently they must have been deposited at the bottom of an ancient sea, and then upheaved to their present position, where they appear to have remained undisturbed since since the period of their consolidation, affording a striking example of long continued tranquility; and remarkably contrasting with the violent distortions, depressions, fractures, and denudations so conspicuous on the opposite coast, from the Isle of Wight to the extremity of Dorsetshire.

On approaching the coast of Normandy from the English Channel, and for some dis

tance up the river Orne, on the eastern bank, rocky masses of a hard calcareous nature are abundantly sprinkled near the coast, and scarcely to be seen above water, which renders the navigation so far dangerous that all vessels are compelled to take a pilot to enter the Orne. This same stratum of limestone being very nearly level, continues also inland to the eastward, where there are quarries at Cagny and Bonneville; but the most extensive quarries of this material are situated at Ranville, close to the eastern bank of the Orne, about half way between the sea and the city of Caen. This stone is composed almost entirely of broken shells, occasionally rather oolitic, and occasionally otherwise, and containing fragments of very small fossil corals; the whole slightly and irregularly laminated, is united in a mass with a strong calcareous and highly crystalline cement. In geological position this limestone rests upon the Caen freestone.—It resembles in general structure and composition several varieties of similar material to be found in our own country, such as the Hamhill stone, near Yeovil, the Taynton, near Burford, that of Weldon-in-the-Wood, Northamptonshire, and a few more, all of which are well known to be extremely durable, altho' they are usually rather too coarse grained to be used for minute ornaments, but no doubt admirably adapted for bold architectural or engineering works.

Before particularising the stone of any precise spot, it may be as well to state that the city of Caen, together with its entire environs, rest immediately upon the rocks of freestone. The bare strata may be observed on the surface of the ground, all round the foundations of some of the principal buildings of the city and villages in the neighbourhood. Although the beds in general appear to be perfectly level, nevertheless, upon a more attentive examination, through a distance of ten or twelve miles, an evident depression may be observed from inland towards the sea, of probably about 100 feet, or an angle of something like 1 in height to 500 in length; for this reason the beds of Caen freestone are not to be found on the coast, where, if they are continuous, they are buried beneath the Ranville rocks, and probably form the bed of the sea.

From the general flatness of the country

it is rather difficult to distinguish the precise localities where older rocks have risen from beneath to the surface through the freestone beds; and in the immediate neighbourhood of Caen such features appear to be of rare occurrence. It is pretty certain that the same calcareous substance may be traced in continuity round the city as far as St. Croix and Tourville on the west; and on the road from Caen to Falaise, with one or two slight interruptions, similar stone may be found throughout nearly the whole distance of 20 miles, for I am disposed to consider the quarries of St. Pierre and Aubigny merely as modifications of the same rock.

There are many places in the neighbourhood from whence building stone is at this time procured; and there are others where the name and inequality of surface would lead us to suppose that, in by-gone times, quarrying operations had been practiced to a considerable extent, although long since discontinued.—Even close to the walls of the citadel, and midway between two of the largest buildings in the city, namely, the churches of St. Stephen and the Holy Trinity, there are places still retaining the names of the "Old Quarries," the "New Quarries," and the "Little Quarries." The principal quarries from whence Caen stone is procured, which for their number and extent, we may infer have been in work during several centuries, are situated from one and a half to two miles distance, on the south-west side of the city, near to the village of Haute Allemagne. The surface of the country, especially that part over the quarries, is nearly level, having a very slight inclination towards the northeast so as to drain into the river which divides the high from the low land. The river above the city is very narrow and shallow,—little more than a brook, and has never been used for the conveyance of stone, although it runs close by the entrance of the principal quarries. The quarries to the number of 30 or 40, are all subterranean, and are entered from a road along the side of the hill, or escarpment. The shaft quarries are at a considerable distance from those which are entered from the side of the hill, and have therefore no connection from one to the other. In one or two cases these have been deserted on account of the water getting in from the surface.

History of Sculpture.

(Continued from page 118.)

FELIBIEN speaks of a French artist at Florence, of the name of Janni, who executed several statues in wood, in a style of finishing equal to marble, and particularly one of St. Roque, which Vasari considered as a marvellous production.

The beauty of sculpture in wood consists in the tender manner of cutting the wood, free from all appearance of hardness or dryness.

Of Sculpture in Stone and Marble.—For sculpture [in marble and other stone, the artist must make use of tools made of good steel, well tempered, and of strength proportioned to the hardness of the material.

The first thing to be done is, to saw out from a larger block of marble, a block proportioned to the size of the work which is undertaken. After this, the sculptor shapes the gross masses of the forms he designs to represent, by knocking off the superfluous parts of marble with a strong mallet or beetle, and a strong steel tool called a point. When the block is thus hewn out agreeably to the measures previously taken for the performance of the work, the sculptor brings it nearer to the intended form by means of a finer point; and sometimes of a tool called a dog's tooth, having two points, but less sharp than the single one. After this he uses the gradine, which is a flat cutting tool, with three teeth, but is not so strong as the point. Having advanced his work with the gradine, he uses the chisel to take off the ridges left by the former tools; and by the dexterous and delicate use of this instrument, he gives softness and tenderness to the figure, till at length, by taking a rasp, which is a sort of a file, he brings his work into a proper state for being polished.

Rasps are of several kinds, some straight, some curved, and some harder or softer than the others.

When the sculptor has thus far finished his work with the best tools he can procure, wherever certain parts or particular works require polishing, he uses pumice-stone to make all the parts smooth and even. He then goes over them with tripoli, and when he would give a still higher gloss, he rubs them with leather and straw ashes.

Besides the tools already mentioned, sculptors use also the pick, which is a small hammer pointed at one end, and at the other formed with teeth made of good steel and squared, to render them the stronger. This serves to break the marble, and is used in all places where the two hands

cannot be employed to manage the mallet and chisel.

The bouchard, which is a piece of iron, well steeled at the bottom, and formed into several strong and short points like a diamond, is used for making a hole of equal dimensions, which cannot be done with cutting tools. The bouchard is driven with the mallet or beetle, and its points bruise the marble and reduce it to powder. Water is thrown into the hole from time to time, in proportion to the depth that is made, to bring out the dust of the marble, and to prevent the tool from heating, which would destroy its temper; for the freestone dust on which tools are edged is only moistened with water to prevent the iron from heating and taking off the temper of the tool by being rubbed dry; and the trepans are wetted for the same reason.

The sculptor uses the bouchard to bore or pierce such parts of his work as the chisel cannot reach without danger of spoiling or breaking them. In using it he passes it through a piece of leather, which leather covers the hole made by the bouchard, and prevents the water from spiring up in his face.

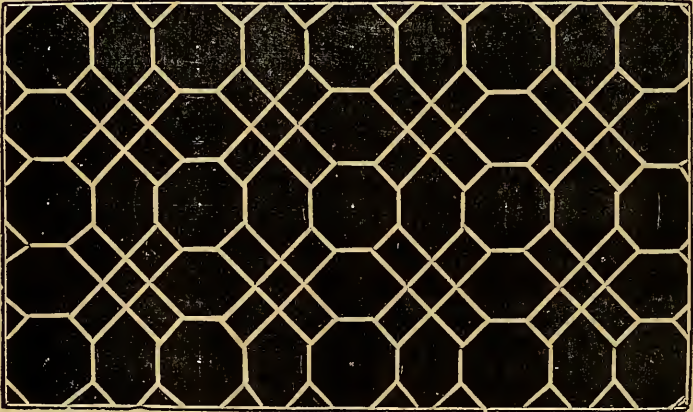
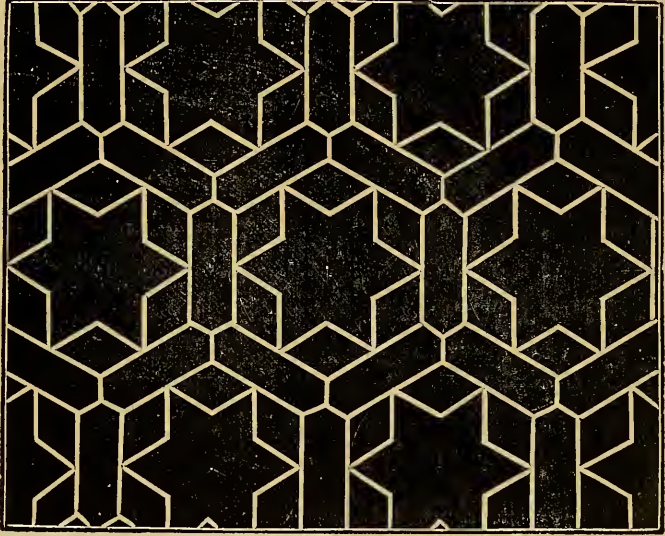
The tools necessary for sculpture on marble or stone are the roundel, which is a sort of rounded chisel; the houquet, which is a chisel squared and pointed; and various compasses to take the requisite measures.

The process of sculpture in stone is the same as in marble, excepting that the material being less hard than marble, the tools used are not so strong, and some of them are of a different form, as the rasp, the handsaw, the ripe, the straight chisel with three teeth, the roundel, and the grater.

If the work is executed in freestone, tools are employed which are made on purpose, as the freestone is apt to scale, and does not work like hard stone or marble.

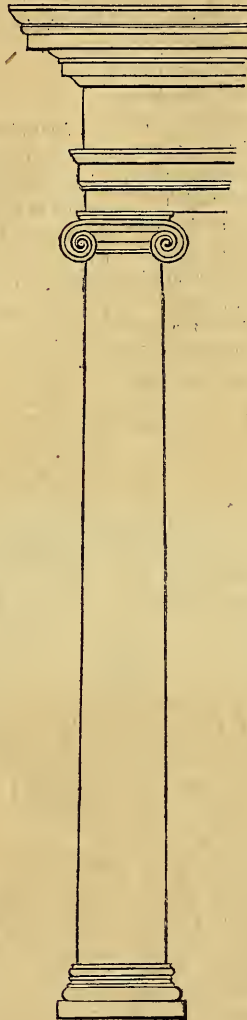
Sculptors in stone have commonly a bowl in which they keep a powder composed of plaster of Paris, mixed with the same stone in which their work is executed. With this composition they fill up the small holes, and repair the defects which they meet with in the stone itself.

To make Congreve Matches.—Take one part phosphorus, one nitre, one chlorate of potash, one sulphuret of antimony, three gum-water of the consistency of cream. Place them in a cup, and set the cup in hot water. As the phosphorus melts, stir the ingredients together till thoroughly evaporated. Dip sulphured matches into the mixture.



DESIGNS FOR GLAZIERS.

Architecture.



IONIC CAPITAL.

THE Ionic, next to the Doric, was the oldest order amongst the Greeks. It originated among the Ionic colonies of the Lesser Asia, and is more delicate and graceful than the Doric, and yet has more majesty than the Corinthian. The column is fluted with twenty-four channels. The abacus of its capital is scooped on the side, and the chief ornament of the capital is its two spiral volutes. It

is supported by the echinus moulding, sculptured with the egg-and tongue, and bordered above and below by a headed astragal. The base consists of a torus and two scotia, separated by astragals, and resting on a square plinth. But the most favorite base used with this order, both by the ancients and moderns, was the attic. The cornice is in general much divided by moulding and dental bands. In

most of the Asiatic remains the frieze is found to be wanting. In the temple of Erechtheus, the column is terminated by a fillet and astragal, and in that of Minerva Polias by a single fillet, a little below the lower edge of the volutes. In the capitals of the Ionic buildings at Athens, and of the temple of Minerva Polias at Priene, the lower edge of the canal between the volutes is formed into a graceful curve, bending downward in the middle, and revolving round the spirals. In the temple of Bacchus at Teos, in the great temple at Laodicea, and in all the Roman examples of the Ionic, the channel which connects the two volutes is not formed with the border on the lower edge, but is terminated with a horizontal line, which falls a tangent to the curve of the spiral at the commencement of the second revolution of each volute. The proportions of this order are—the whole column 8 modules, of which the base occupies 30 lines, and the capital 20 lines, the abacus being six and a half, the echinus the same, the intervening channel 7, the whole depth of the

volute is 27 lines, depending considerably lower than the echinus; the shaft, seven and one sixth modules, tapering 10 lines from the lower diameter to the neck. The entablature 1 module 38 lines, the architrave being 31 lines, the frieze 27, and the cornice 34. The finest specimens we have of the Ionic order, are the temples of Minerva Polias, at Priene, of Erechtheus, and Minerva Polias at Athens.

The Oriental Diamond.—We find by Ritter, that it is found over a large extent of the borders of the table land of the Deccan, from the fourteenth to the twenty-fifth degree of latitude. It is there seen in a loose, conglomerated sandstone, of but a few feet, and more or less deep beneath the surface. Gold is also found there occasionally. The conglomerate consists of quartz, iron-stone, jasper, chalcedony, cornelian, and also brown iron ore.



INITIAL (C.) FROM A MS. IN THE RECORD OFFICE.—(12TH CENTURY.)

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Continued from page 128.)

IN Pericles, unbounded magnificence, and a spirit of sublimity was united with equal taste and judgment; he determined that a temple should be erected to Minerva, excelling in every refinement, beauty, and costliness, which the advanced state of the Arts could supply. In this spirit the Parthenon was built, and enriched with the most perfect specimens of sculpture that Art ever produced; exhibiting a display of constructive knowledge of the human figure, skill in execution, and effect of design, unparalleled. (The drawings upon the walls are after the equestrian frieze.) The Greeks did not alone confine themselves to stone or bronze for sculpture; the Olympian Jupiter, at Elis, was of gold and ivory, 60 feet high, the eyes of precious stones; and the Minerva of the Parthenon, 40 feet high, made of ivory, and the ornaments of gold, both of exquisite workmanship. When this temple was built, 500 B.C., Art was at its zenith, and the most celebrated sculptors contended for the honour of its embellishment. The Greeks were consummate masters of effect, and by a wall, prevented a clear view of their temples being obtained until the spectator came within a certain range, and then the temple was approached upon its *angle*, displaying the architecture and embellishments in the finest point of view.

The Greek mind became enlarged and enriched by science and literature, and versed in all the arts of civilised life and elegant accomplishments. The greatest men of mighty nations listened to Athenian philosophers, and long after her subjugation to Rome did she support this superiority. Her coins, intaglios, and medals, for ages, were remarkable for their beauty and intelligence; and her bronzes are the finest in existence. A constant demand existed for sculptors, by cities and warriors desirous of propitiating their gods, by erecting temples, or bestowing statues: this occasioned Art to be equally profitable and ennobling.

This refined people paid great attention to ornamental design for domestic use; the exquisite variety and beauty of their drawing would appear

to be inimitable, for after all our attempts, we return and acknowledge their supremacy. These fine designs were used upon their architecture, their gold and silver vessels, and embroidered on their dresses, and gave form to the ordinary familiar household vessels. Grecian history shows the greatest solicitude to have existed upon the important connexion between arts and manufactures: they had laws for protection, and for restraining the emigration of artists. A stranger exhibiting a new manufacture in Athens, obtained the rights of a citizen, and some of the most illustrious men were sons of manufacturers. Athens and Ægina were the great manufactories of Greece in all works connected with the Fine Arts, and had more commissions than any other nation; their bronzes, vases, and candelabras being especially celebrated. This progress to a perfect state of art was gradual, but always well directed; their admirable works of a minute or minor kind upon armour, vases, medals, and general bronzes, were unquestionably executed by men of high talent, who might have failed, or quitted the higher branches of art, for the service of the manufacturer.

Rome acquired her art through conquest; she imitated the buildings of countries subjected by her arms, and transported statues, pictures, and works of gold and silver, to adorn her capital. The produce of Athens, Delphi, and Elis filled Rome with the rarest productions of the Fine Arts. The increasing power, when Julius Cæsar and Augustus held supreme sway, was auspicious to the general interests of Fine Art; the emperors made great efforts to increase the splendour and magnificence of Rome, and their policy extended a similar course throughout the empire, considering that it tended to fix authority, give general security, and contribute to the happiness of the people. This example was universally followed by their subjects, who had spirit to conceive and wealth to accomplish the noblest undertakings. The opulent senators of Rome and the provinces esteemed it an honour, and almost an obligation, to adorn the splendour of their age and country; the influence of fashion very frequently supplying the want of taste or generosity. It was within a period of 300 years that the luxurious adornment of Rome took place. The sculptors were universally Greeks, and though wealth and honour drew men of talent to Rome, and somewhat revived Grecian excellence, the creative spirit, the spark of vitality, infusing life and soul, originality and thought into their productions, could not be recalled. In the best age of Roman art the demand was chiefly for statues of personal representation, in which a vitiated taste often required the embellishment of

colour, by the admixture of coloured marbles or bronze. The same departure from simplicity pervaded their architecture. The most extensive and magnificent structures were erected, but in heavier proportions than the elegant Greek. Every member in the cornice of temple or public edifice became encumbered with a profusion of ornament, and an imposing heaviness of enrichment was the result. The interior of their buildings was decorated by sculpture and painting, and manufacturing design entered freely into their general domestic service. You have Sir W. Gell's fine work on Pompeii, and Sir H. Englefield's Etruscan Vases; several villa façades, the magnificent decorations of Titus' baths, and some fine specimens of colouring and modern adaptation before you.

(To be continued.)

An Illustrated Glossary of Technical Terms used in Architectural and Interior Decoration, &c.

REBATE. A hard free-stone, which is used in constructing pavements. A piece of wood hafted into the top of a long stick, for the purpose of beating out the mortar. An iron tool sharpened something like a chisel, and employed in dressing and polishing wood.

REBATING. Planing or cutting grooves, channels, &c.

RELIEVO; or *relief*, the projecture of an archi-



tectural ornament.

RECESS. A depth of some inches in the thickness of a wall, as a niche, &c.

RECTANGLE. A figure in geometry, whose angles are all right angles.

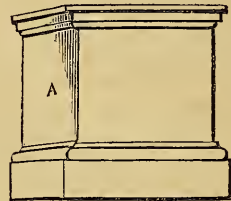
REDANS. Projections constructed at intervals,

in a wall built on uneven ground, for the purpose of preserving the same height through its whole length.

REDUCT. A quirk, or little piece taken out of a larger, to make it more uniform and regular.

REGLET. A flat narrow moulding, used to separate from each other the parts or members of compartments and panels, and to form knots, frets, &c.

RETURN. The continuation of a moulding, projection, &c. in an opposite direction; a side



or part which falls away from the front of a straight work. (Marked A in the engraving.)

REGRATING. A term given by masons to the process of taking off the outer surface of an old hewn stone, for the purpose of whitening it, and making it look fresh again.

ROSE, or *Rosette*, an ornament sculptured in



the centre of each face of the abacus of the Corinthian capital.

ROSE MOULDING. Used in Saxon archi-



tecture.

REGULA. A band below the tænia of the Doric epistylum.

REJOINTING. The filling up the joints of stones in old buildings, when the mortar has

been crumbled out by the effect of time and weather.

REPLUM. The panel of the impages of a framed door.

REREDOS, or Reredosse. A screen or division wall, placed behind an altar, rood-loft, &c. in old churches.

RETURN BEAD. One that appears both on the face and edge of a work.

REVELS. The two vertical sides of an aperture between the front of the wall and the window or door frame.

RHOMBOID. A quadrilateral figure, of which the opposite sides and opposite angles are respectively equal.

RHOMBUS. A quadrilateral figure whose sides are all equal, and whose opposite angles are respectively equal, two being obtuse and two acute.

RIDGE. The top of the roof, which rises to an acute angle.

RIGHT ANGLE. An angle of ninety degrees.

RIGHT LINE. A line perfectly straight.

ROLLS. In Gothic architecture, mouldings representing bent cylinders.

ROOD-LOFT. A gallery between the nave and choir in churches, in front of which, towards the nave, stood the rood or cross, and images of saints. The rood-lofts of English cathedrals have often been occupied in later times by organs.

ROSE WINDOW. A circular window, with compartments of mullions or tracery, branching from a centre; it is sometimes also called a *catherine-wheel*, or *marigold window*.

RULE. An instrument for measuring, &c., of which there are several kinds; stone-cutter's rules, mason's rules, carpenter's rules, sliding rules, parallel rules, &c.

RUSTIC. A mode of building in imitation of nature.

RUSTIC WORK. *Frosted Rustic Work* has the margins of the stones reduced to a plane parallel to the plane of the wall, the intermediate parts having an irregular surface. — *Vermiculated Rustic Work* has these intermediate parts so worked as to have the appearance of being eaten by worms. — *Rustic Chamfered Work*, in which

the face of the stones being smoothed, and made parallel to the surface of the wall, and the angles bevelled to an angle of 135 degrees with the face of the stone, when they come together on the wall, the bevelling will form an internal right angle.

RUSTIC COINS. Stones at the interior angles of buildings, which project from the surface of the wall, the edges being bevelled, or recesses left at the joints. At present they are not much used.

RUSTIC ORDER. That kind of building where the face of the stones are hatched or picked with the point of a hammer.

SABLIERE. A piece of timber as long as a beam, but not so thick. An old term.

SACRISTY. A strong room attached to a church, in which sacred vestments and utensils are deposited.

SAGGING. The bending of a body in the middle by its own weight, when suspended horizontally by each end.

SAGITTA. This term is sometimes applied to the key-piece of an arch. Some geometers use it to signify the abscissa of a curve. In trigonometry it is the versed sine of an arc, which stands on the chord like a dart.

SALLY. A projecture; the end of a piece of timber, when cut across the fibres with an interior angle, formed by two planes.

S SH. The wooden frame which holds the glass in windows.

SCABELLUM. A kind of pedestal, anciently used to support bustos or relievos, very high and slender, generally ending in a kind of sheath, or in the way of a baluster.

SCAFFOLD. A frame of wood fixed to walls, for masons, plasterers, &c. to stand on while working the parts of a building which they could not otherwise reach.

SCAGLIOLA. The name of a species of plaster or stucco, invented in the town of Carpi, in Modena, in 1584, by Guido del Conte, composed of selenites calcined to a fine powder, and mixed with a sufficient quantity of water to make a paste, which must be well kneaded. It is used in the formation of columns and ornamental works in imitation of marble; which is performed with astonishing effect.

SCALENE. A triangle whose sides are all unequal.

Useful Receipts.

To make a Stone that will produce Fire when wetted.—Take quicklime, saltpetre, Alexandrian putty, and the herb called catamint, of each equal quantities; sulphur vivum and camphor, of each twice as much as one of the rest; powder them, and pass them through a fine sieve; put them into a bit of fine new linen, and tie them close up; put them into a crucible, and place another thereon mouth to mouth; lute them well together, and set them in the sun to dry, and when the powder is dry enough it will look yellow; then put the crucible into a potter's furnace, and it will turn into a kind of brick; when you are desirous of lighting a candle with it, wet it with your spittle, and it will instantly flame. When you have used it, blow it out again.

To make Shining Ink.—Take of gum Arabic and Roman vitriol, of each an ounce, of galls, well bruised. one pound; put them into six quarts of sour small beer; set them in a warm place, and shake them often; pour off the clear, then add half an ounce of ivory black in fine powder, and a fourth of a pint of fine stale beer.

Permanent Ink for Marking Linen.—Dissolve a drachm of lunar caustic (fused nitrate of silver) in thrice its weight of distilled or rain water, and add about half a drachm of gum Arabic. This forms the ink, with which you must write or rather paint, with a clean pen upon the linen prepared as follows:—dissolve half an ounce of subcarbonate of sodia in an ounce of distilled water, and add twenty grains of gum Arabic, this forms the mordant. Well moisten with the mordant the part of the linen that is to be written on; dry it by a gentle heat, and then apply the ink in the manner above directed to the place that has been moistened. The writing when exposed to the sun becomes black.

To Pulverise Glass.—Lay a piece of glass between two metallic points, so that these two points touch the sides, not the flat surface of the glass directly opposite to each other, so that, in fact, the glass may form part of the electric circuit. Under these circumstances, if a strong electrical shock is transmitted through the metals, the glass will be shattered into powder.

To make Fulminating Powder.—Three parts of saltpetre, two of salt of tartar, and one of brimstone mix them together, and reduce them to a fine powder. Take two drachms of this mixture, and put it in an iron spoon, and hold it over the candle, and it will explode with a report like a cannon.

To Correspondents, &c.

G. R.—*We will engrave the design for a Tazza sent. Accept our thanks.*

F. H.—*For a bright scarlet for painting on velvet, see No. 115.*

G. F. (Hull.)—*Change your Bookseller.*

C. C.—*It is a dangerous error to suppose that carbonic gas will not remain suspended in the atmosphere. It is found on the highest mountains, and death is frequently occasioned by the air being overcharged with it in close rooms.*

An American.—*We contend that it was our countryman, Lynington, and not Fulton the American, who invented the Steam-boat. Mr. Lynington's son is now living in London, we believe, and has documents to prove it.*

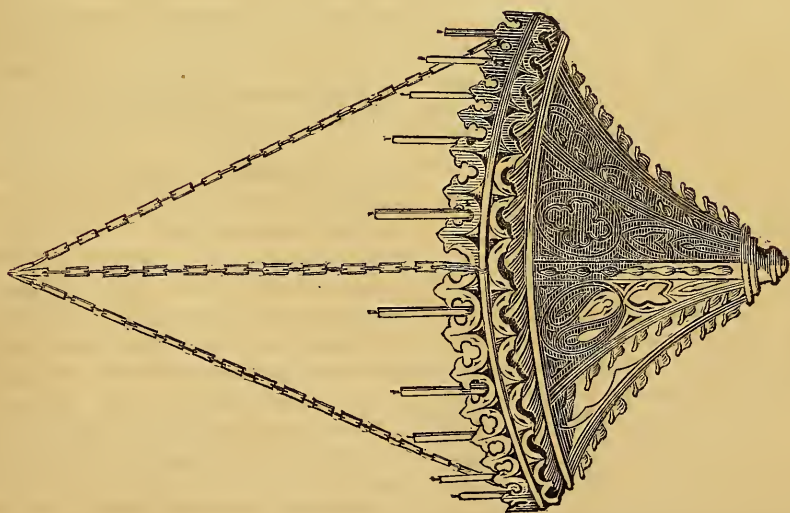
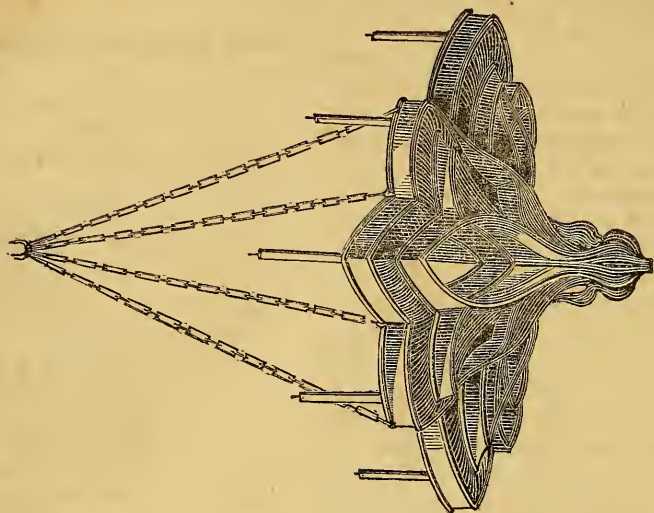
B. B.—*The museum of the late Mr. Soane is left to the country.*

G. S.—*Try again.*

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. The *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 6, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * Parts 1 and 2 are reprinted, and will in future be charged at 10d. each.

Part 27 is now ready, price 10d.



DESIGNS FOR CHANDELIERS.—(GOTHIC.)

Method of Preparing Marbled Paper.



OME of our Readers being desirous of obtaining information with regard to the method of preparing marbled paper, we have collected the following facts, which we think can be relied on. The principal difference in the various kinds of marbled paper, consists in the forms in which the colours are laid on the ground, some being disposed in circumvolutions, and some in jagged lengths, and others in spots of an oval or roundish figure.

The general manner of managing each kind is, however, the same—being the dipping of the paper in a solution of gum-dragon, over which the colours previously prepared with ox-gall and spirits of wine, are first spread. The solution of gum-dragon must be made by putting a sufficient portion of the gum, which should be quite white and clear, into clean water, and letting it remain there a day or two—frequently breaking the lumps, and stirring it till the whole appear dissolved and equally mixed with the water. The consistence of the solution should be nearly that of strong gum-water. It must be passed through a linen cloth, and being put into the trough, will be ready to receive the colours.

The colours employed for red, are—carmine, rose pink, lake, and vermillion. For yellow Dutch pink and yellow ochre. For Prussian blue—verditter. For green, verdigris, and a

mixture of Dutch pink with Prussian blue in various proportions. For orange, orange lake. For purple, rose pink mixed with Prussian blue. These several colours should be ground with spirits of wine till they are of sufficient thickness, and then at the time of using, a little fish-gall should be added by grinding them over again with it. The proportion of gall must be just as much as will suffer the spots of colour when sprinkled on the solution to form together without intermixing, or running into each other. When everything is thus prepared, the solution of gum-dragon must be poured into a trough, and the colours being in separate pots, with a pencil appropriated to each, must be sprinkled on the surface of the solution, by shaking the pencil, charged with its proper colour, over it; and this must be done with the several kinds of colour desired, till the surface be wholly covered. When the marbling is proposed to be in spots of a simple form, nothing more is necessary; but where the whirls or snail-shell figures are wanted, they must be made by means of a quill, which must be put among the spots to turn them about till the effect is produced. The jagged lengths must be made by means of a comb five inches in length, made of wood, with brass teeth two inches long, placed about a quarter of an inch from each other. But if they are desired to be pointed both ways, the comb must be again passed through the trough in a contrary direction.

The paper should be previously prepared for receiving the colours by dipping it overnight in water, and laying the sheets on each other with a weight over them. The whole being then ready, the paper must be held by two corners, and laid in the most gentle and even manner on the solution covered with the colours, and softly pressed with the hand that it may bear everywhere on the solution.

After this it must be raised and taken off with the same care, and then hung to dry across a proper cord suspended near at hand for that purpose, and in that state it must continue till perfectly dry. The paper must then be polished, for which it is first rubbed with a little soap, and then thoroughly smoothed by glass polishers, called calendar glasses. After this it must be again rubbed by a burnisher or glass ground to the highest pitch, for on the

perfect polish of the paper depend its beauty and value.

Gold or silver powders may be used if desired, along with the colours, and require only the same treatment, except that they must be first tempered with gum water.

Uses of Cast Zinc in Decoration.

M. GEISS, of Berlin, has been exhibiting specimens of zinc used for architectural and decorative purposes in a mode not hitherto employed amongst us, namely—CAST. It appears that for seventeen years zinc has thus been used in Berlin for architectural purposes, viz., for all exterior as well as interior ornamental parts of buildings, which, by casting, can be produced in the sharpest forms, and are said to be at the same time capable of resisting all influence of the weather. Columns, capitals, consoles, acroteria, cornices, dressings for doors and windows, balconies, vases, statues, &c. can be formed of it.

The late distinguished architect, Schinkel, thus writes on the subject:—

“The cast metal offers particular advantages from its greater strength in comparison with rolled zinc, from its being less subject to the influence of temperature, and from its capability of receiving the finest impressions by casting, for which reasons it seems most adapted for all plastic works of art.

“We see, therefore, already, large statues, copies of antiques, in the atelier of M. Geiss, at Berlin, executed in the most elaborate style, to which statues, by a precipitate of copper, an excellent imitation of copper can be given. All ornaments of carved work and projecting members forming perforations, and crowning members, are capable of being executed of this metal in the easiest way. At the same time the more important parts of buildings can be made very cheap and durable. We have recently finished a large restoration of our university, in which about 1,600 feet of cornice, with modillions, have been cast in zinc, which was fastened to an iron framework, and which instead of sixteen dollars per foot if in

stone, cost in zinc only nine dollars, including the iron framework.

“The many advantages which zinc offers for the construction of furniture, as vases, candelabra, basins, &c. &c., which in the open air are less exposed to damage than stone, and for the clothing of rough iron supports, with the elegant forms of columns and consoles, dressings for doors, and richly ornamented architectural members, show clearly the extent of its extreme usefulness, and will render it in future indispensable for architecture, contributing at the same time more and more to the extension of architecture itself.”

With reference to a remark recently made in our pages as to the effect of sea air and coal smoke on the ordinary rolled zinc, the agent of the *Vieille Montague Zinc Company* has addressed a communication to us, wherein he says:—“I would refute the erroneous and generally received idea in this country, that zinc (pure zinc at least), corrodes when exposed to the sea air or spray on coasts, or in countries where coal is the predominant fuel. Wood yields such gases no less abundantly than coal, and yet zinc is admitted to stand well in the inland districts of France, where wood is used as fuel.

“As regards the borders of the sea, if it does not stand equally well there, how does it happen that the zinc roofs of the large sheds at Amsterdam and Rotterdam, for building men of war, have stood the test of such exposure for at least twenty years?

“Witness, too, the large shed of the great arsenal at Flushing, the large prison at Cherbourg, the barracks and railway stations at Boulogne sur-Mer and at Havre, and other buildings in various other sea ports.”

It is asserted, and our manufacturers should look to this, that British zinc is less pure than that used abroad.—*Builder*.

The Sheffield and Lincolnshire Junction Railway was opened on Tuesday week from Sheffield to Gainsborough, completing the communication between Liverpool on the west and Grimsby and Hull on the east. Captain Winn has inspected the whole of the operations.

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Continued from page 138.)

THE splendid and colossal edifices which adorned their cities—temples, palaces, and baths—were crowded with works of art. Trajan's Basilica was most magnificent. Its forum, temple, and approaches crowded twelve acres—the hall, 540 by 168 feet, would have contained our St. Pauls, and its column was enriched by sculpture descriptive of the Roman victories over the Dacians. The Theatre of Marcellus was arranged in three tiers of columns, the lower of marble, the next of vitrified glass, and the upper of gilded wood. It contained three thousand statues in bronze. The palace of Diocletian at Spatro was very celebrated. His baths accommodated 18,000 persons at one time. Those of Caracalla covered thirteen acres. These baths were a kind of vast club, in which every exercise of body or mind might be taken—every delight of the senses indulged, and the whole people met there. Gardens were raised about thirty feet above the general level, adorned with pavilions, and a great central building having an immense hall, obelisks and fountains, fragrant shrubs, flowers, and the finest statues. During the first 300 years of the Christian era seven of these baths were erected, well calculated to indulge that love of luxury which rapidly corrupted the Roman manners under the emperors, gratifying the constant love of excitement in novelty and splendour, which then gave popularity to the government. The number and beauty of their villas were amazing; built on the model of the Persian palaces, their interior decorations were full of choice design, chiefly executed in fresco, and by artists of eminence. The luxurious description given of the furnishing of these villas, their richly wrought plate, &c. convey certain intimation of the encouragement given to manufacturing design. Hadrian's villa, at Tivoli, enclosed by a wall ten miles in circuit, contained the most magnificent embellishments. Pliny's villa, and that of Lucullus were very celebrated; each had gardens of very great splendour.

We must not overlook Palmyra, built by Dionsius, whose magnificent ruins, replete with ele-

gant design, attract the traveller's attention. Balbec, not less celebrated, boasts of the well-known Temple of the Sun—

“Whose lonely columns stand sublime,
Flinging their shadows from on high—
Like dials which the wizard Time
Had raised to count his ages by.”

Byzantine art arose through the impatience of Constantine, and the inefficiency of his architects employed to erect the first Christian city. It presents a rich admixture of the plunder from the other styles—several parts of Europe adopted it—Moscow, and the south of Russia, and also along the Mediterranean coast.

The Arabian, or Moresque, took its rise among a people whose extraordinary conquests and quick perception of the beautiful enabled them to graft new combinations upon ancient Eastern architecture. At the time when other nations were again sinking into barbarism, they became a medium for preserving that knowledge which has descended to us. Their ornament was elaborate and geometrical and distinguished by delicacy of execution; and the principle of their colouring gorgeous as that of the eastern nations. I need only mention Mr. O. Jones's magnificent publication upon the Alhambra Palace, in illustration.

Early in the fifteenth century, immense efforts were made to restore classical architecture and ornamental embellishments, and consequently all the extensive ramifications of manufacturing design. Art quickly became the idol of the people, and there appeared some of the greatest names that ever graced the annals of art; powerful princes were patrons, and the utmost encouragement was afforded by the illustrious merchant family of Medici, the Popes Leo X., Julius II., and Clement VII. Architecture, painting, and general decorative art, pressed forward with amazing success. All the minor discoveries had been gradually developed, and art reached its most distinguished eminence before the close of the fifteenth century. The splendid talents of Leonardo da Vinci distanced all former excellence. Naturally possessing the very highest attributes of genius, and favoured by education and circumstances, he became as great in sculpture as in painting, The musician, poet, and man of science, his genius kept unceasingly creating, but his perseverance failed before completion. The Battle of the Standard, a cartoon for decorating the great council chamber at Florence, is one of the noblest inventions in art, full of felicity and picturesque energy, it displays each attitude of body, and active passion of mind, with profound skill.



Fig. 1.

TWO WILD PLANTS.—See p. 147.



Fig. 2.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

SPANDREL BRACKETING. Brackets which are placed between curves, each of which are in a



vertical plane, and in the circumference of a circle, which is in a horizontal plane.

SHIELD. An ancient weapon of defence, borne on the arm, to send off lances, darts, &c., often used in architecture as a part of ornamental decorations. The shield was the most ornamental



part of the ancient armour, being adorned with figures, and in the ages of chivalry bearing always painted on it the arms of its possessor. The accompanying engraving represents a Norman shield from the Bayeux tapestry.

SPIRAL. A curve line of a circular kind, which



in its progress recedes from its centre.

SCARFING. The jointing and bolting of two pieces of timber together transversely, so that the two appear but one.

SCENOGRAPHY. The representation of solids in perspective.

SOUICHEON. A shield for armorial bearings. In a contract for building Fotheringhay church,



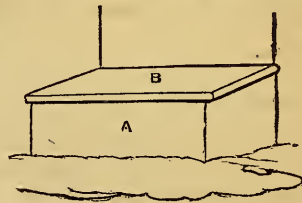
the term appears to be applied to signify a compartment of the exterior tower.

STARTING POINT.—A cup or stalk use in or-



namental drawing to commence a running scroll.

STEPS. The degrees in ascending a staircase, which are composed of two parts, the tread or



horizontal part, and the riser or vertical part—A the riser; B the tread.

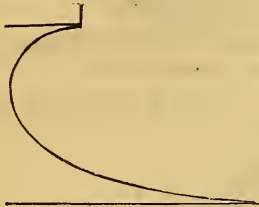
SHAKE. The fissure occasioned in timber by its being dried too suddenly, or exposed to too great heat. Any timber when naturally full of slits or clefts, is said to be shaky.

SWALLOW-TAIL. (In fortification.) A single tenaille, narrower towards the fortified place



than towards the country.

SCOTIA. The hollow moulding in the bases of Ionic columns; also the groove or channel cut in

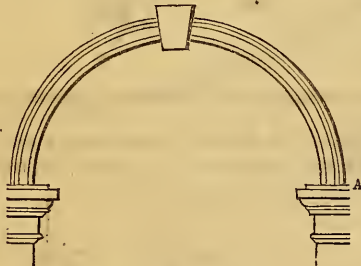


the projecting angle of the Doric corona.

SCAPE. A term sometimes given to the shaft of a column, more commonly to the place where it rises from the base.

SCIAGRAPHY. Another name for the section of a building.

SPRINGING COURSE. The horizontal course of



stones whence an arch rises.

SHINGLES. Small oaken boards, used like slates to cover a building, from eight to twelve inches long, and about four broad, thicker at one side than the other. This kind of roof is not frequently used.

SHANK. The space between the channels of the Doric triglyph, which is sometimes the leg of the triglyph.

SHAFT. (*See Architecture.*)

SHAFT. (In a chimney.) The stone or brick turrel above the roof. The shaft of a king-post is the part between the joggles.

SETTING-OUT ROD. A rod in use among joiner for setting-out frames, as of windows, doors, &c.

SOFFIT. The under part or ceiling of a cornice; any timber ceiling formed of cross beams of flying cornices, the square compartments or



panels of which are enriched with sculpture or painting, as in the Italian palaces.

SEMI. A Latin word which is used in composition with other words to signify half, as semi-



circle, half a circle, semi-ellipse,—a half oval.



SCALE. A line divided into a certain number of equal parts, an instrument for measuring or plotting by.

SCAMILLUS. A small plinth below the bases of the Ionic and Corinthian columns.

SCAMOZZI'S RULE. A two foot joint rule for the use of builders, so called from its inventor, the architect Scamozzi.

SCANTLING. The dimensions of a piece of timber both in breadth and thickness.—Also the name of a piece of timber, as quartering for a partition when under five inches square, or the rafter, purlin, or pole plate of a roof. In masonry, scantling is the dimensions of stone in length, breadth, and thickness.

SECTION. In architectural drawings, a view of an edifice, as cut down the middle, showing the disposition of the interior. It is also called sciagraphy.

SCANDULE. Flat pieces of wood used by the ancient Romans in the place of tiles to cover their houses. The people who made them were named *scandularii*, and were exempt from all public services.

SCRATCH-WORK. A kind of fresco with a black ground, covered with a coat of white, which is afterwards scratched with a bodkin, or some pointed instrument, so that the black appears through the scratches.

SCREEN. Partitions, generally wrought with rich tracery, placed before small chapels and tombs, or behind the high altar. In old parish churches, oaken screens, richly carved, often divide the nave from the chancel. We sometimes, as at Exeter, find them at the side of choirs. A screen is also an instrument, consisting also of three wooden ledges, joined in a rectangular frame at the bottom, the upper part of which is filled with wire work; its use is to sift sand or lime in making mortar.

SCRIBING. Fitting the edge of a board to any surface, as of the skirting of a room to the floor. In joinery, it is the fitting one piece of wood to another, so that their fibres may be perpendicular to each other, the two edges being cut to an angle to join.

SEALING. Fixing a piece of wood or iron (for hinges to a wall, with cement, lead, &c.

SERAGLIO. The palace of an eastern prince, more particularly that which contains the apartments of the females.

SESSPOOL, or cesspool. A well sunk under the mouth of a drain, to receive the sediments which might choke its passage.

SET-OFF. A sloping face of masonry, marking the divisions of a buttress.

SETTING, in masonry, fixing stones in walls or vaults.

SINGLE FRAME AND NAKED. A term which is applied to a floor with only one tier of joists. A single joist floor is one that has no binding joists.

SINGLE HUNG. When only one sash of a window is moveable in the same vertical plane, the sashes are said to be single hung.

SIDE-POSTS. A kind of truss posts placed in pairs, each disposed at the same distance from the middle of the truss, for the purpose of supporting the principal rafters, braces, crown or camber beams, as well as for hanging the tiebeam below.

SHOE. The part at the bottom of a leaden pipe, or water trunk, which is intended to turn the course of the water.

SHOOTING. Planing the edge of a board straight, and out of winding.

SHOULDER. The plane transverse to the length of a piece of timber from which a tenon projects.

Calceolaria.

For Illustration, see page 144.

Many species of the *Calceolaria* are now in bloom, two of which we have engraved. Fig. 1. The *Cypripedium calceolus* grows wild in the mountain woods of France and Switzerland, where it bears the [name of "Sabot des Alpes" and "Sabot de Venus," from the resemblance of the blossom to the wooden shoe worn by the peasantry. Fig. 2. The *Cypripedium flavescens* is a native of North America, and was brought to Europe by the indefatigable traveller André Michaux. Redouté gives it the name of "Sabot a fleur jaune."

Moving Panorama of the Nile.—The moving panoramic picture of the Nile, the preparation of which was lately announced, was exhibited to friends on Saturday week, and was opened to the public on Monday. Messrs. Warren, Bonomi, and Fahey, assisted by Messrs. Martin, Corbould, Weigall, and Howse, have conspired to produce an exceedingly interesting and very beautiful work of art. The spectator, starting from Cairo, is made to see first one bank of the Nile, as far as the second cataract, in Nubia, and then returning, the other side is brought before him.

Pin Making.—A pin-making machine has been set up at Stroud, which makes pins with solid heads, from the wire to the polishing, without the interference of the hand. A water wheel of forty horse power works one hundred several machines, which produce four thousand five hundred pounds of pins per week, or nineteen millions of pins.

Absorption of Metals by Plants.—Metals are absorbed or secreted by plants. Quinine and coffee contain copper; oak, iron; and vines, pines, and figs, manganese.

A dredging machine raises in its buckets, in four hours of each tide, 960 tons of gravel per day; or, on a clay bottom, about half that astonishing quantity.

On the Metals.

The Cheaper Metals that have important uses in the Arts.

MANGANESE.

Manganese is a hard, brittle, greyish-white metal, resembling cast-iron, is soon tarnished when exposed to the air, and is not found in an uncombined state. The compounds which contain it are chiefly the native or black oxide, which is a peroxide.

Peroxide of manganese is a black, hard, and somewhat brittle compound, containing one atom of the metal 28., and two of oxygen 16, making its equivalent 44.

By heat it gives up part of its oxygen, hence it is used for procuring this gas. When muriatic acid is poured upon this oxide, chlorine is evolved from the decomposition of the acid; hence large quantities of this oxid are used in the preparation of chlorine, for the purposes of bleaching and preparing the chloride of lime. It is used in small quantities in glass-making, to remove the green or yellowish colour; but in larger proportions it communicates a purple colour. The specimens of purple glass, such as the hyacinth glasses, are coloured by this oxide. The black glazing on earthenware, sometimes called black earthenware, is coloured by the same material.

IRON.

Iron is the most useful and most abundant of all the metals; indeed there are few minerals in which its presence cannot be detected. It is the hardest and toughest of all the useful metals; hence its indispensable use in making agricultural and cutting instruments. Should the art of working iron be lost, there is no metal that could supply its place, especially for implements of cutlery. Its hardness may be very much increased by being heated and suddenly cooled. By heating it to redness, it is remarkably soft and pliable, and may be intimately incorporated or welded with another piece of red-hot iron by hammering, a property possessed by no other metals, except sodium and platinum. Iron has the specific gravity of 7.7, and when pure it is nearly infusible; but, when combined with carbon, it melts at a bright red heat. It is attracted by the magnet, and may be rendered permanently magnetic; a property of the highest importance to

man, which is possessed by no other metals except cobalt and nickel.

The ores of iron that are wrought for obtaining the metal, are the oxides, which are exposed to a high heat in a furnace, mixed with charcoal and lime. The charcoal takes away the oxygen, and a small portion of it unites with the metals rendering it fusible. The lime at the same time uniting with the impurities of the ore, forming a fusible compound called *slag*, which floats on the surface of the melted metal, and prevents it from being oxidised by exposure to the atmosphere. The particles of metal at the same time, as fast as reduced, run down into the lower part of the furnace, where it is drawn off through a small aperture previously closed with a plug of clay.

The iron thus obtained, is the common cast-iron, of which iron pots, kettles, stoves, &c., are made. It consists of about five per cent. of carbon, and contains many impurities, such as earthy substances; by heating repeatedly and hammering it, the carbon and impurities are separated, the metal is drawn out into bars, and is called wrought iron.

Steel is formed by placing in a kind of oven, alternate layers of bars of iron and charcoal in fine powder, and keeping the whole at a red heat for about a fortnight; the charcoal unites directly with the iron, of which it forms about one and a half per cent. At a bright red heat it melts, is poured into moulds, and is then called cast-steel. It is used for the finest instruments.

Iron has a strong affinity for oxygen. In dry air it suffers no change, but when moisture is present, it is rapidly oxidized or rusted; but when heated to redness in the open air, it is converted into black scales, called the black oxide of iron: and in pure oxygen it burns with vivid scintillations.

OXIDES OF IRON.

Iron combines with oxygen in two proportions, forming the protoxide, which is dark, or nearly black; and the peroxide, which is red, and more commonly called iron rust. The latter is considerably used in the arts. It is used by the silversmiths for polishing their metals, under the name of rouge.

There is a golden yellow mineral that is taken by the uninformed for gold; it is a sulphuret of iron, often called pyrites; it is very hard, and may be made to strike fire with steel. This mineral is used in preparing copperas, which is the sulphate of iron.

ZINC.

Zinc, or spelter, as it is sometimes called by the workmen, is obtained from an ore called calamine, which is a native carbonate, or from the native sulphuret called zinc blonde. The metal is procured by heating the ores with charcoal.

Zinc is a blueish-white metal, of a strong metallic lustre. It is a hard and brittle metal, and has the specific gravity of about 7. Though at common, and at high temperatures, it is brittle, between 212 and 300 degs., it is both malleable and ductile, and is rolled out into thin sheets, which are considerably used for covering the roofs and floors of buildings.

Zinc is used for making the zinc plates of galvanic batteries. But by far the largest quantities are used for melting with copper to form brass.

Zinc undergoes little change by exposure to the air and moisture; but when heated to redness in the open air, it takes fire and burns with a bright white flame, forming an exceedingly light oxide which readily floats about in the atmosphere. This oxide was formerly called, from its lightness, white nothing, philosopher's wool, &c. It is now called oxide, or flowers of zinc.

TIN.

Tin is a very ancient metal; it was known to Moses, and mentioned in the Book of Numbers. It was used by the Phoenicians, who obtained their ores from the mines of Spain and Britain. It was also known to the Egyptians, Greeks, and Romans. It is a very white and brilliant metal; hence it was called Jupiter by the ancients, from its brilliancy, being supposed to resemble that of the planet.

It is not oxidized by exposure to air. It is quite malleable, and is rolled out into thin leaves, called tin-foil, which is extensively used in the arts. It is used by dentists in plugging decayed teeth.

Tin may be distinguished from other metals, by giving a peculiar crackling sound when bent. It melts at the temperature of 442 degs., and, when heated to whiteness in the open air, takes fire and burns with a splendid white flame, producing an oxide of this metal.

Tin is most extensively used in the arts, in combination with other metals. United with lead, it forms solder, used by the tin-plate workers in soldering their vessels. Common tin ware is made of plates of sheet-iron covered with a thin coating of metallic tin, prepared by dipping the sheets of iron, previously cleansed, into melted tin. Vessels made of this material, are sometimes called block-

tin ware. Copper tea-kettles, and other vessels of the same metal used for domestic purposes, are covered on the inner surface with a coating of tin, prepared by first cleansing the surface of the copper, and then melting the tin in the vessel, a thin coating of which will adhere to the copper, and the rest, in a melted state, is poured off.

Exp.—Take a piece of sheet copper, and place on it a small bit of tin and a little powdered rosin, and hold it over a spirit lamp, the flame of which melts the tin, and causes it to unite with the copper, and its surface becomes covered with metallic tin.

Block-tin vessels, such as tea-pots, coffee-urns, &c., are tin, containing about five or six per cent. of brass, and a small quantity of metallic antimony. The articles are cast in copper moulds, generally in pieces, and afterwards soldered together and polished.

Britannia ware is made of the same materials as the block tin ware, except that, for the brass used in the block-tin, copper is here substituted. The articles are formed by first casting the metals into thin sheets, and then beating them up into the desired forms by hammers and other instruments.

There are two oxides of tin, the protoxide, and the peroxide. The latter is a pale yellowish powder, and is used in the arts, under the name of putty of tin, for polishing metals, and, when melted with red lead, it forms white enamel, of which watch and clock dials are made.

There are two combinations of tin and sulphur, called protosulphuret and bisulphuret; the latter has been known from the earliest ages, and has been used in the arts, under the name of Mosaic gold, to give a golden colour to bronzed and japanned work. The bronzed iron railings, are frequently prepared by mixing this article with the paint when it is laid on. Sometimes they are painted, and then various bronzes are laid on afterwards.

College of Civil Engineers, Putney.—At the annual meeting of this establishment, held on the 20th instant, the Duke of Cambridge presided. It appeared from the report read by the principal, the Rev. Morgan Cowie, that the council have founded three exhibitions of 30*l.* per annum each:

All Saints Church, Knightsbridge, was consecrated on Saturday morning week. It is situated in the new estate known as Ennismore gardens, and was built from the designs of Mr. Lewis Vulliamy, in the Italian style.

The Chronotypist.

A great many men are at work on the large tunnel between Aberdare and Merthyr—Messrs. Hunt and Edwards, contractors. Messrs. Ritson and Co., are also actively engaged on the same line between Hirwain and Pontwalby.—Some alleged improvements on Messrs. Clarke and Varley's resilient atmospheric tube are being patented by Mr. C. H. Greenhow, patentee of the geometrical railway. The piston is to be guided internally by wheels and a rod, and a vacuum is to be obtained, on the barometrical system, by causing water to fall to its barometrical level from an air-tight vessel connected with the atmospheric tubes.—Active measures are in progress for the collection of a sufficient sum, by subscription, for the proposed monument to Cromwell at St. Ives.—The British Archaeological Association will open their congress at Chester on Monday.—The famous "Aurora" fresco of Guido, at Rome, has been battered to pieces by the missiles of the enlightened and art-loving French.—The rector of Moulton, Suffolk, has commenced, at his own cost, a school for one hundred children, with master's house attached. It is in the Tudor style, with three light transomed gable windows and side lights, roof open, coping gables, and finials of stone, ridging trefoiled crest tiles. Mr. J. F. Clark is the architect.—The foundation stone of Portland Breakwater was to be laid on the 25th inst., by Prince Albert.—On Monday week the chief stone of the church of St. John, at Gailey, Wolverhampton, was laid by the Countess of Cavan. The edifice is to be built in the early English style, and of stone from the Penkridge quarries. The site and a donation were presented by Lord Hatherton. The architect is Mr. Robinson, jun.—The southern portion of the Great Northern Railway is progressing rapidly—the several tunnels at Tottenham, Whetstone, Enfield, and South Mims, are in active preparation. The whole of the brickwork is being laid in mortar made of Lias lime.—The crescent was the symbol of the city of Byzantium, and was adopted by the Turks. This device is of very ancient order, as appears from several medals, and is said to have taken its rise from an event thus related by a native of Byzantium:—"Philip, father of Alexander the Great, meeting with great difficulties in carrying on the siege of this city, set the workmen one night to undermine the walls. Luckily for the besieged, a young man suddenly appearing, discovered the design, which accord

ingly miscarried; in acknowledgment whereof the Byzantines erected a statue to Diana, and the rescent became the symbol of their state."—A special court was held on Monday last, for the purpose of taking into consideration the plan of Mr. Phillips, the surveyor, for the drainage of the whole metropolitan district, by means of a tunnel sewer, extending from Twickenham to Plumstead marshes, a distance of nineteen miles and a half.

To Correspondents, &c.

G. G.—*To fix Photogenic Drawings, wash them with a very weak solution of iodine of potassium.*

L. M. (Derby).—*The simplest method of magnetizing a bar of steel, is by placing it on a table as nearly as possible in the magnetic meridian, that is, nearly north and south—and holding over it, perpendicularly, a strong bar magnet, rubbing it throughout its whole length, beginning at one end and passing it along to the other, pressing it somewhat during its passage. After reaching the end of the steel bar, the magnet must be lifted up, and applied again to the other end, and so on for several times, the friction being always made in the same direction.*

Roots Query.—*Your letter bears all the marks of having been written after dinner, and is in some respects quite incomprehensible. "In vino veritas," saith the proverb, but there is no proof of it in this instance*

Now Publishing, Price One Shilling, Part 3, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. The *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 6, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * Parts 1 and 2 are reprinted, and will in future be charged at 10d. each.

Part 27 is now ready, price 10d.



DESIGN FOR TRACERY FOR A GOTHIC WINDOW.

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Flower-pattern Paper-hangings.



QUOTE the following remarks from a work on Botany considered in Reference to the Arts of Design, from the pen of Dr. Harvey.

"I would speak of the importance of a knowledge of botany to the inventors of flower patterns, whether for muslin, for damask, or for wall papers. It is most certain that true taste will prefer the pattern which most nearly represents the natural flowers, with all their peculiarities of form, and in their true colours. The stems in nature may be stiff and angular. If they be so, it is vain to attempt in the pattern to give them graceful bends, and to hope by so doing to please the eye. To represent branches of hawthorn flowers on the twining stems of a convolvulus would be monstrously absurd. And yet faults as glaring are frequently committed by ignorant draughtsmen when they attempt the composition of floral patterns. Of course, I am not now speaking of the combinations of fancy flowers—blossoms that exist only in the brain of the calico-printer or the paper-stainer—these may be as fantastical as you please.—But I speak of the unnatural distortion of real

flowers, resulting from ignorance of the proper proportion and number of their parts. Why is it that floral patterns on wall-papers are out of fashion?—or are driven up to the bed-rooms on the third landing, or to the back parlour of the country inn? It is not, surely, that flowers are out of fashion; or that the taste for them is less general than it was formerly. But it is that the taste of the public is not properly ministered to—it has outrun that of the manufacturer. In a rude state of education, bright colours and gracefully bended branches on the walls will please the eye that does not stop to question their propriety. But as refinement increases, truth in form will be preferred to brilliancy in colour, and the twining of branches that is not natural will be no longer thought graceful.

It will be no longer regarded as a twining, but a twisting—perverting nature for a false effect. This is the true reason why floral patterns in wall papers are now so much out of favour, and why, when selecting the paper for a room, one is forced (I speak from experience), after turning over books of patterns till you are weary, to take refuge in some arabesque design—some combination of graceful curves of no meaning, as an escape from the frightful compositions that are called flower patterns. It is surely high time that our manufacturers should seek to correct this evil.—These are not days in which any one can afford to be left a step behind the rest of the world. He that once loses his place in the foremost rank, is pushed aside and lost in the crowd that is eagerly pressing forward, and almost treading on his heels. Already French wall-papers are rapidly coming into use.—They have brought down the prices of the home-manufacture considerably, and they will undoubtedly drive home-made papers out of the market altogether if the manufacturers do not exert themselves to produce more artistic patterns than they commonly originate at present.

STREET ORDERLIES.—The united parishes of Saint Giles-in-the Fields and St. George, Bloomsbury, have come to the resolution of employing street orderlies for the purpose of cleansing the public streets. We commend them for this, and hope to see the example followed.

Panorama of the Nile.—Egyptian Hall, Piccadilly.

WE advise all those who seek for instruction combined with amusement, to visit this interesting exhibition, to which we briefly referred in our last number. A valuable lesson of an hour and a half is obtained at small cost in History, Theology, Geography, and several other branches of useful knowledge.—That ancient river, the Nile, is pourtrayed with no less fidelity than true pictorial effect. Egypt, ancient and modern, is made to pass before us—its people, its towns, its temples, its pyramids—and so truly are the antiquities of this land of wonders pictured, that the archæologist may actually read the hieroglyphic inscriptions on their walls.

We start from Cairo, the capital of Egypt,—bristling with minarets, and see the far pyramids across the Nile, in the Lybian desert. We see the cangia of the Pasha, and hear the song of the boatmen, the peculiar melody being played by an instrument unseen, as also is the Muezzin's cry to prayer. We are permitted a peep into a Kiosk, where is a Turkish lady unveiled. We pass many a town and many a temple—sand banks with their crocodiles, the date tree and the doum tree, and approach Thebes with all its wonders—its temples, its statues, and its grottoes of the dead. We see the sun set over the Birket Haboo, the Stygian lake of the ancients,—and morning break upon Esnè, with her dancing girls. The great temple of Edfou next faces us, and the Nile narrows where the ornamented quarries of Silsick tell of the ancient chisel. The Tabred Islands of Elephantura and Philœ succeed; and having passed the first cataract, we find ourselves in a new land. The antiquities of Nubia now crowd thick upon us, and we pause at the rock-hewn wonders of Abos Simbel, where we may hear the roar of water at the second cataract. Here ends our upward course,—and facing about, we commence our return with the eastern bank in view at the capital, Deir. Then we are introduced to the Abaddi and other Arabs, and are shown the houses and villages of the Nubians, their man-

ners and customs. The dog-star rises—harbinger of plenty in the Nile's overflow! We see Luxor and Karnac, and cross the Desert among the Bedouins, in sunlight and sand-storm, to where the great Pyramids and the Sphinx terminate our journey. The whole, as a work of art, is deserving of the highest praise, and the minutest details are admirably carried out.

The Fine Arts.

IN a collection of pictures, the property of a Spanish gentleman, now on view in John-street, Portland-road, there are three or four of very great merit. The 'Baptism of Christ' is undoubtedly from the hands of Spagnoletto, and is one of the few resembling in certain points the 'Pieta' in the Certosa at Naples, or one of the stories from the life of St. Bruno, which the Trustees of our National Gallery allowed Mr. Farrer to part with to the King of Holland. A curious legend attaches to the picture. It is said that the painter, having a daughter who was in love with a person to whom her father showed no favour—desiring to marry her to the son of the then Viceroy of Naples, Don Fernando, the Duke of Ossuna,—introduced the portrait of the latter in the head of the Christ. The picture was formerly well known as an ornament in the church of St. Pasqual, at the Promenade of Recoletos; and is, we believe, the subject of a notice by Palomino. It is marked by the character of the painter and his school. There are also an excellent sketch of the 'Shepherds worshipping the Infant Jesus,' by El Greco (Dominic Theotocopy'), with certain parts of it resembling Paola Veronese,—an interesting view of St. Peter's and the Vatican seen from the avenue of trees at the foot of the Monte Mario, ascribed to Canaletto,—a good bold gallery picture, by Caravaggio, of 'St. Peter's Denial of Christ,'—an admirable study of a Magdalene, by Andrew Vaccaro, finely coloured, with excellent execution, and much resembling Correggio—two landscapes attributed to Salvator Rosa,—and several others of minor import and less certain authorship. The Spagnoletto is, however, the chief picture.—although it has been too much cleaned for our taste.

On the Metals.

The Cheaper Metals that have important uses in the Arts.

(Continued from page 149.)

LEAD.

LEAD is rarely, if ever, met with in the native state; but in combination, and especially with sulphur, is an abundant natural product, called by mineralogists, galena; but mostly lead ore, as it is the only ore from which the metal is obtained.

The process for reducing the ore is exceedingly simple. The ore and common wood fuel are packed in alternate layers, in a furnace, and the wood set on fire, and by the combustion of it the sulphur is expelled, and the lead, in a melted state, runs into the bottom of the furnace, whence it is drawn off into moulds, where it cools, forming bars, which are called pigs of lead.

Lead has a bluish colour, and strong metallic lustre; but soon tarnishes by exposure to the air. Its specific gravity is 11.38. It is malleable and ductile, and is so soft, that it may be scratched with a finger nail. Its malleability fits it for many purposes in the arts, in the form of sheet-lead. It melts at 612 dg. and boils at a red heat.

Lead is extensively used in the arts; with antimony, it forms the alloy of which types are made; with tin it forms pewter; with a small quantity of metallic arsenic, it is used to make shot. The sheet-lead that lines the tea-chests is made by pouring the melted metal on cold plates of iron or stone, in an inclined position, by which process a thin coating of metal is formed on the flat surface, and the remainder runs off, and is collected for another operation.

Lead is rapidly oxidized by exposure to heat and air: a yellow crust first appears on its surface, which, in common language, is called dross, but by the workmen and in commerce, massicot; it is the protoxide of lead, and, when pure, is of a lemon yellow colour—it combines with acids, forming salts. The sugar of lead consists of this oxide, combined with acetic acid.

Litharge is also an oxide of lead, prepared by heating massicot exposed to the air, from which it takes up an additional portion of oxygen. It consists of a mixture of the protoxide and deutoxide.

Common red lead is the deutoxide of lead, and and is sometimes called minium. This compound, like the preceding ones, is prepared by heating the metal, or litharge, in contact with air—but requires a longer time for its formation. It consists of one atom of lead and one-and-a-half of oxygen, or it may be considered as composed of two atoms of lead and three of oxygen.

COPPER.

Copper has been known from the earliest ages. An alloy of this metal with tin, formed the cutting instruments of the ancients. Their arms, and many of their domestic utensils, were made of this alloy. Copper, it is supposed, was discovered in the island of Cyprus, hence the word *cuprum*, which is the Latin name for copper. This metal is frequently found native, and it is, doubtless, owing to this circumstance, that it was so early known and employed in the arts.

Obs. A mass of native copper was found in the vicinity of Lake Superior, weighing 2,200 pounds. It is frequently found in masses of several pounds' weight.

Copper is readily distinguished from all other metals, except titanium, by its red colour. It receives a high metallic lustre by polishing. Its specific gravity, when fused, is 8.66, and may be increased by hammering. It is both malleable and ductile. It melts at a white heat, and, if freely exposed to air or oxygen, it burns with a brilliant green flame. In dry air, copper undergoes little change, but moist air soon oxidizes it, forming a green crust upon its surface.

Copper is extensively used in the arts, both in a state of purity and in combination with other metals.

Obs. 1.—Pure copper is extended between iron rollers into thin sheets, which are used for covering the bottoms of vessels, and for making utensils of almost every description.

2. From its ductility it is drawn into wire, which is considerably used in the arts, and the strength of which is only inferior to that of iron.

3. *Brass* is an alloy composed of about three parts of copper and one of zinc, and is formed by melting the two metals together in a crucible.

4. *Bell-metal*, of which church bells are made, consists of an alloy composed of about four parts of copper and one of tin.

5. Common pins are made of brass wire, covered with a thin coating of metallic tin.

(To be continued.)

Architecture.

(Continued from page 136.—For description, see page 157.)

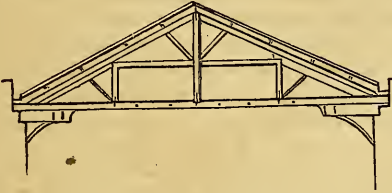


CORINTHIAN ORDER.

COMPOSITE ORDER.

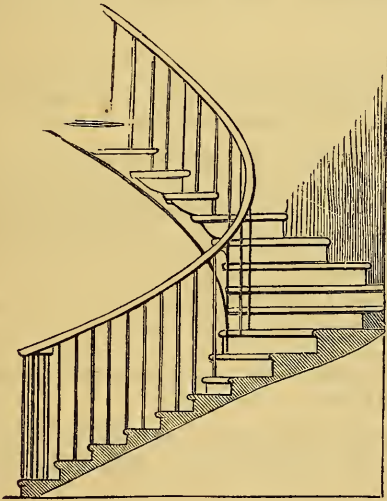
An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

SPAN ROOF. A name sometimes given to the



most common species of roofing, which is formed by two inclined planes.

STAIR-CASE. An ascent of stairs, enclosed be-



tween walls or balustrades, with landing-place, &c.

STEEPLE, (steopel, stypel, Sax.) An appendage generally erected at the west end of churches, to contain the bells, and rising either in form of a tower or of a spire.

SKIRTING. The narrow boards which form a plinth round the margin of a floor.

SLIT DEAL. Inch-and-quarter deal cut into two boards.

SKYLIGHT. Frames with one or two inclined planes of glass, placed in a roof to give light to the rooms or passages below, and looking to the sky.

SPIRE. Among the ancients, this was the base of a column, and sometimes the astragal or torus,



but among the moderns it designates a steeple which diminishes as it ascends either pyramidally or conically.

SPHINX. A figure of a monster with the head and breasts of a woman, the wings of a bird, the claws of a lion, and the rest of the body like a dog: we find it most frequently occurring amongst the



ornaments of the Egyptian temples, from whom it was borrowed by the Romans, who placed it also very often in the porches of their temples.

SLATING. Covering roofs with slates. The slates used in London are brought chiefly from Bangor, in Caernarvonshire: But the most esteemed is a pale blue-green slate, brought from Kendal, in Westmoreland, and called Westmoreland slates.

SLEEPERS. Timbers laid upon dwarf walls, for supporting the ground joists of floors; cross timbers for fixing the planking, where it is necessary to pile under, in order to make a secure foundation.

SLYPH. In old architecture, a passage between two walls.

SOFFITS OR CANOPIES. The inner part, sometimes with groined tracery, forming a vaulted arch with a pendant.

SPARS. The common rafters of a roof for supporting the tilting or slating.

SPHERICAL BRACKETING. Brackets of such a form, that the surface of the lath-and-plaster work which they support, will form a spherical surface.

STAIRS. Steps to ascend from the lower part of the building to the upper.

STALK. A kind of ornament in the Corinthian capital, which is sometimes fluted, and resembles a stalk, and from which spring the volutes and helixes.

STANCHEON. A prop, or support, the perpendicular mullions or upright bars of a window or open screen. Also, a puncheon.

STANDARDS. The upright pieces of plate rack, used above a dresser; the upright poles in scaffolding.

STOCK. A tool for boring wood, with a crank, so contrived as to rest with one end against the breast of the workman, while with one hand he holds the boring end steady, and with the other turns the crank. The steel borers are called bits, and the whole instrument is commonly called a stock and bit.

STONE. The substance which is employed in the erection of all magnificent edifices, which are intended at the same time to possess durability. Various kinds are employed, which receive their different names either from the sub-application of this principle may be seen in all cases where brackets and trussed beams are employed, though it has been seldom, perhaps, carried to the extent which it obviously admits of.

SYSTYLE. That kind of intercolumniation which had two diameters between the columns.

TABBI. A mortar composed of lime and earth, which forms the substance of the walls of most of the houses of Morocco, and many other Arabian cities. We learn from Livy, that the walls of Saguntum were constructed of earth.

TABERNACLE. The temporary edifice used by the Israelites for the performance of public worship until the erection of the temple at Jerusalem.

TABLE, or Tablet. A flat surface, generally rectangular, charged with an ornamental figure. A table which projects from the naked face of the wall is termed a raised or projecting table. When it is not perpendicular to the horizon, it is called a raking table; and when the surface is rough, or frosted, or vermiculated, it is named a rustic table.

TABLET. A term used to denote projecting mouldings or strings, among which is included the cornice and drip-stone. The shelves in libraries on which the books are ranged, were called by the Romans *pegmata*.

TABLING. A term used by Scotch builders to designate the coping of the walls of very common houses.

TABLINUM. An apartment in the houses of the Romans which was situated in the narrow part of the atrium, fronting the entrance.

TABULATUM. A term applied by the Romans not only to the floors, wainscoting, ceiling, &c. of their houses, which were constructed of wood, but also to the balconies, and other projecting parts.

TENIA. The fillet separating the Doric frieze from the architrave.

TAIL-IN. To fasten anything by one of its ends into a wall.

TAIL TRIMMER. A trimmer next to the wall, into which the ends of joists are fastened to avoid flues.

TAILING. The part of a projecting brick, stone, &c., which is inserted in the wall.

TAMBOUR. The naked of a Corinthian or Composite capital; the wall of a circular temple which is surrounded with columns; a place enclosed with folding doors, at the entrance of churches, &c., for the purpose of breaking the current of air from without.

TALUS. A term chiefly restricted to fortification, signifying the slope of a wall which is thicker at bottom than at top.

Architecture.

(Concluded from page 136.)

THE Corinthian possesses more delicacy and ornament than any other order. The beauty and richness of the capital, with the slenderness of the pillar, render it very properly adapted where magnificent elegance is required. It is frequently used for internal decoration to entrance halls, and to spacious or state rooms: the appearance is that of virginal delicacy and gay attire. This order, in the opinion of Vitruvius, "differs from the Ionic only in its capital; the Ionic capital having no more than one-third of the diameter of the column for its height; but the Corinthian capital is allowed one entire diameter, which gives to the column a noble but delicate grandeur. The other members placed on the Corinthian pillar are common to the Doric and Ionic orders, for it has no particular species of ornament peculiar to its cornice: sometimes it has the Doric mutules and tryglyphs in the architrave; sometimes an Ionic frieze, with denteles in the cornice: in a manner, it is no more than a third order, sprung out of the former two, which has nothing peculiar to itself except the capital." Vitruvius, however, in the foregoing account, forgets the peculiarities of the Corinthian cornice, or the entablature to this order was not in his day practised we find remaining among ancient buildings; for to this cornice the modillion is ever an attendant. But exactly according to this description of Vitruvius is the cornice of the portico at Athens, as represented by Stuart. The splendour and elegance of this order have rendered it very famous, and the numerous examples existing among the fragments of antiquity sufficiently evince the great esteem with which it was regarded.

The Corinthian column, as executed by the moderns, is, according to Chambers, twenty modules in height; the entablature five modules; the base one module, and which may be either Attic or Corinthian; the capital has seventy minutes in height; the proportion of the members of the entablature is the same as in the Tuscan and Ionic orders. If the entablature is enriched, the shaft of the column may be fluted, and the flutings may be filled to one-third part of their height with cabling, which will strengthen the lower part of the column, and make it less liable to injury. In very rich interior decorations, the cabling may be composed of reeds, ribands, husks, flowers, &c. The capital is enriched with olive leaves, at least almost all the Roman antique specimens of this

this order are so: the acanthus is more peculiarly employed in the Composite order. The entablature to the Corinthian may be reduced to two-ninths, or one-fifth of the height of the column, in which case it may be best to use the Ionic entablature, or reduce the denteles of the cornice.

The Composite or Roman order owes its origin to that constant solicitude after novelty which ever renders the mind of man restless in enlightened and highly cultivated ages. The desire of variety and novelty, either of invention or combination, stimulated the Roman architects to unite with the proportions and enrichments of the Corinthian order the angular volute of the Ionic, and by this union to compose a new order.

Its proportions are as follows:—The height of the column is twenty modules, and that of the entablature five modules. The capital has seventy minutes in height; the base measures the same as in the Doric and Ionic orders; and as the module is less, all its parts will of course be more delicate. The shaft may be enriched with flutings to the number of twenty or twenty-four, as in the Ionic order; there is no reason why they should be augmented. The principal members of the entablature may have the same proportions as the two former orders, viz. being divided into ten equal parts, three are for the height of the architrave, three for the frieze, and four for the cornice.

There have been various speculations and efforts made, at different periods, in order to construct a new order of architecture: but in the first place, this appears to be hopeless—in the second needless. An attempt of this kind was made in France by Philibert De Lorme, who proposed to make his column represent a tree, whose branches should be twisted underneath in order to form the entablature. Louis XVI. offered a prize to the architect who could succeed in the invention of a sixth order. In Italy, Piranesi built a church at Rome after a new order, the capital of which is symbolical. In our own country two artists, Evelyn and De La Roche, each designed a new order. In Germany, L. Sturm pretended to have founded one, which he styled the German Order, and the chief variety of which consisted in the capital of the column having only a single range of leaves, with sixteen volutes. Perhaps it was with great reason and good judgment that a certain Italian architect declared he never would even read any work which contained one of these propositions.

(For Illustrations see page 154.)

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Continued from page 138.)

THE horses are treated with surpassing vigour; and it stood alone in art, until Rubens imagined from this text his magnificent equestrian groups of the Battles of the Amazons. Contemporaneous was Michel Angelo, the Prince of Art,—one of those mighty geniuses who but at distant intervals are found on earth. He sublimely conceived, attempted and succeeded in uniting magnificence of plan with wonderful execution and endless variety. His style was broad—his line uniformly grand;—whatever he touched received the impress of his genius, and he rendered character and beauty subservient to the highest attributes of design. His sculpture appears to have a vitality about it, and his powers as an architect were exhibited in the skilful adjustment of the vast number of jarring parts in St. Peter's, and combining them in one magnificent whole.

Raffaello was the mild and delightful painter of nature. His works in the Vatican, &c., prove him to have entertained the same thoughts as M. Angelo, upon applying the highest quality of art to decorative purposes. Their ornamental portions, arabesques, borders, and numerous addenda, will be found, however beautiful in themselves, to be subservient to the great principles of design—harmony and repose being essential to the ultimate effect of the whole work.

In the magnificent folio work, published by Mr. Gruner, upon the Fresco Arabesques and Painted Decorations of the Churches and Palaces of Italy, we shall have opportunities of enjoying and studying the brightest gems of decorative art. The examples of this extraordinary work of labour, 46 in number, are coloured by hand, with a value and effect unprecedented. It expresses the mode of using the enrichments of painting and gilding, in unity with the architecture and with the sculpture, causing the entire to be viewed as one, neither perfect without the other. This work is exactly what we most required, reflecting the highest honour upon Mr. Gruner, and is likely to create a complete revolution in British decorative design.—

Design resulting from the full appreciation of fine art, was lavishly used during the fifteenth and sixteenth centuries upon every kind of manufacture. The terra cotta of Faenza, of exquisite design and great variety. The Limoges enamels upon copper, forming cups, plates, tazzas, and various ornaments, were often painted by artists like Parmegiano.—Richly coloured marbles were freely used in unity with beautiful mosaics, for interior embellishment. The dress of the period was rich in the extreme, in fashion, colours and material.

The missals and psalters of the church were illuminated;—medalling carefully practised; engraving on steel, chrysal, and precious stone, in intaglio and rilievo, and inlaying with gold and silver, upon the sumptuous designs for armour and offensive weapons, cups, vases, chalices, and sculptured plate, were eagerly sought. The superb setting of jewels, intermixed with enamelling, became a passion, and the liberality and demand for large and small goldsmith's works, produced a great body of the finest manufacturing artists, medallers, and engravers, celebrated in an age rich in every species of excellence depending on the arts. Benvenuto Cellini was of most distinguished eminence, of elegant person, great vivacity—bold and full of intelligence, he lived amongst the most noble princes and dignitaries of that turbulent age; sometimes soldier, musician, engraver, sculptor, or medallist. He produced coins for the mint, both at Rome and Florence, so fine as to be preserved as medals.

Louis the XIV.th was a magnificent patron of the arts, and also first instituted an academy in France for the purpose of teaching art upon systematic principles, subdividing the instruction under the heads of drawing after the antique and after the living model, anatomy, painting, perspective, the laws of taste, coloring, and composition. The plan of education previously pursued was that of apprenticeship, where the youth gradually learned the craft, assisted his master, and set up for himself; and in this manner the noblest artists had been produced. Notwithstanding the advantages which an academy presents in providing able teachers, and collecting the great examples of art, without the study of which the strongest intellect may be deviously employed. Academies have never succeeded in sustaining a period of declining art: few are taught to much purpose, unless in a great measure their own teachers, and we find that art sunk rapidly after the time of Francis I.

It continued thus depreciated for nearly two centuries; and although many of the castle palaces of Germany were erected during that

time, and command attention from their massive and often impressive grandeur, there is not that purity of style which will stand the test of time. Contemporaneous in England, the Elizabethan was paramount, and in the next age, a debased use of the style of Louis XIV. was the favorite. Beauties may be found in both; each is extremely picturesque, and when chosen with due regard to fitness of purpose, may be tolerated by the lover of fine art, and most assuredly will please the painter. The Italians, naturally a refined people, and accustomed to fine sculpture and painting in their churches, first returned to the right path; France and Germany have followed, and England has now the opportunity.

Throughout these remarks, as previously observed, I have purposely avoided noticing any definite characteristics of particular styles of embellishment: each requires to be considered separately, with its applicable value, leading features, and distinct principles of design.

I will now take a brief view of the means by which foreigners have rendered science and fine art so popular among their own people as to cause a constantly increasing demand for the application of beautiful form and rich embellishment to their manufactures, giving them the most decided superiority over the English in taste. Speaking of the continent generally, during the last century, universal attention has been paid to the subject, and in some kingdoms, as France, Prussia, and Bavaria, most extraordinary care has been taken to teach the true principles of design.

In each town of any importance, a hall, with a collection of casts from the antique and most beautiful specimens of modern sculpture, was opened,—a museum of general and natural history,—and, wherever it was possible, a small collection of paintings. This plan was found to have the happiest effect upon the people—they came in from the market place, or their ordinary occupations, saw the most beautiful or instructive objects of art and nature, and insensibly formed to themselves a taste for fine art.

Drawing was taught as a part of the national education, and botanical information communicated sometimes through the means of grouping and common flowers. Dr. Ure mentions this to be a usual practice among the children of the silk weavers in the South of France. With so intimate an acquaintance with nature, can we be surprised at the excellence of their after-works? Does it not present an extraordinary contrast to our own silk-weaving families?

In chief towns or cities, principal or central institutions, upon a larger and more comprehensive scale, were opened; instruction being there given upon the application of fine art to every description of manufacture, and by practical men. The leading feature was varied according to the chief production of the neighbourhood. Thus, in a mining district the museum would be rich in geological specimens, and the scholars or workmen received special instruction upon science and art, connected with the metals. Calico printing, weaving, lace work, and others, received similar attention. Libraries upon art were opened to the scholars, and often also to the public. Works, containing the finest examples of outline, form, and beautiful ornament, have been published for the use of these institutions. The people, generally, enjoy immense advantages over us by the free and constant exhibition of the finest efforts of Design, of painting and sculpture in their public places, churches, &c. The leisure of the artisan, in most cities, especially in France, is passed in the palaces and gardens of the king, where they have before their eyes beautiful applications of design in architecture, painting, sculpture, and the general interior and exterior arrangements of a refined taste. Paternal and enlightened governments, and a magnificent monarch, 300 years since, provided these elegant recreations, in which the people should pass their holidays; in England the artisan was left to seek the pothouse. Louis XIV. after erecting the sumptuous palace of Versailles, directed his minister to burn the accounts, observing, that the enormous outlay was an investment for the refinement of his people. The truth and nobleness of that sentiment we now perceive expressed in a universal admission of the superior appreciation in France of fine art—the taste and politeness of the nation.

The wealthy man can indulge the elegancies of his taste by rendering his mansion the abode of art,—but the school for the people must be the streets and squares of their cities; adorn these with statues, fountains, and opportunities for elegant recreation of mind, and the result with us will be an equal love of art with the great cities of Rome, Naples, Venice, Florence, Milan, Munich and Paris, which are thus adorned, and thus foster art.

St. Mary's, West Brompton.—The first stone of this church was laid on the 2nd inst., by Arch-deacon Sinclair, assisted by a large body of the local clergy and the inhabitants of the neighbourhood. Robert Gunter, Esq., the donor of the land, afterwards entertained a number of the principal visitors at his residence.

The Chronotypist.

Two stained glass windows have lately been placed in Hove Church, near Brighton. One in the north and the other in the south end. They are placed there by N. Basevi, Esq., as memorials of two deceased members of his family, one of whom was the architect of the church. One of the windows contains a representation of the "Raising of Lazarus," the other, "The Raising of Jairus's Daughter."—The first stone of a new church, in the perpendicular style, has just been laid at Wickham Bishops, Essex.—A new font, the gift of Mr. Thomas Combe, of Oxford, but formerly of Leicester, has just been placed in St. Martin's Church, Leicester. The style is that of the fourteenth century.—The eastern window in the chancel of St. Paul's church, Brighton, has just been filled with painted glass. The window consists of seven lights, surmounted by a circle, filled with triangular devices of great beauty.—The first section of the Cork and Bandon railway, from Bandon to Ballinbassig, a distance of nine miles and three quarters, was opened for traffic on the 1st inst.—From returns just made by the Commissioners of Inland Revenue, it appears that the total number of Omnibuses now plying for hire in the metropolis is 3,000, paying duty, including mileage, averaging 9*l.* per month each, or 324,000*l.* per annum. The number of conductors and drivers is about 7,000, who pay annually 1,750*l.* for their licences.—The fresco pictures in progress in the House of Lords are, we understand, to be resumed now that the business of the session is closed. Report speaks highly of the design which Mr. Maclise has just finished for a fresco in one of the vacant spaces. The subject, "The Spirit of Justice,"—a pendant to "The Spirit of Chivalry" by the same artist—is said to be as well in its general design as in its particular details a great advance on all his previous efforts. Enlargement of style and simplification of parts are among the leading improvements in this example of the painter's practice.—We are glád to learn that Mr. William Sturgeon, so well known for his eminent scientific researches, especially in electricity and magnetism, has been placed on the Civil List by Lord John Russell, for the pension or 50*l.* per annum. To Mr. Sturgeon belongs the undoubted merit of discovering the soft iron magnet, so essential to the working of the electric telegraph, as well as many other valuable discoveries.—The inhabitants of Brighton have determined on purchasing the Pa-

vilion at the price named by the Woods and Forests, 53,000*l.*—Recent advices from Singapore announce that the supply of gutta perchais on the increase. Some imports of it had been latterly received from a new source, at a place called Coti.—We are glad to find that the arrangements for the reception of the Association for the Advancement of Science are nearly completed, and that they are worthy of the distinguished body for whose accommodation they are intended.

To Correspondents, &c.

G. A. S.—*They are all procurable at the publishing office.*

F. C.—*It shall be illustrated and used at an early opportunity.*

A. B. A.—*Your queries should be submitted to a sporting journal. "Burden's Illustrated Laws of Cricket" will afford you the information you require.*

Q. Q.—*Lake and indigo will produce the purple you mention.*

A. B. C.—*You will be communicated with in a few days.*

J. F. A.—*It is an oxide.*

G. G.—*Some of Pugin's are of questionable authenticity. They are, nevertheless, ingenious, and very useful to ornamental writers.*

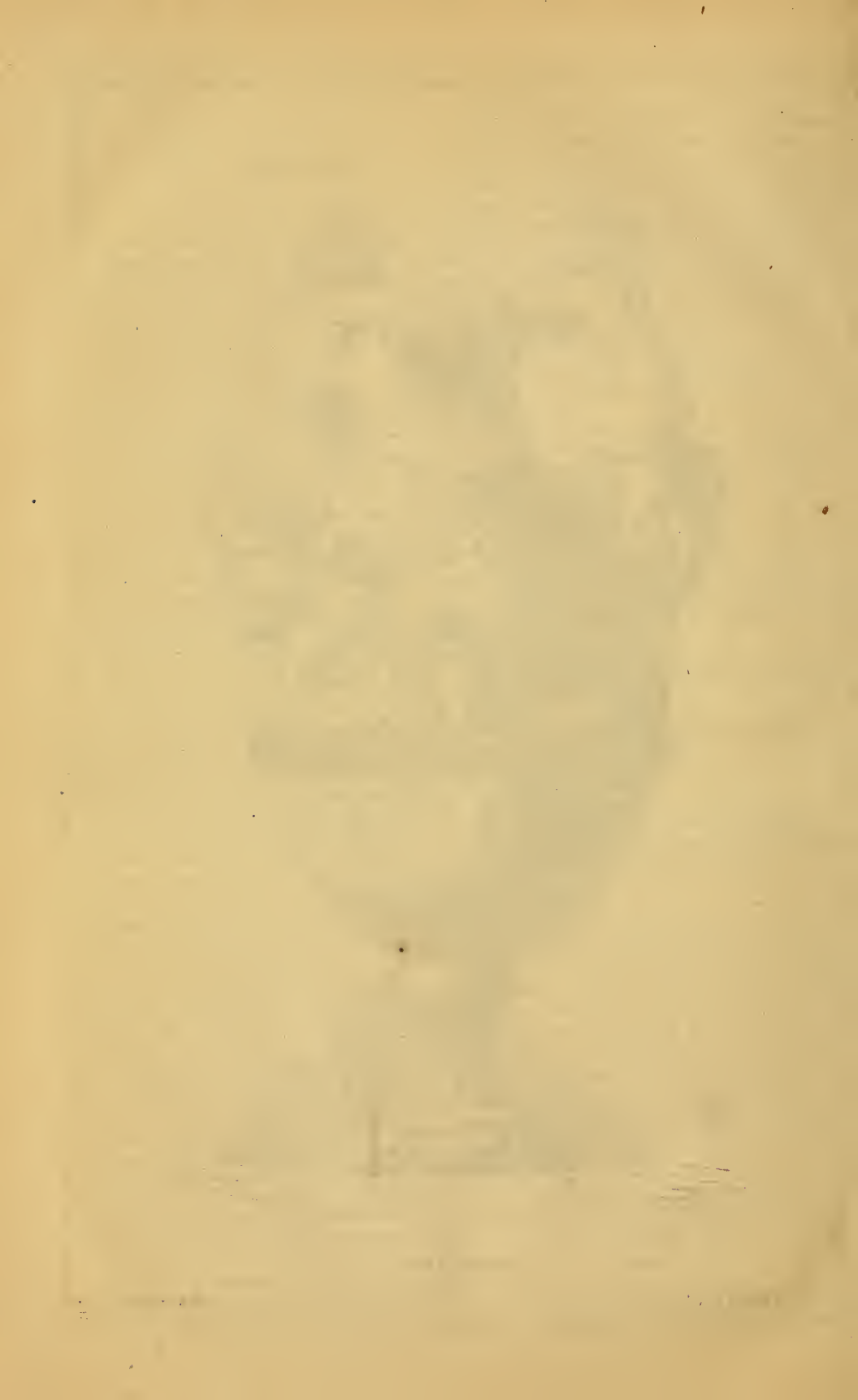
Now Publishing, Price One Shilling, Part 5, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. The *Book of Ornamental and Early English Alphabets*, Price 6*d.* Parts 1, to 7, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6*d.* Office, 17, Holywell Street, Strand.

* * * Parts 1 and 2 are reprinted, and will in future be charged at 10*d.* each.

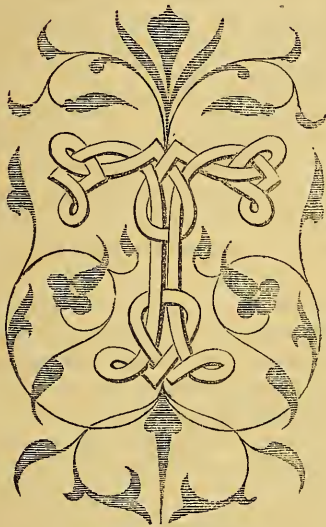
*Part 27 is now ready, price 10*d.**



ANTIQUE VASE.



The Influence of Colours on Odours.



THE attention of Dr. Stark was first directed to the subject of odours, as connected with colour, during his attendance at the anatomical rooms, in the winter session, from the following circumstance:—

Happening one day to attend the rooms in black clothes, he was not a little struck by the almost intolerable smell they had acquired—it was so strong as to be remarked by the family, and was recognised on the same dress for several days; but no odour to the same extent had been remarked in the lighter-coloured clothes. Slight exposure to the air alone was necessary to deprive them of the odour which they had thus contracted. This circumstance induced him to begin a series of experiments, to ascertain, if possible, why different clothes of near the same texture, but not of the same colour, should attract odours in proportions so different. The result was, as he conjectured, that the colour of bodies, independent of the nature of the substances, modifies in a striking manner the capability of surfaces for imbibing and giving out odours. He then enclosed six different coloured wools, an equal weight of

each, viz., black, blue, green, red yellow, and white, with assafœtida. They were ranged circularly round the odorous body, without touching it or one another, and were then covered over and excluded from the light. At the end of twenty-four hours they were examined. The black was found to have much the strongest smell of assafœtida; the blue the next, after that the red, and then the green, the yellow had but little smell, and the white scarcely any.

A similar experiment, using camphor instead of assafœtida, afforded precisely the same results. Various coloured cottons were treated in the same manner. In all these the smell was invariably found to be of corresponding intensity, according to the colour, as in the wools. Silks of different colours gave the same results.

“It is proper to mention,” says Dr. Stark, “that in most of these experiments I did not trust to my own olfactory organs alone. All the members of the family, and several of my friends, have lent their aid to distinguish between the different intensities of the odour which each substance had attracted; and although only a few experiments are here detailed, similar ones have been many times performed with various other odorous substances. The whole of these in their general results seem to establish the fact, that the colour of substances exerted a peculiar influence over the absorption of colours.—[Query.—May not the sickly disagreeable effluvia which is known to proceed from the skins of the negroes, be in some way connected with this theory?]”

“In all these experiments, however, reliance had to be placed upon one sense alone, viz., that of smell, as none of the substances employed had gained any appreciable weight. I was therefore desirous that, if possible, at least one experiment should be devised which would show, by the evidence of actual increase of weight, that one colour invariably attracted more of an odorous substance than another; and upon considering the various odorous substances which could be easily volatilized without change, and whose odour was inseparable from the substance, I fixed upon camphor as the one best suited to my purpose. In an experiment of this nature it was necessary that

the camphor should be volatilized, or converted into vapour, and that the coloured substances should be so placed as to come into contact with the camphor while in that state. It was therefore of the first importance to prevent currents of air within the vessel in which the experiment was conducted; and with this view I used a funnel-shaped vessel of tin plate open at the top and bottom. This rested on a plate of sheet iron, in the centre of which the camphor to be volatilized was placed. The coloured substances, after being accurately weighed, were supported on a bent wire, and introduced through the upper aperture. This was then covered over with a plate of glass.—Heat was now applied gently to volatilize the camphor; and when the heat was withdrawn and the apparatus cool, the coloured substances were again accurately weighed, and the difference in weight noted down.

“Proceeding on this plan, I arrived at the most satisfactory and conclusive results. The deposition of the camphor in various proportions on the coloured substances submitted to experiment, offered evidence of the particular attraction of colours for odours, resting on ocular demonstration; and when to this is added the evidence arising from a positive increase of weight, as ascertained by the balance, the conclusion previously drawn from the sense of smell are confirmed in a singular and very satisfactory manner.”

Dr. Stark proceeds to show, as the result of successive experiments, that “animal substances have a greater attraction for odours than vegetable matters, and that all these have their power much increased by their greater darkness or intensity of colour.”—Also “that the whole of the substances lose their sensible odour in nearly the same time, though the odorous particles given out by the black, were of course much greater in quantity than the others.”

LAST week, the Nineveh Gallery of Sculpture Antiquities in the new building at the British Museum was opened to the public. The last portion of the building remaining unfinished, the Townley Gallery, is rapidly approaching to completion, and will soon be thrown open.

Architectural Association.

COLOUR IN ARCHITECTURE.

At a meeting of the above Association, in Lyon's Inn Hall, last May twelvemonth, a paper was read by Mr. W. Wood Deane, on the “Application of Colour to Architecture.” The author commenced by pointing out the universal presence of colour in the works of nature, and its great effect in the production of their beauty, observing that as all man's ideas of beauty are derived from nature's works, to delight man the artist must endeavour to work like nature, and avail himself of the means which she employs to produce pleasurable sensations.

The first essential of beauty in architecture is form, but nature is not content with form alone, and indicates colour also as a legitimate means of producing additional beauty. The application of Polychromatic painting to external architecture has received much attention abroad, and led to several bold attempts in Germany and France. In a country like ours, where surface decoration appears in continual danger of destruction by the weather, external painted decoration was thought to be inadmissible. But our various building materials afford opportunities of producing much agreeable variety of colour. Interior decoration has for years received undeserved neglect at the hands of the architects of England, but it is a subject which has happily begun to engage the attention of the artist and connoisseur. Polychromatic painting affords a means of displaying the liveliest fancy and most elegant design, and even in essentially cheap architecture, a few well-disposed lines of harmonious colour may give a pleasing character to an apartment at a very small outlay, but not without the exercise of considerable judgment. Painted glass may be used with propriety in classic as well as pointed architecture; although the practice of imitating oil paintings in this material, in vogue during the last century, is, undoubtedly, a misapplication. It was contended that this application of colour was in accordance with the practice of the ancients, and to be a mode of obtaining beauty taught and practised by nature.

Portraiture.

(Concluded from page 92.)

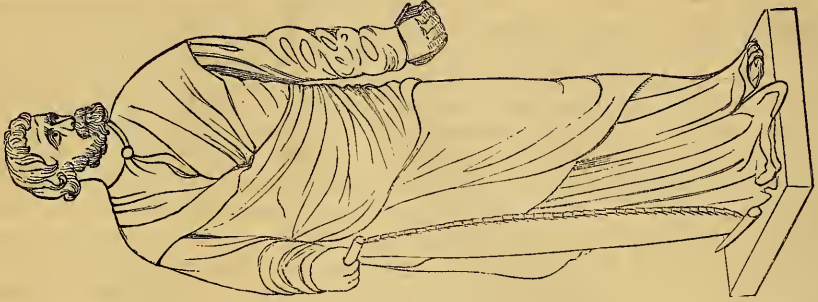
THE residence of the painter at the court of the unfortunate Charles enriched the collection of our nobility with many a costly example; but the style of Vandyke—already broken loose from the safer moorings—was, after him, deteriorated in the hands of the Dobsons and Rileys and Jamesons. They mistook the letter of his practice for its essence. The sense of the picturesque and the variety which Vandyke possessed they exchanged into mere attitudinizing. The picture-making mania which descended to, and was managed with a certain skill and taste by, Lely, gradually degenerated into the worst species of affectation. The inordinate conceit of Kneller passed into the imbecility of Richardson; and the art was only rescued by Sir Joshua Reynolds from the utter extinction into which it threatened to subside with Master Hudson.

To Reynolds, then, is due the resuscitation of this branch of art; but while he has the credit of having founded a school, the peculiar nature of his practice has been mistaken. His pictures have been erroneously read; and his brilliant example, instead of a beacon, has proved an *ignis fatuus*. We cannot here go into a minute investigation of his merits and defects. His expansive and liberal mind entertained no prejudice. He sought good from every source; and the philosophic spirit which his writings display directed the means that he had amassed into a channel of developement which was a compromise with himself. The disadvantages of a defective education under which he laboured he had the noble honesty to avow. Noble and just, we say, the avowal was—for it pointed out to the student his apprehensions lest his errors might be mistaken for merits. With an originality of genius that sought peculiarity, and boldness of style where he had not the power to be correct, he made a combination of the colour of Titian, the grace of Correggio, the concentrated effects of Rembrandt, and the moral dignity of Titian, Raffælle, and Holbein—while he lost none of the picturesqueness derived from the study of Vandyke. Two of the highest examples of portraiture in the world are his "Mrs. Siddons as the Tragic Muse," and "Lord Heathfield as the Governor of Gibraltar." His women and children are for grace, purity, and simplicity, unsurpassed by Correggio. His figure of "The Infant Hercules" is a convincing proof

that he felt like Buonarrotti. His colour is often as Titian's,—and his effects as Rembrandt's. The wide range which he thus took justly placed his reputation as a portrait-painter on the firmest basis, and imitators thinking themselves rivals sprang up every season. The school of which he was the founder—that of the Romneys, the Hoppners, &c.—was extensive, and included much of excellence. Of those who had the stamina to resist contagion, the worthiest was Opie, who suffered not his Rembrandt-like disposition and Carravagiesque treatment to be interfered with by the example of the Master. Gainsborough by an elegant and graceful style preserved the like independence. At no one time could any country have shown so great a mass of excellence in this peculiar branch of Art as at this period of the school in question. That, however, which began in originality was gradually lowered by plagiarism. Mere facility of handicraft betrayed into mannerism those who mistook it for the ready expression of genius. Lawrence sought to redeem it from the conventions into which it was falling by introducing more care into the drawing of his forms and into the local truth of his colour:—but his taste was not of high caste. His portraits are considered, in some respects, next in merit to Reynolds. Of the present school it is almost needless to occupy space and time in making remarks, as the vast opportunities afforded will enable our readers to judge and compare the various styles of portraiture for themselves.

Portland Breakwater.—The foundation stone of this national work was laid by Prince Albert on Wednesday week. The stone was a block weighing fourteen tons; it was suspended by an iron chain, and being let slip after a bottle containing a plan of the breakwater, specimens of the coinage, &c., had been deposited, fell to the bottom of the sea, in the midst of a drenching shower of spray and a noise like thunder.

Door-knob Composition.—Mr. John Harrison, Stillwater, Saratoga county, New York, has patented an improvement consisting in the compounding of the following materials, calcined, pulverized, and ground, viz.:—bone 10 parts, black flints, 4 parts, crystal felspar, 10 parts, granite, 10 parts, Vermont white sand, 10 parts, China clay, 15 parts, chromate of potash, 1 part, litharge, 1 part, antimony, 1 part, chrome green, 1 part, oxide of iron, 3 parts, oxide of tin, 1 part, oxide of zinc, 1 part, oxide of manganese, 4 parts. The articles are ground in water, and constitute the body and everything necessary for the manufacture.



ST. SIMON.



ST. BARTHOLOMEW.

Sketched from the Tomb of St. Sebald, at Nuremberg.

An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.

TAILLOIR. A French name for the Abacus.

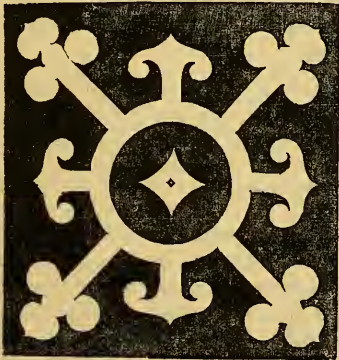
TALON. A French term for the same moulding which we call the ogee.

TAZZA. A cup or vase, used principally in



garden decorations.

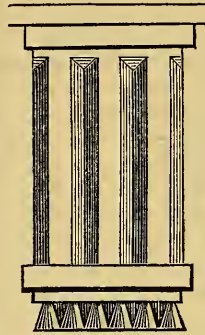
TESSELATED PAVEMENT. A pavement of mosaic work used by the ancients, made of square pieces of stone, &c., called *teserae*. The Romans delighted in this kind of ornamental floor, which succeeded, as Pliny tells us, to the old painted



pavements which originated in Greece. Many specimens have been found in various parts of England, as well as in every part of the continent which was under the Roman dominion.

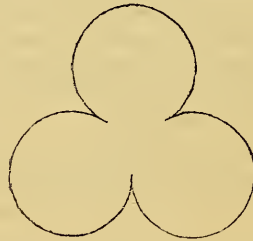
THEODOLITE. An instrument used in surveying, for taking angles in vertical or horizontal planes.

TRIGLYPH. An ornament of the Doric frieze, consisting of three parallel nicks, and supposed to represent the ends of beams. Spaces between the triglyphs on the frieze are called metopes, and, in modern examples, are made perfectly square, and



generally enriched with sculptures. These sculptures are in modern works generally a bull's skull and a patera alternately. In ancient works they were either generally historical or mythological designs.

TREFOIL. In Gothic architecture, an ornament



consisting of three cusps in a circle.

TASSEL. An ornamental bunch of worsted, silk, metallic or other substance, appended to robes,



curtains, bell-ropes, &c.

TAPESTRY. A kind of woven hangings, of wool or silk, ornamented with figures, and used formerly to cover and adorn the walls of rooms. This species of work is said to have been first invented by the Pergamenians. From the earliest period of antiquity, tapestry, more or less rich, has been fabricated in different parts of the east. The most grotesque compositions of men, planets, and animals, were painted or embroidered on these Oriental tapestries, and were carried into Greece at an early period. In modern times this kind of embroidery has been executed with great success, and though the works of Europeans, must be confessed to be inferior to the tapestries of the East in brilliancy of colouring, they far exceed them in design and composition. The Anglo-Saxon wall-hangings were generally silken, and many had figures of golden birds in needle-work, others woven, and some plain. Anderson asserts, that what we generally understand by the term tapestry, was invented in Flanders about 1410. In the reign of Elizabeth, men in fantastical postures, like morris-dancers, were common patterns. Arras received its name from the principal manufactory of it at Artois. The old council-house at Coventry exhibited, till 1802, a very perfect specimen of the old painted cloth hangings. The roof was of oak, ornamented with carved figures of no mean workmanship, benches with wainscoting surrounded the room to a convenient height, and the space between the wainscoting and a rich cornice of gilt vine-leaves, was covered with painted cloth.

TECTORIUM OPUS. A name given by the Romans to a kind of plaster with which they covered the ceilings and walls in the interior of their apartments.

TELAMONES. The name given to the figures of men which are used as supporters, in the same manner as the *caryatides* or figures of women.

TEMPERED. This term is applied to bricks which may be cut with ease, and reduced to any required shape.

TEMPLA. Timbers in the roofs of Roman temples, which were placed upon the canterii, or principal rafters, and correspond in situation and use with our *purlins*.

TEMPLET. A mould used by bricklayers and masons for cutting or setting the work; a short piece of timber sometimes laid under a girder.

TENSION. The degree in which a piece of timber is strained by drawing it in the direction of its length.

TERM, or *Terminus*, a sort of pillar in form of a reversed pyramid, crowned with the bust of a man or woman as a capital.

TERRA-COTTA. Baked earth. Earth or clay was the first material used by artists, both in building and modelling. In the time of Pausanias, there were in many temples statues of the deities made of this substance, as at Tritæa, in Achaia. Bas-reliefs of terra-cotta were frequently employed to adorn the friezes of temples. They served also for models to the artists. Many tombs found in the Via Appia, and in Campagna of Rome, as well as the small temple of Honour and Virtue, have ornaments of this substance. The ruins of Herculaneum and Pompeii are full of bass-reliefs and other terra-cotta ornaments, and they are to be seen in the cabinet of almost every antiquary.

TESTUDO. A name given among the ancients to a kind of light surbated vault, with which they covered the grand halls in the baths and mansions. They were often formed of iron, or of wood, and covered with mortar or stucco. These kinds of vaults have been discovered at Herculaneum and Pompeii, but from their want of solidity, they have not been able to resist the catastrophe which overthrew these two cities.

TETRADORON. A kind of bricks, four palms in length, which were commonly used by the Greeks in building their private dwelling houses.

TETREPASTUS. A machine with four pulleys.

TETRASTYLE. A portico consisting of four columns.

THATCH. A roof of straw or reeds, used in cottages, barns, and such like buildings. The antiquity of thatching is mentioned by Servius, and Herodotus describes the houses of Sardis as thatched with reeds.

THEATRE. A place appropriated for the representation of dramatic spectacles. Next to the temples, among the Greeks and Romans, the theatres were the most important public edifices. The Greeks attributed their invention to Bacchus, and generally consecrated them to that god. In the earliest times, the theatre was often raised within the enclosures of his temples.

THYROMA. The doors of a temple or house.

TIERCE POINT. The vertex of an equilateral triangle.

Chinese method of Colouring Green Tea.

WE quote the following remarks from the foreign correspondent of the *Athenæum*:—The superintendent of the tea makers managed the colouring part of the business himself. In the first place, he procured a portion of indigo which he threw into a porcelain bowl, not unlike a chemist's mortar, and crushed it into a fine powder. He then burned a quantity of gypsum in the charcoal fires which were roasting the tea. The object of this was to soften the gypsum in order that it might easily be pounded into a fine powder in the same manner as the indigo had been. When taken from the fire it readily crumbled down and was reduced to powder in the mortar. These two substances having been thus prepared were then mixed up in the proportion of four parts gypsum to three of indigo, and together formed a light blue powder which in this state was ready for use. This colouring matter was applied to the tea during the last process of roasting. The Chinese manufacturer having no watch to guide him, uses a joss stick to regulate his movements with regard to time. He knows exactly how long the joss stick burns, and it of course answers the purpose of a watch. About five minutes before the tea was taken out of the pans, the superintendent took a small porcelain spoon and lifted out a portion of the colouring matter from the bason and scattered it over the tea in the first pan; he did the same to the whole, and the workmen turned the leaves rapidly round with their hands in order that the colour might be well diffused.

During this part of the operation the hands of the men at the pans were quite blue. I could not help thinking that if any drinker of green tea had been present during this part of the process his taste would have been corrected—and, I hope I may be allowed to add, improved. It seemed perfectly ridiculous that a civilized people should prefer these dyed teas to those of a natural green. No wonder that the Chinese consider the nations of the West as "barbarians." One day, Mr. Shaw, a merchant in Shanghai, asked the Wey-chou Chinamen their reason for dyeing their teas: they quietly replied that as foreigners always paid a higher price for such teas they of course preferred them,—and that such being the case the Chinese manufacturer could have no objection to supply them!

Christ Church, Battersea.—This new church was consecrated, on the 27th ult., by the Bishop of Winchester, attended by a large number of the clergy of the surrounding parishes. The church is of the Decorated or Middle Pointed style, with a tower and spire; the plan is cruciform, with nave aisles, and chancel, also a children's chapel on the north side of the chancel, opening thereto and to the north transept by pointed archways, which are to be filled with oak open carved screens. The principal entrance is by a doorway, surmounted by a crocketed gablet, in the tower, which is attached to the west end of the nave on the north side. The organ-loft is in the tower. At the east and west ends are large five light windows with traceried heads. The east window is filled with painted glass, by Mr. Ballantine, of Edinburgh, who has introduced prisms of coloured glass (an invention of his own) at the intersections of the pattern, to throw the prismatic rays. In the children's chapel there is a painted glass window, presented by the architect, Mr. Charles Lee. The reading-desk, pulpit, seats in the chancel, and communion railing, are of oak, enriched with carving, by Mr. Ollett, of Norwich. The centre of the pavement of the chancel, as also the risers of the steps, are inlaid with Minton's encaustic tiles. The church will accommodate 950 persons, half being in free seats, and the entire cost is stated to be a little more than 6,000l. We have not yet seen the building.

Importation of Foreign Glass.—A return, moved for by Mr. Richard Spooner, M.P., shows that the total imports of foreign glass in the year 1848 were as follow, viz.:—31,037 cwt. of white or stoned window glass, of one colour only; 60,442 square feet of silver and polished glass; 1,95 feet of painted or otherwise ornamented glass; 38,086 lb. of white flint glass bottles, not cut or engraved; 154,343 lb. of wine glasses, tumblers, and all other white flint glass goods, not cut or otherwise ornamented; 639,967 lb. of all flint cut glass, flint coloured glass, and fancy ornamental glass; and 370 cwt. of glass manufactures not otherwise described. The quantities of British glass exported from this country in the year 1848 were as follows, viz.:—15,296 cwt. of flint glass, 19,708 cwt. of window glass, 49,227 feet of plate glass, 191,755 cwt. of common glass bottles, and 6,965l. worth of looking-glasses and mirrors.

The Select Committee appointed to inquire into the constitution and management of the Government School of Design have at length made their Report.

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Continued from page 159.)

WHEN I am called upon to decorate and furnish—say an entrance vestibule, dining room, and drawing room, observe the information upon design requisite:—The general plan has first to be determined; it may be a modern built London house, capable of receiving the Greek, Roman, Italian, French, or even Elizabethan styles—an intimate knowledge of each style, its leading characteristics and treatment, the ornaments and furniture of the respective period is perfectly essential, otherwise I cannot successfully direct my customer's choice; and when determined, there remains the practical acquaintance with home and foreign manufactures, my immediate province being to point out superior products of either. The floor of the hall may be laid in plain or patterned marbles, with tiles or tesseræ, plain oak or inlaid woods. The walls and ceiling are to receive due and respective embellishment, and though little furniture is required, it varies from the Roman eagle and slab to the bracket. The dining room, even if plain, can have a distinctive character marked in its frieze, cornice and ceiling, its chimney grate, and leading pieces of furniture, the carpet, and the mode of fitting up the windows, in which the wide diversity of materials for curtains, resulting from the efforts of many manufacturers, present me with every quality of design. The drawing room usually demands the chief attention, its decorations admitting of greater variety; walls, ceilings, and chimney pieces being determined, there remains the form, and ornaments of furniture: consoles, cabinets, and glasses, carpets and curtains, all may be British or Foreign, and all come under my direction and notice; but now observe, if skill and education in the application of colour is not matured, there is certain failure in producing ultimate unity and harmony of effect; the key note, as my friend Mr. D. R. Hay would express it, will be wanting.

Thus, the designer in a large establishment is a person of importance, in connection with this subject, he submits, recommends, or influences a vast amount of money to be expended upon English or

Foreign manufactured design: he passes all his time in connection with it, and in the mansions of the nobility he has opportunities to observe the finest works of great masters in design. I have often had occasion to thank the liberality of gentlemen in displaying to me choice specimens or books, and to regret that circumstances and opportunities did not permit my giving to the public the results of experience in applied design, so much required by manufacturers. I have referred to my own particular business, because from that source, aided by observation and peculiar facilities, is derived whatever information I possess, and because I consider the School of Design may there find the most valuable practical intelligence, not to be obtained elsewhere, and with which, to judge by their practice, they appear wholly unacquainted.

Design is perfectly simple, and its principles easy of communication by proper persons; let it be divested of the mystery at present allowed to surround it, and teaching the great principles of design will be found more than sufficient to occupy the attention of our school; those are what the manufacturers require to be cultivated, not fresco painting or wood engraving, which may be safely left to their own circle of clever artists. In consequence of an absence of practical information, copying is made the fundamental practice, as also drawing from the human figure; this instruction chiefly tends to prepare pupils for the Royal Academy, and not to produce manufacturing designers. Copies after Raffaele's works make the school look pretty, and assist the decorative painter; but they may mislead the uninformed and confuse the manufacturer.

I should prefer their place being occupied by geometrical principles of design, examples of form and the theory of colouring, executed by the masters themselves; by them frequently explained as the source of Raffaele's excellencies, and with detailed principles of application to manufacturing design. Teaching drawing forms but one link in the chain of teaching for manufacturing design, and it is difficult to make the uninitiated comprehend the full extent of the mischief, in rendering fine art the principal aim of the school, when it ought to be industrial art. I admire fine art, and advocate its indissoluble connexion with manufacturing design; but let us have practical utility first,—the necessities of the manufacturer require it. Fine art will assuredly follow, and with increased success; but it is practical men can alone achieve this successful issue, and the school does not possess them.

The Archæological Institute at Salisbury.

THE members of the Archæological Institute have gathered together in good array around the cathedral of Salisbury, and are proceeding with the business of the congress. On the 24th, the introductory meeting was held, and various objects in or near the town were visited, of which we hope to say something in our next number. At the dinner meeting, on Tuesday, in the council-room, at least 300 ladies and gentlemen sat down to a plenteous display of the good things of life, which the mayor and corporation had liberally provided. On the following morning several hundreds of the poorer inhabitants of the city were presented with the remains of the feast in food and liquors, and thus were comforted and made happy.

At the morning meeting, the Marquis of Northampton, on taking the chair, had addressed an assembly of at least two hundred, in his accustomed kind and affable manner, by saying how much he rejoiced in seeing so many congregated from various parts of the country to compliment archæology and the singular locality in which they met. His lordship introduced the Right Honourable Sidney Herbert as the president for the ensuing year. This accomplished and learned gentleman manifested much taste and tact in addressing the company, by pointing out and characterizing the prominent objects of archæological and historic interest which belong to Old and New Sarum, to the castramentations and barrows of the plains, Stonehenge, Wilton House, &c., and dwelt particularly on the merits of some of the Wiltshire worthies, who had been born or dwelt at Salisbury or in the county. The bishops of Salisbury and Oxford followed in the same strain, in proposing certain resolutions. Two papers were next read by Mr. Matcham and the Rev. Joseph Hunter, the latter on the topographical gatherings at Stourhead, and the archæological lore and researches of the late Sir Richard Colt Hoare. The President announced that Sir Hugh Hoare would be happy to show the antiquities of Stourhead to a select party of the institute, on Monday next. The meeting then broke up, and proceeded in parties to visit the museum opened at the King's House, in the Close, the cathedral, and other objects of archæological interest in the city.

In the evening, Professor Willis in the chair, a paper was read by Mr. Tucker, written by the

Rev. E. Duke, on Stonehenge, endeavouring to show that it indicated a part or member of a vast planetary orrery of the universe.

The Dean of Hereford gave some explanations and details of the operations now going on at Silbury-hill, and the contents of certain of the barrows near Amesbury. The dean found the cutting at Silbury-hill advanced about thirty-two yards on Wednesday week. He advised the workmen to stop at about two yards from the centre of the hill, in order that the members might be present at its exploration. The speaker next alluded to the contents of some barrows he had opened while in the neighbourhood. An animated conversation followed, in which Mr. Britton, Mr. Bates, and other gentlemen, took part.

On Wednesday morning, large parties visited Amesbury, Old Sarum, Stonehenge, &c. : and in the evening Mr. Markland and Mr. Britton read two papers to a large assembly at the council-house. Of these and future proceedings we shall notice hereafter.

Stained Window St. Peter's Church, Derby.—The east window of St. Peter's Church, Derby, was completed on Thursday last. Five lights compose the lower part, and eighteen (in the tracery) the upper; the former has been described. The subjects of the latter are the Resurrection, the Ascension, the Annunciation, the Four Evangelists, with their respective emblems, and the apostles St. Paul, St. Mathias, St. Thomas, St. James, St. Barnabas, and St. Philip; the remaining four contain the figures of St. George, St. Patrick, St. David, and St. Andrew, the patron saints of the United Kingdom. Besides these are four small squares which are filled with the arms of the donor, Mr. Simpson, and with angels bearing scrolls. Each of the five large figures in the lower compartment is surrounded with a gorgeous canopy, exact copies from those in the window of the choir of York Minster. Messrs. Barker and Son, of York, are the artists. The execution of the window is good.

The Huddersfield and Manchester tunnel is said to be more than three miles in length, and to pass at a depth of 652 feet below the ridge of the hill, which it pierces so straight that on a clear day one can see through from either end.

West-bridge station, on the North Midland, has been burnt to the ground by spontaneous combustion of "waste"—grease, oil, &c.

The Chronotypist.

THE bust of Waller—a composition bust by Rysbrach from the known portraits of the poet—was sold about a fortnight ago at a sale at Hall Burns, near Beaconsfield, to Sir Robert Peel, for fifty guineas. Hall Burns was the family seat of the poet of the Panegyric upon Cromwell; but few or no traces remain there coeval with the poet's time: The house, of dull red brick, pleasantly seated in a park full of the characteristics of Buckinghamshire scenery,—was built, we believe, by the poet's son. The library, rich in books of Waller's period, was sold about fifteen years ago by a country auctioneer, at country prices. Burke's fine house in the same neighbourhood has long been levelled with the ground.—The expense of the "increased supply of water" to the castle is estimated at 10,000*l.*, which the Lord Chamberlain considers to be "urgently required" for the frequent cleansing of the drains, and more especially for the safety of the castle in case of fire, the present supply being very uncertain and deficient in quantity. This "special service" will require the superintendance of an engineer, and Mr. James Simpson has been selected for the purpose. Mr. Simpson will charge a commission of 5 per cent. on the outlay, not exceeding the amount of his estimate—10,000*l.*—The professorship of Modern History at Cambridge, vacated by the death of Professor Smyth, has been filled up by the appointment of Sir James Stephen.—The Professorships in the three new Irish colleges are in progress of being filled up. We can report two appointments to the literary chairs of those institutions—the Rev. Charles F. Darley is to fill that of Cork, and Mr. Craik has been selected for that of Belfast.—We may add the name of Mrs. Austen, so well known as a translator from the German, to the list of those whom the Queen has recently placed on the Pension List. Mrs. Austen has a grant of 100*l.*—The beautiful design for a clock-case made by Hölbein for Sir Anthony Denny has just been added to the valuable collection of drawings by old masters placed under Mr. Carpenter's care at the British Museum. The drawing was one of the treasures of the Strawberry Hall sale,—and is a fine and undoubted specimen of the master.—We have just seen an able paper from the hands of Mr. Linton, the well-known landscape-painter, giving a comprehensive statement of the origin, bases, and combinations in a chemical sense of the various colours which form the constituents of the painter's art. At a glance the student may here obtain such general infor-

mation as may tend to impress on him the necessity of further investigation. On no subject connected with his art perhaps is he so little informed as on this. Ignorant of affinities or antipathies, he is apt to make combinations which the action of light or the absence of it and other circumstances soon render abortive:—and his time and talents are thus thrown away. It is not desirable to see the artist weaken his pictorial power by diffuse and superficial dabbling as a chemist; but it is a common-sense proceeding to make himself acquainted with the nature of the substances with which he has to deal.

MINING IN SCOTLAND.—We understand that the Marquis of Bredalbane is about to commence working the deposits of lead and copper on his estates in Perthshire. A German gentleman of scientific attainments has been engaged to report on their capabilities, and make assays, with a view to their ulterior development.

To Correspondents, &c.

Satya, (Stockport).—*The process is dangerous. You had better obtain the small quantity you are likely to want at the manufacturers.*

S. B.—*Not in time for the present number.*

Alfred.—*Sulphate of zinc will answer the purpose.*

J. S. S.—*Enquire at a music publishers.*

Now Publishing, Price One Shilling, Part 5, of the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 is still on sale. The *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 7, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* * Parts 1 and 2 are reprinted, and will in future be charged at 10d. each.

Part 27 is now ready, price 10d.

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ALPHABET OF THE NINTH CENTURY.—(ANGLO-SAXON.)

Early Christian Art.



HAVING completed his review of ancient art, Mr. Wornum proceeded, on Friday week, at the School of Design, Somerset-house, to lecture on art in the middle ages—the “dark ages”—so called, said the lecturer, because we are well in the dark concerning them. This period he comprised in the interval between the establishment of Christianity and the renaissance or revival of art,—a period of about 900 years, from the fourth to the thirteenth century. He proposed, therefore, to devote to this period three lectures, including the consideration of the various styles of Gothic ornament, comprising, of course, architecture. Ancient art, he proceeded, might be said to have ceased when Rome ceased to be the capital of the world. The establishment of Christianity, the division of the empire, and the incursions of barbarians, were the chief causes of the important revolution experienced by the imitative arts, and the serious check they received; and the foundation of Constantinople, and the Exarchate, were equally fatal to the magnificence of Rome.

Byzantium, the Rome of the East, became more rich in works of art than Rome herself:

Europe and Asia were despoiled to enrich the new city of Constantine: its great thoroughfares were adorned with colossal figures in bronze: and before the church of St. Sophia alone were disposed many hundred statues, the masterpieces of ancient art.

But nearly all these works, and many more in the various capitals of Europe, Asia, and Africa, became a prey to religious fanaticism, or were carried away for the value of the metal by the many hordes of Huns, Goths, and Vandals, by whom nearly every trace of ancient grandeur was swept from the earth. The volcano, even, was a protection compared with the destructive fury of those middle-age fanatics, the iconoclasts, whether Christian or Mahomedan. So effective was their system of destruction, that but for the fortunate preservation of Pompeii, by Vesuvius, we should have had to glean our knowledge of ancient manners and customs almost entirely from books. In the third century, however, as the church became more general, and accordingly more firmly established, the antipathy and dread of images proportionately declined.

During the first and second centuries, Christian works of art were limited to symbols, and were then never applied as decorations, but as exhortation to faith and piety; such, we find, for instance, on their tombstones. The first of all symbols was the monogram of Christ. It was sometimes combined with the figure of the cross, with the letters alpha and omega on the sides. Another very common symbol was the fish; it is what is called an acrostic symbol. Other symbols employed in early decoration were then adverted to by the lecturer, together with the pictorial and plastic representations mixed up with them in and after the third century. The most ancient figure of the Saviour depicted in the catacombs at Rome and copied by Raffaele, and others of a subsequent date, with the nimbus, or glory, introduced in the fourth century were then described; and the mosaics of the old Christian churches or basilicas in Rome, Ravenna, and other parts of Italy, pointed out as our principal monuments of early Christian painting. As works of art, he remarked, these latter were of but little value, but their interest is great as historical and ecclesiastical monuments.

The basilicas, which mean literally, houses

of the king, spiritual or temporal, were originally used as halls of justice; and the upper end is called the tribune or tribunal, from the seats of the judges and magistrates, the tribunes, who hold their official sittings in that part. The tribune is frequently built in the form of a large semicircular recess, surmounted by a semi-dome. The altar was sometimes in the recess, and sometimes before it. The whole upper concave surface, called the apsis, was gilded and adorned with figures of Christ and the apostles, variously arranged, though generally similar in the essentials, and very nearly always executed in Mosaic work.

In the large basilicas in which a transept is introduced, before the tribune, the ground plan thus forming a Latin cross, the transept was divided from the nave by a large arch, called the arch of triumph; and in this case subjects from the Apocalypse are frequently represented on the arch. Other subjects from the various religious cycles were introduced in other parts of the church. These mosaics, mostly executed from the fifth to the ninth centuries, are similar in character to the illuminations of the MSS. especially those of the Byzantine school.

As regards pavements, less change, perhaps, took place than in any other class of ornamental designs; that is, the purely geometrical patterns, which, even though heathen works, could present nothing offensive to the most scrupulous Christian. We accordingly find, in many churches of the middle ages, mosaic pavements nearly identical in pattern with those lately discovered in Pompeii.

Some interesting remarks on embroideries, representations of the Divine Trinity, &c., then followed, and reference made to the "Guide to Painting," by the monk, Dionysius, recently translated and published at Paris as a manual Christian iconography. In the extraordinary peninsula of Mount Athos—the 'holy mountain,' as it is called, there are no less than 935 churches or chapels, every one of which is either covered on the interior with frescoes, or ornamented with pictures on panel, and occasionally with mosaic, and many of these works date from the early period of which we are speaking. The monasteries of Mount Athos also possesses many ancient relics of the jeweller's art, as the magnificent triptic of St.

Laura, presented to that monastery by Nicephorus Phocas, in the tenth century. It is set externally with emeralds, pearls, and rubies, as large as sixpences, and a double row of diamonds. The most singular peculiarity of this remarkable peninsular is, that no woman is allowed to enter it—no female has ever trod in one of its 935 chapels, and yet these chapels are decorated with the figures of female saints, by painters who, perhaps, never saw a woman from the time of their infancy. This is, however, of little consequence, as the images of the saints are strictly traditional. Such, continued the lecturer, is the nursery of the Byzantine school, until lately without a rival where the Greek Church prevails, and formerly of almost equal influence in the west.

The memorable image controversy between the emperors in the east and the popes in the west, which ultimately separated the eastern and western churches, and indeed convulsed the whole of Christendom for a century and a half, commenced shortly after the Council of Constantinople, in the eighth century, deprecating symbols—as the Council of Illiberio, nearly four centuries earlier, had prohibited the decoration of churches with images. Into the particulars of this controversy the lecturer entered pretty fully, and afterwards proceeded, with the help of illustrations, to examine more in detail the character of the ornaments, or symbols, rather, of the whole of this period of art, apart altogether from its architectural arrangements. The forms of the cross and dome or circle, pervade almost every ornamental design of the middle ages, especially the earlier periods; and they are still further developed by a host of secondary symbols, some of them already explained.

The symbolism of middle-age art gives its ornaments no beauty; their effect in most cases is to be attributed to the richness of their colouring and materials. But we shall find as we proceed, that in one subject at least—in geometrical design—the artists of the middle age are yet unapproached; and it is not to be overlooked that the whole range of mediæval monuments offer a vast source of suggestions to the decorator and designer, which he cannot too frequently consult, not for imitation, but for hints.

On the Nature, Origin, and Progress of Design.

FROM A PAPER READ AT THE GENERAL MEETING OF THE DECORATIVE ART SOCIETY, MARCH, 1844, BY MR. CRABB.

(Concluded from page 168.)

If a physician were appointed operating surgeon to a hospital, his failure would excite no surprise, though both are doctors; so between the artist, painter, sculptor, and designer, there is even a wider difference of acquirement and purpose. Five years since, I recommended to the Council, that existing designers should be induced to attend the school for a more complete instruction, by which, important benefits would be exchanged; but a theoretical course of their own was preferred—let us judge of its success by their recent appointment of masters to schools at Birmingham, Newcastle, and other places. The one sent to Birmingham, described as an intelligent pupil of the school—a leading manufacturer tells me they are exceedingly dissatisfied, and very likely, for I have long known him to be a person without pretension, and he acknowledges himself to be unacquainted with manufacturing design. A worthy man, a wood engraver, has been sent to Newcastle, he neither pretends to, nor possesses the slightest manufacturing knowledge. There must be some serious misapprehension among the council to suppose that men of such acquirements can teach what they know not—manufacturing design. I do assure them, they are extending an evil that will provoke the contempt of the manufacturers; if men of ability were sent, manufacturers would soon see their interests in subscribing handsomely for their support, and incalculable benefits must arise, in three years, or less, they might have designers and modelers trained to their own peculiar requirements on the spot.

Freely admitting the foreign designers' superiority, I insist upon the Englishman's capability of equalling him, (with similar advantages) and thus hold it to be a matter of high moment, that the gentlemen of the Council be made sensible of the insufficiency of their present arrangements; certainly, the school in London should not be suffered to remain a perversion of its title, a mere cheap drawing school, made to look inviting by

some extra attention paid to a few scholars, intended as decorative painters; there is every opportunity for rendering the most important service to the arts of design by educating those who can already draw well, and who would eagerly attend the school, and pay a portion of its expenses also; provided practical men were there to direct the studies and communicate that information which no other artist, painter, sculptor, or architect can possess. Let the subject be treated with energy and liberality, and there is no difficulty in doing this, nor in widely diffusing a popular knowledge of the nature and purposes of design to the public at large. I do not speak theoretically, but with ample knowledge of the difficulties, and with my opinions sanctioned by gentlemen, whose names are an honor to our country.

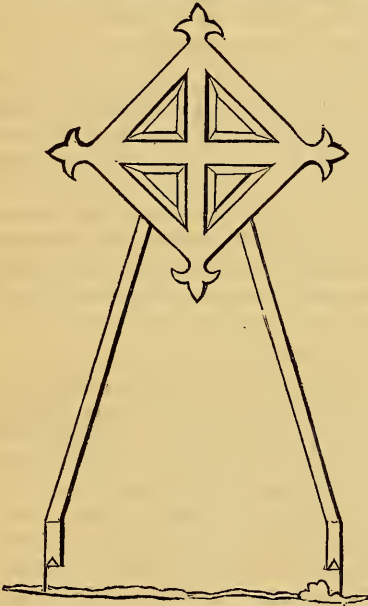
The manufacturers have the matter in their own hands; let them visit the schools as men of business, and, as such, judge of the arrangements, of the instruction given, and should it continue unsatisfactory, let them, in any one district open a separate school, subscribe sufficient to remunerate a man of talent, and select him themselves, as they would one for their private business; no doubt the object could be best attained through the government school, but it can also be done by a few spirited manufacturers.

I should be proud if our efforts aroused the attention of a few gentlemen of the Council, Mr Cockerell for instance, whose valuable and instructive lectures at the Royal Academy, conducted with the greatest liberality and listened to in admiration by a crowded auditory, form a fitting prototype for lectures that should originate with Professor Dyce. The subject cannot rest where it is; let us widely circulate what might be quickly done under proper management, and depend upon it the manufacturers who are feeling the inconveniencies of a dearth of designers will come forward. Those who love the results of elegant art, will avoid all excess, for the beautiful must be cultivated in their own minds ere it can be either enjoyed or imparted. This consideration will be found to greatly extend a people's happiness; it was the principle pre-eminently valued in the best period of art, courted at the revival, and now again fostered in Germany; there, in the real and true spirit, we find the monarch diffusing the rich treasures of knowledge to his people without distinction, creating a genuine love of art, and an eager desire to apply elegant design throughout their manufactures.

If we Englishmen desire similar results, we must cultivate the same spirit and adopt similar means.

**An Illustrated Glossary of Technical
Terms used in Architectural and
Interior Decoration, &c.**

TOMB. A funeral monument raised over the remains of the dead. The earliest kind of tombs appear to have been grottos and caverns. In the plains of Etruria, many sepulchral grottos have been found, hollowed in a rock, which is not difficult to work. They are sometimes disposed in



form of a cross, or with three wings, almost like our churches; others are squared in different proportions. Doors have been formed, to lead from one grotto to another; sometimes they are above each other. These grottos are not very deep. The interior is often adorned with paintings. The accompanying is a design for a Gothic tombstone.

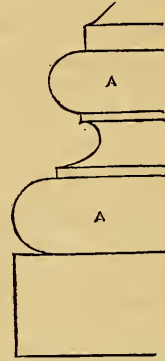
TIMBER. The species of timber chiefly used in carpentry and joinery, are oak, the different species of pine, mahogany, lime, poplar, ash, elm, beech, &c.

TORUMATA. That description of work, particularly vases, which was ornamented in bold relief.

TRIGONOMETRY. The science which teaches the mensuration of triangles.

TURKISH ARCHITECTURE. The architecture of the Turkish empire in general bears a great assimilation to that of the Arabs or Saracens.

TORUS. A large semicircular moulding used in



the bases of columns. Marked A. A. in the engraving.

TORSO. A name given by artists to all mutilated statues, of which nothing remains but the trunk.

TRABEATION. Another term for an entablature.

TRABS. The Roman name for a wall-plate.

TRANSEPT. An open passage or way across the body of the church in the direction of north and south, either on the eastern or western side of the nave; in some churches, on both.

TRACERY. In Gothic architecture, the inter-



section in various forms of the mullions in the head of a window or screen.

TRANSEPT TOWER. That over the transept, to distinguish it from others.

TRANSOM. A beam across a double-lighted window: if the window have no transom, it is named a clear-story window.

TRANSTRA. The horizontal timbers in the roof of Roman buildings.

TRAVERSE. A gallery or loft of communication, in a church or other large building.

TREAD. The horizontal part of the step of a stair.

TREASURY. A building for the reception of money or other precious things.

TRELLICE. Lattice work of metal or wood in screens or doors.

TRIANGLE. A plane rectilinear figure of three sides, and consequently three angles.

TRICHORON. A building with three longings or stories.

TRIFORIUM. The space between the aisles of a church and the clerestory, after containing a staircase.

TRIGLYPH. An ornament of the Doric frieze, consisting of three parallel nicks, and supposed by some to represent the ends of beams. There is observed in the large hollow crown moulding of the temple of Dendera, a decoration very similar to the Doric triglyph, the extreme parts of which are placed at the angle as in Grecian Doric.

TRIGON. Another name for a triangle.

TRINGLE. A small member fixed exactly upon every triglyph, under the plat-band of the architrave, from whence hangs the guttæ in the Doric order, called also a riglet or listel.

TROCHOID. A figure which is described by a circle that rolls in a straight line, with a pointer pin in the circumference, on a fixed plane, parallel to or in the plane of the moving circle.

TUF. A kind of sandy calcareous stone, porous, light, soft, without being fragile, ductile, and well calculated for the construction of vaults. Its colour and consistence varies according to the predominance of its several component parts.

TUMULUS. A small conical hill of earth, raised as a memorial over the remains of the dead, by the early nations of antiquity. In the Troad, and along the shores of the Hellespont, many of these *tumuli* are found for a description of which, among other works, the reader may consult that of M. Lechevalier, sur la Troade.

VANE, Fane, or Phane, a plate of metal, shaped



like a banner, fixed on the summit of a tower or steeple, to show the direction of the wind.

VASE. A name given to the bell, or naked form, of the Corinthian capital, on which the leaves are disposed.

VASE. The Grecian vases, which have been from time to time dug up in various parts of Italy and Greece, have long attracted attention, by the



elegance of their form and decorations. Large collections have at various periods been made, and several collections of drawings from them have been published.

WINDOW. An opening in the wall of a building, for the admission of light into the interior.

Products of the American Sea.—The products of the whale, cod, mackerel, and herring fisheries, exported mostly from the northern coast, amount to 1,693,980 dollars.

The Campanile of Giotto at Florence.

I REMEMBER well how, when a boy, I used to despise that Campanile, and think it meanly smooth and finished. But I have since lived beside it many a day, and looked out upon it from my windows by sunlight and moonlight, and I shall not soon forget how profound and gloomy appeared to me the savageness of the Northern Gothic, when I afterwards stood, for the first time, beneath the front of Salisbury. The contrast is indeed strange, if it could be quickly felt, between the rising of those grey walls out of their quiet swarded space, like dark and barren rocks out of a green lake, with their rude, mouldering, rough-grained shafts, and triple lights, without tracery or other ornament than the martin's nest in the height of them, and that bright, smooth, sunny surface of glowing jasper, those spiral shafts and fairy traceries, so white, so faint, so crystalline, that their slight shapes are hardly traced in darkness on the pallor of the eastern sky, that serene height of mountain alabaster, coloured like a morning cloud and chased like a sea-shell. And if this be, as I believe it, the model and mirror of perfect architecture, is there not something to be learned by looking back to the early life of him who raised it? I said that the power of human mind had its growth in the wilderness; much more must the love and the conception of that beauty, whose every line and hue we have seen to be, at the best, a faded image of God's daily work, and an arrested ray of some great star of creation, be given chiefly in the places which He has gladdened by planting there the fir-tree and the pine.—*Ruskin.*

Scent of Plants.—The scent of some plants is not perceptible until after they are cut down and exposed to the influence of either the sun or artificial heat. Grass, while growing, possesses no particular smell, but when made into hay, it scents the country around. The wood of the ash tree, when burned in a green state, will emit a fragrance like that which proceeds from the violet and mezerion, and this it will diffuse to a very considerable distance. The glands of the fraxinella, from which it exhales its scent, are large enough to be seen by the naked eye, and the vapour is so combustible, that it will burn when a light is placed within its influence. The garden nightshade has the property of causing sleep to

overpower those who may inhale its odour, and the upas tree possesses an uncommonly deleterious quality of vapour. Some flowers emit their odours only at certain periods. Those having an ambrosial smell exhale only after sunset, and the appearance of some plants correspond with the nature of their scent. Musk-scented flowers are always of a yellowish and purple colour, and a dull appearance is indicative of the deleterious nature of their perfume. The odour of plants and flowers, which seems thus to inherit the property of creating such a diversity of feelings in the human frame, is considered by naturalists to be an excretory secretion, forming a gas or vapour, which in some is supposed to proceed from the petals transmitted from the plant by the claws at its base, and escaping through orifices on their surface, at others from the nectaries, or various parts which compose their blossoms.

Corrugated Iron Houses.—A house constructed of corrugated iron, by Mr. John Walker, of Old-street-road, has been sent to San Francisco. The structure measures 75 feet long, 40 feet wide, and 20 feet high, and is composed of plates of iron, each 8 feet long: its cost was 600*l.* Mr. Walker has likewise in course of construction eight other corrugated iron houses for California, each having three dwelling-rooms and one store-room. Corrugated iron has considerable strength, with little weight, and seems to have advantages for portable dwellings and store-houses.

Corrosion of Iron Railings.—Where they are united to their sockets by lead, it may be lessened in the following manner:—The cause of the corrosion, as is well known, is the galvanic action which goes on between the two metals, through the medium of the water collected at the angle of juncture by capillary attraction. If, then, the lead instead of being flush with the stone into which the iron is fixed, were to be levelled from the iron to the stone at an angle of about 60 degrees, all the water would drain off, and, consequently, the galvanic action would be stopped.

New York as it is to be.—We know nothing more frightful (says the *Daily News*) than to look at a plan of New York, and fancy what it will be when the whole island is built upon. Let the reader imagine a dozen of Harley-streets, Baker-streets, and Edgeware-roads, all parallel to each other, and extending in a straight line from six to ten miles in length, without a Hyde-park, a Regent's-park, or a Hampstead intervening, and intersected rectangularly at unvarying intervals by a couple of hundred cross-streets, all alike, and he will have some notion of what New York is to be.

Review.

The Philosophy of Painting. By Henry Twining, Esq. Longman & Co.

The practical portion of Mr. Twining's work contains many useful passages:—but we think in parts it is unnecessarily prolix. The notices on light and shade are very good:—the chapter on contrast is one of the best in the book. The great charm of all Mr. Twining's remarks is the evident delight in Nature, and in the study of Art as her handmaid, which enters into all his descriptions. Thus gracefully does he recognize the delicacy of her arrangement:—

“Harmony and softness are secured by nature, and contrast itself diminished, where, if too powerful, harshness would result. Thus, the circumstance that the eye loses the exact delineation of slender objects which are surrounded by a luminous atmosphere, becomes a means by which lightness and delicacy are infused into those parts of a landscape where they are required, whilst, at the same time, the whole effect of contrast is maintained, where the bulk and opacity of the objects demand it. But, in cases of contrast, it is difficult to say when the effect requires to be superadded in the imitation, and when the similarity of the conditions of the drawing with those of nature is of itself sufficient. It may be easy, when the local colour of an object is known to be decidedly lighter or darker than one behind it, or when the exposure to the light is unquestionably greater or less, to determine whether it shall be made to come out in light, or in dark; but when the tint of an object appears modified by the unequal influence of neighbouring contrasts, it cannot easily be determined what allowances are to be made, with regard to positive colour, for those apparent changes which depend on relative effect. For instance, a slender pillar in the aisle of a church, although its tone be uniform throughout, or nearly so, becomes dark where it crosses a window, and light again where it traverses the dark recesses of the vaults or groining. In nature, these transitions in the appearance of the column, are owing entirely to effects neighbouring or co-relative. The colour and lightning of the column itself, may be perfectly uniform. But in the painting, will these accompanying circumstances, if correctly introduced, with mere pigment for light, and without any contrivance or artifice, produce a corresponding result? Or will it be necessary to modify the tone of the column itself, in its different parts,

in order to give the character of truth to appearances which, in nature, are superinduced, and not real?”

The chapter on Chromatics is somewhat deficient: the Goethe theory is apparently not at all apprehended,—and the statements of the results of M. Chevreuil's speculations, and of Mr. Field's noble discoveries are by no means clear. The chapters on perspective, reflection, &c., consist of a multitude of minute rules and records of observation, which should be matters of A B C to professional artists, but which may prove a valuable assistance to amateurs.

Remarkable Discovery of Houses Under Ground.

THE following narrative is taken from a paper printed for William Budden, 1685, and preserved in the Bodleian library.

“In a piece of ground within two miles of Cirencester, in the county of Gloucester, commonly known by the name of Colton's field, as two labourers were digging a gravel field at the foot of a hill, which they had sunk four yards deep, they observed the ground on that side next the hill to be loose, and presently discovered an entrance into the belly of the hill, which appearing very strange to them, and rather the work of art than nature, one of them ventured a little way in, and by the light of the hole discovered a large cavity. Whereupon they got a lantern and candle to make a further search into it, and by the advantage of this feeble light the first place they entered appeared to have been a hall, which was large, and in it two long tables with benches on each side, which they no sooner touched to feel their substance, but they crumbled into dust.

“From thence they saw a passage into another room, which by the furniture had been a kitchen, several utensils proper to it, as pots, kettles, &c. being of brass or iron, continued somewhat firm, but eaten through with rust and canker. Beyond the hall they went into a parlour furnished according to the fashion of those times, with carpets richly wrought, and other furniture agreeable; these also fell to pieces on touching them. At one corner of the room there appeared to have been a pair of stairs, but the earth had fallen in and stopped the ascent. Going back into the hall they observed another opening which led them into a square room ornamented with carved work in several parts, supposed to have been a

place of worship and devotion, by images in the wall, and at the upper end of it they found several urns, some of which had only ashes in them, others were filled with coins and medals of gold, silver, and brass, with latin inscriptions and heads of several Roman emperors.

As they went searching about this room, they spied a door which had been strongly patched with iron, but the wood being rotten, with a little force fell to pieces, and looking in, to their great astonishment they saw the image of a man in full proportion, with a truncheon in his hand, and a light in a glass, like a lamp, burning before him. This very much affrighted them at first, imagining it to be the devil in that shape, or a guardian spirit set there to defend some hidden treasure, the hopes whereof so encouraged them at last, that one of them ventured to step in, but upon his first descent the image seemed to strike at him, upon which they were both so terrified that they durst not proceed further, but went back, taking many of the medals and coins with them out of the urns, at night acquainted a gentleman who is a famous antiquary, with the discovery they had made, what they had seen, and the money they had found, showing him several pieces, upon which he ordered them to keep the matter private, promising to go with them the next morning, which he accordingly did.

After he had viewed the other rooms with wonder and delight, they conducted him to the place where the image was, which he supposed might by some great artist be made to strike at certain times; therefore, without any apprehension of danger, went in; and, as before, upon his first step the image made an offer to strike; so at the second, but with greater force; at the third step it struck a violent blow on the glass where the light was, which broke it to pieces, and quite extinguished it (the light), that had they not been furnished with a lantern and candle, their condition would have been desperate. The image appeared to have been the effigy of some Roman general, by those ensigns of martial honour which lay at his feet. On the left hand lay two heads embalmed,—the flesh was shrivelled up, and looked like parchment scorched, of a dark complexion. They had long hair on the chin; one seemed to be red, the other black.

Upon further search they found several other passages leading to other houses, or different rooms in the same house; but a hollow voice, like a deep sigh or groan, prevented any other discovery. Our adventurers hastily quitted those dark apartments, which they had no sooner done than the hill sunk down, and buried all the

rarities, except those medals and coins taken out the night before, which are now shown for the satisfaction of the curious and ingenious, who in great numbers flocked to see them; and purchased them at great prices, as most valuable relics of antiquity.

THE Goodwood racing cups for this year have been manufactured by Messrs. Hunt and Roskell of Bond-street, and the Messrs. Garrard of the Haymarket. The two which are productions of Messrs. Hunt and Roskell, are after the models of Mr. A. Brown, made under the superintendance of Mr. Baily, the Academician. One is a tazza of the Elizabethan period, enriched with figures and devices representative of the ancient sports of England, and leading the imagination back from the hunting-ground to the merry greenwood. The other is more directly representative of the time and occasion in which it originates. On its base are the figures of a stallion, a mare, and a foal,—and a group of fighting horses make its crown. The handles of the cup are formed by Victories,—and medallions descriptive of horse-racing are among its ornaments. The cup of Messrs. Garrard's manufacture is from the design and model of Mr. Cotterill. On its base a group of Indians are hunting the bison. All these subjects are sufficiently appropriate to the spirit of the theme which they are intended to illustrate.

A Word in Season.—Never be cast down by trifles. If a spider break his thread twenty times, twenty times will he mend it again. Make up your hands to do a thing in compass, and you will do it. Fear not if troubles come upon you; keep up your spirits, though the day be a dark one.

Fight hard against a hasty temper. If anger come, resist it stoutly. A spark may set a house on fire. A fit of passion may give you cause to mourn all the days of your life. Whatever you do, do it willingly. A boy that is whipped to school never learns his lesson well. A man that is compelled to work, cares not how badly it is performed. He that pulls off his coat cheerfully, strips up his sleeves in earnest, and sings while he works, is the man for us.

A cheerful spirit gets on quick;
A grumbler in the mud will stick.

Salisbury Cathedral.—It is reported in the neighbourhood, that the dean and chapter have it in contemplation to throw this Cathedral open to the public. We sincerely hope that the report in question is founded in truth.

Bishopp's Disc Engine.

PAYING a visit the other morning to the *Times* Printing-office, we saw the new Disc Engine that has been put up there to drive Applegarth's two rotary printing machines, by which the 36,000 copies, or thereabouts, matutinally required, are whiffled off at the rate of about 5,000 complete copies per hour. In this engine, the advantages of which have been long known, the objections alone kept it out of general use, appear to have been successfully overcome. It is a 16-horse power engine, on the high-pressure and condensing principle: it is, however, equally suitable to be worked as a simple low-pressure condensing engine.

It stands in the machine-room close to a wall, and occupies a singularly small space. The shafting for driving the printing machines is carried by brackets; fixed to the wall over the engine, and is driven by two bands: the drum on the engine-shaft is 30 inches diameter; and the two pulleys overhead 4 feet diameter.

Our impressions in favour of the engine were confirmed by inquiry. It seems that, before being erected at the *Times* office, it was tested, during a month, by Mr. Penn, of Greenwich, and Mr. Farey (both good authorities), in a corn-mill belonging to the former. The comparison was made with a beam-engine of the best construction; and, under similar circumstances, there was an important difference in favour of the disc engine, the engines driving alternately the same machinery, at an equal speed, from the same boiler.

Several disc engines have been fixed in various parts of the kingdom during the last eight years, but the arrangements lately patented by Mr. G. D. Bishopp have so much improved it, as to open to it a much larger sphere of action. This at the *Times* office was manufactured by Messrs. Joseph Whitworth and Co., of Manchester.

The peculiarity of the disc engine is, that it gives motion to a crank on the engine-shaft, and exerts a perfectly uniform force on it throughout the revolution. There are, therefore, no "dead points;" and when driving by gearing, without a fly-wheel, there is no back-lash in the wheels. Moreover, the steam can be cut off at a very early part of the stroke, without materially affecting the regularity of the driving force.

The wood pavement is fast disappearing from many of our thoroughfares.

Useful Receipts.

To Remove Ink Stains from Books, Linen, &c.
—Apply to the spot, muriatic acid diluted with five or six times its weight of water, and after a minute or two, wash it off: repeating the application as often as may be found necessary. Strong solutions of oxalic, citric, and tartaric acids, also effect the purpose, and being less likely than the muriatic acid to injure the fabric they are applied to, are preferable.

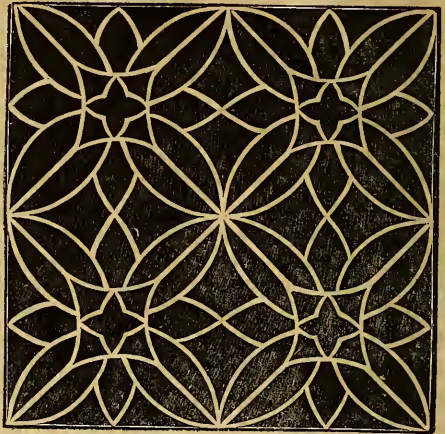
To Form Carmine.—Take three pints of water that has been boiled in a pewter vessel, into this put one ounce of finely-powdered cochineal, and keep the water boiling for about ten minutes; add then half a dram each of alum and supertartrate of potass (cream of tartar) and keep the mixture on the fire for a minute or two longer. When the gross powder has subsided the decoction is to be removed to a tall cylindrical vessel, which must be covered over, and left free from disturbance. The carmine will then settle at the bottom of the vessel. The liquor must then be gently poured off and the powder gradually dried. An inferior carmine may then be obtained from the coloured liquor poured off from the first carmine, by the addition of a solution of muriate of tin.

To Form Lake.—Boil chips of fine Brazil wood in water and strain the decoction, and then add to it a solution of tin in muriatic acid (muriate of tin) which may be purchased of the druggists. The mixture affords a fine red precipitate, which is the article required.

By precipitating by alum instead of muriate of tin, another kind of lake is obtained.

Various coloured lakes may be obtained by digesting fine Brazil wood in acids, filtering the solution, and precipitating with alum and Ammonia, or alum and potass. Ammonia, however, gives the finest lakes.

Cement for the Joints of Cast Iron.—Take 20 lbs. cast-iron borings; 2 oz flour of sulphur; 1 oz. muriate of ammonia. The materials must be ultimately mixed in the dry state, when a sufficient quantity of warm water must be added to render the whole quite wet; the mass is then pressed together in a lump, and allowed to remain till such time, when the combined action of the materials renders it quite hot, in which state it must be hammered with proper tools into the joints.



DESIGNS FOR GLAZIERS.

The Hindoostan Lapidaries Wheel.—This wheel is extremely useful for cutting patterns on glass, engraving on crystal, filing metals, sharpening instruments, and many other purposes besides the work of a lapidary. It is composed of two parts of fine emery powder, and one part of gum-lac. The emery is put into a crucible, and when hot enough to melt the lac, throw in some pieces one by one, stir the whole well, and make the mixture as complete as possible, and then pour it on a smooth marble slab; and after beating it well with a pestle, roll it on a stick and beat it again, &c. When the mixture is perfect, you pour it on the marble slab, (pounded with emery) in a hoop of iron or wood forming a mould, flatten and press in the paste with an iron roller, and smoothen the surface with a piece of iron and emery, heat the iron mandril and pass it through the centre, when cold it is applied to the lath and fit for use. The composition of the wheel is not only durable and simple, but may be less costly if applied as a ring on to the circumference of any other wheel, although generally made solid by the Hindoostan.

Stings of Bees, Wasps, and other Insects.—These are seldom fatal; but the pain which they excite is almost insupportable in some habits. Let the affected parts be bathed with tepid spirits of Mindererus.

To Correspondents, &c.

B. B.—*Not at present.*

H. F.—*Try it again.*

J. A.—K.—*Not connected with decorative art in any way.*

S. B.—*To be completed in five volumes.*

W. W.—*Certainly.*

G. G. A.—*Answered three weeks since.*

S. A. M.—*No.*

Now Published Complete, Price Five Shillings, the *Self Instructing Drawing Book*, containing lessons in every style of Ornament. Part 1 to 5 on sale. The *Book of Ornamental and Early English Alphabets*, Price 6d. Parts 1, to 7, are now ready.—The *Illustrated Laws of Cricket*, as revised by the Marylebone Club, with explanatory remarks by J. W. Burden, Cricketing Reporter to *Bell's Life in London*, Price 6d. Office, 17, Holywell Street, Strand.

* Parts 1 and 2 are reprinted, and will in future be charged at 10d. each.

Part 27 is now ready, price 10d.

Methods of Staining Woods.

THE following are the best processes for staining common woods, in imitation of the finer sorts.

Artificial Ebony, is made by boiling smooth clean box in oil, till it becomes perfectly black; or by washing pear-tree wood with aquafortis and drying it in a shady place in the open air; after which, common writing ink should be repeatedly passed over it, and the wood dried in a similar manner, till it acquires a deep black colour. It may then be polished with wax and a woollen cloth, which will give it a fine lustre. A very fine black is also produced by a solution of copper in aquafortis, and afterwards brushed over with a decoction of logwood.

Rosewood, may be admirably produced by brushing over the wood repeatedly a strong decoction of logwood, and, after it is dry, applying with a piece of cane bruised very coarsely, to be used as a brush, a solution of copperas, or, which is better, of iron filings in vinegar, in such a manner as to imitate the grain of the wood.

Mahogany. An excellent imitation of mahogany may be obtained by heating over a fire some dragon's blood dissolved in oil of turpentine, in which is immersed some plane-tree wood. This mode is practised in Germany, and produces a beautiful colour; but, as some danger is incurred from the liability of the oil of turpentine to take fire, it has been recommended to boil the wood well in simple water, and then to take it out, and, while hot, to brush it over repeatedly, with the solution of dragon's blood in oil of turpentine. Another method, which answers well, particularly with elm, maple, and sycamore, is, to dissolve two drachms of dragon's blood, one drachm of alkanet root, and half a drachm of aloe, in half a pint of rectified spirits of wine: the wood should be first moistened with aquafortis, and two or three layers of the mixture applied, each being allowed to dry before the next is applied.

A light red-brown Mahogany colour may also be given to wood, by means of a decoction of madder and fustic wood, ground in water, in the proportion of half a pound of madder, and a quarter of a pound of fustic, to a gallon; or, instead of the fustic, an ounce of French berries may be used. The wood must be brushed over with this solution, while boiling hot, till the proper colour be obtained. By substituting, for the fustic, two ounces of logwood, a dark mahogany colour will be obtained. When the wood has been brushed over several times, and is dry, brush it over with water in which pearl-ashes have been dissolved, in the pro-

portion of a quarter of an ounce to a quart. The wood, in the better kind of work, should be afterwards varnished with three or four coats of seedlac varnish.

To dye wood a fine yellow, dissolve gamboge in spirit of turpentine, and wash it over the wood: the addition of dragon's blood will produce an orange tint. Turmeric dissolved in spirits of wine also answers well.

Wood may also be stained yellow by brushing it over several times with the tincture of turmeric root, made by putting an ounce of the powdered root to a pint of spirit, and, after it has stood some days, straining off the tincture. To this also a little dragon's blood may be added, to give it a redder cast. A cheaper and less bright yellow may be given by rubbing the wood over with the tincture of French berries made boiling hot, and, when the wood is dry, brushing it over with weak alum-water used cold.

For a deep black, the wood may be brushed over four or five times with a warm decoction of logwood, made in the proportion of one pound of logwood to a gallon of water, and boiled for an hour or more. Afterwards black it over as often with a decoction of galls, allowing it to dry thoroughly between each application of the liquor. Thus prepared, it receives a fine deep colour, from being washed over with a solution of vitriol, in the proportion of two ounces to a quart; in the room of which, some use a solution of iron in vinegar, keeping the vinegar for this purpose upon a quantity of iron filings, and pouring off a little as it is wanted. A pretty good black is also obtained by brushing over the wood first with the logwood liquor, and afterwards with common ink. A very fine black may be produced by brushing over the wood several times with a solution of copper in aquafortis, and afterwards with the decoction of logwood, repeated till the colour be of sufficient force, and the greenness produced by the copper overcome.

To dye wood a fine blue put two drachms of the best indigo in powder in a glass, with two ounces of oil of vitriol, and stir them with a new clay pipe. When it has stood for ten or twelve hours in a temperate place, pour it into a large glass or earthen vessel, and add as much clear water as is requisite to produce the tint required. Another method is to dissolve verdigris in distilled vinegar, and making a separate solution of two ounces of pure pearl ashes in a pint of water, first applying the former to the wood several times, till it be of a sufficiently deep green, and then applying the latter with a soft painter's brush, till it becomes of the blue tint required. If a green stain is wished

for, the dissolved verdigris may be used alone. To dye wood purple, boil a quart of water, two oz. of Brazil wood, and one oz. of logwood till one half is evaporated; strain it off, and apply it with a painter's brush. Afterwards apply a weak solution of pearlsh.

To dye wood red, take two ounces of Brazil wood and two drams of purified potash; mix them in a quart of water, and infuse for two or three days, then strain it, and make it boiling hot, and brush the wood over with it until it is highly coloured, when while wet, it must be brushed over with a solution of alum, in the proportion of two ounces to the quart.

To dye wood pink or rose-red, add to this infusion of Brazil wood a quarter of an ounce of pearl ash, and use it as before, applying the alum-water several times.

To increase the brilliancy of any of the foregoing stains, use a varnish of seed or shell lac.—For coarser work, a varnish of resin and lac may be used, or drying oil; or even a little bees'-wax only.

Stained Glass in Leeds.

In Leeds parish church, are two lights at the east end, each consisting of three long openings, and filled with stained glass executed by Mr. W. Wilmshurst. These occur on each side of the centre window, which is filled almost entirely with ancient glass: The light on the north side contains some of the principal events in the life of our Saviour, each composition being under a canopy. The subjects are—'The Offering of the Wise Men,'—'Christ disputing with the Doctors,'—'Christ Blessing Little Children,'—'The Tribute Money,' &c. The south light exhibits some of the principal events in the life of St. Peter, in whose name the church is dedicated,—as 'The Deliverance from Prison,'—'The Charge,'—'The Draught of Fishes,' &c, in all, nine subjects. The tracery of the windows is filled with the representations of angels, scrolls, &c. There are also six panels, one at the bottom of each opening. Those at the four sides contain emblems, and in each of the central panels is an inscribed scroll, intimating that the windows are the gift of Mr. Blayds, and sacred to the memory of his two elder sons, who respectively died in the years 1842 and 1845. The colours, especially the blue, red, and ruby, are truly very brilliant. The execution of the work throughout is of the most artistic description, and reflects equal credit on the talent of the artist, and the liberality of the donor.

Review.

A Guide to Benefit Societies, Illustrative of their Origin, Progress, Constitution, and Objects; with a Practical Adaptation of Life Assurance to the Requirements of their Members, by J. H. JAMES, Consulting Actuary.—London, Simpkin, Marshall, & Co.

THE work before us is one of that rare but useful class calculated to direct and assist the industrial classes in their efforts to invest the product of their economy in the most advantageous manner, not only to their own advantage, but to that of those who, in the common course of nature, they must expect to leave behind them in this "vale of tears." It is written in the most perspicuous style, and though embracing subjects of no ordinary difficulty, renders them clear and tangible as the sun at noon-day. There are annexed several Tables of Life Assurance, applicable to the requirements of persons connected with Building Societies. To all such individuals, and those who intend investing their capital in a similar manner, this work cannot fail in being of the greatest service. We regret that our limited space precludes our giving an extract from its lucid pages.

Baths and Wash-houses.—Timely Advice.—A foreign visitor to some of our public baths, the Baron de Suarce, while honouring the English of all classes for the establishment of such noble institutions, advises the exercise of great and even scientific care in the cleansing of towels and flannels, particularly in such a season as the present, and above all, in the Metropolis, "whither crowd strangers from every quarter of the globe, many of them deplorably unhealthy, and where disease has an increased malignity." It is not sufficient, as the Baron urges, that the towels be boiled in alkaline water—the ordinary mode of cleansing—for thus "the corrupt humours of the diseased may be enfixed in them. That is what your medical men, agreeing with me, will tell you; and particularly manufacturers of wool and cotton. At Leeds and in the west of England, the operation of cleansing the wool is known to require a wash possessing a certain precise amount and no more of alkali and heat, as the slightest deviation irremovably fixes the oil in the texture, instead of separating the two.—[This is, indeed, a well-timed caution, and deserves prompt attention.]

THE gold coins of this country are composed of eleven parts of gold and one of copper.

**An Illustrated Glossary of Technical
Terms used in Architectural and
Exterior Decoration, &c.**

WAINSCOT. The wooden linings of walls, generally in panels. The wood originally used in this work was a foreign oak, known by this name, and hence the name by degrees became applied to the work itself.

WALL. A body of masonry of a certain thickness, formed of stone or bricks. The early Greeks constructed their walls, particularly those which surrounded their cities, of rough stones of an immense size:—such were those of Mycenæ and and Tiryns. The interstices that were left between these shapeless blocks were filled up with small stones. According to the report of travellers, there still exist in the isles of Gozzo and Malta circular edifices of this construction. When the ancients first cut the stones, they did not cut them rectangular, but gave them an irregular figure of three, four, or six sides, and fitted them together, so that, when in their places, they left no interstices between them.

WALL-PLATES. Pieces of timber which are placed so as to form the supports to the roof of a building.

WARPING. See *Lasting*.

WEATHER-BOARDING. Boards lapped over each other to prevent rain, &c. from passing through.

WEATHER-TILING. Covering a wall or vertical surface with tiles.

WEEPERS. Small sepulchral statues in old monuments.

WELL. The hollow space within a spiral or square staircase, extending from the basement to the roof.

WHEEL-WINDOW. A circular window in the form of a wheel.

WHISPERING-GALLERY. Their form must be that of a concave hemisphere. In that of the dome of St. Pauls, the ticking of a watch may be heard from side to side, and a very low whisper be sent all round the dome.

WITHS. The partitions of chimney flues.

WREATHED COLUMNS. Columns twisted in the form of a screw.

XYSTHUS. This word is applied by the Greeks to a spacious portico in which the *athletæ* exercise themselves in winter.

XENODOUHIUM. The name given by the ancients to a hospital or an inn, for the reception of strangers:

ZETA. A small withdrawing chamber—a stove room—a parlour. In churches the zeta was a room in which the church-keeper or sexton lived. Formerly this room was built over the porch-way and entrance into the church. The sexton here kept his books, and gave his returns as custom enforced, and in the zeta all parochial business was settled.

ZOCLE. A term given to a low, square member, used instead of a pedestal, to support a column. When a zocle runs round a building, it is termed a continued zocle. A zocle differs from a pedestal in being without base or cornice.

END OF GLOSSARY.

New Silver Mines in Chili.—The discovery of the richest bed of silver, near Copiapo, at a place called Tres Puntas, is not unlike the Californian gold finding. A common miner, tired of drudging, took his mule and travelled in search of treasure, resting at night in the open country, among hill or deserts. On one occasion, finding his location somewhat uneasy, he shifted occasionally a few feet during the night. Not being able to sleep, before starting in the morning, and wondering what could be the cause of his uneasiness, he cleared away some of the sand where he had lain, and to his surprise and delight discovered a complete bed of silver on the surface, very rugged and pointed, but at all events sufficiently so to have made him restless during the night. As the discoverer he claimed the right of possession, which he now holds. An offer was made to him of 100,000*l.* cash, before the mine or bed was disturbed, which he refused.—Other mines have been discovered in the same district. This may appear fabulous, but it is strictly true, nevertheless.

Brewing.—The art of brewing, or preparing a vinous fermented liquor from the farinaceous seeds, is of very high antiquity. The ancient Egyptians from the soil and climate of their country not being favourable to the culture of the vine, were induced to seek a substitute in barley, from which, in all probability, by the process of malting, they knew how to prepare a fermented liquor. How far the moderns have improved or degenerated in the art is now incapable of proof.

On Brick Mouldings.

A CORRESPONDENT in the *Bury Herald* says:—

“In a country like ours, where there are no quarries, and so many clay pits, and where consequently stone is so dear and scarce, and bricks—both red and white—so common, I rather wonder that brick is not more used for the finer mouldings in the place of stone. In former times—and it might be equally so now—mouldings of all kinds were highly ornamented, frames to windows, porches, chimneys, &c. were made of brick. Besides being much cheaper, and quite as durable as stone, they had this advantage,—that the most intricate patterns could be made nearly as cheap as the plainest; and also that any colour might be used, if not in the brick itself, yet on the outside and burnt in. White brick round the windows, or at the corners of houses, proves a good foil to shaped flints; red brick to white, and vice versa.

“I shall mention one or two instances of the use of moulded bricks. Westhorpe Hall, one of the first buildings of this class, was erected by Brandon, Duke of Suffolk, about the year 1500, who resided there with his wife, a king's sister and widow. Though hardly a remnant even of the ruins remains, yet fragments turn up which show the beauty of the brick mouldings. They are of a very hard and compact white brick, which retains its original sharpness,—and some of them having the duke's crest in relief upon

them, still ornament a bridge of the same date as the hall. The other example is West Stow Hall, built by the same duke, the gate-house of which is a noble specimen of brick building. As an example of the great use of brick mouldings in churches, I may name Ixworth Thorp, a doorway of which church has its mouldings and circular (Saxon ?) arch, formed of red brick.”

The duty on bricks, levied as it now is, prevents any attempt at improvement, or experimental endeavours.

To Correspondents, &c.

Blucher, (Oxford.)—*Thanks for the excellent article sent, which we regret not being able to avail ourselves of, owing to the present number completing the work. It shall be enclosed to any address you may forward.*

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