

## PRACTICAL HINTS ON DESIGNING.

## PART I.

To the amateur craftswoman there is always a peculiar fascination in working from her own designs; and, well knowing the technical necessities of her branch of art, she ought to be easily able, if a draughtswoman, to create good practical patterns, or to adapt ornament from other sources to her own requirements. Unfortunately, amateurs often fail entirely to produce pleasant effects, either from ignorance of the true principles of design, or else because they do not sufficiently recognise simplicity as an essential part of beauty.

The fundamental principles of design, whether applied to construction or ornamentation, are all founded on truthfulness, and are briefly these—

That utility precedes ornament.

That convenience should dictate shape.

That the most obvious fitness entails the greatest beauty.

That all decoration should enrich without obscuring the original form.

That material should suggest treatment.

That any attempt to make one material assume the characteristics of another is false art.

That all decoration loses its beauty when it is felt to be superfluous.

These laws, being of universal application, cannot be tampered with safely, while the amateur who obeys them is unlikely to make any serious mistake.

Many others, less important, but useful to bear in mind, deal with especial branches of art, or forms of ornamentation, and admit of exceptions.

In its widest sense, the design includes the form of an article, as well as its decoration, although, as a rule, it is only the latter with which amateurs are concerned.

In any case, it is a fatal error to imagine that delicacy and elaboration of detail can ever atone for weakness of composition; and to draw out a carefully considered plan ought always to be the artist's first proceeding.

All designs are founded on geometrical principles, although sometimes the main lines are so overlaid with ornament, that this fact is not at once apparent. A little consideration will show that, however irregular a figure may be in itself, its regular repetition brings it under geometrical laws; and, if the repetition be arbitrary, design itself is absent. It is obvious, therefore, that, before attempting to make any working plan, proper tools must be obtained, and their use understood.

A good-sized drawing-board, drawing-pins, some cartridge paper, charcoal, or a BB. pencil, a good F. pencil, a piece of brown india-rubber, a T square, a small set-square, a pair of compasses, fitted with movable arms for pen or pencil, a six-inch rule marked with inches and angles, and transparent paper for tracing are all necessities, and their use will be explained as we proceed.

One may sometimes draw a rough sketch of one's ideas in miniature, but it is important that even the most elementary plan should be of the same size as the space to be decorated, or the ultimate effect cannot be accurately judged.

The drawing-paper must be pinned tightly on to the board, with one edge of which its own should be perfectly parallel; and if the plan is to be a square, or parallelogram, a straight line must be ruled by the help of the T square's shaft, whose head should be held firmly against the side of the board.

On this foundation-line, the required length should be marked off, and at the points where the corners are to come, the corner of the set square should be placed, and upright lines ruled by its aid. These can be continued by

use of the T square, as far as required, and the fourth side obtained in the same way.

To form a circular plan, the foundation-line should be ruled through the middle of the paper; a place being fixed on for the centre, the point of the compasses should be inserted into the paper there, and the pencil end brought on to the line at the required "radius," which is half the diameter, or length through. Then, the point being firmly held, the circle must be described by swinging the pencil-arm round on the paper. The foundation-line divides the circumference, or line round, into two, and these semi-circles had better be again divided by the following method. Insert the point of the compasses where the diameter cuts the circumference, and stretch them to any length greater than the radius: describe with the pencil-arm a semi-circle; and proceed in the same way from the other end of the diameter, and mark the exact points where these arcs intersect, finally ruling from one point to the other a line which, if all has been correctly done, must pass also through the centre. This divides the circle into four segments, and these can be subdivided on the same principle. In this way can be formed an octagon, or eight-sided figure, a straight line being drawn from each one of the eight points on the circumference to the next. By marking off the length of the radius on the circumference, the hexagon, or six-sided figure, is obtained.

To make a triangle, the length of the base should be measured on the foundation, divided into two, and at the middle a line raised at right angles by means of the set-square. The compasses should then be extended to the required length of the other sides; the point inserted at one of the bottom corners, and where the pencil cuts the upright line, is the apex of the triangle, whence lines must be ruled to the ends of the base.

These figures, the circle, triangle, square, hexagon, and octagon, are most generally used, and the formation of others, such as the pentagon and ellipse, is almost too complicated for an untrained geometrician to attempt.

To draw one line parallel to another, the compasses should be extended to the width of the required space, arcs made from different points along the first line, and a second ruled, touching, without cutting, all the arcs.

Such an elementary plan obtained, its filling up proceeds according to what sort of ornament is desired, whether a diaper, panel, border, or frieze, to mention the most usual forms; and each demands compliance with certain fixed laws governing its construction.

A diaper consists of an ornamental square, or alternate squares, exactly repeated all over the surface to be decorated. Obviously, therefore, the space at command must, first of all, be divided on the plan into squares, into one or two of which the ornament must be fitted. It is not necessary, however, that the latter should itself be square; in mediæval architecture, where the best specimens of diapers are to be seen, the pattern is generally founded on the circle, or is formed of a conventional flower, with any number of petals. If two similar or contrasting devices be used, they should unite at the corners, or leave a space between, which describes a more or less geometrical figure. It is well, therefore, to know the qualities of repetition which the different shapes possess. A square, for instance, repeats itself; that is to say, four equal squares joined together at the corners surround a space exactly corresponding to any one of them. In the same manner three triangles surround a triangle, and six hexagons a hexagon. But square spaces are also formed by the conjunction of four octagons, and in an

irregular form, of four circles. The diamond, a four-sided figure with two angles greater than the others, repeats itself, and is also formed by the joining together of four hexagons. Circles surround only star-like spaces, whose points correspond in number to the circles employed. The triangle and hexagon likewise form each other, as do the square and oblong parallelogram.

Except the triangle, no polygon, having an unequal number of sides (such as the pentagon) can form a repeat, and, if used at all in "all-over" patterns, should be enclosed in a square or circle.

Although, strictly speaking, the repeat of a diaper can only be square, all the arrangements of single and alternating figures mentioned above are used in so-called "all-over" designs, the essential law of which is that the ornament looks the same, whether viewed from one end or the other, in contradistinction to those which are called up-and-down patterns.

The division of a given parallelogram into squares for a diaper is easily done by measuring off the required size from one corner all along two sides, and ruling lines at right angles from the points obtained by means of the set-square.

If the surface to be decorated be not a parallelogram, two lines should be ruled across it at right angles to each other, and the plan based upon them. Whatever device occupy the square, it must start from a centre, and approach each side in a similar manner, therefore the centre spot must next be obtained by drawing diagonals from the corners, as already advised. The squares will thus be cut up into quarters, which, in one or two henceforth to be considered as a field for experiments, should again be divided, thus providing eight equal sections. Then, by stretching the compasses to the length of the line between centre and side, a circle should be firmly drawn which will just touch each side. Should the chosen device be of six segments, the eight sections are not needed, the radius of the circle being measured off six times on the circumference, starting at one of the quarter divisions, and lines drawn from the centre to the points thus obtained. On these plans we can test our decorative ideas with a soft pencil or charcoal, and, for the latter, the special rough paper is convenient, although ordinary cartridge does very well, and can be had in larger sheets.

The agreeable distribution of parts is so important, that the design should first be drawn out in broad masses, these corrected until quite satisfactory, then carefully outlined with a chalk or HB. pencil, and the charcoal dusted off. For correction of charcoal and chalk, bread should be used; for pencil, india-rubber. The details should then be put in with charcoal, and when perfect, gone over with Indian ink and a fine pen, or, for large work, the geometrical instrument called an ink-pen will be found useful, and makes a beautifully even line. When the pattern is to be light on a dark ground, the ultimate richness of effect, and the value of the contrasting masses, can be more accurately judged by doing the first sketch in white chalk on brown paper, and fixing the lines, when approved of, in white paint.

Next a sheet of tracing-paper should be tightly pinned over the drawing, so that it cannot shift, and every permanent line carefully traced through with an F. pencil.

Where no colouring is wanted, this is sometimes the last preparatory stage; but if, as is very likely, the many alterations should have made the original sketch dirty and untidy, it will be necessary to make this tracing of the main lines only, omitting anything doubtful, and then transfer the former on to a clean



square. The method of transference is as follows—

Rub a soft lead pencil evenly all over a piece of cartridge-paper, and take off with an old rag all black that is thus removable, enough remaining for the purpose. Many people buy blue paper, but lead is far cleaner, and mistakes in its use can easily be obliterated with bread. This transfer sheet must be laid, lead or blue downwards, on to the clean paper, the tracing placed over that, exactly in the position which the new drawing is to fill, and all three fastened securely down with pins. Every line on the tracing should then be gone over with a "pointer," which may be either a piece of bone tipped with lead, a knitting-needle, or, as I prefer, a pointed stick of jade. This transfers the drawing faintly on to the new paper, but when the leaded and tracing sheets have been removed, all the inevitable errors of transference, broken lines, weak curves, and ugly joints must be corrected with an F. pencil, and the fuller details carefully drawn in. When colour is to be employed, Whatman paper must be used, and the tints put on now in clear washes with a sable brush.

Now a second tracing should be made, and every square filled up if required, but as a rule enough only of the surface need be covered to form a good repeat, this being the last stage before putting the pattern on to the material, which process varies with nearly every different handicraft.

I have described this method of transference thus fully, because it applies alike to all patterns.

"All over," and "up and down" designs must be planned in much the same way as diapers, the difference lying chiefly in the primary divisions. When these are triangles one should be formed of the desired dimensions in the way already described, and repeats of it transferred all along the horizontal foundation with their corners touching each other. Then a second horizontal should be drawn touching each apex, thus forming a line of triangles pointing alternately up and down, and a tracing being made of this repeat, it can be multiplied all over the field.

Circles, hexagons, and octagons are founded on the square, as already directed, but the squares may be either placed diagonally, or horizontally.

Powderings are figures sprinkled at regular intervals over the ground, differing from other "all overs" in being isolated, and must be planned for on the system of squares, or diamonds, the devices being placed on the intersections.

The fundamental law of a border is parallelism to an edge, which means that however much the ornament may twist and wave, it must be kept within two imaginary lines at

different distances from the edge of the material, and must at regular intervals touch these lines. This rule is not infringed by simple repeats of a figure whose main stem is at right angles to the edge, because here the parallelism is suggested by the figures all springing from one line, actual or inferred.

Obviously the first thing to do is to make these two lines following the shape of the object for which the border is wanted.

When this is square the arrangement of a corner has to be considered. When circular, the main lines of the border must converge towards the inner edge, and all ornamentation being smaller on that side than the other it is impossible to use any pattern founded on a square.

Having ascertained the exact length and width required, the former should be divided up into equal spaces, each less, or but little longer than the width, for as a general rule, if the repeat be much longer than the width, the border partakes of the nature of the frieze or of panelling.

In a specimen plan a yard long by three inches wide, we could divide the former by the latter twelve times, each repeat being three inches square; but where alternate figures are to incline to either edge of the border, an unequal number of repeats is desirable, so that a complete device may come in the centre, instead of the boundary between two. In this case, therefore, it would be better to divide the above length into nine spaces of four inches.

Supposing that the yard has to include two corners, each three inches square, six inches should be deducted, and the remaining thirty divided either into ten spaces of three inches, or, in case of alternation, fifteen of two.

With an oblong article, the length of the shorter sides must also be reckoned for, so that a repeat may be obtained whose measure is common to all the dimensions. For instance, a mat of one yard by twenty-four inches, requiring a border of three inches, may be arranged in repeats of two inches, nine of these exactly filling the space left between the corners on each shorter side.

It is not essential that the corner should be the exact square of the width, and very often a narrow border has a very large and important corner. Still the principle of equal division of the sides invariably holds good.

To border a circle, an inner circle must be drawn at the desired distance from the edge and both divided into the necessary repeat by radii from the centre. For alternation the number of spaces must be even.

In octagonal or hexagonal borders, the corners may be cut off by lines at right angles to the sides from the inner angle to the outer

edge. The parallelograms thus left can be divided into suitable spaces.

Some measurements will be more complicated than in these examples; but, however tedious, such accurate planning-out is imperative before the more artistic work begins.

The ornament of the border depends either on the fancy of the artist, or the existing decoration of the field which requires it; but its main features will either be a third parallel midway between the original two; diagonals drawn from side to side; right angular lines, as in the Greek frets or key-borders; circles contiguous or interlacing as in the guilloche; or arcs facing alternately one side or the other. For all these the geometrical plans must first be arranged.

Except in a guilloche the corner is seldom identical with the general repeat, but it ought to be only a variation caused by the necessary change of direction in the principal lines.

Sometimes the main line can be curved gracefully across the corner, and where the repeat is simply an isolated figure, this may be placed diagonally in the corner, or in its stead, a rosette used containing its elementary features.

Large and florid corner ornaments occasionally suffice for the entire border, when the stem or most elaborate figure should originate from the angle.

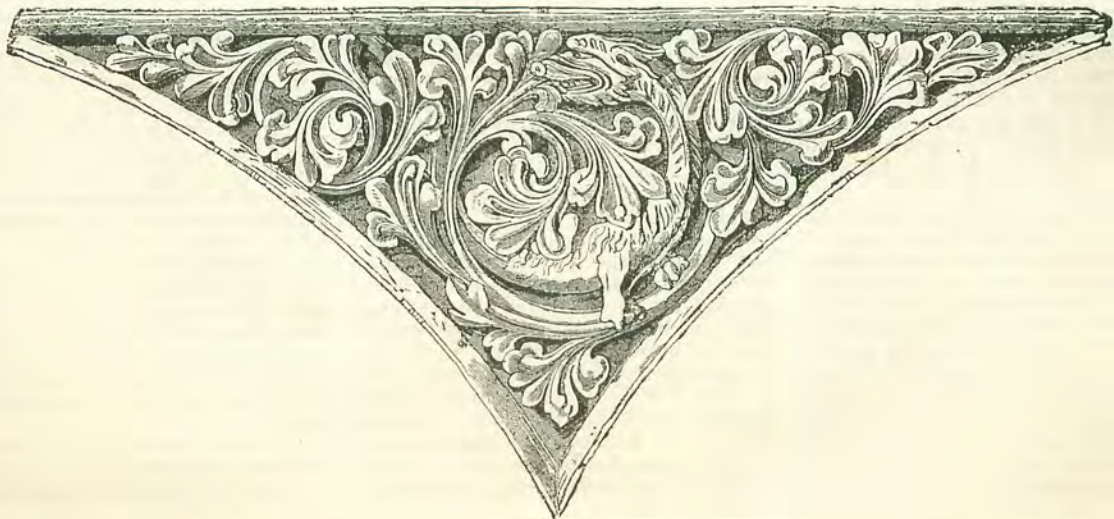
In the frieze, more independent in its nature than the border, the eye, instead of being carried along an edge, may rest on a central feature more conspicuous than the remainder. The frieze may certainly be a series of repeats, but these are generally so long in proportion to the width that the sight hardly takes in more than one at a time. Serving usually as a heading to something else, its upper half need not match the lower, and is better lighter; the best arrangement being a rich group of interlacing curves springing from a centre, and the lines on either side of this although not exactly corresponding, must make some show of symmetry. For repetition, the ends coming together, should compose a single device.

Panels of any shape are subject to the same laws as friezes, and symmetry is even more essential to their beauty. When two parts are to match, the main curves of one should be carefully drawn, traced, and transferred to the other before minor details are added.

Of course many beautiful examples of Eastern and ancient art have ornament composed without any reference to geometry, but such a method requires a master-mind to make it successful, and is not to be recommended to beginners.

Therefore I have devoted all my space in this article to geometrical methods of composition, intending in another to treat more especially of ornamental detail.

CONSTANCE JACOB.





## PRACTICAL HINTS ON DESIGNING.

## PART II.



ALL design is either symbolic or aesthetic in principle, and if we decide to follow the former, we are governed in our selection by the meanings which religion, tradition or sentiment has assigned to

various natural objects; but if we arrange our ornament according only to æsthetic ideals, we have all nature to choose from, and with such wide liberty, are perhaps all the more likely to make mistakes.

The simplest method of decoration is merely sprinkling a given space with dots, and quite sufficient variety may result from their arrangement on different geometrical bases, or from the contrasting fulness or scarcity of their distribution. But this sort of work only answers on a small scale; on a larger, the dots must develop into isolated circular or floral forms.

Simple straight lines also are effective when used with taste, and by varying their length, placing them at different angles with each other, and combining them with dots, many pretty patterns can be invented, particularly suitable for monochrome embroidery, pyrography, leather work, pottery-painting, and chip carving; although, in the last-named, the lines thicken and the dots become circles.

As beginners should aim at simplicity before anything, they cannot do better than work at first only with the easiest geometrical details; and, when the due value of lines and spaces is thoroughly grasped, experiments should be tried with interlacing circles and polygons, whence may be evolved an almost endless variety of designs. The circle is especially susceptible to such treatment, as will be seen by drawing one of a fair size, dividing its circumference into any equal number of parts, and taking each of the points thus obtained as the centre of a smaller radius. This will form a wreath of interlacing circles, or arcs, if portions of each be erased according to taste; and these can be enriched by describing larger or smaller arcs round about them, taking any points for centres, and joining parts to one another by straight or curved lines.

Overlapping circles, with the lower part of each omitted to give the effect of being hidden by the next, make a very pleasant framework for an "up and down" design; and when several of different sizes are drawn from the same centre, they should be worked out ultimately in graduating thicknesses of line, or tones of colour, the heaviest near the centre. Concentric whole circles treated in this way make a very good repeat for a diaper pattern.

Before attempting to compose any elaborate design, the artist should practice for some time with exercises of this kind taking the circle and all the polygons by turn, and noticing at every opportunity good pieces of ancient and modern art, in which such purely geometric designs occur. In London, of course, visits to the British and South Kensington Museums will teach much to an observant eye.

Very beautiful designs for every kind of work are founded on contrasting curves,

elaborated by others springing from the main lines, turning back on themselves, or interlacing, as fancy may dictate, and enriched by appropriate vegetable forms. These details may continually cross and occasionally cover portions of the principal lines, but not often enough to obscure the original plan, and all the subsidiary curves must grow from the main stem and each other in one direction only, as do the parts of a plant. Whether simple or elaborate, such ornament depends for its beauty on the care with which the arcs are drawn, and the grace with which the lines spring apart. There must be no ugly angles or abrupt joinings, but each subsequent curve should appear the natural, unbroken continuation of the earlier portion common to all; even though the actual point of attachment may be concealed or emphasised by a bracket-like device. There are few better examples of this than the cover of the *Magazine of Art*, designed by Lewis F. Day; the field consisting of very beautiful curves, scantily foliated, and the border built up on stiffer and more ornate lines.

When the art of making simple patterns, by means of pleasant curves and contrasting spaces, is fairly understood, these can be elaborated by clothing them with more or less floral forms; care being always taken that the new lines do not disguise the old, or the result will be as ugly as of an abnormal fleshy protuberance destroying the natural proportion of the human frame.

As flowers supply us with the most popular and beautiful details of ornament, a knowledge of botany is obviously helpful; but its scientific study is less useful for our purpose than a close acquaintance with individual plants, and careful observation of their external features.

As, however, naturalistic copies of plants, with all their accidental light and shade, position and colour can seldom be used decoratively, it is well to make preliminary exercises in conventionalising them. To this end careful pencil studies of a plant should be made in various positions, all unnecessary shading being omitted, but each change in outline marked with precision, and particular note taken of every peculiarity of growth: such as the way in which leaves spring from stalk, the arrangement of veins, the exact angle of one part of the flower with another, and the number of petals, sepals and stamina. Then separate parts, such as the flower, leaf, bud and seed, should be drawn and shaded slightly, and afterwards a water-colour sketch may be made, giving broadly the chief features of light and colour.

Such exercises having been carried out with several different flowers, one should be selected which best suits the style of decoration desired, and whose details compose best into their destined space. A primary plan of the repeat having been prepared, as directed in the former paper, and thoughtfully divided with charcoal into agreeable masses of light and shade, the most prominent of these should be translated, by means of a bread stump and H. B. pencil, into a copy of a conspicuous feature of the plant, preferably its flower; the leaves, buds or seed-vessels representing the other masses, and the whole brought together by the stem, whose curve must not contradict nature, and from which the parts must spring with some show of probability, although it need not be an exact copy of any actual stalk. Some flat designs need no stalk; or a repeat may be arranged by surrounding a full face drawing of the flower by a wreath composed of the stalk and other details.

In this kind of work it is chiefly necessary to convey, as simply as possible, an idea of the main outlines rather than the less distinctive features of the flower, presenting, in fact, a type rather than an individual.

The flowers which most easily work up into decorative schemes belong for the most part to single species, and hardy English plants, experience showing that the more distinct the form, the more likely is an amateur pencil to convey a clear idea of it. For this reason the dog-rose, daisy, daffodil, sunflower, cornflower, iris, tulip, bryony and woodbine, are naturally decorative when rendered with intelligent reserve.

On the other hand, a much greater variety and opulence can be gained by the use in skilful hands of some double flowers, such as the garden rose, chrysanthemum, peony, double poppy and carnation.

Suitability is a primary consideration in the use of flowers, as in everything else, and no amount of skill can make them look happy in unnatural positions. What can look more undignified than daffodils bent and prone along a horizontal border, or bunches of grapes sticking out at right angles to a vertical stem? Yet both of these absurdities are sometimes seen.

In simpler diaper repeats flattish single blooms, drawn full face, or clusters of small florets, like fruit-blossoms, go best. For "up and down," sprays of almost any plant can be safely used.

To any pattern founded on curves, climbers are most congenial, especially to borders; although some other flowers, such as the carnation, whose stalk has a natural droop when left to itself, can, with a little care, be pleasantly adapted to such lines; but in this case alternation is impossible, as the flowers must always appear to spring upwards out of the main stem.

Generally both edges of a border may be equally covered, but where it is to hang down, as in a table-cloth, the lower edge should, I think, be in greatest contrast to the centre field; that is, lighter if the cloth itself be thickly worked, and *vice versa*. Where the border is vertical, as down the edge of a curtain, a good effect is obtained by letting some details hang downwards, instead of pointing from edge to edge, or on the contrary, the eye may be led upwards by most of the ornament pointing thither.

When using whole sprays a great matter for consideration is the relative size of flowers and leaves. Should the latter be less distinctly shaped, and yet much larger than the flowers, the whole may prove uninteresting; but very good contrasts can be formed either by clusters of small flowers having bigger leaves, or large heavy blossoms surrounded by light and delicate foliage. The masses of each should never quite balance, either in size or shape.

For all practical purposes seeds, berries and fruit may be regarded as flowers, either taking their place or accessory to them.

It is seldom advisable to represent natural flowers as larger than their real size, although they can always be used smaller. It is not at all unusual, especially in wall-papers and cretonnes, to see repeats of gigantic poppies or roses, but the effect is generally startling rather than beautiful, and with an amateur tends to become grotesque. For handsome patterns in proper proportion to large objects, it is better to use big flowers, like peonies and hemlock, or even small blossoms in heavy masses. But with flowers so conventionalised as to be mere symbols of the real, this rule may be relaxed if the arrangement be correspondingly formal.

A charming contrast can often be made by using two plants in the same design, one decidedly prominent, the other secondary, or even fulfilling the functions of a background; but the two must never spring from one stem, as I remember them doing in a particularly



shocking example of crewel-work, where ears of wheat, corncockles, and some nameless pink flowers all grew out of a woody stalk, on which was perched an impossible bird.

Flowers copied exactly from nature demand to be represented only in natural positions, and this usually being out of the question, the sense of probability is only restored by adapting them to their conventional situation.

A whole plant can be used thus, either by giving a suggestion of the trunk and root, or by making it rise out of a vase, flatly treated, with hardly any shading, and such devices are peculiarly suited to friezes and panels.

Birds and animals, natural or mythical, frequently occur in ornament, generally in connection with foliage; but are less satisfactory than flowers, as lacking some of that repose which our instincts seek in decoration as opposed to pictures. They require conventionalising more sternly and using more sparingly; wherefore the purely mythical, such as dragons, are the easiest to deal with, and can, with a little imagination, be developed from the lines of scrolls, as in classic and renaissance sculpture.

The ordinary amateur will do well to leave the human figure entirely out of her compositions, for although its presentment forms the highest expression of Art, a considerable knowledge of anatomy is necessary for its simplest treatment successfully, and for similar reasons, real animals are more difficult to manage than those whose proportions may be safely left to the imagination of their artistic creator.

Landscape also is seldom satisfactory in amateur hands, and although within late years a fashion has arisen of decorating doors and panels in this manner, the painting often ends in being too pictorial for a decorative design and too conventional for a picture. Still birds, trees and flowers can sometimes be combined in a strictly conventional landscape with good results, as in Japanese and Chinese work. The Art of these two nations is too full of emblematical meanings to be easily imitated, but a study of their designs will teach the truthful rendering of all objects by the fewest possible lines, almost without any aid from perspective or shading.

Heraldry is so rich in suggestion, that it is rather strange how seldom its resources are drawn upon. Repeats of a coat of arms, shield or crest, brought together by a background of surrounding lines, will make an extremely pretty "all over" pattern. Mottoes should not be frequently repeated, or they become wearisome, especially on an object in constant use.

Heraldic drawing and colouring must be very carefully copied, for as all these details are essentially symbolical, the slightest inaccuracy may change their significance. Should the proper tints appear too garish for the decorative scheme, it would be best carried out in monochrome.

The historic style to which such details seem most suitable is that pseudo-classic known as the "Adam."

For the plan of a square table-mat in blue on white linen I once took that of an "Adam" ceiling, which consisted chiefly of an octagon centre, and, close against the border on each side, two semi-elliptical panels, and founded their decoration on the crest of

the house—a lion holding an olive branch. The whole crest was placed in the centre, two lions faced each other in each corner, and between them grew a conventionalised olive-tree whose symmetrical curves filled the space between the centre and the panels, and from which was suspended midway between corner and centre a shield bearing the family initial. The panels were subdivided and decorated with small olive sprays; while their borders and those of the octagon and the whole mat were variously derived from the leaves and berries.

In simpler patterns small shields and panels, bearing initials or monograms, can be gracefully connected by what is known as the "strap-work" of Elizabethan carving. Or we may make our work symbolical by the use of primitive shapes which are traditionally regarded as emblems; a heart signifying love; a horseshoe, good-luck, for instance; while some initials and Christian names can be typified on small shields in a punning fashion; such as a bumble-bee standing for B, or the name Beatrice, of which Bee is an abbreviation; a daisy for Margaret, a crescent for C. or for Diana for examples.

The innumerable Christian emblems should be only introduced into Gothic or Byzantine ornament; and are anomalous in any work inspired by the pagan feeling of the Renaissance.

Even if possible within the limits of this paper it would not be particularly useful to attempt an analysis of historical style.

A fairly creative mind will soon form its own style, or will select that with which it is most in sympathy.

But it is important that the style chosen shall suit the decorated object, and can be fully rendered by the materials at command; and the designer should have a clear idea whether flat or raised ornament is best fitted for her purpose. To the former grace of line, harmony of colour, and contrast of pattern with background are essential; but for the latter the value of shadows and gradations of tone are of first importance, lines giving way to masses, and colour to light and shade. One obvious rule in this connection is, that no object whose use demands flatness should appear to be ornamented in relief.

Because our knowledge of ancient art is chiefly derived from architectural masterpieces, it does not therefore follow that we can legitimately transfer an acanthus scroll from a Greek temple to a modern mat, and translate the shadows of the original carving by heavy masses of dark colour; for the inequalities of surface adding beauty to a stone frieze would be absolutely dangerous on a floor, if real, and suggest discomfort if only an inartistic sham.

Most of girls' artistic crafts demand flat designs, as for example, embroidery, lace, painting, stencilling, pyrography and some leather work; while others, such as modelling in clay or metals, and wood-carving, are necessarily in relief.

But even in these materials the relief is often better kept quite low, and thus the impartial critic sometimes bestows warmer admiration on so-called chip-carving, than the more elaborate wood-carving in high relief.

In some embroidery raised details are

allowable, but it should here be born in mind that the slight relief will supply its own shading, therefore the colours used need no gradation of tone.

A closely-decorated background will frequently supply contrast without destroying flatness, or may pleasantly bring together a thin straggling pattern. It should generally be in lower or more neutral tints than the pattern, and its details less conspicuous. For instance a bright-coloured flowing design of peonies, on an old-gold ground had the latter covered with a network of light-brown. But the busy background is too often overdone, and the decorative value of plain surfaces underrated.

The great natural gift of an eye for colour can be little assisted by written rules; still, as the fewer the tints the easier is it to get a good effect, first essays should be made only in two shades; a dark with a light, or a bright with a neutral. Afterwards three can be tried, a light, a dark, and a neutral; and when more are used they should generally include a shade each of red, yellow and blue, although one may be little more than a suggestion. On a white background, the imposed colours should be fairly rich, or if a very light tint be included, it should be cut off from the ground by a darker outline. On black the contrary applies, but in a many-coloured design, the ground is best of a neutral shade, lighter than the darkest, and darker than the lightest tones in the pattern.

The method of putting the design on to the actual material to be decorated, differs with every kind of work, and must form part of the technical instruction.

For flat surfaces the drawing should be traced on transparent paper as before described, this pinned on to the material, between the two being laid a sheet of carbonised cloth with the carbon side downwards, and every line carefully gone over with the pointer. For some work the marks thus made on the material may be sufficiently permanent, but for embroidery I prefer fixing them in water colour with a brush known as a Rimmer. A mahl-stick should be used during the transference, as if the hand rest on the tracing the carbon is apt to come off in spots where not wanted. For the same reason the drawing pins should not go through the cloth, as its shifting is of no consequence if the tracing and the material be firmly held on to the board.

Instead of the white cloth for dark materials a pouncing wheel is sometimes used as follows: all the lines are perforated by it before the tracing is pinned over the stuff, then the powdered chalk is rubbed through all the holes with a roll of flannel like a miniature bolster, the size of one's thumb. When the tracing is unpinned the pattern will appear on the material in a series of fine dots, which must be transformed into fixed lines by white paint.

With either method on a rough material, such as serge, the lines will show more clearly if the stuff be first smoothed over with an iron, which is not hot enough to change the colour, as heat will sometimes do.

When this stage has been reached, the success of the work depends no longer on the designer's but the worker's skill.

