

Variations in Embroidery Weaves

By Edith H. Snow



JUST when and where "embroidery weaving" began remains hidden in the dim and far-off past, to the regret of those who are interested in the history of weaving and its many methods of ornamentation. The caves of the Stone Age buried a coarse unornamented woven cloth. In the Bronze Age we know also from excavations that looms were used. And apparently, history having begun by an appreciable date B.C., weaving was already developed to the point of ornamentation at a very distant period. Probably tapestry weaving, in which the design was made entirely by the weft threads as part and parcel of the fabric itself, was the earliest method of getting a pattern into woven cloth, but also at an early date came brocade weaving, or "brocading," for the sake of ornamentation—that is, carrying the pattern thread back and forth, according to the limitations of the design, over the weft threads which formed the background and ran from selvage to selvage. The brocading threads, carried on separate small bobbins, bore the same relation to the fabric that embroidery with a needle does to the material it ornaments: the essential difference is that the brocading threads are woven on the loom while the fabric itself is being made, and this is true of all kinds of the so-called "embroidery weaves," of which there are a varied and interesting assortment.

Of all the embroidery weaves, "brocading" has the most distinguished place in the history of hand-loom weaving. It flourished in Coptic weaving in Egypt in the fifth and sixth centuries and in Peru before the twelfth century, and reached its glory in Renaissance France and Spain, where from the fifteenth to the seventeenth century silk and gold and silver brocading ornamented the robes of the elect and hand weaving had reached a marvellous point of intricacy and perfection before the invention of machinery. When the mechanical loom was invented it took over and pushed to the achievement of today the processes of complicated weaving. The brocading done by hand

now is a simple achievement compared with the fineness and dexterity of the work done in the pre-machine era, but it may be, nevertheless, both beautiful and effective.

This we can say of our illustration, the border on linen, a "brocaded" design, "embroidered" (by which I mean woven on the loom) under the direction of Miss Pauline Gundersen, Chief Occupational Therapist of Bloomingdale Hospital. For "brocading" there must be at least one extra shed, through which the pattern threads may go, beside the two sheds necessary for the plain weave. In Miss Ferris's article in this number of *THE HANDICRAFTER* she has described the method of "picking up" threads, behind the heddles or slow reed, with a flat stick, to produce the necessary shed, or sheds, for this type of embroidery weaving.



1. BROCADED BORDER ON LINEN TABLE RUN

*Photograph by Ira Wright Martin
Courtesy of Woman's Home Companion*

Large-eyed string heddles used on a loom with two harnesses make possible the use of the brocading stick behind the heddles, while small-eyed heddles, whether of steel or string, will not do for this method.

But the four-harness loom, when threaded to the simple 1-2-3-4 threading, gives an easy mechanism for such an effect as Miss Gundersen has attained, in all sorts of materials and for a



2. PERUVIAN BIRD MOTIVE
SCANDINAVIAN STICK WEAVING

Photograph by Ira Wright Martin

variety of uses. This rather rigid way of developing a pattern is happily used on the soft wool of a baby blanket. Where time is an object to the weaver it will be found that the use of pedals with the embroidery pattern is a means of increasing celerity; and by working with the wrong side of the pattern on top it is easy to take care of the ends of the pattern threads and finish them neatly, while the under side is built up, with perfect evenness, as the right side. With the 1-2-3-4 threading we suggest the simplest tie-up of harness which is easiest to manipulate if there are but four pedals. The pedals are numbered from right to left, 1, 2, 3, 4; pulling down the harnesses and lambs in the same order, 1 and 3 alternating with 2 and 4 make the plain weave.

In the brocaded border of our illustration the pattern thread has gone over two threads and under one in regular order. With the 1-2-3-4 threading on a four-harness loom our pattern thread should go over three threads and under one, mak-

ing a slightly longer overshot. If we work with the top side as the wrong side, by putting down one pedal, let us say, for brevity, pedal No. 4, our embroidery thread would be carried under three threads and over one, and the little ends of the beginning and ending of the pattern threads would be carefully turned back and woven in and out under and over several of the warp threads covered by the pattern overshot. In the illustration the linen of the colored pattern thread is slightly heavier than the white weft thread. Different effects may be obtained by using heavier or lighter threads. Where a soft wool is used it is sometimes desirable, especially if the plain weave is fine, to put the weft thread of the plain weave over and back on 1 and 3, and 2 and 4, so that there are two threads of plain weaving before each of the pattern threads; this gives more room for the soft wool, or heavier material of whatever kind, to spread.

Akin to the so-called "brocading" is a method known as "Scandinavian stick weaving": in this method the pattern of ornamentation is put in by means of a flat shuttle with a pointed end, which holds the "embroidery" threads, and with which the warp threads are "picked up" in front of the beater in the order in which they will produce the desired effect. This is the method used in our illustration of a Peruvian design, done with blue wool on linen, which is almost an exact copy of a piece of Peruvian hand weaving in the Natural History Museum in New York City. This design was drawn on squared paper, so many warp threads and a corresponding number of weft threads being allotted as represented by each square.

In the little checked bands above and below the chief border the pattern blocks are a little wider than in the central band. The weaver made as many inches of plain linen weaving as the measurements required, and then with warp threads level inserted the pointed shuttle, wound with a dark blue wool to be used in the pattern, from right to left, under four threads and over four threads, repeating the process across the width of the fabric. When this blue thread was once in place the linen "tabby" was carried across on its own shed, thus holding in place the first row of pattern wool. Next the blue thread on the pointed shuttle came back from left to right, under and over the same four warp threads. Three rows of blue wool gave the right height to the spot of blue desired, a linen tabby thread following each row of wool. This completed the first row of blocks. Next the order for the blue threads was reversed and the four threads that had been covered by the blue in the preceding line were "picked up," which gave an effect of alternating blocks. In this example the with 3 and 4 for the pattern. This means that the embroidery threads are carried from right to left

blue wool threads were heavier than the warp or weft; if they had been finer it would have taken four or more of the blue threads, instead of three, to make a square block.

In the wider central border of this illustration it will be seen that only three warp threads were used for a square, and in some parts of the design several squares were "picked up" at one time by the pattern shuttle, making a longer overshoot or undershoot of blue. Care was used, by the Peruvian weaver as well as in the modern copy, that the weft thread should be of a soft and clinging home-spun wool which would hold together and stay close to the linen; a twisted smooth-finished material would not have given the desired effect or made a durable decoration.

This method would seem to be tedious. There are no harnesses to help draw down the pattern threads, nor any stick to be turned on end back of the beater to make a definite shed all at one time across the width of the material. But, indeed, this work goes quickly. When the squares are once "picked up" it is easy to see just where the embroidery shuttle should ply in and out, and a border across the whole width, or a medallion "picked up" in the center somewhere, will go far more easily and speedily than one would suppose. In this way—and in other countries than Norway and Sweden—patterns have been put into materials, even such as heavy rugs and wool hangings, for hundreds of years, the method is an old one, for example, in the Mediterranean islands and the countries which border that sea.

Our photograph of fishes used as a decoration on a heavy silk fabric is taken from one of the beautiful robes brought to this country from Greece, last year, by Mme. Eva Palmer Sikelianos, and exhibited by her. This collection, which comprised the costumes woven by hand under Mme. Sikelianos's direction for the festival performance of the "Prometheus" of Aeschylus at Delphi, was, so far as I have been able to find out, the largest exhibition of embroidery weaving ever shown in this country. The method used for this particular decoration is one of the most effective among the embroidery weaves. We call it the "Greek" method, for want of a better name, as it is traditional in Greece and its adjacent islands.

In the fabric of the illustration a heavy twisted grey silk was used for the warp and a fine grey silk thread for the weft. Soft silk floss in striking colors made the decoration. Though the same effect can be accomplished on other looms, the threads of Greek embroidery weaving may be inserted with the greatest facility with the 1-2-3-4 threading on a four-harness loom, using the ordinary tie-up for four pedals, with 1 and 3 alternating with 2 and 4 for the plain weave, and with 1 and 2 alternating

on 1 and 2, and back again on 3 and 4, after each row of plain weaving, so that all the warp threads underlying the pattern are covered on the same line by the color of the pattern thread, after every row of plain weaving.

There is some very delightful weaving being done at the present time in Athens, and travelers are bringing home lovely specimens of embroidery weaves done by Greek weavers according to their traditional methods under English or American direction. The method described above is the principal one used, and fishes and butterflies and birds in gay colors are seen frequently as ornamentation. Sometimes the warp is finer than that used in our illustration, and if so the ribs of the embroidery are less prominent. Sometimes, also, a different effect is desired, and the pattern stands out less distinctly; to gain this effect the soft threads of the pattern silk are carried over and back, not after each pick (a pick representing one row), but after two or even three picks have gone across.

If we were beginning to weave a replica of the fish in our illustration, we should make a drawing



3. AN EFFECTIVE EXAMPLE OF EMBROIDERY WEAVING IN THE "GREEK" METHOD

Photograph by Ira Wright Martin

of him, the exact size we expected to make him in our fabric. We should put his colors in their right places, the greens and blues, and a touch of silver, where they belonged, and also the black band and high lights that make him so decorative. Our plain weaving we should start by a narrow band of

black, proceeding next with the background of grey; and then as we reached the point where the trailing end or "antenna" of the fish began, we should change our shed by changing our treadles from 1-3, 2-4 to 1-2, laying in our first color at the point of the design over two threads, letting the



4. DESIGN ON SQUARED PAPER WHICH MAY BE USED AS "BROCADING" OR "GREEK" WEAVE

end hang loose on the under side because of beginning the design on so small a point (until later when this thread could be secured under other pattern threads with a needle). Next we should carry over our grey tabby to hold this first thread down. We should then have put in the tip of the "antenna" Next our pattern thread would ply back on 3 and 4, alternating with 1 and 2, and our second row would have been accomplished. And so we should proceed, according to the lines of our fish. The diagonal edge of the pattern would easily be made by dropping a thread on one side of the design and covering an extra thread on the other side with our pattern color.

We have tried this method in many materials and types of design and have found it admirably effective either with soft wool or spun silk on a background of linen or cotton, silk or wool. In combination with other embroidery weaves, such as the excellent so-called "laid-in" pattern, it may accentuate a spot of color or make a pleasant variation in surface.

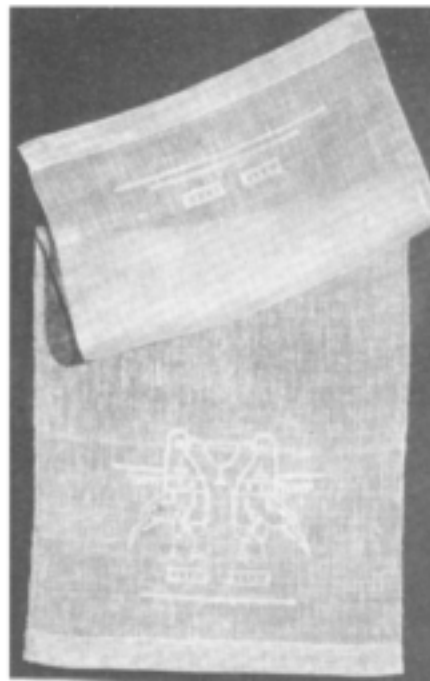
In the illustration of fine linen with a design taken from one of the treasures of Chartres Cathedral, the Greek method has been used; but in order to give the shadowy effect desired, the pattern thread has been put over by repressing pedals 1 and 2, and returned on 3 and 4, after the shuttle for the plain weave had returned on 2 and 4.

The drawing you see illustrated, on squared paper, is a suggestion for the Greek method in combination with Scandinavian stick weaving, which could produce the band below the two excited figures. This pattern could, of course, be used for brocading, or for the "laid-in" embroidery weaving. Also, Greek weaving may be combined

with modern tapestry weaving. We have only recently worked out an interesting modern design for a purse done in silk yarn, partly in tapestry and partly with the Greek embroidery method.

Probably the simplest of all embroidery weaves, and the one which allows the greatest flexibility, is our old friend the "laid-in" pattern, into the mysteries of which we were enthusiastically led when we took our first lesson in embroidery weaving, long ago. This is done in many countries, and with many variations. It is sometimes called shadow tapestry, and may be combined with modern flat tapestry. It is appropriate for any material from fine and lightly beaten silk or linen to heavier wools and to materials firm and durable enough to be used for upholstery.

"Laying in" a decoration just means that an extra thread is inserted into the same shed as that made for the plain weave into which the "tabby" weft thread has just passed. And what is done with this pattern thread, how it is carried along, and how developed, is one of the first problems presented to the weaver. Even so, some of the most effective designs handwoven into fabrics, whether put in "free hand" or with a cartoon or other guide, have been woven in this way. And, since our article is already too long, we shall take up this method in a second article, on the laid-in pattern, along with modern tapestry weaving, for the two methods have several points in common.



DESIGN FROM AN ANCIENT FABRIC TREASURED IN CHARTRES CATHEDRAL

*Photograph by Ira Wright Martin
Courtesy of Woman's Home Companion*