Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

THE

ELEMENTS OF
ORNAMENTAL
DESIGN

A
0000 9647778
5

NK
1510
I5

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

THE

ELEMENTS OF
ORNAMENTAL
DESIGN

A
0000 9647 7785
NK
1510
15

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

Digitized by Google

Original from
UNIVERSITY OF CALIFORNIA

reversed so far as its color relations are concerned. It is at once evident that any design consisting of but two tones is susceptible to this reversing of its treatment in color relations, and parts of it also can in some cases be reversed, while others remain the same. For instance, in Fig. 11 we have a rug with a dark center on which the geometrical ornament is traced in light lines, while the border is of a light shade and the geometrical ornament is traced in dark lines. In Fig. 12 we have exactly the reversal of this—a light center and a dark border. Put the border of Fig. 12 on Fig. 11 and we have a dark rug throughout, the geometrical ornament of which is executed in light lines; reverse this new pattern, and we have what would be the equivalent of Fig. 12 with the border of Fig. 11. In this way a number of different arrangements in light-and-shade effects can be made with the same geometrical design as its foundation. In fact, many grades of rugs and carpets are woven so that one side presents one effect and the other exactly its reverse in light and shade.

FIG. 11.

FIG. 12.

11. Reversion of Treatment.—In Fig. 13 are shown four styles of ornamentation, each of which is expressive of unity and balance in its

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

design, but each at the same time being perfectly capable of a reversal in treatment in three or more ways. For instance,

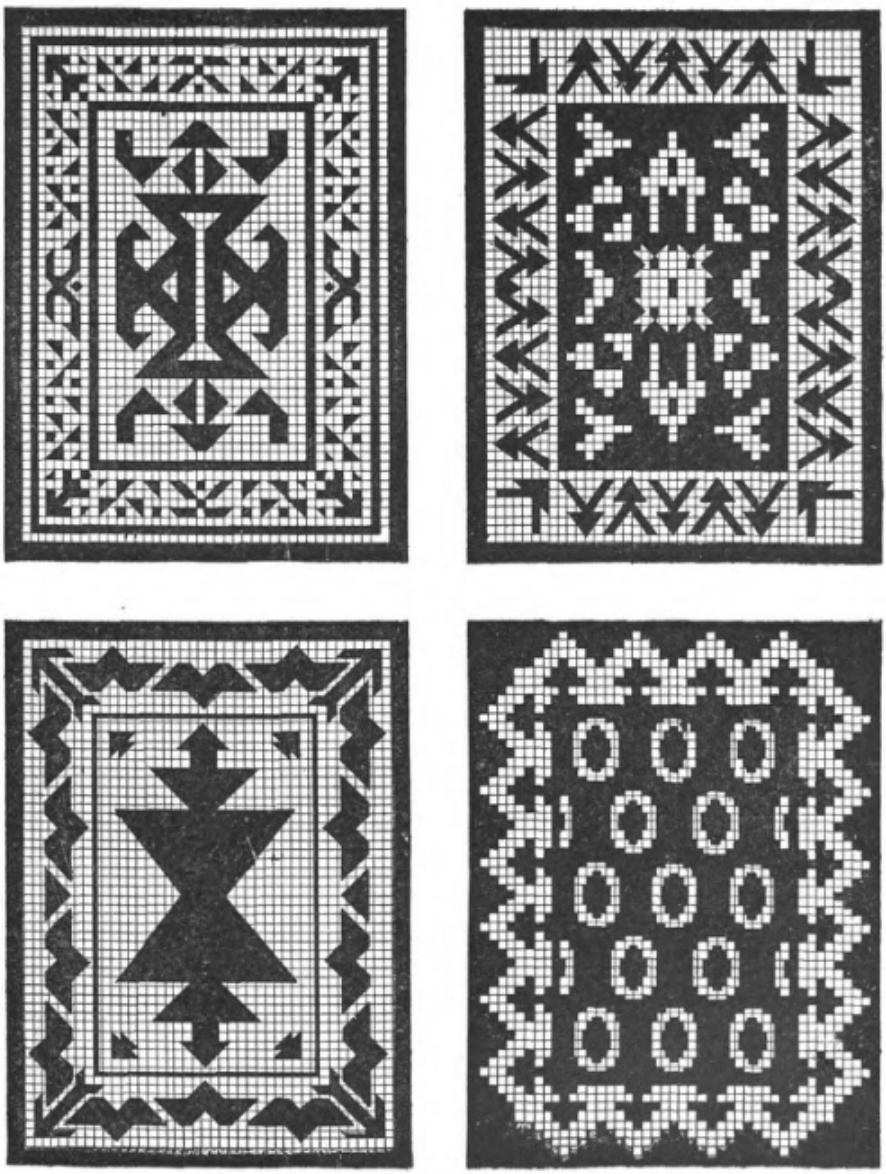


FIG. 13.

in any example the border can consist of black figures on a white ground and the center of white figures on a black ground, or the border and center can both consist of white

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

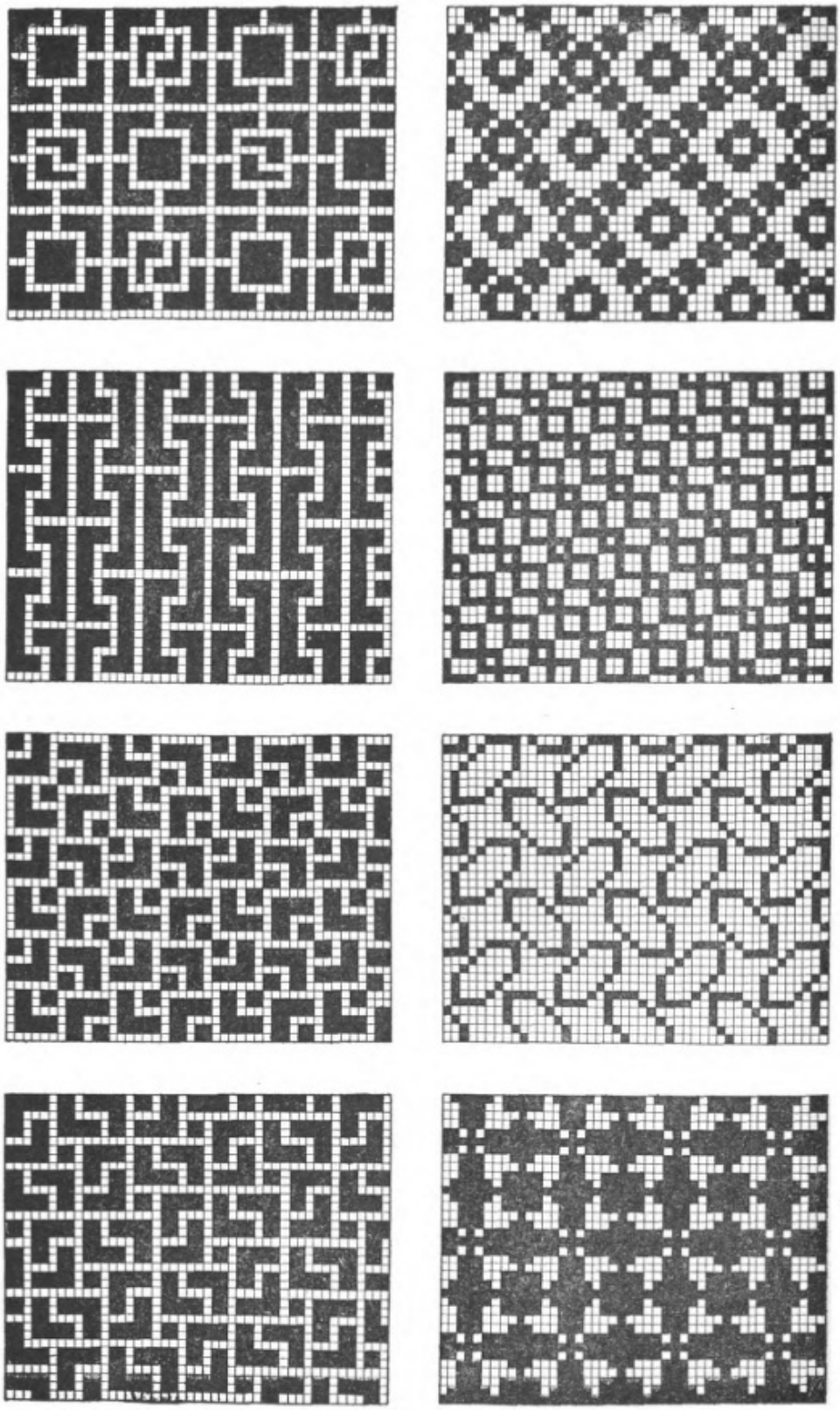


FIG. 14.

Digitized by Google

Original from
UNIVERSITY OF CALIFORNIA

three methods in (*a*), (*b*), and (*c*), we have in (*d*), **repetition, variety,** and **contrast**—the three elements that we seek.

Abandoning lines, let us return to some natural form. In

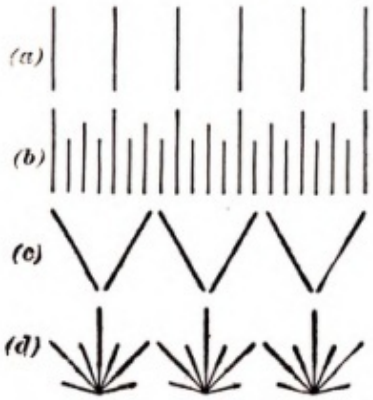


FIG. 15.

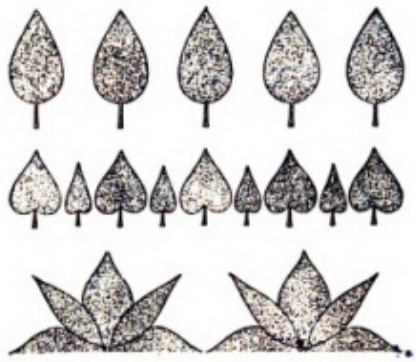


FIG. 16.

Fig. 16, at (*a*), we have repetition, at (*b*), we have variety, and at (*c*), by combining (*a*) and (*b*), introducing the third element as in the previous case, we have repetition, variety, and contrast in leaf forms as desired.

18. Symmetry and Radiation.—In addition to these principles, we have evolved two more, so far unspoken of, as shown at (*b*) and (*d*) in Fig. 15. These principles are,

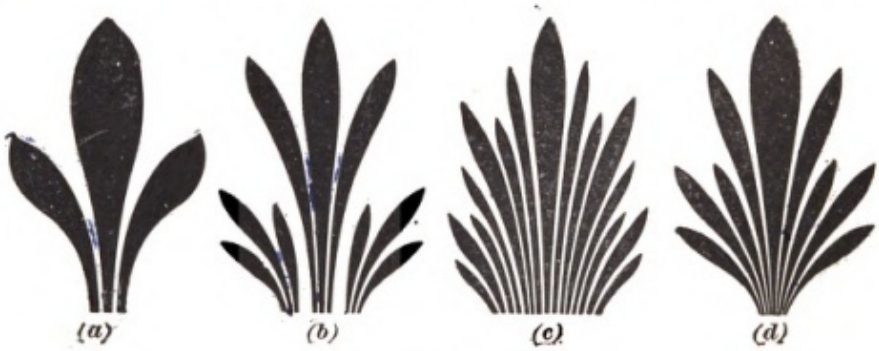


FIG. 17.

symmetry and **radiation.** Symmetry has many forms of expression, but usually may be considered to mean *likesidedness*, no matter what the form of the object may be. At (*a*),

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

this point; inasmuch as it is of a more durable character, we have more examples of the early period, and it therefore furnishes a more reliable series of art development. It has often been demonstrated that the patterns evolved by weaving are identical with, and often suggested by, the patterns found on pottery. It is only incidental to point out in this figure that there appears to be an unconscious obedience to the laws of fitness in the application of these straight-line patterns. They are not applied in an arbitrary way, but in harmony with the structure they adorn.

FIG. 19.

20. Fitness of Ornament.—As a usual thing, the rim comes in for decoration in order to give the part most likely to fracture an appearance of strength, while any change in the contour of the form is usually emphasized by additional ornamentation. The reason for this may be found in the fact that the application of ornament gives an impression of strength, and, when a vase or jug in its plastic condition is difficult to maintain in shape, the idea naturally suggests itself to the potter to decorate that part that exhibits the weakness of the form. This determines largely the location of the bands around the curves. We will find also a precedent for this in the vegetable world, as changes in the directions of stems are generally accented in some way or other by the thickening or broadening of the point of union for the two elements. The stem of a leaf is usually almost as large or thick as the branch itself at that point.

21. As we progress in the study of prehistoric decoration, the later examples possess the curved line, and the zigzag—so common in early work—becomes softened and gradually develops itself into a wavy scroll, as shown at

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

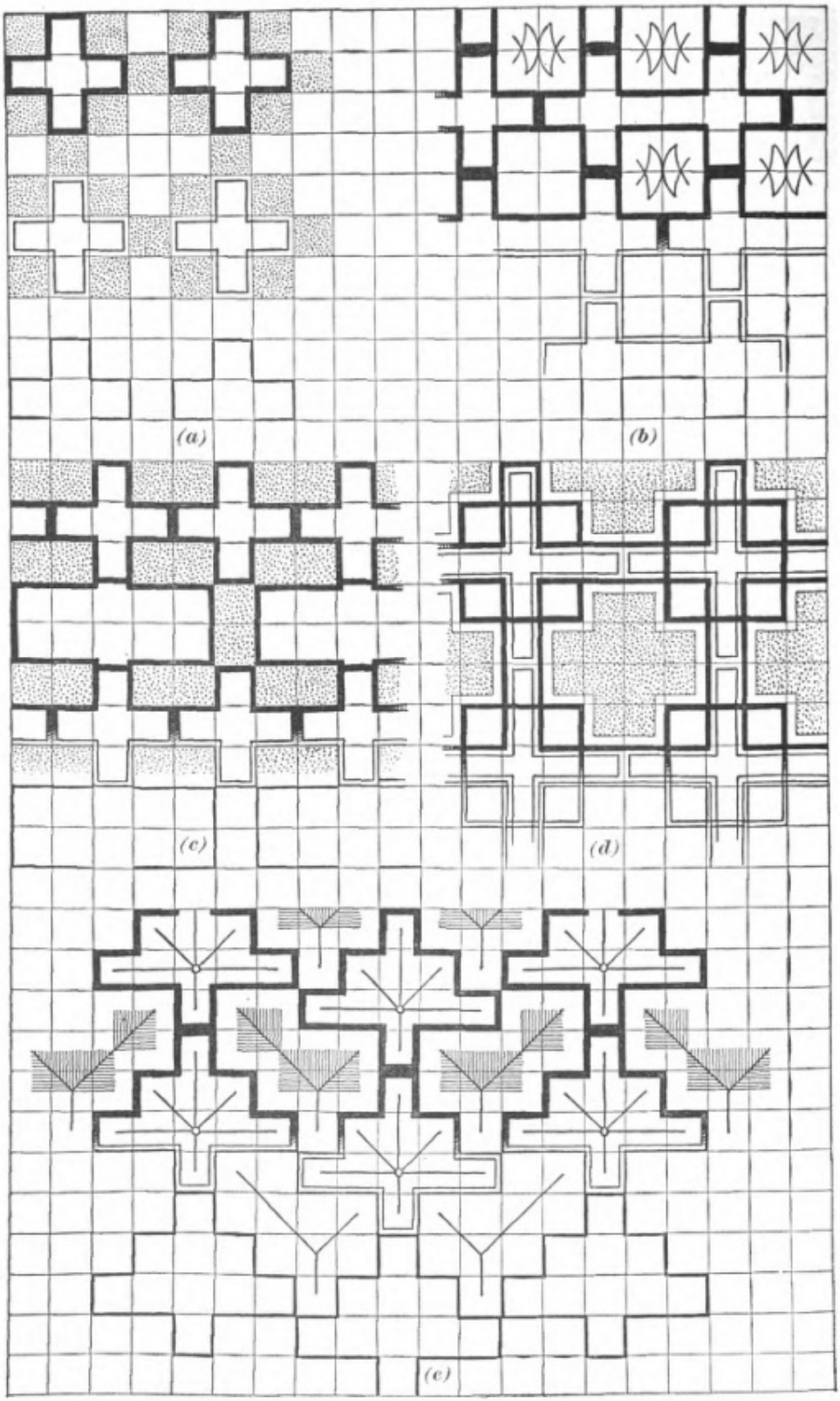


FIG. 21.

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

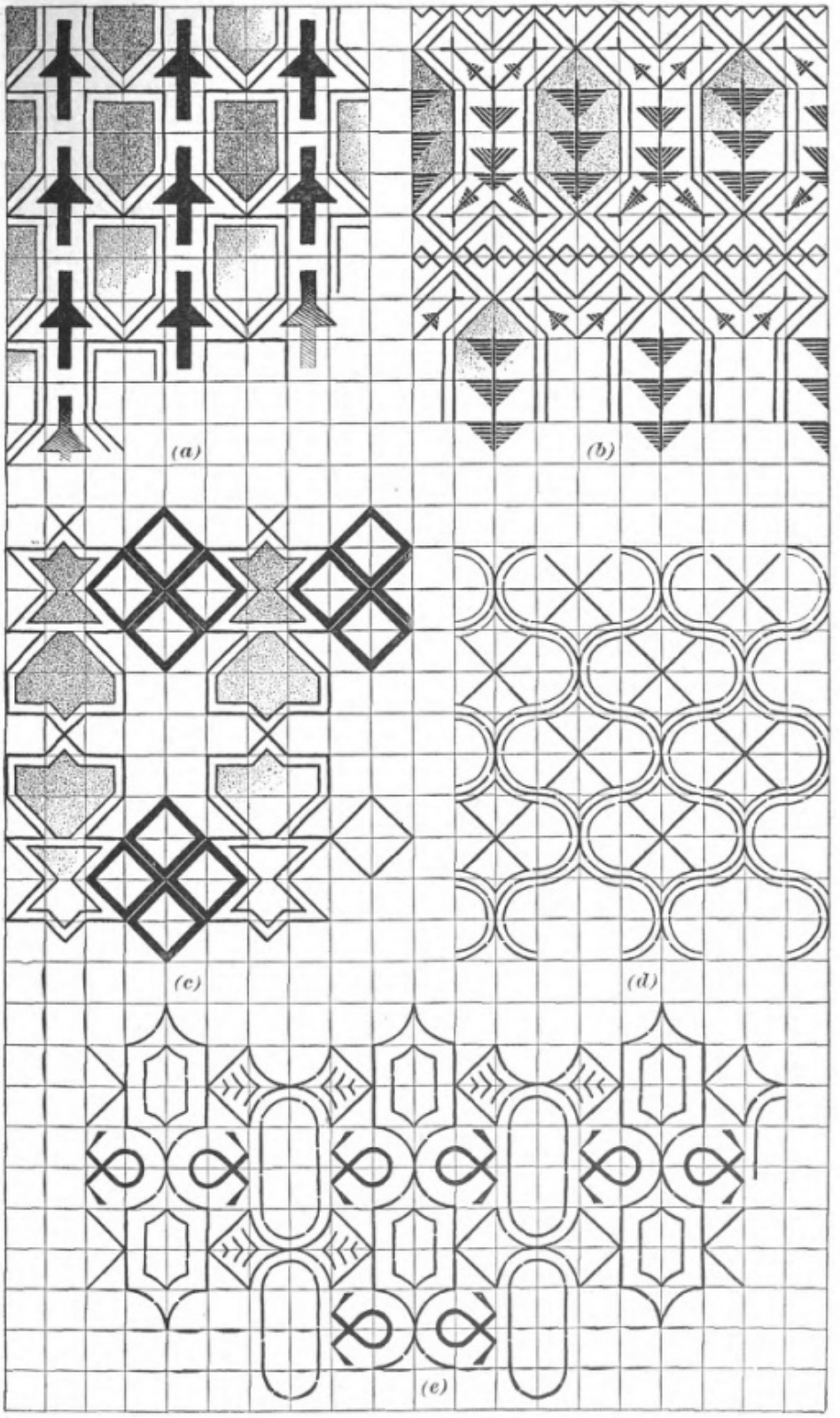


FIG. 22.

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

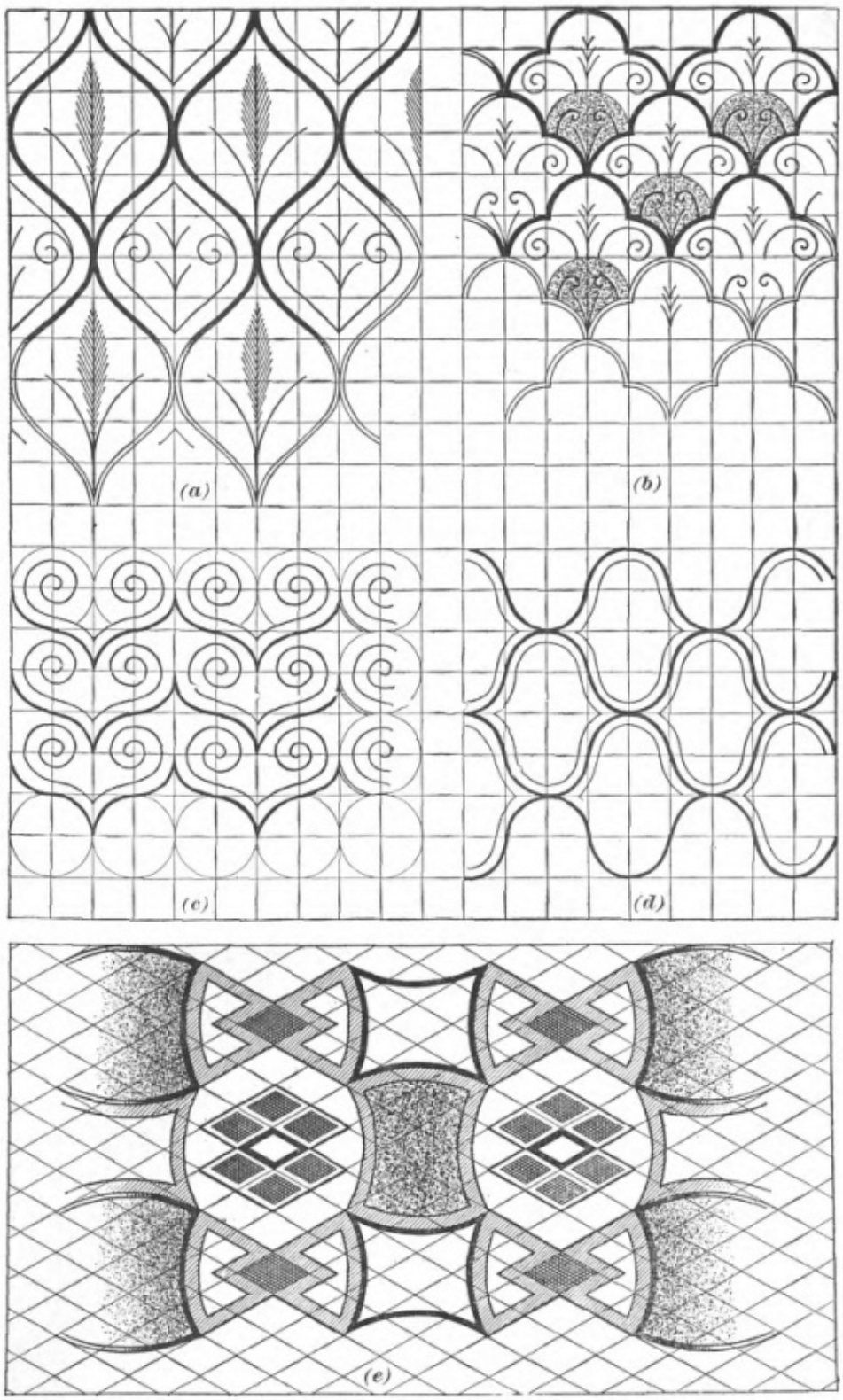


FIG. 23.

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

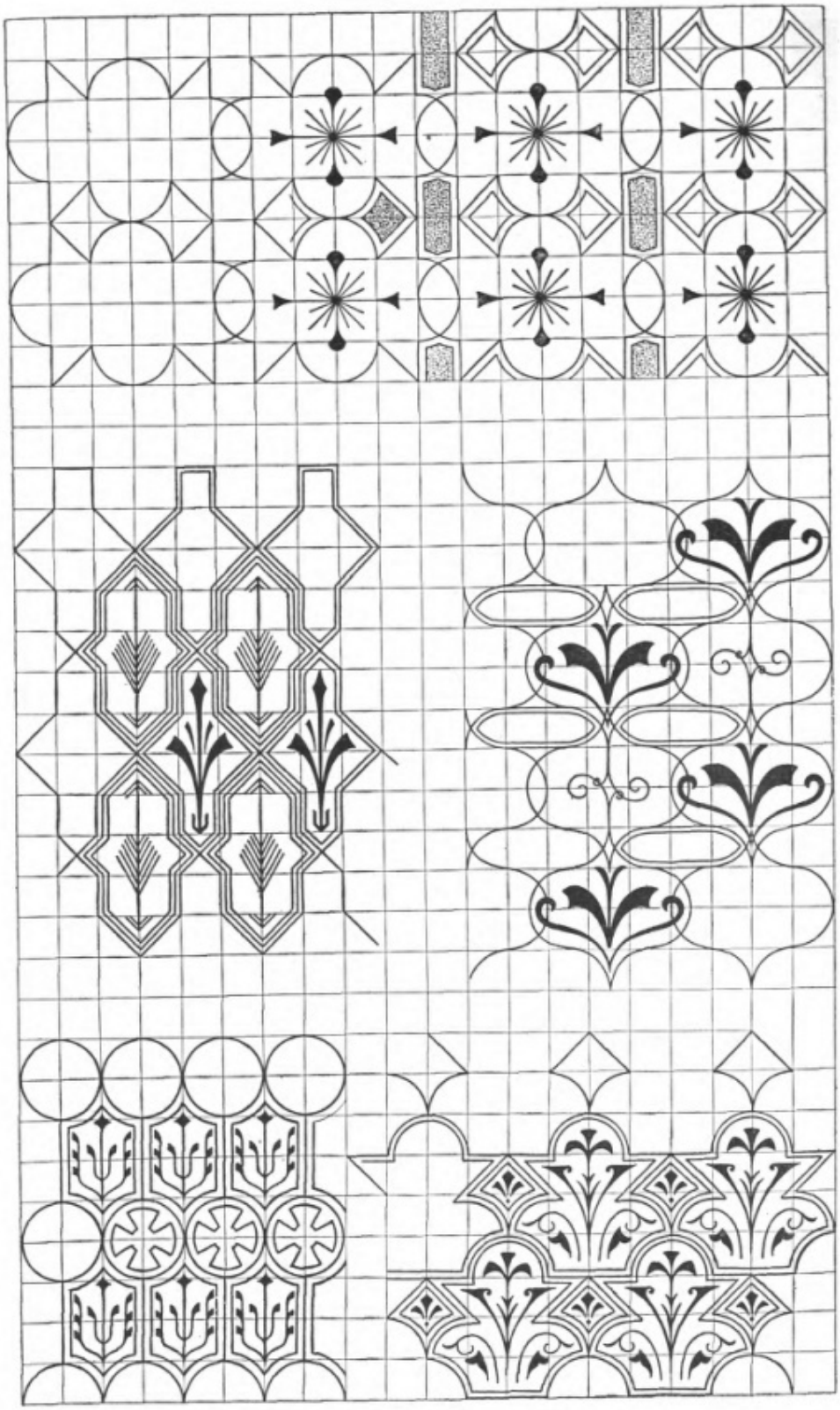


FIG. 25.

Digitized by Google

Original from
UNIVERSITY OF CALIFORNIA

an application of principles. Thus, we see that the conventionalism of principles is almost unlimited in its extent, and we will now consider the conventionalism of facts.

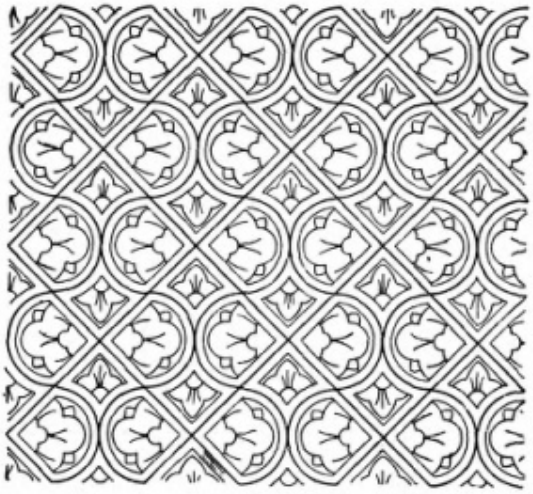


FIG. 39.

35. Conventionalizing a Plant Form.—Take, for instance, any plant suitable for the purpose, and adapt it to ornament. We are not going to make a picture of it, but study its characteristics, particularly those that distinguish it from other plants, and idealize the original. It will be necessary to examine more than one specimen of the selected plant, because a peculiarity or accidental mark in one individual may not be found in another, and what we then require is a knowledge of the details and characteristics common to the entire family or kind to which the chosen specimen belongs. This knowledge can be acquired only by long and continued study of plant analysis, as a limited study is likely to render an untrue representation.

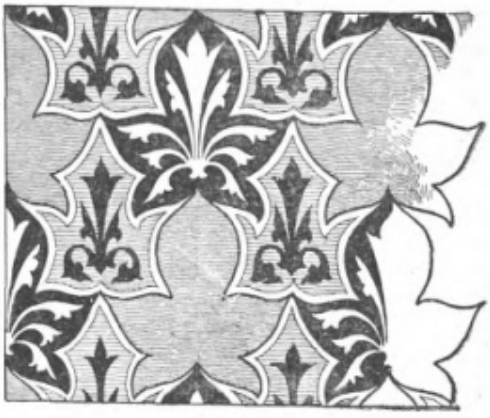


FIG. 40.

36. Realism and Conventionalism.—To copy nature as she is presented to us, with all the accidents and defects, would be to render her **realistically.** To correct nature by knowledge derived from the study of all her works in each

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

class, would be to treat her **naturally.** To reduce the result of these studies to a principle that expresses a simple fact with the fewest possible lines, as was done by

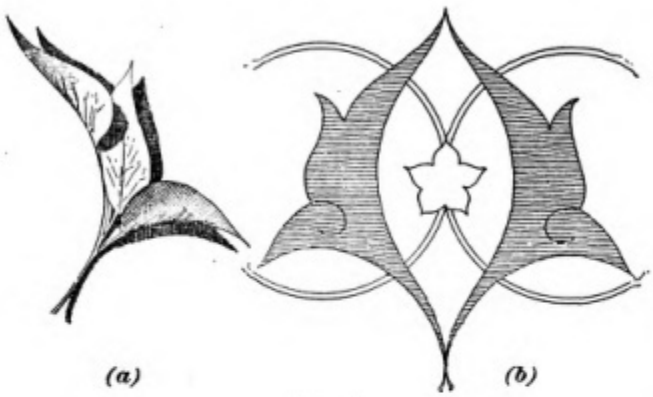


FIG. 41.

the Egyptians with their lotus blossom, is to treat nature **conventionally.**

For instance, at (*a*), Fig. 44, is shown an ivy leaf sketched from nature. It cannot be considered as ideal or natural, because its shape is not even the average shape of a number

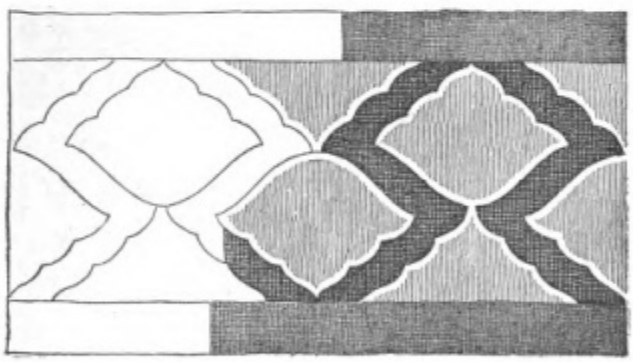


FIG. 42.

of leaves; therefore, (*a*) is a realistic drawing. At (*b*), however, is shown what might be considered a composite picture of a number of leaves possessing all the corrections of irregularities found in the entire class. This is a naturalistic rendering of the ivy leaf, and the reduction of this leaf to a

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

combined, as shown in Fig. 50, where a frieze is designed

FIG. 50.

using one of the forms of scroll shown in Fig. 51, all of

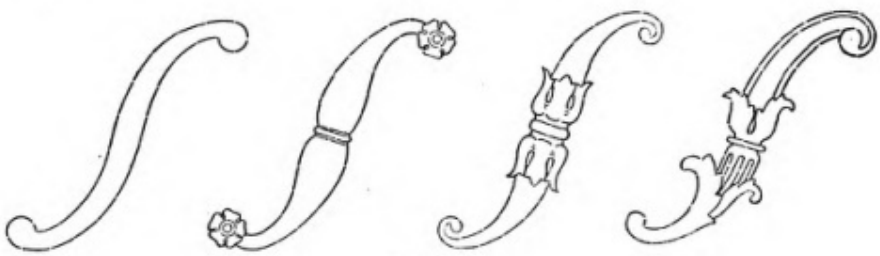
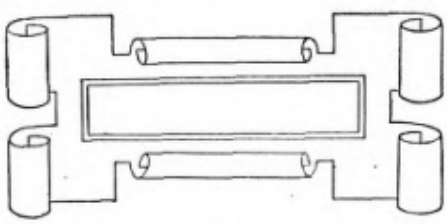
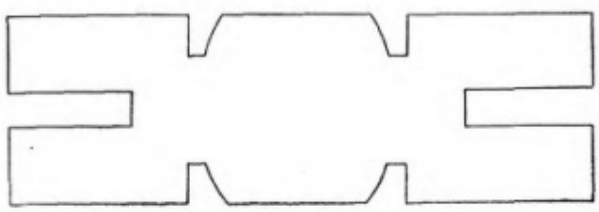


FIG. 51.

which have been taken from the capitals of the various modifications of the Corinthian.



(a)



(b)

FIG. 52.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

47. The Cartouch.—The **cartouch** is another architectural detail that enters largely into decorative design; it owes its origin to the ancient use of paper or parchment labels for inscriptions and badges. The margins of these labels were usually cut in some ornamental shape and afterwards curled into scroll forms of an ornamental character. This led to a systematic development, and, subsequently, in conjunction with interlaced ornament, produced a new kind of decorative work that we usually term **cartouch work.** This element is invaluable to the designer, both in its capacity as a filling-in treatment for an uninteresting piece of background, and as a strengthening element to the general composition.

FIG. 53.

At (*a*), Fig. 52, is shown one of the earliest and simplest forms of this cartouch work, while at (*b*) is shown the paper from which it is cut. In Figs. 53 and 54 are shown examples of advanced and more complicated cartouches, developed from the same general principle. It is easy to understand the development of the cartouch form into the carved work shown in Fig. 53, where a shield-shaped cartouch, with its curled and ornamental edges, is carved in relief with the human figure. In Fig. 54 is shown a further

FIG. 54.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

In using plant forms for design, there is material for the designer in every part of the growth—the roots, stalk, leaves, flowers, and seed all contain details that may suggest ideas to the designer. While there may be nothing of great beauty in the root of a flower itself, yet there is always sufficient detail of importance there, and, if properly studied, can give rise to beautiful ideas.

53. Thickening of Stem at Points of Departure. In all good ornament of a flowing character, no matter how conventionally it may be arranged, it has always been the practice that there should be a thickening of the stem at the point of departure of the two reversed growths, as shown at (*a*), Fig. 56; or, if more than one starting point is used, a stop is usually introduced between the two sections of design that are running together, as at (*b*).

(*a*)

(*b*)

FIG. 56.

54. Botanical Principles in Design. Now let us see how the application of some of these principles of growth can be properly considered in ornamental design. Let us study the botanical aspect for a moment. We have in botany

(*a*)

(*b*)

(*c*)

(*d*)

FIG. 57.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

watchfulness, strength, alertness, and swiftness. We find this figure on the piers of gateways, and it was often used by the Greeks to adorn certain portions of their temples.

In this representation, we conventionalize the idea by representing it symbolically, the eagle's head and wings and the expression of the added ears being symbolic of watchfulness, alertness, and swiftness, whereas the lion's body is symbolic of strength. The conventionalized facts we find in the reduction of these emblems to a form by which they can be combined in one figure.

59. Sphinx, Wivern, Etc.—Other figures of this character are the **sphinx,** shown in Fig. 59, which combines the

FIG. 59.

human head with the body of the lion—symbolic of intelligence and strength; the **wivern,** shown in Fig. 60, which consists of a sort of winged serpent with a bird's head and legs, and carries the same idea as the griffin, with the addition of wisdom indicated by the serpent's body, and alertness during the nocturnal hours from the bat-like form of its wings.

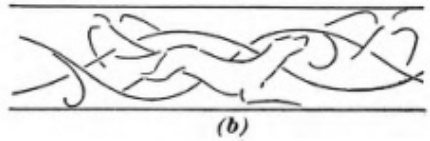
FIG. 60.

Another figure of this character, which is of Greek

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

At (*a*), Fig. 63, is shown a border ornament consisting of a foliated design, through which a dog is seen running after a bird, while at (*b*) is a rough outline of this same design

(*a*)



(*b*)

FIG. 63.

showing how the curves of the dog's body are in harmony with those of the ornament, and how the introduction of this detail is so suitable in the combination shown.

Again, at (*a*), Fig. 64, is shown a design where the bird alone is introduced, while at (*b*) the outline drawing of it shows the arrangement of the foliated design and its rela-

(*a*)

(*b*)

FIG. 64.

tion to the bird form, together with the line of curvature that makes the two details harmonize, the latter being shown in dots. Fig. 64 is taken from a stone carving of the sixteenth century.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

63. Wings in Ornament.—While we are considering the introduction of bird forms it will be wise for us to consider the subject of **wings** and the introduction of wings in ornament. There are few details of animal form that have been so extensively introduced in various conventionalized forms, to represent both ideas and facts, as the wings of birds and bats. Though the bird's wing is composed of flesh and feathers, and the bat's wing is made up of a skeleton framework between the parts of which a thin skin is

FIG. 65.

stretched, the principle governing the outline of each is practically the same, and, in addition to this, it might be noted that the structure of wings and that of the human arm is very closely allied.

At (*a*), Fig. 65, is shown the outline of a bird's wing, while at (*b*) is shown the outline of a bat's wing, and at (*c*), an outline of the bone construction of the human arm. The relative arrangement of these details will show their relation in structure, while Fig. 66 shows three forms of

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

bird's wing, differing materially in outline, owing to the arrangement of the feathers, but based on precisely the same skeleton construction as is shown at (*a*), Fig. 65.

64. Proportions of Wings.—At (*a*), Fig. 66, the wing represented is that of a common sparrow, while (*b*) shows the pigeon's wing, and (*c*), that of the sea swallow. It will be observed that in the order they are named these wings are

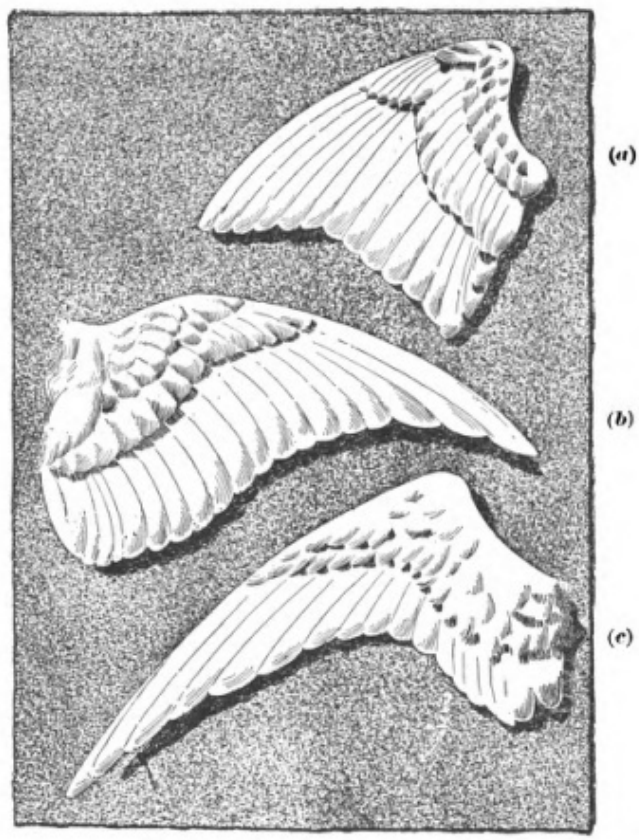


FIG. 66.

from birds each of whose flight is more prolonged than the former—the sparrow, flying but short distances; the pigeon, usually capable of traveling a mile or more on the wing; while the sea swallow is flying a majority of the time. The relative extent of the outward extremity of the wing, it

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

Frank H. Ball

will be observed, increases with the flying qualities of the bird. In applying these wing forms to design, it is frequently necessary to take these details into consideration.

FIG. 67.

65. Application of Wings. — We have already considered the application of the wing in the design of the winged globe shown at (*b*), Fig. 55, but its application to other forms we will consider here. In Fig. 67 is shown the characteristic Egyptian hieroglyph of the goddess Neith, who carries in each hand a symbol, and whose outstretched wings typify her world-wide sovereignty.

FIG. 68.

In more modern application, we find the use of wings in the Greek sphinx, shown in Fig. 68, where the treatment is less conventional than in the Egyptian style, and the possession of the wings distinguishes this sphinx from the one of Egyptian design. Fig. 69 shows a still more modern application, where, in a female figure, the wings replace the arms and are outstretched in the

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

position usually considered symbolic of untiring activity or eternal protection.

FIG. 69.

66. Feathers. — Besides the wings, in a total by themselves, we have the individual feathers as a subject for decoration, and many designs are based on these details. At (*a*), Fig. 70, are shown the ends of pea-

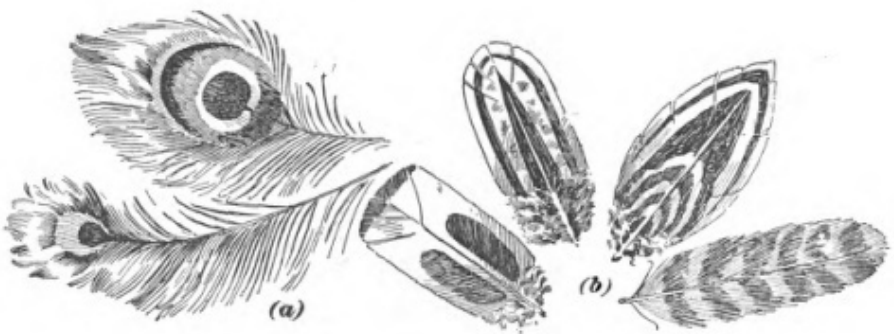


FIG. 70.

cock feathers, which have always been a favorite type for ornamentation, while at (*b*) are shown various types of feathers from the pheasant in different stages of their development, with their characteristic spots and markings.

At (*a*), Fig. 71, is shown a design for a border, the elements of which are derived from the peacock feather, while at (*b*) are shown three designs based on the formation

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

illustrated in the forms of the pheasant's feather shown at (*b*), Fig. 70.

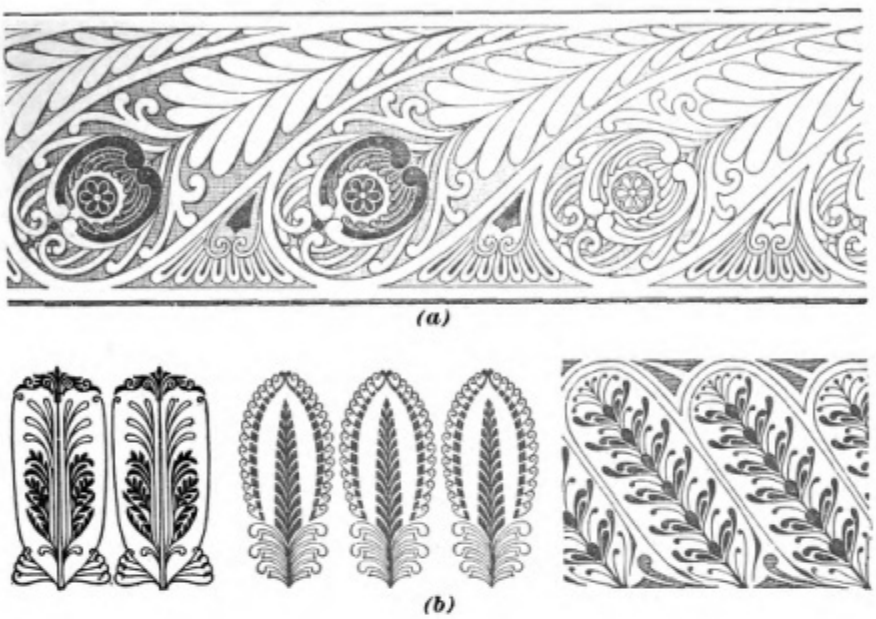


FIG. 71.

67. Insects in Design.—The use of **insects** in decorative design is not as extensive as of birds, though the markings of the wings of some of them, particularly the butterfly, are easily applicable in some characters of design, as shown

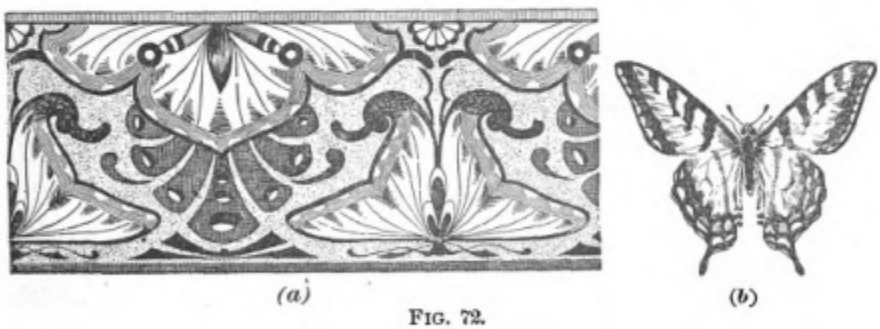


FIG. 72.

at (*a*), Fig. 72, where a border is designed on principles taken from the butterfly's wing illustrated at (*b*), and the simple mosquito, illustrated in a conventional rendering at

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

(*a*), Fig. 73, is easily applicable to a diaper ornament, as shown at (*b*). There is no limit to the extent to which these

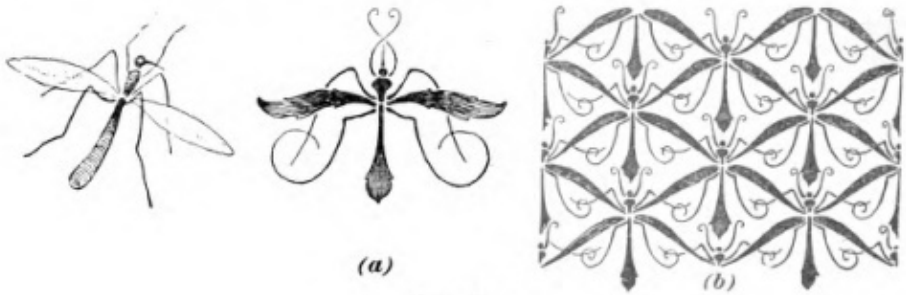


FIG. 73.

forms may be varied, or combined with plant forms, to produce any given variety of ornament.

68. Fishes in Ornament.—The use of **fishes** in ornamental art is somewhat limited. With the exception of the dolphin, we have very few historic representations of this class of animal; but, in order that there may be a thorough understanding of the details that must be considered in the designing of any fish-like form, there is illustrated in Fig. 74 a typical fish, with the five principal fins that exist in nearly every example, though they may be varied in form. At (*a*) is the *dorsal fin*; at (*b*), the *ventral fin*; and at (*c*), the *pectoral fin*. The tail is technically known as the *caudal fin*, and the fin between the ventral and the tail is termed the *anal fin*.

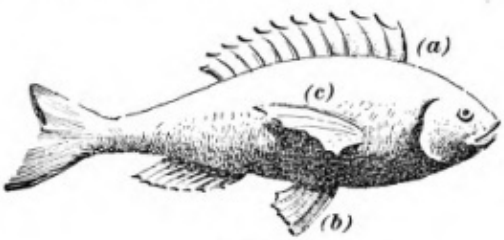


FIG. 74.

Each of these fins is developed to a greater or less degree in different fishes, in some of which it is divided so as to present two fins. For instance, it is not unusual to find two or more dorsal or two or more ventral or anal fins on one fish, and in rendering them for conventional treatment, it would be well to bear in mind a certain type of fish from which to study, and to preserve the characteristics of this fish in the rendering.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

of which brings it to the form of a design shown at (*b*), which further elaboration brings to a foliated form as at (*c*), and subsequent renderings form a part of the figure as illustrated at (*d*). Attention is simply called to this here to illustrate a possible progress and growth and to show the rationalism of foliated terminations under certain circumstances.

77. Human Figures as Supports.—The use of the human figure as a support in the place of a column, or occa-

FIG. 82.

FIG. 83.

sionally, with artificial terminations, under brackets, is shown in Fig. 82, which is taken from one of the caryatids

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

The use of half figures, called **termini,** is characteristic of the Renaissance period, an example of which is shown in Fig. 85. No great load should be superimposed upon them, in order that their application may be harmonious.

FIG. 86.

79. Application of Wings. — In the application of wings and feathers to the human figure, Egyptian art usually attached the wings below the arms, as shown in Fig. 67, while the Assyrians usually attached them behind the shoulders, as shown in Fig. 86, and, although the latter method is the less rational one from an anatomical structure, it is the one that survives at

FIG. 87.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

of the free untrammeled woodland life, they gave to the figure of a man the legs and horns of a goat, to intensify the idea of wild freedom, and as a result we have the mythological forms of the satyr and Pan illustrated in Fig. 88.

81. Greek Sphinx.—The Egyptian sphinx, being symbolic of the combination of intellect, wisdom, and power, is represented with the human head and the lion's body, as shown in Fig. 59; while the Greek sphinx differs in form from that of the Egyptian, as it is usually represented as being of the female sex and possessing wings. This sphinx by the Greeks appears to have been adopted as the personification of malignity combined with mystery, and to her is accredited the practice of propounding riddles to those that visited her and tearing to pieces all that failed to solve them. The gracefulness of the creature's form, however, caused it to become a favorite as an ornamental element, and it is used frequently in mural decoration and for the adornment of bronze tripods and other devices purely of an ornamental character.

FIG. 89.

82. Centaur. The combination of man and horse, called the **centaur,** was representative of a race of warriors celebrated in Greek mythology for their horsemanship. Their skill was so great that the rider and horse appeared as one; hence, the development of the idea shown in Fig. 89. A similar device was the combined form of a

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

used to vary repetition and avoid monotony. It produces a slight feeling of contrast combined with a feeling of continuous variation, but it must not be confounded with the principles of contrast and variety, which are separate and distinct.

4. Contrast and Variety.—The feeling of contrast is best expressed in a design wherein the linear elements meet or cross each other nearly at right angles, as shown in Fig. 2, and contrast is best effected by an arrangement of lines that brings about this condition, as shown in Fig. 3, which is an ancient Greek pattern wherein this principle dominates the entire design, all the lines being arranged to join each other nearly at right angles.

FIG. 2.

The feeling of contrast is not confined entirely to designs

FIG. 3.

of a rigid character, and Fig. 4 illustrates an example wherein this principle is carefully handled in a design of a soft and flowing character. At *a* will be observed the main flowing

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

line broken by the scroll that crosses it at right angles, and, therefore, stands not only in contrast with it but also assists in giving a feeling of variety. **Variety** is the very essence of a design and the principle that gives it brightness and prevents its monotony, and though the variety of design must not be so extensive as to rob it of its feeling of repose, there must be sufficient change to rest the eye from the observation of any particular form.

FIG. 4.

5. Symmetry and Balance.—Symmetry and balance are principles that exist when the arrangement of ornament is such that the details on both sides of a line or point are

FIG. 5.

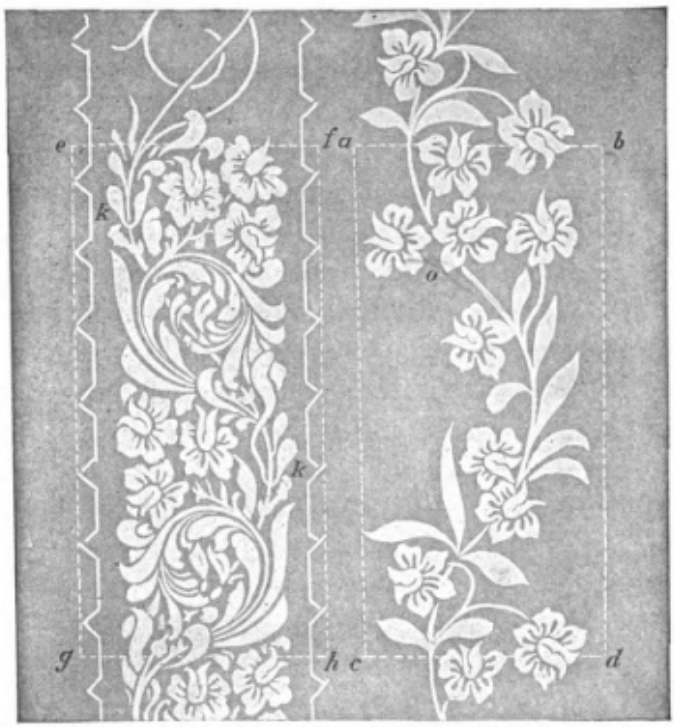
FIG. 6.

exactly repeated or duplicated, as in Fig. 5, or are of equal value, as in Fig. 6, the former being a symmetrical element, the latter a balanced element.

6. Tangential Junction.—Tangential junction of lines, as we already know, is a detail depending on the close observation of nature, and is illustrated in several forms in Fig. 7. **Radiation** is also a principle that we have

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

an arrangement can be obtained whereby the same details may be put together to form a satisfactory repeating pattern. The main stem runs through the ornament in the form of a wave line as before, and the repeating portion is limited between the lines *e f* and *g h* arranged similarly to *a b* and



(*a*) (*b*)

FIG. 9.

c d of (*b*). The main stem at the points *k* and *k* is equidistant from each side of the border lines, and the scroll springing from the main stem is drawn in such a way that it will break this stem twice and thereby destroy its monotony.

The flowers are placed on alternate sides and grouped in bunches of three, and a similar grouping, though different in its arrangement, is maintained in relation to the leaves. Close study of the design will show that the leaves and flowers terminate about the same distance from the outside border, and this detail, taken with the evenness of spacing of the wave line, tends to give a solidity and steadiness to

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

practice it would be found advisable to sketch the design in outline at first, as shown in Fig. 10 at (*a*), because it is likely to be modified after the design is worked out and it would be a waste of time to try and work out the finished details at once.

The next detail in the preparation of the design is the conventional flower in the center of the repeat; this should go in next, and it would seem advisable to place the flower at some point central between the four large leaves. The necessity of placing this flower in a central position can be readily seen by referring to Fig. 11, where the design is the same as that shown in Fig. 10, except that the flower is not

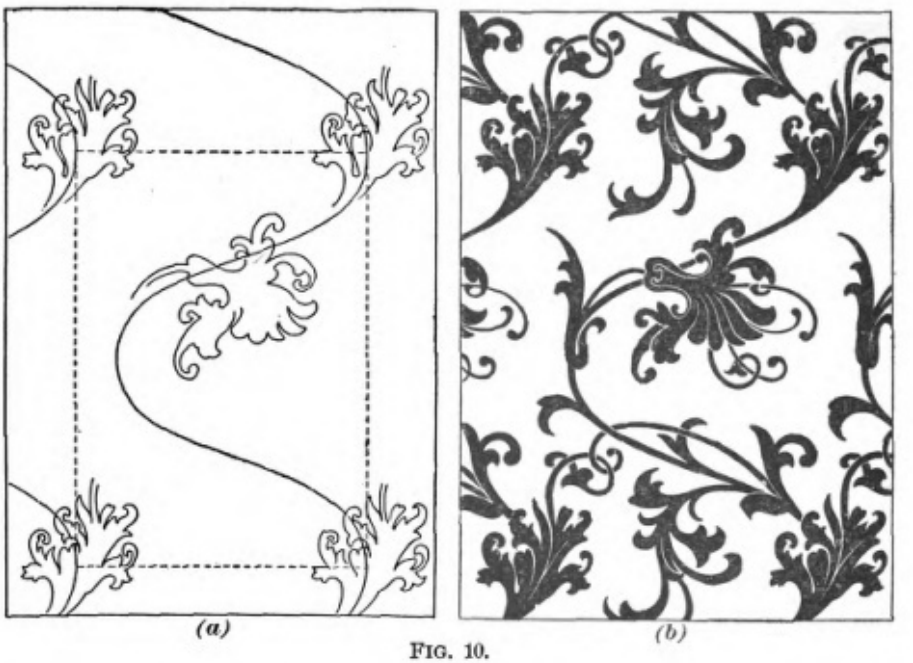


FIG. 10.

in the center but thrown to one side, over one set of the leaves. The effect of this can be readily seen, that inasmuch as the flower is removed from the center, the character of the pattern ceases to be of the all-over type, and resolves itself into a series of stripes. This does not absolutely spoil the design, as it would be considered all right if a striped pattern were wanted; but when an all-over pattern is wanted, this treatment is certainly all wrong. After the flower is

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

drawn in outline, the rest of the figure is blocked in as shown in Fig. 10 (*b*).

18. Effect of the Repeat.—In all cases in laying out a design, it is advisable to draw more than one repeat, as the student can then judge somewhat better the appear-

FIG. 11.

ance of it when multiplied in the loom or the press. Few but the most experienced designers can judge the probable effect and know how to avoid faults that are likely to appear, unless several repeats are laid out in each direction.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

Having considered the preliminary arrangement of the plan for the repeat itself, we will now take up the different methods of securing this repeat, and consider the advantages of each case.

DROP PATTERN.

19. Unit of the Pattern.—The **drop pattern** takes its name from a characteristic that requires the unit to be dropped one-half its length in order that adjacent members

FIG. 12.

may properly match, and it has been suggested that the lozenge shape is best adapted as the figure constituting the unit of any pattern. In fact, though this shape is used as

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

Fig. 14, it is only necessary to put half the lozenge on the design paper, as it is possible to arrange the loom to produce two symmetrical halves from one set of pattern cards. For instance, in Fig. 14, the actual amount of design worked out would simply be the rectangle *a b c d*, the other half being produced automatically through the arrangement of the loom.

FIG. 15.

This is also applicable in the weaving of fabrics whose design is not based on the drop pattern, but is of a symmetrical character, as shown in Fig. 15, which is a Gothic design of the sixteenth century, and does not drop in its repeat, the portion *a b c d* being the only part of the design necessary to execute, its duplication and reversing being accomplished when cutting the cards for the loom.

22. Drop Pattern in Carpet Designs.—The drop pattern is most advantageous in its application to roll carpets. Different kinds of carpet are of different widths, but 27 inches is the standard for most styles, and by using a drop pattern it is possible to make the width of the repeat twice this, or 54 inches. This can best be understood by referring to Fig. 16, which is a carpet design in which the drop pattern has been used.

The distance *a b* represents 27 inches, or one width of the carpet, and the rectangle *a b c d* represents the amount necessary to be worked out in the design in order to cut the jacquards properly, and includes one complete repeat. In the center of the line *b c* we find the same repeat

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

dropped at *e f g h*, this rectangle representing another width of carpet roll that fits the first so as to make a perfectly connected design. Thus it will be seen that the same points do not repeat in this design in less than twice the width of one roll, as may be seen at *d* and *k*, where

FIG. 16.

the flower at *d* is completed in the section at *k* 54 inches away from it. If the plan were adopted for a side-to-side repeat, these forms would repeat every 27 inches horizontally; but by means of the drop pattern we can, without additional labor or expense, produce a carpet design of apparently twice this width, and this same idea can be carried out in wall paper.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

will in all cases mean simply the drawing or tracing of a design on transparent paper and the transferring of the design by means of that tracing to other parts of the drawing. In this way the details of the general sketch may be multiplied and extended freely in every direction. When so multiplied and the forms appear to be well arranged and distributed, an exact drawing can be made by means of tracing paper and everything carefully drawn in its proper place.

25. Striped Effect in Drop Patterns.—In the true drop pattern, the drop is always considered as half the height of the repeat; but it is not unusual to have a drop pattern of less than this, as, for instance, one-third the height of the repeat. This is shown in Fig. 18 at (*a*), while at (*b*) the

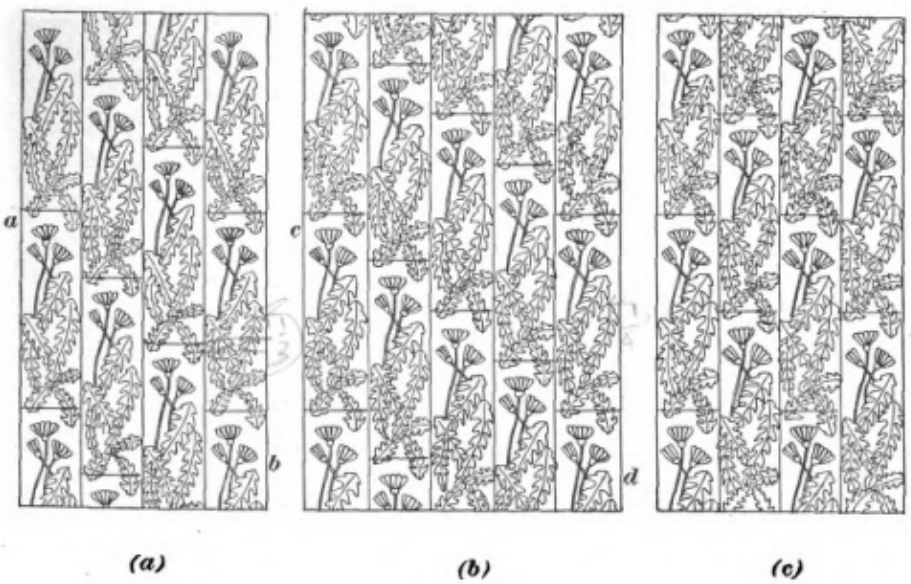


FIG. 18.

drop is only one-quarter of the height; but the result is never as satisfactory, as an even distribution is not so readily acquired and the comparative width of the repeat is greater.

The bringing of the principal elements so much closer together is also likely to produce a striped effect as shown at

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

must divide the top corner of the repeat into four equal parts, at *e*, *f*, *g*, *h*, and draw in the ogee line *f h*, in order to get any degree of accuracy. In fact, all that is required of this line is the portion from *f* to *i*, the other half being traced from it, the two parts being exactly the same. The other four portions may be traced in a similar manner.

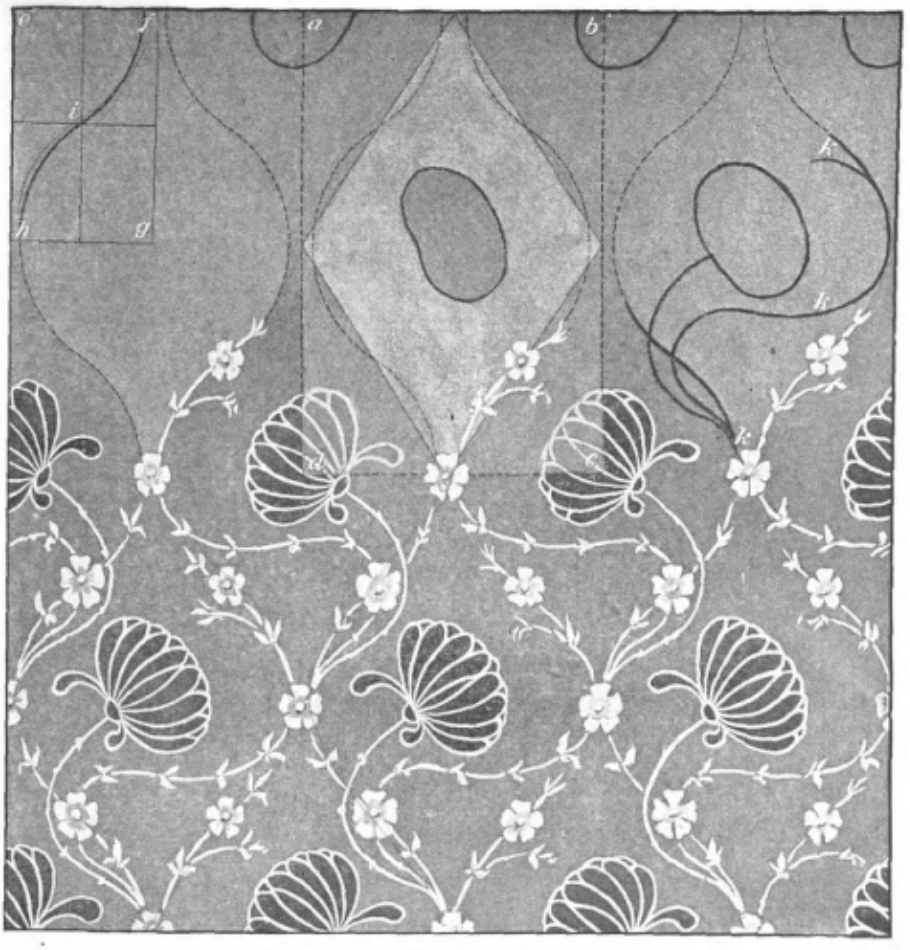


FIG. 19.

Next, the large flower in the center of each repeat should be placed in position, and care must be taken that each alternate horizontal series of repeats is turned in a different direction—one whole series toward the right, and another whole series toward the left as shown—as no other arrangement will produce the effect.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

needless lengthening of the name, this style of design could better be termed the **turn-over-and-drop pattern.**

30. Avoidance of Faults. — Turn-over designs are liable to the same faults as are designs that go only in one direction, but not to such a marked degree. This partial avoidance of faulty lining is one of the advantages, as the turning over of the unit causes a zigzag effect rather than a line effect. An illustration of this effect is given in Fig. 20, where at (*a*) a turn-over pattern is shown based on the wave line, and its unit is indicated by the lozenge shape

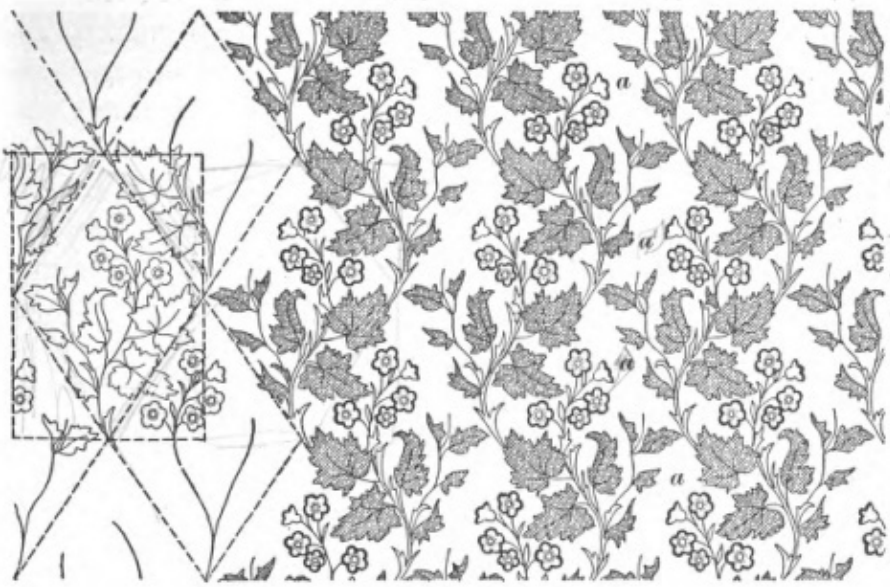


FIG. 20.

in the center. Looking at this rectangular repeat, it would be difficult for even an expert designer to predict that the whole design, when printed and many times repeated, would appear faulty; but this faultiness becomes very evident when the design is executed and a large surface spread out before the eye as shown at (*b*). If the design shown at (*b*) be held at arm's length and the eyes half closed, a white zigzag line will be perceived running systematically through the design from top to bottom, as marked at *a a a*, etc.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

33. Selection of System of Design.—The selection of the system of construction should not be made arbitrarily, but should always be decided after mature thought as to which would bring about the best result. The square produces a repeat in the same distance both vertically and horizontally, and the rectangle gives us a repeat greater in one direction than the other, according to which way it is turned;

FIG. 21.

the lozenge can be made to produce repeats in the same proportion as the square or rectangle, but produces an entirely different effect, as shown in Fig. 21, where the same design is worked out on the system of the square as is worked out on the system of the lozenge in Fig. 22. The former is much more severe than the latter, and the limits of the repeat are much more definitely marked. There is a tendency, too, toward the expression of a horizontal and

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

vertical system of lining in Fig. 21 that is not so apparent in Fig. 22. It is therefore seen that for some conditions the

FIG. 22.

square might be preferred to the diamond shape, while for other conditions the latter is preferable.

34. Variety Possible.—On these geometrical bases an unlimited variety of designs may be developed from a simple sprig or spray to most elaborate combinations of interlaced wave lines and ogee forms. These may be roughly divided into spots, powderings, connected forms, or stripes, in which the repeats are made continuous by structural lines though the pattern may be made up entirely of geometrical forms.

35. Simple Spot Designs.—In Fig. 23 is shown a spot design, the plan of which is based on the diamond, as is very evident, and shows how valuable an arrangement the

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

diamond form is to us when much ornament is not a necessity. It should always be borne in mind that ornament is intended to beautify a material, and if the material will look better with very little ornament upon it and plenty of ground or bare space, the designer must confine himself to just so much ornament as the fabric appears to demand.

FIG. 23.

Then, for some purposes, an elaborate design is unsuitable, so that too much ornament will vulgarize and spoil a fabric rather than enhance its beauty. It is in such cases that the spot character of design, as shown in Fig. 23, is most useful, especially when the ground of the material requires only sufficient ornament to break its monotony, or where the material is to be used in small quantities.

36. Influence of Fashions.—The prevailing fashions influence this condition of design to a great extent, especially in regard to wearing apparel. Sometimes the demand is for

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

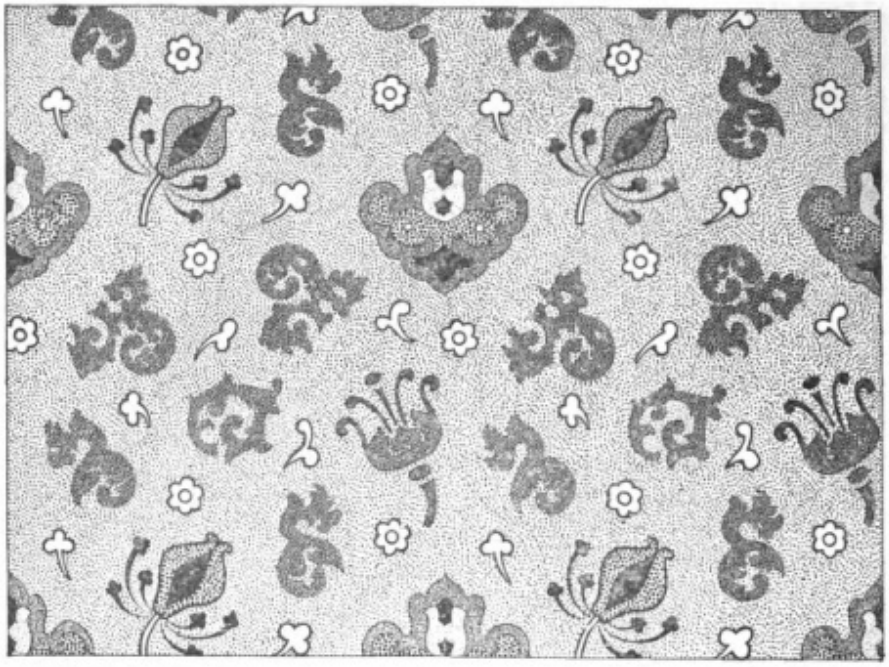


FIG. 24.

FIG. 25.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

FIG. 29.

FIG. 30.

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

five clover leaves, and the main feature of the design consists of the arrangement of these flowers and leaves in order to give the impression of simplicity and at the same time produce an all-over effect, without expressing in a pronounced degree the system of its arrangement.

39. In Fig. 32 we have a turn-over pattern on the diamond basis and it conceals the simplicity of its development through the possession of three equally prominent features.

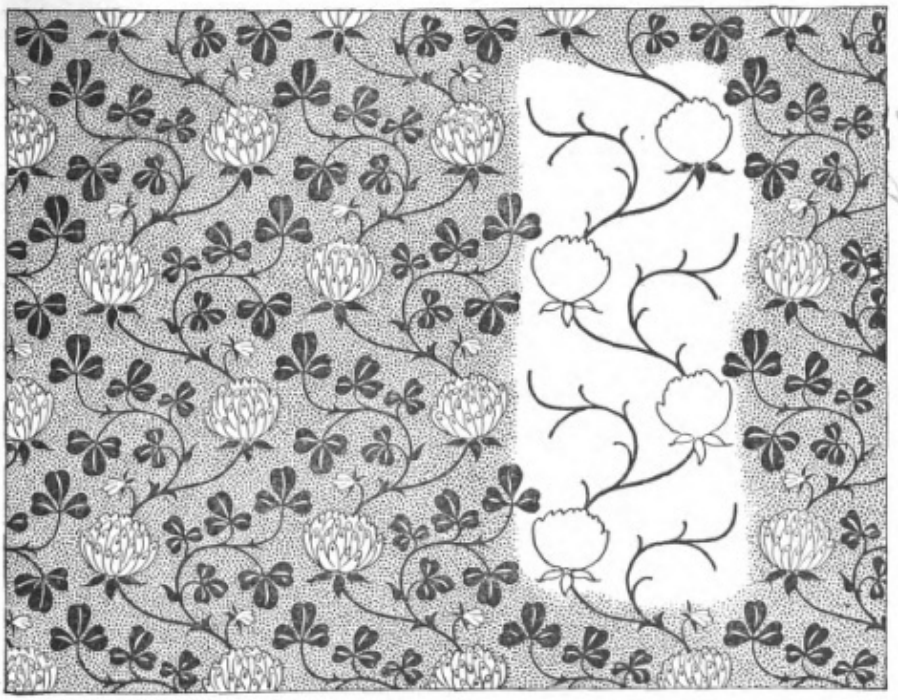


FIG. 31.

The circular flowers, for instance, are arranged on the diamond plan, and the other two features are intersected in a regular order, while the stem oscillates from side to side, sending off alternately to the right and left a scroll with a bud or a blossom. The effect of this treatment, simple though it is, is exceedingly pleasing and expresses the variety that can be attained by the simple geometrical arrangements that underlie it. Simplicity in the arrangement of a design should always be the aim of the designer, as a pleasing effect

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

can be more easily developed thereby; while complicity alone is never pleasing and is much more difficult to make so.

40. Fig. 33 is a design based on the parallelogram, the corners of which are to be found in the centers of the four similar flowers, while the conventional leaf form is placed in the center. The design is peculiar in the fact that the

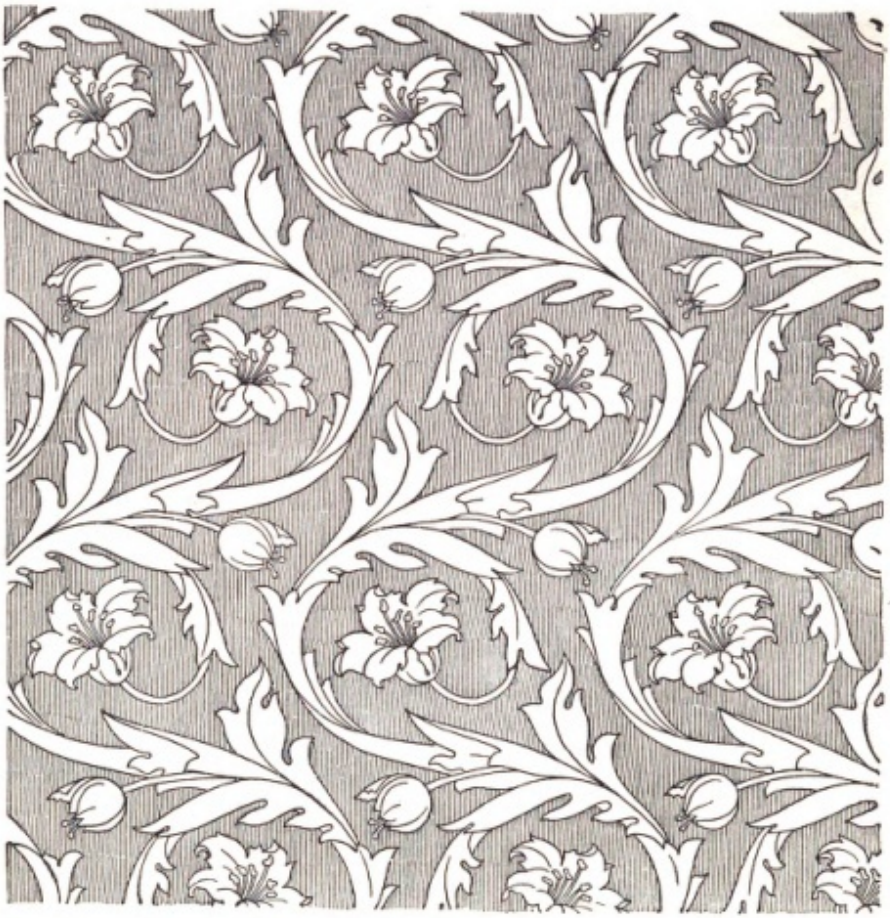


FIG. 32.

arrangement of its wave line is such that it runs diagonally across the repeat, making an ogee curve from corner to corner with but one simple curve in each repeat.

41. In Fig. 34 we have a pattern based on the turn-over design characteristic of the eighteenth century style

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

in Northern Italy. In this design there are two strongly contrasting figures—the spray of flowers and the leaves—and though the plan can be constructed on the diamond, it is far simpler to plan it on horizontal and vertical lines, as shown in Fig. 35. All the leaves that run in the same direction are placed at the four corners of the

FIG. 33.

repeat. The design is then traced and turned over on the center, where the leaf extending in the opposite direction is traced in place. Circular forms representing the flowers are then located and the figure arranged to follow its course.

42. Introduction of Geometrical Elements.—The design shown in Fig. 36 is a combination of geometrical interlaced strap work over which are superimposed various foliated forms. The construction is on the basis of the lozenge, and, owing to a duplication of various parts of

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

FIG. 34.

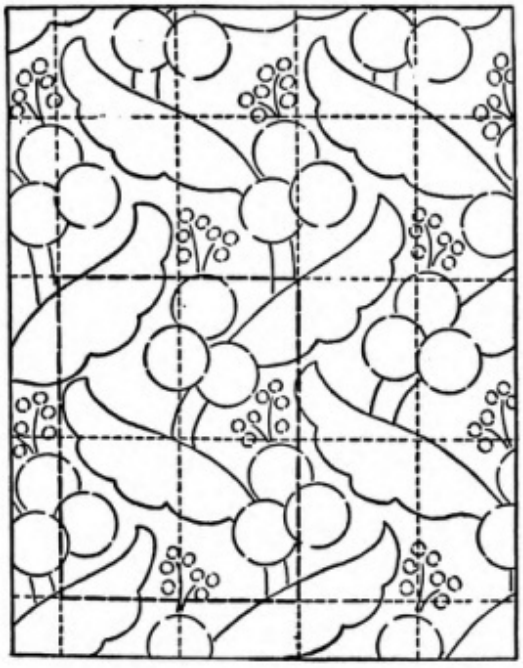


FIG. 35.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

FIG. 36.

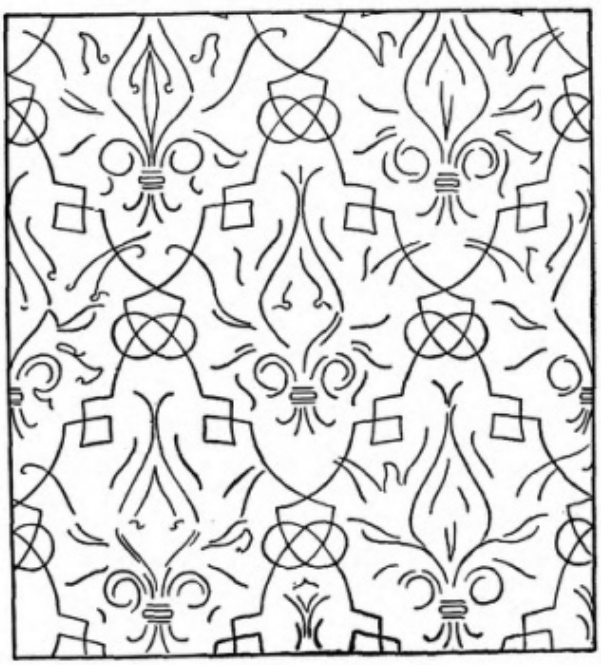


FIG. 37.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

the design on each side of a given center line, only one-half of the pattern need be executed for weaving purposes, as it can be adapted to a center tie. This example is particularly interesting in showing the contrast of line, and it will be observed by studying the elements of Fig. 37, which is a skeleton outline of Fig. 36, that when one line crosses another, in nearly every instance it crosses it at a right angle and thereby gives to the design a sharpness and crispness that characterizes it.

43. In Fig. 38 is shown a design based on the diamond and arranged as a center tie. Its principal construction lines are a pair of ogee curves that cross each

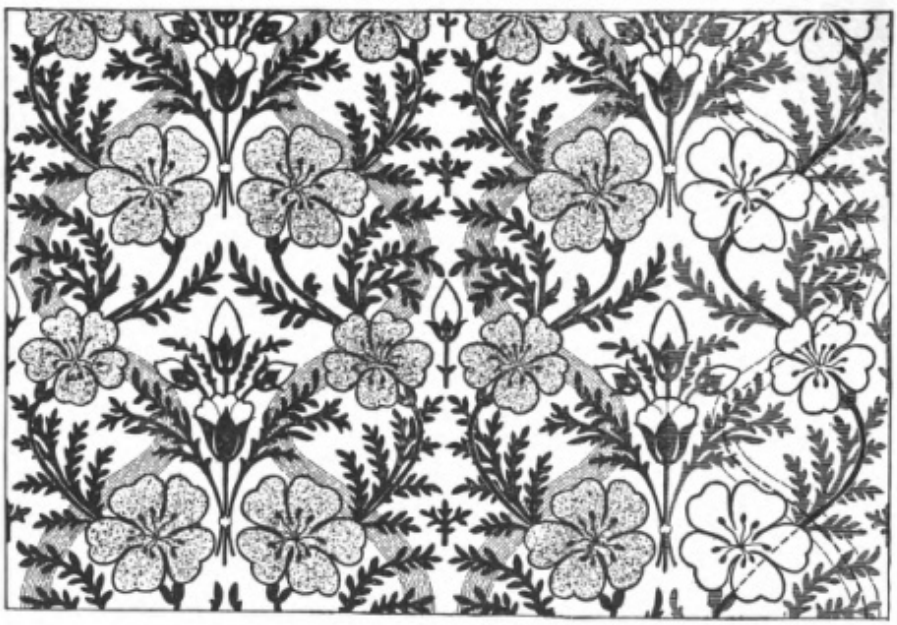


FIG. 38.

other, one of which follows the stem of the running vine, and the other forms the governing direction of an ornamental ribbon work that underlies the main decoration. This introduces also a contrast between the ribbon and the design itself that causes the latter to stand up prominently and prevents the whole composition from appearing monotonous.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

filling, thereby securing a sense of fitness in the design. This, however, brings us against the proposition of having the repeat of the side borders greater than the repeat of the ends, and the corners are different in shape from the border either at the side or end.

It is the corner of the border of this character that usually requires the most skill in order to make it join properly with

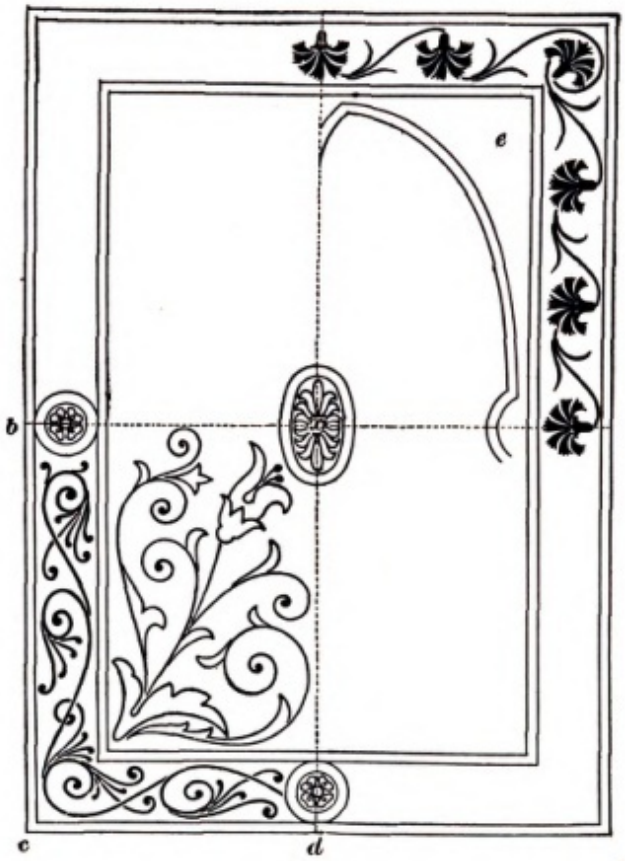


FIG. 41.

the repeat in each direction, while retaining at the same time an identical design in the four corners. This is sometimes obviated by paneling off the corner by itself and introducing here an isolated ornament that has no connection with the border.

When it is desirable, however, that the border should continue around the design without a break, the problem is

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

permits us to treat the angles of the filling with separate ornament, as shown at (*e*) in Fig. 41.

When a fabric is square it is sometimes convenient to duplicate the design on each side of the diagonal line, as shown in Fig. 42, where the square is divided into eight equal triangular pieces as shown at *f g h*, each of which is symmetrical but reversed from its neighbor.

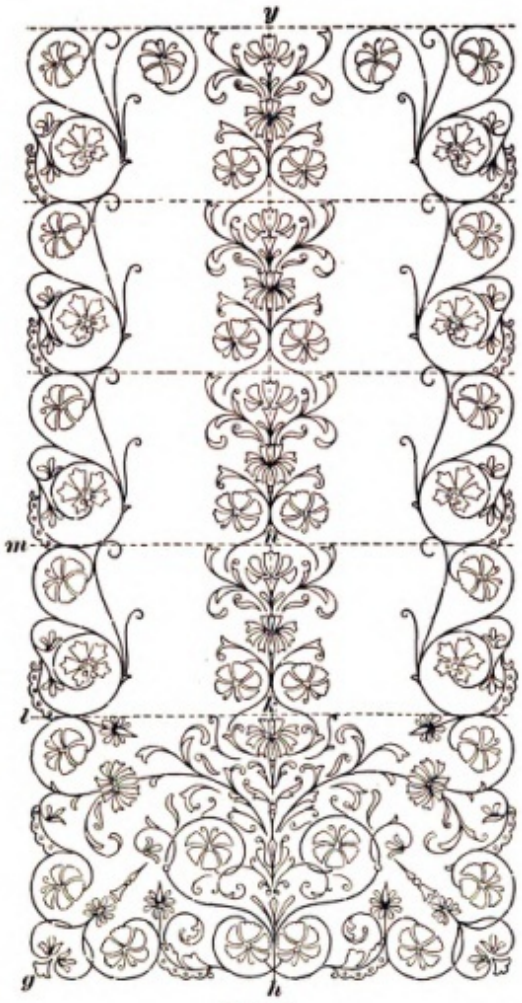


FIG. 43.

49. Lace-Curtain Design. — Where curtains are woven in one piece, one of the most popular schemes of design is to have a dado treatment at the bottom and a border on each of the sides. This border can be of the same width on each side or of varying widths, according to the circumstances, or the design may be such that the two borders and the dado consist of one scheme of ornament varying in width to express the proportion of each.

Much economy can be effected, however, in the designing of curtains by having the whole length worked out upon a symmetrical arrangement so that the two halves each side of the center line will be identical. This may be somewhat severe in style, but is capable of producing the happiest of results. In Fig. 43 is shown a symmetrical arrangement of design

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

It will be noticed that in nearly all of them there is a decided tendency to vertical and horizontal arrangement, that the ornament grows, or appears to grow, at right angles to one of the edges or from both of them. For instance, the Greek border at (*a*) appears to be perpendicular to the inner edge,

FIG. 46.

while that at (*b*) is perpendicular to the outer edge, and at (*c*) is alternately perpendicular to the two edges, each separate element being connected by an **S**-shaped link. These designs are all Greek in origin and express the handling of border elements typical of the Greek style.

51. Borders for Hangings and Table Covers.—It should always be borne in mind that the position of the

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

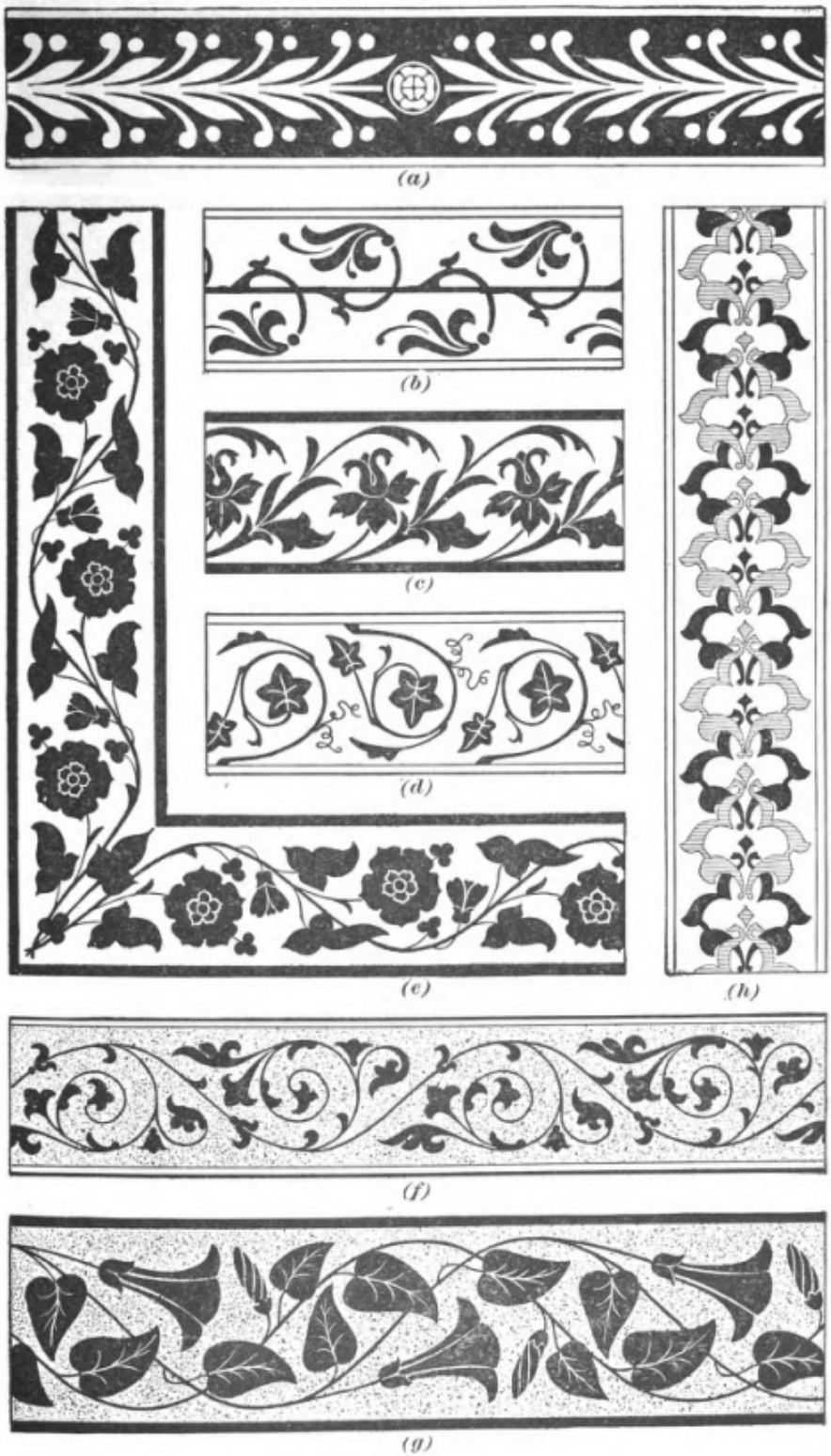


FIG. 47.

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA

hanging, the corner is usually lost by the folding of the cloth.

It should be borne in mind that the purpose of any angle

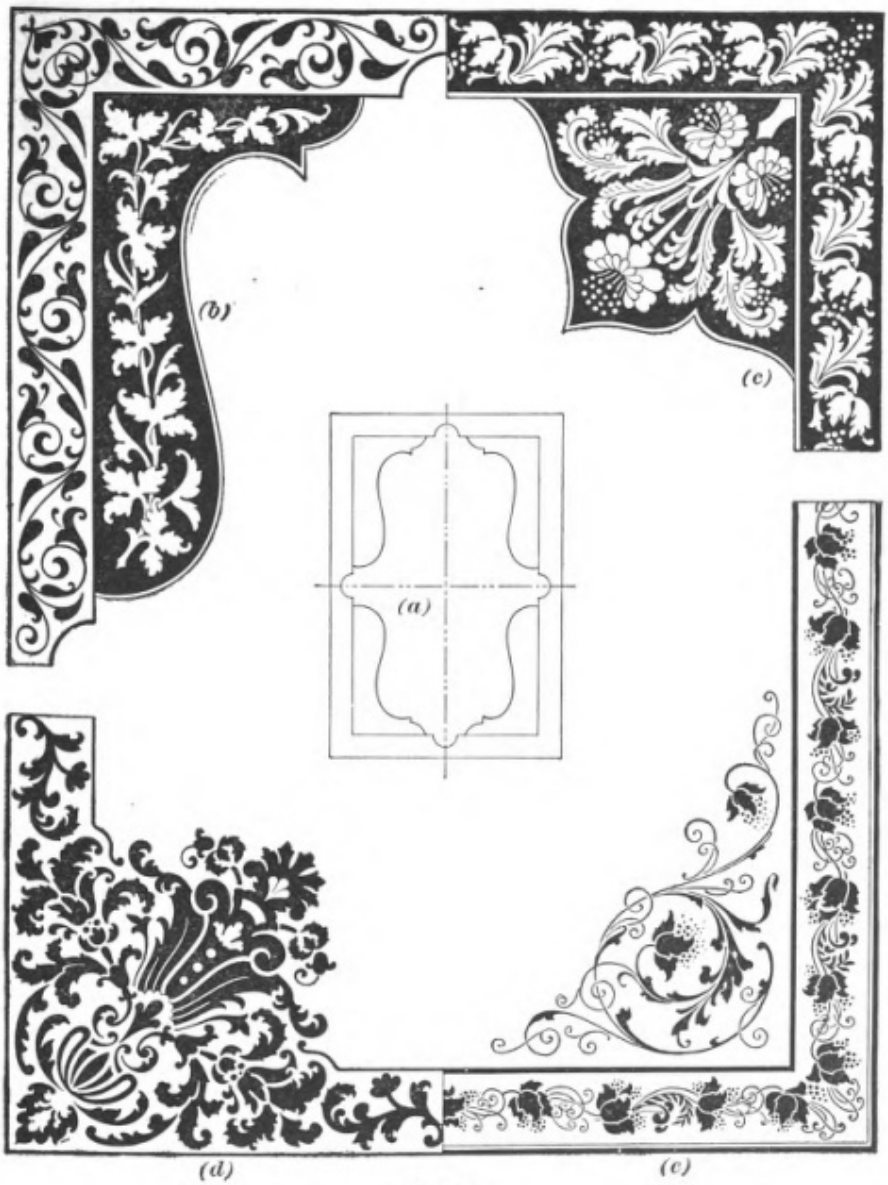


FIG. 48.

ornament is to break the crudeness of a sharp corner, but its form and contour must be consistent so that it leaves a pleasing effect. In the filling at (*a*) in Fig. 48 is shown the

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

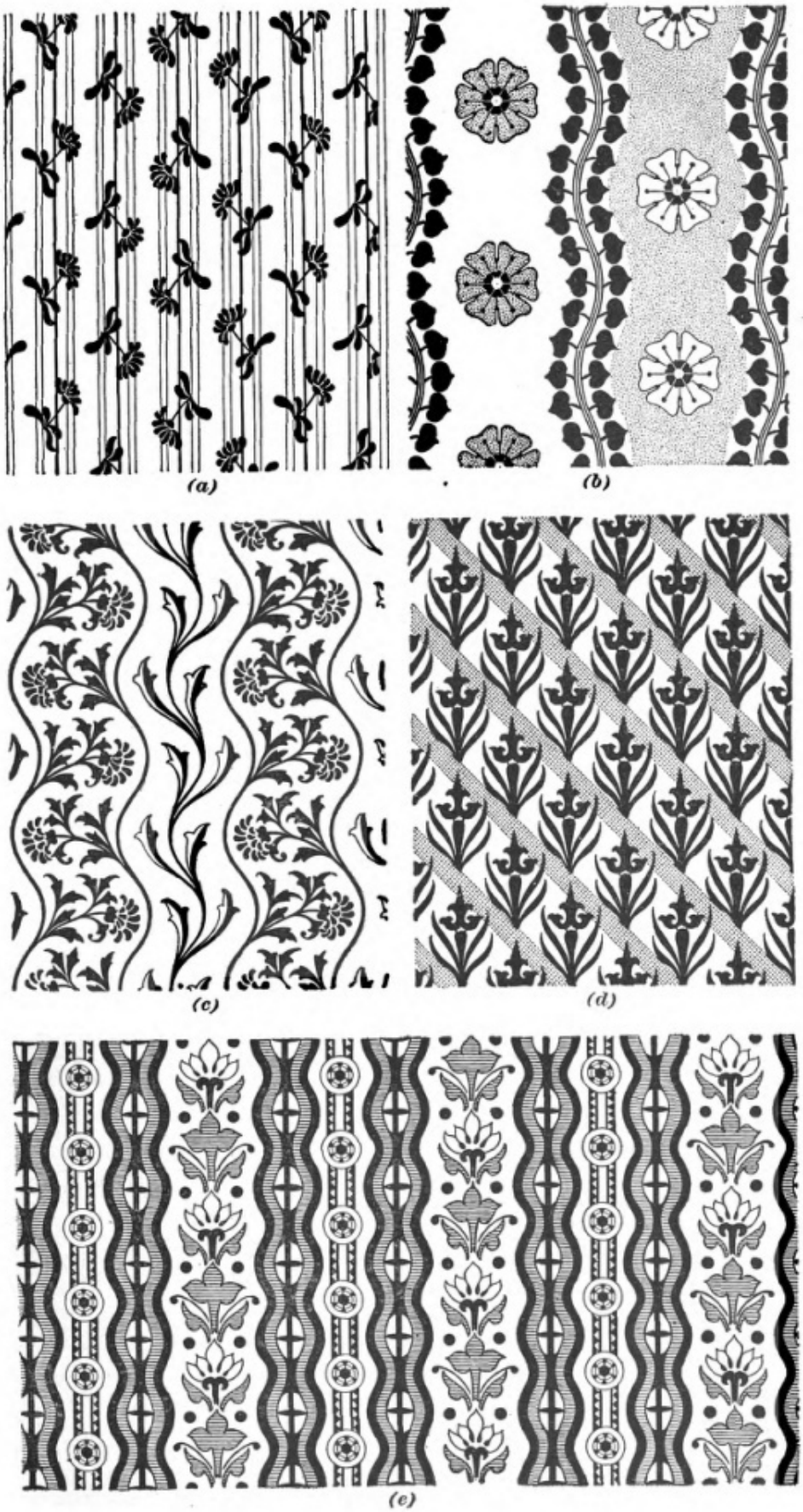
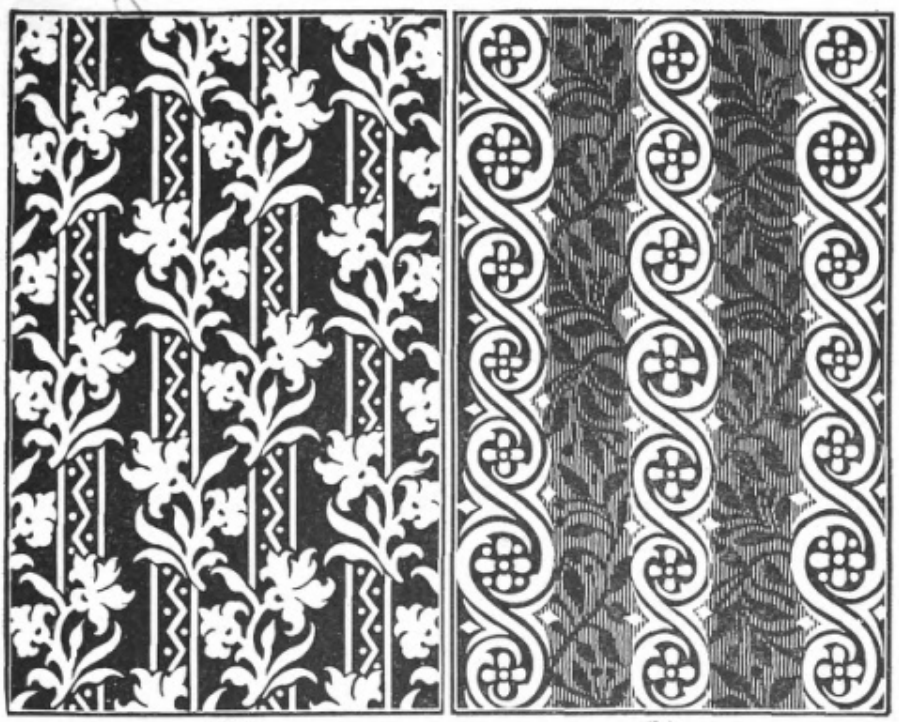
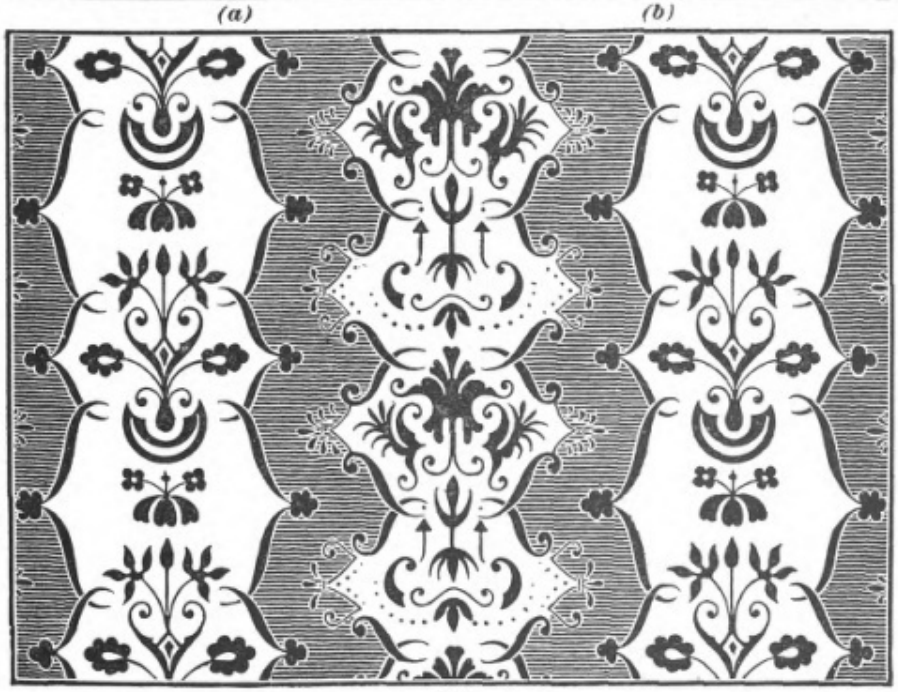


FIG. 49.

Digitized by Google
Original from
UNIVERSITY OF CALIFORNIA



(a) (b)



(c)

FIG. 50.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

64. Forms of Tools.—These tools in their three forms are illustrated in Fig. 51, where at (*a*) are shown the tools as derived from Italy in their solid form, at (*b*) their variation by simply the use of outline, and at (*c*) their further variation by the shading of the outline in order to give a little more strength. The form of these devices is plainly bor-

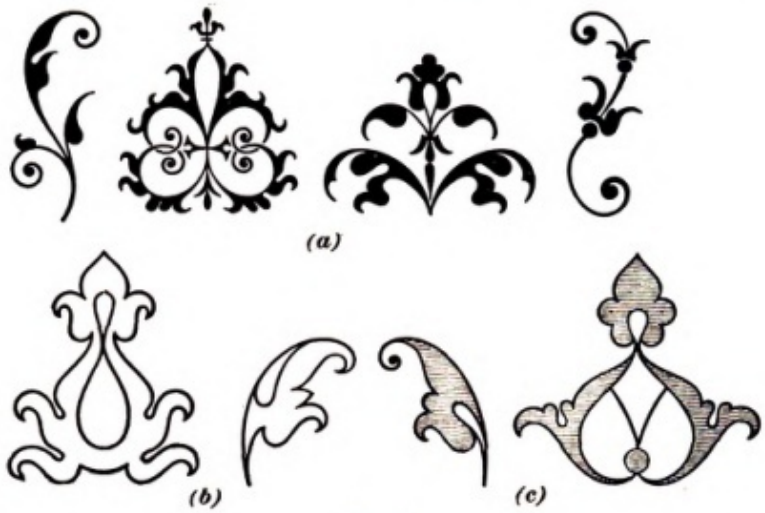


FIG. 51.

rowed from the arabesques of Italy, and, separated from the elaborate interlacings with which they were there associated, show their outline to be distinctively of Oriental or Arabian origin, from which they derived their name as *arabesques.* These simple devices connected by a long line of scrolls and interlaced bands formed the entire theme of book-cover design during the first period of the French Renaissance.

65. Grolier.—The styles of book-cover design that prevailed in different periods, unlike the style of ornament that is characteristic of each period, usually take their names from their designers rather than from the ruling monarch. For instance, many of the book covers bound during the reigns of Louis XII and Francis I we designate by the title of the Grolier style, inasmuch as the art was introduced into France from Italy by a great collector of books, named **Grolier,** and the Grolier style includes both the prevalent

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

character of binding found in Italy and a later style in France.

66. The Aldine Press.—Grolier assisted in the production of many volumes that were printed on the press of Aldus Manutius, a celebrated Venetian printer, and in recog-

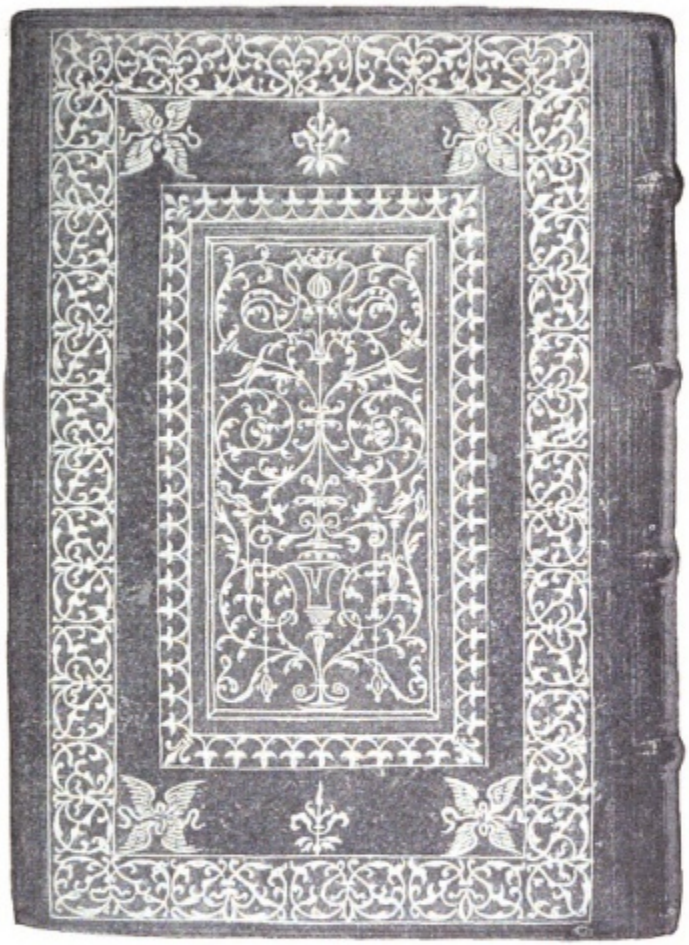


FIG. 52.

nition of his services many volumes were beautifully bound for Grolier's own library. In the year 1545, Grolier obtained the position of Treasurer-General in France, and held it until his death, in 1565, thereby establishing his great library of three thousand volumes of fine Italian bound books in the heart of France, near Paris.

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

67. Grolier's Bindings.—These books were mostly bound in morocco, the finest skins for which were procured from the Orient, though a few were covered with calfskin, the earlier works possessing the characteristics of the Italian Aldine press, the later ones being modified under the influence of binding in France.

68. Characteristics of Italian Bookbinding.—In Fig. 52 is shown a binding in the Italian style on a book printed in Venice in the year 1525. This shows the char-

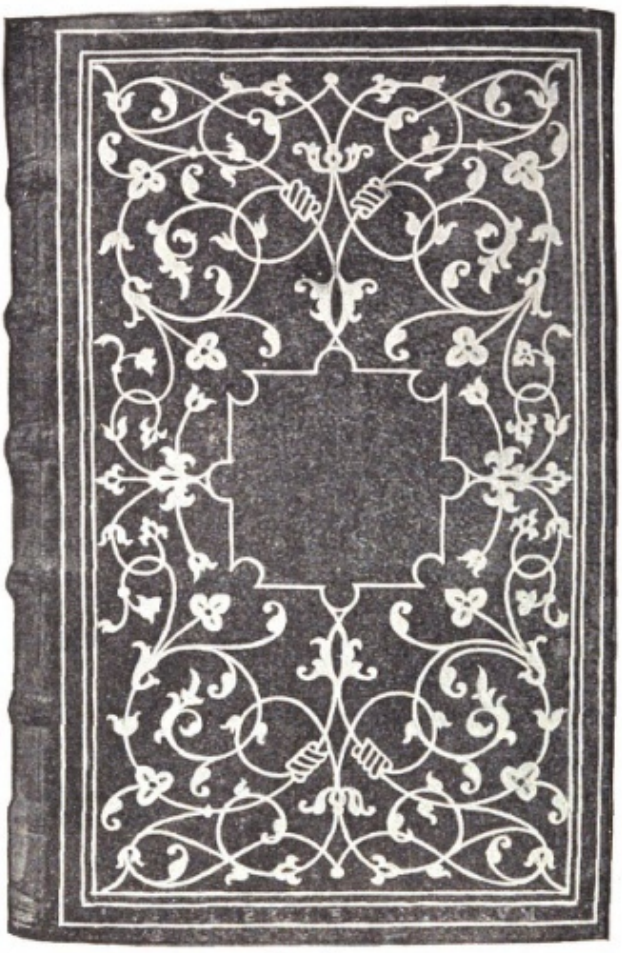


FIG. 53.

acteristics of this Italian work and the form of arabesque patterns that were introduced into France during the reign of Louis XII. Here are seen the impressions of the tools

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

of the Aldine press, already pointed out at (*a*) in Fig. 51, united with the scrolls and arabesque panel ornament characteristic of the Italian Renaissance. In Fig. 53 is shown another design from Venice bound for Grolier, whereon a panel is left in the middle that subsequently might be used to receive a coat of arms. Here the tools are still similar to those used on the Aldine press and give a fair idea of the style of book design when first introduced into France.

69. In Fig. 54 is illustrated a book that was bound under orders of Henry II for Diana of Poitiers to be placed in her

FIG. 54.

library, and stamped on its cover are the interwoven initials H and D indicative of these two names, while in the upper

Digitized by Google Original from UNIVERSITY OF CALIFORNIA

right-hand and lower left-hand corners of the central panel are the three intertwined crescents of the coat of arms of Diana. The cover of this book was of citron morocco and is a characteristic binding of this period (1545).

70. The book cover shown in Fig. 55, bound in 1556 by Henry II, shows a type of ornament entirely different

FIG. 55.

from the previous example, and in the center is a raised medallion with a profile portrait of the king himself. This cover was of brown morocco leather with painted bands and gilt trimmings, and no initials or other devices

Digitized by Google Original from UNIVERSITY OF CALIFORNIA