

THE WRAPPINGS FROM A CHILD MUMMY FROM ANCON, PERU

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The collections of pre-Columbian Peruvian textiles in the U.S. National Museum, Smithsonian Institution, Washington, include one group of some 15 fabrics (Acc. No. 15224, Cat. Nos. 74104 A-O) from Ancon, classified as the "wrappings from a child mummy." These cloths, presumably constituting the entire funerary wardrobe of the child, were acquired by the Museum in 1884 from Mr. George Kiefer and Dr. William H. Jones. No additional artifacts associated with the mummy are catalogued in the Museum. No records are known to exist that indicate either the sex or the estimated age of the child. The mummy is believed to have been transferred by Kiefer and Jones to the U.S. Army Medical Museum, about 1907. It is not listed in the permanent National Museum Catalogue (Dr. Clifford Evans, Curator, Division of Latin American Anthropology, 1967 personal communication). Although all of the textiles comprising the group were found together, no information is available concerning the manner in which the body was interred, or the arrangement of the cloths in relation to the body. The only clues are the general catalogue listings designating the whole group of fabrics as "wrappings from a child mummy" or "wrappings of the child mummy" and the descriptions of four of the items as having been "used as ties in the wrapping."

All of the textiles of this group have the same number (74104), with the individual specimens distinguished by letters (A to O). It seems probable that these letters were added in sequence as the cloths were removed from the body. If so, this would indicate that the ties, J, K, L, M, were close to the body and that a tubular piece, D, composed of many different fragments of cloth, including A, formed an outer covering. This order suggests that the whole constituted one of the familiar mummy bundle types, although pieces B and C appear to have been labelled out of sequence. Both are now small fragments. Specimen B may be all that remains of a head covering. The thickness of C suggests that it was a mat, probably used under the body. The remainder of the fabrics seem to have filled the interstices between the body and the outer covering. Due to the absence of records, it is now impossible to verify this assumption. The fragmentary and charred condition of the textiles presents some additional problems of classification, since the original forms and total dimensions of the majority of the specimens cannot be determined.

A few general observations concerning the construction of these cloths may be made. In so far as sections of the original fabric edges are intact, each piece can be seen to have been woven as a simple rectangle having four selvages, with heading cords used at the two end selvages, following the usual Peruvian practice. Some of these webs have been joined to one or more other webs by sewing two selvages together. Cotton yarns in natural cream-white or brown are markedly predominant, as is plain weave.

Analyses of the individual cloths reveal a few more specific

characteristics and make a limited classification of some of the fabrics possible. In the following presentation, pieces showing the same basic features and those carrying the same letter designation, have been grouped together. The pieces presumed to have been closest to the mummy are presented first, thus reversing the alphabetical sequence.

The four specimens classed as ties (J, K, L, M) are all unbleached white cotton, unpatterned, and woven in one-over-one plain weave. The individual pieces differ somewhat in texture, but all are fairly fine soft fabrics with both the warps and wefts clearly visible. Each specimen consists of a part of a single web. The lengths, all incomplete, range from 44 to 125 1/2 inches (111.8 to 318.8 cm.). The woven widths are from 11 1/2 to 15 5/8 inches (29.2 to 39.7 cm.). Where an end selvage is intact, the width adjacent to this selvage tends to be somewhat greater, and the weft count slightly higher, than in the body of the web. These differences do not indicate intentional shaping of the fabrics, since, except as great care was exercised in the weaving, drawing-in of this type would have occurred almost inevitably in producing webs of these textures and dimensions. Some stretching, resulting from use, also may have occurred. These cloths have not been washed or cleaned in recent times, and each retains lengthwise creases resembling irregular narrow pleats, as if it had been drawn through a small ring (probably formed by closing the hands over the cloth) and then wound tightly around the body, or bundle, while being held taut.

Two additional specimens (N, O), although not designated as ties, seem to belong in the same category. One of the two (N) shows every indication of being a section of one of the specimens (L) listed as a tie. If these observations are correct, five of the long narrow cloths (figs. 1-6) were used for securing the body, probably in a flexed position.

The longest of the webs (M), and presumably the most nearly complete, is in fairly good condition. It has one end selvage and the larger part of both side selvages intact. The present length is 125 1/2 inches (318.8 cm.) or almost 3 1/2 yards. The width is consistently 14 1/2 inches (36.8 cm.), except at the end selvage, where it is 15 5/8 inches (39.7 cm.). In some four or five inches (10 to 13 cm.) adjacent to the end selvage the wefts are slightly more compact than in the continuation of the web.

There are 52 warps and 44 wefts per inch (20.5 and 17.3 per cm.) in this end section. In other parts of the web no differences can be noted in the warp count; the weft count varies from 36 to 38 per inch (14.2 to 14.9 per cm.). The warp yarns are single-ply, S-spun, crepe twist and average 1/80 inch (.32 mm.) in diameter. The wefts are also single-ply and crepe twist, but are Z-spun, average 1/64 inch (.39 mm.) in diameter, and show more size variation than the warps.

The twisting of the warp and weft yarns in opposite directions has produced a twill-like appearance in the cloth, due partially to a

slight diagonal yarn slippage, although the weave is a simple one-over-one plain weave throughout. There are two comparatively fine heading cords at the one remaining end selvage of the web. Each cord is made up of three of the warp yarns used together.

One other specimen (K) also has this twill-like appearance produced by the use of warp and weft yarns twisted in opposite directions. The fabric of this second cloth is slightly heavier than the other example (M). It consists of a fragment about 44 inches (111.8 cm.) long and 11 1/2 inches (29.2 cm.) wide. Most of one end selvage is intact; the other end of the web is torn and irregular. Parts of both side selvages are present.

Both the warps and wefts are single-ply, crepe twist and average 1/64 inch (.39 mm.) in diameter. The wefts show more irregularities in spinning, with greater variations in diameter, causing them to appear to be slightly coarser than the warps. The warps are S-spun; the wefts, Z-spun. The warps average 40 per inch (15.7 per cm.); the wefts, 38 (14.9 per cm.).

The web is slightly wider and the wefts are more compact near the end selvage than in the body of the cloth. At the one end selvage there are two heading cords, each consisting of six of the weft yarns.

In another cloth (J) there is a limited use of wefts with the twist direction counter to that of the warps, but in this case little of the twill effect is present. The fragment is 53 3/4 inches (136.5 cm.) long and about 12 inches (30.5 cm.) wide, except near the one remaining selvage, where the width is 13 inches (33.0 cm.). The weaving of this web is poorer than that of the other ties. The warps and wefts are less closely set and a considerable amount of yarn slippage has taken place. Yarns of the fill-in section, near the end selvage, are coarser than the other wefts, making this part conspicuous.

The warps are single-ply, S-spun, crepe twist and 1/64 inch (.39 mm.) in diameter. Some of the wefts are like the warps; others are Z-spun and average 1/50 inch (.51 mm.) in diameter. Those of the fill-in section are Z-spun and average 1/32 inch (.79 mm.) in diameter. The warp count is 38 per inch (14.9 per cm.); the weft count, which is not constant, averages 32 per inch (12.6 per cm.). There are two heading cords. Each consists of four ends of the Z-spun weft yarns grouped together.

A section of this web, located 10 to 12 inches (25.4 to 30.5 cm.) from the end selvage, is badly charred. The opposite end of the web is irregular and appears to have been torn rather than rotted.

One of the similar fragments (O) which is not catalogued as one of the ties, is 38 inches (96.5 cm.) long and lacks both end selvages. This cloth is 12 3/4 inches (32.4 cm.) wide and seems to have had odds and ends of yarn used for the wefts.

The warp yarns are single-ply, S-spun, crepe twist and 1/64 inch (.39 mm.) in diameter. Some of the wefts are the same as the warps; some are Z-spun and slightly coarser. Others are two-ply, Z-S spun, very soft twist and 1/48 inch (.53 mm.) in diameter. There are 52 warps per inch (20.5 per cm.) and an average of 29 wefts per inch (11.4 per cm.).

The fabric is light weight but firm and, despite yarn differences, there are no noticeable variations in the cloth texture. Both ends of the web show some evidence of charring, as does a part of the central section.

The other two fragments (L, N) appear to constitute two parts of a single web which was torn apart adjacent to a large charred hole, located about one yard (91.5 cm.) from one end of the web. The length of the cloth, with the two parts put together, is 3 1/3 yards or 120 inches (304.8 cm.). The width is 13 1/2 inches (34.3 cm.), except adjacent to the end selvages, where the width of the shorter piece (N) is about 14 inches (35.6 cm.); of the longer, 14 1/2 inches (36.9 cm.). Both of the end selvages are intact and only one short length of one side selvage is lacking. Each end selvage has two heading cords consisting of six ends of the weaving yarn used together.

The warps are single-ply, S-spun, crepe twist and 1/64 inch (.39 mm.) in diameter. The wefts differ only in being less evenly spun, with the result that the variations in diameter are obvious and the cloth appears coarser than the preceding example (O). The warps average 52; the wefts, 40 per inch (20.5 and 15.7 per cm.).

As with the other webs, the weaving at the wider end section is somewhat more compact, with the weft count higher than in the major part of the cloth. In this example, remnants of sewing threads are present along the heading cords of the wider end and in a parallel row two inches (5.1 cm.) from the end. On one face of the fabric, the span of cloth between these two lines of sewing shows less discoloration than the adjacent area. This probably indicates that, at some time, this section was overlapped by another fabric. This second fabric may have been either a narrow decorative band that covered the lighter area, or an additional length of cloth similar to the first, joined by a lapped seam. In the latter case, this additional fabric may have extended to form utilitarian ends, like apron strings, used for tying. Running stitches appear to have been used for the sewing, with the threads of unbleached white cotton, two-ply, Z-S spun, medium twist and 1/48 inch (.53 mm.) in diameter. Small wads of raw cotton adhering to one surface of the cloth probably were part of the mummy packing. These wads are on both segments, near the crosswise tear which separates the two pieces.

The degree of uniformity of these cloths which served as ties suggests that they are examples of a well established textile form. Probably they represent an article used for an everyday utilitarian purpose, since the weaving is of the commonest type, and no special care has been exercised in the construction. If the ties were planned as articles of wearing apparel, they may have been breech or loin cloths made in a size

suitable for a child. However, we do not know whether or not small children wore any garment, other than, perhaps, a shirt. Neither do we know exactly how the longer of the adult breechcloths, to which these may have corresponded, were worn. The adult breechcloths that have been reported from this area, if without ornamentation, are much shorter (Osborne, 1950), although a long, voluminous ornamented type has been identified (Montell, 1929, p. 142, fig. 71C; Iiyama and Tsunoyama, 1966, fig. 81). The use of these ties as breechcloths might account for the crosswise stretching of the ends and the lengthwise stretching of the midsections, as well as their comparative abundance.

Checking of the next item (I), following the reversed alphabetical sequence, adds a little support to the supposition that these ties may have served as items of apparel. Included, under the single label (I), are two separate pieces. Each is a charred part of an undecorated cotton poncho-shirt (figs. 7 and 8). Presumably both are child-size garments, although one is very wide. The body of each consists of two four-selvage webs. These are seamed together at the center front and back, with a space left near the center of the seam for the neck opening. Each composite piece was then folded together crosswise, forming a shoulder line at the fold, and was seamed at the sides. Beginning at the corners where the end selvages meet, these seams continue along the side selvages, terminating a short distance below the fold, to provide arm openings. The end selvages finish the lower edge of each shirt. All of the fabric of both shirts is one-over-one plain weave. The yarns appear to have been unbleached white, but they are now so badly discolored that this inference cannot be confirmed.

The wider of these two garments (fig. 7) originally had sleeves. These were made of separate webs sewed to the arm openings. The wider shirt differs from the other, also, in having loop fringe at the lower edge, where the heading cords used in the weaving were removed. This garment measures 34 1/2 inches (87.6 cm.) from side to side, but only 11 1/2 inches (29.2 cm.) from the shoulder fold to the lower edge. Parts of the seams joining the two webs are intact, as are parts of the neck opening, which probably was about 7 1/2 inches (19.0 cm.) long or 15 inches (38.1 cm.) in circumference. Likewise, the side seams of the shirt and the arm openings, are partially preserved and a small part of a sleeve is still attached to one of the openings. The sleeve has a circumference of 11 1/2 inches (29.2 cm.), fairly large compared with the estimated neck opening. The fabric is quite fine and would be soft, if clean. Each of the two webs that form the body of this shirt was woven about 23 inches (58.4 cm.) long and 17 1/4 inches (43.8 cm.) wide.

The warps are single-ply, S-spun, crepe twist and average 1/64 inch (.39 mm.) in diameter. Some of the wefts match the warps; others are the same diameter but are two-ply, Z-S spun and medium twist. There are 60 warps and 34 wefts per inch (23.6 and 13.4 per cm.).

The sleeve fragment is an independent web. It was woven 11 1/2

inches (29.2 cm.) long and to a width which exceeded 2 inches (5.1 cm.), the remaining length of the sleeve. Bits of one side selvage and of both end selvages of this sleeve fragment are intact. Each end selvage has two heading cords. The yarns and counts match those of the webs used for the body of the garment.

One part of the center seam of either the front or the back of this shirt, a length of 7 1/4 inches (18.4 cm.), is still in good condition. It is sewed with double thread in fairly fine whipping stitches. One and one-half inches (3.8 cm.) of this seam, adjacent to the neck opening, has been reinforced with coarser stitches in heavier thread. A few of these stitches have pulled loose, suggesting that the garment was worn after the extra stitching was added. Only 6 inches (15.2 cm.) of the corresponding (back or front) seam are intact. This seam shows a 2 inch (5.1 cm.) length of repair or reinforcing stitches, indicating an original length exceeding that of the other end of the neck opening by 1 1/4 inches (3.2 cm.). Five and one-half inches (14.0 cm.) of the estimated 7 1/2 inch (19.0 cm.) length of the neck opening remains. The two side seams of the garment have the same types of sewing as the center seam. At one arm opening, the cloth is torn as well as rotted. A short length of the selvage is intact, and a few thread ends and stitch holes are present. Still attached to the other arm hole, near the shirt side seam, is a small part of a sleeve. Only a 2 inch (5.1 cm.) length (fabric width) of this sleeve has been preserved. Two types of sewing, matching those of the center seam and its reinforcement, are present at the sleeve joining.

The loop fringe at the lower edge of the shirt, formed by the loops of the warp ends, is 1/4 inch (6 mm.) deep. This and the side selvages at the neck opening are the only edge finishes present.

The narrower shirt (fig. 8) differs in both texture and proportions. Although the fabric is thicker and firmer than that of the wider shirt, it has deteriorated to a much greater extent. This shirt has a length of 12 1/2 inches (31.7 cm.) from the shoulder to the lower edge and had a width 17 inches (43.2 cm.) from side to side, provided the two constituent webs were alike in width. No evidence of sleeves is present. One of the side seams, with the adjacent arm opening, is wholly intact. The opening is only 6 inches (15.2 cm.) in circumference, indicating that the child who wore the shirt was not very large. Part of one half (front or back) of the center seam, adjacent to the neck opening, also remains intact. If the back and front were alike, the length of the neck opening was about 10 inches (25.4 cm.).

Most of one of the webs of this garment has been preserved. The fragment includes parts of the four selvages and is 25 inches (63.5 cm.) long and 8 1/2 inches (21.6 cm.) wide. There is also a second part of the second web attached to the first along the center seam line. Both this seam and the side seam are sewed with moderately firm whipping stitches, with the thread used double. The weaving yarns are alike in both warp and weft.

Although too brittle to untwist, these weaving yarns appear to be two-ply and S-S spun; they are hard twist and vary from 1/50 to 1/40 inch (.51 to .64 mm.) in diameter. There are 34 warps and 13 wefts per inch (13.4 warps and 5.1 wefts per cm.). The sewing thread is two-ply, Z-S spun, about 1/50 inch (.51 mm.) in diameter and slightly harder in twist than the weaving yarns.

Two heavy heading cords are present at each end of the web that has the end selvages intact. Each heading cord is composed of eight or more of the weaving yarns. One unusual feature of these webs is the use of about eight of the coarser yarns along each side selvage. This feature has produced a semblance of a modern-type, firm selvage section.

The neck opening of the narrower of these shirts would be ample for a small child, but the estimated 15 inch (38.1 cm.) neckline circumference of the wider garment would be too small to pass over the head of today's average North American child of six months (Watson and Lowrey, 1951, p. 49, Table 4). While there may have been some stretching of the neckline, such stretching probably would not have exceeded 1/2 inch (1.3 cm.). Measurements made of 12 Peruvian Indian children from the Sierra, patients in a Lima hospital in 1968, showed an average head circumference of 15 1/2 inches (39.3 cm.) at the age of nine months; at one year the average was 16 1/2 inches (41.9 cm.). The circumference range was about 14 to 17 inches (35.6 to 43.2 cm.) at nine months and 15 3/8 to 17 1/4 inches (39.1 to 43.8 cm.) at one year (measurements made for me by an interested nurse). These measurements would indicate that the child who wore this shirt was not over one year of age. No circumference measurements of skulls of pre-Columbian infants and children in this classification have been available for size comparisons. The general belief seems to be that such measurements might be slightly smaller. In either case, the small child who could have worn this garment could have worn, also, the other with the larger neck opening. It is possible, of course, that the smaller size had been outgrown sometime before the child's death.

Two shirts seem to provide an inadequate supply in a child's wardrobe. Judging from the poor condition of these two, it is quite likely that others placed with the body had disintegrated so completely by the time of excavation that they were not saved. Even the two that were salvaged appeared as a small bundle of dirty rags and were not recognized as shirts at the time of cataloguing. There is also a possibility that very young children generally wore no clothing. The relative proportions of the two shirts and the longest of the ties, which may have served as a breechcloth or loin cloth, are shown in figs. 7-9.

The next item in the catalogue letter sequence (H) consists of sections of two webs, one dark brown, one unbleached white, joined by sewing along their side selvages. Both webs are cotton, one-over-one plain weave, undecorated, and about alike in texture. The fabric is moderately soft and fine. At the seamline, which is sewed with fine whipping stitches, bits of one end selvage of each web remain. One side

selvage of each web extends from this one set of end selvages for most of the length of the specimen. Only bits of the second side selvage of the white web remain. The present maximum size of the cloth is 42 by 33 1/2 inches (106.7 by 85.1 cm.). Large parts of both webs have disintegrated, and edges of the brown web have been torn off, so that the original lengths cannot be determined. The white web was woven 18 1/2 inches (47.0 cm.) wide. Only 15 inches (38.1 cm.) of the brown web remain but its woven width probably was about the same as that of the white.

The warp yarns of the white web are two-ply, Z-S spun, medium twist. Their average diameter is 1/50 inch (.51 mm.), with considerable variation present. The wefts differ only in being soft twist. There are 52 warps and 26 wefts per inch (20.5 warps and 10.2 wefts per cm.).

In the brown web, the warp yarns are two-ply, Z-S spun, hard twist and 1/48 inch (.53 mm.) in diameter. They are more evenly spun than the white warps. Most of the wefts are medium twist. In other respects they are like the warps. The warp count is 48 per inch (18.8 per cm.) and the weft count, 30 (11.8 per cm.).

Three heading cords are present at both of the remaining end selvages. Each consists of six ends of the respective weft yarns. The sewing thread used for most of the long joining seam is like the white warp. The last 2 1/2 inches (6.4 cm.) of the seam, adjacent to the end selvages, appears to have been repaired. The stitches of this section are coarse and irregular, and the sewing thread is softer twist and shows less discoloration than the other sewing thread.

No suggestion can be made as to the possible purpose for which this cloth was made. The major part of the central seaming probably was a part of the original construction, and the assumption is that the two webs were planned to be used together. There is no evidence of sewing on the one bit of side selvage remaining along the free edge of the white web, or along the bits of end selvage. With the major parts of the outer selvages destroyed, no basis is left on which to determine either the total size of the present webs, or the number of webs used in the original cloth. The workmanship is good throughout. Although the fill-in sections, where the last wefts of the four-selvage webs were inserted, are not conspicuous, little care seems to have been taken in this part of the construction. On the basis of comparisons with other examples of Peruvian weaving, these pieces can be judged to be the work of an experienced weaver but work which was routine in nature. The product probably was destined for an equally routine use.

Following the same sequence, the next specimen (G) is little more than a very dirty rag. It consists of part of a single web. Like the preceding cloths, it is a one-over-one plain weave cotton. It is light brown and the texture is somewhat firmer than that of the other examples. The maximum remaining length of the charred and very irregular

fragment is 82 1/2 inches (209.5 cm.); the width, 16 inches (40.6 cm.). A section of one end selvage, and less than an inch (2.5 cm.) of one side selvage have been preserved. The latter is covered with dark brown needlework, now badly frayed. Sections of the side selvage, which were adjacent to this, have been torn off. The only other distinguishing feature of this specimen is the presence of two warpwise slits located about midway of the fabric length. These slits have been sewed closed with differing types of sewing. The longer of the two slits is located six inches (15.2 cm.) from the bit of side selvage. It is 21 inches (53.3 cm.) in length and probably is a tear that was mended. The shorter slit is only 6 inches (15.2 cm.) long and 3 inches (7.6 cm.) from the side selvage. This one seems to have been cut intentionally, since the edges were finished with buttonhole stitches prior to the closing of the slit. Yarns of different types have been used for each part of the needlework, suggesting that the sewing was done at different times. The fabric appears to have been subjected to considerable wear and to have served more than one purpose.

At irregular intervals throughout most of the cloth, groups of warps have disintegrated, producing a striped effect. Presumably the damage resulted from some of the yarns being less durable than others, either finer, or softer twist, or perhaps spun from shorter staple. There is nothing to indicate the use of different dyes, since there is neither evidence of color variation nor of a planned striping.

The warp yarns are two-ply, either Z-S or S-S spun, very hard twist and 1/64 inch (.39 mm.) in diameter. The wefts are about the same, but show more variation in the degree of twist, some being hard, some medium twist. The warp count ranges from 48 to 56 per inch (18.5 to 22 per cm.). The wefts average 24 per inch (9.4 per cm.). One section of the fabric, roughly 3 inches (7.6 cm.) along one side, has a firmer texture than the other parts of the web.

Although all of the sewing threads, except those used on the bit of side selvage, differ in type, they now match the fabric in color. In repairing the longer slit, one edge of the torn fabric was turned under and sewed over the other edge by flat felling. Part of the length is secured by a second row of felling stitches. All of these stitches are quite coarse, but the sewing is not decorative. The buttonholing finishing the edges of the shorter slit is ornamental as well as functional. Presumably this slit was intended, originally, to be used open. Half of the length is now closed by means of threads put through the loops of the buttonholing; the other half, by whipping stitches extending over the buttonholing. The whipping stitches appear to be a subsequent addition and may have supplanted some of the other type.

No clews remain to indicate the original size and proportions of this fabric or the purpose or purposes which it served. A few bits of raw cotton adhering to one surface of the web probably were part of the packing used around the mummy.

Another plain weave cotton cloth (F) is next in the sequence. This differs from the others in being a plaid. The specimen consists of two webs, approximately alike, sewed together along warpwise selvages to produce a cloth 40 1/2 by 42 1/2 inches (102.9 by 107.9 cm.). Although parts of the four selvages of each web are intact, the specimen is in poor condition. The fabric is worn and patched, and the yarns have deteriorated to a considerable extent. A one-over-one plain weave has been used throughout. The plaid (fig. 10) is now apparent only as a regular repetition, in both the warp and weft, of yarns of different diameters and lighter and darker values. Presumably these varying yarns were originally of different colors. Since all of the yarns are cotton and some, in recurring sequences, have rotted away almost completely, the inference is that the dyes used to produce certain colors increased the rate of deterioration of the fibers. Although discoloration and deterioration preclude the identification of any of the colors with certainty, it seems likely that these colors included the blues and browns and the beige and white seen in other cotton fabrics of this group.

One of the two webs is 41 by 19 inches (104.2 by 48.3 cm.); the other, 40 1/2 by 23 1/2 inches (102.9 by 59.7 cm.). There are two heading cords at each end of each web. Each of these cords consists of three of the heavier two-ply weaving yarns grouped together. Whipping stitches have been used to join the two webs. The stitches are firm and even but somewhat coarse in comparison with the texture of the fabric.

Some of the weaving yarns are single-ply, S-spun, crepe twist and 1/64 inch (.39 mm.) in diameter. There are similar yarns with diameters of 1/48 inch (.53 mm.). Others are two-ply, Z-S spun and hard twist. These are either 1/48 inch (.53 mm.) or 1/32 inch (.79 mm.) in diameter. Average counts are 38 per inch (14.9 per cm.) for the warp and 24 per inch (9.5 per cm.) for the weft.

For the sewing, three or four yarns have been grouped together and used as a single yarn. Each of these component yarns is two-ply, Z-S spun, hard twist and 1/50 inch (.51 mm.) in diameter. All are cotton.

A patch, about 3 1/2 inches (8.8 cm.) square and now partially rotted, is sewed to one of the more ragged parts, near the center of one of the plaid webs. The fabric of this patch is a one-over-one plain weave cotton, apparently undecorated and once white. The edges of the patch have been turned under and the patch sewed in place with long running stitches.

The sewing thread is cotton, two-ply, Z-S spun, medium twist and 1/48 inch (.53 mm.) in diameter. Three ends have been used together. The weaving yarns are two-ply, Z-S spun; the warps, hard twist and 1/48 inch (.53 mm.) in diameter; the wefts, medium twist and somewhat finer. The cloth is almost warp face, with 62 warps and 38 wefts per inch (24.4 warps and 14.9 wefts per cm.). No part of a selvage is present.

Close to this patch, a scrap of very fine cotton fabric is attached to the same plaid web by a few long tacking stitches. This fragment appears to be completely extraneous to the plaid cloth. The tacking probably was part of the sewing that secured the wrappings to the mummy bundle. The unrelated fragment is a one-over-one plain weave, now a dirty gray spotted with brown, with no evidence of patterning of any kind. The piece, very irregular in shape with the edges badly charred, is roughly 13 1/2 by 7 1/2 inches (34.3 by 19.1 cm.). Part of one side selvage is intact. An extra scrap of like fabric which is sewed to this piece may have been part of the same web.

For both of these fragments, the yarns of the warp and weft are alike. They are all cotton, single-ply, S-spun, crepe twist and 1/80 inch (.32 mm.) in diameter. The warps average 52 per inch (20.5 per cm.); the wefts, 44 per inch (17.3 per cm.).

All evidence points toward the plaid cloth having served, in its present rectangular form for some utilitarian purpose. It was used until it had a hole worn in one place, then a patch was added and use continued. The size, form and proportions of the cloth are common to Peruvian cloths of many textures, but their exact purpose or purposes are not known.

The next piece in the series (E) is a striped fabric. This cloth is distinctive due to its firm texture and the excellent color preservation. It is a part of a large cotton web with warpwise stripes of blue, white, beige and brown (fig. 11). In general appearance it resembles today's traditional mattress or pillow ticking. The major part is woven as a warp face one-over-one plain weave with narrow stripes consisting of alternate sections of brown and beige, each about 1/8 inch (.32 cm.) wide, separated by 1/16 inch (.16 cm.) lines of blue. One side of the fragment has a wide stripe composed of a series of narrow stripes. In this part, a checkerboard effect has been produced in some of the component stripes through the use of two colors and a simple pattern weave. White is combined with blue in some of these; brown with beige in others. The piece has been washed recently and the edges trimmed. The present length is 61 inches (154.9 cm.); the width, 19 inches (48.3 cm.). No evidence of side selvages remains and only part of one end selvage. The latter has three heavy heading cords.

Some of the warps, all of the wefts and the heading cords are of blue yarns. These are two-ply, Z-S spun, hard twist and 1/64 inch (.39 mm.) in diameter. Six to eight ends have been used together for the heading cords. The warps of the other colors are basically the same; twists differ slightly, and the white yarns tend to be finer. The warp count averages 88; the weft count, 18 per inch (34.6 and 7.1 per cm.).

The fabric is well made and firm in texture. It is similar to many examples attributed to the Chancay valley. Nothing is known about

its original size or purpose.

Specimen C differs markedly from the other fabrics. It consists of two small fragments, with matching black and white patterns and ruglike textures, which seem to be parts of two webs. Both pieces have heavy warps and wefts and have been woven in interlocking tapestry weave. In this case weft interlocking has been used and a two-over-one plain weave. Like all tapestries, these pieces are weft face. One of the fragments is 7 1/2 by 3 1/2 inches (19.1 by 8.9 cm.); the other, 5 by 3 inches (12.7 by 7.6 cm.). No evidence of either an end or side selvage remains. The patterning consists of a series of meandering black and white lines, each about 3/8 inch (1.0 cm.) wide, forming an allover pattern on each fragment. The design is incomplete in each case and cannot be reconstructed. The warps are cotton; the wefts, wool. Both the coarseness of the yarns and the tightness of the weave contribute to the firmness of the fabric. The nature of the patterning, with its narrow color blocks produced in weft interlocking, also adds to the bulkiness.

The warps are unbleached white cotton. For these, two-ply yarns, Z-S spun, have been doubled and Z-twisted, producing a yarn 1/24 inch (1.06 mm.) in diameter. The twists are medium to hard. These yarns have been set in pairs, 7 (2) per inch (2.8 [2] per cm.). The wefts are wool, two-ply, Z-S spun, soft twist and 1/32 to 1/16 inch (.79 to 1.59 mm.) in diameter. In some cases some of the finer yarns have been loosely twisted together to form a single coarser yarn. There is considerable yarn variation, with the greater amount seen in the white wefts. The average weft count is 30 per inch (11.8 per cm.). Both the black and white are probably natural colors. The white is a cream-white and the black has a brownish cast.

In the design, the yarns of each color turn back at the edge of each pattern line and, where the two colors meet, each white weft interlocks with a black weft, between a set of adjacent warps. Due to the limited width of each design element, wherever the pattern lines are warpwise, only two sets of warps are crossed between these color changes. In these cases, rows of interlocking occur at intervals of approximately 3/8 inch (1.0 cm.). This frequent interlooping of the coarse weft yarns has contributed substantially to the thickness of the fabrics.

Slight differences in the workmanship of the two fragments, in the relative whiteness of the cream-white wool yarns, and in the handling of the pattern elements indicate that the two pieces were the work of different weavers and probably were parts of separate webs which were seamed together. There is no evidence on which to base an estimate of the original size or proportions of the web or webs. This specimen is the only example of tapestry among these mummy wrappings and the only one in which wool was used. The unusual thickness of the fabric and its limited degree of flexibility, together with its place in the catalogue letter sequence, suggest the probability that it was part of a mat-like cloth used under the mummy, or perhaps, under or behind the mummy bale.

A badly deteriorated plain weave cotton fragment (B), composed of two parts seamed together, is next in the sequence. The whole cloth is 11 by 9 inches (27.9 by 22.8 cm.) with all of the edges ragged. No evidence of patterning or other ornamentation is present. The fabric is charred and brown. It is probable that brown was the original color and that, although it has darkened considerably in charring, it has not changed in hue. Parts of two side selvages, one on each of the two fragments, are intact along a central seam. The seam is sewed with fine, closely set whipping stitches. One of the selva edge extends about 4 1/2 inches (11.4 cm.) beyond the end of the seamline. Due to the disintegration of the cloth, it is now impossible to determine whether or not the seam continued along this edge. There are no discernible differences between the two webs. Each is a one-over-one plain weave.

The yarns are all cotton, two-ply, Z-S spun, hard twist and average 1/50 inch (.51 mm.) in diameter. Matching yarns have been used for both the warps and wefts and have been doubled for the sewing. The warps average 46 per inch (18.1 per cm.) and the wefts, 28 per inch (11.0 per cm.) in both webs.

So many examples of fabrics of this general type occur among Peruvian textiles that it is not possible to judge the range of their uses or to separate one possible use from another. When side selvages of two like fragments are sewed together, as in this specimen, the general assumption has been that two webs are represented. It is quite possible that, instead, the remaining pieces are the two ends of a single web, such as those found at the side seams of a poncho-shirt. There is also a possibility, where an incomplete length of side selva continues beyond the seam ending, that the unsewed section may have been part of an opening, such as those left for the head and arms in the common type of poncho-shirt. In this particular case, too little evidence has been preserved to form the basis for anything beyond supposition.

The last two of the specimens (A and D) which constitute this group of wrappings of a child mummy appear to belong together (figs. 12, 13). The larger (D) consists of a conglomerate of different textiles which have been sewed into a tubular shape, 60 to 62 inches (152.4 to 157.5 cm.) in circumference and 24 to 26 1/2 inches (60.9 to 67.3 cm.) in depth. This tubular patchwork is believed to have formed an outer covering of the mummy bundle. Basically it is made up of a series of narrow webs woven of brown and white cotton. Some are plain, some striped, the latter with or without patterning. All of these narrow webs have been placed with their warps following the circumference of the tube. The smaller specimen (A) seems to be a separate section of one of the patterned webs. In addition, there are four independent webs which are more nearly square and appear to be extraneous additions. Two of these are partly concealed by the narrow bands (fig. 13); two are completely

concealed.

This composite specimen is in very poor condition. Large parts are charred and only partially intact, so that most of the measurements are approximations and the relative positions ascribed to some of the component cloths are questionable.

The nature of the sewing in different parts of the basic tubular construction indicates that some of the narrow webs were joined prior to the time they were selected for use in the mummy covering. By following this criterion, four separate cloths made up of narrow webs can be distinguished. Each of the four cloths is composed of contrasting webs sewed together along their side selvages, with very fine whipping stitches, to produce brown and white striping of a distinctive style. Two of the four examples have plain monochrome webs combined with patterned webs; the other two have monochrome webs combined with webs having simple woven warp stripes.

One of the two cloths with patterning has brown and white doublecloth webs sewed to plain brown and plain white webs. The remaining fragment of this composite piece measures 19 1/2 inches (49.6 cm.) long and 10 1/2 inches (26.7 cm.) wide. It consists of two strips of doublecloth, each 2 1/2 inches (6.3 cm.) wide. These are separated by a 3 1/4 inch (8.2 cm.) strip of plain cloth which, although now discolored, presumably was once white. Adjacent to one of the doublecloth bands is a strip of plain brown. This brown strip seems to have been the same width as the white. The indications are that another fragment (A), now separate, formed a continuation of this section. If this was the case, a third strip of the doublecloth was present, increasing the depth of the tubular cloth by 2 1/2 inches (6.3 cm.) and making the total width of this particular section 14 inches (35.6 cm.). All of these component strips, except the plain brown, have selvages on both sides and on one end. One side selvaige of the brown is intact, on the side attached to one of the doublecloth strips; remains of the opposite side selvaige of this web presumably are those sewed along the separate doublecloth fragment (A). The opposite ends of three strips, the white and the two doublecloth pieces to which the white is sewed, have been cut and sewed to a different fabric. Both ends of the brown strip and one end of the third doublecloth strip have rotted away.

The three doublecloth webs have matching patterning consisting of warpwise stripes of brown and white bordering a repeated "kissing bird" motive (fig. 14). Adjacent to the end selvages of two of the strips are two or three narrow weftwise bands. The parts of the pattern which are brown on one face of the doublecloth are white on the other face. All of the webs of this section display a high quality of workmanship. The weaving is fine and even; the side selvages are remarkably straight. Each face of the doublecloth appears as a one-over-one plain weave and both of the unpatterned webs are one-over-one plain weaves.

There are 52 warps and 28 wefts per inch (20.5 and 11.0 wefts per cm.) on each face of the doublecloth, making a total of 104 warps and

56 wefts per inch (40.9 warps and 22.0 wefts per cm.). Half are white; half are brown. The yarns are two-ply, Z-S spun, hard twist and 1/60 inch (.42 mm.) in diameter.

The two plain webs are almost alike in texture. The white has 44 warps and 30 wefts per inch (17.3 and 11.8 per cm.); the brown, 42 and 35 (16.5 and 13.8) respectively. The yarns of these plain webs are almost alike. They differ slightly, in degree of twist and diameter, from each other and from the yarns used for the doublecloth. All are two-ply, Z-S spun, and the warps and wefts of each tend to be alike.

Fine whipping stitches, sufficiently inconspicuous to be overlooked, have been used to join these strips. The sewing thread is white or brown, matching the weaving yarns. While each of these webs appears to have been woven independently, it is possible that they were woven on a single warp set-up, with common heading cords. Either way, it seems obvious that they were planned and made to form parts of a single cloth with the sewing an integral part of the construction.

The second of these cloths, showing a combination of patterned and plain webs sewed together, is similar in some respects to the first. This example is about 40 1/2 inches (102.8 cm.) long. The widest part now measures 10 inches (25.4 cm.) but the width probably was slightly greater. One of the patterned webs is 4 inches (10.2 cm.) wide. Only the outer edges of this web are in pattern weave; the central part is a one-over-one plain weave with the major part brown. The patterning consists of two narrow stripes in a latchhook design, one on either edge of the band (fig. 15). Each starts at the end selvage with a tiny double-bird motive. These pattern stripes resemble the doublecloth patterning of the other cloth, in showing an interchange between brown and white on the two faces, but the weave is a warpface pattern weave, not doublecloth. This striped web has one end selvage and both side selvages intact. A fragment of a second web appears to have been part of a matching web. One of the pattern stripes remains, and most of the width of the plain weave brown central section, with parts of one side and one end selvage.

Between these two webs is a plain white web 3 inches (7.6 cm.) wide and the same length as the other two webs. The white web is woven in a firm but very fine one-over-one plain weave marked by a seersucker-like rippling of the fabric. One end and both side selvages of this web are intact, and the side selvages are sewed to those of the two patterned webs with very fine whipping stitches. The rippling of the white web is much more conspicuous than the sewing. It seems probable that different degrees of warpwise shrinkage in the adjacent webs caused this rippling. This rippling may or may not have been produced intentionally.

The white and patterned parts of the brown and white webs have 102 warps per inch (40.2 per cm.) while the plain brown parts of the same webs have 88 per inch (34.6 per cm.). There are 34 wefts per inch (13.4 per cm.). The yarns are two-ply, Z-S spun, hard twist and average 1/64 inch (.39 mm.) in diameter, except for a few of the

white pattern yarns, which are medium twist and slightly finer. The weft yarns are all brown, matching the brown warps. The plain white web has 56 yarns per inch (22.0 per cm.) in both the warp and the weft. All of the yarns are alike and appear to be two-ply, S-S spun, but are too brittle to untwist, and they may be single-ply, S-spun. They are very hard twist and 1/80 inch (.32 mm.) in diameter.

As in the other brown and white patterned cloth, the various webs and the fine sewing seem to have been planned parts of the original cloth. The sewing thread is cotton, very similar to the finer white yarns used in the pattern weaving.

One of the two striped pieces, without patterning, consists of two strips, one plain white, one brown and white. These are sewed together with fine whipping stitches. The white was woven 3 1/2 inches (8.8 cm.) wide; the brown and white, 4 inches (10.2 cm.). The length of the white web, although not continuous in its present condition, appears to have been great enough to extend completely around the tubular piece. In this case, it would have equalled the combined lengths of the two patterned brown and white pieces. Parts of both of the side selvages and one end selvage are intact. At the other end, which may have been sewed to the end selvage, the cloth has been cut and turned under. The striped section consists of several non-continuous fragments. Both strips are one-over-one plain weave. This brown and white striping shows two white stripes against a brown ground. Each white stripe is 5/16 inch (.8 cm.) wide and an equal distance from a side selvage (fig. 16). In texture these webs are finer than the plain webs of the doublecloth section and less fine than the plain webs of the section with pattern weave.

The yarns are two-ply, generally Z-S spun, hard twist and 1/50 inch (.51 mm.) in diameter. Some of the white yarns are S-S spun, and some tend to be slightly coarser than the brown. There are 44 warps per inch (17.3 per cm.) in the white web, and an average of 56 per inch (22.0 per cm.) in the brown and white web. The weft counts are 44 per inch (17.3 per cm.) for the white; 32 per inch (12.6 per cm.) for the brown and white.

A scrap of heavier plain white fabric seems to have overlapped, or to have been substituted for, about 14 inches (35.6 cm.) of the length of this plain weave striped fabric. Apparently the heavier white fabric was superimposed on the brown and white cloth. Both have disintegrated to a large extent, so that it is possible that the brown and white did not extend for the full length of the coarser white "patch."

The fourth cloth made up of narrow webs of brown and white has parts of just two webs remaining. One of these is a coarse white fragment, 14 inches (35.6 cm.) long and 4 inches (10.2 cm.) wide. A side selvage of this piece is now sewed, with coarse whipping stitches, to the preceding brown and white striped web. The opposite side is attached, for only a 1/2 inch (1.3 cm.) length, by very fine whipping stitches, to a much narrower brown and white striped web (fig. 17). This web, which is the same length as the white, is only 1/2 inch (1.3 cm.) wide. No

end selvage remains but both of the side selvages are present. A one-over-one plain weave has been used in each of these webs. The narrow one is warpface and is divided warpwise into two equal stripes, one brown and one white. The brown edge is sewed to the white web with notably tiny, inconspicuous stitches. The textures of these two webs are about the same, although only one is warpface.

For both, the yarns are two-ply, Z-S spun, very hard twist and 1/48 inch (.53 mm.) in diameter. The warps are set about 56 per inch (22.0 per cm.) in the white web; 94 per inch (37.0 per cm.) in the narrow, warpface, striped piece. Each has 24 wefts per inch (9.4 per cm.).

One end of this narrow brown and white web, which is not presently attached to the white web to which it seems to have been joined originally, is now sewed, for part of its length, on top of one of the medium weight plain white webs. Some of this sewing has been done with coarse blue thread, some with fine brown or white thread, in long running stitches.

These four brown and white cloths, made up of combinations of plain and striped webs with or without patterns, obviously were made for some purpose or purposes other than parts of a mummy covering. The sewing used to assemble the four into a single unit is very poor in quality and is strikingly different from the fine neat sewing which joins the seams of the original pieces. Both coarse whipping stitches and long basting-type running stitches hold the parts of the mummy wrapping together. The latter have been used almost exclusively to attach the four small extraneous webs to the other group.

Each of these extraneous webs is more nearly square than the composite brown and white striped pieces. Each is monochrome; two are white and two are brown. All are cotton. Parts of the four selvages of each of these small webs are present.

The two white webs match each other, although they differ slightly in size. One is 12 by 7 1/4 inches (30.5 by 18.4 cm.); the other, 12 1/4 by 7 inches (31.1 by 17.8 cm.). A band of patterning about 2 1/2 inches (6.3 cm.) deep, produced by means of gauze weave, crosses one end of each web. The patterns are alike. Each includes a simple repeat of a stylized cat's head (upside down, as shown) with continuous lines above and below (fig. 18). As used in the wrapping, the patterning is completely hidden by the striped webs which overlap it. The opposite ends of the gauze webs, the only parts which can be seen from the outside of the tube, are all plain weave. These ends, in turn, overlap parts of the narrow brown web with white edge stripes. The warp direction of the gauze webs is at right angles to that of the other webs.

The plain parts of each of these webs are woven in a one-over-one plain weave. The gauze weave, which forms the patterning, is all of the common type in which pairs of alternate warps are crossed in alternate sheds (O'Neale, 1937, pl. 41a; or O'Neale and Clark, 1948, pl. 4B).

One web has 66; the other 60 warps per inch (26.0 and 23.6 per cm.). Each has 44 wefts per inch (17.3 per cm.). The yarns are two-ply, Z-S spun, chiefly medium twist and 1/64 inch (.39 mm.) in diameter. There are a few hard and a few soft twist yarns.

The other two of the four small webs are matching, sheer, plain brown cloths which have been sewed under parts of the striped webs. Each has been woven about 11 inches (27.9 cm.) long and 6 inches (15.2 cm.) wide. One end of each is sewed to a side selvage of one of the small white webs; the other two ends are sewed together, all with whipping stitches.

No reason for the addition of these four extra webs can be discerned. They may have served as patches or reinforcements but this does not seem to have been the case, although their state of preservation is somewhat better than that of most of the other webs. Small rectangular webs of similar proportions, with or without ornamentation, are common among Peruvian fabrics. The textures of these various fabrics differ widely; the same is true of the ornamentation, when it is present. The uses seem to have varied likewise. Some, no doubt, served for head coverings, some as wrapping and carrying cloths. Others were woven to provide the sleeves for poncho-shirts (O'Neale and Clark, 1948, p. 15). The purposes of most are still unknown.

There is some evidence that the heterogeneous tubular cloth, made up of eight or more different sections, was sewed into a shirt-like garment. Sewing remaining along one edge of the tube indicates that the upper (?) edge of the tube was closed for at least part of its length, by joining of the front and back sections. Although almost half of this edge has disintegrated, one sewed-in pleat is present (figs. 11-12), and it seems possible that this poorly assembled patchwork of odds and ends, when used as part of the mummy bale, formed a shirt-like covering with horizontal neck and arm apertures (Emery and King, 1957; VanStan, 1961).

All of the component fabrics seem to be well established types, with none of the individual pieces planned and constructed for use as a part of this mummy wrapping or mummy shirt. All of the basic construction, including the spinning, weaving, and sewing, is of good quality. Some of the workmanship is outstandingly excellent. Although a semblance of a plan can be noted in the choice, arrangement, and sewing of the various fabrics used in making the mummy covering, this part of the work obviously is inferior to the original planning and construction, which it parallels to a limited extent.

Summary and conclusion

These textiles reveal several noteworthy features, when considered as a group. They show a marked preponderance of plain, monochrome, cotton fabrics that are either white or brown, with white

predominating. Second in numerical importance are cloths in which white and brown are combined. These two-color combinations occur in three basic forms: woven-in stripes; woven-in patterns, generally arranged in stripes; or stripes obtained by sewing narrow brown and white webs to monochrome brown or white webs. Present, also, are parts of wider plain brown and plain white webs, seamed together, which offer too little evidence to determine whether they typify a group of large scale stripes or some non-striped category. Striping, in one form or another, is the only prominent type of ornamentation. Even the arrangement of patterning, when present, tends to be in the form of simple linear repeats of a single small motive.

Distinctive, likewise, is the very limited over-all color range. Colors included are: the cream-white of unbleached cotton; the beige, putty-color, and light and medium browns of the natural Peruvian brown cottons; blue, always dyed; and a dark brown, which probably was dyed. These are the only hues that can be identified in the cotton yarns, although it is possible that another was present in one cloth in which the colors no longer can be distinguished. The soiled, stained and badly deteriorated states of many of these fabrics leave the exact nature of some of the coloring questionable, but most of it falls within the range of the colors known to be found in unbleached and undyed Peruvian cottons. In the single example having wool yarns, only black and white are present. The black has a brownish cast and the white is a cream-white; both are found in natural Peruvian wool (camelid) fibers.

Proportionately, the weaves represented are a little less limited than the colors. Gauze weave, doublecloth, and damask are present in the cotton fabrics, in addition to the usual plain weaves. The single example with wool, is a plain weave variant, woven two-over-one. Methods of color manipulation include the selection and arrangement of warp and weft yarns of different hues and values, to make stripes and plaids; and the reversing of the directions of weft yarns of contrasting hues, at chosen intervals, to produce pattern units. Contrasting textures have been obtained by the use of warps and wefts of opposed twists, resulting in a twill-like appearance in plain weave cloth; by the more common means of grouping the warps and wefts, or both; by choosing yarns of different diameters and degrees of twist; and the use of relatively close and wide spacing.

The yarns are about equally divided between single- and two-ply. The latter usually are Z-S spun; a few are S-S spun. Twists of the two-ply yarns range from soft to very hard. All of the single-ply are crepe twist and about two-thirds are S-spun.

The plain weave cottons have been woven, quite consistently, one-over-one. Generally, the warp count of each of these exceeds the weft count and in the case of the warp striped pieces, the warps conceal the wefts completely. The single example of a weft-face fabric is the one plain weave variant, the wool and cotton tapestry. This is also distinguished by having interlocked wefts, instead of the more usual kelim slots. Both of the damasks have patterns formed by warp floats. The

doublecloth webs, all matching, may be distinctive in the narrowness of their woven widths; technically, they present nothing unusual among Peruvian fabrics. The gauze weave, appearing in two matching webs, is one of the least complex of the Peruvian gauze types. Two of the cotton fabrics, the plaid and the doublecloth, and the one wool, are the only examples having wefts of more than one color. In each of these cases the wefts form an integral part of the patterning.

Where the webs are sufficiently well preserved for judgments to be made, the shapes, sizes and proportions conform closely to those of other Peruvian fabrics. The only exception seems to be in the high percentage of very narrow webs, since the common types of narrow bands: belts, headbands, and decorative edgings, are absent.

Frequently, in Peruvian textiles, the quality of the weaving surpasses that of the sewing, while in many of the present examples both the weaving and original sewing are of excellent quality. Especially distinctive are the extremely fine whipping stitches. In Peruvian textile literature, this use of fine sewing, so inconspicuous as to be easily overlooked, seems to have been mentioned only incidentally, as by O'Neale and Clark in their description of a child's shirt (1948, p. 150). If sewing is as fine as in these instances, it usually cannot be seen in reproduced photographs and certainly would not be noted in casual observation of a cloth in hand. These very fine stitches have been used both for sewing shirt seams and as a means of joining a series of narrow webs into a decorative whole. All of this neat, carefully executed basic sewing stands in marked contrast to the coarse, crude sewing, with its uneven and irregularly spaced stitches, which was added when the fabrics were adapted to their terminal use. This contrast is clearly evident in the joining of the various cloths put together for funerary purposes. Stitches used for mending tend to fall between these two extremes in respect to quality. These types of utilitarian sewing contrast with the embroidery, or ornamental type of stitchery, which may or may not serve as an edge finish or as a means of holding the fabric in position. Only two examples of embroidery are present in this group of textiles. One may have been an edge finish, but neither was designed as a seaming device.

A few of the features generally considered to be common among Peruvian textiles are absent from this set of fabrics. Brocade-type ornamentation is lacking, as is kelim tapestry. None of the many complex damask weaves is represented; the two examples of damask are of the simplest variety. There is no evidence of the use of the slightly twisted pairs of yarns, sometimes called sister yarns, where two ends are held together during the warping or in winding the bobbin or shuttle in preparation for weaving. When woven as plain weave, these produce results similar to basket weave, except for the occasional twisting together of the paired yarns. No textiles produced by methods other than weaving are present.

The reasons for what appears to have been the selective use of certain styles, colors and techniques are not clear. Presumably these wrappings of a child mummy constituted the entire funerary wardrobe of the deceased, although it is likely that some items were not preserved.

There are no bases on which to judge whether or not all of the fabrics present were parts of the child's apparel and accessories during its lifetime. Some may have been supplementary mortuary offerings. Nothing definite is known concerning the customary wardrobes or attire of the children of ancient Ancon. While it seems probable that children's garments were made according to the same general patterns as those of their elders, varying chiefly in size, it is quite possible that the coloring and type of ornamentation may have differed. The absence of certain artifacts frequently found in graves, such as headbands, pouches, slings, and spindles, may show the age or sex of the deceased or both. While it generally is assumed that the lack or minor use of ornamentation indicates a limited level of attainment, or low social or economic status (Reiss and Stübel, 1880-87, Part III Introduction), the fine quality of many of the fabrics of this group tends to contradict this theory, at least in so far as these textiles are concerned. Reiss and Stübel have observed also that children's burial equipment generally was less sumptuous than adults' (1880-87, pl. 28 description). Conversely, the presence of mending and patching and the evidence of re-use suggest a scarcity of material possessions, or an unwillingness to use them for burial purposes.

When viewed as garments and other accessories which constituted all or part of a small child's burial accoutrements, these cloths provide little specific information about the place which this child filled in Peruvian pre-history. Certain guesses can be made on the basis of the sizes and nature of the shirts. Judging by the shorter of the neck openings of these garments, and the circumference measurements of children's heads, the child who wore these shirts was not likely to have been over one year of age, provided the shirt with the smaller neck opening had been in use near the time of the child's death. If the garments are used as criteria, the child probably was a boy. Short shirts and loin or breech cloths seem to have been male attire, with longer, shift-type garments worn by females, if we can rely on conclusions based on ceramic reproductions (Montell, 1929, pp. 34, 93, 120) and the manner in which certain dolls found in the nearby Chancay Valley are dressed (Amano, ms.; Iiyama and Tsunoyama, 1966, pls. 92-116). Some of the simple rectangular fabrics probably were multipurpose cloths used by more than one member of the family group (as are today's household textiles as well as some articles of wearing apparel).

The available reports that deal with the whole contents of particular mummy bundles or groups of mummy wrappings recovered from the archaeological sites of Peru's central coastal regions are so limited that no bases have been established for comparative studies of these textiles. There has been a general tendency, also, to note only patterned fabrics and to discard or disregard, either as uninteresting or non-diagnostic, undecorated cloths, especially those of natural brown or white cotton. This practice makes any quantitative comparisons unreliable and probably greatly reduces the chances for recovering knowledge of garment forms, of established regional or temporal styles, or any preferential choices of techniques for the construction of specific garments or other textile artifacts, especially if these were of a utilitarian nature. Similarly, analyses of skeletal remains seldom have been included with those of

related funerary textiles. This has meant that data concerning the sex of a particular mummy and the estimated age of the person at the time of death seldom can be correlated with textile artifacts, despite the fact that this information is basic to any complete appraisal of clothing.

A few published reports can be cited that have some bearing on the problems encountered in attempting to correlate these wrappings of a child mummy with other textiles from the same general area. Very little concerning fabrics from child burials is included.

O'Neale and Clark, in their study of gauze weaves (1948), describe seven textiles from Ancon classed as Late Period. These fabrics have been woven of cotton yarns and are basically unbleached white (O'Neale and Clark, 1948, p. 179); brown has been used to form stripes or crossbars in at least two instances. One of these fabrics (UC 4-5883), described as a head veil in allover gauze weave (O'Neale and Clark, 1948, p. 161) was excavated by Max Uhle at Ancon (Site T). Another (Ancon 6225a, in the Museo de Historia Nacional, Lima), a brown and white fragment with gauze bands (O'Neale and Clark, 1948, pp. 152, 181), was found east of Pueblo Nuevo, in 1908. The others lack detailed site information. In addition to these pieces, three infants' shirts and one child's shirt, showing some similarities to those in hand, are described. The infants' garments are all classed as Middle Period; one is from Ancon; two are from Supe (O'Neale and Clark, 1948, p. 150). The child's shirt, classed as Late Period, is from Chancay (O'Neale and Clark, 1948, p. 153). None of the garments is wholly intact; each has been woven of white cotton yarns in a combination of plain weave and gauze.

The garment from Ancon (UC 4-6340, M. Uhle, site M, 1904) is quite elaborately decorated. It is woven in gauze weave with sections of tabby and tapestry and has added hemstitching (O'Neale and Clark, 1948, pp. 175-6; 201, pl. 6A, B). The gauze is of the simplest type, in which single adjacent warp yarns are transposed in alternate sheds (O'Neale and Clark, 1948, p. 203, pl. 3A). The original width of the one remaining web of the body of the garment cannot be determined. It may represent less than half, since no neck opening is present. Part of a sleeve is intact and is attached to the larger web with fine, almost invisible whipping stitches. Less than half of the width of each of the two shirts from Supe (UC 4-7550, and 4-7550a, M. Uhle, Supe district) has been preserved. Sleeves are present, but no neck openings. Borders of gauze weave ornament the lower edges of the body and sleeve of each shirt; the remainder of the fabric is muslin-like plain weave (O'Neale and Clark, 1948, pl. 18B, D). The example from Chancay (UC 16-973, C. Uhle) is listed as a child's garment (O'Neale and Clark, 1948, p. 153). This specimen is similar to the other shirts (O'Neale and Clark, 1948, pl. 18A), in having a border on the sleeve and at the lower edge of the body. It also has a fringe of warp loops finishing the lower edge. Only about half of this shirt has been preserved.

Since the textiles considered in the O'Neale and Clark report are an arbitrarily selected group, based on the presence of gauze weave, and are from southern as well as several central sites, general comparisons based on these findings cannot be applied to the present small

Ancon group, although two interesting parallels can be noted. The two webs with gauze weave, described above as parts of the outer covering of the child mummy, have their ornamentation in bands crossing an end of each web, similar to those of the sleeve webs of the infant shirts described by O'Neale and Clark; the designs on the two gauze webs and the patterned brown and white bands (figs. 18, 14-15) resemble those shown for the Middle and Late Period gauzes (O'Neale and Clark, 1948, pp. 183-8, figs. 5-10), although no two are duplicates.

Reiss and Stübel, in The Necropolis of Ancon (1880-87), comment on the prevalence of plain cotton cloth at Ancon, mention children's mummies wrapped with cotton and plain cotton cloths, and speak of cloths of simpler types (simpler than those shown in their illustrations) being found frequently in the graves. The only garment type clearly identified is the poncho-shirt, of which a number of examples are shown in the illustrations. Dimensions for height and shoulder breadth have been given for some of these shirts, including two classed as children's garments and two called "small" (Reiss and Stübel, 1880-87, pl. 36, figs. 2, 3, 5, 6). None of the four has sleeves. Four others, for which dimensions are listed, although classed as "large," differ very slightly from the "small" garments in size and may have been children's apparel (Reiss and Stübel, 1880-87, pl. 35, fig. 3; pl. 3, figs. 2, 4, 5). One of the latter has sleeves (pl. 37, fig. 5). The authors speak of the great breadth of some of the shirts, but do not relate this feature specifically to children's garments. They also have noted the evidence of re-use of cloths made for other purposes, as well as the common occurrence of mending.

Of the numerous fabrics illustrated in The Necropolis of Ancon, most are elaborate pieces, but some examples of plain weave cloths of various textures are shown and described. Among these are monochrome cotton fabrics in brown and in white, as well as stripes and plaids, with brown and white, and brown, blue and white combinations. Although the weave descriptions are meager and no technical analyses are included, the use of both gauze weave and doublecloth can be established. Many pattern weaves and tapestries are presented, but it is not possible to identify all of the pattern techniques or to determine the varieties of interlocking tapestry represented.

In describing children's mummies, Reiss and Stübel have noted that children usually were interred like adults, but with less elaborate equipment. Some bodies were flexed and some were extended and placed on a bed of rushes or a cradle-like netted "trestle" or, sometimes, were laid on large mummy packs. Others were found enclosed in the wrappings with an adult mummy. Usually the child bodies were wrapped in cotton and cloth, enveloped in matting or skins, and then covered with coarse cotton cloth (1880-87, pls. 11, 28, description). Since some of these extended child bodies were found in the same burials with flexed adult bodies, it seems to follow that certain of the practices governing adult interment did not apply to contemporaneous child burials, although the textile requisites for adult bundle-type flexed burials presumably differed from those for extended bodies, and those for tomb, shaft and other styles of

interment also may have been distinctive. To date, textile information of this type seldom has been presented.

Archaeological excavations, sponsored by Columbia University, were made in the same part of Ancon as those of Reiss and Stübel, at a later date. In reporting the results of these, Gordon Willey has mentioned encountering textile imprints in the clay and badly deteriorated cloth fragments, indicating that cloth had been used in the burials (in Strong, Willey and Corbett, 1943, pp. 197-211). Eighteen graves had skeletons, but there is no mention of a child burial. Four of the 18 graves had textile remains. One grave (no. 11) yielded fragments of striped textiles, "colors probably blue, brown and white" (Strong, Willey and Corbett, 1943, p. 209). These may resemble the striped fabric found with the child mummy. Based on pottery type correlations, Willey considered the collection as a whole to have a position "between Middle Ancon I and Late Ancon I" (Strong, Willey and Corbett, 1943, p. 204).

In the same publication, Willey and Corbett have reported finding a child and two adult skeletons in Early Ancon excavations (north extension of Pit I) wrapped in "simple cotton textiles" with no accompanying "grave goods" (Strong, Willey and Corbett, 1943, p. 16). No clear distinction has been made between wrappings of the child and adult skeletons in this, or in further descriptions of the textiles included in a later report by the same authors (Willey and Corbett, 1954, pp. 8, 9) in which a special section (pp. 84-130) is devoted to an analysis, by Lila M. O'Neale, of the textiles from these excavations (Institute of Andean Research Specimens 958, 959, 987), together with other textile fragments from the Ancon Shell Heaps and three Early Supe sites. This report reveals many technical similarities between these fabrics and the wrappings of the present child mummy. There are undyed brown and white cotton textiles, with white predominating, also stripes and plaids, with two shades of brown, white and sometimes blue. There are tapestry-woven fabrics with grouped cotton warps and wool wefts and, in at least one case, the wefts have been interlocked in the same manner (Willey and Corbett, 1954, fig. 13 c) as those of the single wool and cotton combination of the present lot. These textiles include the common plain weave variations: square count, warpface, and weftface, in a number of different textures. Both S- and Z-spun single-ply yarns are present, sometimes in the same web. One gauze weave is among the Supe textiles. No garments have been identified. Detailed studies of the textile contents of a few other central coast burials or grave lots have been published, but none of the studies from the Ancon area deals with a child burial.

These reports indicate that textiles very much like those found with the National Museum's child mummy were in use in the Ancon-Supe area from as early as the time of the "Early Ancon" ceramic materials to as late as those of "Late Ancon I." However, John H. Rowe has pointed out that the shell mound at Ancon, which is the source of the "Early Ancon" materials, was not discovered until 1904, when Max Uhle dug there (Rowe, 1954, pp. 9-10), while in 1884, when the child mummy was acquired by the National Museum, only the Necropolis at Ancon was known. According to Rowe, the earliest burials recorded in the Necropolis date to what is

presently called Middle Horizon 1, corresponding approximately to the beginning of the time designated previously as Middle Period (O'Neale and Kroeber, 1930). Thus the mummy wrappings described here are not likely to have been in existence prior to this time.

In terms of Peruvian textiles, the few fabrics from Ancon that were found associated with a child mummy, and the other related pieces, show no unfamiliar techniques, colors or designs. They do indicate a possibility that the clothing of infants and small children was customarily limited in the range of its fabric types, coloring and styles of ornamentation. The presence of very fine sewing, used in garment construction and for joining narrow woven strips to produce larger cloths, the latter frequently striped, suggests a practice which may have had a quite well defined distribution and therefore should be carefully noted. Also, the high quality of weaving and sewing, seen in these fabrics having little or no ornamentation, seems to denote that superior levels of craftsmanship had higher value, or greater acceptability, for certain purposes, than did the brilliant coloring and elaborate ornamentation so prized by today's collectors of pre-Spanish Peruvian textiles.

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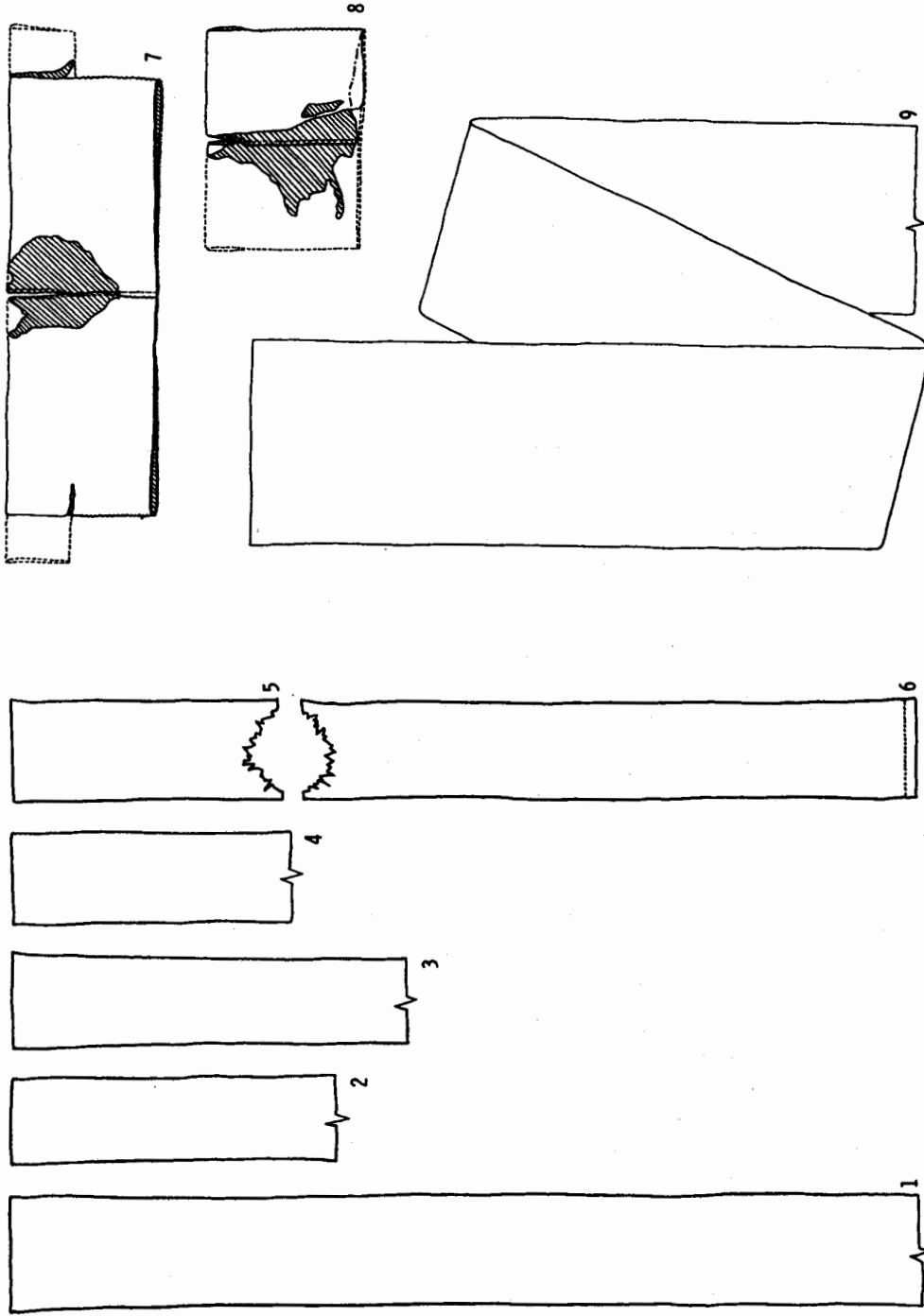


Plate XXXIII. Figs. 1, 2, 3, 6, diagrams of four fragments labelled "ties" (Spec. 74104 J, K, L, M); figs. 4, 5, two additional pieces that seem to belong in the same category (N, O); figs. 7, 8, reconstructions of two small poncho shirts (Spec. 74104 I), the wider shirt made with sleeves and the narrower shirt without; fig. 9, the tie segment shown in fig. 1, redrawn to the same scale as the shirts.

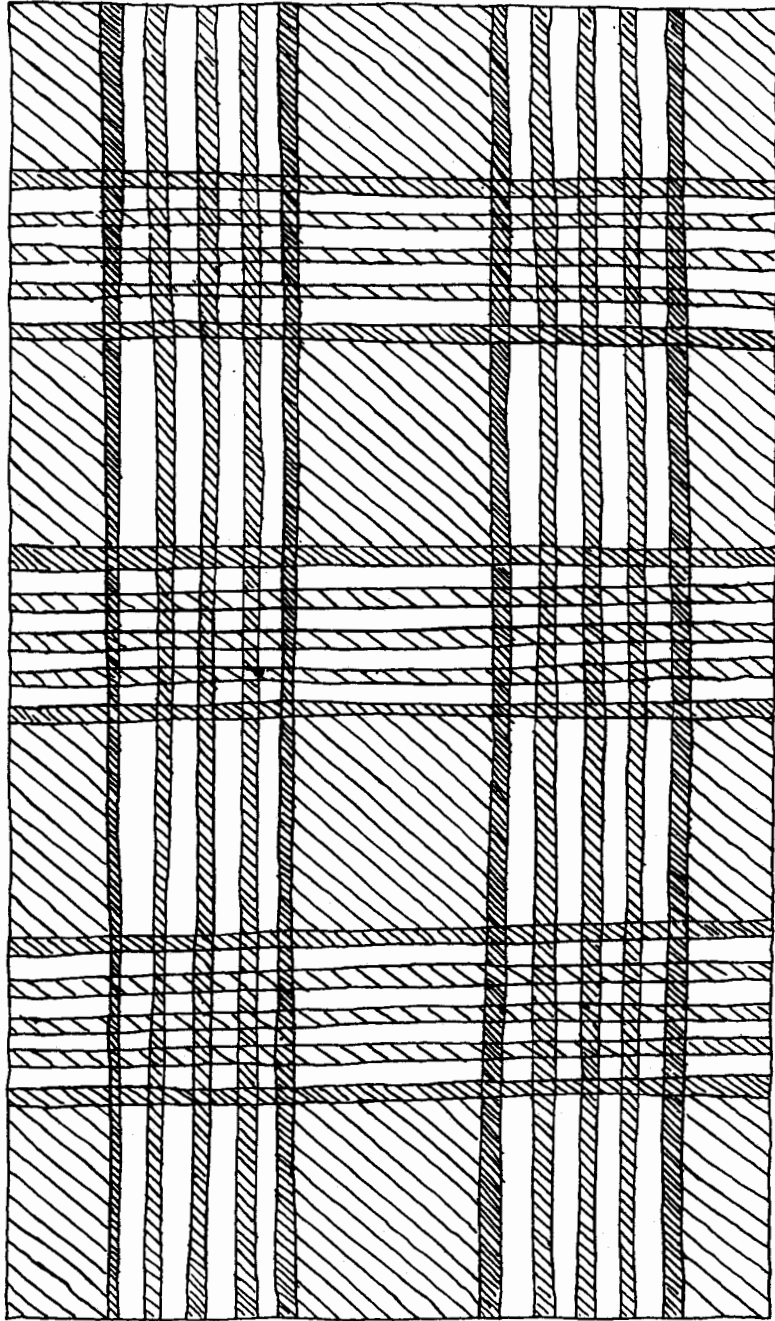


Plate XXXIV. Fig. 10, layout of the plaid, Spec. 74104 F.

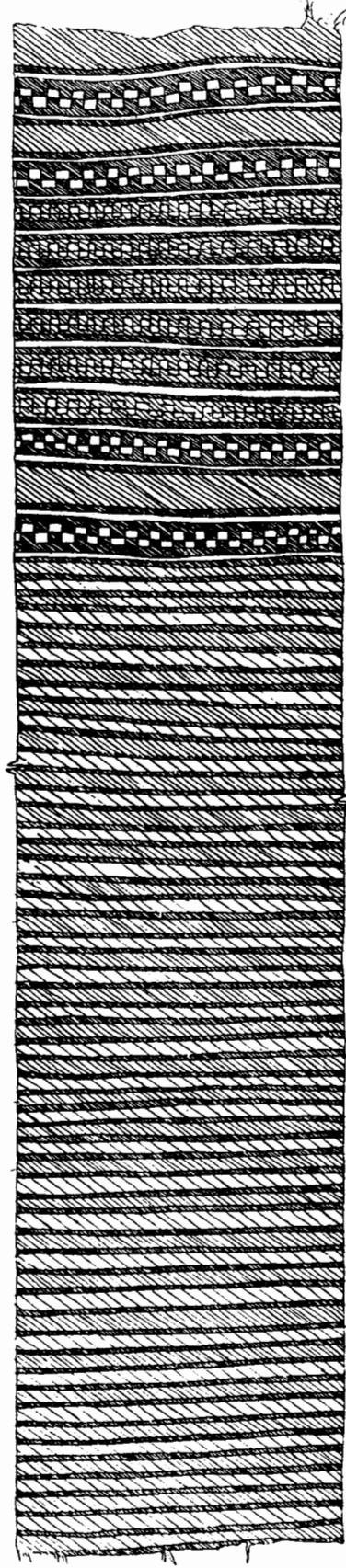
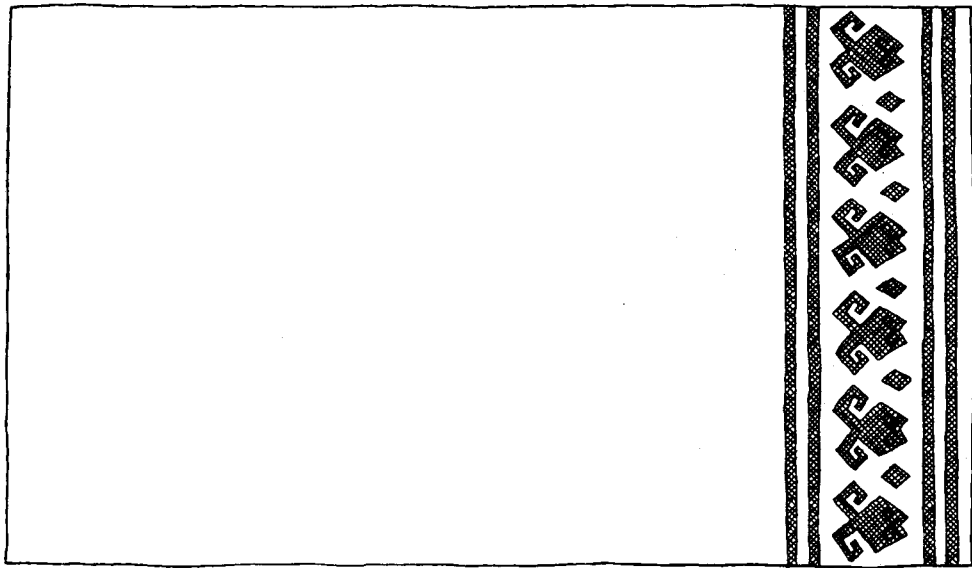


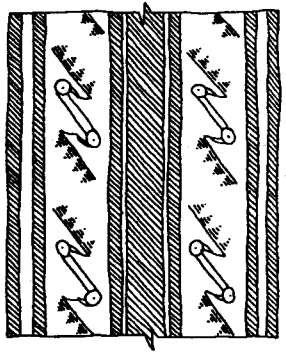
Plate XXXV. Fig. 11, section of the striping of Spec. 74104 E. The more complex part includes a small geometric figure in damask weave.



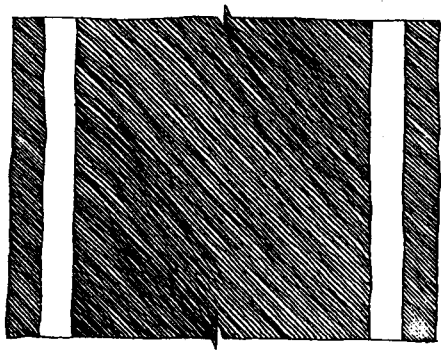
Plate XXXVII. Fig. 13, reverse face of the piece shown in fig. 12, showing parts hidden by the outer layer of cloth.



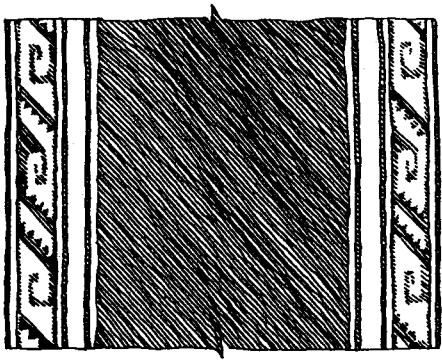
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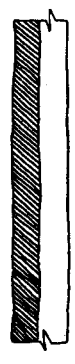
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Plate XXXVIII. Figs. 14, 15, 16, 17, patterning of the narrow brown and white webs, each sewn to monochrome narrow webs of brown or white; fig. 14, pattern of the doublecloth; fig. 15, damask pattern; fig. 16, wider of the two plain weave stripes; fig. 17, narrower plain weave stripe. Fig. 18, drawing of one of the two gauze weave webs, indicating location and nature of patterning.