TELAS DE LOS MUERTOS

WARP PATTERNING by Karen Searle with Sue Baizerman

There are two methods of warp patterning most frequently found in ancient Peruvian patterning. One is supplementary warp patterning. It is the counterpart of the supplementary weft patterning discussed last month. Any pattern introduced from selvage to selvage in the weft direction can theoretically be introduced in the warp direction also. The ground fabric in a supplementary warp fabric is usually warp faced plain weave. A second set of warp threads, not essential to the structure of the fabric, is manipulated to float or to weave with the ground warp to produce patterns.

The second common means of introducing patterning is complementary warp (or weft) patterning. It occurs when two sets of elements of contrasting color function co-equally in the fabric, in opposition to each other. Usually one color dominates one face of the fabric while the other color dominates the opposite face. (Weaving "on opposites" is one way in which a handweaver achieves a complementary weft fabric. Students of Bolivian weaving produce complementary warp fabrics.) Complementary warp designs are continuous (from one end selvage to the other); complementary weft designs may be continuous or discontinuous.

Warp patterned weaves have existed in the Andes since Pre-Ceramic times (before 2,000 B.C.). Their popularity diminished as a wide range of textile techniques developed, but they have survived to become the dominant system of patterning used in the area today.[1] Among existing pre-Columbian textiles, weft patterning seems to predominate over warp patterning, although in many cases it is difficult to tell whether a textile fragment was originally woven with the pattern in the warp direction or in the weft direction.

Most of the Science Museum of Minnesota's examples of supplementary warp patterning and complementary element weaves probably date to the Late Intermediate Period (900 A.D. –1476 A.D.). There are only four examples of pre-Columbian supplementary warp weaves in the Museum's collection. Some 24 fragments of complementary warp or weft weaves are in the collection, and bands and borders of the complementary weft decorate a number of tapestries and weavings in other techniques as well.

Structure

Supplementary warp weaves:

The number of supplementary warp threads used can be equal to the number of ground warps (a ratio of 1:1); a supplementary thread being picked up between each ground thread for pattern as needed. Contemporary ethnographic textiles from Ecuador use this method. The Museum has no pre-Columbian examples. A supplementary warp that is woven with the plain weave shed and floated on the back of the textile (the equivalent to plain weave inlay in the supplementary weft weaves) does not appear to exist among South American textiles.[2]

Supplementary warp inserts:

An equivalent to a variant on plain weave inlay does exist among the supplementary warp textiles of pre-Columbian Peru. See Fig. 1 and Photo 1. The ground fabric in this variation is a balanced plain weave rather than warp faced plain weave. The Museum's example of this weave can be seen in the skirt of a burial doll, item A 72:24:26n.

Supplementary warp threads in a ratio of 1:2 with the ground warp threads are common ethnographically in Peru, and also in Scandinavian and East European countries. A draft for this weave can be seen at right, the ·'s representing the supplementary threads. A structure diagram is shown in Fig. 2. The Museum has no pre-Columbian examples of this technique, although several mantas in the collection from the Colonial period are patterned with this weave.

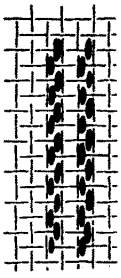

Fig. 1. Supplementary warp inserts.

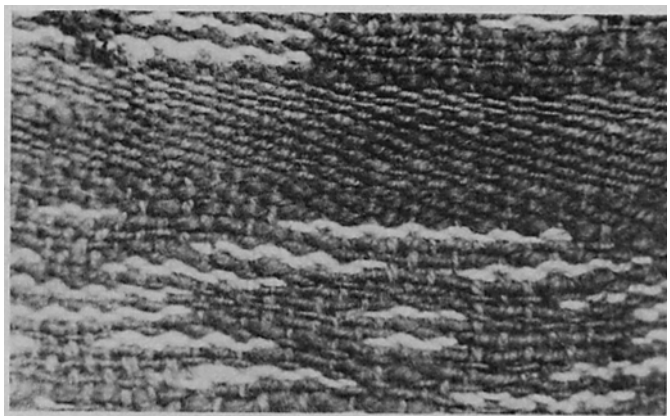

Photo 1. Supplementary warp inserts A 72:24:26n.

Fig. 2. Supplementary warp threads in 1:2 ratio with ground threads.

The plain weave derived float weaves have floats formed by causing certain threads to skip one or more interlacings of plain weave. In the **simple alternating float weave,** the skipping of one interlacing forms a three-span float in the warp on one face of the fabric, and in the weft on the other face. See Fig. 3. The warp/weft forming the float may be supplementary or part of the ground fabric warp/weft. In the Museum's collection, a small four-selvage piece in dark blue cotton is patterned in white with this simple alternating float weave. (A 72:24:36L) It has a warp sett of 38 e.p.i., a weft count of 8 p.p.i. The float section is threaded with the draft as shown. This is perhaps the oldest known warp patterning technique in Peru. Examples have been found dating to pre-Ceramic times[3] although the Science Museum's example is more recent, probably Late Intermediate or Late Horizon.

Complementary Warp/Weft Weaves

Complementary warp floats on plain weave use the same draft to produce a float weave similar in appearance to that described above but with complementary sets of warp forming an all-over design of 3-span floats aligned in alternate pairs. This weave is found among pre-Columbian textiles. It is familiar to inkle weavers as one of the basic pickup weaves (see Atwater), and can be seen in some comtemporary Bolivian and Scandinavain bands. There are no examples of this technique in the Museum's collection.

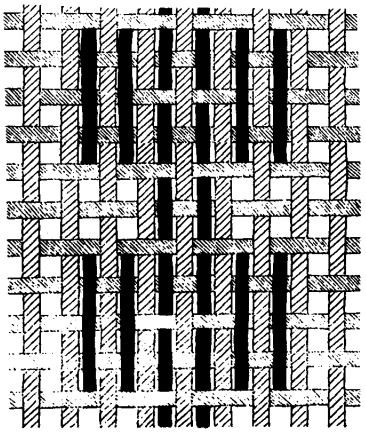

Fig. 3. Simple alternating float weave.

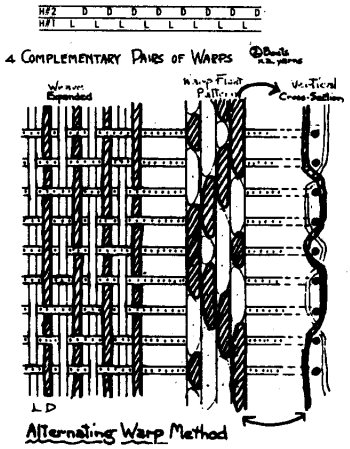

Fig. 4. 2 color pebble weave, courtesy of Adele Cahlander.

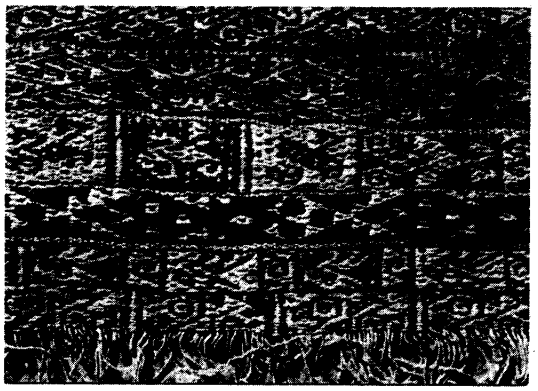

Photo 2. Two and three color pebble weave A 71:11:2.

Two color Pebble Weave is a complementary warp (or weft) weave which has 3-span floats aligned in alternate pairs and diagonals of two span floats.[4] See Cason and Cahlander for complete information on pebble weave and its variants. Fig. 4 shows the structure of this weave. The Science Museum's collection contains ten examples of two color pebble weave, some with pattern in the warp direction and others with pattern in the weft direction. A typical example has a tightly spun cotton singles warp at 25 e.p.i., with approximately 120 p.p.i. in the pattern area.

Three (or more) Color Pebble Weave is considered a compounded complementary warp/weft weave because of the introduction of additional sets of elements. Eight examples of pebble weave in three, four or five colors appear in the Museum's collection. The warp way pebble pieces have floats on the back where the extra colors are not being used in the design. In the weft way pebble pieces, additional colors are laid in in a discontinuous manner, thus eliminating some of the back floats. A typical example has a hard twist singles cotton warp at 27 e.p.i. with weft at 36 p.p.i. in pattern areas. A reversible three color pebble weave was also used in pre-Columbian times, however, the Museum collection has no examples of this technique.

Photo 2 shows a fragment composed of many bands in weft-way pebble weave separated by narrow stripes of plain weave. One of the bands is in three colors, the rest are in two colors. The warp is sett at 22 e.p.i., with approximately 88 weft picks per inch. Many animal and bird motifs are worked into this 7½" x 6¼" piece, possibly a sampler.

The cover photo shows one of the most beautiful textiles in the Science Museum collection. A tapestry in red and gold with bands of three color weft-way pebble weave in dark brown, pink, gold, magenta and white. The piece has four selvages, warp at 26 e.p.i. and 120-136 weft p.p.i. A separately woven fringe is applied to one edge.

Turned weave[5] has the weft faced floats and the warp faced floats on both sides of the fabric. See Fig. 6. This weave was commonly used in the Late Intermediate Period in cotton textiles. The Museum's example is a four selvage piece, 9½" x 24", in light brown and white cotton, warp 60 e.p.i. and weft 22 e.p.i. See Photo 3. Its designs include birds and jaguar heads. Its size, shape and variety of design suggest that it might be a sampler.

This turned weave is common in contemporary Mexican textiles and Navajo belts that make use of two different weights of yarn for the pattern and ground, giving a three-dimensional look to the fabric. The technique is seen very infrequently in contemporary Peruvian textiles.

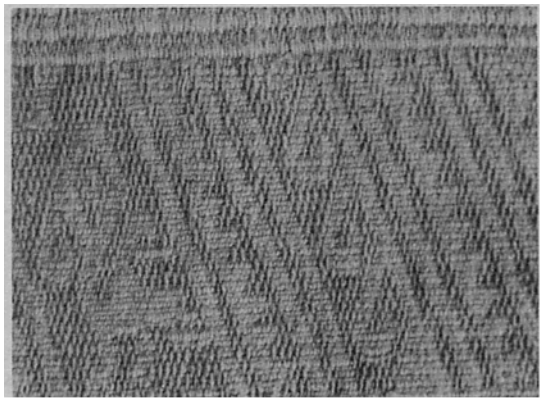

Fig. 5. Turned weave.

Photo 3. Turned weave A 74:17:48.[1]

Warp or weft substitution is one type of complementary element weave in which two sets of elements alternately float and interlace with the warp in plain weave. While one set is floating, the other set is interlacing. and conversely. There are two very different faces to the fabric—one with floats only and one with plain weave only. The Museum's example of this weave is shown in Fig. 7 and photographs 4 and 5. The piece has 3 selvages (one end has been cut) and measures 23" x 20". Red wool and gold cotton form an interlocking jaguar motif in weft substitution. There is a wide border in tapestry at one end. Warp sett is 26 e.p.i. with 15-20 p.p.i. in the weft substitution area.

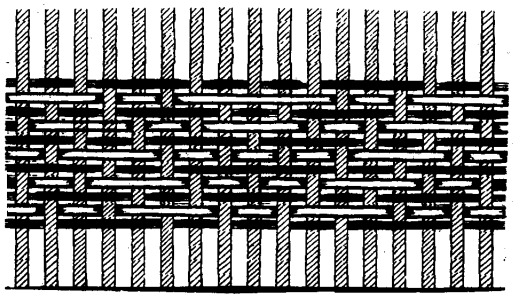

Fig. 6. Weft substitution.

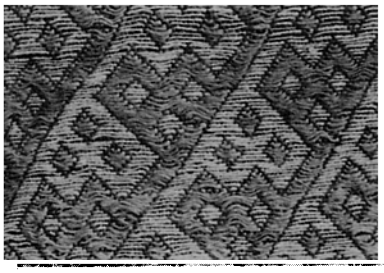

Photo 4. Float face of A 74:17:59.

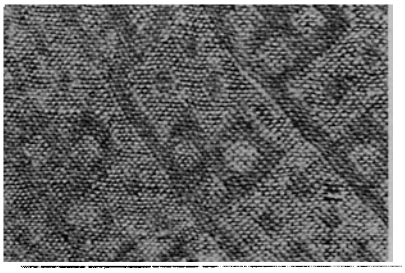

Photo 5. Plain weave face of A 74:17:59.

Materials

All of the complementary warp weaves in the Museum collection have a cotton warp. In most of the textiles it is z-spun and s-plied, although a few examples have a hard twist singles warp. Pattern threads in the warp-way complementary element textiles are also of z-spun, s-plied cotton. The weft-patterned textiles generally use a z-spun, s-plied wool for the pattern threads.

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Atwater, Mary. Byways in Handweaving, MacMillan, 1954.

Cason and Cahlander. The Art of Bolivian Highland Weaving, Watson-Guptill, 1976.

Emery, Irene. The Primary Structures of Fabric, The Textile Museum, Washington, D.C., 1966.

Rowe, Ann P. Warp Patterned Weaves of the Andes, Textile Museum, 1977.

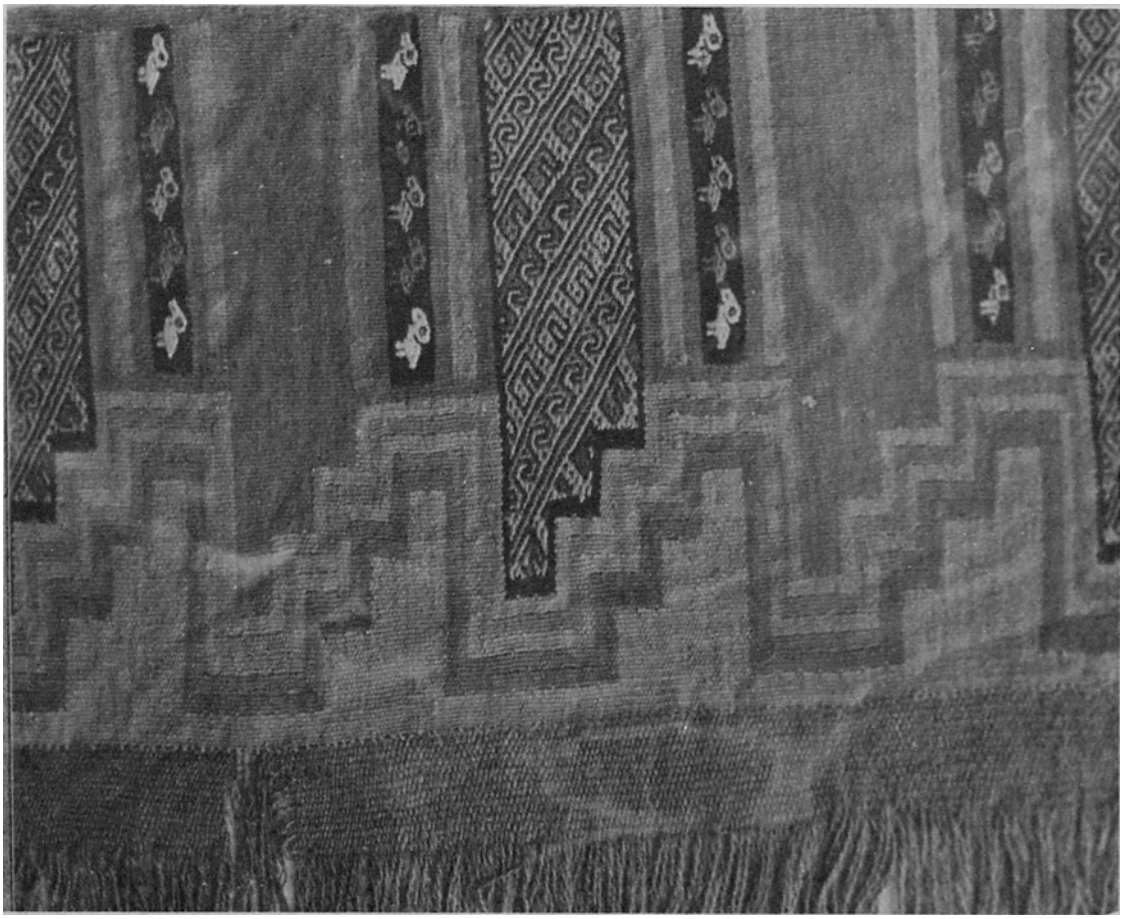
[1] Rowe, Ann P. Warp Patterned Weaves of the Andes, The Textile Museum, Washington, D.C., 1977, p. 6.

[2] Ibid., p. 34.

[3] Ibid., p. 54.

[4] Ibid., p. 67. While the term pebble weave deviates from our usual structural identification of weaves, we decided to use the less clumsy descriptive name.

[5] Emery, Irene. The Primary Structures of Fabric, The Textile Museum, Washington, D.C., 1966, p. 112.



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Thursday, March 2, 1:00 and 7:00 p.m. Guild members meeting.

Thursday, March 9, 9:30 a.m. Board meeting.

Friday, March 10, 9:00 a.m. Members workshop on spinning.

Thursday, March 30, members workshop on tatting.

Thursday, April 6, 1:00 p.m. Guild members meeting.

Friday, April 7, 7:30 p.m. Fund raiser.

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