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DRAWING
AND DESIGN
FOR BEGINNERS

By Edward R. Taylor

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DRAWING AND DESIGN



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A CLASS TEXT-BOOK FOR BEGINNERS

BY

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PREFACE.

THIS work is an attempt to provide a Class Text-Book on Drawing and Design for use in schools, which the teacher may place in the hands of the pupil as a guide to his course of lessons. It is hoped by providing a text-book for the teaching of this subject, as distinct from a book of examples, to hasten the time when drawing and design shall be taught to all (concurrently with writing) as an essential of the school course. The earlier lessons are for those pupils who can write large hand, and do not necessitate the possession of any other power than is already developed in learning to write. Teachers who have never practised or taught drawing will have little difficulty in directing these lessons, and pupils will find them easy as their first efforts in drawing.

Each of the lessons in the first part of the book (I. to XIX.) consists of (a) writing letters in large hand; (b) the addition to the letters of forms in harmony with the lines of the letters, and which are easier to draw than are the letters; (c) repetitions and combinations or arrangements of these simple forms.

As these forms are simpler, and easier to draw than those of which the letters are composed, it may be asked where is the difficulty and what constitutes the lesson? The *difficulty* is caused solely by the fact that the pupil has not learned by heart these simple forms as he has already learned the more difficult forms of the letters. When he has brought practice and the exercise of his memory to bear on these, to him, newer forms until he sees and knows them with the same certainty as the letters, the one difficulty is mastered. The *lesson* is to show lines in harmony with the arbitrary forms of the letters, and pleasing arrangements of these lines, in the drawing of which the pupil will perfect his memory of them and, learning to see their value as elements for design, be led on to make other combinations—his own designs—and thus early exercise his inventive faculty. In some schools the upright written letters are taught instead of the usual slanting ones here adopted. These may be substituted if preferred.

Experience has proved that the designing faculty, if exercised in conjunction with the earliest

studies in drawing, is more easily, pleasantly, and rapidly developed than is a high power of technique in drawing, and serves as a most valuable aid and stimulant to acquiring the necessary technique. Although skill in drawing the human figure is necessary for the attainment of the highest qualities in design, the too generally accepted theory that education in design cannot be begun until a student is an adept at figure drawing, is as absurd as to say that he must begin learning to draw by drawing from the living model. Another error is the notion even more prevalent, that before allowing any exercises in design, the student must be conversant with the elements and principles of ornament as these have been evolved by theorists from the designs of the past, and also the chronological and geographical developments of art. But these studies cannot be pursued with the necessary interest and intelligence by one whose inventive faculty is allowed to lie dormant, or is even repressed, for he cannot understand their meaning or application. Much material may be gathered, but it will too generally be undigested, unassimilated, and the student may be full of this knowledge and yet no nearer being a designer.

The main object of this course is the acquirement of the art of drawing, but the introduction of exercises in design adds an important element which makes it easier to acquire the drawing power, and raises the subject to a higher rank educationally. It develops early the powers of

observation and creation (faculties which are in the highest state of excitement in the youthful mind), and the system recognises that the first principle of the teacher's art, is to stimulate into action the powers possessed by the child, and to feed these with food in quantities necessary for their healthy growth. Other objects secured by this course will occupy a secondary though still important place in the teacher's mind—the value of technical skill in drawing and of the inventive faculty in other school studies and in so many occupations in after life—the opportunity for the early discovery and exercise of special ability in a direction which has hitherto received little or no recognition as an effort of school life—and the foundation laid for the only possible base of honest art knowledge, pleasure and criticism. It is also ample preparation for the examinations of the Science and Art Department in Drawing and Design.

The explanation of the lessons provides home exercises on which a few questions should be asked by the teacher before the drawing is begun. The pupil's attempts at design, which begin with the third lesson, should also be partly home exercises.

Each plate constitutes a lesson, but whether the work can be completed in one lesson must depend on its length, and also the amount of time for home work. Drawing does not as yet get a fair share either of class or home work. Pupils learning music, give three hours a day to

practice, and surely half an hour a day for home work drawing is not too much to ask for, if only as a relief from more abstract studies.

Teachers will observe that contrary to the usual method, the earliest lessons are on curved forms other than those which can be described by the compass. They are those most easily made by the human hand, and are not only more interesting than the geometric forms (circle, square, triangle, etc.), but are less difficult. The geometric forms are dealt with later on, and may be drawn with instruments. Drawing from plant forms as a means of teaching to see objects, takes the place of drawing from the less interesting geometric models, as being more interesting and more directly useful in design.

Many children, even when very young, are fond of drawing birds, insects, animals, the human figure, fairies, and grotesques. These are, in the beginnings, recollections of what they have seen in books, although they soon begin to make them tell a story or illustrate an incident. Encourage and direct all this in the pupils, explaining that the lessons in this book are only as the necessary "five finger exercises," which will help them to do this better and to make use of their powers.



CONTENTS

SECTION I

WRITING, DRAWING, AND DESIGN—COLOUR	PAGE 1
---	-----------

SECTION II

DRAWING FROM THE SHOULDER AND DESIGNING	51
---	----

SECTION III

DRAWING AND DESIGNING FROM NATURE	86
---	----

SECTION IV

PROCESSES	100
---------------------	-----



SECTION I

Writing—Drawing—Design

LESSON I—PLATE 1.

Materials.—A plain drawing-book, about $14 \times 9\frac{1}{2}$ inches; an F or HB pencil; a foot-rule.
No indiarubber.

Writing is Drawing.—In learning to write you were learning to exercise, and by this exercise developing, exactly the same powers as are required for what is more generally understood by the word drawing.

Writing is Memory Drawing.—In the practice of writing, as in doing a school exercise or writing a letter, you are drawing from memory. The shapes of these letters are not easy to draw or to remember; and yet you have so perfectly mastered them that you are never at a loss, even for a moment, but remember the shapes of all. Nay, further than this, *you write the individual letters unconsciously*, and only consider the look of the word of which each letter is a part, and by this decide if it is properly spelt. In thus writing and judging the look or appearance of the word as a whole, you are really exercising all the faculties required in most advanced drawing.

The first exercise is writing the letter "a" three or more times, about the size shown in Fig. 1 (large hand). As you are already so familiar with this form that you could almost do it blindfolded, draw the letters firmly and clearly at once, just as in your writing. The only new difficulty is that you are writing on an unruled page, so that some care must be exercised to keep them on the same level. Do not trouble if your upstrokes are thin and downstrokes thick, as in the ordinary written letter. If, for want of recent practice in large hand, your first letters are badly done, try again by doing other "a's," but do not patch or rub out imperfect ones; *let all your efforts remain*; you will soon recover your lost power, and be able to do round hand as well as when you were learning to write; and, beside mastering the first step in your first drawing lesson, your ordinary school exercises will be more legible for this effort on your part, and your teachers will, I am sure, be grateful for this. Again draw the letter "a," repeating it across your paper, and add the one line to each as seen in Fig. 2. Now although this line is not so difficult to draw as the letter "a," which you have so easily drawn, it will be more difficult to you until you know it by heart as you know the shape of the letter. Therefore look long and earnestly at the line, at the same time let the hand try to express it without touching the paper, until you feel that your mind has a definite form to convey to your hand, and then with a faint line, the pencil scarcely touching the paper, add the form to each of the three "a's." If, on examination and comparison with the copy any of these lines are not satisfactory, correct them, each with one faint stroke expressing the whole line, and done with one motion of the hand. Do not rub out your errors or attempt to patch up any of the lines, but let all your efforts remain; they are only

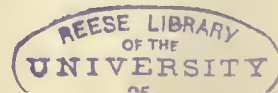
faint lines, and you can afterwards go firmly over that which you consider the right one, making it of the same strength and firmness as the line of the letter.

Across your paper rule two horizontal (level) lines, about an inch and a half apart, and try to repeat at equal distances between these lines the form you have last drawn, drawing each faintly at first, but by one stroke, and afterwards firmly, but again at one stroke (Fig. 3).

In the same manner, but reversing the direction of the lines, again repeat the form (Fig. 4). This will be a more difficult exercise than the last to all except those who write with the left hand.

In Fig. 5, the line is drawn alternately from right to left, and left to right, and a small curve is added. Repeat this across your paper, between two lines about an inch and a half apart, and the increase of repetition will increase the effect. Figs. 3 and 4 were merely *repetitions* of the line, while in Fig. 5, it is *not only* repeated but *contrasted*, the latter effect being produced by the reversed direction of the line, and *alternation* is caused by the small curve added in the open space between the two lines. *Repetition, contrast, and alternation* of lines, tones, colours, and masses are means by which varied and pleasing effects may be produced, and they constitute the simplest of the *principles of ornament*. Learn these names by heart, and write against future exercises the names of any principles you may discover in the exercise.

When you have completed the drawings on Plate 1, shut this book, turn to a new page in your drawing-book, and draw from *memory* all you can recollect of what you have already drawn. With but little effort you will be able to do this, and if you continue this practice, either at the end of each lesson or in the first ten minutes of the following lesson, you will acquire a power of



the greatest value in all drawing, design, painting, modelling, and other handicrafts. We have already insisted on your endeavouring to get a correct notion of the whole of each line before beginning to draw it, and then drawing the whole with one stroke, not bit by bit, or rubbing out and patching up; so that you have already begun *memory drawing*. All your writing is really memory drawing, and experience has proved that students soon acquire such a power of memory that they can better obtain all the spirit and essentials of a design from memory than with the example constantly before them, a greater effort being made to grasp the essentials.

Summary.

Draw the letters firmly and clearly, the same size, or even larger.

Draw the other diagrams larger.

Carefully consider each line and draw it very lightly, the pencil scarcely touching the paper, and draw it at one stroke.

If incorrect do not rub it out, but draw another line lightly and at one stroke, so as to make it more correct.

Go firmly over the correct line, but again at one stroke.

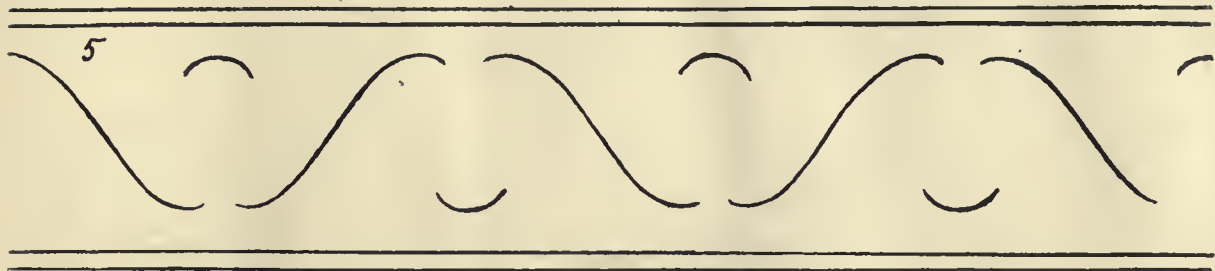
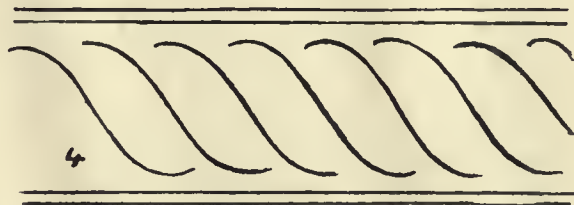
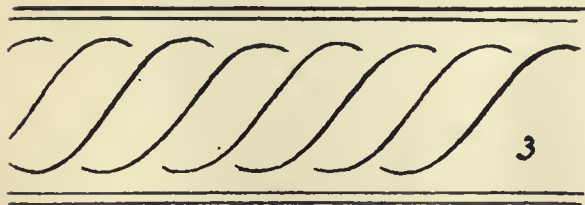
Do not rub out anything you do.

At the end of each lesson, or at the commencement of the next lesson, draw on another sheet all you can recollect of this lesson.

Remember the meaning of Repetition, Contrast, and Alternation.

Plate 1.

1 a a a 2 a a a



Read Lesson I.—Copy larger, repeating across your drawing-book. Draw all from memory.

LESSON II

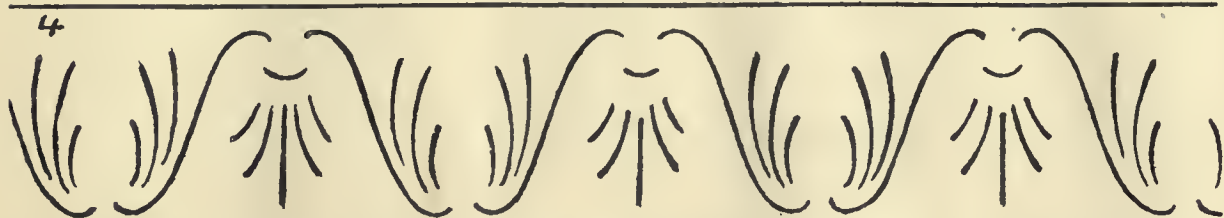
PLATE 2

WRITE the letter "b," as in the first lesson, firmly and clearly at once (Fig. 1), repeating it across the page. Add the three lines to the letters (Fig. 2) beginning with the middle line. Draw each line at one stroke, but at first very lightly, scarcely touching the paper with the pencil. If incorrect, indicate where wrong by drawing another light line, passing over the first where it is right, and then go over clearly and firmly to emphasise the right.

Do not rub out, but let all your efforts remain.

Concerning these lines you have added to the letter, notice:—

1. Each is easier to draw than the letter "b."
2. They are not exact repetitions of the same line, yet are similar to each other—there is a likeness, but with a *variation*.
3. They diverge or *radiate*. Simple kinds of radiation are seen in the spokes of a wheel (from a point—the centre) and in the sparks of a St. Catherine's wheel (from a circle).



Read Lesson II.—Copy larger, repeating the principal lines before drawing the less important ones. Draw all from memory.

4. These three lines, if produced downwards, may touch each other, but will not cross (intersect); they will only glide into each other, just as do two sets of railway lines at a junction; they are *tangential* lines.

Rule horizontal lines across the paper about an inch and half apart for Fig. 3, and repeat this form right across. This is nothing more than the three lines you have already drawn, but repeated alternately from left to right and right to left. Draw the lines lightly, the largest first, until you get them right, afterwards one firm stroke for each. There is another principle or method of arrangement to be noted in this drawing, and also in Fig. 4, Plate 1. If a vertical (upright) line is drawn between each repeat the two halves facing each other are alike; they are *symmetrical*. Fig. 4 is a more difficult arrangement, and with the form used with letter "a" added. Repeat this across your paper as before, again drawing all the largest lines first.

Draw all *from memory* at the end of the lesson, or in the first ten minutes of the next lesson.

Remember the meaning of Repetition, Contrast, Alternation, Variation, Similar, Radiation, Tangential, Symmetrical.

LESSON III

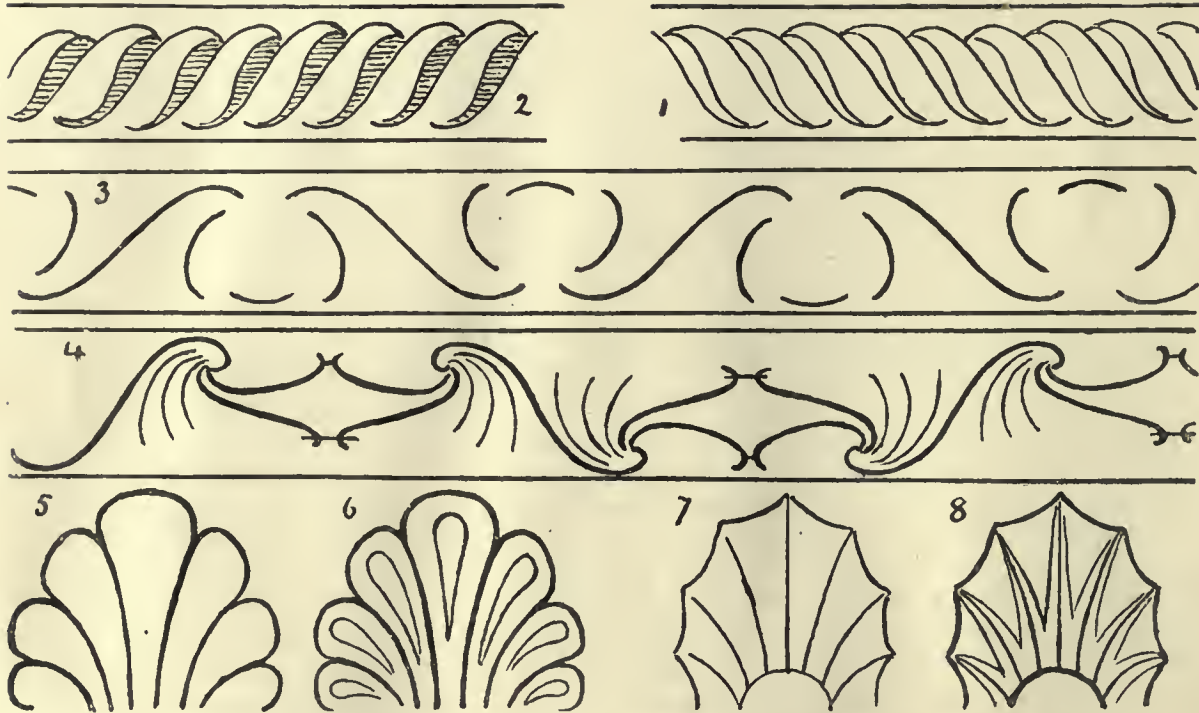
PLATE 3

Design



INDIARUBRER may be used in all your efforts in original design, but not in your exercises in copying. Draw lines lightly until you are satisfied with their correctness.

The simple and easily drawn forms which were added to the letters "a" and "b" have been developed into ornamental arrangements, and the process explained in Lessons I. and II. Now try to make some other combination of these lines, and add any other lines which you may find suitable. These will be your first efforts in design, and they will be more difficult than succeeding attempts, but you may be assured that they will be much easier to you now than if you defer them. They are more easily made when you are young in life, and *young in these studies*. In order to give you as much help as is possible, other designs are shown on Plate 3, evolved from the lines used in Plates 1 and 2, with slight additions, giving new character or expression. Fig. 1 is merely the addition of another similar curve to Fig. 4, Plate 1. Fig. 2 is only the addition of the same curve but a different expression is given to the design, that of *light and dark masses*, by flat tinting certain portions with straight lines drawn at equal distances.



Read Lesson III.—Copy larger. Draw all from memory. Make new arrangements as explained in the lesson.

Remember this one very important and simple means of changing the effect of your design. It is one step nearer nature—note leaves showing dark against the sky. Fig. 3 only adds to Fig.

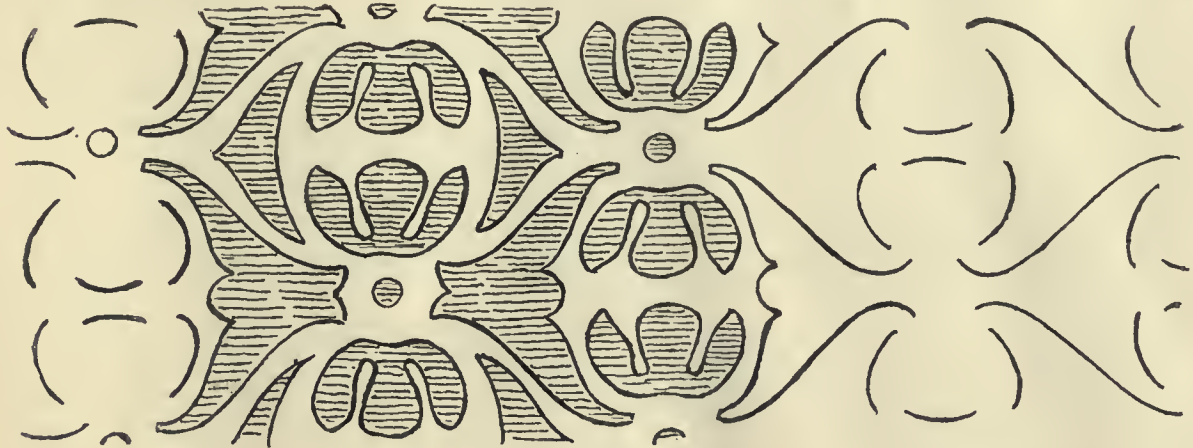


Diagram 1.

5 on Plate 1 another simple curve. Try the effect of repeating this pattern reversed above and below, and you will discover another method of changing the effect of a pattern, and possibly

other suggestions for its enrichment, by adding a few other lines, and by tinting with lines the enclosed spaces as here shown (diagram 1).

Fig. 4 has for its elements the line used with letter "a," and other lines somewhat similar

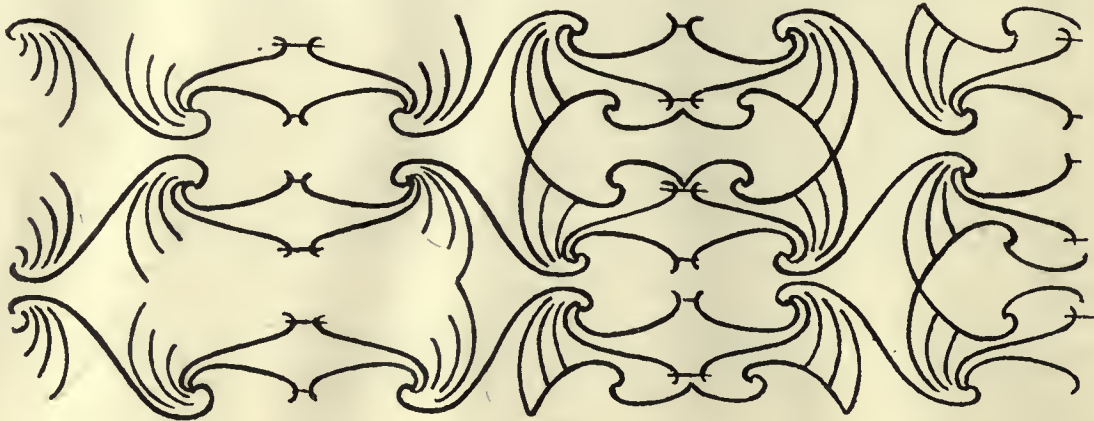


Diagram 2.

to those used with letter "b." Another simple means of modification is also shown by making the former lines thicker than the latter, giving them, as the connected or more structural lines, greater importance. Repeat this above and below by reversing it as in the last figure, and note the change of effect (see left part of diagram 2).

On a portion of the diagram two lines only are added to each repeat, yet they produce a complete change of effect. Make another arrangement.

Fig. 5 is composed of the lines used with the letter "b," Plate 2, their tops being joined by curves. Fig. 6 is the same, enriched by the addition of simple lines. Figs. 7 and 8 are other similar arrangements of the lines used with letter "b." Draw each of these; try the effect of repeating them side by side, also of reversing them above and below, adding suitable forms in the intervening spaces, and any other method of enrichment which may occur to you.

Much has already been made of few and simple elements, but these are not the thousandth part of possible combinations of these simple forms. Away from the lesson, as a home exercise and solely from memory, try to make new combinations. Do not be disheartened if these are not satisfactory, but try, and having tried, let them remain, and pass on to the next lesson. Students too often only keep their eyes open *in* school. Out of school keep your eyes open to observe any pleasing ornamentation, and try to resolve it into its elements; you will be astonished how few and simple these are. Use these, your newly found elements, as the basis for your own combination. You have to learn *by experience* a *harmonic* arrangement of line.

The lines which are easiest to draw by the human hand are those which contain the most beauty, and these cannot be drawn by instruments like the circle, the square, the triangle, and their combinations. As contrasted with the circle, which is one monotonous uniform curve, such lines are full of emphasis, strength, gradation, variation, and subtlety, from the almost straight portions to the fulness of a spiral. Except by a great effort or from continual practice in a



perverse direction, you can hardly draw with the human hand a line which does not contain these most valuable decorative qualities. Because of the natural action of the wrist a full curve will gradate towards a straight line, and if you start with a curve approaching a straight line, it soon becomes rich and full. Such curves too are those most plentiful in nature. Indeed, the structure of the human hand and arm has in all probability had more to do with evolving the characteristics of decorative form than is generally admitted. The so-called honeysuckle and acanthus forms, which occur frequently in Classic and Renaissance art, owe their development and possibly their origin to this structure rather than to the plants after which they are called.

It will be well, therefore, for you to bear in mind that the influence of—

(1) The shape and capabilities of the hand, (2) the instrument used by the hand, (pencil, brush, hammer, mallet, chisel, graver, needle, etc.), (3) and the material in or on which the art is being exercised, must always be evident in the work done, giving it a distinct character.

Ignoring, or trying to hide, these conditions of art production, results in trade polish or finish—a dull characterless machine-like uniformity.

At present you are limited in material to the pencil and paper you are using; and in purpose to the making of a pleasant arrangement on this paper, composed mainly of such lines as were added to the letters, and you need not consider how it may be reproduced, nor how it may be applied to other material. The materials are paper and pencil, and the means of production the human hand, and you are unfettered by other conditions. When you have acquired facility

under these conditions, a little knowledge of processes, such as stencilling, carving, wood engraving, needlework, pottery painting, casting, etc., will soon enable you to prepare designs for these materials—to think through these conditions—and to find that these very limitations are full of suggestions which will give individuality, character, richness, and expression to your designs. Indeed the limitations under which you now labour—the pencil, paper, and letters, with which the form you are to use in the design have to harmonize, are helpful instead of hindering. You may have already noticed that the curved forms used are very much alike, and if you will examine all the elements in the several plates in this section (1 to 19), you will see this family likeness. The change in proportion, in relative position and in degree of curvature, necessitated by having to draw these curves in conjunction with the letters, has helped to suggest the variety seen in the designs, and in this respect the limitation is helpful. We have also had to deny ourselves all colour, light and shade, and that infinity of form which can be gathered from the animal and vegetable world. These restrictions may also at first sight seem a hindrance, an evil, but are really a good.

The power to gather from nature, and to make use of as few or as many of her qualities as may under the conditions be desirable or possible, is the distinction between the artist (the designer) and the mere copyist. In one study you may make use of the lines only which may be suggested by an object in nature, or even only a few of these, in another of the tones, in another of the colour; just as nature herself will bring out all the details of a city set on a hill when the mid-day sun is shining on it, or veil all these in a palpitating purple haze against a

sunset sky ; and it is these faculties of eliminating, assimilating, and emphasising which you are now bringing into exercise. But if you merely add to your stores of material without constantly making use of them as you gather them, they only cloud the mind by their very abundance, and will make more difficult your first efforts in design, from not knowing what to select and where to begin. The letters you have drawn are therefore not only useful as drawing exercises, and as showing that the beginnings of drawing are easier than writing if you will only give the same patience to it as you gave to learning to write, but are most valuable as giving you a base— a *motive* for your designs.

Try now, therefore, with all earnestness, to make your first efforts in designs by combining in fresh arrangements the lines which are drawn with the letters, and in doing this you may make free use of your indiarubber, rather to make fainter your mass of lines than to erase anything entirely. Your paper may at times seem to be only covered with an unmeaning tangle of lines, but to you who have drawn them they will have some meaning, and out of this apparent chaos you will evolve order. Some few lines here and there you may be able to emphasise slightly as being the most satisfactory, but do not make dark emphatic lines until you have begun to realise, however dimly, the general effect of the whole.

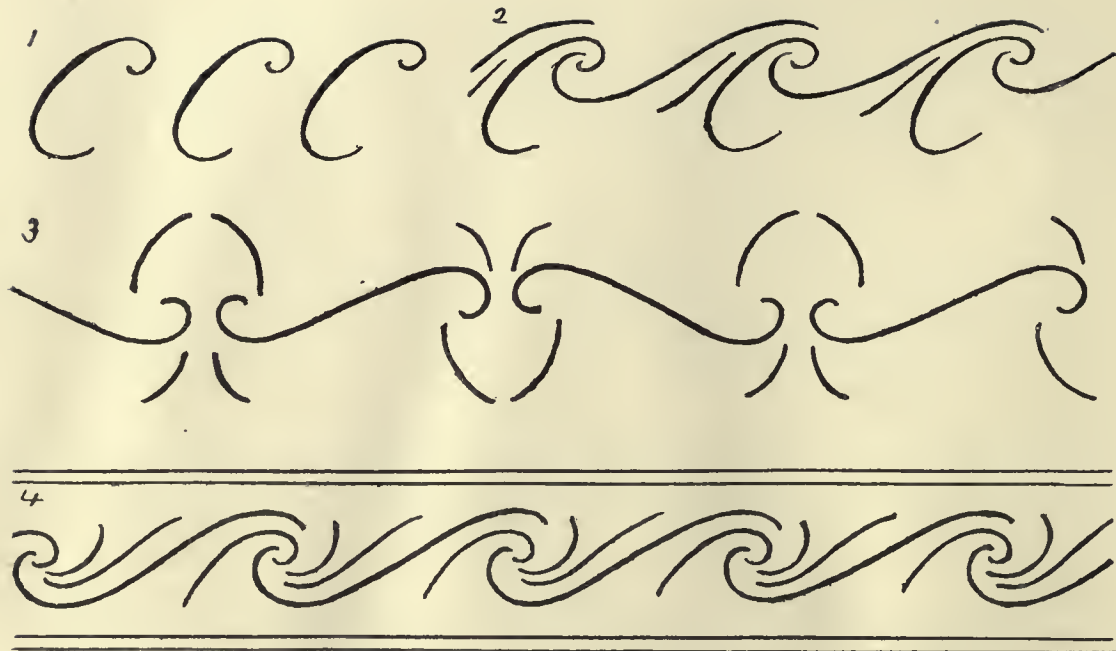
LESSONS IV-XIX

PLATES 4 to 19



EACH of these Lessons, like Lessons I. and II., begins with a letter of the alphabet repeated, to these are added one or more simple lines, easier to draw than are the letters, and each plate contains two arrangements of these lines as borders, with the exception of Plate 17, which has two borders, and one pattern for covering a surface in all directions. After drawing the letters, rule parallel lines to contain the border, and sketch the patterns in the manner explained in Lessons I. and II., always drawing the principal lines first, and repeating them across your paper at equal distances before drawing the less important lines. After copying the diagrams on each plate, and also drawing them from memory, try to add something to the designs as they stand. It would be well to make this your first effort in design in each lesson. Next try the effect of turning certain of the borders into a pattern to cover a surface in every direction, making the necessary additions or modifications of the design, as shown in the diagrams on pages 11 and 12; in Fig. 4, Plate 17, and in diagram No. 3, which is Fig. 3, Plate 4, so altered by the addition of three similar lines to each repeat, as to make an all-over pattern. Plate 9,

Plate 4.



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Make new arrangements as explained in this and previous lessons.

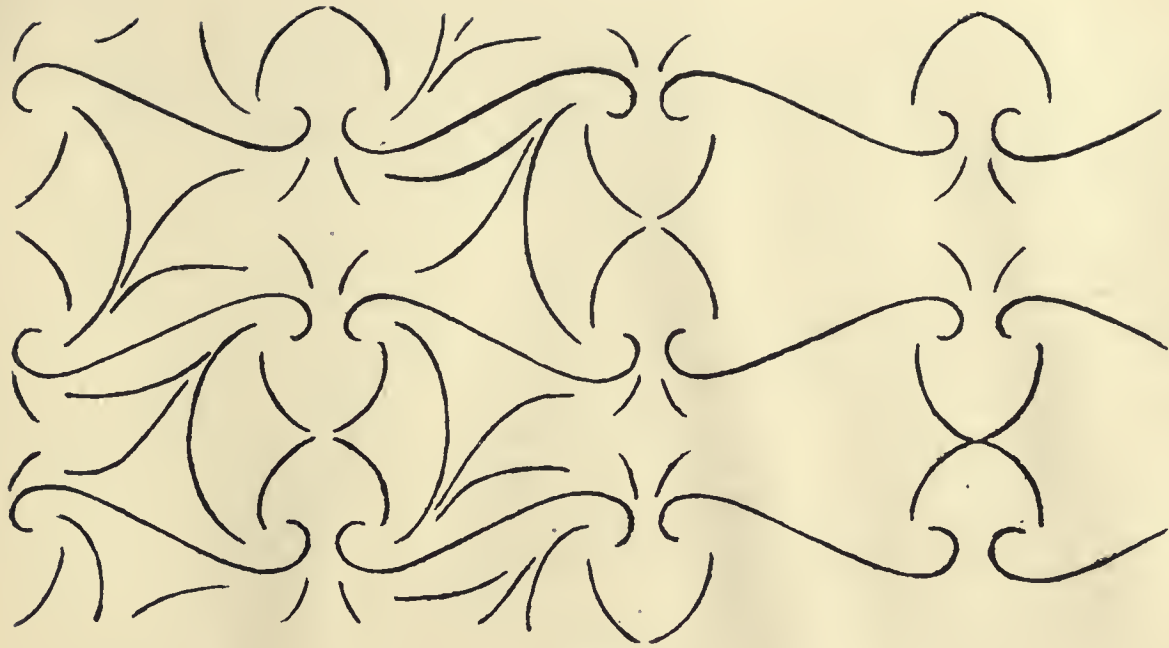


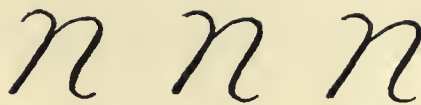
Diagram 3.

Fig. 4; Plate 12, Figs. 3 and 4; Plate 13, Figs. 3 and 4; Plate 16, Figs. 3 and 4, may be selected for this exercise. To save time in doing this you may trace the border on tracing paper with an F pencil, and then turn it over and place the tracing on the lower line of the border, the traced pattern being below it; make this fast with two drawing pins, and pass over the drawing on your tracing paper rather firmly with your pencil. On removing the tracing paper you will find a lightly marked copy of the pattern reversed, which you can easily strengthen. Repeat this process above and below, and you will be able to cover a sheet of paper. When you have made all your lines clear, but not heavy, look at the effect, for in most cases they will appear as quite altered patterns; and, as the borders named above have not been tried as patterns to repeat in every direction, you may find that to make them quite pleasing something else must be added, and possibly some lines modified. Do these things fearlessly, for the doing of this will be an easy step in design. Often while doing these things an entirely new pattern may suggest itself to you. If so make a sketch of it at once, so as not to forget it. In a pattern to cover a surface the difficulty to be overcome is the even distribution, so that it shall be a general effect of enrichment and not spottiness, and that no lines shall be so prominent that when repeated they will lead the eye irresistibly in any one direction up and down, level or slanting. See how this effect is secured in any good wall paper.

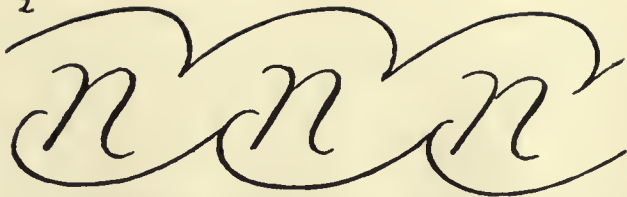
Revert now to the simple lines which are added to the letters on each plate, and try to make entirely new arrangements of these.

Copy Fig. 4, Plate 15, *much* larger, and before commencing to draw the small leaf and

1



2



3



4



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Colour Fig. 4, and make new arrangements as explained.



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Colour Fig. 4, and make new arrangements.

flower-like pattern, draw lightly the principal lines. Note how simple these are, and also that it is the arrangement on these lines which suggests a spray of foliage rather than that the forms added are like any leaf or flowers, for they are nothing more than such simple curved forms as you have already used. Try to make other arrangements of the principal lines, and also on these principal lines try to fill up with other forms. Note also that the effect of these small forms at a short distance is that of a tint such as you have given by parallel lines to many of the designs, but that this is richer and more interesting. Also draw Fig. 4, Plate 16, and Fig. 4, Plate 19 much larger.

Colour.

Materials.—Penny cakes of Prussian blue, gamboge, yellow ochre, burnt sienna, and crimson lake, two brushes, one or two small saucers, and a piece of blotting-paper. Make your first efforts in colour on Fig. 4, Plate 5; Fig. 4, Plate 7; Fig. 3, Plate 11; Fig. 4, Plate 15; Fig. 3, Plate 19.

You will need to learn (1) to know the five colours you are using; (2) how to lay on flat washes of colour; (3) to note the effects produced by one or more colours being placed upon other colours, also the effect when placed side by side, and by mixing together two or more colours; (4) to notice those arrangements of colour which are most pleasing to you individually.

1. To know your colours, take one, say Prussian blue, and placing a few drops of water in your saucer, rub the colour a little, and then fill your brush with the tint, and try it

by making a dab of about an inch square on a spare piece of paper or in your drawing-book, the paper or book being on your slanting desk. Rub the colour a little more, but without adding any more water, and with your brush make another dab, which will be darker than your first. Repeat this until you have at last a very dark blue. Clean out your saucer, and in the same way obtain light to dark dabs of all the other colours. Keep these for reference until you know by heart the light and dark washes of each colour.

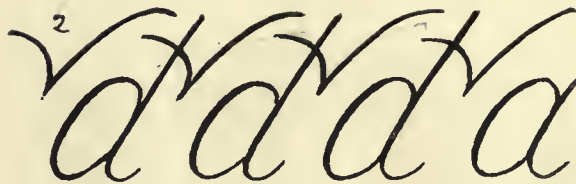
2. To lay a flat wash. This is easily learned, and skill in doing it will save you much disappointment now and when you are painting from nature. A child of five or six can easily learn to do this, and yet it is only too seldom learned. Take one of the borders, say Fig. 4, Plate 7, turn your book so that the length of the border is vertical instead of horizontal, and lay your book in this position on your slanting desk. With clean water go over the border with your larger brush. Try to avoid passing over the edges. Dry off the wet with your blotting-paper until the paper is only damp. Mix a fairly but not too deep tint of Prussian blue, and plenty of it, and beginning at the top with a brush full of colour, pass along the width of the border with a series of very short and nearly vertical strokes, leaving superfluous colour on the lower edge. Take up more colour, and repeat this process, but always keep sufficient colour in your brush to let this superfluous colour remain as the lower edge of the uncompleted wash.

Plate 7.

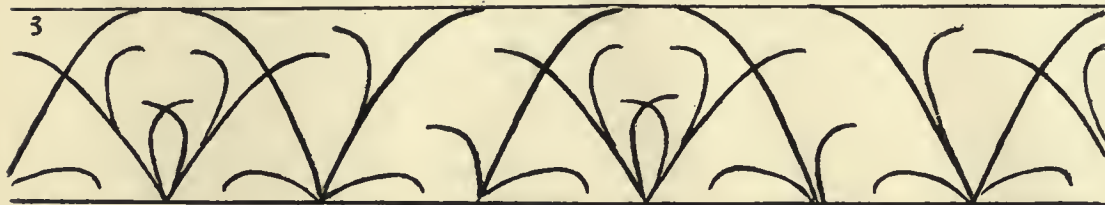
1



2



3



4



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Colour Fig. 4, and make new arrangements as explained.

Never go back to correct an error while the wash is wet, for it will only make matters worse (see diagram 4).



Diagram 4.

These three things are essential—paper slanting, brush full of colour to leave a superfluity to be taken up by the next strokes, and no retouching. When you arrive at the bottom of your border, and there is still too much colour, touch your brush on the blotting-paper, and then apply it to the colour, drawing it away slowly. This will remove all superfluous colour.

3. To see the effect of one colour superimposed on another, mix a fairly deep tint of yellow ochre, and with it cover the enclosed spaces marked "a" of the border which you have already covered with Prussian blue. Make tracings¹ of this pattern, and again lay a wash of Prussian blue over all the border. When dry, cover the spaces marked "a" of the border with one of the other colours, gamboge, burnt sienna, or crimson lake. The colour resulting from this second wash will in each case be widely different from the actual colour

¹ Place the tracing paper over the pattern, and go over the outline with your pencil, and having again fastened down the tracing with two pins at the top corners, place under it a piece of thin tissue paper, on which you have rubbed with lead pencil (the lead side downwards), and pass over the outline with a hard pencil or other point.

you lay on. Instead of being yellow, orange, orange brown, or red, it will be green, dull green, citron, or purple, because the blue shows through. And the colour is further modified because the colour of the ground and the colour of the pattern being placed together have an effect on each other. This will be more fully shown in the next exercises, but if you cut out one of the green patches and lay it on a piece of bright scarlet you will see this effect, for it will appear quite a different colour to those remaining with the blue. In a similar manner use each of the other colours as the first wash instead of the Prussian blue, and cover the same spaces as before with one of the other colours until you have tried all as ground and as patterns.

Take another tracing and cover the ground with Prussian blue, except the spaces left in diagram 5 marked "b." Do not hurry this, but go carefully round the edges of the spaces to be left, and do not fear that the wash will dry so long as you use enough colour to keep some superfluous colour at the bottom of your wash. When this is dry cover the pattern marked "c" with yellow ochre, and also the parts ("b") which have been left white. You will now see the effect of blue, green, and yellow combined. The blue is no longer exactly the same blue as it was when standing alone against the white paper, nor the



Diagram 5.

same as it was when it was accompanied by green only, neither is the yellow ochre the same colour as it would be if it stood alone on white paper. On other tracings try, one at a time, gamboge, burnt sienna, and crimson lake with the blue, showing these colours on the blue and also on the white. Also on other tracings begin with the other colours as background, and contrast with the remaining colours, making use of any of the patterns named at the beginning of this chapter or any suitable ones of your own instead of keeping to the one here used.

From these exercises you will learn that all colour is relative, that it is changed in tone (dark or light), and in hue (fulness of colour), by being placed alongside other colours.

There are three other ways of changing the colours.

- (a) By mixing two or more together, *i.e.*, yellow and blue making green, blue green, or yellow green according to the preponderance of blue or yellow, crimson lake and blue making purple, and gamboge (yellow) and crimson lake making orange; more than two colours may be mixed, but at a loss of purity or hue.
- (b) By mixing the colours with white¹—note especially the change made by mixing burnt sienna and white, it being very unlike in hue the colour obtained by mixing burnt sienna with water only.

¹ Bottles or tubes of Chinese white can be bought for 3d.

(c) By placing thin lines of colour in juxtaposition, as in silk or woollen threads, yellow and blue producing at a little distance the effect of green, but more brilliant than if the colours had been mixed together to dye each thread green.

4. Note on each whether the combination is pleasing to you or otherwise, and in what degree. Do this of yourself fearlessly, and do not be influenced by others. Do not think what ought to be right, but of what pleases you and you alone.

Note also any arrangement of colours which come under your notice. As I write a black-bird is on a sunlit lawn—black in medium quantity, yellow-green in large quantity, orange-(beak) in very small quantity—see if this would pleasantly cover one of your patterns. Gamboge and blue will make the green; if too bright add a little yellow ochre, Prussian blue and burnt sienna will make the black, if too green add a little crimson lake, and for orange use yellow ochre. Keep your eyes open out of school; observe all flowers, especially wild flowers, and although the learning how to *draw* these is only entered upon in a later chapter of this book, you can copy their *colours*; the wallflower—yellow (gamboge), orange (yellow and lake), red (lake), green (blue and gamboge, or yellow ochre or burnt sienna, according to the green); blue bell—blue of two tints but same hue, full yellowish green for stems, grayer green leaves; water avens—flower, orange corolla, buds, calyx and stems reddish purple, full green leaves; pleasant-eyed narcissus—flower, white corolla, corona tipped with crimson, dull orange flower-sheath, yellow-green stems, blue-green leaves; pansies—all colours from white to black, in flowers



on different plants, and full green leaves. The harmonious grouping of rich full tints is perhaps best studied in pansies, of which a few sample notes in writing are given from different plants; your notes, however, should be in colour. The figures after the colours give approximately the space occupied by each colour (1 representing the largest space).

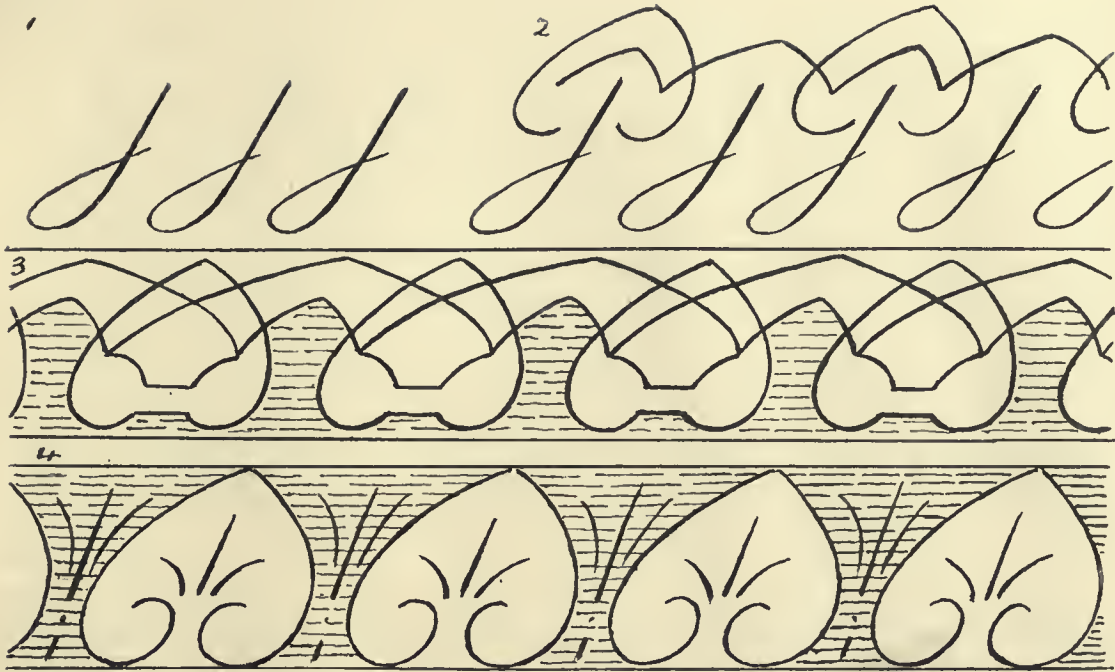
- I. Leaves, gray green 1, full green 2; flower, purple 3, yellowish white 4, brown purple 4, yellow centre.
- II. Leaves, gray green 1, full green 2; flower, purple 3, brownish purple 4, bright yellow 5, white centres 9.
- III. Leaves, gray green 1, full green 2; flower, bright yellow 3, purple 4, brown purple 5.
- IV. Leaves, gray green 1, full green 2; flower, purple 1, red purple, 1, light tint of purple 4, yellow centre 6.
- V. Yellow ochre 1, purple 2, brown purple 3, and green leaves.
- VI. Purple 1, yellow 10, and green leaves.
- VII. Orange 1, light tint of purple 2, full reddish brown 3, yellow centre 4, and green leaves.
- VIII. Purple 1, dark purple 5, yellow centre 8, and green leaves.
- IX. Purple 1, black 6, yellow centre, and green leaves.

You will get most valuable help by seeing how and what colour a good artist uses. The

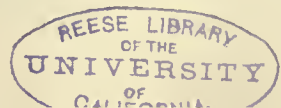
picture designs in *Wonder Book for Girls and Boys*, by Hawthorne, illustrated by Walter Crane, are all good examples. If you do not possess this book you can probably see it in any public library. Analyse one of these pictures, and try to apply the same arrangement of colour to one of your designs. The first design, "Bellerophon on Pegasus," is composed mainly of blue and white in about equal quantities, a mass of dark orange about $\frac{1}{6}$, light orange in lines and dark orange outline. This is a very simple but very effective arrangement. If you have the opportunity imitate these colours on one of your borders direct from the book. "Perseus and Graia" is mainly blue gray and light orange in about equal quantities, white and very dark brown each about $\frac{1}{6}$, outline orange brown. "Perseus showing the Gorgon's Head" is mainly pink and light orange in about equal quantities, smaller masses of blue and of dark orange, and small quantities of green yellow and white, outline orange brown. "The Stranger appearing to Midas" is mainly light orange and pink against background of dark purple, gray, and brown, very small quantities of blue and white, outline orange brown. "Midas with the Pitcher" is mainly orange, blue, and green, in about equal quantities, next light orange and a little white, outline orange brown. Of course these are only rough and crude analyses of the colour arrangements, as all written description of colours must be, the artistic effect depending on the exact hue of blue or of orange, etc., the quantity of space given to each, and the lightness or depth of the tint; but they will teach you how to look at these designs when trying to find out how their colouring is arranged, and may simplify your work when trying to reproduce similar patches of colour previous to attempting like arrangements on your own simple designs.

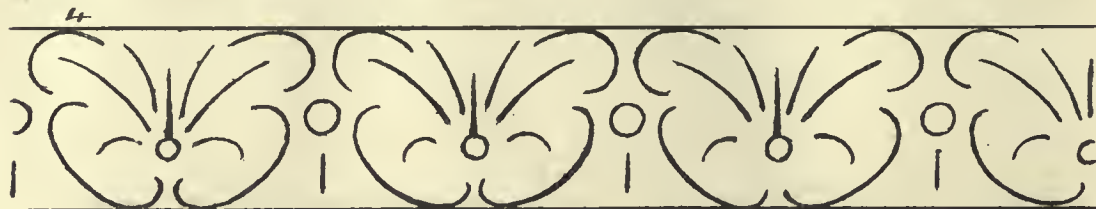
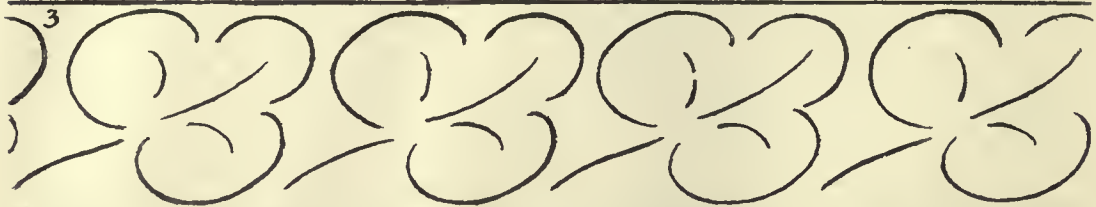
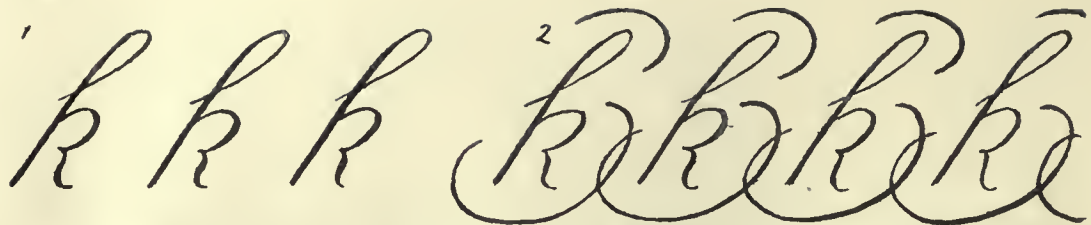
We will now summarise the work of this section for you to read before beginning each lesson.

1. Draw the letters firmly, at once, as in writing.
2. Draw the lines added to the letters faintly and at one stroke, if necessary correct by another stroke over the whole line; emphasise the right one by a firm broad stroke.
3. Use no indiarubber except when making your own designs; let all your other efforts remain on your paper.
4. Rule the lines for the borders at least $1\frac{1}{2}$ inches apart, and much wider when the pattern has many lines, so as to make your drawings larger than the examples, and extend them right across your book.
5. Repeat from memory all your drawings.
6. Try to add something of your own to the designs.
7. Make new arrangements of the lines used in the designs.
8. Change the borders of Fig. 3, Plate 5, Fig. 4, Plate 13, Fig. 4, Plate 16, Figs. 3 and 4, Plate 18, into patterns to repeat in every direction, as explained on pages, 12 and 13 making any needful modifications or additions.
9. Colour according to your own fancy Fig. 4, Plate 7, Figs. 3 and 4, Plate 8, Fig. 4, Plate 10, Fig. 4, Plate 11, Figs. 3 and 4, Plate 14, Fig. 4, Plate 15, and any of your own designs which have enclosed spaces.



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Colour Fig. 4. Make new arrangements.





Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Make new arrangements.

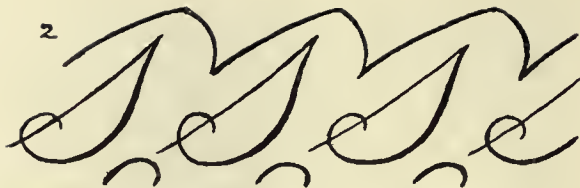


Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Colour Fig. 4, and make new arrangements as explained.

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2



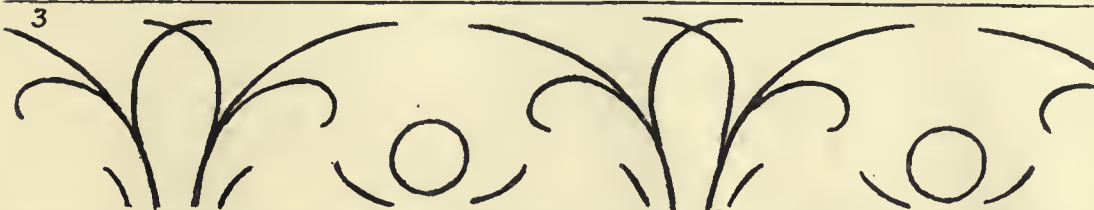
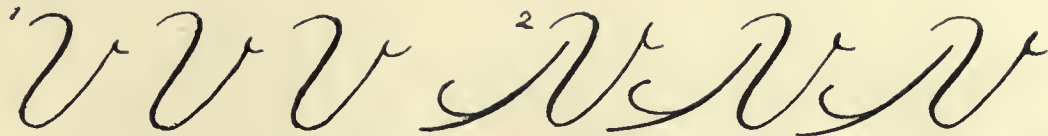
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4



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Make new arrangements. Colour Fig. 4.



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Look at Plates 32 and 33. Make new arrangements.

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2



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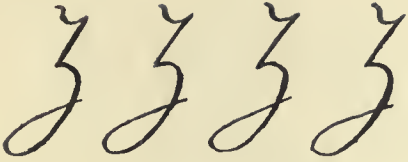
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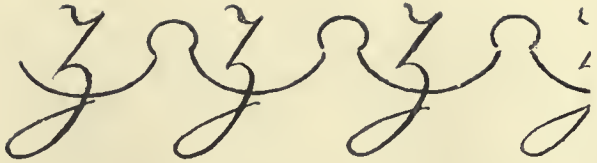
Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Make new arrangements.

Plate 14.

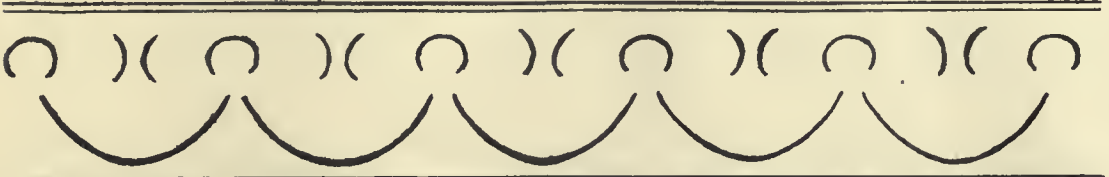
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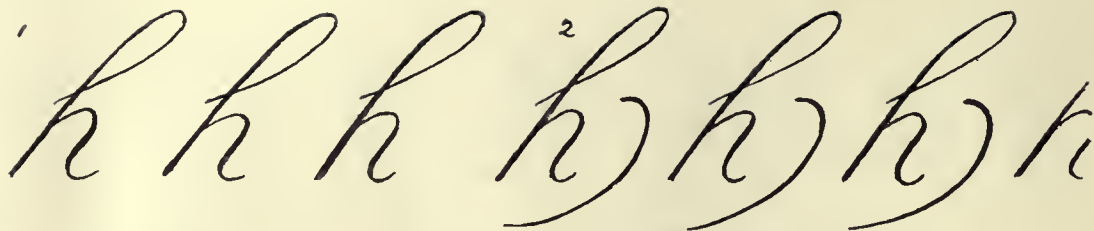
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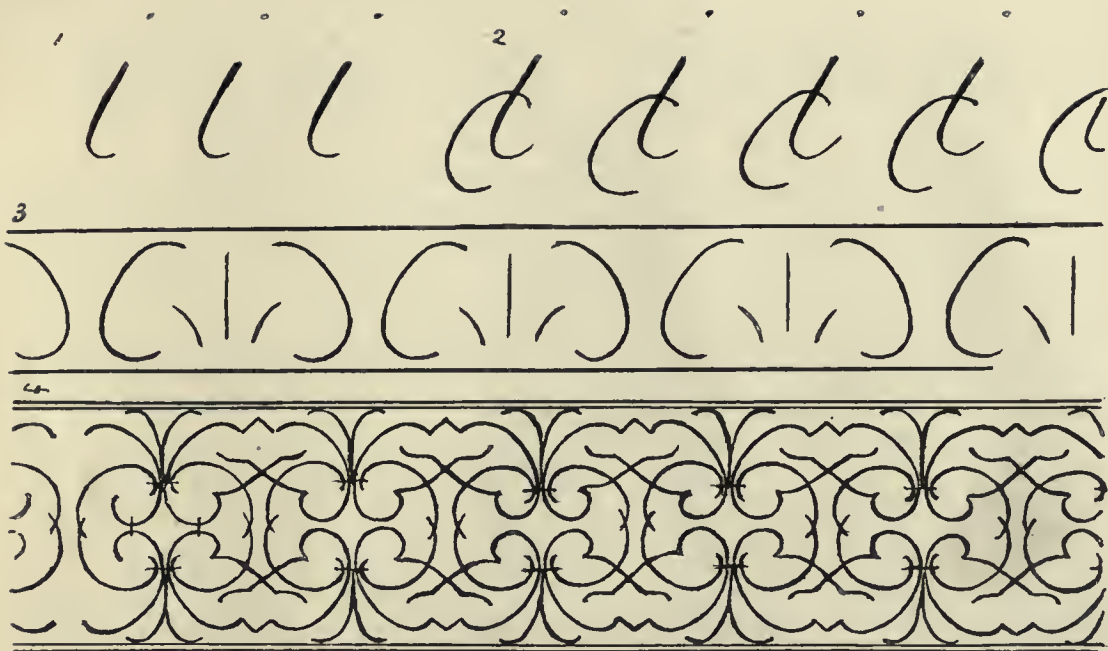
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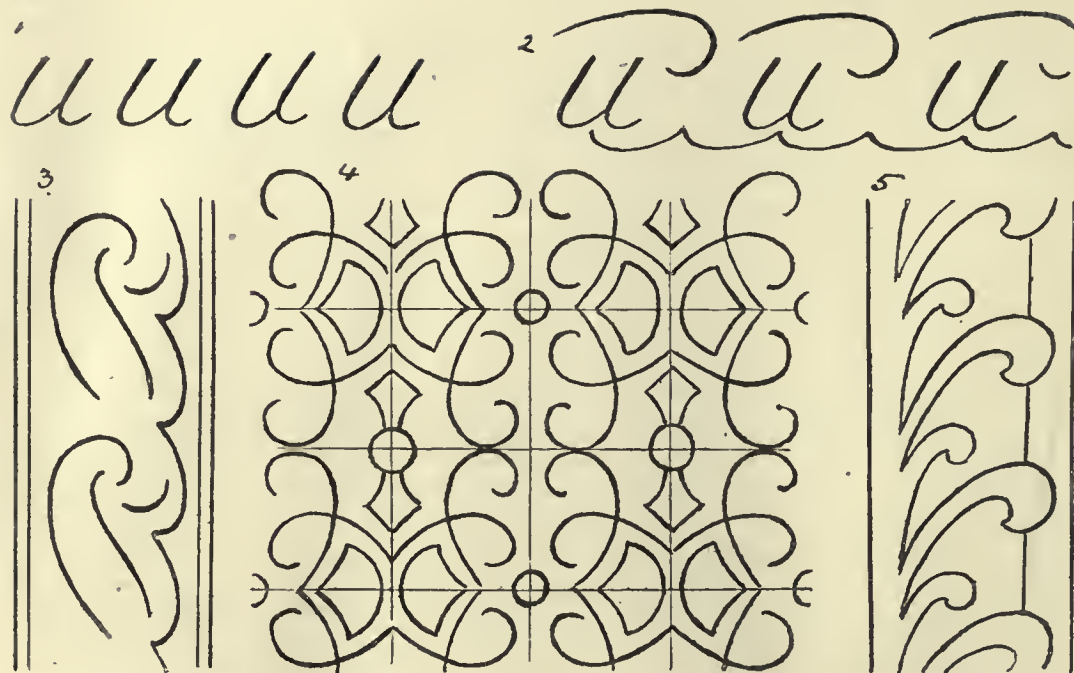
Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory. Make new arrangements.



Repeat the principal lines before drawing those of less importance. Draw Fig. 4 very much larger and colour it.
Draw all from memory. Read pages 20 to 23.

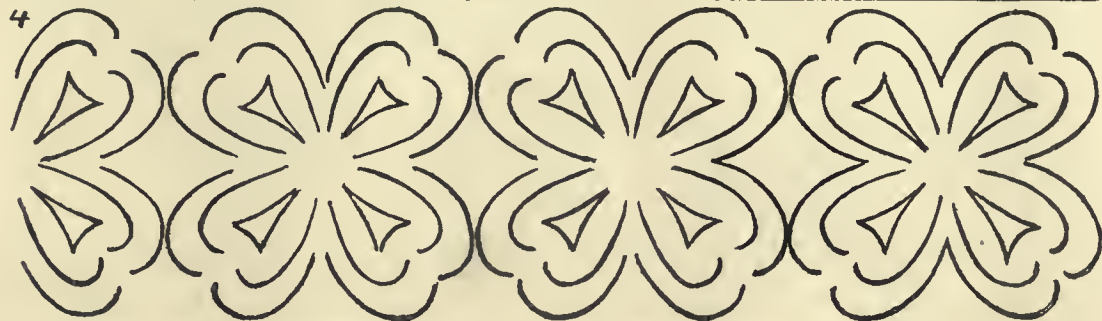
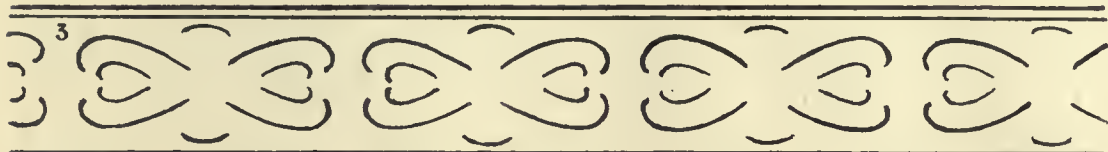
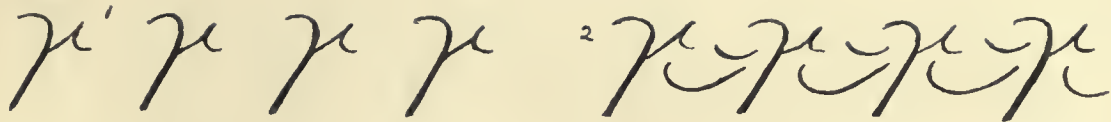


Copy larger. Notice the simple elements of Fig. 4, copy it much larger. Draw all from memory, and make new arrangements.

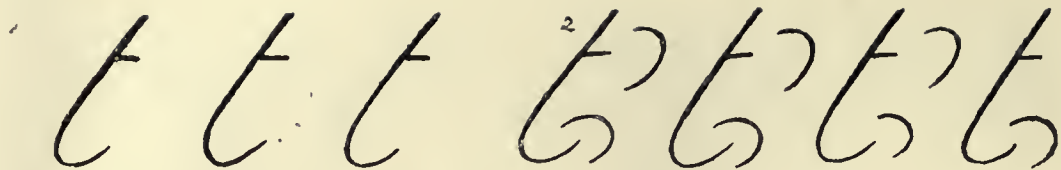


Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Make new arrangements.

Plate 18.



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Make new arrangements.



Copy larger, repeating the principal lines before drawing those of less importance. Draw all from memory.
Make new arrangements.

LESSONS XX-XXII

Geometric Forms

PLATES 20, 21, and 22



STRAIGHT line, triangle, square, circle.

Materials.—Drawing-book, F pencil, T square, two set-squares, 45° and 60° , and a pair of compasses with a lead point.

Pupils are generally set to draw these forms as their earliest exercise. Yet they are the most difficult of all forms to draw, except with rules and compasses, and in copying the examples in this section you may make use of these instruments.

Your first exercises were in lines impossible to draw with rule and compass, but which are easier to draw freehand than are the triangle, square, and circle, because of the structure of the human hand and arm, and are also more interesting as first exercises. Geometric forms, however, occupy an important place in art, for they are (a) its static forms; (b) the elements of many of the lower or subordinate forms of design; (c) the basis of arrangement of the higher decorative forms.

As static forms in art, the square or rectangle and triangle are the elements of the Greek temple and the Gothic church; the semicircle and square or rectangle (a long square) are the elements of the Roman and Renaissance openings of doors and windows; and the two arcs (portions) of circles and the square or rectangle are the elements of the openings in Gothic architecture (see diagram 6 on next page).

Borders to structural forms or to higher forms of decoration are frequently geometric, or these forms in combination with such higher curved forms as those you have already used, while all large decorative schemes have their proportions fixed by geometric arrangement, such as the decoration of a ceiling, wall, or floor.



Diagram 6.

Copy the following exercises, Plates 20, 21, 22, making them much larger. After you have copied a few try to make other arrangements (*a*) by combining two or more of the borders; (*b*) by altering the proportions; (*c*)

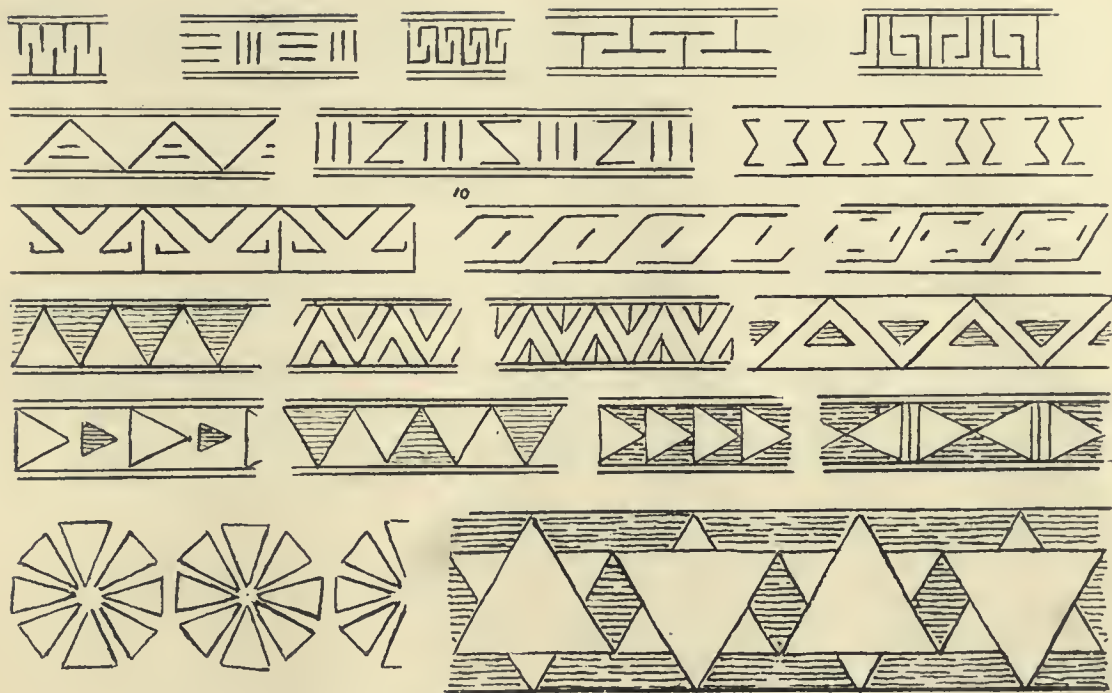
by making them into masses of light and dark, as seen in Nos. 15 to 21, Plate 20; (*d*) by adding to them any of the forms you can remember, which you have used in the previous section, and (*e*) by adapting the borders to all over patterns as diapers, etc.

Draw these and also all your own combinations from memory.

Excellent practice will be obtained in adapting several of the borders from straight to circular ones. Nearly all the borders in Section I. can be easily adapted. Draw with your compasses a circle nearly as large as the page of your drawing-book, and another from the same centre, about $1\frac{1}{2}$ inches less. Decide how many repeats and divide the circle into 5, 6, 7, 8, or 9, then rule straight lines to the centre, and modify the design where necessitated by the changed conditions.

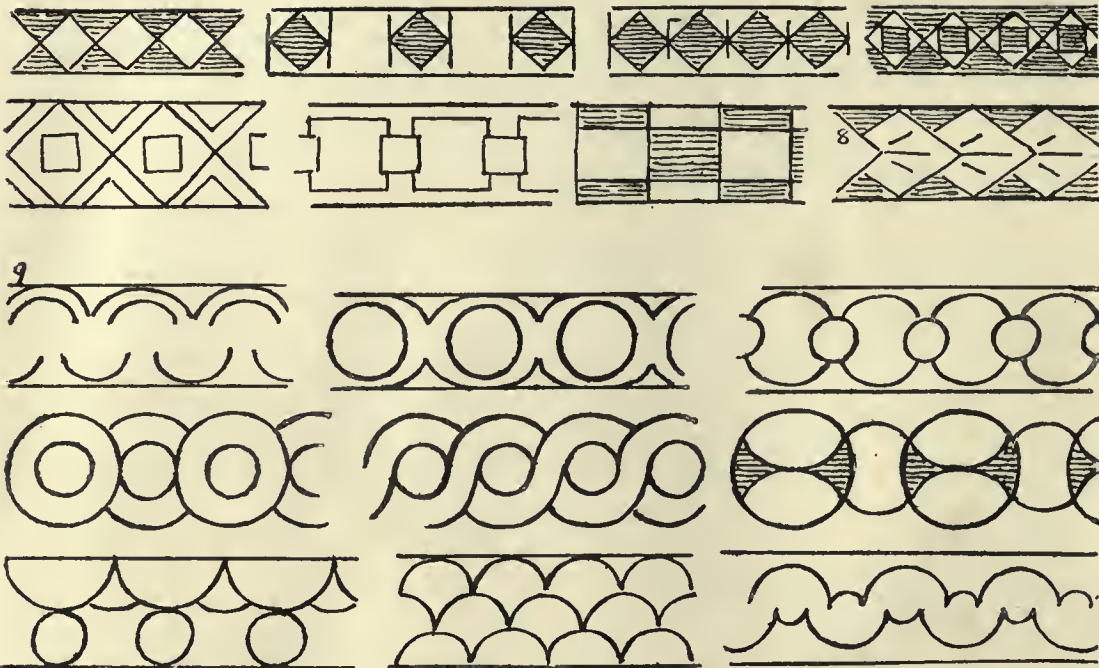
Ask a dealer in earthenware to get you a cup and saucer and small basin in the biscuit

Plate 20.

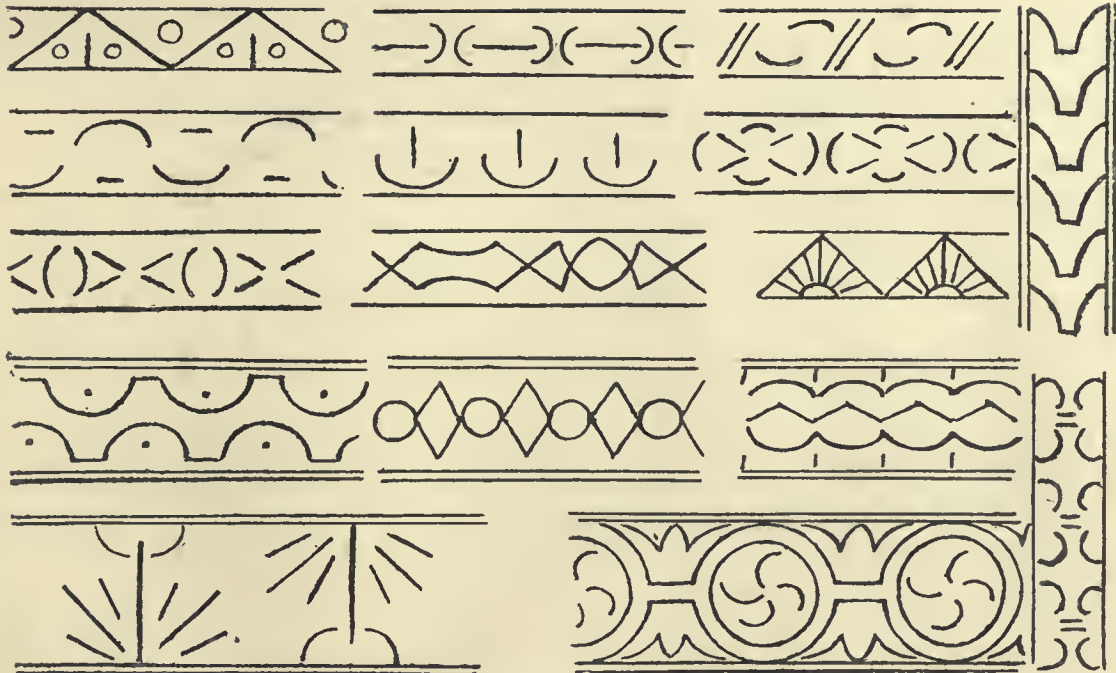


Copy much larger, and increase number of repeats. Draw all from memory. Colour some and make new arrangements as explained.

Plate 21.



Copy much larger and increase the number of repeats. Draw all from memory. Colour some, and make new arrangements as explained.



Copy much larger and increase the number of repeats. Draw all from memory. Colour some and make new arrangements as explained.

state, that is before they are glazed. They will only cost a few pence, and you can easily adapt and draw your patterns on these. The pencil marks cannot be easily rubbed out, but by covering with a thin coat of whiting the articles can be used again and again. Note that a very simple pattern, even of straight lines, becomes enriched by being placed on a curved surface.

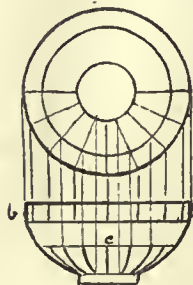


Diagram 7.

In the diagram the border is composed of two horizontal lines joined by repeats of a vertical line at equal distances. Its effect on the basin as generally seen is that of two ellipses joined by vertical lines, which appear to get closer as they near the sides of the basin (*b*). The element of the lower pattern is only one vertical line (*c*), but by repeating this at equal distances round the basin an effect is produced as if you had drawn a series of beautiful and different curves. To show on your paper the effect of any pattern it is only necessary to draw an elevation (front view) and a plan (view from the top); mark the repeats on the plan and transfer them to the elevation as on diagram.

Initial Letters.—Draw capital initial letters, beginning with your own initials, about 2 or 3 inches high, and enclosed in a rectangle, and make this the basis of a design, enriching the spaces only, or the spaces and the thickness of the letter, with geometric forms, or these combined with those used in the earlier lessons. If you cannot get access to an illuminated missal, every public library will have some work on illuminating, and from these you will learn good and varied shapes of letters, and how they are enriched by line and colour.



SECTION II

Drawing from the Shoulder and Designing

Materials.—An ordinary drawing-board about 23×16 inches, blackened on one side only, in the same manner as the ordinary school black-board, common white chalk, such as is used on the school black-board, and a duster.

So far the lessons have been in drawing on a small scale, little more than large handwriting, the pencil being held as in writing, between the thumb and the first two fingers, with the little finger resting on the paper. This has been selected as the first step because of its affinity to writing, but too often it is the only kind of drawing taught, while that in constant use by workmen, designers, and artists is drawing from the shoulder, the pencil, chalk, brush, or charcoal being held inside the hand instead of resting against the side of the forefinger, and the hand *removed from contact with the paper or board*. Attempts have been made in some schools to teach this larger drawing by the occasional use of the school black-board by the pupil, but this practice

must necessarily be very limited, whereas it should be a definite and important stage of a course of drawing, so that each pupil may have constant practice. The board should be held on the knees resting against the edge of the table or desk, as in ordinary drawing, care being taken that the pupil *sits well back so as to obtain a view of the whole of his board, and the hand kept from contact with it*, so that the whole arm from the shoulder can be brought into action in doing every line.¹ In very large life-sized drawings or paintings the whole body is brought into action, but there will be no extra difficulty in doing this if good practice is gained in drawing from the shoulder.

We shall again largely make use of the forms you are already familiar with, and which were the elements of your earliest lessons, making these the foundations of designs to cover the whole of the rectangle of your drawing board.

¹ In those schools where the combined desk and seat is used, similar to that called the High School Desk, the board may be placed in the nearly vertical position in the desk. This is even a better arrangement than the former, for insuring that the students sit well back and do not rest the right hand on the board.

LESSON XXIII

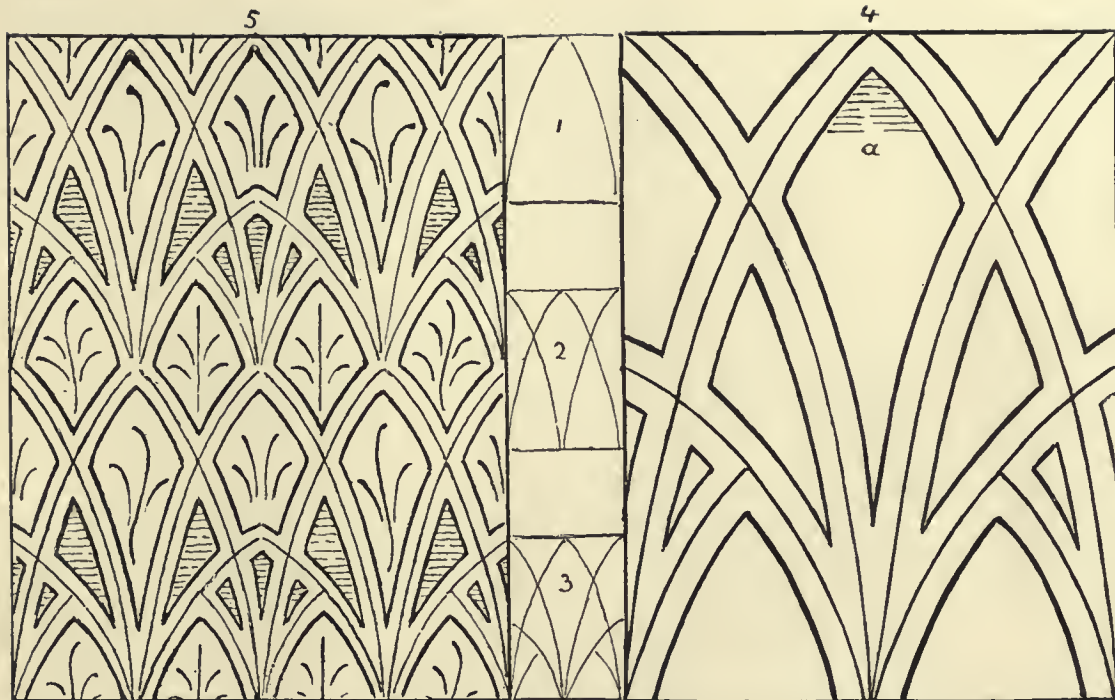
PLATE 23

THIS is formed of lines similar to those used with letter "b," in Lesson 2, Plate 2. Draw Fig. 4 *to fill your board*, beginning with the lines shown in Fig. 1.

If the shape of your board is not exactly of the same proportion as the rectangle in which Fig. 4 is drawn, that is, if it be a narrower or broader shape, still fill your board, you will have a similar result though not exactly the same. Mark as near as you can, without measuring, the middle of each edge of your board. Draw the two curved lines shown in Fig. 1 from the middle of the top of your board to the bottom corners. Do each of these with one well-considered sweep. If wrong try another sweep, and afterwards rub out with the duster that part of the first trial which is wrong. In the same way draw the lines in Fig. 2, being careful not to rest your hand on the board, and sitting well back; add the lines in Fig. 3. Fig. 4 is only Fig. 3 with the addition of lines parallel to each of the main lines already drawn, and these must be drawn firmly at one stroke. You may now try the change of effect which will be caused by filling up the spaces with horizontal

lines as shown commenced at "a." Turn over your board, shut this book, and try to draw all from memory in your drawing-book; being careful to remember and to draw, the principal lines first.

Fig. 5 shows Fig. 4 repeated, with the addition of a few lines in the larger spaces, in harmony with the enclosing lines. Copy this in your book, about the size of a page, as a home exercise, dividing each side of your book into four instead of two parts. Try to vary the filling of the spaces with leaf-like forms such as those used in Plate 15, making your first trials large on your black-board; the large scale and the use of the white chalk which is so readily rubbed out, being conducive to freedom, and the effect is more easily seen. When satisfactory, draw them in your book and cover the whole with one wash of colour, and when dry put a second wash of a different colour over the spaces.



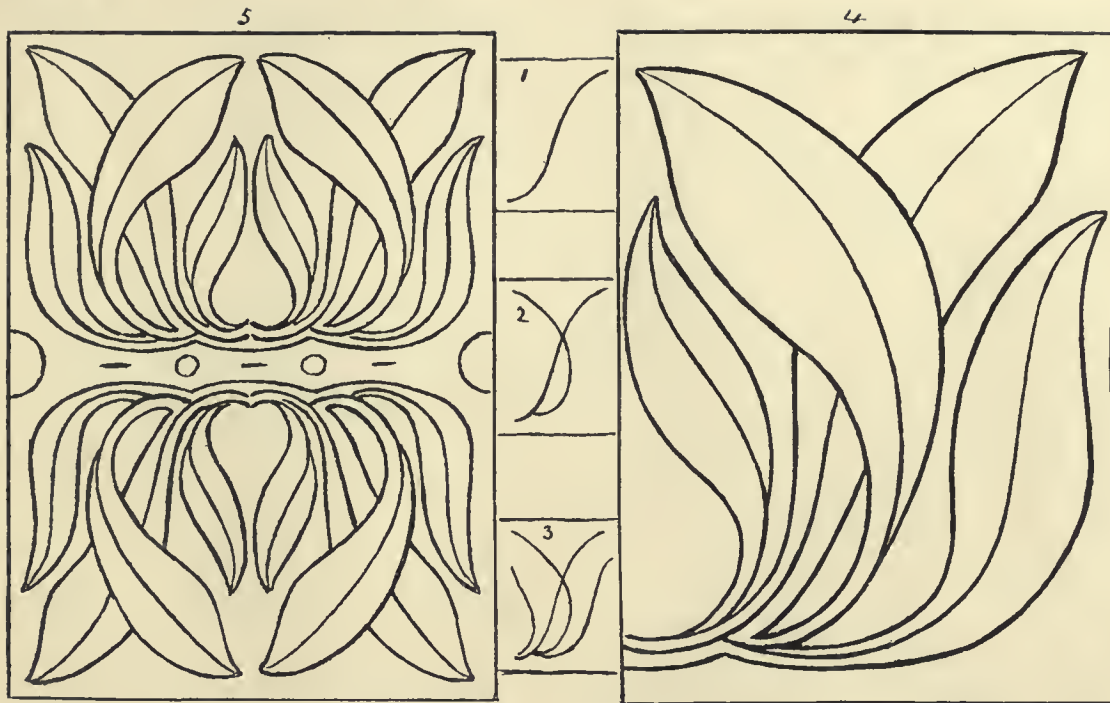
Read Lesson XXIII.—With common white chalk enlarge Fig. 4 to the size of your drawing board. Look at Plate 35.

LESSON XXIV

PLATE 24

THE principal lines in this form are similar to those used with letters, "a" and "b," on Plates 1 and 2. Draw the line in Fig. 1 across your board. This line is the same as that used with letter "a"; add the one shown in Fig. 2, and the others shown in Fig. 3. Draw each at one sweep, and correct as explained in the previous lessons. Add the leaf-like forms shown in Fig. 4. Draw this from memory in your book.

Fig. 5 shows the form repeated four times. Copy this larger in your book, as a home exercise, tracing the repeats, and noting the change of effect; add more repeats round these so as to see the effect still further, and add or alter any forms that may be necessary; colour with two washes, the first (blue) all over the whole of the pattern and background, and the second (burnt-sienna and a little gamboge) over the leaf-like forms only. Redraw the principal lines on your board, and try to fill with some other arrangement. If satisfactory copy in your book and colour.

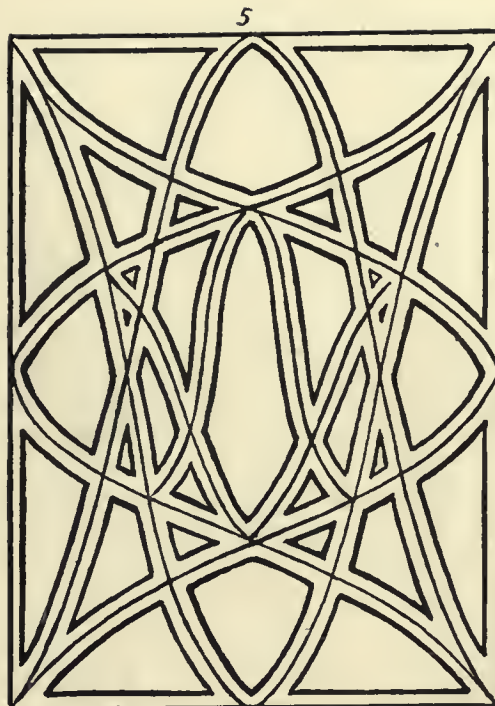
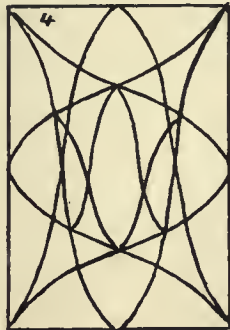
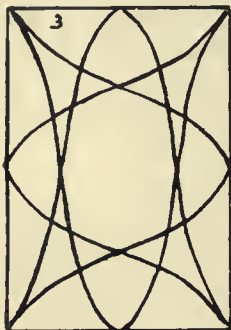
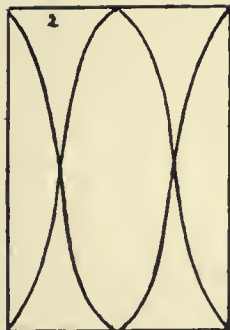
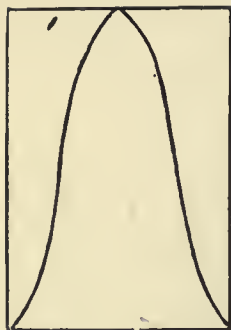


Read Lesson XXIV.—With common white chalk enlarge Fig. 4 to the size of your drawing board.

LESSON XXV

PLATE 25

THE principal lines in this are similar to those used with letter "a." Again find the middle of the edges of the board. Draw the principal lines in the order as shown on Figs. 1 to 4, and add the lines parallel to those you have already drawn (Fig. 5). Draw Fig. 5 from memory in your drawing-book to fill the page, and as a home exercise try to fill the spaces with one or more curved lines as in Fig. 5, Plate 23. Colour with a wash all over, and a second wash on the spaces.

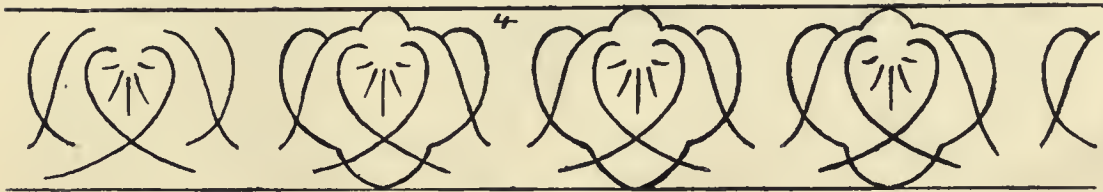


Read Lesson XXV.

LESSON XXVI

PLATE 26

THIS is to be drawn with the long edges of the board horizontal. Find the middle of the long sides of your board, and join with a straight line. Draw first the lines shown in Fig. 1, then add those shown in Fig. 2, and complete as in Fig. 3. Fig. 4 shows a repeat of Fig. 3, with very slight additions, and may help to suggest to you how and what to add. Look also at Plate 34 for a quite different treatment of the above. Draw from memory in your book, and repeat as in Fig. 4, also try by tracings how it will work as a pattern to cover a space in all directions, adding what may be necessary. While Fig. 3 is on your board try to add other lines so as to develop a new pattern, and show its repeat in your book.



Read Lesson XXVI.

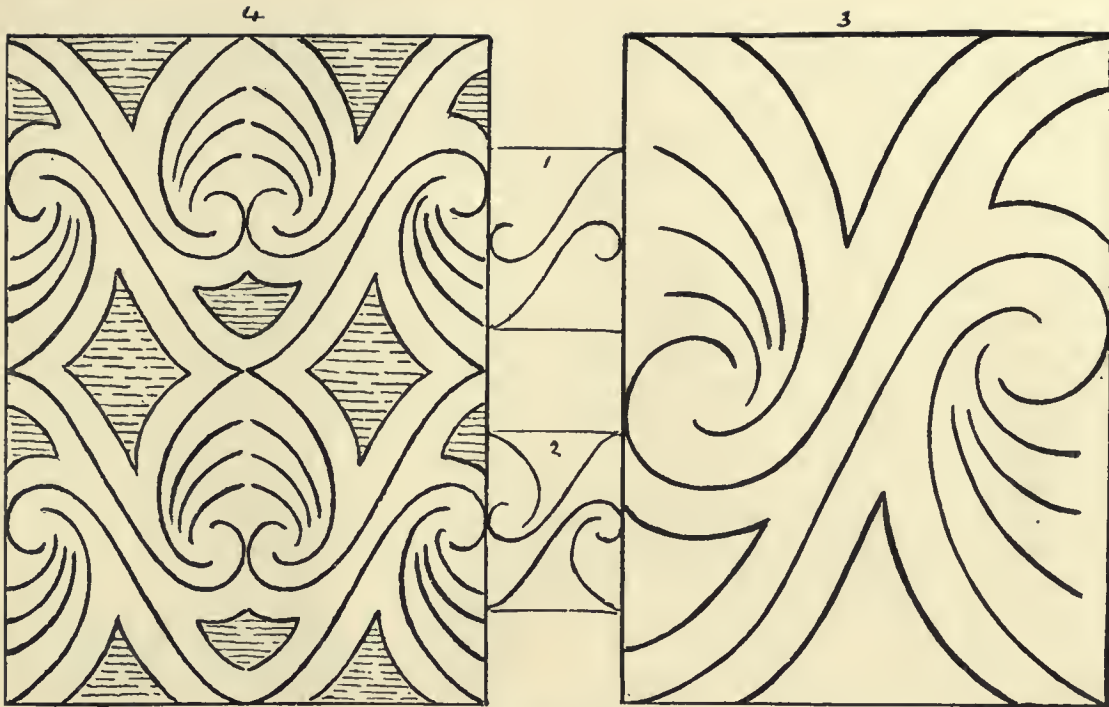
LESSON XXVII

PLATE 27

THIS needs but little explanation, and only requires care in drawing the two first lines, (Fig. 1). It is an arrangement of the forms used with letters "a" and "b" in Lessons I. and II.

Sit well back from your black-board, and do not touch it with your hand while drawing. Draw each line at one sweep, and correct in the way explained in a previous lesson.

Divide each edge of your book into two equal parts, draw lines across the middle, and copy Fig. 4, which is a repeat of the pattern. Colour it with two colours, one covering it all over, and the other the enclosed spaces. Re-draw on your black-board the two lines shown in Fig. 1, and fill with another arrangement. If successful draw its repeat in your book.



Read Lesson XXVII.



LESSON XXVIII

PLATE 28

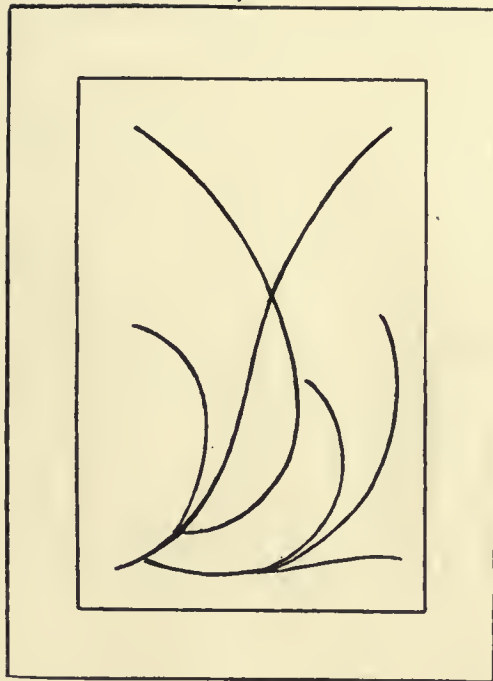
THIS is also based on lines similar to those used with letters "a" and "b," in Lessons I. and II., and is a somewhat similar arrangement to that of Lesson XXIV. First rule lines inside the edges of your board of proportionate width for the border. Draw the lines shown in Fig. 1, and complete as in Fig. 2. Here, for the first time, you have a border and panel together making a design. All your previous panels would be improved in appearance with a suitable border. The purpose of a border is similar to that of a frame to a picture. It closes in the view, and its design must be subordinate to that of the panel, and in harmonious contrast with it, giving increased force and value to the design. It should not attract attention before the panel. Read the next lesson before designing a border for a panel.

Draw in your book the panel and border from memory.

2



1



Read Lesson XXVIII.

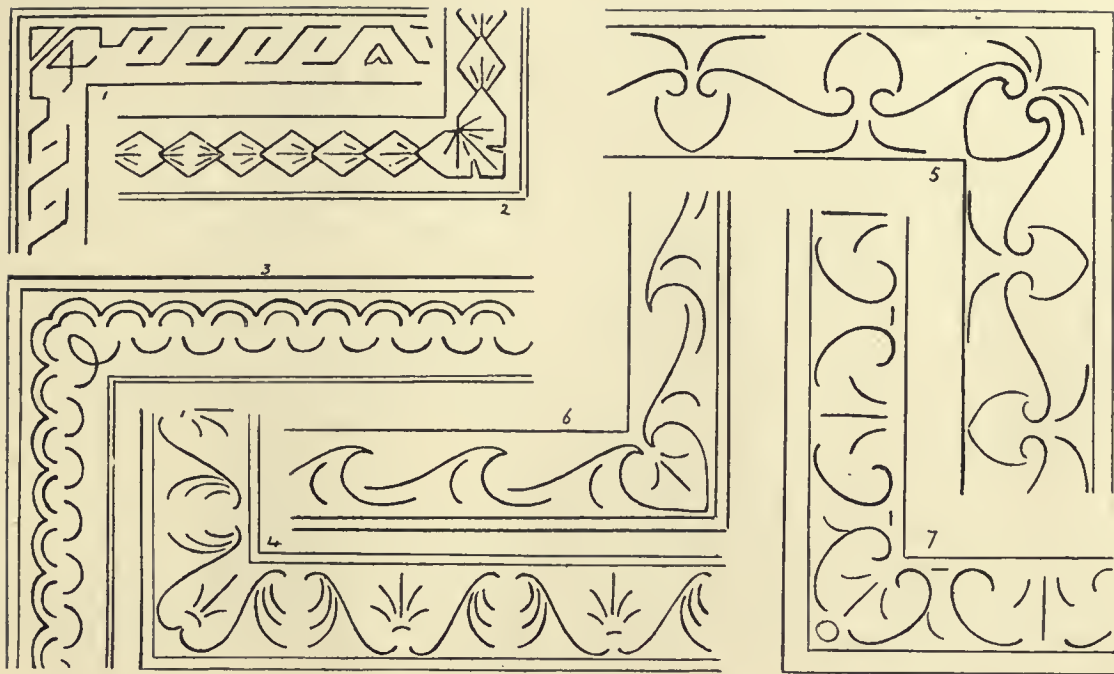
LESSON XXIX

PLATE 29

YOU have already had practice in making borders in Sections I. and II., but one difficulty you have not yet been troubled with, viz. how to design a good corner. This must be an emphasis, a stop, a rest, as compared with the border, but still subordinate to the panel. Notice this in the border of the previous panel. Fig. 1 shows an appropriate corner to the border, composed of straight lines, Fig. 10, Plate 20; Fig. 2 shows a corner treatment to Fig. 8, on Plate 21, a border of square forms; Fig. 3 gives a corner to the border of arcs of circles, Fig. 9, Plate 21; Fig. 4, a corner to Fig. 4, Plate 2; Fig. 5, a corner to Fig. 3, Plate 4; Fig. 6, a corner to Fig. 4, Plate 10; Fig. 7, a corner to Fig. 3, Plate 16. Copy these from memory.

Other treatments of corners are given in the section on Drawing from Nature (Section III.)

Try to make corner treatments for as many other of the borders as you possibly can in Sections I. and II., making your first sketches on the black-board.



Read Lesson XXIX.

LESSON XXX

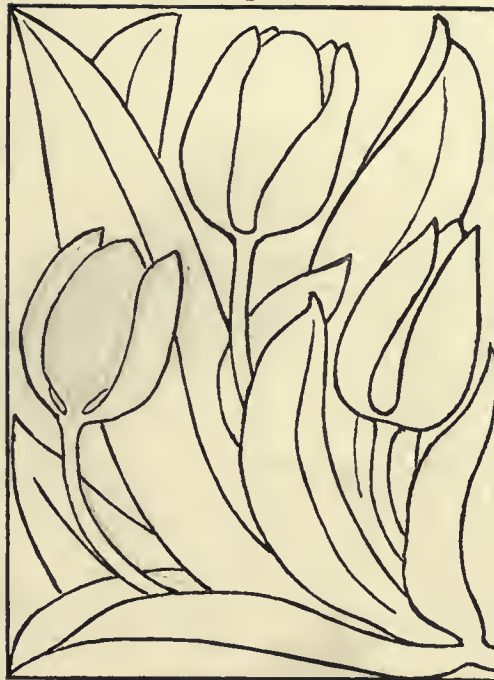
PLATE 30

THE principal lines in this plate are somewhat like those in Plates 24 and 28, which were based on the lines used in Plates 1 and 2, with the letters "a" and "b." The method of arrangement is also somewhat similar to that adopted in Plates 24 and 28, the lines converging to or radiating from one corner. The forms used to clothe these lines in this lesson are, however, more suggestive of an individual plant form (the tulip) than any we have yet used. It is not an exact copy of a tulip, but the forms although similar to those used so frequently, have been moulded, changed, modified by a knowledge more or less accurate of the general shape of the leaves and flowers of the tulip, and of its manner of growth. After copying this on your black-board in the order shown in Fig. 1, rub out and redraw the principal lines as shown in Fig. 1, and try to clothe these with the forms of any other similar plants you can recollect, however slightly—such as the crocus or the field poppy (giving only the general shape of the leaves of the latter, but not the serrations). If you can get a crocus, look at it earnestly to see its general character, so as to refresh your memory, but put it away so that you do not see it while making your design. Copy these in your book as home exercises, and try to design a border to each (see Lesson XXIX.)

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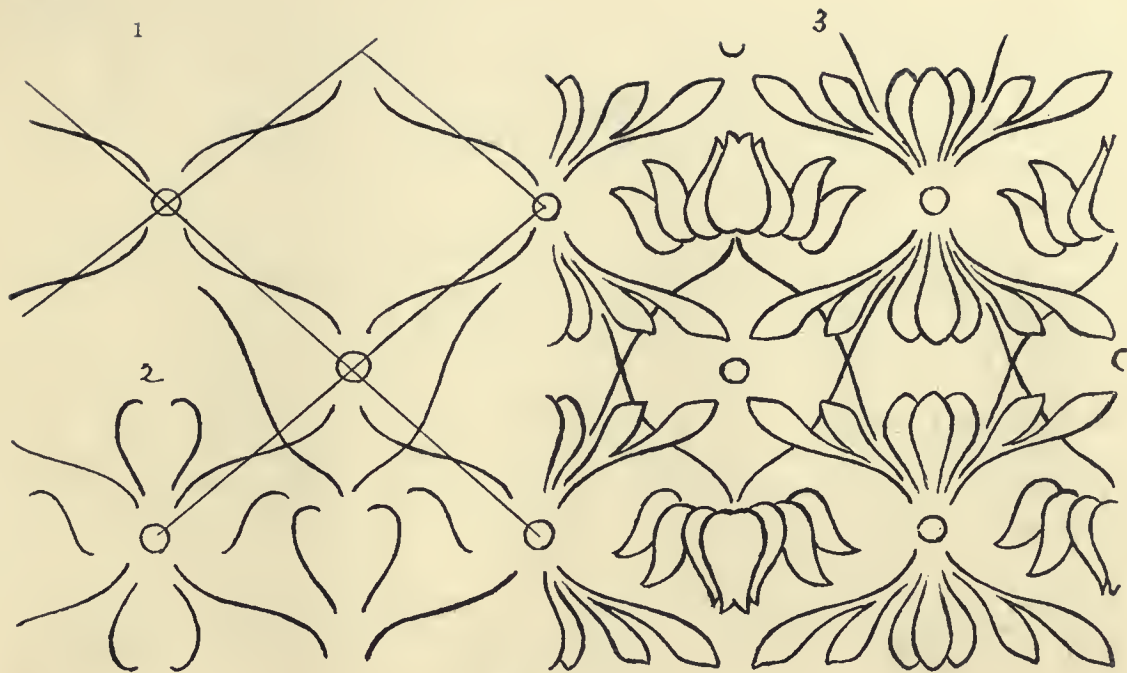
Read Lesson XXX.



LESSON XXXI

PLATE 31

THIS is a repeating pattern (to cover a surface in every direction), composed of the forms used with letters "a" and "b" in Lessons I. and II., and unintentionally is suggestive of leaf-like and fruit-like forms. The leaves are somewhat like, in shape and arrangement, those of the goose-grass, which are arranged in whorls round the stem. This plant is very common in our hedge-rows in summer, climbing up the hedge by means of long hooks attached to the stems. Rule an upright and a horizontal line through the middle of your board, rule lightly the straight lines forming the rhomboid, and repeat this form until your board is covered. Add the curved lines shown in Figs. 1 and 2, and complete as in Fig. 3. After drawing this on your black-board rub all out, redraw the lines in Fig. 1, and try to fill with another repeating pattern.



Read Lesson XXXI.

LESSON XXXII

PLATE 32

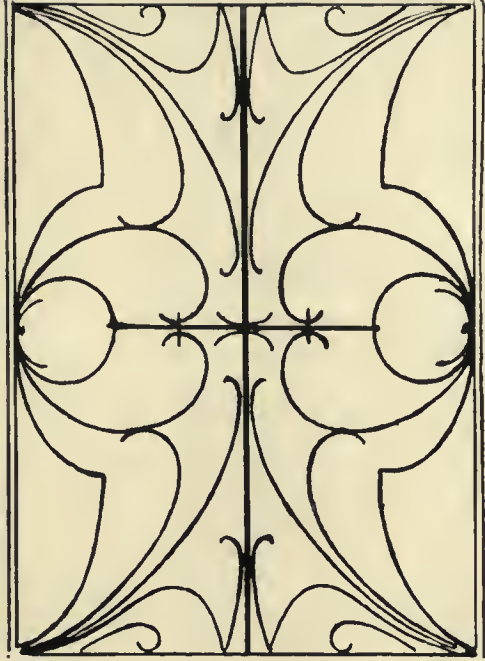
If you will turn back to Plate 12, Fig. 3, you will see that this is only a development of that design, and is a good illustration of how easy it is to develop a design into something producing a different effect if your first lines are well considered.

Divide each edge of your board into two equal parts, and rule lines across. Draw first the longest lines, starting from each corner. Then the two circles, and complete as Fig. 1.

Rub out your drawing, redraw a few of the lines in the above order, and then try to substitute other lines for the remainder.

Fig. 2 shows Fig. 1 repeated. It would be well for you to copy this on a larger scale in your book, and also repeat your own design to the same extent, so as to see the effect of your changes.

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Read Lesson XXXII.

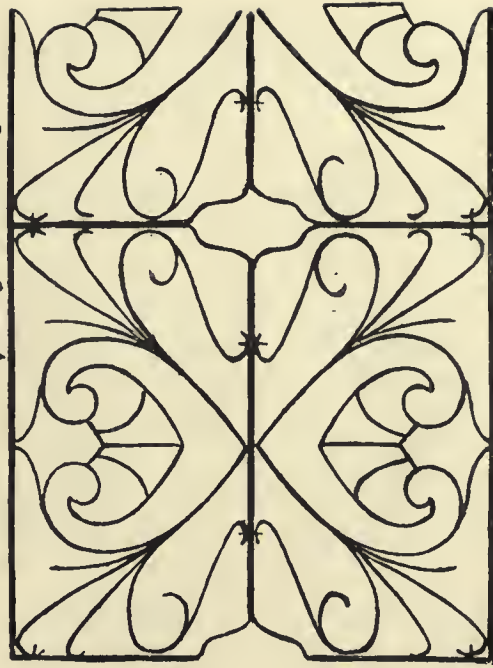
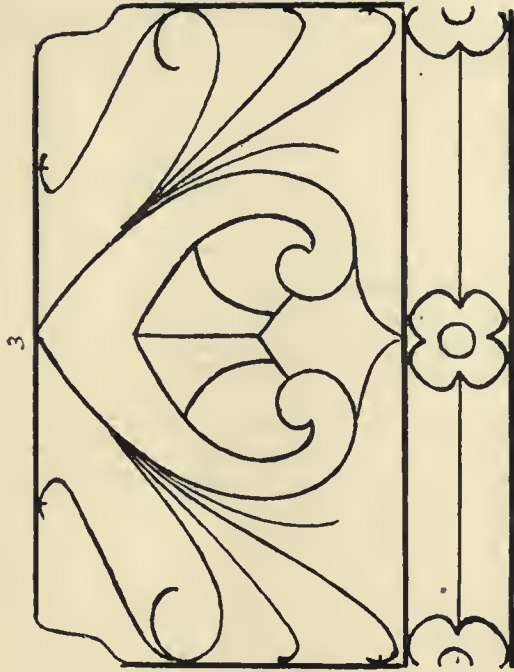


LESSON XXXIII

PLATE 33

TURN back to Plate 12, Fig. 4, and you will see that this lesson is really but slight additions to that simple and easily drawn form. On your black-board draw first the lines shown in Fig. 1, add those in Fig. 2, and complete as in Fig. 3. Fig. 4 is a repeat of Fig. 3, and should be drawn in your book. You may rule the necessary straight lines, but do not in this case trace any of the forms when repeating. Repeat first the lines on Fig. 1 wherever they come, then those in Fig. 2, and complete as in Fig. 3. Do not be too anxious if some of the lines vary slightly in each repeat, as long as you get the general character and spaces. This slight variation will really be an added charm as compared with a merely mechanical repeat.

Plate 33.



LESSON XXXIV

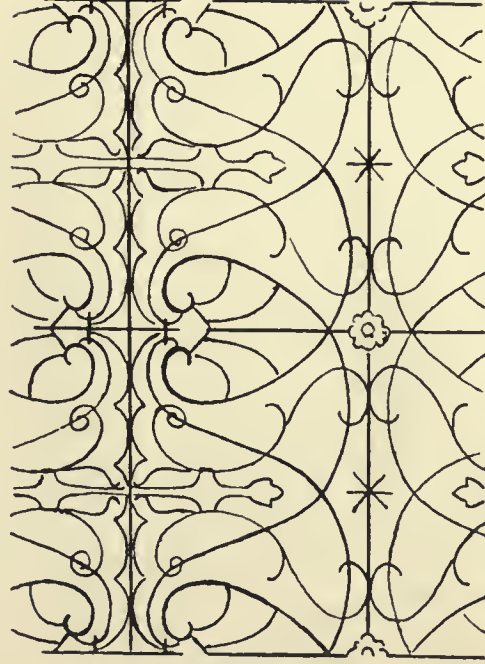
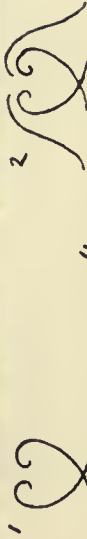
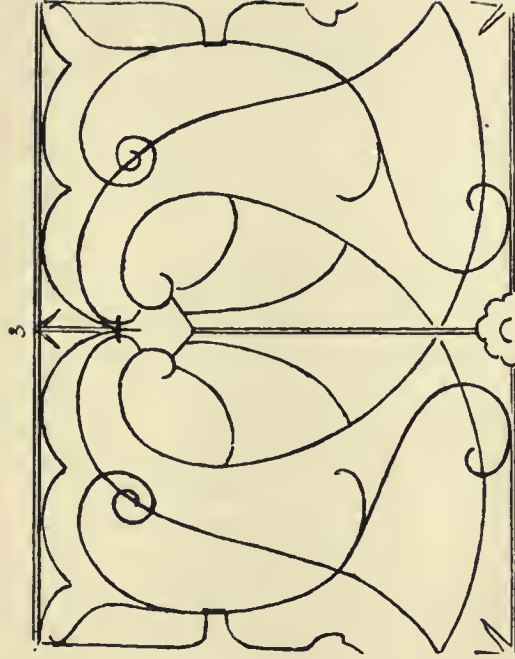
PLATE 34

THIS is a very simple arrangement, and scarcely needs a diagram to show how to commence it. After ruling the necessary straight lines begin with those shown in Figs. 1 and 2, and complete as in Fig. 3. Fig. 4 shows the repeat, which should be drawn larger in your book. Draw it also from memory.

Rub out the drawing on your black-board, and draw in again the lines of Figs. 1 and 2 only, and try to add other lines than those in Fig. 3. Repeat these in your book to see the effect.

The pattern is a development of that on Plate 26.

Plate 34.



Read Lesson XXXIV.

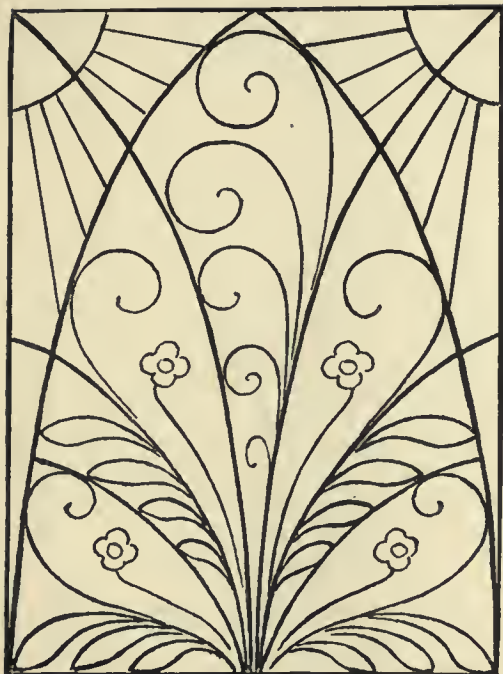


LESSON XXXV

PLATE 35

THIS is based on exactly similar lines to those used with the letter "b" in Lesson II., and again used in Plate 23. Draw the lines on your board in the order shown on Figs. 1, 2, 3, Plate 23, afterwards adding the forms on Fig. 1 of this plate.

Fig. 2 shows another and simple arrangement of forms based on exactly the same lines repeated, and also a bordering added, based on the circle and semicircle. Divide the long edges of your board into two equal parts, and then subdivide these into two, and rule the vertical lines. Draw the principal forms in the order already shown, then draw your circle and semicircle without compasses. It will be quite easy and pleasant to add the remaining lines. Rub all out and redraw the principal lines, and try to make another design based on these. Copy each of your own designs from the black-board into your book and also those here shown, but the latter from memory.

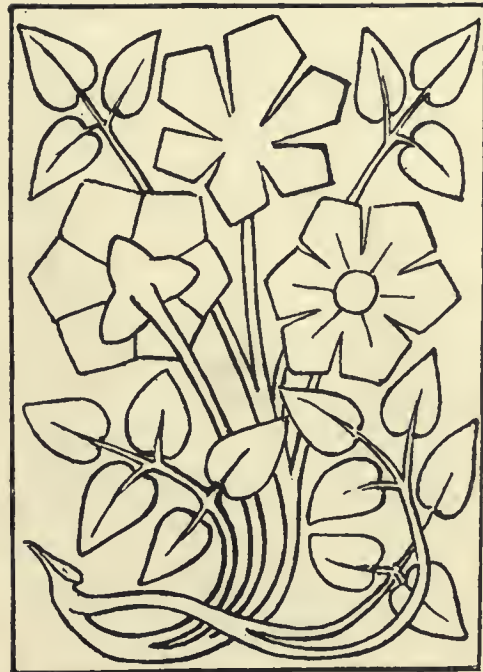
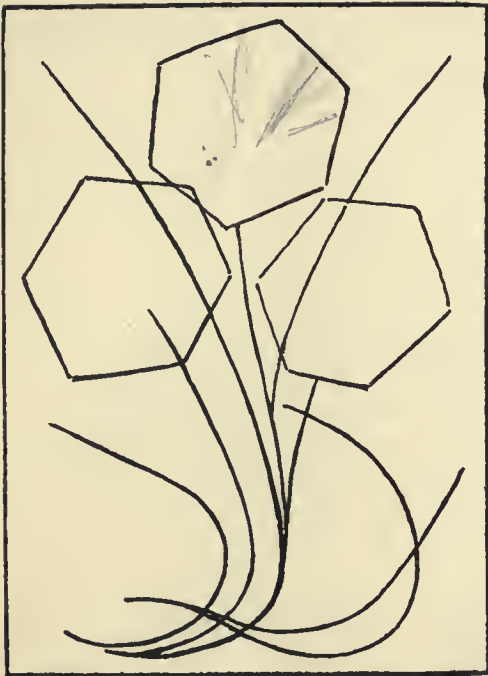


Read Lesson XXXV.

LESSON XXXVI

PLATE 36

THIS is similar in the arrangement of its principal lines (see Fig. 1) to several previous lessons. These lines are clothed with arrangements of straight and curved forms, the arrangement rather than the employment of new forms suggesting leaves and flowers. After copying this on your black-board, you should redraw the principal lines and so change or modify the others that, while keeping to this arrangement, they may more nearly resemble some leaf and flower you know—say the wild rose. Try to see one, and if this is not possible, look at a drawing of a rose, although this is but a poor apology for the actual thing. Put it away before beginning your design, trusting to your memory of the shape and arrangements. If you catch but little of the characteristics of the rose your design will be much more interesting than is this one. Copy both patterns in your book, and colour by covering all the panel with yellow ochre. Cover the leaves with blue, producing a green colour through being on the yellow wash, and use a covering of crimson lake for the flower-like forms. Design a border, using in it some straight lines in combination with any others.



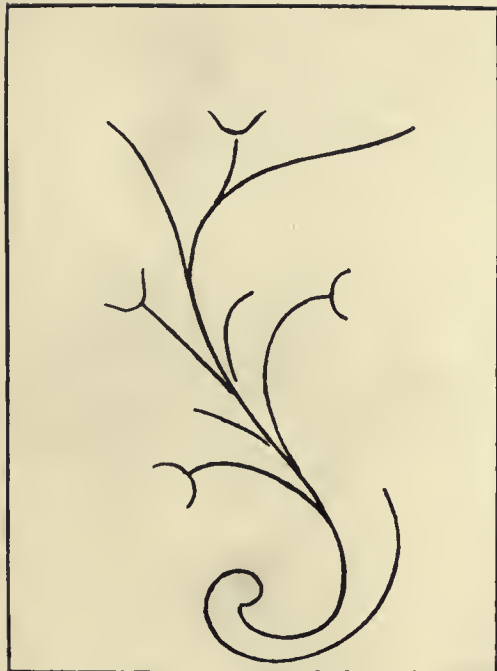
Read Lesson XXXVI.

LESSON XXXVII

PLATE 37

THIS is another arrangement of forms similar to those you have used again and again, but which, from their arrangement, are suggestive of plant-forms, though not of any particular plant, unless it be that the flower-like forms slightly resemble the honeysuckle. After drawing it on your board, beginning with the lines shown on Fig. 1, rub it out, redraw the principal lines, and try to put other shapes of flower and leaf-like forms, but of a somewhat similar character to these. Copy both in your book, each to nearly fill a page, leaving room for a border of your own design, in which use similar forms to the above, or these in combination with geometric forms, and then colour.

1



2



Read Lesson XXXVII.



LESSON XXXVIII

PLATE 38

IN this there is no preliminary diagram to show the principal lines and masses, but there should be little difficulty in selecting and drawing these. The border you will notice is encroached on by the pattern; you will find this frequently the case in the tooled designs on the bindings of books. The panel is based on the buttercup. Copy it enlarged, then try to make a design on somewhat similar lines, but making use of what you can remember of any other plant.

The next section deals with drawing of plant-forms from nature, and will be the means of providing you with new material for designs.



SECTION III

Drawing from Nature and Designing

LESSON XXXIX

PLATE 39

THE Lessons so far have been exercises to train the hand and eye to see and express lines in pencil or chalk, these lines being arranged for you in more or less pleasing combinations; you have also made of them arrangements and combinations of your own. The materials (elements) you have been able to make use of are of the most limited character—but a few lines—and yet the variety of their possible combinations is almost infinite. You may have noticed in a few of these exercises, such as Plates 24 and 30, that although based on similar lines to those in Plates 1 and 2 there is more than a suggestion of the leaves and flowers and of the growth of

the tulip, and in other lessons natural forms and method of growth are more or less suggested, partly because the curves easiest described by the human hand are those most frequently present in plant forms, and partly because when the initial or principal lines were drawn their combination suggested a plant to the designer, and consciously or unconsciously gave a direction, an individuality, to the forms with which these leading lines were clothed. If, therefore, you can store your mind with the memory of the shapes, and further on of the colour, tone, and methods of growth of plants, you will obtain a large fund of material for your designs, and the use of these forms in them will arouse an interest in the human mind which merely abstract lines can never awaken, however beautifully they may be arranged. Not only are plant-forms to be made use of, but the whole world of life,—insects, birds, fish, animals, and man.

Let us try to draw a few plant-forms from nature, and then see how we can use them in design. You have already learned to represent a line and shape, when you see it. Remember this, and do not be driven from it by people talking about the great difficulty in drawing from nature, as compared with drawing from copy. These difficulties are greatly of our own making.

As your first exercises I have not selected the least difficult plants nor those most beautiful when used in decoration, but those of which you can obtain specimens all the year round, and at little or no cost, the laurel, ivy, geranium, and chrysanthemum, for it is necessary that you have specimens of the leaves of one of these in each of the following exercises.

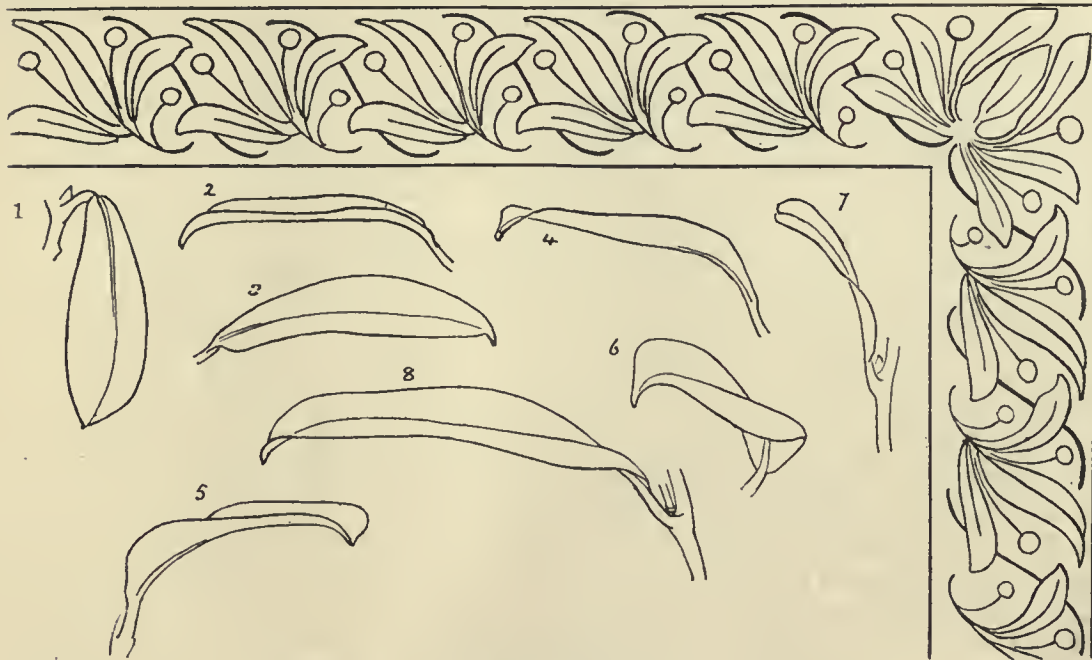
Copy in your book the laurel leaf, Fig. 1, Plate 39, enlarged to the actual size of the leaf. This will be less difficult than many previous exercises. Having done this, place a laurel

leaf with its face upwards on your board or drawing-book, in the position of Fig. 1. To copy this will be no more difficult than copying Fig. 1, because it is simply copying a green shape as it appears dark against your white paper. Be sure you copy the leaf and not Fig. 1. Your drawing will be similar to, but not the same as Fig. 1, for no two leaves in nature are exactly alike. Your leaf may even end in two curves instead of a point, as in Fig. 7, it may be wider, etc., but copy your leaf and do not merely repeat Fig. 1. Now draw Fig. 2, you will see that this is a side view of the leaf. Place a leaf in this position and draw it full size as a copy of a line round a mass of green which tells dark against your white paper, drawing the lower line first, which represents the midrib, and last the inner line representing the near edge of the leaf. Now there is no great difficulty here. It is only a narrower strip of green, and of a slightly different shape to the first position. Draw the shape of the dark mass against the white paper as you would if it were indeed a flat tint of colour. You must be able to see the shape of this green mass just as easily as you can the shape in the first position, unless you think how it ought to look instead of trying to put down the shape you see.

In the same way copy 3, 4, 5, 6, and 7, afterwards placing your leaf in similar positions and drawing it with all its differences. Figs. 1 to 6 are drawings of the same leaf, but Fig. 7 is from a companion leaf on the same stem, the end of which is rounded instead of pointed.

Fig. 3 is a side view, but looking more on the top.

Fig. 4, is another side view, with the end slightly turned towards you, and the near edge of the leaf is the upper line.



Read Lesson XXXIX.

Fig. 5 is similar to Fig. 2, only the end is turned a little more towards you.

Fig. 6 has the end still more turned.

Figs. 7 and 8 show the junction of leaf and stem; observe the thickness of the stem and the leaf stalk at the junction, and also the bud form.

If it is spring time try to copy the young leaves just as they grow on the new wood. In order that you may better see if the shape of the leaves is correct, mix a tint of green (Prussian blue, gamboge, and burnt-sienna) which shall be something like the general colour of the leaf (such as it may look if seen several yards off against white paper). Wet with clean water within the shape of the leaf you have drawn, and blot with blotting paper or a rag until it is only damp, not wet, then cover this space with your colour, beginning at the top and working downwards with strokes nearly vertical. Do not trouble if your wash is not quite flat, practice and care will soon enable you to lay on a flat wash. Do not retouch the colour to correct any errors while wet; if it is uneven in parts, or has passed outside the outline, let it remain and do better next time. Should you find difficulty in drawing the leaf in these varied positions, place a small laurel plant in a pot (they can be bought for one shilling each or less) outside your window. Draw on your paper a few of the leaves of the plant, then with a brush and some black colour, soot or ordinary ink mixed with a little gall, trace the outlines of the same leaves as they appear on the glass, being careful to keep the same position as when drawing on the paper. The drawing on your paper, and on the glass, may be different in size, but should be the same in shape. This may also be done by placing a sheet of glass in front of the plant if the window sill for any reason is less convenient. Repeat your drawings of the leaf from memory.

Now the important question comes, how can you make use of this leaf in design. You do not yet know the plant as a whole, but little of its growth, and nothing of its general appearance, and yet you can make use of the lines and shapes (masses) of this leaf just as you did of the lines we placed with the letters in the first section, and until you have made use of this very scanty material it is perhaps well that you are thus limited in your knowledge of the plant.

On Plate 39 is a border based on the line used with letter "a" in Plate 1, and showing a corner treatment, the laurel suggesting the leaf-like forms with which it is clothed, but there is only a slight attempt to show the arrangement and principle of the growth of the plant. Look through the previous Plates and select those arrangements of lines in the designs which you think you can clothe with this leaf. Figs. 3 in Plates 5, 10, and 15, are suggested.

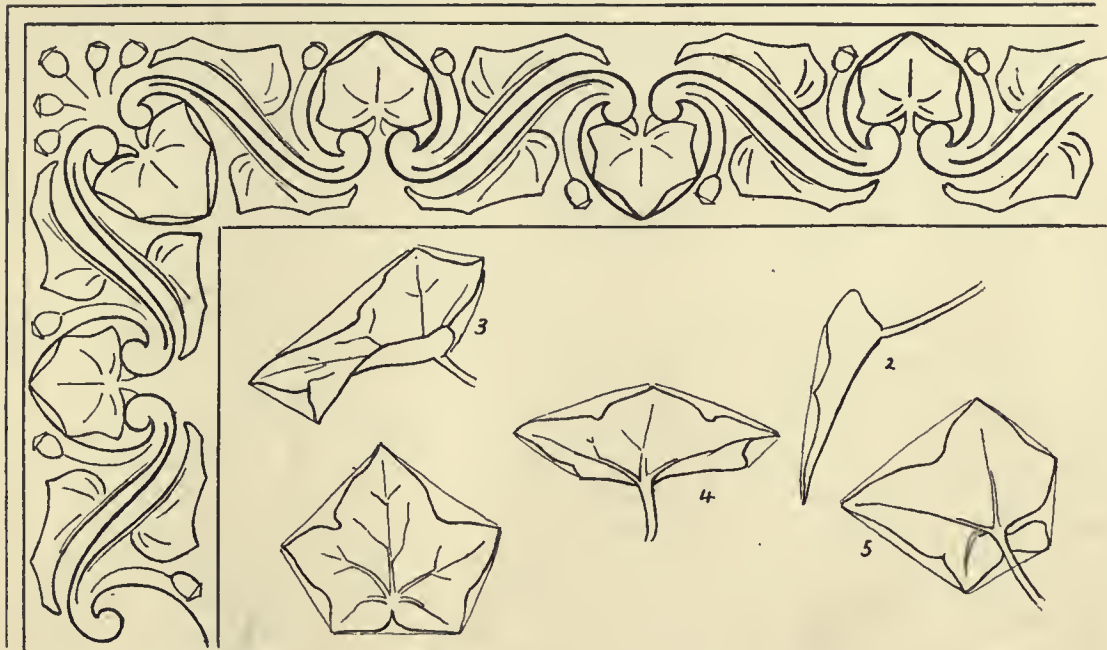
Tint the forms in the design with the colour you used for the leaves, making it as a dark design against white. Tint your own design in the same way, and then mix a wash of Prussian blue, a little burnt-sienna, and only a touch of lake, and with this cover the ground. Colour the pattern of a third in the same way and the ground with a full tint of yellow ochre. Note the changes of the colour of the pattern under these circumstances.

LESSON XL

PLATE 40

PROCEED as in the last lesson to copy the ivy leaf Fig. 1, larger, and then draw the shape of a similar leaf laid in the same position on your book ; be careful to observe any differences between the actual leaf and the one drawn on the plate. As the ivy leaf is composed of five pointed portions it will help you to see the general shape if you first draw the enclosing lines, shown by light lines round the leaf. Wherever there are many parts or much detail this method will help you to obtain rapidly the general shape which will be occupied by the leaf. This is really the most important essential, without which all your detail drawing will be worse than worthless. If you attend carefully to this there is no other difficulty beyond that explained in the previous lesson. Draw Figs. 2, 3, 4, and 5, and then place your leaf in similar positions and draw it. Never mind how unlike the enclosing form is to your notion of the shape of an ivy leaf. Think only that you are planning out the mass of dark green as it shows against your white paper. Colour as explained in the previous lesson. Repeat your drawings of the leaf from memory.

The design on this plate is based on the border Fig. 3, Plate 4, and shows a treatment of the corner. The leaves are more isolated than in the previous lesson, and are arranged and connected in a somewhat arbitrary or conventional manner, necessitated by the enclosing form. Copy the design, and afterwards try to vary it, and also to make an entirely new design.



1 Read Lesson XL.

LESSON XLI

PLATE 41

ENLARGE these geranium leaves, stems, and flowers to almost full size. There is no new difficulty in this plate except the grouping of the leaves and flowers showing more of the natural growth. When copying the leaves, carefully draw one or more enclosing lines, straight or curved, which will give you the general shape or space occupied by the leaf, and note that the general shape of Fig. 1 is circular, within which are five curves, into which the serrations or tooth-like edges of the leaf group themselves, so that, before attempting to draw these serrations you must give due attention not only to the general shape occupied by the leaf but to its main grouping or divisions. *This gradual reaching to the detail through first large and then smaller masses or groupings is the greatest essential in all drawing, not only of leaves and flowers, but of figures, animals, and landscapes too.* In the next lesson (the chrysanthemum) this process will require even still more attention to prevent confusion and to secure true proportion.

Fig. 2. The edge view of the leaf is an elliptical form. After copying Figs. 1 and 2 place an actual leaf in the same positions and draw from it, being careful to note in what it differs from the one used in Figs. 1 and 2.



Read Lesson XLI.



Fig. 3 shows a group of leaves and stems, the top portion of a plant. Notice the swelling at the juncture of the leaf-stalks, also the little leaf-like forms called bracts, serving to protect the young leaf-buds, and a similar sheath on which the group of flower-buds develop (*a*). Draw this and also a similar group from a plant. Fig. 4 is only a general sketch of a group of the flowers, and shows how decorative they are if you will only give due importance to the general shape. Draw first enclosing lines for the mass of the flowers and buds, next the enclosing lines of each flower and a single line for each bud and stem, and lastly the shape of each petal and bud.

As these plants are in flower nearly the whole year you may be able to obtain one when doing this lesson, if not, take the first opportunity of drawing the flowers from nature. The leaves you can always obtain.

In the border design the arrangement is still arbitrary, being based on the lines used with letter "a," the corner showing an arrangement of the flowers, buds, and fruit. Try other arrangements showing more of the natural growth, and let them be based on the general lines of Plates 28, 30, 31, and 38.

LESSON XLII

PLATE 42

PROCEED as in the previous lesson, copying the leaves from the plate, and then placing actual leaves in similar positions and drawing these, being careful to get the general shape of each leaf with as few lines as possible; after this is secured draw in the larger divisions. This method is shown on one of the leaves; apply it to all.

In copying the design especial attention must be paid to this, and also in your own efforts in design, the masses and principal lines being made satisfactory before any details are added. If these are not satisfactory, adding detail will only make the design worse. Let your first efforts in design be based on the lines of Plates 24, 28, 31, 36, and 37.

Having learned how to draw leaves, set to work to know all about some one plant. If possible sow its seed or bulb, and watch its leaves, flowers, fruit, and seed develop, making drawings of these in many positions, and also drawings of the whole plant at different stages of its growth; a hundred drawings of the growth and details of one plant will be worth infinitely.

more than a hundred each from a different plant. If it is spring time choose the snowdrop, crocus, tulip, anemone, buttercup, daisy, cowslip, primrose, sow thistle, ox-eye daisy, hawthorn, dead nettle, garlic, orchid, lady's smock, chickweed, apple blossom, coltsfoot, blue bell, ground ivy, shepherd's purse, dandelion, marsh marigold, or strawberry. Watch a tree through the spring, and draw a branch before the leaf-buds begin to swell, noting the arrangement of the growth of the stems and their shape, and also of the buds. Make other drawings as these buds begin to open, and continue to do so as they develop and the flowers appear.

There are plenty of subjects in the summer time. Choose one of the following:— London pride (make large drawings of the flower), marigold, pansy, imperial lily, sea holly, willow herb, vetch, campion, forget-me-not, hawkweed, clover, hemlock, astrantia, leopard's-bane, thorn-apple, columbine, rose of Sharon, wild rose, single sunflower, iris, pea, peony, water-avens. In the autumn, the blackberry (on which you will find the bud, flower, and fruit at the same time), briony, dahlia, autumn anemone, nasturtium, pelargonium, &c. In the winter, evergreens, Christmas rose, chrysanthemum, etc.; but know all possible about one rather than a little about many. To test what you know repeat your drawings from memory, and make one or more designs from them before passing to another plant, or you may get indigestion and become merely a collector of drawings instead of being a user.



Read Lesson XLII.

SECTION IV

Designing for and Working in Various Processes

HITHERTO you have made your designs without any consideration of their being suitable for reproduction by any other process than that you have employed, nor for any special purpose, and the only materials you have had to consider are your paper, pencil, brush, and colour.

In the use of these, certain restrictions have, however, been forced upon you, and the narrow limits of your powers have imposed others. There are many things you cannot draw; and many qualities in those things which you are able to draw, but which you cannot represent for want of skill, such as the variations of light and shade and of colour. You are limited to drawing in outline, and to filling up these outlines by flat washes of colour.

Designs have to be made for execution in other material, and suitable for other processes; designs to be worked in metal, clay, glass, threads, wood, plaster, stone, etc., and these have to be executed in some one or more of the following *processes*—weaving, stitching,

stencilling, painting, carving, hammering, casting, cutting, engraving, etc.; and designs for an unlimited variety of *purposes*, from the decorative painting which tells an heroic story on the walls of a public hall, to the pattern for a carpet, or for a cup and saucer. These new conditions compel new limitations; the material, process, purpose, cost, and skill of the artist, all affecting the essentials of the design.

Before you can make designs worth executing in any of the above materials, and by any one of the various processes, you must have knowledge of the *properties of the material*, of the *process of execution*, and of the *purpose* or use to which the object is to be put. You must as it were try to think through the material and process, and to express your thoughts in these, using your paper and pencil now as means to the attainment of a still further end. Your design must be the outcome of your knowledge of the material and process, and fitted for execution in these in a special manner, which will to that extent make it a wrong design for execution in any other material or process. Do not be disheartened by these new conditions, for every process you understand will by its very limitations be a spur to your inventiveness, and will give suggestions of the greatest value.

Stencilling

Stencilling is a process which is perhaps the easiest to explain and to work, and yet the one most exacting in its limitations and requirements. The pattern has to be cut out of cardboard or zinc, the object being to repeat a pattern on a surface with little trouble or cost. The

cut-out cardboard (stencil) is placed in position, and oil colour or tempera (such as is used for colouring ceilings or walls) is passed over the whole with a large brush, and on removing the cardboard the cut-out pattern will appear on the surface. By continuing this process a pattern can be repeated along a wall or ceiling at much less cost than by painting. The effect of this process, giving to any design a special character—essential to it, and non-essential to any designs for other processes,—is caused by the fact that the cardboard must not be cut into pieces by the pattern but must remain one piece of cardboard with holes or slits in it forming the pattern. Modify, where necessary, some or all the capital letters, so that you can use them as

T R B

stencils. T will not need any change, but R will require two breaks, and B three breaks before they will hold together as a stencil. See what the other letters will require, and draw and cut them out in stiff paper or thin cardboard.

In this border the lines which for another process, as painting, ironwork, needlework, etc., would be continuous, are broken at intervals so as to make the stencil possible. But while

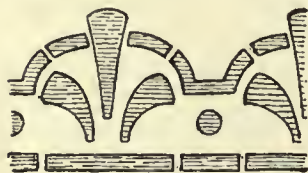


Diagram 8.

considering what is possible you are not debarred from thinking of what is desirable, and must exercise your own judgment as to where these breaks shall be, that instead of their being hurtful they shall give special character and beauty to the design. A design may be possible of execution and yet very characterless, but that which is most suitable and makes use of the restrictions as a feature in the design is the most likely to be beautiful. Many of the borders in the

first section can easily be cut in stencil if you will consider the lines as slits to be cut out. The effect of turning them into stencil will be the thickening of the lines (which will really improve the designs), and the making of suitable breaks in the boundary lines of the border. Fig. 5, Plate 1, you could adapt and cut out as a stencil in a few minutes, as here shown with a slight addition. There are more breaks in the border lines than are absolutely necessary, but they give a more even distribution. Fig. 4, Plate 2, can be similarly turned into a stencil. The diagram on page 11 is quite ready without any modification for cutting out as a stencil for covering all over a surface. Fig. 3, Plate 4, will only involve the thickening of the lines, as there are no boundary lines to this border, and this, treated as a pattern for covering a surface, as shown on page 19, can also easily be adapted to a stencil.



Diagram 9.

Look over all the designs of borders, and of borders with corners, and find out those which can without much change be made into stencil patterns, and change some of the straight lined borders into circular ones, making them suitable for stencilling. After this practice, design a border with corner, and also a circular centre such as would be suitable for the decoration of the ceiling of a room.

After what has been said with regard to the production of a good design that the process and material should be in the mind of the designer from the first, it may seem some-

what inconsistent to ask you to adapt designs to stencil work which were not originally designed for this process. This practice has, however, an educational value in preparing you to design directly for a special process, and you will be much more likely to make a good design for the ceiling stencil because of this practice. The history of art shows that designers went much further than this in the direction of imitating the characteristics of one process or material in another quite different; the Greek marble temple is evolved of wooden construction, the Gothic artists imitated stone construction in their woodwork, and the Renaissance artists tried to rival in wood the finish possible to and characteristic of marble, while many painted and carved patterns are adaptations of those produced by weaving. The results are good in spite of this, but *your* aim must be to make your design characteristic of and peculiar to the material.

If you have the opportunity of carrying out any of your stencil patterns, say on the skirting board of your room, you will be able to make use of some of the hints given in the section on colour, making the colours of the stencil and ground in harmonious contrast, and these two colours in harmony with the colours on the walls, and also suited to the subordinate position such a design must hold in the general decoration of a room. It is not necessary that the stencil pattern should be only of one colour; by using two brushes and two colours the effect of a combination of three colours may be obtained, and by using a double stencil (part only of the pattern being cut in each), a still greater play of colour may be obtained. The Japanese are great at the use of stencilling. It is largely used in the decoration of their pottery, etc.

Wrought-Iron Work

Very few will have the opportunity or the necessary skill to do wrought iron work, but this material and process are perhaps the best that can next be studied by all. Many can watch a blacksmith at work; all can see and study some wrought-iron work in gates, grilles, etc.; and some may have the opportunity of seeing old gates, inn signs, etc. Note how the blacksmith hammers the iron while it is soft with the heat, flattening out, shaping, hammering up, piercing holes through which other bars may pass, slitting up as it were the end of his bar then twisting and hammering the end in various ways, welding together separate pieces, or joining by collars, bolts, etc. Observe in any wrought-iron work you may see how all these processes help to give character to the design; the stubborn nature of the material affecting the shapes of the curves; the enrichment by welding and by joining the different bars with collars; the leaf and flower-like forms, made by beating out or by welding on flat pieces to the bars, and the spirals made by twisting. Make careful drawings of any old wrought-iron work you can get access to, noting especially all those effects which are more especially the outcome of the material and process. Then turn to Figs. 3 and 4, Plate 3, and see what it would be necessary to add to make them workable in wrought-iron, and what modifications of the curves would make them more characteristic of wrought-iron work. Apply the same conditions to Fig. 3, Plate 4, diagram 3 on page 19; Figs. 3 and 4, Plate 12; Figs. 3 and 4, Plate 16; Fig. 4, Plate 17; and Fig. 4, Plate 26. These designs were made without any thought of being in any way suitable for wrought-

iron work, but it will be a good exercise for you to take these as first suggestions, and to modify and add so as to make them suitable for iron work. At the same time refer also to plates and lessons 32, 33, 34, and 35. As there explained, these are mostly evolutions of very simple designs on previous plates (designs carried still further), and are still more suggestive of wrought-iron work, although this characteristic was not the motive of the designs. Make these designs more complete as specially suited to wrought-iron work. Now try to make a design suitable for a grille or a semicircular lunette over a doorway, remembering that the simpler the elements, at first at least, the more likely is the design to be successful. For years the writer had the privilege of seeing the fairy-like grille and gates in Lincoln Cathedral, the design of which is only a series of curves placed face to face and back to back between thick upright bars to which they are bolted.

Gesso

Gesso is a process of which you may easily learn sufficient to execute in it many of your designs. The materials required are wood, varnished or laequered to prevent absorption, one or two long round brushes and gesso, composed of plaster, whitening, gelatine, linseed oil, and a little resin. Mixtures ready made are now advertised, as Dendoline or Marbline, which will answer the purpose, cost little more than ordinary paint, and can at least be used for your first efforts. Draw or trace almost any of your borders or panels on the wood, and go over the lines with the gesso, using your brush vertically. Fig. 4, Plate 19, will perhaps best enable the process to be

explained. With your gesso paint each of the double lined forms as a single line of varying thickness, and the result will be that in the wider part the paint will be thicker (more raised) than in the narrow part, caused by the action of painting in the gesso with the brush. This will give you some idea of the special possibilities of this process. The small circles will be made by dropping the paint from the end of the brush and they will thus be bead-like (semi-globular) in form. The gesso can be passed over the thicker parts as often as may be required to give them a fair degree of relief, and the result will be a kind of *modelling in paint*. This is indeed one of the characteristics of gesso; but it has others, such as the long drawn out, thin, and sharply raised lines, possible to and characteristic of the brush, which are not characteristic of modelling in clay. Such broad parts as are required to be smooth may be scraped and polished. You will now be better prepared to select from the borders and panels such as are most suitable for working in gesso, with the necessary modifications of the process. In most cases it will be sufficient to let these modifications come of the actual working in the gesso. It will be good practice to translate a well chosen illuminated letter into gesso, and when dry to colour it somewhat like the colouring of the illuminated letter. Varnish colours should be used, and the effect of the colour being thicker in the interstices of the modelling gives a richness and variety to the effect which is impossible to obtain on a flat surface. Now try to make a design for, and execute it in gesso as, a border for your school notice board.



Diagram 10.

Slip Painting

As there is some slight likeness between this and gesso work, we mention it here in case any pupils living near a pottery can obtain articles of unbaked pottery in the half dried state, known technically as "green." The commonest pottery, such as the brown ware of which water jugs and flower pots are made is the best. The potter will also supply you with white and coloured slips (clay, like thick cream), or the clay to make these by mixing with water. The work is done with large camel hair brushes charged with the slip as full as can conveniently be worked. If thin it will probably be lost in the firing. Varied thickness of relief can be made, as in gesso, remembering that, as the articles are for daily use, the relief must not be too great, and also that if too great or too sudden, it may possibly come off in the firing.

Firing and glazing, which must be done at the pottery, will somewhat soften the effect. The porcelain painted in *pâte-sur-pâte* is really the above method, the slight transparency of the porcelain when baked adding to the delicacy of effect.

Patterns may also be scratched on the clay with good effect, and used alone or in combination with painted slips.

Encaustic Painting

This can be executed on the same kind of ware as the slip painting, but after it has been fired and is in the state known as "biscuit" (before the application of the glaze), like the common flower-

pot. Any one can obtain pieces of this pottery. The painting is to be done with oil colours mixed with wax, the whole piece of pottery being afterwards coated with wax, and then placed in an ordinary kitchen oven. This will slightly blend the colours, and after being polished the painting will be sufficiently durable for all ordinary purposes. Encaustic painting was largely made use of by the Greeks. The process of work is very similar to the last, and needs no explanation, but has the advantage, that its practice is not limited to those living near a pottery, as the pieces are easy to obtain and there is no need to send them away to be baked.

Repoussé and Chasing

These may be briefly described as hammering and punching metal; and what may be done with few tools and little technical skill is seen in the thin brass dishes which are sent from England into the interior of Africa, and are decorated by the natives with only a hammer and an ordinary cut nail. The designs are extremely simple, and the execution such as a beginner could equal, and yet the effect is artistic.

To obtain some command over the hammer try to beat a flat circular piece of thin brass or copper into a shallow concave shape, such as a shallow basin or saucer, hammering it on a piece of wood or on a bag filled with sand, and for practice in chasing trace one of the designs on a piece of brass by scratching, and then with a cut nail as punch cover the line with a series of indented dots. In repoussé the chief characteristic is a flattened bossiness and the texture which

is given by the process of hammering. A border composed of alternate circles and lozenge forms to be hammered into relief might form your second exercise, to be followed by a selection of some of the geometric patterns on Plates 20, 21, 22 ; some to be chased and others to be in relief, and some to be worked partly in each method. Adapt Plate 28 as a panel to be worked in both methods. Make a design for a border and centre for a circular dish, and execute it in brass. Be careful not to cover too much of the surface with ornament, for the plain hammered surface has a beauty of its own, and is a valuable contrast to the more worked portions, and let these latter even rather err on the side of being too broad and simple. Much labour is lost and many a design is ruined by being too elaborate. Your first concern is to hammer the flat metal into a good shape for a circular dish or for a shallow basin, and then to choose such forms as are best suited to be hammered out, and give to these only so much relief as shall not interfere with the general shape. When you are expert with the hammer and nail it will be time enough to get the more special tools to facilitate you in higher work.

Needlework

Most of the processes already described can be designed for and executed by both sexes, but seeing that women are showing such special aptitude for design, are already in possession of the technical skill to use the needle, and that taste and the sense of colour are less dormant than with the male sex, the adaptation of some of the designs to needlework and the making of special

designs will present little difficulty. It is therefore a matter of wonder that ladies have generally been content to work out the designs of others without possessing even sufficient knowledge of drawing and design as is necessary to the intelligent copying, or the due appreciation and enjoyment of the design they are trying to translate into most beautiful materials. Begin by adapting some of the designs you have already done so as to make them suitable for working in outline on oatmeal cloth, and make special designs for this simple kind of work before troubling to learn all the varieties of stitches, colours, and methods of work. As a branch of needlework do not forget handmade lace. Your teacher will easily initiate you into the essentials of the processes by which the several kinds of handmade laces are produced, so that you can design for them, and can execute your designs in at least one of these processes.

Incised Wood

Such patterns as you have been designing will require little adaptation technically, and you may try to incise any of the borders (enlarged) on strips of wood which have been planed, using a V or similar tool. Much good work has been done in the past by this process only. The technical skill you have to acquire is to be able to press the tool into the wood so as to cut a fairly even and rather deep line in any direction you wish, and to avoid the tool slipping from your control, but the skill needed for this is less than that required for many games at which boys are proficient. When tolerably expert you may obtain the materials for a small corner cup-

board, such as were plentiful in our grandfathers' days, and make a design for the panel and a border for the styles, or make use of or adapt the panel and border on Plate 28. This work has the advantage over the wood carving usually taught, of requiring but one tool, of being well within your power to design for and to execute, and will be excellent preparation for wood engraving.

Wood Engraving

This is done in boxwood specially prepared, and the practice of the last process will have given you some command of a similar tool.

The pattern is drawn on or transferred to the wood, and the ground round the pattern is cut away so that it stands higher than the rest of the block, like the type letters used in printing, and the wood block is used in the same way as ordinary type, the raised portion receiving the ink and telling black in the printing. In this respect it is the opposite of steel or copperplate engraving and etching, in which the ink is forced into groves cut in the metal. Obtain a small piece of prepared wood about 2 inches by $1\frac{1}{2}$, and one or two tools. Draw on paper your initials in plain block letters, and design a narrow border. Make a tracing of this and laying it face downwards on the wood, transfer it on to the block. This will reverse the letters. Cut out with the graver to the depth of one-eighth of an inch all round the letters, leaving these raised and untouched, something like the indiarubber stamps. Do the same with the border, being careful to leave the lines of your pattern thick enough. The danger is in cutting across the parts which should be left

untouched, and only practice and care will secure the avoidance of this, and teach you the kind of line best suited to this process. Try to see some prints, or copies from prints, by Albert Durer, to know the kind of line best suited to wood engraving. Make a drawing on the wood of a simple plant you have well studied, engrave it and print impressions from it. Make a design from this plant combined with your own name, using good letters for the latter, and having engraved it take impressions for name-plates for your books.

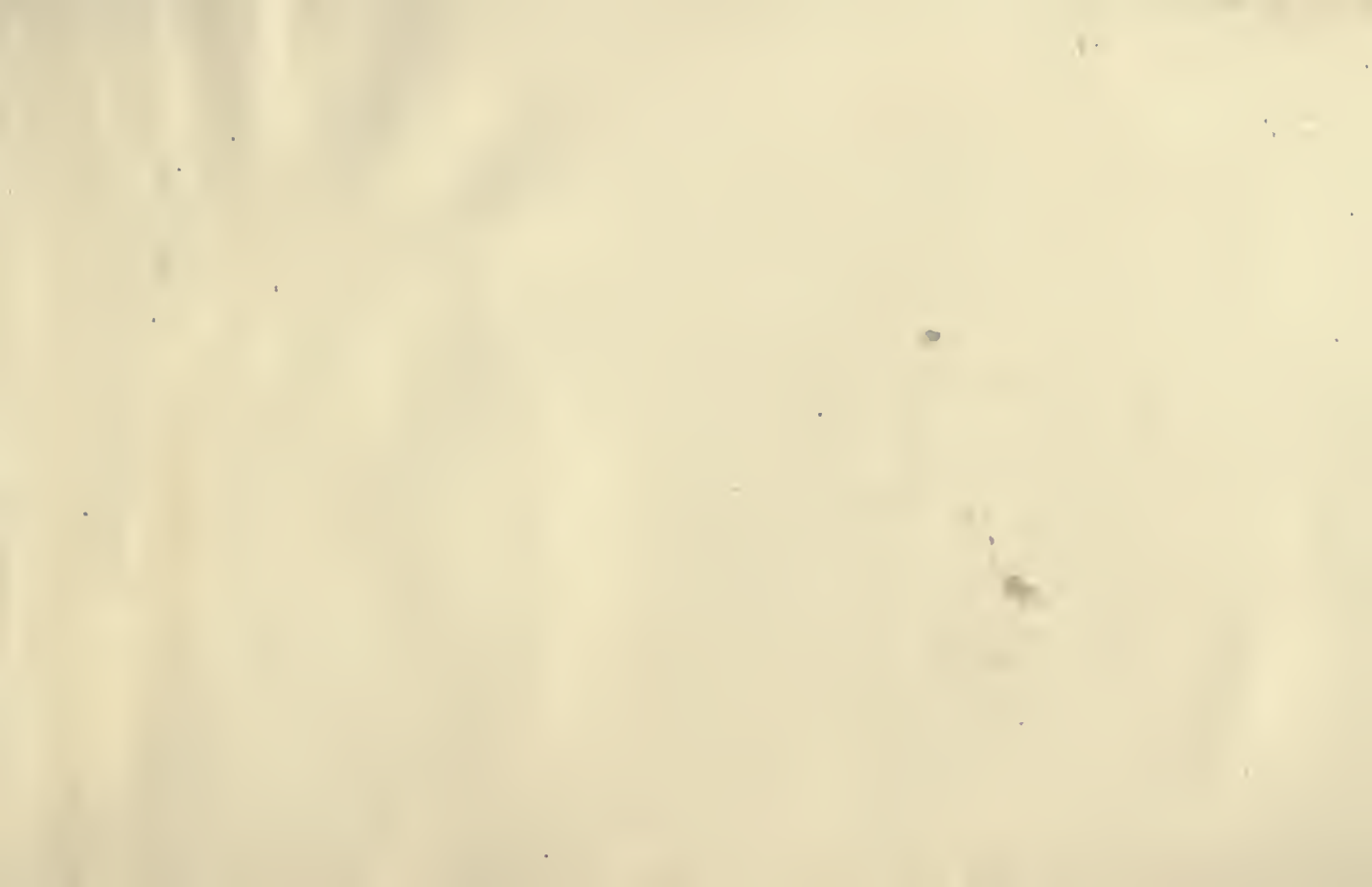
It is hoped that every pupil will do his best to master the details of some of the above processes and make designs for them; also that he will select at least one process and become sufficiently expert in it to execute his designs. Such work will prove to be the best relaxation from the more abstract school studies, will be as interesting as the school games, and will develop observation, invention, and construction. These have had too little opportunity for development in the usual school course, but teachers know their value, and in spite of the rush for examinations are willing to give time and thought in helping pupils in their special bent, even at the risk of the school suffering in examination. As the number of such teachers continues on the increase, personal guidance will soon be in the reach of every boy who gives proof to his teacher of his will to do.

Take advantage of every opportunity to make careful studies of plants, thoroughly mastering one at a time. If you have a liking for nature as seen in plant forms you will not find them too difficult to draw, and when you have drawn them and made use of them in design, you will have

a new interest in all that pertains to them, and will see beauties which before were hidden from you. Do not forget to repeat your drawings from memory. Study all good work in design, especially work of the best periods of past art, but do not neglect the study of modern work, for, although much of this is bad, good work is to be found.

Take an interest in architecture by reading a simple text book on the subject, and by making a special study of any old church or mansion to which may you have access.





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