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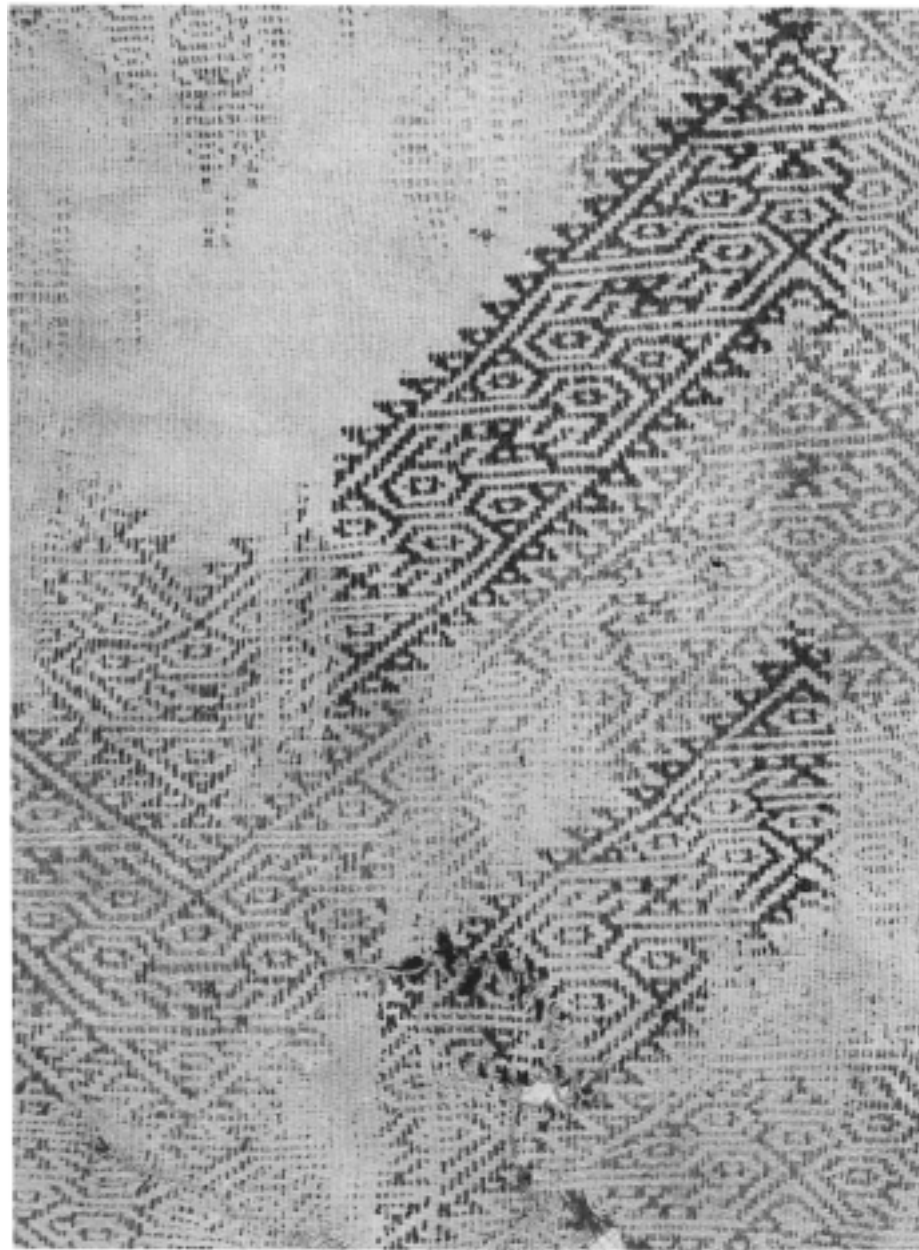
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1. A reversed diagonal pattern; a section of a brocade (specimen 30174 [1090s]).

BROCADES* OR EMBROIDERIES?
SEVENTEEN TEXTILES FROM PACHACAMAC, PERU

By INA VANSTAN

OVER the sixty-odd years during which archaeological textiles from Peru have been studied, there has been considerable controversy among experts concerning the accuracy of distinctions between brocades and embroideries. It is generally agreed that both brocade and embroidery are forms of textile patterning in which supplementary yarns are used for producing ornamental designs. In both, the ornamentation can be removed without destroying the ground fabric. The method of construction is the basis for the differentiation. Brocade patterning is *woven*, the pattern being produced by means of supplementary warps or wefts, or both, as the cloth is made. Embroidery is *sewed*, a type of decoration added after the cloth has been constructed. *Weaving* generally implies the use of a bobbin or shuttle to carry any decorative weft yarns and, as a corollary, the use of long lengths of yarn, which are wound onto the bobbin. Or, if the pattern yarns are warpwise, the warping and drawing-in of these is a part of the basic threading of the loom. *Embroidery* is needlework. The term indicates the use of an eyed needle and the necessity for working with short lengths of thread, regardless of the direction the thread is carried. While a few exceptions of a specialized nature, such as the use of reeds in weaving and quills in embroidery, can be cited, the fundamental distinction between brocade and embroidery, as we see it today, is clearly the difference between weaving and sewing.

This division seems quite simple and logical, until we begin looking closely at certain pre-Columbian fabrics. Some of these fit neatly into the familiar categories. Others having the same general characteristics cannot be classified, with assurance, as either brocades or embroideries (O'Neale, 1937: 167-8, 215). Attempts to differentiate between the two techniques hinge on such details as the directions in which the pattern yarns travel, the manner in which the ends of these have been finished or secured, the presence of overlapping yarns, and of yarns pierced by a thread-carrying needle (O'Neale and Kroeber, 1930:30, f.n.16). Important, also, is the degree of accommodation of the decorative yarns within the plane of the ground fabric, and the correspondence between the undulations of the ground and pattern yarns.

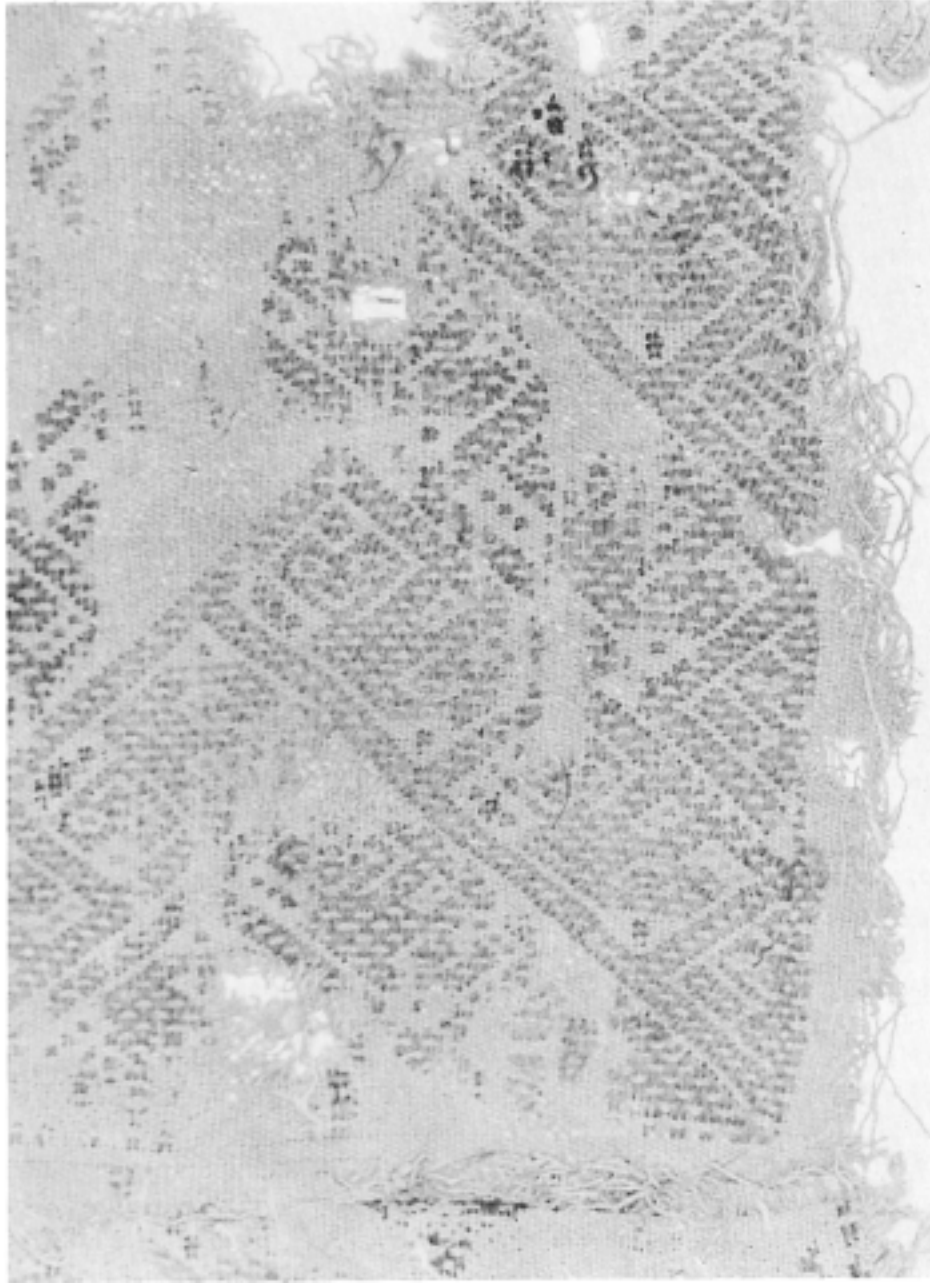
*Brocade—A weave with a pattern produced by supplementary yarns which can be removed without destroying the cloth.—*Author's definition.*



2. An enlarged section of the specimen shown in figure 1, showing the construction detail.

A study of one group of seventeen cloths from beneath the temple of Pachacamac, collected by the late Dr. Max Uhle and now in the University Museum, University of Pennsylvania, reveals some of the problems involved in using this dichotomous classification. The examples of this group are homogeneous in some respects, making their comparison relatively simple. All have patterns produced by wool yarns of various colors against monochrome cotton grounds. All of the ground areas are in one-over-one plain weave and, with one exception, are of natural color cottons, ranging from cream-white to brown. The one odd piece appears to have been piece-dyed to a light orange color. Where the directions of the warp and weft can be determined, the pattern yarns are parallel to the wefts on the face of each of the fabrics. Of the seventeen pieces, fifteen are identified in Uhle's *Field Catalogue* (1896-7) as "embroidered"; the other two (listed as a single specimen, 29760a,b [3258b]), are described as "decorated stuffs". Close examination shows two of the seventeen examples to be brocades, while only three are clearly embroideries. None of the others can be classed, unreservedly, as either embroidery or brocade. General features of both techniques are present. Several cloths have small pattern details in which there is no doubt that embroidery has been used, or one color may appear as brocade, another as embroidery.

One of the two pieces that are unquestionably brocades has a familiar Peruvian design of interlocked birds' heads arranged in reversing diagonal bands, now alternately dark and light (specimen 30174 [1090s]). The patterning is of an allover type (fig. 1). A section about 9 inches deep, edged top and bottom with a $\frac{1}{4}$ -inch strip of contrasting pattern, forms a band across the end of a plain cotton cloth. The specimen, now a fragment 16 by 20 $\frac{1}{2}$ inches, consists of parts of two webs seamed together along their warpwise selvages. One web is 10 inches wide, one 10 $\frac{1}{2}$. The patterning begins two inches above the one remaining bit of end selvage and extends to the side selvages. Some attempt was made to match the pattern at the seamline, but the result was not very successful. At the two outer side selvages, needle-knitted "bindings" finish the pattern edges. Originally, each of the wool pattern yarns alternated with one of the cotton wefts of the ground fabric and travelled over and under the warps according to the requirements of the design, with each pattern yarn turning back at the edge of its respective color unit, instead of continuing across the width of the web. Some of the wool yarns now have disintegrated, exposing the ground fabric

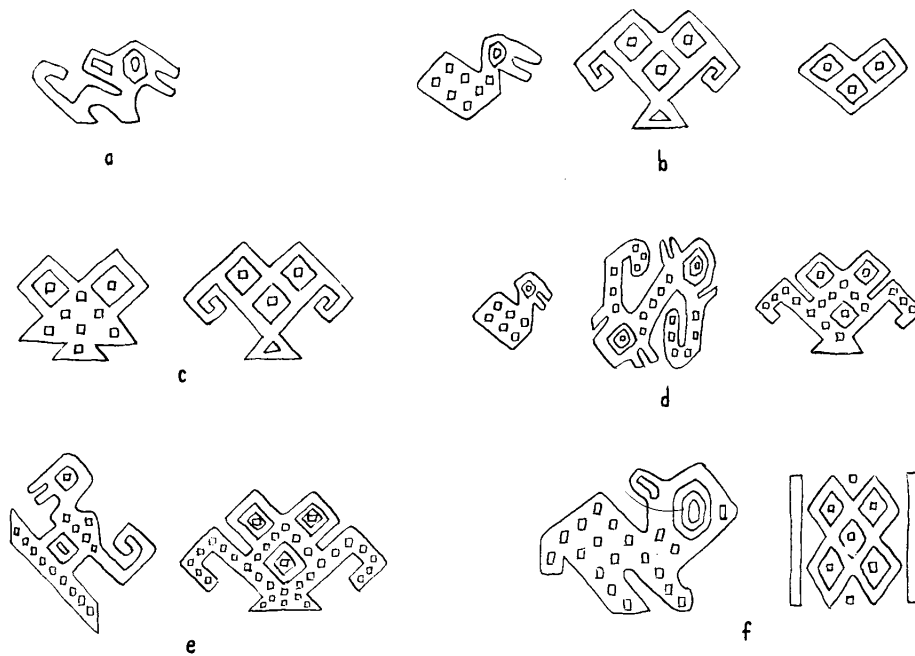


3. A second reversed diagonal pattern. A section of a brocade, differing in detail from the first. (specimen 30176 [3793]).

and showing the details of the construction (fig. 2). The pattern colors, apparently only two, are badly deteriorated, and patches of fading reveal the way in which the cloth was folded. The colors appear, at present, as two shades of brown, but there are indications that the lighter was rose-color or red at the time of weaving. Presumably each of the diagonal bands was in one of the two colors, with these arranged alternately.

The second example of brocade (specimen 30176 [3793]) is similar to the first in appearance. It has the same type of reversed diagonal design arrangement (fig. 3), with the alternate diagonal bands in contrasting colors. The basic method of construction is the same, but the details differ. The pattern delineations are lattice-like, in contrast to the simple outlines of the preceding, and the edges of the diagonal bands are smooth, instead of crenelated. The design motive consists of a cat figure within a rectangular block, while the bird motive of the other brocade is interlocking and continuous. The major colors are red and brown. Accents of red have been used in the brown bands, and vice versa. Bits of blue-green have been added in the red bands. A second accent color may have been present in the brown bands, also, but if so, this has disappeared. The cloth is finer and more closely woven than the first example, but is less well preserved. Only one length, one inch long, of what appears to be a side selvage remains, and this has been turned under and sewed down with buttonhole stitches. The specimen consists of two sections, each about 8 by 12 inches. These have been overlapped and sewed together with coarse stitches. The patterning covers almost all of the two fragments, but the nature of the design changes close to the upper and lower edges of both pieces, suggesting that the plain cloth was cut away and the major pattern sections saved for some secondary usage. An additional small scrap of plain fabric, which may or may not have been part of one of the original webs, has been rolled up and sewed to one edge of the cloth with coarse whipping stitches.

Identifying the embroideries is more difficult. Each of the three examples believed to be embroideries differs quite markedly from the others. One specimen (29664 [3222a]), a badly charred and brittle fragment about 16 by 11 inches with no selvage, has an animal motive $\frac{1}{2}$ inch high (fig. 4a) repeated in a diapered arrangement over most of the remaining cloth. Each motive, embroidered on a brown ground, is in one of three colors, arranged in sequence to produce diagonal lines.



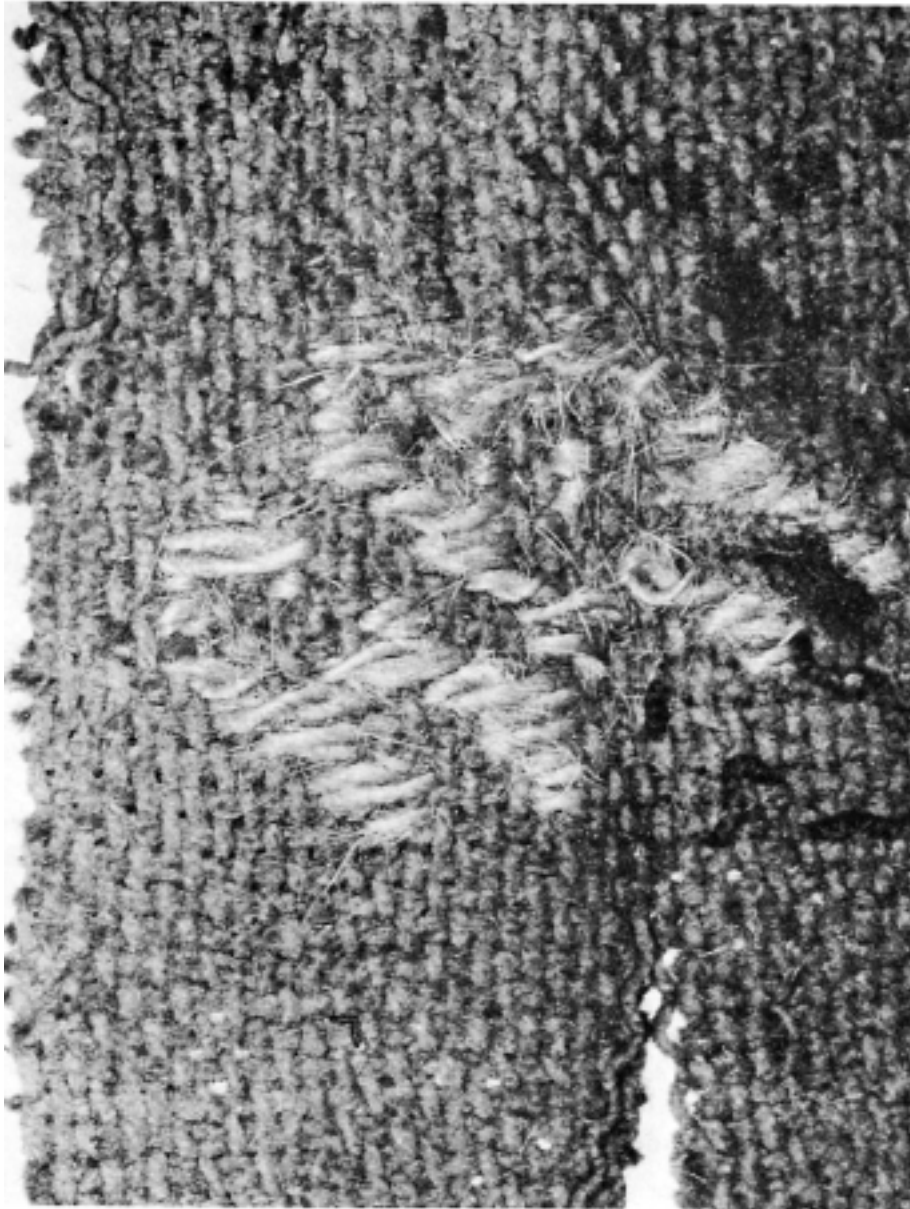
4. The small motives used in the repeat patterns. All are drawn to the same scale.
 - a. A diapered repeat in embroidery (speciment 29664 [3222a]).
 - b. Three embroidered motives, arranged in a simple repeat 29760a,b [3258b]).
 - c. The two motives from the larger piece having the same number as b; chiefly brocade, details in embroidery.
 - d. The motives from specimen 30153 [1090v], combined brocade and embroidery.
 - e. Motives, specimen 29757 [1182e]). Technically like the preceding, the appearance is different, due largely to brighter colors.
 - f. The two chief motives from specimen 29756 [3193b]).

The colors now are light green, light russet and brown, with the brown showing considerable evidence of deterioration. The type of stitchery used for the figures is shown in the enlarged photograph (fig. 5).

The second embroidery is an unattached fragment of cloth about 13 inches square. It is listed as part of another specimen (29760ab [3258b]), which it resembles but does not match. The design consists of three small motives (fig. 4b) used in a simple repeat. Each motive forms a horizontal row, the figures of succeeding rows being placed directly above the figures of the preceding row. The embroidery stitches are similar to those of the first example (fig. 5), but the finished effect differs, since the figures are filled-in, rather than outlined (fig. 6). Each figure has been worked in rose-color and brown, with one of the colors predominating. The dominant colors have been arranged alternately, both vertically and horizontally. The patterning covers most of the cloth fragment. A section of one side selvage remains, but no end selvage. One end of the fabric has been rolled under and sewed tightly with whipping stitches.

The third embroidery (specimen 29759 [1182f]) differs from the others in both appearance and technique. The cloth fragment which is 16 by $7\frac{1}{2}$ inches, shows only two repeats of a small rectangular motive (fig. 7). Each of these has been worked to look alike on both the obverse and reverse faces of the fabric, and each motive, measuring 1 by $1\frac{3}{4}$ inches, has seven or eight colors. These include rose-reds and brown, gold-color, yellow, buff, beige and white and, less usual, bright blue and olive green. The coloring of the two units differs, but some of the hues have been repeated. The pattern yarns cover the ground fabric within the rectangle almost completely. The general effect is tapestry-like, a result of inserting two matching yarns in alternate positions, between two adjacent cotton wefts. Both of the motives have been placed $\frac{1}{2}$ inch from the end selvage; one is $1\frac{1}{2}$ inches from the remaining side selvage, the other is 1 inch from the first. There is no space, within the fragment, for additional motives in corresponding positions.

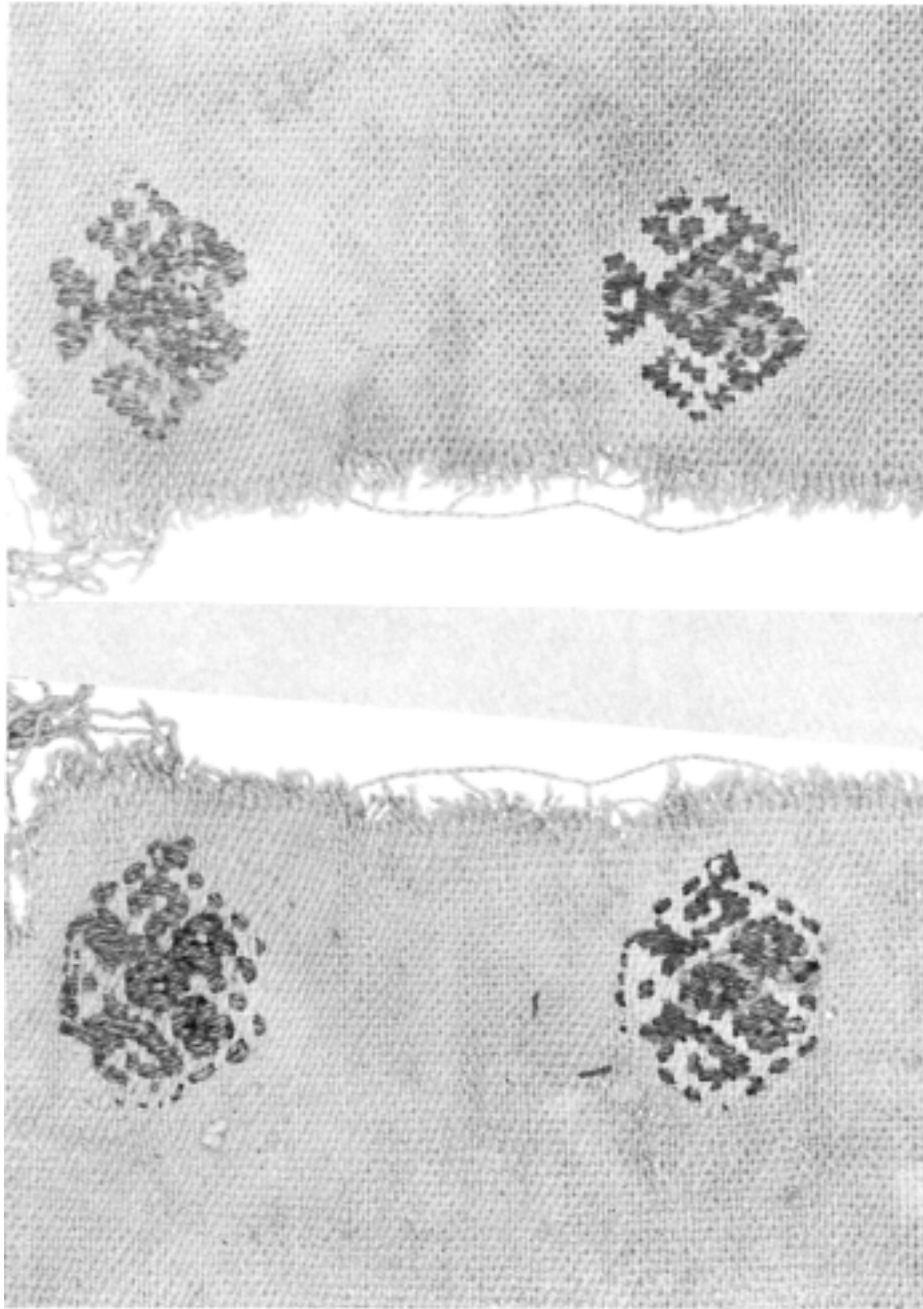
No other of the seventeen specimens is similar to the brocades in style or layout and none is like the first of the embroideries. Three resemble the second of the embroideries closely, another is similar in several respects. One of the three, the larger piece carrying the same specimen number as the embroidery (29760a,b [3258b]), has two closely related motives (fig. 4c) arranged in the same manner as those of the embroidery, but set more compactly. The colors are also rose-



5. A detail of the single motive of the embroidery with a diapered repeat, showing the type of stitches. (specimen 29664 [3222a]).

color and brown, arranged as in the embroidery. The pattern area forms a rectangle, 8 by $11\frac{1}{2}$ inches, adjacent to one side selvage and about 7 inches from one end selvage. Parts of the design appear to have been woven, while other parts, especially the tiny details, appear to have been added as embroidery after the major sections of each motive were complete. The specimen consists of parts of two webs which have been sewed together along the side selvages, with all of the remaining patterning near the outer edge of one web. The present length of this web is 30 inches; its woven width, 17 inches. The attached fragment is 24 by $4\frac{1}{2}$ inches.

Two other specimens fit into this category. Like the preceding, they have small repeated figures, $\frac{1}{2}$ to 1 inch in height, produced by means of combination of weaving and embroidery. One specimen (30153 [1090v]) has two motives (fig. 4 d, *right* and *left*) repeated in rows, but the sequence has been maintained indifferently. One additional odd motive (fig. 4 d, *center*) appears twice. The motives are either red or brown, except in the odd figures, where the major part is red or brown and the second color has been used for small details. These details appear to be the only embroidered parts and there is a strong possibility that some of these may have been woven (fig. 8). The patterning is adjacent to a side selvage and $5\frac{1}{2}$ inches from an end selvage. The cloth fragment is $19\frac{1}{2}$ by $15\frac{1}{2}$ inches. The present pattern area, which probably is incomplete, is 14 inches both warpwise and weftwise. The other specimen (29757 [1182e]) has somewhat bolder patterning. This may be attributed, in part, to better color preservation. The colors are brighter, the figures slightly larger (fig. 4 e) and closer together, and the style of the representation differs. Most of the outlines consist of double lines connected with narrow crosswise bars, producing a lattice-like effect. While some of the lattice-work is present in the preceding specimen, the handling differs slightly. In other respects the ornamentation follows the same plan. There are two motives arranged in rows, two colors, red and brown, one dominant in each figure, with the dominating colors alternating. A few of the color accents show the characteristics of embroidery. The patterned area, 9 by $14\frac{1}{2}$ inches, has been located adjacent to one side selvage and $6\frac{1}{2}$ inches from an end selvage. The woven width of the web is $18\frac{1}{2}$ inches; the remaining length, 18 inches. A fragment of a second web, with a section of patterning which appears to have been like the other, is sewed to the first along the side selvage. The patterning differs only in the inverted positions of the



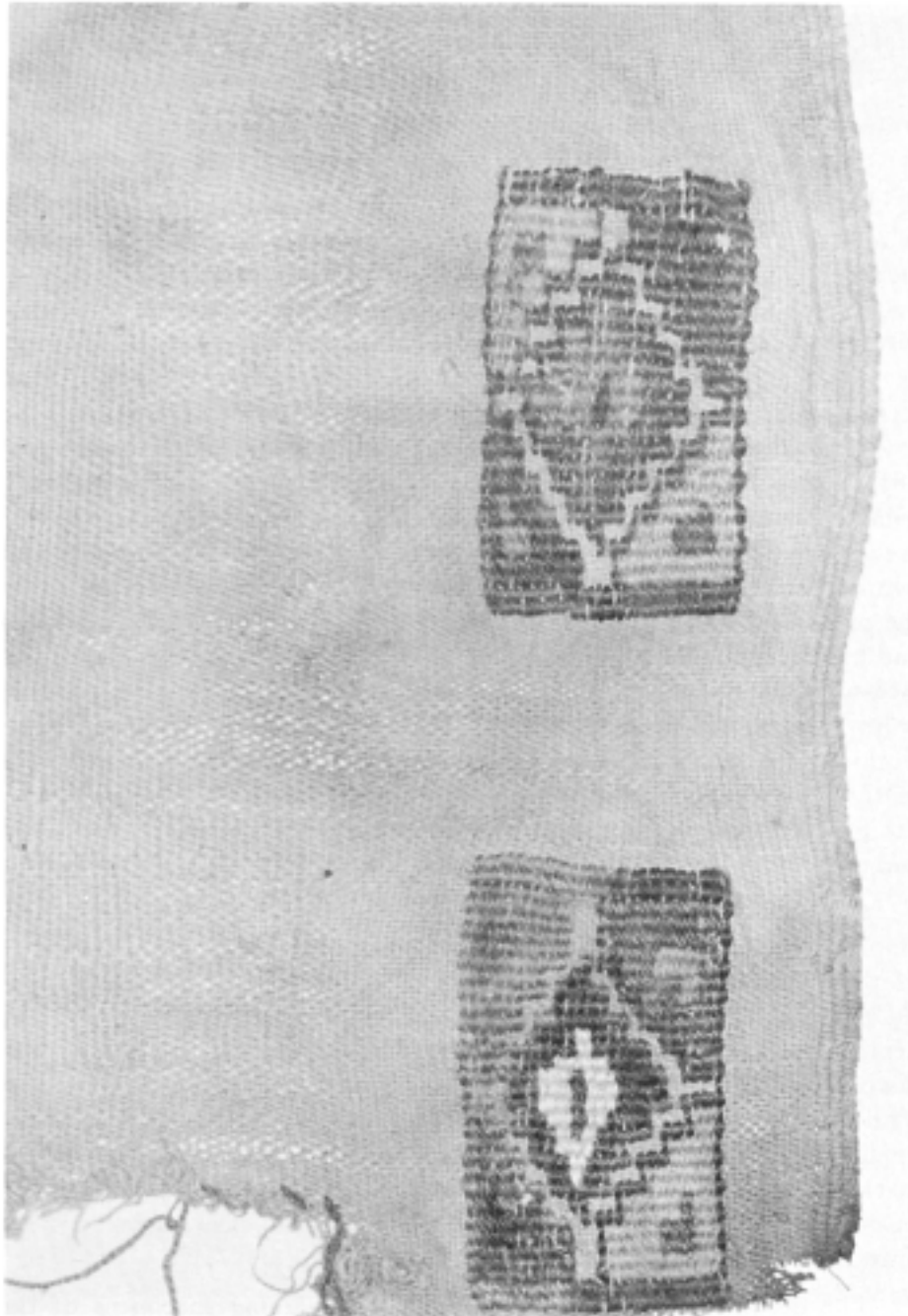
6. The obverse (a) and the reverse (b) of two motives from an embroidered simple repeat pattern (specimen 29760ab [3258b]), showing the stitches.

motives and the addition of yellow in a few of the details. As with the other web, the design block is close to the outer edge.

Design motives, similar in respect to weave or stitches, are present in one other example (specimen 29756 [3193b]). In this the design blocks are near the two outer corners of one end of a large, well preserved two-web cloth which has a central lengthwise seam. The patterns are completely intact in this specimen. Although they are basically alike on the two webs, they show differences which suggest that the two sections represent the work of different people. Each section consists of four pattern rows, two each of a geometric motive and an animal figure (fig. 9 a, b). Again, there are two colors, light red and brown, distributed as in the preceding examples. On one web the animal figures are inverted, the spacing of the motives has been handled poorly and two odd motives have been added, presumably as space fillers. Each of the pattern areas is $5\frac{1}{2}$ by $9\frac{1}{2}$ inches and is adjacent to a side selvage and $6\frac{1}{2}$ inches from an end selvage. Although each web is complete and measures about 45 by $18\frac{1}{2}$ inches and is in excellent condition, there is no evidence of other areas of patterning. While in most of these cloths there are five or more rows of motives and the rows of different motives have been used alternately, in this there are only four rows and the two central rows are alike, the second motive appearing in the top and bottom rows.

A classification as brocade may seem logical for these mixed examples, since only small details are clearly embroidery. The presence of these bits of embroidery is sufficient to confuse any analyst, since the embroidery usually has been added last and, being worked over the brocaded areas, its earmarks are the more obvious. In some cases the distinctions cannot be judged solely on the basis of the usual criteria. The correspondence in the tensions of the ground and pattern yarns, the degree of accuracy of the weftwise lines within the individual motives, in the alignment of the design units, and the tendency of the pattern lines or fabric to bulge, due to the excess of yarns in the patterned areas, must be considered also.

The decorative stitch or weave of the remaining specimens of the group resembles that of the third of the embroideries (figs. 7, 10 b). One specimen (29661a,b [1084]) is also similar in having a small motive confined within a simple rectangular frame (fig. 10 a). All of the other motives of this group, which are intact, are also basically rectangular in shape, although some have elaborate frames, and two are un-



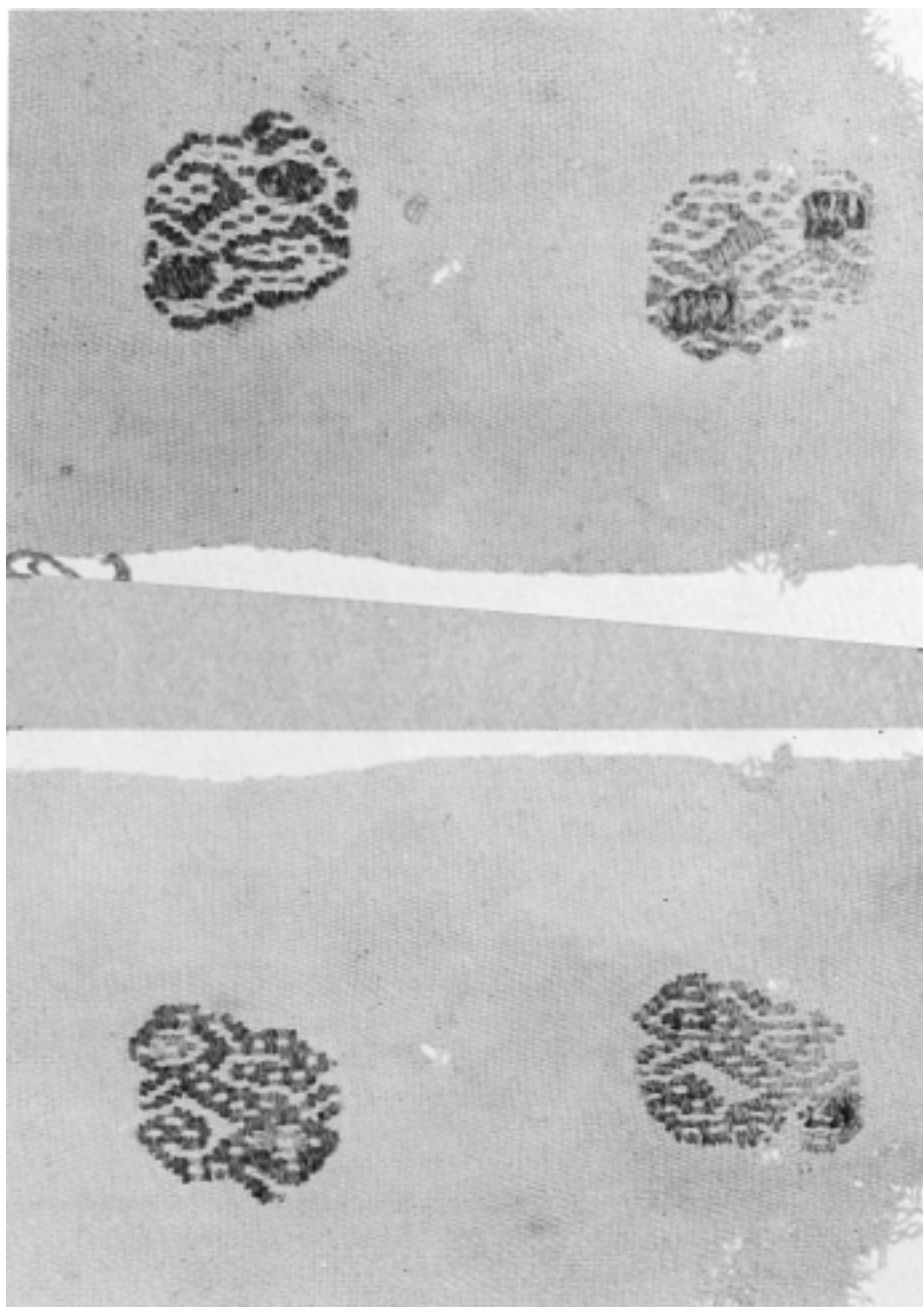
7. A small rectangular motive in reversible embroidery; polychrome, (specimen 29759 [1182f]).

framed (fig. 10 c-h). As in the embroidery, pairs of pattern yarns have been used in reciprocal positions to produce matching designs on both faces of the fabric.

In the example with the figure in a simple rectangular frame (specimen 29661a, b [1084]), a single motive, which is nearly square, has been repeated twenty-one times in a checkerboard arrangement. Four colors have been used. Two of these, red and brown, are alternately dominant; the others, yellow and blue-green, provide the accents. The color sequence changes the simple checkerboard into an arrow-like reversed diagonal which is emphasized by the squares being placed to form a point, instead of the usual unbroken straight line, at one end of the pattern block. As with several of the other examples, the ornamentation is adjacent to a side selvage. The one remaining bit of end selvage is $13\frac{1}{2}$ inches from the pattern; whether or not the other was closer cannot be determined. A two-inch length of a second web has been sewed to this bit of end selvage with fine whipping stitches. The width of the web is complete, 30 inches from side selvage to side selvage. The present length is $20\frac{1}{2}$ inches. The patterned area measures $9\frac{3}{4}$ by $14\frac{1}{2}$ inches. All of the criteria mentioned above point toward the use of weaving, rather than a sewing process, in producing the major parts of the pattern of this fabric. In addition, a tendency for each square to bulge at the sides indicates that the insertion of so many extra wefts forced the basic warps and wefts out of their standard straight lines. Had these been added after the cloth was woven, except as the basic yarns were widely spaced, any bulging would have tended to be away from the plane of the fabric rather than within it.

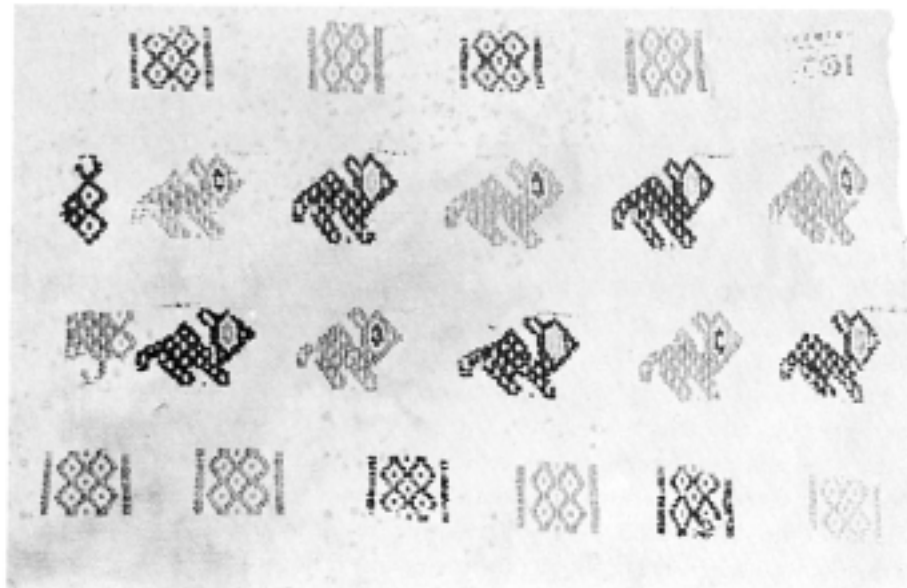
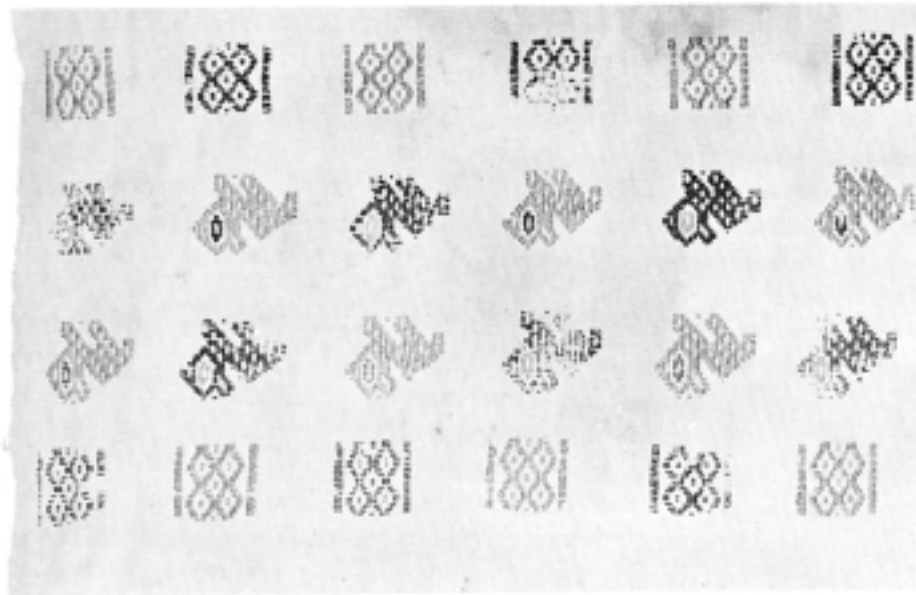
There is one other example (specimen 29653 [3791f]) which seems to confirm the practice of producing these reversible patterns as brocades as well as embroideries. This shows a "squirrel" figure in which the same sort of bulging occurs and the basic yarns have been forced out of line (fig. 11). This figure, although having neither rectangular outlines nor framing, almost fills a $2\frac{1}{2}$ -inch square. It has been repeated twice on a fragment of cloth $3\frac{1}{4}$ by $13\frac{1}{4}$ inches, with one figure placed 3 inches from the remaining bit of side selvage, the second figure 3 inches from the first. One is predominantly red, with blue-green, brown and yellow accents, and a single spot of white. The other is chiefly brown, with yellow, blue-green and red added.

Four fragments with larger, more elaborate rectangular motives appear to have been produced in a like manner. One (specimen 29662



8. The odd motive from a simple repeat pattern developed in a combination of brocade and embroidery: (a) obverse, (b) reverse. (specimen 30153 [1090v]).

[1085a]) is about 31 by 18 inches, with a small section of end selvage intact and, at the opposite end of the cloth, two nearly square motives, (fig. 10 g, h) each of which probably was about $3\frac{1}{4}$ by $3\frac{1}{2}$ inches, although parts of the edges are missing. The two motives differ, but in both cases major parts of a central figure have been outlined, and these outlines, in contrast to the other parts of the design, appear to have been embroidered. Two of the four fragments are very small pieces (specimen 29652a [3791e], 29652b [3791d]), each of which preserves just one design motive, an animal figure in a rectangular frame surrounded by a border of double-headed birds (fig. 10 d). These patterns are basically alike, but differ somewhat in their proportions. The fabrics are in poor condition and both have been mended, but in so far as it is possible to judge, except for some of the narrower outlines, they are brocades rather than embroideries. The first measures $3\frac{1}{2}$ by 6 inches. The patterning commences about 1 inch from a small section of side selvage and covers the remainder of the fragment. Red is the predominant color. Outlines of the main figure and parts of the border are brown and there are bits of blue-green, yellow and a light yellow-green. The second measures $3\frac{1}{2}$ by $5\frac{1}{2}$ inches and is so small that some of the edges of the design have been lost. Except for a reversing of the relative positions of the red and brown, the colors are about the same, although the shades in the minor areas are darker. The last of the four (specimen 29650 [3792]) has two different motives. It shows two repeats of a rectangular figure (fig. 10 e) which is similar to the above. Although more nearly square than the others, 3 by $4\frac{1}{2}$ inches, and more compact, it has the same central animal figure and birds' head border. A smaller motive, $1\frac{1}{4}$ by $1\frac{3}{4}$ inches, stylized human figure without a frame (fig. 10 f), has been repeated in two rows, one on each side of the row of larger motives. These may have formed a border across the end of a cloth, since three of the figures are adjacent to the one remaining length of side selvage and the spaces above and below the figures are greater than the spaces between the rows of motives. The total size of the specimen is $10\frac{1}{2}$ by $7\frac{1}{4}$ inches. The pattern colors are red and brown, alternating in importance, with accents of green-blue and gold-color. In this example relatively more space has been allotted to the accent colors than in the others. The technique used for producing the pattern appears to have been the same as in the preceding specimens. The ground yarns show considerable evidence of being forced into curves to accommodate the added thickness of the pattern yarns, showing that these were introduced as the weaving pro-

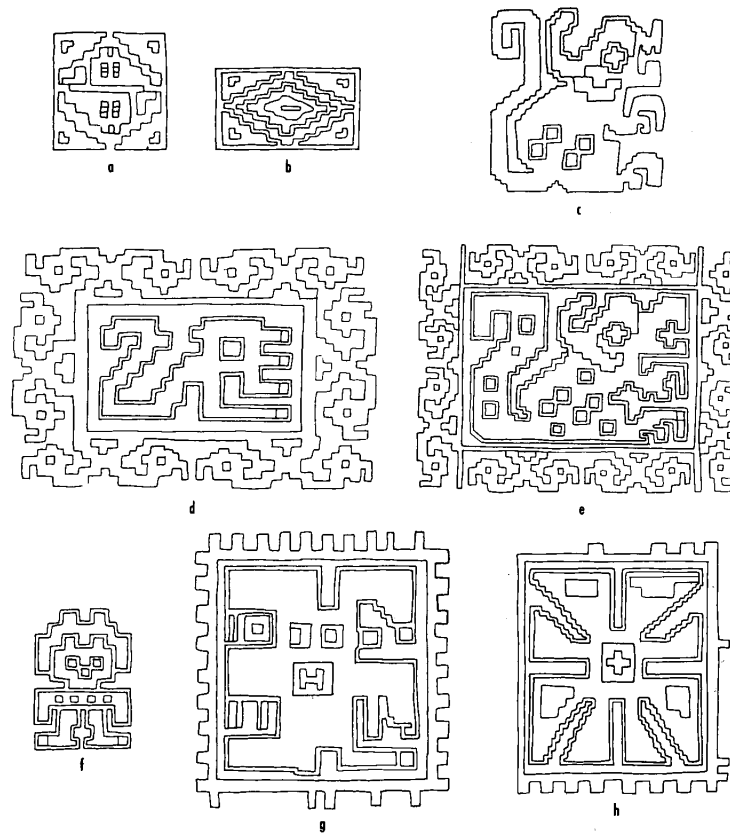


9. The complete designs from two webs which are seamed together (specimen 29756 [3193b]).
 - a. Block at lower left of seamed cloth.
 - b. Corresponding block at lower right.

gressed. At the same time, the pattern areas tend to bulge away from the plane of the fabric, as they do when pattern yarns are added after the ground fabric has been completed. This may indicate either that the bulk of the pattern yarns was so great that it could not be accommodated within the plane of the fabric, or that subsequent shrinkage of the cotton yarns exceeded that of the wool, causing the pattern blocks to bulge away from the plane of the fabric.

Two other scraps of cloth (specimens 29657 [3791i], 29658 [3791h]) for which the designs cannot be reconstructed, had larger patterns. Both appear to be brocades with embroidered details. Of these, the former has a light orange-color ground, probably obtained by piece-dyeing and seems to have been dyed over the pattern as well as the ground. The patterning covers the whole of the fragment and there is nothing to indicate that the design was separated into units. The cloth measures $2\frac{1}{2}$ by 13 inches and one narrow end has been rolled under and sewed tightly with whipping stitches. The other specimen is $10\frac{1}{2}$ by 3 inches. The patterning of this may have formed a rectangular block with one side 7 inches long. Both patterns have the usual colors: red, brown, blue-green and yellow. In both, the red and brown areas are about equal, with lesser amounts of the blue-green and yellow, but no dominant color. If there were additional hues, they have disappeared.

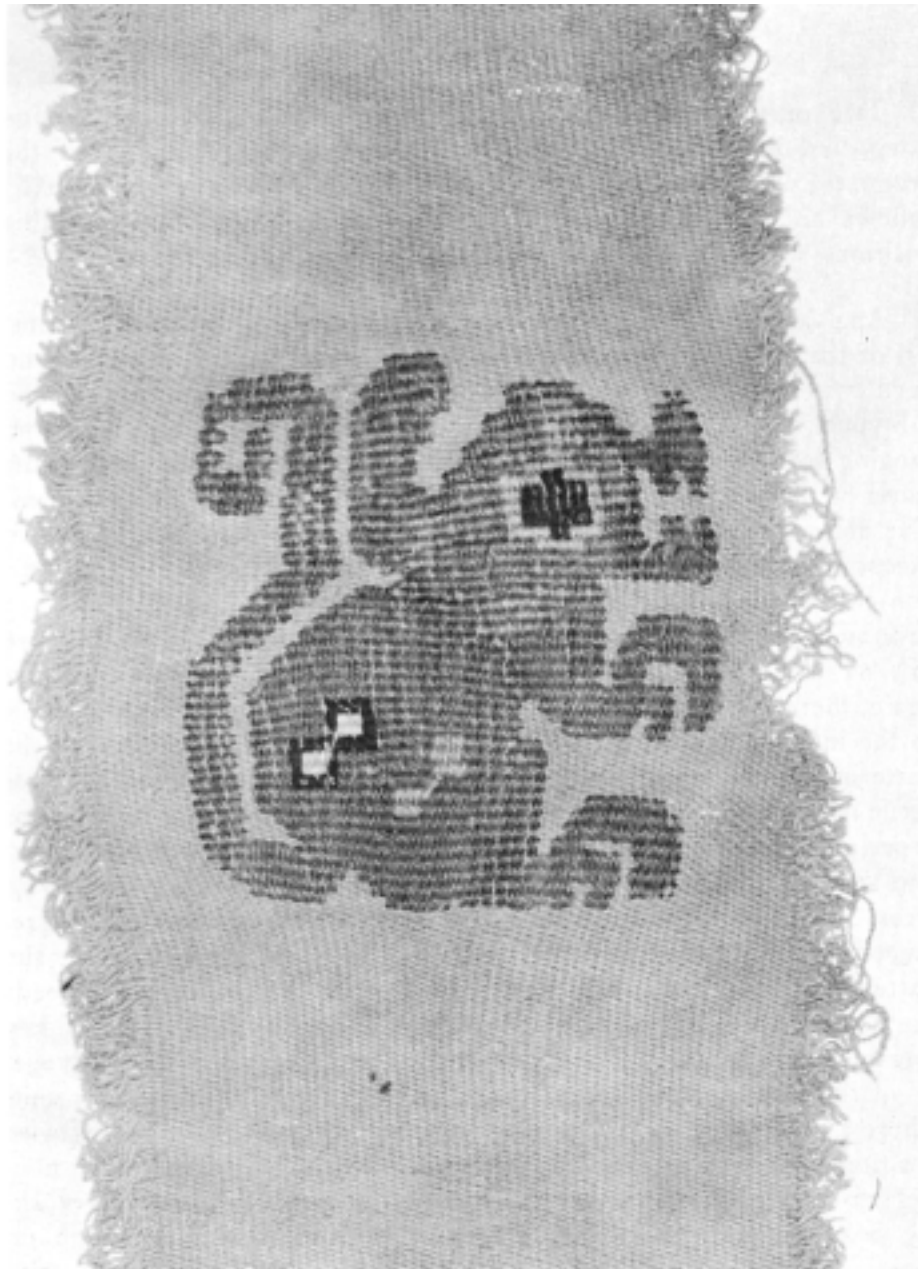
Four distinct design types are present within this small group of textiles: reversing diagonals, seen in two of the specimens (fig. 12 a); a single small motive repeated in a diapered arrangement, in one example (fig. 12 b); two or more motives, usually with two alternating, set in the form of a simple repeat, of which there are five examples (fig. 12 c); and rectangular block figures of more or less complexity, with nine examples (fig. 12 d). While it is obvious that this last design category comprises more than a single design type, the remaining fragments provide insufficient evidence on which to base clear-cut subdivisions. On the basis of fabric analyses, the first of these design categories can be said to include brocades only; the second, embroidery only; while the third and fourth show one embroidery each, the remaining specimens being combinations of brocade and embroidery. The designs appear to have been used in blocks, with certain standardized locations on the fabric generally apparent: the reversed diagonals crossing the end of a web; the small simple repeat patterns placed near one corner of each web; the rectangular patterns starting near a side selvage but their extent not clearly defined.



10. Drawings of the rectangular type designs. All of these are reversible.
- a. Simple rectangular figure in brocade and embroidery, arranged in checkerboard fashion (specimen 29661ab [1084]).
 - b. The motive from the embroidered cloth, figure 7.
 - c. The "squirrel", an unframed rectangular figure, in brocade and embroidery (specimen 29653 [3791f]).
 - d. The animal figure with a bird's head border, from specimen 29652a [3791e]); brocade and embroidery.
 - e. Another version of the same motive, the larger figure from specimen 29650 [3792].
 - f. The smaller figure from the same fragment. Both brocade and embroidery.
 - g. One motive from specimen 29662 [1085a]; only partially preserved.
 - h. The second motive from the same cloth. Brocaded figures, embroidered outlines.

Two of the embroideries, those in the second and fourth design categories, have distinctive color schemes. For the remainder of the group, the colors tend to be limited to four and their arrangement usually follows an established pattern, red and brown placed in alternating positions, with the addition of blue-green and yellow optional.

Analyses of the yarns also indicate emphasis on established forms. All of the cotton yarns of the ground fabrics are two-ply, Z-S spun and hard twist. All of the wool decorative yarns are, likewise, two-ply and Z-S spun. These show much greater variation in the degree of twist, ranging from medium to very soft, with greater differences between the yarns of different colors than between the yarns of different specimens. The diameters of these wool yarns are remarkably constant. With two exceptions, all are near $1/48$ inch. The diameters of the yarns of the two non-conforming examples (specimens 29760ab [3258b], 30153 [1090v]) are $1/32$ inch. The cotton yarn diameters range from $1/48$ to $1/64$ inch, and generally the warps and wefts of each fabric are alike; again, there are two exceptions. These details, with the number of yarns to the inch, are shown in Table 1. In one of the brocades, where the patterning is continuous across the width of the web, distinct differences occur in the weft counts for the plain and patterned areas. In this case (specimen 30174 [1090s]) there are 30 cotton wefts in the plain area, and 20 cotton, plus 20 wool, in the patterned section, in each of the two webs. In the other similar fabric, none of the plain part has been preserved, and the weft count for the ground yarns could be made for the patterned section only. The number of warp yarns to the inch exceeds the number of basic weft yarns in every example where a bit of key selvage is intact. Using this criterion for those pieces lacking a selvage, all of the pattern yarns are weftwise. Only at the end of a pattern unit, where a yarn reverses its direction, is there a change from the weftwise position; and if more than two yarn diameters in length, these non-weftwise yarns are on the reverse face of the fabric. Held in this working position, the design motives tend to be horizontal, although on occasion they are upright or inverted. For the ground fabrics the spinning and weaving are consistently even and smooth and all of the workmanship is of good quality. The patterns have been handled less skillfully in some cases than others. The cloths are not all of equal fineness but generally the fabrics are closely woven and firm; some are approximately square count, others nearly warpface. None of these distinctions appear to be related to either the nature of the design or the technique

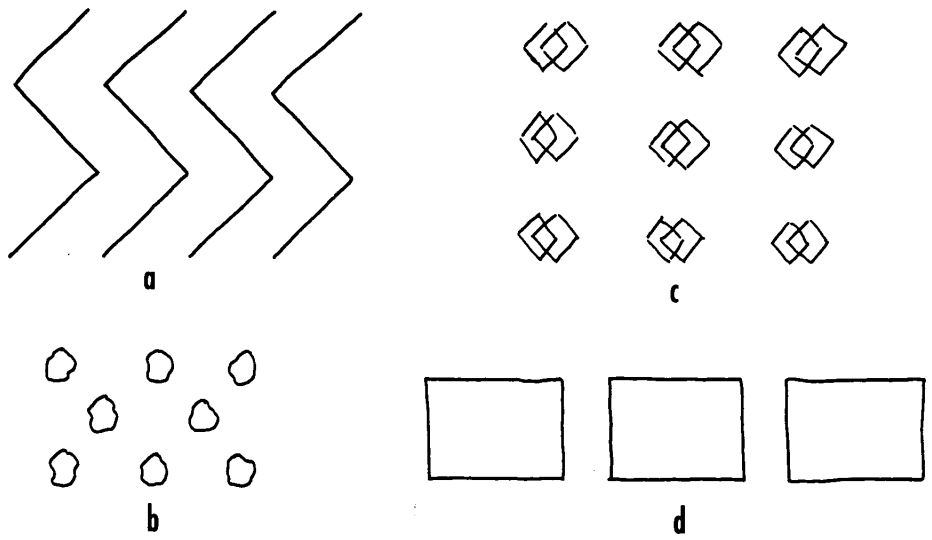


11. A photograph of the "squirrel" figure placed in the position in which it was woven, showing the curving of the weft yarns of the ground fabric to accommodate the added bulk of the decorative yarns.

used in producing the patterning.

In Uhle's descriptions of these fabrics in *Pachacamac* (1903), he has mentioned the use of figures of the rectangular type, cut out and "laid upon the head of the corpse or fastened to the shroud [these] seem to have been cut from larger pieces of stuff before being embroidered" (p. 30). Illustrations of two of these are shown with the "Textiles of the Epigone Period" (pl. 6, figs. 1, 3). One (specimen 29647 [3791]), a stylized human figure (also shown p. 30, fig. 30) is similar to that of figure 10 f, and is one of the same series of textiles. The second is the "squirrel" of figure 10 c (specimen 29653 [3791f]). A third, in the same technique but not cut out, is shown with the others (pl. 6, fig. 14). While this appears to be the same as that of figure 10 a, there is a discrepancy in the numbering (29662 [1085a], attached to the cloth in hand; 29663 [3229a] given in *Pachacamac*). It is possible that two similar, but distinct, specimens are represented. These three are of the rectangular design type. Neither the small repeat designs (fig. 4) nor the reversed diagonals are included with the "Epigone" textiles or elsewhere in *Pachacamac*.

Burial associations, as reported in Uhle's *Field Catalogue*, support this separation of the rectangular design type from the others to some extent, although the types were found intermixed within the burial grounds. All but two of the cloths seem to have come from "Burial Place Number One, beneath the temple of Pachacamac". (Uhle's place designations are particularly confusing in respect to some of this group, especially those listed in the Appendix.) The other two, one of the brocades (specimen 30174 [1090s]) and one of the simple repeat patterns (specimen 30153 [1090v]), are from an "excavation 10 meters to the west of the foregoing ones, at the foot of an old half-terrace." A few burial associations have been noted for the pieces from "Burial Place Number One." As mentioned previously, the two pieces carrying the same number (29760a,b [3258b]) were together. Both have simple repeat patterns; one is an embroidery. Another of the cloths with a small repeat pattern (specimen 29757 [1182e]) was found with the embroidery having a rectangular pattern (specimen 29759 [1182f]). Two of the rectangular patterns (specimens 2966a,b [1084], 29662 [1085a]) were from a "wrapper composed of different fragments." (p. 20). Five, of the other six in the same design category (excepting specimen 29650 [3792]), are "pieces of tissue of cotton with embroidered figures, parts of the wrapper of a mummy bale" (Appendix).



12. Diagram of the four basic design types.

- a. Reverse diagonal bands.
- b. Single small figure in a diapered repeat.
- c. Two or more small motives, usually in alternate rows, in a simple repeat.
- d. Rectangular block figures, of more or less rigidity and complexity.

These notes reveal no clear relationships between the various types of designs or between the techniques used in their production. The one embroidered rectangular pattern was found in association with one of the simple repeat patterns made in a combination of brocade and embroidery, as were, also, one of the two brocades, and the one example of an embroidered, simple repeat pattern. The rectangular patterns which were primarily woven, were not found in association with one of the other types. This may indicate that these were more or less unrelated to the others. However, the close associations of the small, cut-out, rectangular patterns of this group seem quite artificial, since all represent re-used fabrics, presumably brought together for funerary use. And, in respect to these particular pieces, there are no technical grounds to support Uhle's theory of embroidery being added to the cloths after they were cut to small sizes. The similarities of the yarns and colors and the evidence of vacillation between the use of two techniques, weaving and embroidery, in the production of both the simple repeat and rectangular patterns, together with their close proximity in the grave-field, makes this reasoning rather unconvincing. The design types are sufficiently distinctive as to be unrelated, but this offers no proof that they were not used concurrently.

The evidence gleaned from this sampling of "embroideries" from excavations beneath the Temple of Pachacamac indicates that both brocading and embroidery were used to produce the patterns of these fabrics. Generally the simple designs which were developed in several colors were embroidered; the patterns which crossed the entire width of each web, were woven-in, although the yarns of a single color did not continue across the web but turned back at the edge of the color unit of the design. Where the motives were independent units, not continuous, and the color selection was limited, the major part of each pattern unit usually was woven in, with the smaller color bits added as needlework. The weftwise position of the decorative yarns was maintained whether the method of insertion was brocading or embroidery. It was standard practice to use fine, firm, plain weave fabrics of good quality for the monochrome cotton grounds of both brocading and embroidery.

It is now impossible to determine when the embroidery was added. Was it after the whole fabric was woven and removed from the loom, as is customary today? When the cloth was complete but still on the loom? Or did it progress with the weaving, only a step or two behind

Table 1
Yarn Details—Brocades or Embroideries

Technique Classification	Specimen Number	Cotton yarns of ground fabric*				Design Classification
		Diameter		Number per inch		
		Warp	Weft	Warp	Weft	
Brocade	30174 [1090s]	1/64	1/64	46	30	Reversed diagonal
	Second web	1/64	1/64	46	30	
	30176 [3793]	1/64	1/64	64	34**	
	Second web	1/64	1/64	64	34**	
Embroidery	29664 [3222a]	1/48	1/48	36	30	Diapered repeat
	29760ab [3258b] (smaller piece)	1/48	1/48	44	28	Simple repeat
	29759 [1182f]	1/64	1/64	46	30	Rectangular***
Brocade and embroidery combined	29760ab [3258b] (larger piece)	1/48	1/48	48	28	Simple repeat
	Second web	1/48	1/48	50	30	
	30153 [1090v]	1/64	1/64	72	38	
	29757 [1182e]	1/48	1/64	68	24	
	Second web	1/48	1/64	68	24	
	29756 [3193b]	1/48	1/48	54	28	
	Second web	1/48	1/48	54	28	
	29661ab [1084]	1/48	1/48	52	24	Rectangular***
	Second web	1/48	1/48	44	24	
	29653 [3791f]	1/48	1/48	76	26	
	29662 [1085a]	1/48	1/48	60	23	
	2952a[3791e]****	1/48	1/48	52	24	
	2952b[3791d]****	1/48	1/48	50	26	
	29650 [3792]	1/48	1/48	80	28	
	29657 [3791i]	1/48	1/48	64	20	
29658 [3791h]	1/64	1/48	68	28		

*All are two-ply, Z-S spun, hard twist.

**The number of cotton wefts in pattern section (p. 4, text).

***These have reversible patterning, alike on both faces of the fabric.

****The letters of these two *Field Catalogue* numbers are reversed on the specimen tags.

the insertion of the various wefts? If both brocading and embroidery were present, was a needle or a shuttle used to carry the yarns of any brocaded sections? Certainly, in the case of the small repeat patterns, short lengths of yarn in the various pattern colors would have been ample to complete a motive. It is quite possible that many of the patterns were literally sewed onto the bare warps, progressing yarn by yarn as the ground fabric was woven. In this case, split yarns might be present; stitching back, and at angles, would have been possible, as well as overlapping, and thread ends could have been knotted, sewed in, or laid in the shed of the plain weave as in several of the present examples (notably one of the two webs of specimen 29756 [3193b]). Only finding one or more pieces of similar fabric, partially completed and still on the loom, with shuttles or needles intact, will clarify our knowledge of the methods used. More effort needs to be turned to identifying such a loom and carefully preserving any appended yarns and associated tools. The latter may appear to be only broken sticks, small bones or thorns. It seems likely that finding such a cloth in the process of construction would show that much of the patterning was added while the weaving was in progress, by methods more or less parallel to those used in Peruvian tapestry weaving, methods which lend themselves to use with a Peruvian loom, but not with a European-type loom having a fixed beater.

Looking at these textiles from the point of view of production, it is obvious that certain established procedures were followed in the spinning of the yarns, the selection and distribution of the colors, and the weaving of the ground fabrics. Certain accepted forms are evident, also, in the nature of the designs, their positions and their general extent. This holds in respect to both the complete design units or blocks and the individual motives comprising these blocks.

The craftsmen who produced these fabrics had mastery of the techniques of both brocade and embroidery and access to the essential tools. Their objective seems to have been to obtain a specific finished appearance, for each design type, but the evidence suggests that the method used in a particular case was left to the craftsman's discretion. There are no indications that the crafts, of embroiderer and weaver, were separate among the workers who produced these textiles found beneath the Temple of Pachacamac. Neither is there anything to suggest that our present-day dichotomous division into two distinct techniques had any meaning to these particular craftsmen. Thus it seems illogical to insist

upon classifying the majority of the textiles constituting this group as belonging to one category or the other, at least for the present. The same would hold for numerous other textiles from pre-Columbian Peru. When looms with partially completed textiles of similar types are found and reported, or pieces are discovered with work of a corresponding type in progress, accurate and meaningful classifications will be possible. It seems probable that, in addition to the clearly identifiable examples of brocade and embroidery, as generally defined, the presence of needle-made "brocades" or loom-worked "embroideries", or both, will be confirmed. When all of the various processes that were used are fully known, new categories for their classification, with different terminology, are likely to be needed. And, as a corollary, some traditional ideas will have to be discarded.

REFERENCES CITED

O'Neale, Lila M.

1937 Archaeological Explorations in Peru, Part III: Textiles of the Early Nazca Period. *Field Museum of Natural History, Anthropology Memoirs*, Vol. II, No. 3. Chicago.

O'Neale, Lila M. and Alfred L. Kroeber

1930 Textile Periods of Ancient Peru. *University of California Publications in American Archaeology and Ethnology*, Vol. 28, No. 2. Berkeley.

Uhle, Max

1896-1897 Field Catalogue, Notes and Report, 3 volumes, MS unpublished, on file in the University Museum, University of Pennsylvania, Philadelphia.

Uhle, Max

1903 *Pachacamac*. The Department of Archaeology of the University of Pennsylvania, Philadelphia.

DESIGN TECHNIQUES OF KASHMIR HANDLOOM TEXTILES

By

RACHAEL G. MOSSMAN

THE hereditary weavers of Kashmir have been master craftsmen for centuries. In portraits of former rulers of India, painted in the very exacting and detailed manner of miniatures, we find representations of Kashmir textiles, particularly shawls, which even in painted form convey the qualities of exquisite softness of material and beauty of design and color. A portrait of Abdullah Qutb-Shah of Golconda, known to have been painted about 1670, shows the ruler draped with a Kashmir shawl, the lightness and delicacy of which have been clearly expressed by the quality of the graceful folds of the garment as it was worn. Also, the basic plan of pattern arrangement, using narrow selvage borders to enclose the field and wider borders of foliated character at each end, is typical of the finest shawls produced at the present time in Kashmir. Both in material and workmanship such a shawl represents a superlative textile of great elegance and subtle beauty. A similar type of shawl, woven today, is appropriately called a "king's shawl" (*shah tus*).

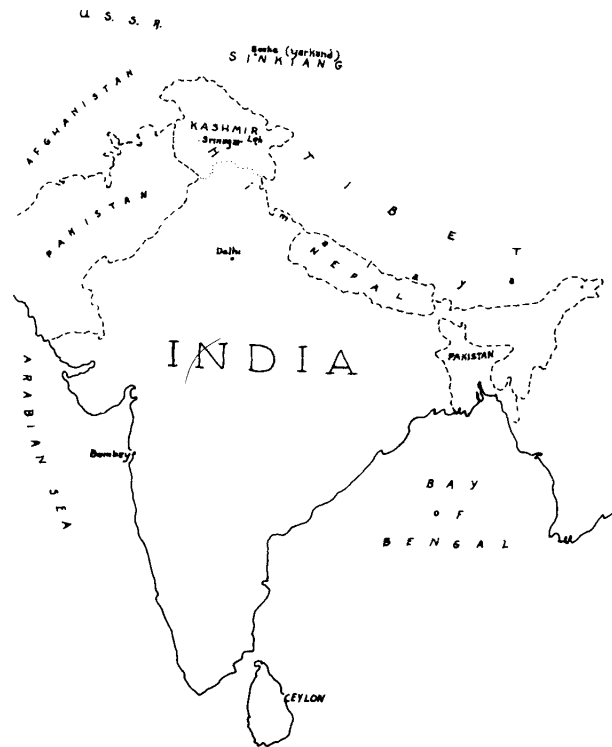
During the period of the great shawl-trade with Europe, magnificent textiles woven in Kashmir became world-famed for their superior softness and skilled workmanship as well as for the beauty of design and color. With the decline, which came rapidly due to the Franco-Prussian War (1870-71) and the development of the Jacquard-woven Paisley shawls of Scotland, which reproduced by mechanical means the laboriously handwoven textiles of Kashmir, the Indian weavers were left in a tragic situation. Bound to their looms by caste, with skill and intensive training gleaned from centuries of weavers before them, able to produce on simple looms textiles of exceedingly complicated pattern and outstanding beauty, they were suddenly cut off without a market. Many starved; many others fled into parts of what is now northern Pakistan and continued to weave for other markets, mainly domestic.

One of the most interesting accounts of the Kashmir side of the shawl-trade is to be found in W. Moorcroft and G. Trebeck, *Travels in the Himalayan Provinces of Hindustan and the Panjab: in Ladakh and Kashmir, 1819 to 25*, (London, 1841). Following the eclipse of the shawl-trade with the west, and the general decline of textile production

in Kashmir, however, little seems to have been written on the subject. The Kashmir weaver dropped from sight and ceased to be of interest to the western world. Although characteristic design patterns, which represent the peak of development of the Kashmir textile arts, remain popular throughout the west and have a permanent place in the design of modern machine-produced textiles, there remains a broad lack of knowledge or appreciation of the remarkable textiles still produced in the Kashmir Valley.

Before one can properly understand the significance of handloom textiles from any given area, it is necessary to consider some of the factors which were instrumental in determining the textile types represented. Geographical and climatic conditions establish the availability of specific fibers and define the need for certain textiles for clothing or other utilitarian purposes. Also, geographical location is important in the consideration of contacts through trade, conquest, or the diffusion of religious ideas, which may be reflected in the textile arts. The prevailing social structure, with its deeply entrenched traditions and taboos, that built in India a system of hereditary craftsmen, cannot be ignored. The type of loom used by the weaver is an important factor, as it limits him to definite techniques and sets the measure of the length and breadth of his textiles. Special processes through which the woven textile must pass, such as milling, stretching, and dyeing, contribute to the esthetic qualities of the final product and must be considered. Also, the methods and materials used in embellishment, such as embroidery or appliqué, play an important part in the creation of the design as a whole. With these factors in mind, let us consider some of the aspects of the Kashmir textile manufacture as it exists today.

Geographically located at the extreme northwest of India, amid the majestic peaks of the Himalayan Mountains (source of India's great rivers, and the traditional home of the gods), Kashmir is difficult of access from any direction. No railroad enters the area. In fact, the nearest town with a railroad is Pathankot, some two hundred and fifty miles from the Kashmir Valley. From Pathankot one must go by a dangerous road, leading over severe grades, which becomes impassable during storms and suffers frequent slumps of the roadbed due to insecure rock structure below. During good weather, small planes fly into the valley from Delhi, bringing government officials, businessmen, summer visitors from other parts of India, who come to escape the oppressive heat of the plains, and a few tourists from foreign countries. Conse-



quently, in spite of its scenic beauty, Kashmir has remained somewhat apart from the huge closely knit area of India to the south, and the inhabitants cling to more of the old established ways of past centuries. The farmer carries his crude wooden plow over his shoulder as he walks barefoot with his bullock to the field, and the Muslim woman still wears the all-enveloping *burqa*, which hides her face except her eyes when she is in public.

The population of Kashmir is made up of approximately ninety per cent Muslims and ten per cent Hindus, and thus, two widely divergent religious concepts contribute motifs and symbolism found in textile design. Floral patterns are highly favored, and the individual forms are transposed from the purely naturalistic to rhythmical conventionalizations of great delicacy. The lotus, which is the sacred flower of the Hindus and which blossoms in abundance in the shallow lakes of Kashmir, is never represented on textiles for Muslim use. Colors, too, have their individual meanings, green being the sacred color of Islam, while red and golden yellow have religious significance to the Hindus. However, while abiding by the traditions of Islam in designing textiles for their own use, the Muslim craftsmen (and practically all of the textile workers of Kashmir are Muslims) do

not hesitate to work on textiles designed for markets of other religious groups (see pl. VIII, an embroidered picture of figures from the *Ramayana*, a Sanskrit epic).

Srinagar, situated on the Jhelum River, at 6,000 ft. elevation, is the center of the Kashmir textile industries. From this town in the heart of the beautiful little valley glistening with lakes and surrounded by mountains, the roads wind off past many tiny hamlets to a number of small mountain villages. In the meager and poverty-stricken homes of these hamlets and villages many of the textile processes are carried on. A home may have one to three looms of the rigid-frame, counterbalanced type, having from four to eight treadles. Most of the looms can handle webs up to thirty-three inches in width and twenty-three yards in length, although many textiles woven on them are considerably smaller. There are no pit-looms in Kashmir such as are found throughout other parts of India.

Hereditary weavers always have been at the low end of the caste structure of India and still are among the most miserable and pitifully underpaid skilled workers, although the government is now making efforts to help them by the formation of co-operative organizations and weavers' service-centers, as well as by attempting to standardize prices for various types of work. The bitter animosity of the Muslims of Kashmir toward the Hindu government presents a serious obstacle to the success of the plan. Many weavers work in the small factories or workshops of Srinagar and own neither the looms on which they labor nor the yarns they handle. They merely do the work as ordered by the master of the shop, and may be paid around nine or ten annas per yard for unpatterned weaving (100 annas equal one rupee, which has a value of twenty-one and a half cents in United States money) and up to one rupee per yard for patterned work. Sometimes they are maintained by the owner and given a small percentage of the profit when a certain amount of goods has been completed.

Looms weaving plain yardage are often equipped with fly-shuttles. These are hand operated by a system of cords so that when the weaver jerks the control cord the shuttle is sent flying across the web. Another jerk sends it back. The operator merely alternates the foot action on the levers with the jerks on the cord and the swing of the lay. From a considerable distance, one can hear the steady "clack-clack" of the shuttles as they strike the leather barrier at the end of each throw and the lesser thud of the reed striking home the wefts. Plain weave, in

either silk or worsted yarns, and some of the twill weaves are woven in this way. But the fleece yarns of the finest quality (*pashmina*) are too delicate to be handled with fly-shuttles, even when the textile has no woven pattern.

Fleece of many different qualities, varying in color from cream-white to dark brown and black, is procured from sources near and far for the looms. The best wools produced in Kashmir and Jammu state are *Gurez* and *Bhadarwah*; the first being almost uniform in shade and color, rather crimped, with practically no coarse hairs; and the second, a very fine wool, which appears to have been obtained from young lambs and is very soft. But the finest qualities of sheep wool and goat fleece come from outside areas and are imported into the Kashmir Valley to be spun and woven. Australian merino, characterized by very long, soft, fine, white fibers, is usually mechanically spun, and hand-woven in twill weave for shawls and other fabrics requiring a worsted yarn of the highest quality. It frequently makes up the warps in textiles having *pashmina* weft patterns (pl. I, all-over patterned [*jamawar*] shawl) and for both warp and weft in shawls ornamented with borders of tapestry weave (*kani*) although the colored pattern wefts are invariably of coarser fibers (pl. VI, merino shawl with tapestry pattern). Many merino shawls (usually woven in two-by-two twill) and scarves varying in size up to forty by eighty inches, are woven without pattern in natural cream-white yarns. Warps are measured to suit the length of six or more standard-sized textiles (e.g. thirty-three by eighty inches for one type of shawl), and the weaver allows the warps to remain uncovered for about three inches at certain spaced intervals. After the web has been cut into individual textiles at these intervals, the uncovered warps become fringe which can be tied, wrapped, or left plain. The entire web may be dyed or the individual shawl lengths may be dyed any desired tint or tone, and later embroidered with silk floss. Gold or silver metallic thread sometimes outlines the floral motifs in couching, and adds a delicate richness to the design. Plate VII shows an excellent example of this type of merino shawl embroidered in chain stitch. Such shawls are designed largely for foreign trade.

The greatest contribution to the textile industry of Kashmir from the highlands to the north and northeast lies in the production of the finest wools and hairs used in textiles of superlative quality. Such fleece is known as *pashmina*, and is generally procured from goats, although a small amount is obtained from certain varieties of Himalayan sheep.

It is divided into a number of qualities mainly determined by the fineness and length of fibers, color, and silkiness or sheen. These characteristics are largely predetermined by the elevation at which the animal lives during the winter. Goats producing *pashmina* fleece, whether wild or domestic, have a common ancestry in the wild Central Asian goat, known by the name of *Capra hircus*. No goats of this type are raised in the Kashmir Valley, which has an elevation of only 6,000 ft. All such fleece, woven on the looms of Srinagar, is transported from higher elevations. As nature provides for the animal according to its need, the wild goats that winter higher in the mountains where the cold is extreme produce fleece superior in fineness, softness, and warmth,—as well as being of lighter, more beautiful tones,—to the fleece of domesticated animals.

The goat's fleece is made up of two distinct types of fibers, a long coarse outer covering which serves as a protection for the skin and a shorter downy under-fleece (*pashmina*) which provides the warmth necessary for survival during the severe cold winters at high altitudes. The inner fleece is shed during the warmth of summer, when it is no longer needed. The finest and silkiest *pashmina* comes from the underside of the wild goats that winter at great heights, and the difficulty of gathering the discarded bits by hand or of killing one of the animals for the fleece makes it extremely scarce and valuable. Plate II shows a shawl woven from yarns of the highest quality wild goat's fleece. It is of pale beige color, which lightens with age, and has highlights of golden-reddish hue. In its pure state, such fleece is too delicate to be pattern-woven on a loom, and it is therefore always woven in plain twill (usually two-by-two), later to be embroidered in silk with exceedingly delicate and beautiful handwork. Such fleece is the *asli tus* that Moorcroft mentioned in his travel account of the Himalayan area. It seems most appropriate that these rare shawls are called king's shawls (*shah tus*), for they have always been the most highly prized of all the shawl types because of the great scarcity of the fiber. It is interesting to note that, in Kashmir, they are sometimes referred to as "bird shawls," due to the old belief that the downy fibers actually came from the throats of mountain birds. A shawl of standard size (forty by eighty inches) weighs approximately five and one half ounces, complete with embroidery, and can easily be drawn through a thumb ring, as were the famous "ring shawls" of the Mughal period.

Only a very small amount of the *pashmina* woven in Kashmir is, or ever was, the fleece of the wild goat. Fleece from herds of domesticated goats has been transported, through the centuries, to Kashmir by two main routes: one leading from western Tibet through Ladakh to Leh, and from there to Srinagar; the other from the area of the Kirghiz nomads in the north, through Yarkand (in Chinese Turkestan) and southward. At the present time the activity of the Chinese Communist Army along the border of Ladakh in eastern Kashmir and Jammu state greatly jeopardizes this ancient trade (see map).

The process of extracting the inner fleece from domesticated goats is done in the same crude way today as it was several centuries ago. At the season of the year when the goat should begin to shed its inner fleece, the coarse outer hair is cut short with a sharp knife. A crude comb, made of several sharpened pegs tied together, is drawn through the fleece in the reverse direction to the growth and combs out the silky fibers which are always more or less mixed with coarse hairs. Loaded on the backs of large sheep, the fleece is transported in caravans over the mountain passes to centers of trade in Leh, where merchants buy it and arrange for its transport on the backs of small horses to Kashmir. There it is sold or given out in small portions to women who do the tedious work of separating the silky fibers from the coarse goat hairs, dirt, and extraneous matter. This process is called "picking" and is entirely done by hand. A skillful picker can separate approximately one ounce in an hour, the pure fine fleece (*tus*) varying between one-third and one-eighth of the original mass. It is further separated according to its color and quality, the lighter tones being considered more choice than the dark, which is of an olive-brown color with slightly greenish cast.

A quantity of rice, which has been steeped in water until soft, is drained and pounded to a coarse flour in a large wooden bowl with a stone. The picked fleece is put in and thoroughly mixed with rice meal for an hour, taken out, shaken, and pulled apart. The process is repeated and the fleece spread out to dry. Then it is shaped into squarish flattened pads (*timbu*), which are drawn out into half yard lengths of roving (*mala*) with fibers arranged suitable for spinning. Eventually, it is spun by hand on the crude spinning wheel (*charka*) which is used throughout north India. The fibers are handled delicately, giving the yarn a very light twist, and spun in single-ply or double-ply yarns as desired. All of the preparation of the yarns, including reeling and winding, are done by women; but all following processes are done by men. These include

the careful measuring of the warp, dipping the yarns in a light starch made from water in which rice has been boiled, drying and arranging yarns, cutting the yarns, threading the heddles, weaving, washing, stretching the textiles, and embroidering them. Looms are the same rigid-frame, counterbalanced type with four treadles as used for other textiles, with the exception that they always have string heddles while a few of the other looms have metal ones. Although the looms often appear poorly constructed, the weavers are so skillful that the textiles turn out remarkably even and well-woven. Temples are employed to help keep selvages even. Slender hardwood boat-type shuttles with metal tips are used, and small reed bobbins wound with yarn are inserted as they are needed. Filled bobbins are kept in a box beside the weaver and are within easy reach so that he works swiftly with scarcely a pause.

After the delicate king's shawl (*shah tus*) has been woven and removed from the loom, it is stretched tightly over a frame with four short legs. A workman sits cross-legged at each end of the frame and using a pair of broad-tipped tongs begins the slow process of plucking from the textile, bits of fuzz (*purz*) and any coarse hairs that were spun in the yarns. The surface of the textile is repeatedly brushed with the dried stringy inside of a gourd, called a "*karella*," to raise any stiff hairs; and the workers slide their hands over the surface to locate them for plucking. After the fabric feels entirely smooth and soft, it is turned over and the process repeated on the opposite side. Probably there are no other textiles known that possess the airy silky quality of a superior shawl of this type. It is composed of the lightest, warmest, and softest fibers among all the wools and hairs woven into textiles.

An interesting variation of *pashmina* shawl-weaving is found in a weft-loop weave which produces an exceptionally warm type of "Turkish towelling." Warps are closely spaced in a two-by-two twill. Two shots of ordinary weft are laid, and the next weft is pulled up between warps in little loops with a pointed wooden needle. A loop is drawn up about every ten warps. As the warps are set about eighty to the inch, this is very fine work, requiring keen eyesight and much patience. One small shawl requires at least a month of swift, steady work.

Pashmina fleece of other qualities is woven into many types of textiles. It may be used as a fine soft weft in shawls made with a silk warp (pls. III and IV). These textiles have a unique quality due to the combination of silk and fleece; the silk warps show in the usual two-by-two twill weave and create diagonal ribs or wales of light across the

dyed fleecy wefts. Concerning dyed *pashmina*, it should be stated that usually it is the dark-toned fleece that is dyed, consequently the colors are deep and rich. Light colored *pashmina* (not as fine as the fleece required for the king's shawls [*shah tus*]) is sometimes dyed for pattern wefts in twill tapestry shawls (pl. I, all-over patterned [*jamawar*] shawl in twill tapestry), and the lighter the natural hue of the fleece, the brighter and clearer the pattern colors of the finished textile. In a shawl of this type, the warps are always of stronger fibers than the delicate *pashmina* wefts, because of the strain and friction on the warps as the pattern is woven. Most frequently, merino yarns of fine quality make up the warp, especially if a light background is desired. It is very difficult to determine the exact fiber of yarns because of the practice of blending various types before spinning. Hence, yarns may be made up of several different types and qualities.

In twill tapestry the weaver does not use a boat-type shuttle. Instead, he has many small bobbins made of hardwood sticks about three inches long, with smooth pointed ends which have been hardened by scorching over charcoal. The various colors of yarn needed for the pattern are wound on individual bobbins called "*tojis*." These textiles are woven face down, and each weft color is interlocked with the adjoining color weft (fig 1a). Formerly, shawls were woven in many pieces and sewed together to form exceedingly intricate patterns. The very few woven at the present time are woven all in one piece, and of much simpler patterns (pl. I), although these, too, require a tremendous amount of skilled labor.

Vegetable matter is still used for the dyeing of *pashmina*, which may be done by dyeing yarns before the weaving is started or after the textile is complete. Lichens from the Himalayas, roots, herbs, flowers and fruits from cultivated or wild plants may be used by the professional dyers (*rangrez*). Safflower grows in abundance in Kashmir and contains two pigment principles which produce saffron yellow or saffron red and also give variations of pink and rose; Indian madder (*manjith*) provides other reds and purplish-reds. *Al* (*Morinda tinctoria*), turmeric (*Circuma longa*) and indigo are some of the other vegetable-dye-producing sources for reds, blues, and greens. The liquor made from iron filings (*kath*) is the basic ingredient for black. Many tones of browns, from buff to deep greenish-olive, are natural shades of sheep or goats' fleece. "Folli-mort," or dead-leaf, is a favored color for shawls, probably because it is the natural hue of some of the rarest and most desirable goat

fleece. Merino and Himalayan sheep's wool textiles are dyed with synthetic dyes imported from Europe. In two-faced textiles, each weft may be of a different natural tone, such as light buff and chocolate brown; or the weft of one side may be a natural tone, and the opposite dyed; or both wefts may be dyed (e.g. green and rose). The dyeing is always done by men from families of hereditary dyers. Large copper pots are set in cement with an oven-like opening below, where a fire can be built to heat the dye. Wools may be kept in the hot dye several hours or may be removed in a few minutes, according to the tint or shade desired. Silk yarns to be dyed are wound in a large hank, dipped in a pot of water, wrung out, and hung on a smooth stick. The hank is then lowered into the hot dye bath, and turned while hanging from the stick so that all parts of it can absorb the dye before it is drawn out. As it is lifted from the dye, another stick is inserted into the opposite end of the hank. By turning these sticks in opposite directions the hank is squeezed tightly and the excess dye wrung out. The hank is then hung in the shade to dry. With the first dipping, the silk acquires a light tint. When deeper tones are desired the silk is repeatedly dipped and dried until the proper shade is reached.

Similar large copper pots are filled with soapy water in which newly woven woollens are soaked and squeezed for an hour or so in a fulling process. Each piece is carefully timed to allow a certain amount of shrinkage, which softens the fibers and gives the textile a fluffy texture. After it has been removed from the water, rinsed, and hung up until it stops dripping, it is spread flat on a very low table. A cylinder, made from a log smooth on the outside and split in half length-wise, is brought to the table and one-half placed, split side up, at the end of the textile. A workman lifts the textile-end and places it smoothly on the split side of the log, and the opposite half of the cylinder is laid on top, holding it fast. The log is then rolled along the table with the textile winding around it, care being taken by the workmen to keep the cloth smooth as it is rolled up. The end is folded under, and with a needle and thread one of the workmen quickly sews it down. Next, the log, with the textile wound around it, is placed on end and a thick wedge driven between the split halves with a sledge hammer. Young boys perform this part of the process with one or two well placed blows. The cylinder is then turned end for end and another wedge driven between the split halves. The wedges must be well centered to give an even stretch to the textile. Even delicate textiles are treated in this crude manner, which stretches the

yarns and holds them tightly until they are thoroughly dry. The wrapped cylinders are placed outside in the sun if the weather is pleasant, but during the winter, or when it is raining, they are stacked like cord wood in a room with a dirt floor, where a metal boat-shaped container of hot charcoal is left to help with the drying. Plate VI shows a shawl with a fold and needlemarks plainly visible at one end, the results of such treatment. Textiles processed in this manner do not shrink.

Beyond the cluster of hamlets and villages surrounding Srinagar rise the snowy heights of the Himalayas. Over the high passes, between the mountains, wind ancient caravan routes that have been followed for several thousand years, connecting Tibet and China on the east, Russia (Siberia) on the north, and Persia and Afghanistan on the west. From each of these directions have come materials and ideas which have influenced the construction and design of textile crafts of the Kashmir people.

From China came the knowledge of the domesticated silk worm (*Bombyx mori*), although the entire silk process was a carefully guarded secret for a long period of time. The use of silk floss and various embroidery techniques have come from the same source, as well as the adaptation of many essentially Chinese motifs. Although the embroidered picture shown on plate VIII is unmistakably Indian, the flying clouds (*t'chi*), the use of a partial form such as the flowering tree-branch with birds, and the particular arrangement of flat color areas in the foreground (which strongly suggests patterns formed by eccentric wefts in Chinese tapestries) are Far Eastern ways of interpreting nature in art. However, the sensitivity of the Kashmir designers enables them to borrow motifs and ideas from other cultures, and to blend them gracefully with typical Indian motifs in a thoroughly harmonious manner which eliminates any feeling of inappropriate, alien additions.

Sericulture was established in Kashmir during the last quarter of the nineteenth century, with *Bombyx mori* eggs from France and Italy, after it was determined that mulberry trees suitable for feeding the worms were plentiful in the valley. The first silks were produced in 1894. It was largely through the efforts of Sir Thomas Wardle that this industry was started, and early in the 1900's he arranged for two hundred looms to be sent there for the instruction of Kashmirians in the art of patterned silk weaving. Sericulture is now a government monopoly in Kashmir and is highly controlled. Eggs are distributed to the villagers who rear the silk worms and sell back the cocoons to the factory, where

they are processed and the silk reeled. Handsome raw silk textiles of several varieties are woven, either in natural tints, or in processed silk warps (which are very fine and almost transparent), crossed with dyed raw silk wefts. The practice of using processed undyed silk warps (e.g. whose silk has been degummed and separated into fibrillae which are spun) with dyed raw silk wefts gives a subtle richness to the textile by creating minute variations of tone, by adding a quality of light (raw silk has a more subdued lustre than processed silk), by allowing greater flexibility in the warps, and by establishing a notable difference in the diameter of warp and weft yarns. The latter produces the effect of very fine weft ribbing in the web. Processed silk is woven into yardage of many varieties, including very sheer, medium and heavy weight "China silks," and striped, checked and plaid patterns of heavier varieties. Also, processed silk is used in the twill weaves of all-silk shawls, and as warp in shawls having dyed *pashmina* wefts (pl. IV). Saris may be woven entirely of processed silk yarns of many hues with tapestry-patterned (*kani*) decorated ends (*pallav*), or may be block printed or embroidered. One favored sari type is composed of processed silk in the body of the textile, and both processed and dyed raw silks in the decorative end (*pallav*) (fig. 2). Kashmir saris often feature colorful plain weave tapestry decorated ends (pl. IX) and laid-in weft spots throughout the body of the cloth. One unusual technique combines weaving and dyeing processes in the following manner: the sari is woven in undyed silk with design motifs in colored cotton wefts; after weaving is complete the textile is dipped in dye which has no effect upon the cotton yarns but tints the silk background. Silk tapestry, called "*kani*" from *kanikar*, meaning a woven pattern, is woven face down, with small bobbins of colored silk instead of a shuttle. Each weft is interlocked with the adjoining one at the edge of a color area (see fig. 1e and pl. IX). The tussah silk worm (*Anthereae mylitta*), which has been domesticated in several parts of India, also provides some of the silk woven in Kashmir. Although this silk is more intractable than that of the *Bombyx mori*, ways were found to reel it, to separate the many fibrillae making up one filament, and to weave, dye, and block print the fiber. Gentlemen's wrappers (rectangular garments composed of two sections of material twenty-seven inches wide, either of silk or fleece, sewed together) are frequently woven of tussah silk. The fabric may be designed with narrow horizontal stripes in dark colors, or with tiny flame or cone forms (*kalkas*) in all-over (*jama-war*) pattern. The small all-over motifs are worked on a twill base by lifting a specified number of warps with a small pointed stick

and inserting short lengths of colored silk in laid-in technique. (For the technique, see fig. 1d.) Twill tapestry technique is also used in silks of this type.

From tomb finds in the Altai Mountains (Pazyrik) it is known that the processes for felt-making were practised by the central Asiatic nomads long before the Christian era. Large decorative wall-hangings and saddle-bags were found which had been highly ornamented with appliqué motifs of animals, birds, human shapes, and graceful leaf-like forms. By the study of other artifacts associated with such textiles, it has been determined that these nomads had contacts with the Chinese, the Persians, and other neighboring people. Whether the felt-making processes of Kashmir actually had their origin in this land to the north is not established, but it seems most likely. In Kashmir, today, the ancient methods of felting are practised in their simplest forms. No machine tools whatsoever are employed in the making of felt rugs (*numdahs*). They are embroidered with chain stitch designs in colored wool yarns, done with a metal hook known as "*ara kunj*." The hook is set in a wooden base which fits smoothly against the palm of the hand and is forced through the entire felted mass to bring up the yarn, which is held under the rug in the left hand. The technique is not indigenous to India, but has become an established method of design on *numdahs*. Its characteristic pattern gives an interesting outline to conventionalized floral, animal, or bird motifs, when worked on a natural-colored background; and more elaborate designs of considerable charm may result from combining chain stitch with set-in pieces of colored felt, or felt appliqué. As *numdahs* are not products of the handlooms, felting methods used in their construction are not included in this study. However, one related type of textile (possibly an outgrowth of felt appliqué) should be mentioned. The *gabbah* is a carpet utilizing pieces of old discarded woolen fabrics dyed in bright colors ornamented in one of the three following methods: appliqué, chain stitch embroidery of colored worsted yarns; or appliqué and chain stitch embroidery. This is a utilitarian folk art and makes use of old woolen garments, much as early Americans did in their patchwork quilts. Patterns are simple, usually consisting of large conventionalized floral shapes, and the colors generally favored are bright primary hues—such as red, green, and yellow outlined in chain stitch of a dark tone. Designs have none of the subtle qualities of patterns used on fine shawls or saris, and obviously spring from an entirely different source.

Although the Kashmir weaver owes much to the lands to the north and east for the finest fleece for his yarns and for certain techniques, he owes as much to the west (particularly Persia) for a rich heritage of design principles and motifs. The flame or cone form (*kalka*) in its many varieties has long been a favorite motif in Kashmir textile design (pls. I, III, and IX). It is believed to have originated in Persia, inspired by the flame-shaped cypress tree with its tip bent to one side. Also, the creeper with flowers which forms a delicate network (*jhal*) between cones or flames (*kalkas*) (pls. III and IV), or runs a continuous border of repetitive floral and curling vine motifs along the edges of shawls (pls. II and III) in a notable contribution from the same source. The illumination of sacred manuscripts with foliated designs was widely practised in Persia, and this delicate decorative patterning spread with the diffusion of Islam into India. By A.D. 1587 Kashmir was under the control of the Mughals, and it became a pleasure spot for the rulers because of its cool climate and delightful setting. Textiles woven for their use were designed in accordance with their taste, and thus Persian motifs and color arrangements were favored. To the Persian, living in a hot parched land, the picturing of flowers, vines, trees and water symbolized paradise. Likewise, they preferred colors such as greenish-blues, deep greens, burnt orange, violet, and old gold; muted tones of secondary hues were arranged to give a very rich but somewhat cool effect. With the establishment of special workshops to provide the Mughal palaces with the most luxurious handicrafts, and the importation of Persian craftsmen to instruct the Indians, many graceful and intricate design practices became a part of India's heritage. Textile design, in particular, was enriched with many new motifs of foliated character and rhythmic composition, which became gracefully mingled with the stripes and geometric patterns of earlier periods. Plate IX shows the decorated end border (*pallav*) of a sari beautifully designed with both geometrical patterns and conventionalized floral patterns. Even the particular flowers selected for textile patterns in Kashmir at the present time, such as roses, lilies, carnations, tulips, pansies and clusters of fruit blossoms, as well as their arrangement in mixed bouquets springing from a common stem, are typical of Persian decorative art. Also, the suggestion of a vase or container, sometimes root or base, (pl. VII) is a reflection of a Persian trait. The use of the diagonal line (usual plan for arrangement of floral sprigs [*buti*] in shawl field), the ogee arch interpreted in vine and tendrils (pl. V), and the diaper arrangement of floral forms are decorative patterns in Kashmir weaving

and embroidery derived from Persian architectural ornament. The delicate black outline which encloses each petal and miniature leaf embroidered in silk floss on the finest king's shawls (*shah tus*) (pl. II) is a Persian device for setting each hue apart, so that colors do not neutralize each other by direct contact. The result is an exquisite pattern with the rich beauty of jewelled inlay.

Whether the actual technique of the twill tapestry shawls of Kashmir originated in Persia has not been determined, but according to Reath and Sachs, *Persian Textiles* (New Haven, 1937), pp. 8, 43, two fabrics in this weave, claimed to be Persian, predate the earliest known examples of Kashmir. Twill tapestry technique is not found in other parts of India. It is interesting to note that the technique of tapestry with dove-tailed wefts, as practised in Kashmir at the present time (pl. VI), was woven in Persia prior to the Mughal period of India, and may be the source of this method of weft join, which does not occur in Chinese silk tapestry (*k'o ssu*). However, this technique destroys the clean linear outline in which the Persians generally delighted, and creates a diffusion of color in a feathery line.

Chain stitch appears to have come from the west, for it is practised in various ways along the western side of India as far south as Kutch. Some authorities feel that it originated in Asia Minor and was brought to Kashmir by Turkish tradesmen. It has become firmly established in Kashmir and is worked on a great variety of textiles, ranging from rugs with solid worsted patterns to graceful semi-conventionalized floral borders on merino shawls worked in silk floss. All types of chain stitch embroidery, whether very fine or coarse, are worked with a hook. Patterns may be block printed with colored starchy paste, or may be reproduced on the textile by pouncing with charcoal dust or chalk and the line strengthened with pencil or a creamy ink containing fleeting color, that is, color which will wash out. Some large motifs are drawn directly on the textile with charcoal, when it is a coarse material. Color areas are kept flat, with shading, but direction of the rows of chain may follow the outline or be rhythmically arranged to contribute to texture and to the design as a whole.

Needleworked embroideries of many types and qualities form decorative patterns on caps, tunics, saris, shawls, and many other textiles. Shawls patterned entirely in needlework (termed '*amli*, from '*amlikar*—“needleworked”) appeared at the beginning of the nineteenth century. The technique was brought to Kashmir by an Armenian named Khwaja

Yusuf, who came for trading purposes. There are several methods of working, depending upon the quality of the textile and the type of weave. The embroiderers (*rafugars*) make up a large group of very specialized hereditary craftsmen, and those who embroider in chain stitch never do needlework on textiles of fine quality. At an early age boys begin to learn the craft, sitting cross-legged beside the father and doing simple parts of a pattern. Each type of flower or other motif must be embroidered in a precise way with a definite number of stitches, and so expert do the *rafugars* become that three men may work on one shawl with no apparent difference in the result. Needles are held pointing outward, contrary to our usual method of holding them.

Three varieties of embroidered shawls are represented on plates II, III, IV, and V. Plate II shows the exceedingly fine and delicate type of embroidery suited to the superlative quality of the king's shawl (*shah tus*). Plates III and IV each show a complicated pattern requiring a variety of stitches in many tones which creates a rich effect by multitudes of tiny flecks of color in close proximity. Plate V shows a type of embroidery particularly planned for a double-faced fabric. After the pattern is marked on the shawl, it is embroidered in two different color arrangements, one on the face and one on the reverse side, both worked in one operation. Certain stitches penetrate the cloth, so that the return of the silk yarn, preparatory to the second stitch, becomes a part of the pattern on the reverse side. Other stitches penetrate but only nip up a small bit, forming a dot of color on the reverse side, and lay the main stitch on the face, with another nipped-up spot to hold it. Directly over that stitch another stitch is worked in reverse arrangement with a contrasting color, so that the long stitch is on the reverse side and the tiny dots of color holding it are on the face of the textile. By varying the colors and emphasis, the completed pattern on one side appears to have a completely different color scheme from that on the reverse. However, close examination shows minute flecks of color from the opposite color harmony, which actually add to the richness of the design. Certain necessary stitches are planned so they they will be largely hidden by later stitches. Such meticulous ways of working do not allow for any stray stitches on the reverse side, as that would break the pattern sequence. No knots are visible; in fact, it appears that none are used. All ends are carefully concealed. The amount of necessary planning by specially trained designers and craftsmen is amazing.

Another source of influence on Kashmir textile design should be

mentioned. During the period of the great shawl trade, designs prepared in Kashmir were sent to Europe, particularly to France, where they were redrawn to suit better the prospective buyers. The rearranged patterns were sent back to Kashmir, where other alterations frequently took place before the shawl weavers copied them. Some of the European modifications of ancient motifs (such as the elongation of the pendent tip of the cone form [*kalka*]) have survived and are found on present day textiles from Kashmir.

Altogether, influences and resources from many lands far removed from Kashmir have shared in shaping the types and the distinguishing characteristics of textiles now produced there. The artistic sensitivity of Kashmir designers and craftsmen has made it possible for them to accept many contributions and to select and blend various materials and design concepts in a harmonious manner which has become distinctly their own. There seems always to be a beauty of proportion and a gracefulness of arrangement which entirely suits the basic character of the textile. Patterns are worked in flat color areas, whether loom-woven or embroidered, with no attempt at creating a feeling of a third dimension. In embroidery, the larger abstract forms are filled with inner foliations of broken colors in secondary tones; this produces a quality of rich vibrant color. In woven patterns, the larger color areas are relieved by allowing the contrasting warps to show, or by creating minor breaks in the form (e.g. the three narrow transverse white areas carried through the blue cones [*kalkas*] in pl. I). Other methods of breaking up large areas are found in the changes of background colors between motifs, or the variation in hues of repeated forms of the same motif (pl. IX). Textiles often show a very skillful blending of geometric and conventionalized forms, and also a subtle variation in texture by changing the number, size or character of pattern wefts. The remarkably fine artistic sensitivity of the Kashmir designer, together with the great patience and technical skill of the weaver and embroiderer, creates unusual textiles of beautiful design and lasting charm.

SOURCES

Much of the material for this paper was gathered by the author during a recent visit to India. Through the courtesy of Mr. R. K. Tiku, director of the Kashmir Silk Industries, she was able to visit homes, workshops, and small factories, while craftsmen were actively engaged in their work. Thus she was able to see many of the complicated technical processes that lie behind the finished textiles of Kashmir.

Other information was found in exhibits of Kashmir textiles in Indian museums of Madras, Bombay, and Delhi, but the most notable collection, by far, was found in the Textile Museum (also called The Calico Museum of Textiles, as it is located on property of the Calico Mills Co.), Ahmedabad, India.

All textiles shown on plates I-IX are from the author's collection of Indian textiles; technical studies were made of these and of others not included in the plates.

BIBLIOGRAPHY

- Abu'l-Fadl, 'Allami. *The Ain-i-Akbari (The Institutes of Akbar)*, translated from the original Persian by H. Blochmann and Col. H. S. Jarrett. Calcutta, Baptist Mission press, 1873-1894.
- Ackerman, Phyllis. "Persian Textiles," *Ciba Review*, 1953, no. 98.
- All India Handicrafts Board. "The Kashmir Shawl," *Marg*, 1952, vol. VI, no. 1.
- All India Handicrafts Board. "Handlooms," *Marg*, 1962, vol. XV, no. 4.
- All India Handicrafts Board, Government of India Publications. *Handicrafts of India*.
- Baden-Powell, B. H. *Handbook of the Economic Products of the Punjab*, vol. II of *Handbook of the Manufacturers and Arts of the Punjab*. Lahore, 1872.
- Barker, A. F. "The Textile Industries of Kashmir," *Indian Textile Journal*, 1933, vol. XLIII, no. 508.
- Bhushan, Jamila Brij. *The Costumes and Textiles of India*. Bombay, D. B. Taraporevala and sons, 1958.
- Bhushan, Jamila Brij. *Indian Jewelry, Ornaments, and Decorative Designs*, Bombay, D. B. Taraporevala and sons, 1955.
- Birrell, Verla. *The Textile Arts*. New York, Harper Brothers, 1959.
- Coomaraswamy, Ananda K. *The Arts and Crafts of India and Ceylon*. New York, Farrar, Straus, 1964.
- Cyclopaedia of India and of Eastern and Southern Asia*. 2nd edition, 5 vols. Madras, 1871.

- Irwin, John. *Shawls*. London, Victoria and Albert Museum, 1955.
- Journal of Indian Art 1884-1916*. 17 vols. (nos. 1-136). London, 1884-1917.
- Journal of Indian Textile History*, 1955-1959, nos. 1-4.
- Karpinski, Caroline. "Kashmir to Paisley," *The Metropolitan Museum of Art Bulletin*, November, 1963, pp. 116-123.
- King, Margaret R. *Cashmere Shawls*. Cincinnati, 1921 (Cincinnati Museum. Textile series no. 2).
- Leix, Alfred. "Turkestan and Its Textile Crafts," *Ciba Review*, 1941, no. 40.
- Leix, Alfred. "Early Oriental Textiles," *Ciba Review*, 1942, no. 43.
- Mehta, Rustam Jehangir. *The Handicrafts and Industrial Arts of India*. Bombay, Taraporevala's Treasure House of Books, 1960.
- Mookerjee, Ajitcoomar (ed.). *Designs in Indian Textiles*. Calcutta, Indian Institute of Art in Industry, 1955.
- Moorcroft, W. and Trebeck, G. *Travels in the Himalayan Provinces of Hindustan and the Panjab . . . 1819-1825*; ed. by H. H. Wilson. London, J. Murray, 1841.
- Museum of Modern Art. *Textiles and Ornaments of India*. New York, 1956 (Exhibition catalogue).
- Reath, Nancy and Sachs, Eleanor. *Persian Textiles*. New Haven, Yale University Press for Pennsylvania Museum of Art, 1937.
- Riefstahl, Rudolph M. *Persian and Indian Textiles from the late sixteenth to the early nineteenth century* (folio of plates with introduction). New York, 1923.
- Riefstahl, Rudolph and Elizabeth. "Notes on the Study of the Trade Routes of Central Asia," *Bulletin of the Needle and Bobbin Club*, 1937, vol. 21, nos. 1 and 2.
- Swarup, Shanti. *The Arts and Crafts of India and Pakistan*. Bombay, Taraporevala's Treasure House of Books, 1957.
- Victoria and Albert Museum. *Indian Embroidery*. London, 1951.
- Weibel, Adèle Coulin. *Two Thousand Years of Textiles*. New York, published for the Detroit Institute of Arts by Pantheon Books, 1952.
- Wool, Hosiery and Fabrics of India and Pakistan*. Oldham, John Worrall, Ltd., twelfth edition, 1961.

PLATE I

All-over patterned (*jamawar*) shawl, hand-woven. Kashmir, India, 1963.

Size: length 2.16 m. width 1.15 m.

Fibers: warp—fine white merino fleece, 1z, 2s, medium twist; set 50 per 2.5 cm.

weft—fine cream white goat fleece (*pashmina*), 1z, 2s, soft twist; count 50 per 2.5 cm.

pattern weft—same in deep royal blue, lavender, rust, viridian green, cerise; spun 1z, 2s, soft twist.

Weave: evensided twill tapestry with interlocking wefts (see fig. 1 a). The inverted row of small motifs at both ends of the shawl shows some wefts floated on the reverse side between motifs, and the small lozenge shapes between the larger cones (*kalkas*) of the field show outline wefts floated from one side of the motif to the other on the reverse side. The remainder of the pattern, including the small dots of color, is woven with interlocking wefts.

Pattern: rows of cone forms (*kalkas*) with pendent tips, facing right in one row and left in the next and separated by two irregular lozenge forms, are repeated in alternate arrangement over the entire central field (*matan*). A narrow undulating ribbon with conventionalized flower and stem motifs in repetitive pattern borders the central field on the sides, edged by green weft selvages. A fine line of rust-colored dots separates the side borders from the central field, and changes to alternate dots of rust and lavender at the ends of the shawl. Below the field of cones (*kalkas*) an enlarged version of the ribbon and flower motif runs from selvage to selvage. Completing the pattern area of the shawl, and locking it to the plain twill ends, an inverted border of vine and pendant flowers in conventionalized forms runs from selvage to selvage. Cones (*kalkas*) are royal blue, broken in two places by white wefts which soften the form, and centered with five cerise spots like a stem with a green recurved leaf on either side at the base. The lozenges are lavender with an outline of rust. A very handsome and complicated woven pattern. *Kalka* is 4 cm. long.

Selvages: green wefts interlocked with white background wefts extend along edges of central field, in a stripe 1 cm. wide. Remaining selvage shows no special treatment.

Fringe: cut warp-ends left as fringe (2 cm. long) at one end; at opposite end warps have been grouped (25 to 30) and tied in a tight knot 2 cm. from end of web, the uneven ends extending approximately 4 cm. (It appears that a rod, around which the warps had been tied while on the loom, had been removed and the warps left as they were tied.)



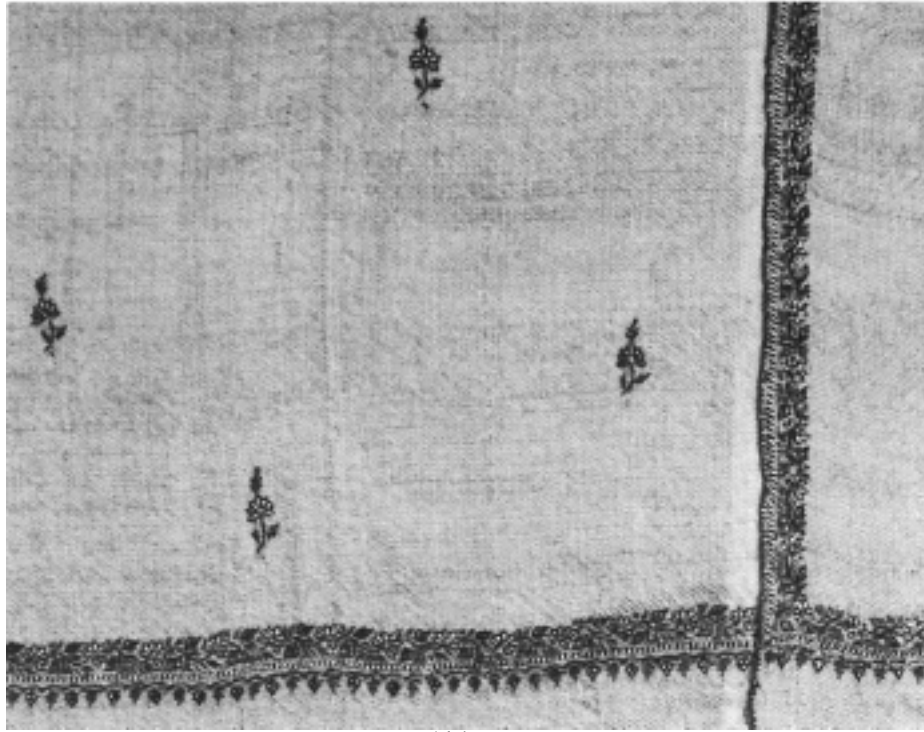


PLATE II

King's shawl (*shah tus*), hand-woven and embroidered. Kashmir, India, 1963.

Size: length 2.05 m. width 1.02 m.

Weight: 5½ oz.

Fibers: warp—natural color light beige, finest quality goat fleece, 1z, 2s, medium light twist; set 75 per 2.5 cm.

weft—light beige, same as warp, 1z, 2s, light twist; count 75 per 2.5 cm.

Weave: even-sided twill (2 by 2) (see fig. 1 a).

Embroidery fibers: silk floss, 1z, 2s; single or double strands.

Embroidery colors: buff, dark brown, Persian blue, rose, golden brown, gold, cream, and black.

Embroidery pattern: traditional Kashmir arrangement of a central field with floral sprigs in diagonal rows, enclosed with undulating vine-and-flower motifs at both selvages, and with the same vine motif repeated at either end, the pattern broadened by the addition of an inverted row of miniature leaves. All embroidery is of the finest and most exquisite workmanship imaginable; the vine-and-flower bands measure only 6 mm. in width, but each petal glows like a tiny jewel outlined in black.

Embroidery stitches: buttonhole stitch, very fine couching, satin, stem, or outline stitch. All work is so skillfully done that the reverse side appears as beautiful as the face. See pl. II where right-hand side shows reverse of fabric folded over face.

Selvages: no unusual treatment. Edges strengthened by very fine couching and buttonhole stitches.

Fringe: cut warps left as fringe 6 cm. at one end, 1.5 cm. at the other.

Finish-lines: seven shots of brown goat fleece yarn, 1z, 2s, marking end of standard shawl length.

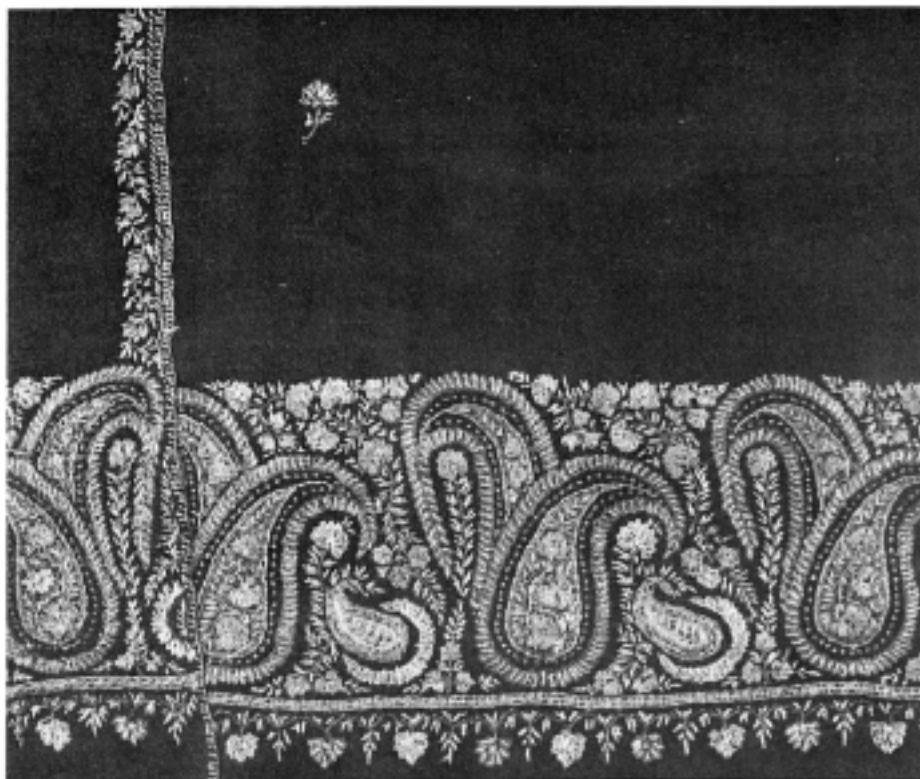


PLATE III

Shawl, hand-woven and embroidered. Kashmir, India, 1964.

Size: length 2.08 m. width 75 cm.

Fibers: warp—very fine wild silk (*tussah*), 1z, 2s, dyed plum; set 100 per 2.5 cm.
weft—very fine goat fleece (*pashmina*), 1z, light twist, dyed deep red;
count 50 per 2.5 cm.

Weave: evensided twill (2 by 2) (see fig. 1 a).

Embroidery fibers: fine silk floss, 1z, 2s; single or double strands.

Embroidery colors: two tints pink, medium blue, Persian blue, buff, apple green,
lavender, red-violet, gold, light blue.

Embroidery pattern: arrangement follows traditional Kashmir plan of wide end
borders of two parts—large cone forms (*kalka*), here in pairs overlapped
at base with pendent tips curving one to the right and one to the left,
in a network pattern (*jhal*) of stems, flowers, and smaller cones, with a
narrow inverted flower-and-leaf border below; a central field sprinkled
with floral sprigs (*buti*) and enclosed at the sides with an undulating
vine-and-flower border.

Embroidery stitches: buttonhole, satin, stem or outline stitch, and very fine couching.
Remarkable workmanship. See pl. III, where left side of textile is
folded back to show reverse side.

Selvages: paired warps 6mm. at each side of textile; extra strengthening provided
by couching and fine buttonhole stitch along selvage.

Fringe: cut warps left as fringe 2cm. long, except for 1 cm. of web adjoining
selvage left to prevent raveling.

Finish lines: band of deep purple wefts 8mm. wide marking standard length.



PLATE IV

Shawl, hand-woven and embroidered. Kashmir, India, 1964.

Fibers: warp—very fine silk, 1z, 2s, light twist, pale grey; set 100 per 2.5 cm.

weft—fine goat fleece (*pashmina*), 1z, 2s, soft twist, dyed deep apple green; count 80 per 2.5 cm.

Weave: even-sided twill (2 by 2) (see fig. 1 a).

Embroidery yarns: fine silk floss, 1z, 2s; single and double strands.

Embroidery colors: three tints of pink, deep red, white, cream, yellow, brown, red-violet, medium blue.

Embroidery pattern: arrangement follows traditional Kashmir plan of wide end borders of two parts—large cone forms (*kalkas*) set in network of flowers and vines with a narrow inverted border of flowers and leaves below and narrow side borders of undulating vine and floral motifs. End-border is 10 cm. wide.

Embroidery stitches: buttonhole, couching, satin, stem or outline stitch.

Selvages: paired warps 1 cm. along edge; couching and buttonhole stitch strengthen edge.

Fringe: cut warp ends 2.5 cm. at both ends of textile, with 1 cm. of web left at either side to prevent raveling.

Finish lines: 8 shots of dark green *pashmina* yarn marking standard length.

PLATE V

Double-faced shawl, hand-woven and embroidered (*shuni shawl, duranga aksi*).
Kashmir, India, 1963.

Size: length 2.05 m. width 96 cm.

Fibers: warp—fine Himalayan sheep fleece, natural milk-chocolate brown, 1z, 2s, medium twist; set 60 per 2.5 cm.

weft—two separate weft yarns used alternately: 1) fine sheep fleece, same as warp, 1z, light twist; count 62 per 2.5 cm.; 2) fine sheep fleece dyed rose pink, 1z, light twist; count 62 per 2.5 cm. *Note*: combined wefts total 124 per 2.5 cm.

Weave: double-faced twill, weft-faced (see fig. 1 c and explanation of weaving techniques).

Embroidery fibers: silk floss, 1z, 2s, light twist, single or double strands.

Embroidery colors: on dark weft face of textile—muted orange, deep wine red, viridian green, blue, rose-pink; on rose-pink weft face of textile—medium blue, periwinkle blue, Persian blue, viridian green, gold, muted orange.

Embroidery pattern: palmate leaf from native plane tree (*chenar* leaf) repeated over the main field and as narrow border along selvages; a row of *chenar* leaves in clustered arrangement with reversed flower-head forming each graceful end border (12 cm. wide); inverted *chenar* leaves hang as pendants from the vine scrolls below main borders.

Embroidery stitches: satin, stem or outline, a variety of back stitch, spaced button-hole stitch used as couching over another color strand.

Embroidery technique: The same pattern is worked on the face and the reverse side in one process. Some colors are worked through the entire fabric and take their place in the design on the reverse side. Other color yarns are only nipped into the outer wefts, or show as a tiny spot on one side with the main stitch on the opposite side. The work has been so carefully planned that a distinct color contrast results to suit each face of the two-color material. (See left side of plate V.)

Selvages: strengthened by six paired warps.

Fringe: cut warps left as fringe 2.5 cm. at both ends of shawl, except for 1.5 cm. of web next to selvage which is left to prevent raveling.



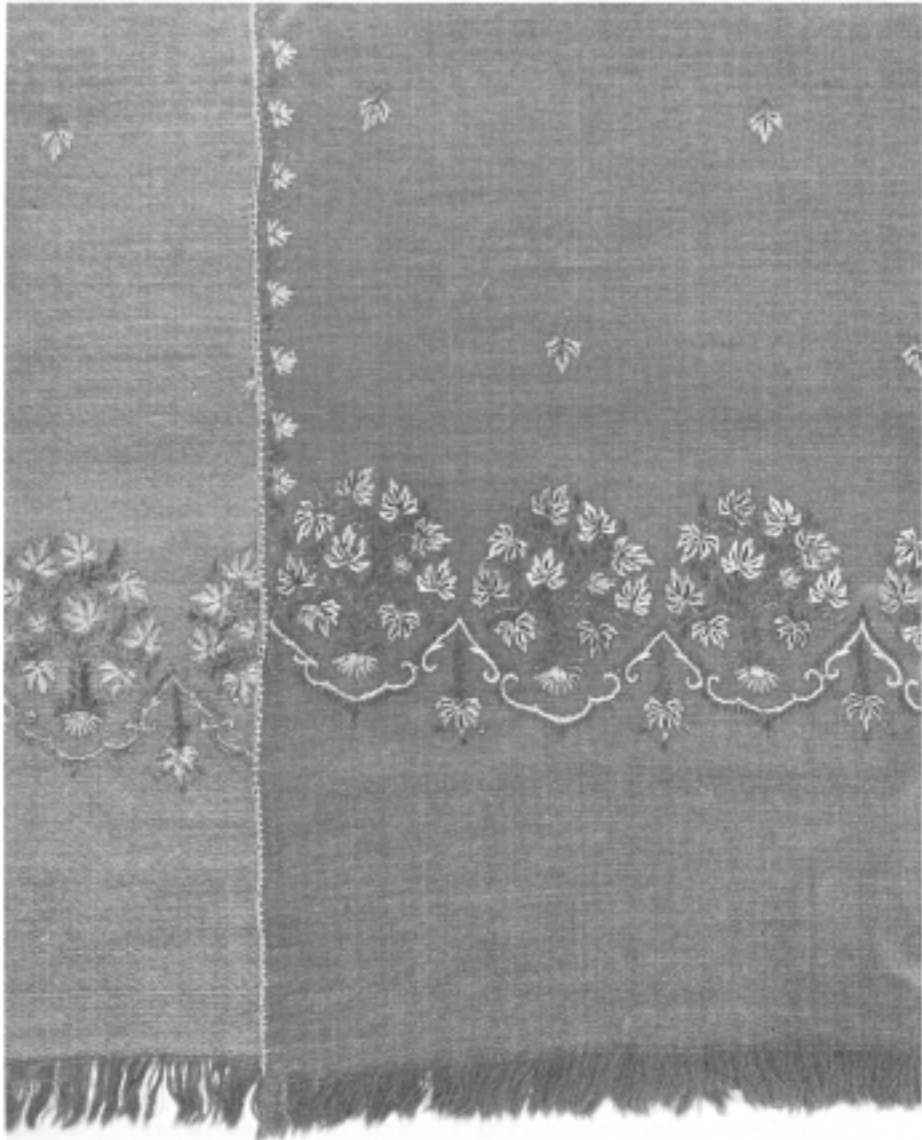


PLATE V

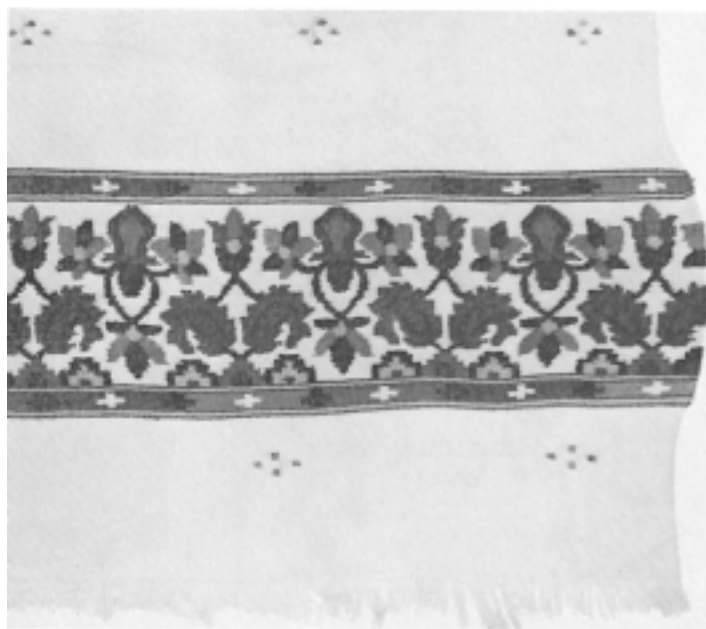


PLATE VI

Shawl, loom-patterned (*kanikar*). Kashmir, India, 1963.

Size: length 2 m. width 82 cm.

Fibers: warp—fine, cream-white merino fleece, 1z, 2s; set 60 per 2.5 cm.

ground weft—fine, cream-white merino fleece, 1z, soft spin; 70 per 2.5 cm. in body and ends of shawl.

pattern weft—wool, 1z, soft twist, paired, not as fine as ground wefts; colors—red, Persian blue, deep green, brilliant pink, dark royal blue, orange, yellow; 30 per 2.5 cm.

Weave: evensided twill (2 by 2) with laid-in extra weft spots (see fig. 1 d) in field and ends of shawl below border. Basket-weave tapestry with dove-tailed wefts around one pair of common warps or around multiple pairs of common warps (see fig. 1 b), used in wide pattern border only.

Pattern: small repeats (*buti*) composed of four laid-in extra-weft spots (with each *buta* woven in two complimentary colors—orange and blue, or pink and green) in diagonal rows across body of shawl and in an additional horizontal row below wide border. Patterned border divided into three parts: a wide band (16 cm.) of conventionalized flower, leaf and stem shapes springing from a band of geometrical floral forms in groups of three at the lower side of the border, edged above and below by a narrow weft band of color enclosing simple geometric cross motifs repeated in a background of varied color areas. Entire pattern reversed in band at opposite end of shawl. These end borders (22.5 cm. including main band and two narrow borders) have been placed 12 cm. above the fringe at either end of shawl.

Selvages: evensided twill, same as body of shawl with exception of basket-weave area; three paired warps at edges.

Shawl-ends: warp fringe 2.4 cm. long at one end, 1.2 cm. at other. Horizontal crease and needle impressions at one end result from stretching process.

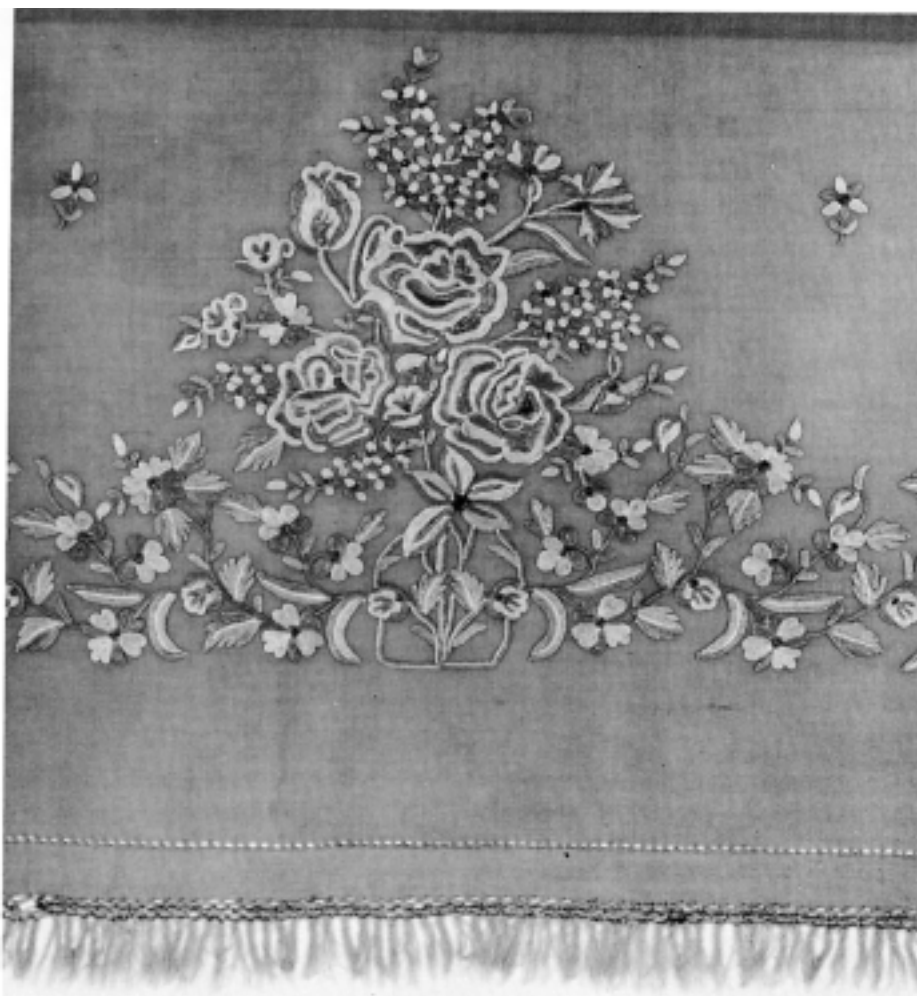


PLATE VII

Shawl, hand-woven and embroidered. Kashmir, India, 1963.

Size: length 2 m. width 85 cm.

Fibers: warp—fine merino fleece, 1z, 2s; set 40 per 2.5 cm., dyed turquoise.

weft—fine merino fleece, 1z, soft twist; count 75 per 2.5 cm., dyed turquoise.

Weave: evensided twill (2 by 2) (see fig. 1 a).

Embroidery fibers: silk floss, 1z, 2s; very light twist. Colors—three tints of dusty rose, beige, two tints of apple green in floral motifs; pale grey (fine worsted yarn, 1z, 2s) in hemstitching and wrapped fringe work.

Embroidery stitches and techniques: fine chain stitch, hemstitch, and decorative wrapped fringe work.

Embroidery pattern: small floral sprays flanking arrangement of large roses, carnations, tulips, lilies, and daisy types combined with stems and several forms of leaves; all parts worked in flat or linear manner, no shading. Same reversed at opposite end of shawl. 29.5 cm. at greatest height; set 16 cm. from lower edge of weaving and extending from selvage to selvage.

Selvages: slightly heavier warps used for 1 cm. along edges.

Fringe: warp ends divided into small groups, wrapped and redivided into five rows of ornamental openwork ending in fringe 3.5 cm. long.



PLATE VIII

Handloom cotton textile, embroidered. Kashmir, India, 1963.

Size: length 51.5 cm. width 52 cm.

Fibers: warp—cream-colored cotton, 1z, 2s, medium twist; set 50 per 2.5 cm. (paired).

weft—cream-colored cotton, 1z, medium twist; count 50 per 2.5 cm. (paired).

Weave: basket weave (see fig. 1 b).

Embroidery fibers: fine wool, 1z, 2s, medium twist; colors—five shades of brown, two tints yellow-green, pink, salmon, gold, rose-red, grey. Silk floss—1z, 2s, light twist; colors—grey, four shades of green, two shades of gold, medium blue, three tints of red, two tints dusty pink, two tints of salmon pink, orange, two tones brown, black, beige, two tints of yellow, turquoise, Persian blue, peacock, red-violet.

Embroidery stitches: very fine chain stitch (27 rows wool chain stitch per 2.5 cm. and 26 rows of silk chain stitch per 2.5 cm.).

Embroidery pattern: scene from Hindu mythology.

Selvage: one with no special treatment. Three raw edges are whipped with widely spaced variation of blanket stitch, using double two-ply strand of cotton.

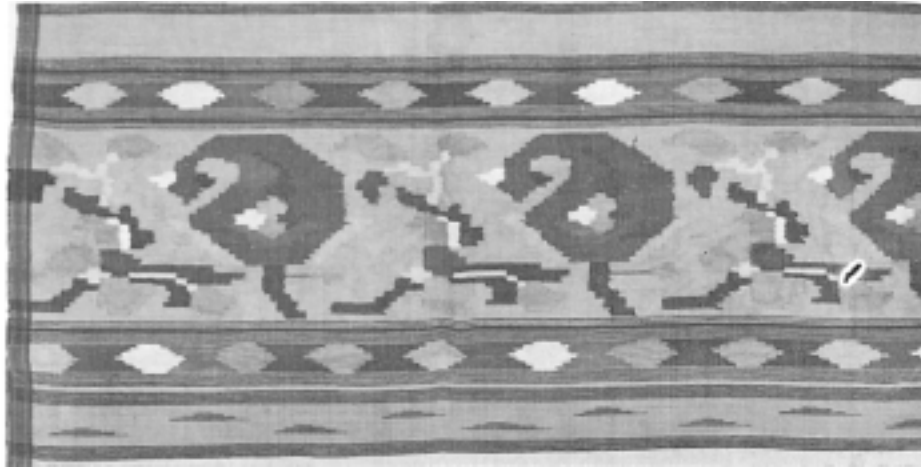


PLATE IX

Sari, loom-patterned (*kanikar*). Kashmir, India, 1963.

Size: length 5.5 m. width 1.10 m.

Fibers: warp—silk (*Bombyx mori*), pink, 1z, 2s, very light twist; set 110 per 2.5 cm.

ground weft—pink silk, same as warp; count 110 per 2.5 cm.

pattern weft—double-strand multiple-filament silk floss; count 35 per 2.5 cm. in decorated end border (*pallav*); single-strand multiple filament silk floss in selvage-to-selvage bands and in laid-in motifs of *pallav*. Colors—turquoise, white, yellow, orange, royal blue, deep pink, green, brown, Persian blue, red.

Weave: plain weave, square count throughout sari except in *pallav*. Plain-weave tapestry with interlocking wefts (see fig. 1 e) in patterned end-border (*pallav*). Plain weave with extra laid-in color wefts (see fig. 1 f) in geometric spot motifs in narrow lower band of *pallav*.

Pattern: large cones (*kalkas*), with pendent tips, alternating with conventionalized floral motifs in broad band (13 cm. wide) across end border (*pallav*). This broad band is bordered top and bottom with narrow weft color bands and simple geometrical shapes in tapestry, with an additional narrow band below with flattened triangular shapes in laid-in color wefts. All color areas are kept perfectly flat, without shading or any attempt at detail such as leaf veins. Edges of all motifs are in stepped patterns or horizontal lines, no curves included.

Selvages: slightly heavier warps used in 1.4 cm. stripe in red and turquoise along both selvages.

Finish lines: a broad band of brown silk wefts (7.3 cm. wide) divided into four equal parts by three loops of royal blue. The remaining 12 cm. of sari length is crossed at intervals of 2 cm. with one loop of brown silk.

Fringe: both ends of sari left with cut warps in uneven fringes 2.3 cm. long.

FIGURE 1

Reconstructions of Weaving Techniques from Kashmir Textiles Shown on Plates I-IX

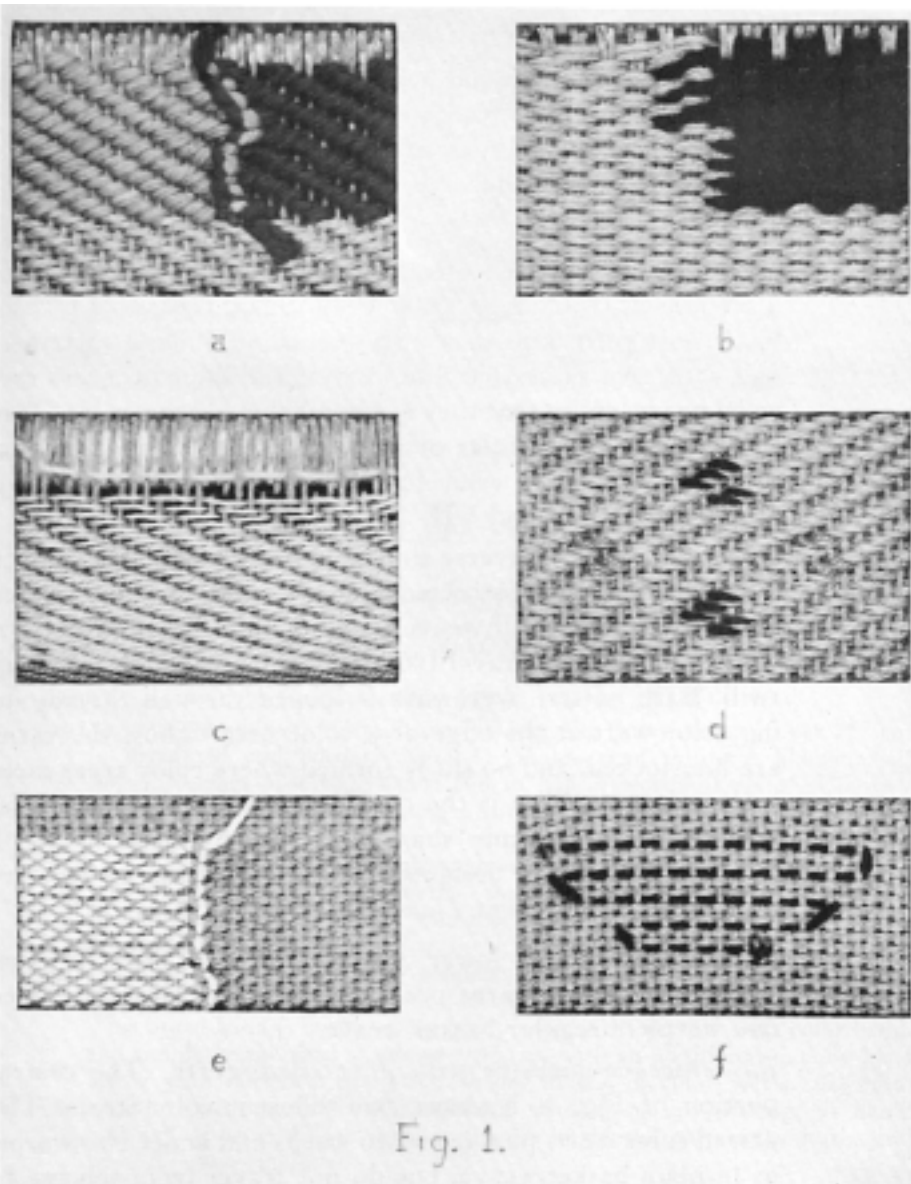
Each reconstructed weave sample has been placed with the warp running in vertical direction and the weft yarns in horizontal position. Likewise, each sample has been placed in the position in which it was woven, with either the face or the reverse side up. An explanation of each reconstructed weave follows.

Fig. 1 a *Evensided twill* The lower portion of the illustration shows a plain even twill (2 by 2) which forms a reversible textile. Each weft yarn skips over two warps and under two warps, and with each successive shot of weft the skips progress forward one warp, so that they are in echelon arrangement. This results in diagonal wales or ribs in the textile. Kashmir textiles woven in plain even (2 by 2) twill are illustrated in plates II, III, IV, and VII.

Tapestry twill (Reverse side of textile shown.) The upper portion of the reconstructed textile in Fig. 1, a shows the same two-by-two twill weave, but introduces colored pattern wefts which do not travel from selvage to selvage as in plain twill. Each pattern weft yarn is looped through the adjoining color weft at the edge of a color area. Thus, the yarns are interlocked, and no slit is formed where color areas meet between warps. This is the traditional technique used in the world-famous Kashmir shawls of past centuries. Plate I shows a beautifully designed and woven shawl in tapestry twill technique, all-over (*jamaṭwar*) pattern.

Fig. 1 b *Basket-weave* The lower portion of the reconstruction shows paired weft yarns passing over two warps and under two warps in regular basket weave.

Basket-weave tapestry with dovetailed wefts The central portion of Fig. 1, b shows two different color areas. The paired color wefts pass over two warps and under two warps, as in plain basket-weave, but do not travel from selvage to selvage. At the edge of a color area the wefts of one color and the wefts of the adjoining color *pass alternately around the same pair of warps*, so that the wefts are dovetailed, and no slit is left between the color areas. In Kashmir textiles of



this weave, no attempt is made to compress the wefts to hide the warps. (See plate VI.)

Basket-weave tapestry with dovetailed wefts around multiple warps The upper portion of the reconstructed weave shows two color areas in which adjoining paired color wefts are carried *alternately around more than one pair of common warps*. The number of common warps involved in multiple-warp dovetailing may vary in one decorative motif, producing a diffused feathery line. The wide shawl border of conventionalized floral and geometric motifs shown on plate VI is woven in basket-weave tapestry, with dovetailed wefts around a common pair of warps or around multiple pairs of common warps. These variations of basket-weave tapestry produce reversible textiles.

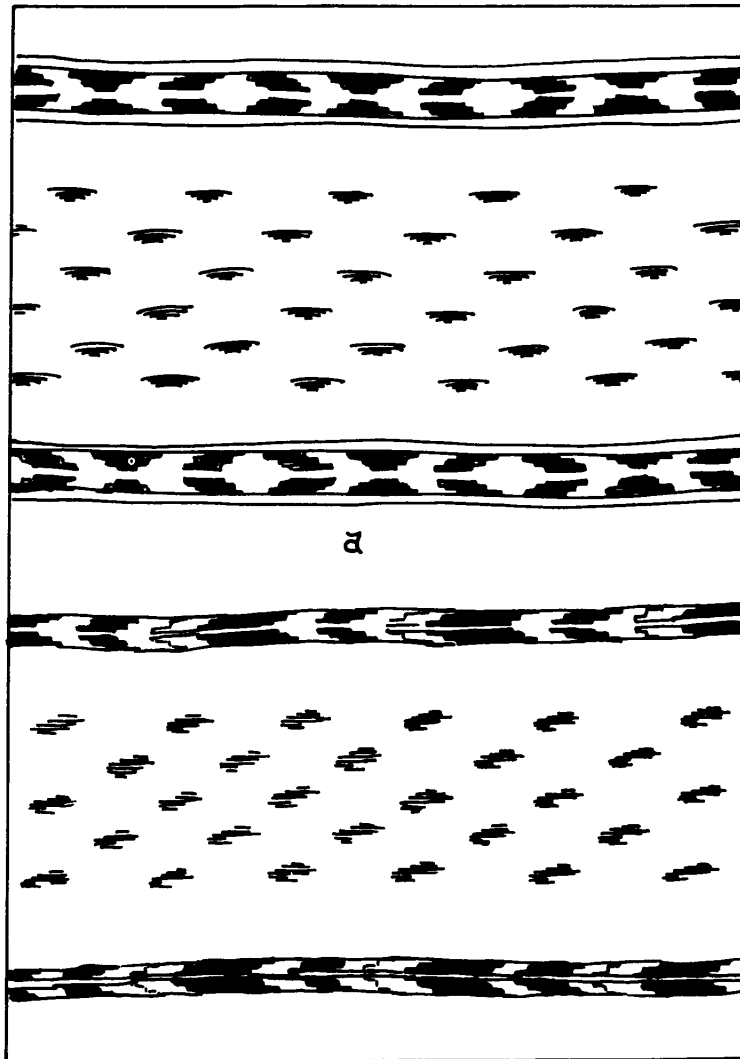
Fig. 1 c *Double-faced twill weave* The reconstruction shows a weave which produces a textile with face of one color and the reverse side of entirely different hue, but both sides in the same twill. This effect results from the use of two separate color wefts carried alternately in twill weave thus: one shot of color (1) weft under one warp and over three warps, followed by one shot of color (2) weft under three warps and over one warp, repeat. The 'over one' portion of weft color (2) must always fall in the center of the 'over three' skip of the previous weft. The upper part of the illustration shows the relationship of the two separate wefts as they are laid in the web, and the lower portion shows the compact color-area of the face of the textile. Plate V shows a corner of a double-faced twill weave shawl, which is reversible, with embroidery which is also reversible (*shuni shawl, duranga aksi*).

Fig. 1 d *Evensided twill weave with laid-in color wefts in pattern spots* The basic weave is a regular two-by-two twill. After a shot of weft has been laid, short lengths of extra color wefts (usually paired) are placed in the same shed, as desired, with the ends left hanging free. The shed is changed; another basic weft yarn is thrown across, then the free ends of the extra color wefts are laid between the warps as desired, and the process repeated according to the shape and size of the decorative color spot. Due to the diagonal line of

twill weaves, the added weft spots always form assymetrical shapes which are attractive small accents (*buti*) on a plain field. On the reverse side of the textile, the extra color wefts are simply looped from one weft row to the next, and floated from one color spot to another when convenient. This method of patterning does not produce a reversible textile unless the floats and ends are carefully removed. The small spots (*buti*) (each composed of four extra color weft spots) on the shawl shown in plate VI are examples of this type of weaving.

Fig. 1 e *Plain weave tapestry with interlocking wefts* (Reverse side of textile shown.) In this reconstruction two different color areas are clearly visible. The weft yarns pass under one warp and over one warp as in plain cloth, but do not go from selvage to selvage unless a solid color band is desired. The weft is not packed down to cover the warps, as it is in most plain weave tapestry in other parts of the world. At the edge of the color areas the two adjoining color wefts are looped through each other, so that the yarns are interlocked and no slit is left between the color areas. This technique is known as '*kani*' in Kashmir, from the word '*kanikar*' meaning a woven pattern. It is mainly used to create patterned silks, especially the highly decorative end of women's saris known as the *pallav*. Plate IX shows a portion of the *pallav* of a pink silk sari woven in this technique.

Fig. 1 f *Plain cloth weave with laid-in extra color wefts* (Reverse side of textile shown.) In this reconstruction basic wefts run from selvage to selvage, over one warp and under one warp in plain cloth weave. After one shot of basic weft has been laid, an additional weft of a different hue is placed in the same shed wherever desired, with the end left hanging free. The shed is changed. Another basic weft is laid (sometimes several basic wefts are laid) and the extra color weft drawn through as many warps as necessary to shape the intended motif, and the process repeated. Usually very simple shapes form the motifs, and they are placed in horizontal or diagonal scatter arrangement on a plain field, forming *buti*. (See plate IX. The lower band of the sari *pallav* is ornamented with flattened stepped triangles woven in this technique.)



b

FIGURE 2

Two silk sari decorated end-borders (*pallavs*) with woven (*kani*) patterns.

Decorated end-border (*pallav*) of red silk sari patterned with geometric band in interlocking tapestry and field spots (*buti*) of laid-in extra wefts. Colors—red, blue, orange, gold, green, and pink on pink background.

Decorated end-border (*pallav*) of Persian blue silk sari patterned with bands of interlocking tapestry in geometric motifs and field spots (*buti*) in cone or flame form (*kalka*) in laid-in extra wefts. Colors—red, orange, blue, green on aqua background.



CLUB NOTES

The past year of the Needle and Bobbin Club is yet one more to be most agreeably remembered. Its meetings, abundantly provided for by generous hostesses, furnished delightful social exchanges as well as stimulating vistas into the many-sided world of textiles, both past and present, some interestingly familiar to us from our own travels and collections, some excitingly exotic.



Mrs. Chauncey J. Hamlin, Mrs. Daryl Parshall, and Mrs. Arnold Wilson invited the members of the Needle and Bobbin Club to the Lotus Club on October 27th to hear Miss Mary Alice Smith, Editor of *The Handweaver and Craftsman*, discuss "Twentieth Century Weaving in the United States." The subject, somewhat novel among the Club's lectures, was particularly interesting in this setting so full of old-fashioned character and charm, and the tea was, as always, delicious, abundant, and enjoyed by all.



On November 17th, Mrs. Madison H. Lewis generously opened her home to the Needle and Bobbin Club members for a meeting on another aspect of textiles in the 20th century. Mrs. Margaret D. Nelson, a member of the Association of Interior Decorators and a stylist of fabrics, spoke to the Club on "The Needlework Look in Today's Textiles." This subject was of particular interest to the many Needle and Bobbin Club members, who are skilled needlewomen or connoisseurs of traditional needlework themselves. A generous tea provided a delightful finish to the program.



Four charming hostesses invited the Needle and Bobbin Club to the New York Academy of Sciences on January 18th to hear Mrs. Dassah Saulpaugh, Conservator of The Design Laboratory at the Brooklyn Museum, talk on a subject dear to the hearts of many, "American Coverlets of the Eighteenth and Nineteenth Century." These hospitable ladies—Mrs. Wells Browning, Mrs. Charles B. Martin, Miss V. Isabelle Miller, and Mrs. Theodore F. Savage,—offered a most delicious tea which was greatly enjoyed by all.

The members of the Needle and Bobbin Club were happy to return to the Lotus Club on February 10th at the promising invitation of Mrs. Rudolph Fluegge and Mrs. Norris W. Harkness to hear Miss Nell Znamierowski, weaver and designer, talk on "A Weaver's Voyage through Greece and Crete." Everyone enjoyed this colorful journey and the lavish and delectable tea which followed.



The Annual Meeting of the Club was held on March 10th at the New York Academy of Sciences. Mrs. Leighton H. Coleman and Mrs. James A. Edgar were gracious hostesses for this most important yearly event and provided a sumptuous tea. "Sources of English Flower Embroidery in the 17th and 18th Centuries" was the appropriately spring-like subject of the lecture by Miss Helen Lowenthal, formerly Museum Lecturer and Chief of the Educational Department in the Victoria and Albert Museum in London.



Mrs. A. Benson Cannon, Mrs. Walter C. Douglas, Mrs. Raymond T. von Palmenberg, and Mrs. Eliot Lee Ward were the hospitable hostesses who invited the Needle and Bobbin Club members to the Lotus Club on April 19th where Dr. Jenny Schneider, Curator of the Swiss National Museum, Zurich, addressed them on "Swiss Embroideries." A most agreeable and plentiful tea followed where members enjoyed conversation with each other and with Dr. Schneider.



The yearly spring pilgrimage of the Needle and Bobbin Club took place on May 12th. Mrs. Leighton H. Coleman had invited the Club members to an embroidery exhibition at her home, "East Farm," at Stoneybrook, Long Island, with the suggestion that they stop *en route* to tour Old Westbury Gardens and attend an embroidery exhibition in Westbury House, the Georgian Mansion. Equipped with box lunches, the members set out in a chartered bus. They hugely enjoyed the beauty of Old Westbury Gardens and a brilliant embroidery exhibition of both American and European contemporary embroiderers, including Beryl Dean, Anna-Lisa Odelqvist-Kruse, Erica Wilson, and the late Mariska Karasz, which had been arranged at Westbury House by Mrs. Alastair Bradley Martin and Mrs. Frederic P. Houston. Arriving at Mrs. Coleman's house, the members found her unexpectedly absent, but Mrs. Earl Kress Williams came most hospitably to their rescue, and invited them into her charming home nearby for shelter and sherry. Refreshed by this, they returned to Mrs. Coleman's house where they looked at an embroidery show, part of a benefit tour of local houses. The full day was voted a great success by all who took part.

The welcome first fall meeting of the Needle and Bobbin Club was held at a favorite spot, the Lotus Club, where Miss Mary Walker Phillips—weaver, knitter, and free-lance designer—spoke on “Knitting—Historical and Contemporary.” Mrs. John Gerdes, Mrs. John Williams Morgan, Mrs. Maurice P. Van Buren, and Mrs. Eliot Lee Ward were the hostesses for this delightful occasion and provided a most substantial and refreshing tea after the lecture, where members exchanged news of their summer activities.



Mr. Joseph V. McMullan, Research Fellow in Islamic Art, The Fogg Museum, and author of a recently published book on Islamic carpets, delighted Needle and Bobbin Club members on November 9th with his breezy and knowledgeable talk on “The Early Rugs of Islam,” which he illustrated with beautiful slides of rugs in his own collection. Mrs. Robert McC. Marsh, Mrs. Fremont A. Chandler, Mrs. James N. Dunlop, Mrs. Conrad J. Goddard, and Mrs. James McKinley Rose entertained him and their fellow members in the felicitous setting of the headquarters of the National Society of Colonial Dames in the State of New York, where they offered a charming tea after the lecture in the lovely dining-room of this beautiful old town house.



The cocktail-tea party given for members of the Needle and Bobbin Club and their escorts and husbands during the Christmas season by Mr. and Mrs. Norris W. Harkness has become one of our most delightful Club traditions. On December 8th, 1965, and December 13th, 1966, members and guests joyfully celebrated the holidays in the festively decorated Harkness apartment, extending heartfelt thanks and warm wishes of the season to their generous host and hostess, and happy holiday greetings to each other, over the lavish refreshments.

IN APPRECIATION

Miss Edith Appleton Standen, Associate Curator in charge of the Textile Study Room at the Metropolitan Museum, has been editor of *The Bulletin of the Needle and Bobbin Club* for ten years, from 1956 until her most unwelcome resignation at the end of 1966. She will be missed for much, however, beyond the brilliant execution of these editorial responsibilities.

She has been a sustaining force behind the Club's lecture program, bringing forward and making the arrangements for varied and outstanding lecturers. Few, one might note, were more interesting than she herself in her own numerous lectures contributed to the Needle and Bobbin Club during this time. She has suggested trips, arranged special exhibitions and programs at the Metropolitan Museum, and brought in new members. She has been indefatigable in forwarding the interests of the Needle and Bobbin Club and in promoting things of interest for them.

With our heartfelt thanks to her and deep regrets at her resignation goes the hope that she will not entirely desert us but will continue her role, at one remove now, as mother goddess to the Needle and Bobbin Club.

Another much regretted departure is that of *Mrs. Charles B. Haag*, who has been secretary of the Needle and Bobbin Club for over five years. Her staunch services have included the responsibility for all the details of the Club's monthly programs,—hostesses, invitations, telephone calls, projectors, slide-operators, and so forth—endless details which she has met intrepidly and graciously. The Needle and Bobbin Club wishes her well and hopes to welcome her from now on at meetings.

IN MEMORIAM

The Needle and Bobbin Club lost many colorful and devoted members this year. Their memories will be cherished.

Miss Susan Dwight Bliss was a modest and generous donor to many important art institutions and an equally modest and generous hostess to the Needle and Bobbin Club. Through her kindness, fellow Club-members were able to enjoy at a special meeting her beautiful textiles, embroideries, and laces before they appeared in public collections.

Mrs. Albert Blum, a great lace-collector whose famous file cover, now in the Metropolitan Museum, was written up by Marian Hague for the *Needle and Bobbin Club Bulletin* in 1921, was a long-time cherished member of our Club.

Miss Marion P. Bolles was Assistant Curator of Textiles at the Metropolitan Museum of Art from 1942 to 1949 and a spirited member of the Needle and Bobbin Club, both knowledgeable and generous with her knowledge. Her talk on "Flowers in Fabrics" was a high spot of the year's program for 1946.

Ruth Reeves was a distinguished professional member of the Needle and Bobbin Club. Her career as weaver, designer, and textile scholar led her to India and the office of the Registrar of India.

Mrs. Sophie Kerr Underwood, whose many delightful books and articles are well known, also brightened Needle and Bobbin Club meetings with her vivacity and charm.

The Duchesse de Crussel d'Uzès, the widow of the Premier Duke of France, unable to attend meetings frequently, loyally left the Needle and Bobbin Club a piece of exquisite white-on-white embroidery from the trousseau of Mlle. de Chevigné about 1840. The Cooper Union Museum was happy to accept this as a gift of the Needle and Bobbin Club.

Mrs. Jeanette Kittredge Watson, widow of Thomas J. Watson, among the many interests, travels, charities of her life also won prizes for crewel embroidery and was a charming hostess to the Needle and Bobbin Club on more than one occasion.

Miss Edith Wetmore was an important member and supporter of many great public institutions and a staunch and generous member of the Needle and Bobbin Club, whom she entertained at a lecture in her home and to whom she lent exhibition material.

Miss Adeline Wing, with her devoted sister Caroline, was a hospitable hostess and an enthusiastic member of the Needle and Bobbin Club, with memorable collections of samplers and needlework pictures, laces and embroideries, whose enjoyment she was ever happy to share with fellow members and friends.

Mrs. Sidney deKay, Mrs. William G. Northrup, Mrs. Clay Hardin Orvis, Mrs. Lincoln B. Palmer, Mrs. Edward J. Roesler, Mrs. Robert D. Sterling, and Mrs. John S. Taber were other generous and devoted members who will be greatly missed.

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