

SHUTTLE CRAFT

February

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ASSOCIATION

SHUTTLE CRAFT

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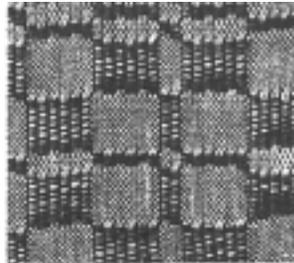
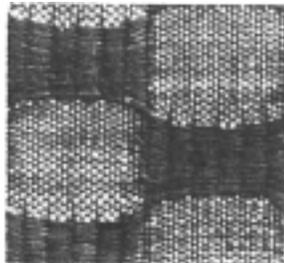
THE CLASSICAL M's AND O's WEAVE

By Harriet Tidball

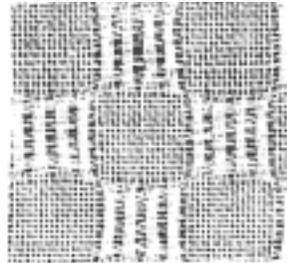
For the first time in many years of weaving, a familiar technique which seldom seems to work out altogether successfully has, to us, become an expressive medium. It is *M's and O's*, a common Swedish and Colonial American linen weave. Since the success of textiles woven in *M's and O's* depends to an extraordinary degree on the selection of material for weaving it, it was the yarn we used—the new Lily 8/2 drapery cotton (Art 108)—which brought the technique to life for us. (See details about this material under the Lily Mills advertisement.)

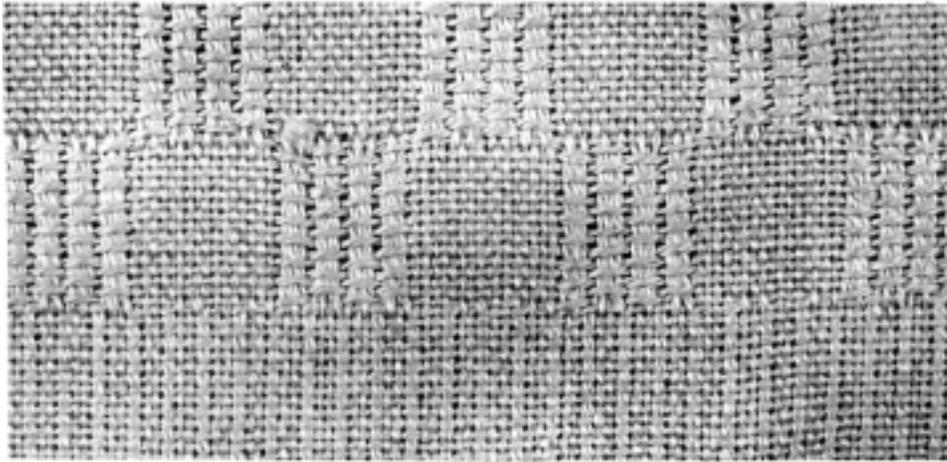
Called "Poor Man's Huck" by Ulla Cyrus, the *M's and O's* fabric is identical on both sides—no right or wrong side. It is described as a balanced two-texture weave in which tabby and weft-rep oppose each other to form patterns. "Balanced" means, as usual, identical warp and weft, single color, beaten to give exactly as many weft shots per inch as warp ends, though in interpretations deviating from the classical, these points may vary. In the opposition of tabby to weft-rep, the experienced weaver will sense an anomaly, as tabby is a true balanced weave, whereas weft-rep is the extreme of unbalance with sufficient weft threads to completely cover the warp. The weakness of the technique lies in this odd texture combination, but, when properly handled, this is the source of the technique's special interest, and beauty. The weft in the rep texture, following the usual drafting system, passes over four, under four warp ends, which allows sufficient laxity for it to pack for a complete warp coverage, but the tabby areas provide resistance which makes this packing difficult. The automatic adjustment to this oddity, in the best interpretations, is distorted tabby areas which take the form of ovals instead of rectangles. Ideally, the fabric texture is like illustration (I), in which a true rep opposes a true tabby. More often, the threads

(I)



(3)





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...nearly squared in the weaving (not even as drawn), this is achieved through squaring the tabby rather than the rep blocks. If long repeats occur in both of the draft block areas, as in illustration (2), it is impossible to control this factor, but it will be seen later that most drafts are designed to avoid this. In the best designs the long vertical blocks will be composed of only two or four rep ribs. These will not form a true rep, as do the long horizontal blocks, but because they are relatively narrow the distortions are not unpleasantly evident. The third designing guide is suggested by illustration (3): the warp and weft thread should be of a soft, clinging type rather than a hard-twisted round type as was used in this sample. Hard-twisted threads slip out of position in the loosely interlaced rep areas and exaggerate the irregularities. Compare illustration (3) with illustration (4) which shows the same type spacing but with the very soft Lily drapery cotton instead of round linen, and notice that in illustration (4) the texture is smooth and even, the so-called rep areas are of firm quality even though the weft does not adequately cover the warp. (4)

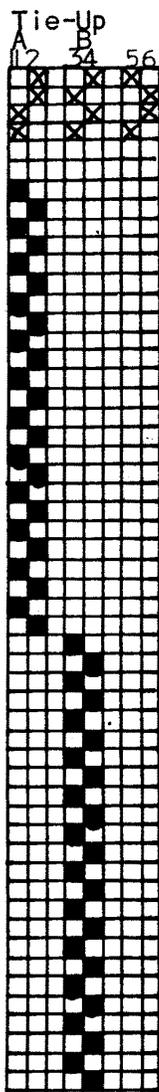


HISTORY OF THE *M's and O's* TECHNIQUE. A search of the handweaving literature suggests that *M's and O's* originated in Sweden but was not extensively developed there. Swedish books containing a general survey of handweaving, present one or two drafts for this technique under the name *Sallvav*. There are also *M's and O's* drafts in the Finnish books, though here they are developed in an unconventional manner which will be taken up later. On the other hand, no drafts in the technique were found in the Shuttle Craft Guild collection of books published in Norway, Netherlands, France or England, or elsewhere, though all of the current general-survey books published in America include the four harness *M's and O's*. Among collections of Early American textiles, towels woven in *M's and O's* are very common, so much so that one would suppose this to be a favorite linen technique of a century ago and earlier. Mrs Atwater in *The Shuttle Craft Book of American Handweaving* (1928, revised in 1951) gives four *M's and O's* drafts, and there are five drafts included in Edward F Worst's collection of Early American linen patterns, *How To Weave Linens* (1926), though no historical background is presented either place. The drafts in more recently published American books quite evidently stem from these, or similar sources.

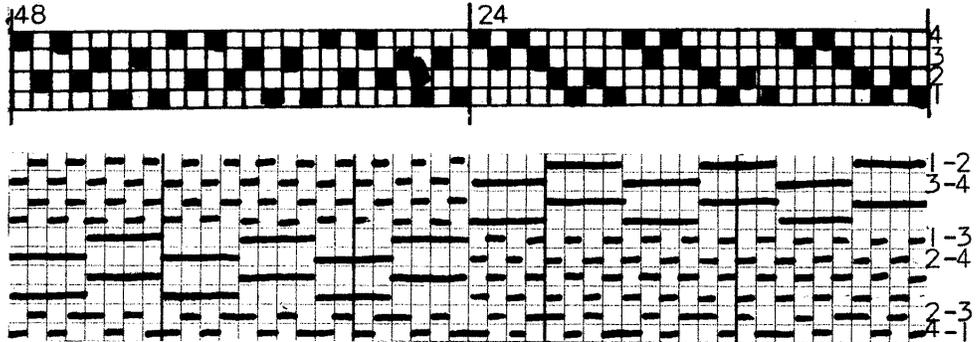
Because of the early popularity of the weave, it may be surprising that in their very practical book, *The Domestic Manufacturer's Assistant* (1817) the J and R Bronson brothers give no *M's and O's* drafts, nor do they mention the technique. There is probably a double explanation for this. The Swedish influence on Colonial American handweaving was not strong as early as 1817, and the Bronson brothers may not have been familiar with the technique. A more practical reason, however, is that the Bronson brothers designed for the countermarche loom on which, whether with four or more harnesses, unbalanced sheds are made as easily as balanced ones. Therefore they concentrated on the off-balance linen weaves, particularly the *Spot Weave*, which in general produces more practical textiles.

Most of the existing Early American towels in *M's and O's* are of the workaday variety, practical linens, produced because towels were necessary in the home. Although there are numerous exceptions, the average towel was woven of handspun linen of a grist which compares to our 20/1, the warp set at about forty ends per inch, with weft identical but less tightly twisted, and woven with forty shots per inch. Undoubtedly woven of unbleached "grey" linen, surviving towels which have seen long years of use are porcelain white from innumerable washings and perhaps sun or dew bleaching. These towels have an excellent texture, light weight, very firm, and with an absorbancy much greater than that of a tabby fabric, because of the four-thread floats. Illustrations (5) and (6) show two enlargements of towels in the Shuttle Craft Guild collection of Early American textiles, and further examples in the collection are identical in pattern and texture.

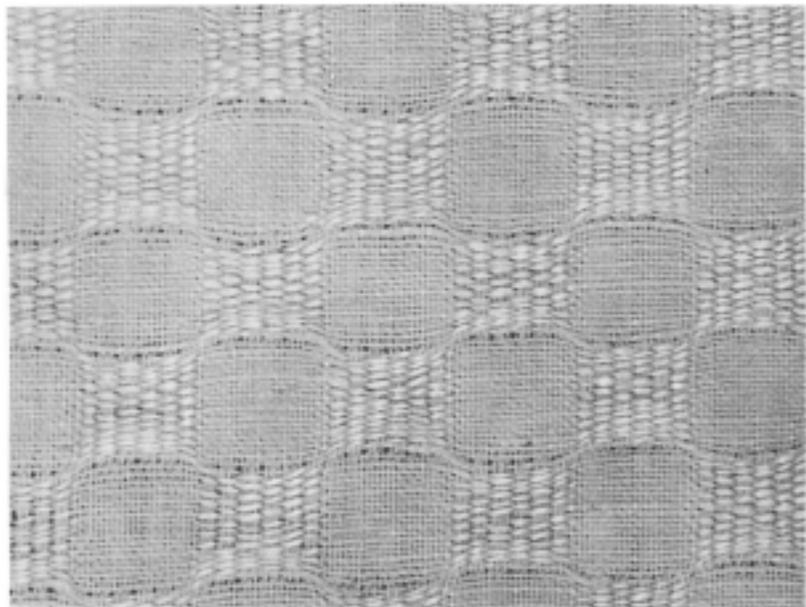
That *M's and O's* was preferred as a linen technique over *Spot Weave* and *Huck* which compose into more practical fabrics, is easily explained, and the



M's and O's Squares

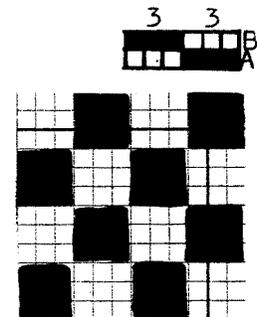


Draft



(5) A Century-Old Linen Towel

- Full draft, top right.
- Tie-up, top left.
- Treadling, as-drawn-in, left.
- Structural diagram of weft.
- Photograph, slightly enlarged.
- Profile draft, right.
- Profile development, right.



reason is as applicable today as it was a century ago. *M's and O's* is the only one of the so-called four-harness linen weaves which is woven on balanced sheds (two harnesses up and two down for each shed). Since two-up-two-down is the motion of the simple counter-balanced loom, and this was the loom found in most textile-producing homes, the technique which was natural to the equipment would be the most natural selection.

DRAFTS FOR *M's and O's*. Illustrations (5) and (6) are accompanied by the full technical information: threading draft, tie-up draft, weaving plan, structural diagram, photograph, yarn and warp set, profile draft, and the profile development showing pattern. This covers all the graphic information for a single-color balanced weave of identical warp and weft.

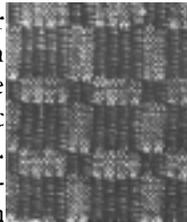
Study of the drafts makes it clear that there are two elements or "units" composing the two textures of this weave, each unit having eight threads. The first or "A" unit is threaded: 1,2,1,2; 3,4,3,4; The second or "B" unit is threaded: 1,3,1,3; 2,4,2,4. These units may stand alone, to form minimum-size blocks, or they may be repeated in entirety as many times as desired for blocks of larger size. Each of the units breaks down into two combinations: 1-2 and 3-4 for Unit A, 1-3 and 2-4 for Unit B. These two pairs are compensating or "opposite" harnesses in both cases, and provide the means for weaving the blocks, or the treadle tie-up. Because they are opposites, it is unnecessary to make any distinction between the rising-shed and the sinking-shed, so only one tie-up draft is given.

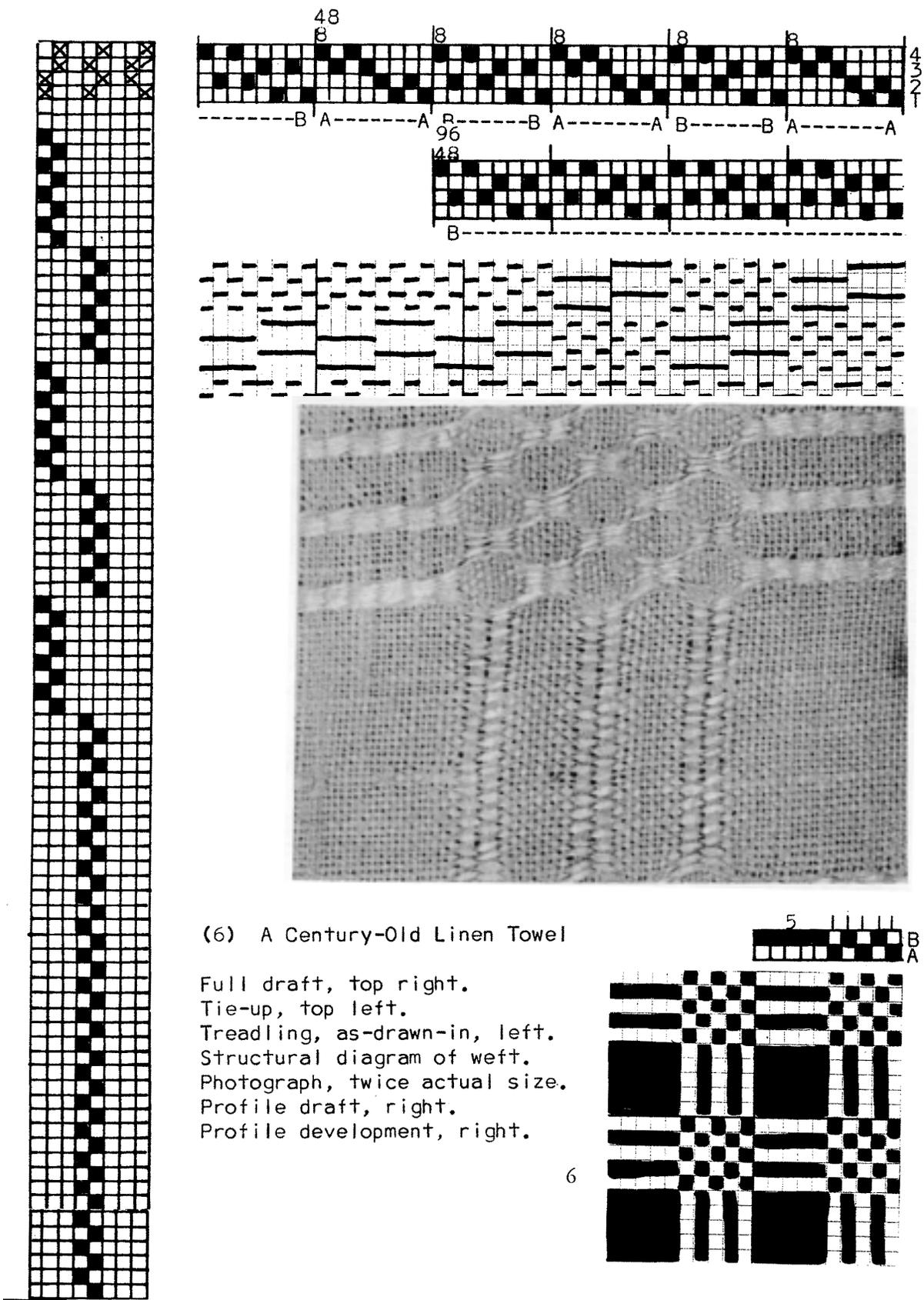
There is no alternating succession in the threading order, such as odds-to-evens or other system which might produce a tabby, so it is evident that there is no tabby with this technique. However, there are two balanced sheds which are not used in weaving *M's and O's* (2-3 and 4-1) which form a kind of pseudo-tabby, part tabby and part two-thread floats, sometimes substituted for tabby. These two sheds are given in the tie-up, though not used in weaving the patterns or *M's and O's* texture. They are diagrammed as the last two shots of the structural diagram, and are shown woven on the sample photographed for illustration (4).

The profile draft is not commonly used for *M's and O's*, but for this conventional four-harness interpretation of the weave it is perfectly feasible, and will therefore be used here to save space. The profile draft is made by substituting for the A unit (1,2,1,2; 3,4,3,4), one square on the lower or A line of the profile draft, and for the B unit (1, 3, 1,3; 2,4,2,4), one square on the second or B line of the profile draft, each time these occur or are repeated.

The literature reveals that there are four main pattern arrangements for *M's and O's*, and further drafts are merely variations of these. The most common pattern is shown in illustrations (1), (3), (4), (5)—a check pattern of the two units repeated one, two or three times, and alternated. The second basic design is shown at illustration (7)—a check with a small and a large repeat. The third general design type is shown on illustration (6)—single units alternated for three, five or seven blocks, followed by one long block. The fourth

(7)





(6) A Century-Old Linen Towel

Full draft, top left.
 Tie-up, top left.
 Treadling, as-drawn-in, left.
 Structural diagram of weft, top right.
 Photograph, twice actual size, center.
 Profile draft, right.
 Profile development, right.

6

pattern type is illustrated by (2) in which both units are repeated to form large blocks for patterns similar to the familiar "star," "rose," or "Monk's Belt" type. This last arrangement is seen infrequently because it is not a truly practical pattern due to the fact that the rep texture cannot be restricted to small vertical areas.

Some of the Swedish books show *M's and O's* patterns arranged with borders for luncheon cloths, table mats or napkins. In such cases the border is always composed of the simple alternations of units A and B, repeated for the desired distance.

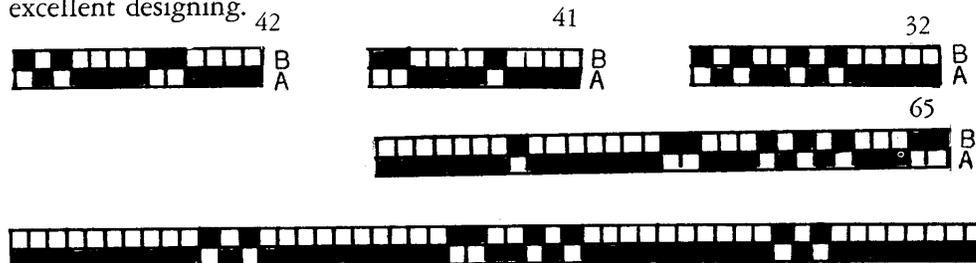
Tabby selvages may be drafted on harnesses 1, 4, alternated. A twill threading will *not* make a suitable selvage, despite the fact that some authors give it, nor an eight thread succession of 1,2,3,4,1,3,2,4. Twill makes the selvage threading for only those techniques which are derived from the twill draft, and *M's and O's* is not one of them.

The drafts which occur in the Scandinavian books, and in other literature for which the drafts have been copied from Swedish sources without conversion to American conventions, appear to have a backward motion because the threading order is usually 4,3,4,3; 2,1,2,1, etc. This is not actually backward, as the Swedish convention places harness 1 at the back of the loom and the top of the draft, while harness 4 is at the front and the bottom. The American convention for harness numbering and drafting, however, places harness 1 at the front of the loom and the bottom of the draft, and this convention is spreading to European writers. Therefore, all drafts which are obviously written for the reverse of the American convention (always revealed by the apparent backward movement of the draft) are converted in SHUTTLE CRAFT to the American form.

Below are three drafts given by Edward Worst (*How to Weave Linens*, 1926). Draft 57 is one which he calls, "The Betsy Ross Towel." The single *M's and O's* draft given in Worst's *Foot-Power Loom Weaving* (1918), figure 211, is identical to draft 58 in *How to Weave Linens*.



Drafts with considerable pattern interest are given in *Kutokaa Kuviolisia Kankaita*, by Ester Preheentupa, Helsinki, 1950. Notice that all of these have long blocks in the A unit only, the B unit being restricted to short blocks—excellent designing.



In *Kutokaa Itse Kankaanne*, Helsinki, 1946, Ester Perheentupa gives a design for napkins with *M's and O's* borders on four sides. The draft is the simple one shown here, for which units of the A, center block, are repeated the number of times required for the desired width. The border may be made wider or narrower by increasing or reducing the number of A and B repeats.



Ulla Cyrus in *Manual of Swedish Hand Weaving*, shows on page 133 of the Swedish edition (1949), page 145 of the English edition (1956), an attractive table cloth of 30/2 cotton set and woven at 50 ends per inch. The draft for this is:



This is one of the few illustrations which shows the large blocks woven in rep texture instead of tabby—practical in this case because of the very fine material and closely set warp.

Gertrude Ingers, in *Handdukar och Duktyg*, I.C.A. Forlagets Vavbibliotek del 1, 1953, gives the three following drafts, each of which is photographed woven as a table cloth with the usual border of alternating blocks.



In *Dansk Husflidsselskabs VAEVBOG* by Jenny La Cour and Johanne Siegumfeldt, Kopenhagen, 1916, is this interesting and rather elaborate pattern.



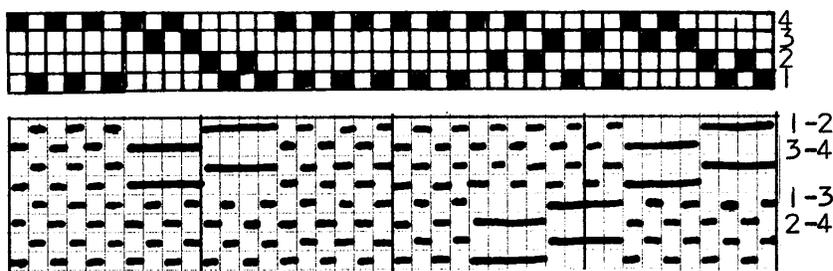
Mary Block's standard Swedish text presents the technique and gives one draft for a luncheon cloth, similar to the Ingers ones.

The comprehensive little German book *Volkstumliche Handwebtechniken* by A v Schimmelman, Stuttgart, 1954, includes *M's and O's* in the technique studies and presents some interesting threading variations which will be taken up later, but adds no new patterns to the classical interpretation.

This survey covers quite thoroughly the literature on the four-harness classical *M's and O's* technique, omitting the general handweaving books published in America in the past fifteen years which do not add significantly to this phase of *M's and O's*. The subject, however, is not complete from these sources. There is the multiple-harness interpretation of the technique which is introduced in the next article, and also several unconventional interpretations in the four-harness draft scope which have special interest and will be taken up next month. Only the conventional approach to the weaving is introduced here, but the tech-

nique provides a basis for many interesting and creative interpretations, a subject which must also be delayed.

One important designing feature of the *M's and O's* technique is, surprisingly enough, completely neglected in the available literature, as though weavers using, teaching and designing in this technique were not even aware of it. This is the true tabby areas which result from adding the repeat threading of harnesses 1,4 to the draft. The only place where even an implication of this is found is in Ulla Cyrus' 1, 4 selvage. The proof of this tabby area is revealed in the unit draft with structural development:



There is a great designing advantage in being able to place plain tabby areas with texture-contrast areas, as this makes it possible to isolate motifs into stripes. The 1,4 threading can be repeated as many times as desired, to give stripes of any desired width.

There is a conceivable objection to this addition of the 1,4 threading to an *M's and O's* warp, but this would apply only if full versatility of control were desired, including the use of the 4-1 and 2-3 pseudo-tabby sheds, in the designing. The addition of the 1,4 combination to the threading obviously makes it impossible to use the 2-3 and 4-1 sheds because the weft would not interweave with the warp in areas so threaded. It is also true that *M's and O's* motifs cannot be woven isolated (completely surrounded by tabby), but are restricted to warp-wise stripes. There is a way to control this, but more than four harnesses are required so this type designing will be taken up under the section for multiple-harness weavers.

“Studies in Primitive Looms”
by H. Ling Roth
Bankfield Museum, Halifax.



INTERIOR DECORATING FABRICS

IN M's AND O's

By Harriet Tidball

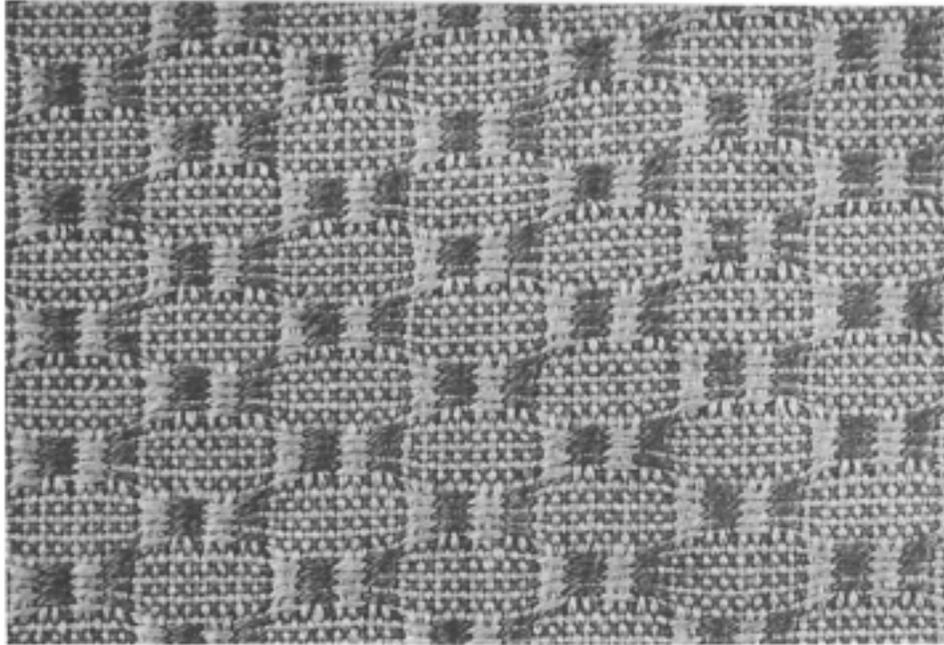
The plan for using the *M's and O's* technique with the new Lily 8/2 drapery cotton (Art 108) materialized so successfully that we have felt more than usual enthusiasm, for both the yarn and for this technique threading. The warp was set up at 24 ends per inch in the simple squares of two units on A, two units on B, though a more elaborate pattern would have been feasible. Larger squares would have worked out as successfully for this yarn and warp setting, as was proved by further experiments. The resulting fabric was very firm and strong, but had a soft draping quality one seldom achieves in a closely-set cotton textile. The dull, rather than shiny or high-lighted, texture which the yarn produces, follows the present style in drapery fabrics. It seems to absorb both light and sound—a soothing quality.

The characteristics outlined above, imparted by the material and also by the technique and the warp and weft set, suggest this design for bedroom use. The combination of bedspreads, dressing-table ruffles, draperies and casement curtains for a bedroom, all of the same fabric, would work out beautifully. The strength and firmness of the fabric make it supremely suitable for a light-weight bedspread or coverlet, while the extraordinary draping quality is the factor required for draperies and ruffles. Its uniform semi-opaqueness is another practical feature. And, very important, the fabric washes beautifully. As with most cottons, there is some shrinkage, but an allowance of about two inches per yard in both warp and weft directions, is adequate to handle this.

An entire bedroom "outfit" could easily be woven on a single long warp, sectionally beamed. The 8/2 cotton has 3,360 yards per pound, 420 yards per two-ounce tube, a factor which must be considered when planning to warp sectionally from two-ounce tubes, the easiest method. This means that with two-inch sections one could make a thirty-two inch wide warp twenty-six yards long, from a single set of forty-eight two-ounce tubes. Only twenty yards of forty inch wide fabric could be beamed from a single set of forty-eight tubes. With one inch sections, half of the length could be wound from twenty-four tubes. I feel sure that anyone using this material will react as we did—that we had never used a yarn which handled more easily in warping, loom dressing, and weaving. With two long sectional warps and several short sample warps,

we did not experience the inconvenience of a single broken warp end, although infrequent warp knots had to be handled in the usual manner.

The monotony of too much identical textile material in one room can be alleviated effectively by varying the designs slightly in the weaving. A very pleasant variation is illustrated in this detail photograph, reproduced in actual size.



The same textile hung as a drapery is shown on page 17 (with a sample in the Portfolio edition). The warp is gold color and the weft is salmon red and the same gold. The two weft colors were thrown alternately throughout with eight shots on block A and eight on block B, repeated throughout: treadles 1 (gold), 2 (red), four times; treadles 3 (gold), 4 (red), four times. Notice the strength which the alternating colors impart to the rep blocks, and the pleasant texture of the tabby areas in two colors. This last is due to the fact that three-quarters of the thread is in the softer gold, and only one quarter in red. With a fifty-fifty combination of one color warp and the other color weft, the tabby takes on the well known and undesirable salt-and-pepper, unless the two colors are more closely related in value and hue than these. Compare this detail with photograph (4) to see how much more effectively the rep texture weaves in short repeats than in longer ones. The short repeats make the most of the tendency to form curves and ovals, a feature which the handweaver is always seeking in single-weft weaves.

Further weaving variations will be taken up next month.

The MULTIPLE-HARNESS WEAVER

EXPANDED M's AND O's

By Harriet Tidball

Commonly drafted and used as a four-harness weave, *M's and O's*, like most other techniques, takes on added interest when it is expanded for more harnesses. This multiple-harness expansion is not unknown in the literature, though as far as I have been able to determine, it is developed in Finland but not elsewhere. The examples of multiple-harness *M's and O's* found in my own library are in *Kutokaa Kuviollisia Kankaita* by Ester Perheentupa (Helsinki 1950), drafts 33, 66, and in *Kankaiden Sidokset* by Helvi Pyysalo (Helsinki 1950), drafts 204, 205, 206. (Drafts 43 and 67 in Perheentupa are multiple-harness *M's and O's* which offer a different problem that will be taken up in a later issue.)

Analysis of the draft forms of these two authors shows that both use a "unit system" with one harness forming the foundation for the first half of each block, another harness forming the foundation for the last half of each block. But they do not agree on the matter of which harnesses should be used for the foundation; for her two six-harness drafts, Perheentupa uses harness 5 for the first foundation, harness 2 for the second (harnesses read bottom to top in the American manner). Pyysalo, on the other hand, uses harnesses 2 and 1 as foundation in one six-harness draft, harnesses 6 and 5 in the other, and harnesses 8 and 7 in the eight-harness draft. This inconsistency makes the method for drafting and for determining tie-ups difficult. Therefore, if we are to handle the technique creatively instead of simply copying by rote designs which are contrived for that purpose, we must first find a generally applicable drafting system.

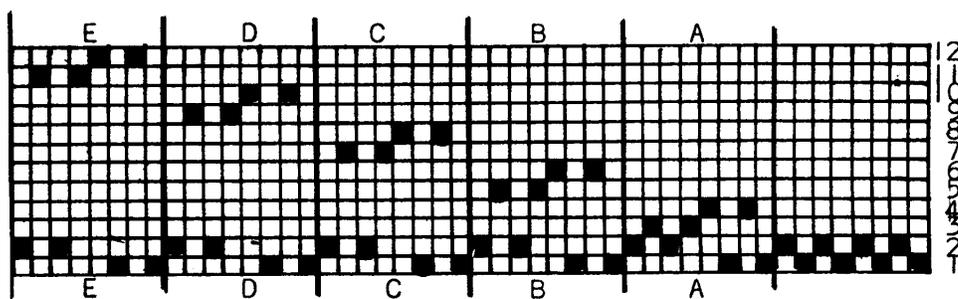
What are the requirements for a good, technique drafting system, realizing that any draft can be twisted and manipulated until it becomes either clear and generally useful, or confused, unrecognizable and useless for general designing? The draft must be graphic, so that individual design elements stand out clearly and recognizably. It must be consistent, without exceptions, so that it can be applied to all design problems. It must have some fundamental characteristics which are easily related to other techniques, since technique knowledge is a continuous study in which one learns through relating the new and unknown to the familiar and already mastered systems.

The starting-point for constructing a good drafting system is an analysis of existing drafts. The five drafts in three forms which we are considering show

these facts: the drafts are composed of eight-thread units each of which may be used alone or may be repeated according to the dictates of the pattern at hand; each one of the eight-thread units has the first and third thread on one specific harness which may be called "x" until a good placement for it is found; the sixth and eighth threads on another harness which can be designated as "y"; the second and fourth threads of each unit are on one harness, and the fifth and seventh are on another, these differing from unit to unit according to the pattern.

The conclusions from these analysed facts are that the eight-end threading unit is static; there are two harnesses, *x* and *y*, which because of their perfectly regular occurrence throughout the draft form the foundation for the drafting system; there are further harnesses which control pattern arrangements, threads appearing in pairs on these, and two pattern harnesses are required for forming each pattern block, in addition to the *x* and *y*.

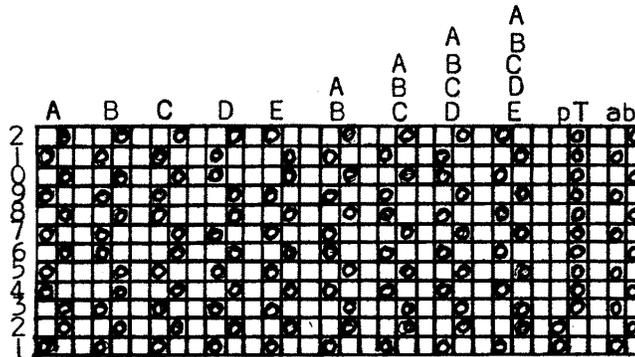
Relating this information to other techniques, we place the *x* foundation on harness 1, the *y* foundation on harness 2, similar to the way this problem is handled in *Summer and Winter*, *Atwater-Bronson*, and other Unit weaves of this type. All remaining harnesses, regardless of the number, are used as pattern harnesses, with two serving to form each block. Thus we make a trial, drafting unit A as 1,3,1,3; 4,2,4,2; unit B as 1,5,1,5; 6,2,6,2; etc. By diagramming a tabby under the unit draft, it becomes evident that this draft will form a true tabby which falls on 1-4-6-8 and 2-3-5-7. Because we understand odds-and-evens tabby better, due to our general familiarity with the twill and overshot weaves, these tabbys suggest that the familiar tabby arrangement could be achieved by switching the order of the pattern harnesses so that the odd-numbered foundation harness (*x* or 1) associates with even-numbered pattern harnesses (4, 6, 8, 10, etc), and the even-numbered foundation harness (*y* or 2) associates with odd-numbered pattern harnesses (3, 5, 7, 9, etc.). This gives us a different draft unit: block A is 1,4,1,4; 3,2,3,2; block B is 1,6,1,6; 5,2,5,2; block C is 1,8,1,8; 7,2,7,2; etc. These units are drafted:



One might wonder at the advantage of expanding the *M's and O's* draft to this system, since six harnesses are required to produce the same number of pattern blocks as with our standard four-harness system. For the weaver with a six-harness loom there are three important advantages—advantages which make

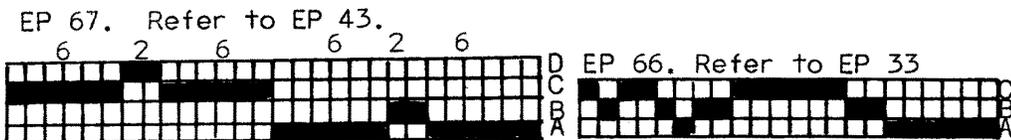
the use of the four-harness threading obsolete. The first is that this threading will produce a true tabby, making it possible to weave *M's and O's* with tabby bands instead of simply an all-over texture, and to weave completely isolated *M's and O's* motifs, surrounded by tabby. The second is that this drafting system is the foundation for expanding the weave for more blocks, simply by adding more harnesses to the draft and tie-up, without making any further adjustments in the system. A question might arise here about the all-over texture variations which may be produced on 4-harness *M's and O's* threadings through the addition of the two psuedo-tabby sheds, but the answer is that these same irregular textures may be achieved in this threading system through using the two foundation harnesses against all of the pattern harnesses (1-2 and 3-4-5-6-7-8-etc.). Another very important advantage which this threading system has is that two or more blocks of rep texture may be combined to weave simultaneously, through the tie-up.

The tie-up for the five-unit, twelve-harness draft is given here.



To apply this for fewer harnesses, simply eliminate those harnesses which are not used, and include only the necessary block treadle pairs: A and B for six harnesses, A, B and C for eight harnesses, etc. More tie-ups are given than there would be treadles for, but in using the special block-combination treadles, these are tied only according to the pattern to be woven at any one time. Innumerable further combinations can be made and tied, but the four shown will indicate the method by which further combinations are achieved.

Here are the Finnish drafts for multiple-harness *M's and O's*, given in profile. To arrive at the threading draft, substitute units from the unit draft, and to make the tie-up, select the applicable treadle ties from the tie-up draft.



A six-harness draft for producing two blocks in *M's and O's* with tabby separating the motifs was woven in 8/2 drapery cotton for transparent curtains. This curtain is shown on the cover, in detail, and again on page 20 to illustrate the remarkably good draping quality it had. The full directions for this fabric are:

Warp material: Lily 8/2 drapery cotton (Art 108)

Weft material: Lily 8/2 drapery cotton, same color as warp, and
Lily chenille (Art 106), same color as warp.

Warp beamed at 15 ends per inch.

Threading: 1, 2 alternated—12 ends

Unit A once —8 ends

Unit B once —8 ends

Unit A once —8 ends

Repeated throughout.

Sley: In a 10-dent reed, sley the 12 ends threaded on 1, 2 at one per dent, then the 24 ends threaded to pattern units at two per dent.

Tie-up: Six treadles: the first six harnesses of blocks A and B, plus the two true tabby treadles.

Weave: 20 shots with drapery cotton, placing weft at 10 shots per inch, on block B (treadles 3, 4 alternated).

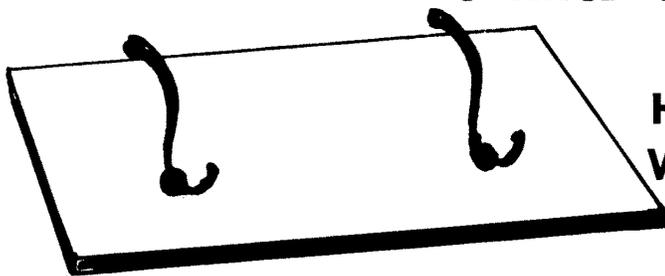
1 shot on tabby *a* with chenille.

12 shots with drapery cotton, placing weft at 20 shots per inch, on block A (treadles 1, 2 alternated).

1 shot on tabby *b* with chenille.

This is repeated throughout.

LEARNED at the LOOM



HOLDING REED WHILE SLEYING

Contributed by Ruth Lathrop Sikes, La Jolla, California.

Put two closet hooks on a board (I screw them in, while sleying, on the back side of my warping board) and rest your reed in the hooks. They hold the reed at just the right angle, and when the board (and the reed and warp) are placed on a table, the whole thing can be left for a short or a long time and the warp is not displaced. Sleying can be done from either the back or the front of the reed, although I find sleying from the back the easier.

TAPESTRY THROUGH THE AGES

TAPESTRY IN EGYPT

By Adele Coulin Weibel

(Reprinted with the permission of the author from TWO THOUSAND YEARS OF TEXTILES, by Adele Coulin Weibel, published for The Detroit Institute of Arts, Pantheon Books, New York, 1952, \$20.00.)

Most important of all the elaborations of simple weaves is tapestry. It differs from the other weaves in which the shuttle is thrown across the whole width of the warp, from selvage to selvage, and is the least mechanical of all forms of weaving, really an intrinsic form of embroidery directly onto the warp. The weaver uses a number of bobbins, one for each of the different colors he needs. Each bobbin is taken only as far as its color is required and then turned back. If two color areas meet in a vertical line, a slit occurs. These slits can be avoided by the designer of the pattern; or by the weaver, by dovetailing the adjoining colors or by interlocking the weft threads of two colors at the meeting points. Sometimes, as in the Asiatic *kelims*, the slits are left open as part of the pattern, producing a play of light and shadow. In the European pictorial tapestries the slits are simply sewed together on the back after the weaving is finished. The weft threads are only very slightly twisted and much heavier than the warps, which they cover completely. A careful weaver will wrap loose ends around empty warps and thus produce a fabric that is alike on obverse and reverse.

Tapestry weaving is universal and can be traced far back in the history of mankind. When Homer tells of Helen

weaving a web full ample,

Two fold, purple; and into it many a battle she'd woven

Battles of Troy's steed-tamers and bronze-mailed sons of Achaeans

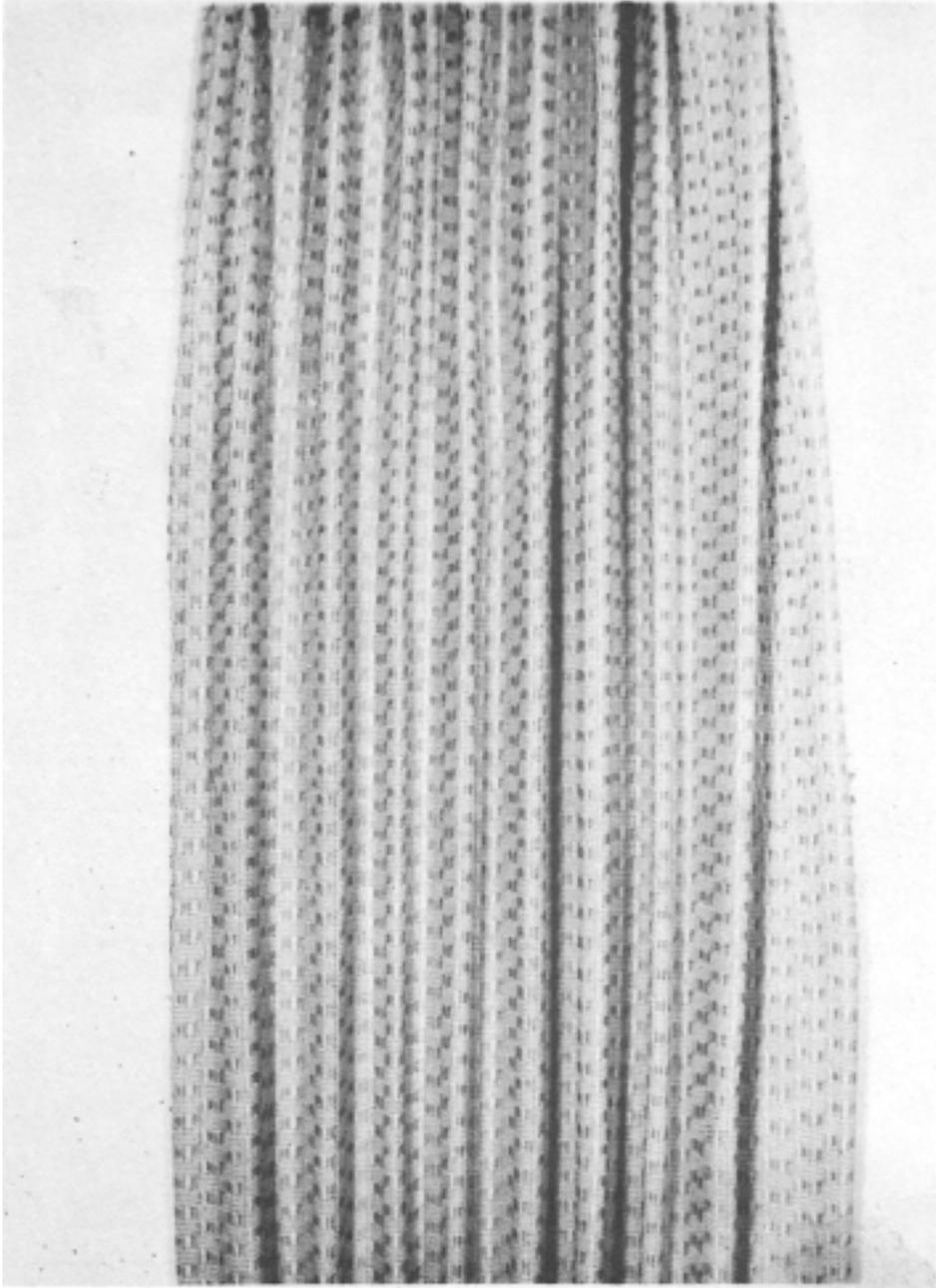
(The Iliad of Homer translated by William Benjamin Swift and Walter Miller.

New York 1944, book III, lines 125-27)

he probably refers to tapestry weaving. For until the invention of the drawloom, this was the only technique for the weaving of elaborate, polychrome patterns.

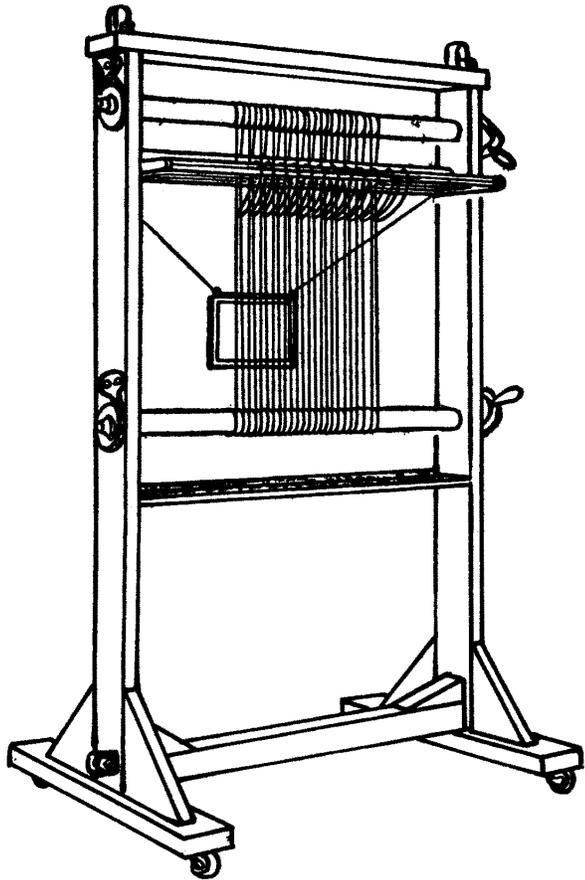
The Kashmir shawls of India are woven in twill tapestry. The wefts pass under one and over two or three warps and are interlocked with the wefts of the adjoining area. These beautiful fabrics are reversible.

The earliest preserved pattern-woven textiles are three linen cloths discovered in the tomb of Thutmose IV (reigned c. 1420-1412 B C) at Thebes. The largest and most important of these shows the cartouche of Amenhotep II

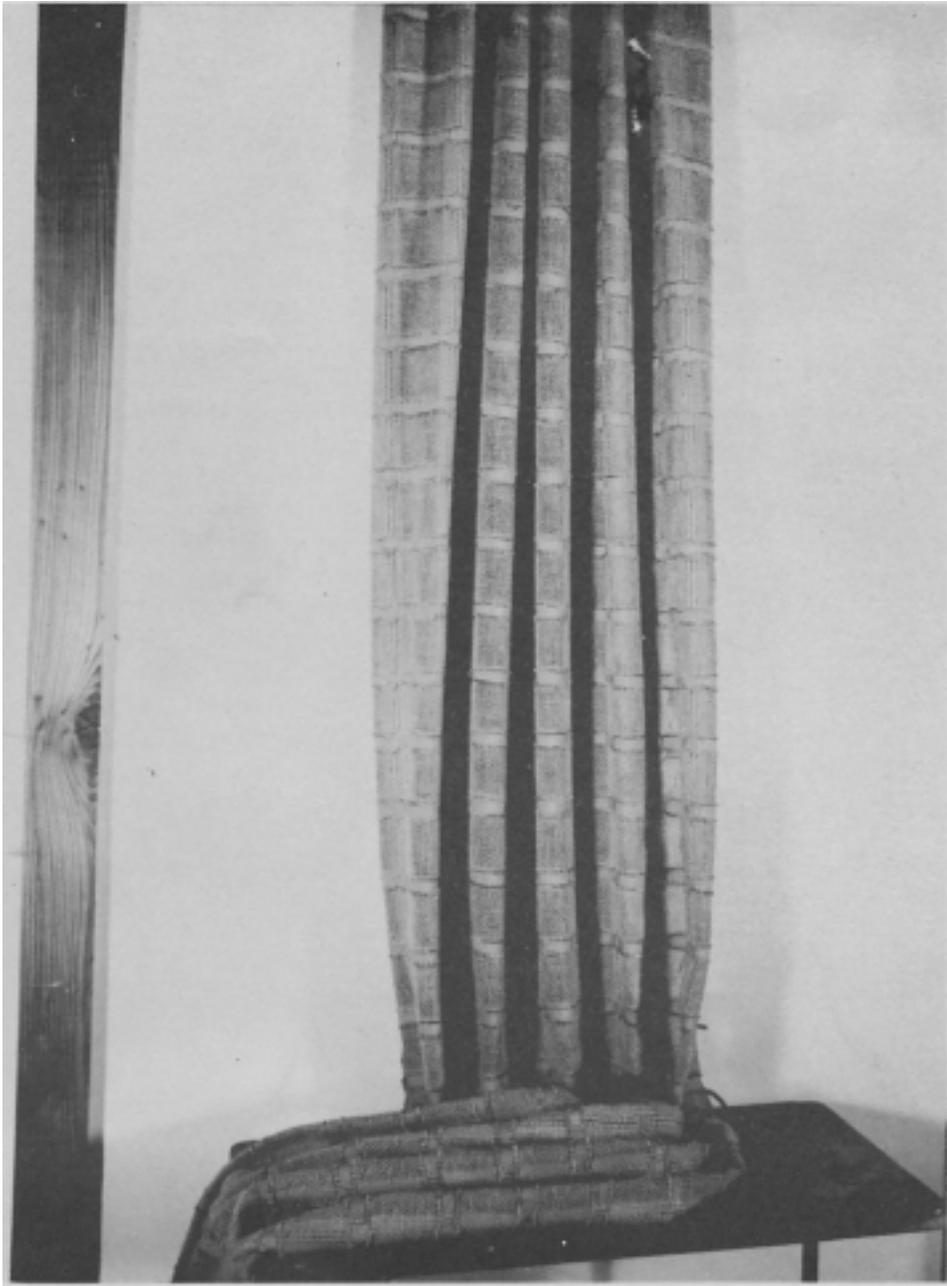


Sample on next page.









Sample on next page.



(c. 1447-1420 B C) among rows of papyrus and lotus blossoms, another the cartouche of Thutmose III (c. 1479-1447 B C). The patterns are woven in tapestry technique of colored, mostly red and blue, linen thread; quite rightly, for Egypt was the country where the finest flax was grown.

About a thousand years later a change in taste infiltrated into Egypt through foreign traders and settlers and the temporary Persian occupation of the country. Pharoanic art was dead even before the Ptolemaic period (323-30 B C). The Romans found in their new province of Egypt an art congenial to them, one of many variants of the eclectic Hellenistic-Oriental art.

The use of wool for ornamental wefts was a Hellenistic innovation in Egypt, where, since predynastic times, sheep had been bred only for meat and for trampling seed into the mud after the annual inundation of the Nile. The new wool fiber made possible a far-wider range of color and, once the weaver had overcome the difficulty of using the same warp with wefts of different tension, linen wefts for the body of the fabric, wool wefts for the decorated parts, it actually made his work easier. The heavier woolen wefts, inserted more slackly and beaten tightly, covered the linen warps and presented a practically unbroken surface. This type of weaving came to Egypt from Syria. A Greek tomb of the third century B C at Kerch, in Crimea, has yielded some fragmentary textiles, the earliest specimens of wool tapestry. One of these shows rows of ducks swimming on "the purple sea"; an almost three-dimensional effect is obtained by subtle graduation of color. Such shading is a specialty of the Syrian weavers. It is found again in a large cloth (preserved in the Musée des Tissus, Lyons, France), possibly of the Ptolemaic period, tapestry woven throughout, covered with fishes of diverse kinds, swimming to and fro and even casting their shadows on the greenish water. That the Syrian weavers even attempted the rendering of large, pictorial compositions is proved by the survival of one fragment that shows an about half-life-size head of a woman. Fabrics of such surpassing quality are always exceptional; but the tradition of shading from one color to another survived changes of fashion in Syria. Simple bands of shaded colors have been found at Palmyra and Dura-Europos.

The discovery at Palmyra of linen tunics with clavi and medallions woven in tapestry technique of wool dyed with true murex purple can be quoted as another instance of the excellence of Syrian textile art. In the many similar garments from Egyptian burial sites the ornaments are of imitation purple, with the wool dyed first with indigo and then with madder.

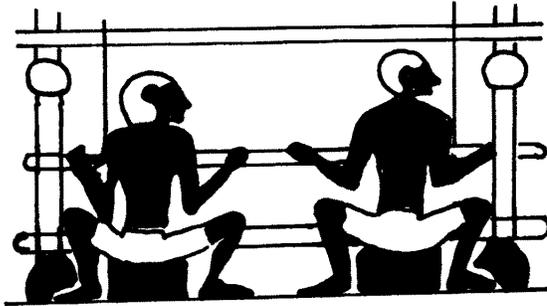
The preservation of so many tapestry-patterned textiles in Egyptian tombs of the centuries of Roman occupation is owing to the fact that, as in Pharaonic Egypt, the fertile soil of the Nile Valley was too precious to be used for burial grounds. The cemeteries were now placed at the foot of the hills, and the dry soil of this barren ground preserved the bodies and the textiles wrapped around them.

The history of Egypt for the first thousand years of the Christian era is mirrored in her textile output. The ornaments of the earliest preserved fabrics

are distinguished by their purely linear composition. According to tradition, Christianity was brought to Egypt by St Mark the Evangelist, who preached the Gospel in Alexandria about A D 59. The new creed spread rapidly. The Coptic Church uses for its dating the "era of the martyrs," which begins with A D 284, the year of the accession of the Emperor Diocletian. In the fourth century, under Constantine, Christianity was officially recognized; it was declared the religion of the empire by Theodosius. From early times the word "Copts" was used to designate the Egyptian Christians.

The best Coptic textiles were woven during the fourth and fifth centuries, when Christianity had become the favored creed of the Roman Empire and the peace of the Church was not yet disturbed by the ecclesiastical quarrels. As in Graeco-Roman times, the garments worn by the Copts were still adorned with bands and separate motifs of wool tapestry on linen ground, but now the decoration often lacked the subtle moderation of the earlier period.

In the sixth century the polychromy becomes more and more unbridled; but there is also a return to monochrome tapestry. There the ornament now often consists of two superimposed squares, forming an octagonal star. The twisted ribbon, the guilloche, appears, not only in tapestries but in related crafts such as mosaics and illumination. These are the first truly Byzantine designs.



These words from Mrs. Weibel, and the plate on the center sheet, are our introduction to a series of articles on one of the most important branches of textile art—tapestry weaving. A more fascinating story than that found in tapestries of the last thirty-five centuries, woven the world around, could hardly be found. And it is a story which is vitally important to handweavers, because tapestry weaving is an art form which once again is living under a rising star. There are many chapters to the tapestry story: the history of the craft, with the stories of the great tapestries of the past and their weavers and designers, its various developments and declines, the technical aspects of tapestry or the "How To Do It," and the philosophy and manner of approach in the several schools of modern tapestry weaving. The complete tapestry story can be told only by many people. A number of leading tapestry weavers and designers on both sides of the Atlantic have therefore agreed to bring their art to SHUTTLE CRAFT readers through a series of articles we have planned. This will be our sustained subject for many months to come: a symposium on tapestry weaving in all its aspects.

SECURING NEW PATTERNS BY CHANGING THE TIE-UP

By Rupert Peters

The problem of securing original work from students faces every teacher of weaving. Few students have had any instruction in design and in a short summer session course there is no time in which to build a design foundation upon which to base work in producing new patterns. As a rule in elementary work the only way students learn to do this is by changing the threading. Changing the tie-up is rarely mentioned. This article reports the first steps in doing this as they were given in a summer session class.

The usual discussion and drill work on the *Spot Bronson* weave was just over so an 8-harness point twill threading in this (short draft) was placed upon the blackboard (Fig. 1) and the group was asked to write the tie-up for it when woven as drawn in. Being a review of previous work this was quickly done, Fig. 2. The draw-down, Fig. 3, came next and this was easy. The size of the pattern figure was discussed, based upon the four-thread *Bronson* unit and the number of these in a diamond. The set of thirty to the inch for 20/2 cotton is more or less a standard in such discussions. A girl spoke up, "As I try to picture these inch and a half diamonds coming to the selvages I do not like it. Could we not arrange for plain weave borders at the sides?" Several others nodded and the question was given, "How can we do this?"

They were stuck until reference was made to some 4-harness *Spot Bronson* pieces they had woven in which these plain weave borders were present. Note book pages were quickly ruffled and the answer came, "Thread them 1, 2, 1, 2." "Why not 1, 3, 1, 3, or 1, 4, 1, 4?" More review until one stated clearly that a spot unit not treadled for pattern, weaves plain weave, and that a unit on any harness could be used if that harness was not used for pattern. The result of this discussion was to choose harness eight and to thread eleven units on each side to be woven in plain weave. The resulting threading draft is shown in Fig. 4 and the changed tie-up in Fig. 5. To get the latter, the

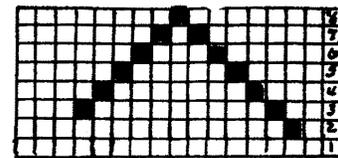


Fig. 1

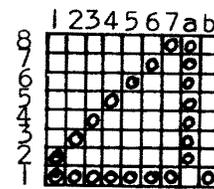


Fig. 2

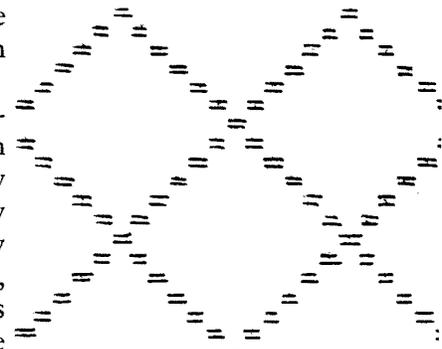


Fig. 3

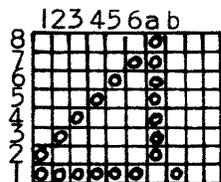


Fig. 5

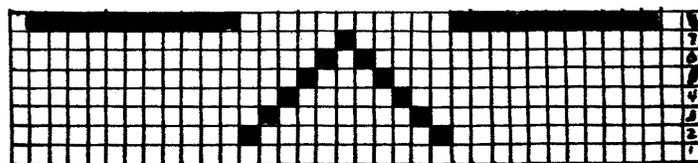


Fig. 4

Pattern repeat

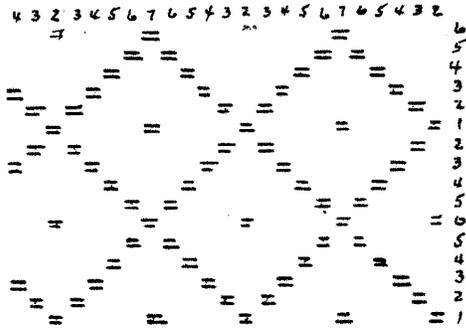


Fig. 6

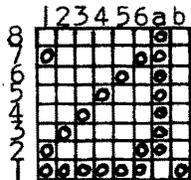


Fig. 7

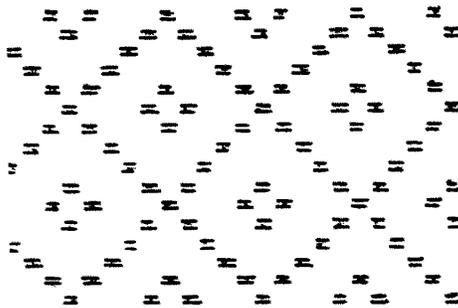


Fig. 8

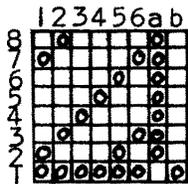


Fig. 9

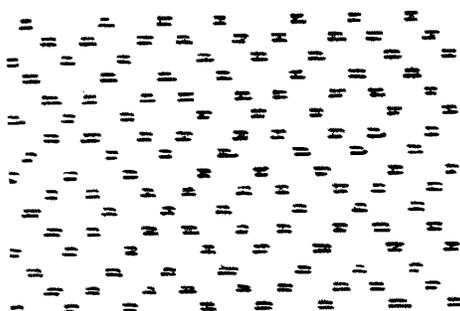


Fig. 10

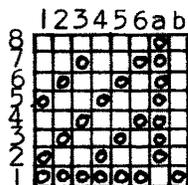


Fig. 11

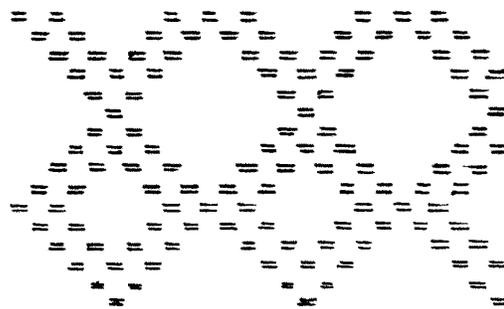


Fig. 12

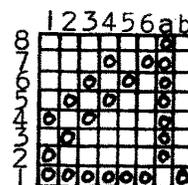


Fig. 13

discussion had brought out the fact that the size of a diamond had been reduced from a 7-unit size to a 6-unit one. An alert Miss asked, "Does it go by their squares? If so, the possibility of mixing things up is reduced from 49 to 36." Teacher could not say about the squares but he answered to the effect that the addition or the subtraction of a harness increased or decreased design possibilities decidedly.

The draw-down had been corrected and criticisms were called for. Fortunately this brought out the idea that the diamonds were rather large for a 15-inch runner, too much open space showed. Finally, a thoughtful woman said, "Why not put a spot in the center of each diamond?" The class thought this good so she came to the blackboard and marked out the square at the center of each diamond, Fig. 6. This posed the question, "How is this spot to be woven, with no change in the treadling order?" The class had had no work as yet in cloth analysis but it did not take much discussion to show that all blocks in the same vertical line had to be on the same harness and that all blocks in the same horizontal line were pulled down by the same treadle. This had been used in the simple draw-downs they had made and was now to be expanded. Checking on the draw-downs, Fig. 6, the spots in the right-hand diamonds are in the vertical row marked 7 and in the horizontal row marked 1. Hence, harness 7 is to be tied to treadle 1. Likewise, the spots in the second row of diamonds from the right are in the vertical row marked 2 and the horizontal row marked 6, hence, harness 2 is to be tied to treadle 6. Fig. 7. This was checked by erasing the board, putting the threading at the top, the treadling at the side, and making the draw-down. It tallied with the first.

A student commented, "That still looks skimpy." Motioned to the blackboard she erased the spots in the diamonds and then marked out four squares in each as shown in Fig. 8. The class had little difficulty making the draft for the tie-up, Fig. 9.

"Why not put a diamond inside each diamond?" was the next suggestion. She came and marked them in as seen in Fig. 10. The tie-up was worked out as Fig. 11.

The period was over so each was asked to work out four new arrangements for the next day. Most had the required number then; one had but one; but two girls had a dozen each. "This is fun!" The two days' work gave us over twenty usable variations; some of the new ones are shown in Figs. 12-21.

Many patterns while technically correct are not attractive. For example, in Fig. 7, two ties were added to Fig. 5. Omit either and alternate rows of diamonds have no spots inside. The opposite of this is found in Fig. 14. If both sides of the tie-up were alike all spaces would be filled and one would have no real pattern.

To simplify matters and stress changes in tie-up, the treadling for these lessons was fixed, all were to be treadled alike. Fig. 18 brought an unexpected snag. Treadles 3 and 4 are tied to harness 1 only. The girl who worked out the pattern came to the teacher to know what to do. "There's nothing there to treadle. What shall I do?" Given to the class, to the teacher's amazement, they were stuck. When the ties to these two treadles were compared with that of treadle *a*, comprehension dawned. Treadling *b, 3, b, 3* or *b, 4, b, 4*, gives plain weave across the web just as A, B, A, B, does.

In tie-up Fig. 21, treadles 1 and 3, and 4 and 6 are tied the same in order to keep the treadling order. In the closing discussion the point was made that new patterns can be made from old ones in three ways: changed threading, changed treadling, or changed tie-up; and that combinations of these can give still other patterns. And this still leaves the great field in which the weaver does not base her work upon some existing pattern but produces something new and different.

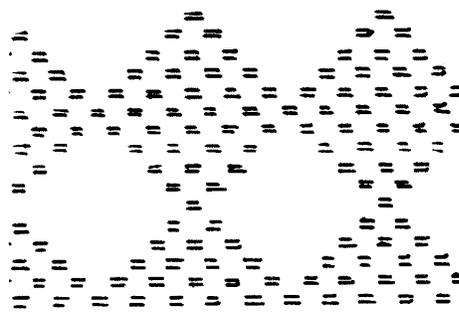


Fig. 14

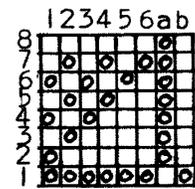


Fig. 15

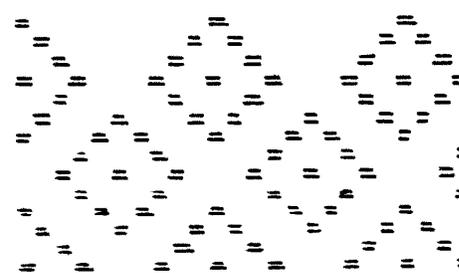


Fig. 16

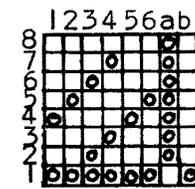


Fig. 17

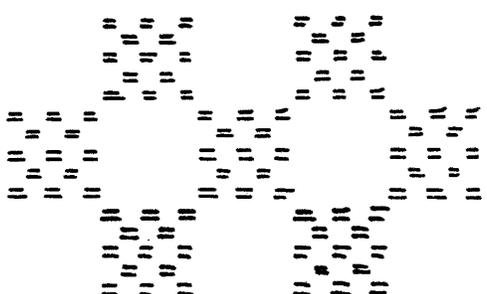


Fig. 20

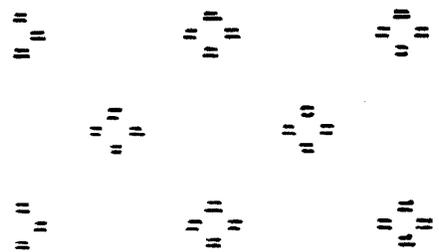


Fig. 18

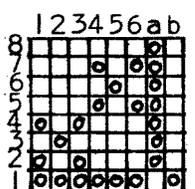


Fig. 21

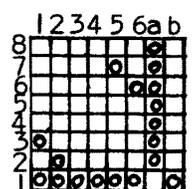


Fig. 19

Meet the Author

A search for a photograph of Rupert Peters leaves one with the conclusion that he is the most self-effacing person in the handweaving field. One might say that his attainments are exceeded only by his modesty about them. Mr Peters is head of the handweaving department of Penland School for Handicrafts, and has been associated with Penland for more than a quarter century. A student of Edward F Worst, he succeeded Mr Worst in his present position. We feel particularly fortunate in presenting this lucid article, since most of Mr Peters' time is devoted to lecturing and teaching, and his articles are rare. But his influence is wide, because Mr Peters has probably taught more individual handweavers than any other teacher in the country.

Adele Coulin Weibel is one of the truly distinguished names of the textile field. Not a handweaver, but a world-wide recognized authority on textiles, Mrs Weibel joined the staff of the Detroit Institute of Arts in 1927 as textile expert, and since 1933 has been Curator of Islamic Art. Her scholarly book, *Two Thousand Years of Textiles*, from which Mrs Weibel graciously permitted us to quote the short article on Egyptian Tapestry, is recognized as the first comprehensive book on textile art ever published in English, and one of the most authoritative books on this subject published anywhere, at any time. The quotations are from page 19, and excerpts from pages 29 through 33. In a letter Mrs Weibel said of tapestry weaving, "My main point is the fact that any weaver, anywhere, at any given point, turned to tapestry weaving, which is therefore a universal craft."

The WEAVER'S BOOK SHELF

by Boris Ueren

The color plate included in this issue is supplied to SHUTTLE CRAFT readers through the courtesy of I.C.A. Publishing Co of Sweden. The plate is from the newest of the I.C.A. Weaving Library, YLLEVAVAR by Hilda Tillquist and Lars Walstedt. Perhaps I should qualify this and call them intelligent editors, for the weavings themselves are the products of the looms of several fine Swedish weavers. The subject matter of this volume is *Woolen Weavings*. Many of you have seen the other fine books in this series: *VI VAVER TILL HEMMET* (*Weave for the Home*), *HANDDUKAR OCH DUKTYG* (*Hand Towels and Linens*), and *TRASMATTOR OCH ANDRA MATTOR* (*Rag Rugs and Other Rugs*). The books are uniform in size and quality, each having patterns, drafts, tie-ups, illustrations, and—what is most exciting—many color plates of a quality and quantity usually found in much more expensive books. In this fourth volume on weaving with wool, there are sixteen full color plates illustrating about fifty handwoven textiles, and each one has its draft, tie-up and weaving instructions. You will find many ideas and projects: shawls, blankets,

upholstery, suitings, rugs and tapestries. Some examples that pleased me particularly were the clothing materials woven by Ulla Stalberg, being some handsome checked twills in browns and greys. I also liked the plaids, particularly those woven by Lillemor Hellborg. I don't see many blankets exhibited in weaving shows, and I think that the many lovely ones shown in this book may stimulate American weavers. The drafts are for two and four harness weaves, and the weaves comprise principally tabby, rosengang and twills. There is a generous selection of plaids (and this is a hint—not too gentle either—to my associate Harriet Tidball to get into print her fine manuscript on Tartans!) The instructions are in Swedish, but they can be worked out, and easily, with the help of this writer's *Swedish-English Weaving Glossary*. Don't let the text frighten you at all, for the bulk of it is shot-by-shot directions and colors. The colors can be seen in the color plates, and one can guess by the close sounds to the English equivalents, what most of them are. And there is no reason why these color thread instructions have to be followed; they can be used as suggestions, and need not be rigid and tyrannical directions. The price is \$3.30.

The only shirts I permit my wife to buy for me are Mexican and East Indian cottons. Besides being a shirt wearer, I am a bookseller, and I've been on the hunt for books on Mexican and East Indian weavings. To date, not a book in print on Mexican weavings. But, happily, we do have a new book—and a handsome picture book at that—called *Textiles and Ornaments of India*. Those of my readers who live in New York city have no doubt seen the live exhibition of these textiles at the Museum of Modern Art in 1955. This souvenir is based on that very show. If you think of India as only the weaver of Kashmir shawls, you will be delightfully surprised to see the range of woven objects. And if you think that the use of metallic yarns in handweaving is something peculiar only to the last few years of weaving in the United States, you'll have another delightful revelation, for these weavers of India used silver and gold threads in a luxurious and yet artistically restrained way. Now, try to recall, if you can, the flutes, drums and stringed musical instruments of Shan Kar's troupe of Indian dancers who have pleased so many American audiences, and the dances themselves. Music and dance forms may have faded away in memory, but I for one cannot forget the beauty and the brilliance and gaiety of those lavish textiles, and it is a joy indeed to see them again in these pages. The book shows textiles made in the last one hundred years, but many of them represent traditions of craft and design that have been continuous for over five hundred years. You will find illustrated, and several in inspiring color, fabulous shawls and saris of intricately woven silks, wools and cottons, rich gold and silver brocades, jaspe cloths, and beautifully patterned embroideries. I should mention that the book has some fine examples of other crafts, particularly metal crafts. The text makes fascinating reading. Monroe Wheeler of the Museum of Modern Art, writes an introduction, and the essays are by Pupul Jayakar and John Irwin. Mr. Irwin is a lively writer, and you may recall his work in the book *Shawls*, published last year. Price is \$4.00.



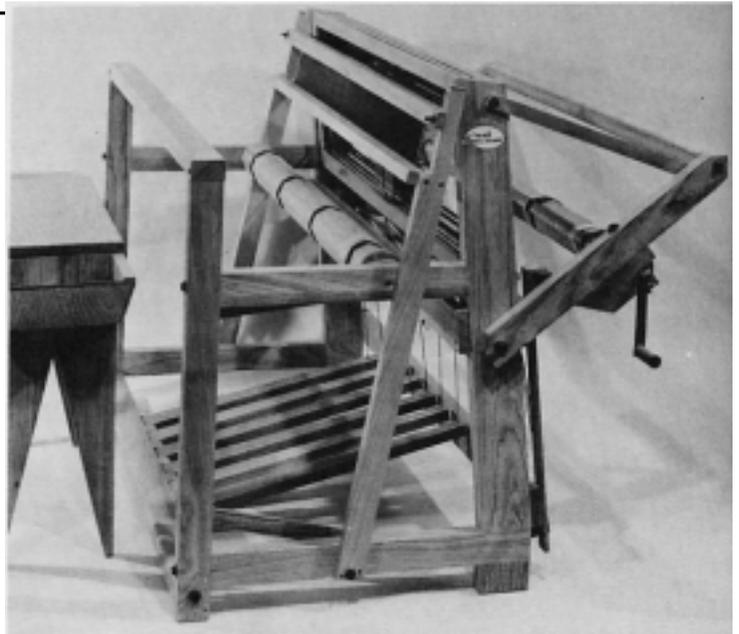
The LOOM-SIDE MARKET

Seldom can the handweaver go "down the street" to buy the things he needs for his craft. The handweaver's market place is everywhere; it is scattered all over the country and even in foreign countries. The tools and materials of the weaver's craft are so numerous and so specialized that there are but a few retail stores for handweavers which supply everything from looms to warp spools, from tweed yarns to fine silks, from instruction books to reference material, and only a tiny percentage of handweavers live within everyday shopping distance of these.

Because of this, the handweaver's shopping, and the actual delivery of the items he buys, are far separated. The market place, as we imply in the heading

Recommended Sources

The HERALD LOOM is a perfect answer for the weaver who demands loom efficiency, and also a loom style which will fit harmoniously into a contemporary livingroom. This is a well designed piece of furniture. The wood is neutral toned, beautifully finished. Although rigid in structure, the loom is compact. Wire tie-ups are easy to attach. Treadle action is light. Available with either sectional or plain beam. The 4 and 6-harness models are particularly recommended. Three widths are 24" (\$160.00), 40" (\$175.00), 45" (\$190.00). Prices quoted are 4-harness, plain beam. Matching bench; accessories. A particular advantage available in no other loom is the 2-yard horizontal warping reel which may be attached to the breast-beam position for one of the best "do it alone" warping methods there is. Write for brochure.



HERALD LOOMS, (Mr. Herald Micander),
2080 Edgewood Road, Redwood City, Calif.



YARNS

Frank Kouble is currently offering 8/2 drapery cotton, natural color only, at 80c per pound. Also 16/2 (6720 yards per pound) natural, at \$1.20, and 3/2 (1260 per pound) at 80c. This is just a start on the many bargains from job-lots, close-outs and bankrupt stocks which Mr Kouble has, including many synthetics, novelties, and silks. All are limited offerings—when the stock is gone, they are not replaceable—so do not delay orders. FRANK KOUBLE CO, PO Box 82, VALLEY FALLS-LONSDALE, RHODE ISLAND.

BOOKS MENTIONED IN THIS ISSUE OF SHUTTLE CRAFT

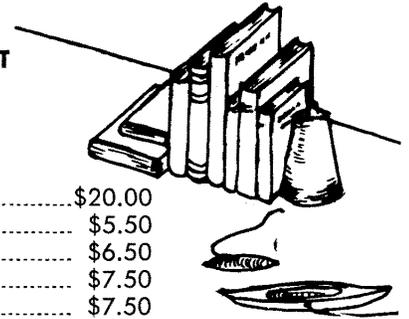
are available from:

CRAFT AND HOBBY BOOK SERVICE

Coast Route

Monterey, Calif.

Two Thousand Years of Textile , by Adele Coulin Weibel.....	\$20.00
How to Weave Linens , by Edward F Worst.....	\$5.50
Foot-Power Loom Weaving , by Edward F Worst.....	\$6.50
Shuttle Craft Book of American Hand Weaving , by Atwater.....	\$7.50
The Domestic Manufacturer's Assistant , by J & R Bronson.....	\$7.50
Special price to SHUTTLE CRAFT subscribers.....	\$5.00
Kutokaa Kuviolisia Kankaita , by Ester Perheentupa.....	\$2.75
Kutokaa Itse Kankaanne , by Ester Perheentupa.....	\$2.00
Manual of Swedish Hand Weaving , by Ulla Cyrus (translation).....	\$5.95
Den Stora Vavboken , by Mary Block.....	\$19.75
Out of print, but a few copies left.	
Volkstumliche Handwebtechniken , by von Schimmelmann.....	\$4.00
Handdukar och Duktyg , by G Ingers.....	\$3.30
Kankaiden Sidokset , by Helvi Pyysalo.....	\$2.85



for this section on RECOMMENDED SOURCES, is right beside his own loom, or at least in his own living room. That is—the market place is as close as the spot where the weaver or potential weaver can sit down with the printed information about the products he needs, and write his choices in a letter with an order.

The main source of information about products for handweavers is therefore the advertising pages of SHUTTLE CRAFT, HANDWEAVER AND CRAFTSMAN, and the small Guild periodicals and published lists. The potential purchaser supplements these source notations by writing for catalogues, brochures, or information leaflets put out by the distributors of the products which interest him. Thus, the sources for all the many products a weaver needs are before him, but the important question remains: "Which of the many items in each category will best suit my individual interests and circumstances?"

Selection for personal use is a matter which requires evaluation of the product; and the making of an evaluation is a matter of comparisons between similar products, requiring experience, which the potential purchaser in most cases has not had. The most logical solution to the lack-of-experience problem

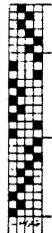
INSTRUCTION in SOUTHERN CALIFORNIA at the **MARY E SNYDER STUDIO**
256 East Orange Grove Ave., PASADENA, CALIF.

Year-Around Classes, Beginning and Advanced. Enter at any time. Looms available for special projects. Special lessons.

Summer Classes: (1) Tribute to Mary M Atwater (Mrs Atwater was to have taught this and supplied the projects). (2) Pick-up and Laid-In Weaves. (3) Eight-Harness Techniques. (4) Textures. WRITE FOR INFORMATION AND DATES.

AGENT FOR: Bernat Fabri and Afghan, looms, accessories, books and supplies.

MARY E SNYDER
STUDIO



INSTRUCTION

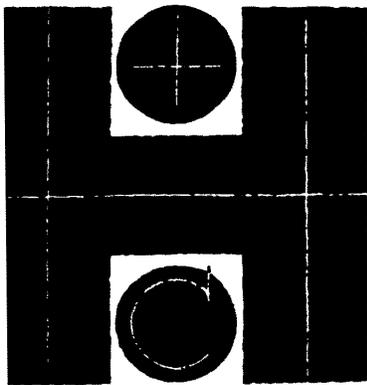
THE FAMILIAR LABEL — BUT A NEW PRODUCT

Lily Drapery Cotton, Article 108

Lily Mills offers handweavers a cotton yarn which is a standard in textile mills. One of the pleasantest threads to work with, this yarn has heretofore been available to handweavers only in occasional job lots, mainly undyed. The Lily Drapery cotton is offered in the same eighteen beautiful colors as the Lily Chenille (Article 106). It is very soft, lightly twisted, size 8/2 with 3360 yards per pound, 420 yards per two-ounce tube, in the customary Lily put-ups. This cotton may be used advantageously at warp settings of from 15 to 25 ends per inch, and closer or wider for special effects. It is the soft quality which makes it adaptable for abnormally wide warp settings, and creates a good warp or weft coverage when used for reps. It blends well with other yarns for mixed-warp designs. Fabrics from this yarn have a dull, almost suede-like characteristic which is unusually charming, and the draping quality of the fabrics is superb. Soft but strong, the yarn warps, beams, threads and weaves easily, with no breakage. **Soft Twist Cotton** is an economical yarn to use—priced at \$1.50 per pound for natural, \$2.25 per pound for colors. Try it instead of the Article 105, as was originally planned, for the draperies given in Volume 1-56 of **Practical Weaving Suggestions**, by Harriet Tidball. The addition of this yarn to the standard Lily lines was suggested by the Shuttle Craft Guild. Therefore it is a particular pleasure to introduce it in this issue of SHUTTLE CRAFT. We hope that it opens up new fields in textile design for handweavers everywhere.

ART. 108 2 Ozs. Size 8/2 Color Lot	 SOFT TWIST COTTON Quality Handweaving Yarns	For Weaving Drapery Upholstery and Decorator Fabrics • LILY MILLS CO. SHELBY, N. C. U.S.A.
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Handweaver & Craftsman



The basic magazine for the entire handweaving field; amateurs and professionals, textile designers, teachers, occupational therapists. Lavishly illustrated, it shows prize-winning exhibit textiles, and has articles of wide and varied interest, exhibit announcements, descriptions of summer weaving courses, local Guild news. The full advertising medium, so it is the source for all commercial addresses.

Quarterly, Single copy \$1.00.

1 year \$4.00, 2 years \$7.50, 3 years \$10.00, 5 years \$15.00.

Extra postage: Canadian 50c, Foreign \$1.00, a year.

Write for special group-subscription rates.

HANDWEAVER AND CRAFTSMAN, Mary Alice Smith, Editor
246 Fifth Avenue, New York 1, N. Y.

Top Castle

Beater

Reed

Shuttle-Race

Breast Beam

Cloth Beam

Frame

Treadles

Heel Bar

Jacks

Cape

Harnesses or Heddle Frames

Back Beam

Sectional Warp Beam

Ratchet

Lamms

Warp Beam Release

AD-A-HARNESS LOOMS

Also portable, folding treadle looms with 4, 6 or 8 harnesses, 16", 20", 24" wide. Accessories. "Ad-A-Harness"—registered trade mark.

For brochure and price list write to:

This famous loom has long been the classic among multiple-harness weavers. The add-a-harness feature makes it possible to convert a 4-harness model into a multiple-harness model. Widths of 32", 40", 48", 56", have standard frames to hold 10 harnesses, but custom frames for 12 or 16 are available. One or two warp beams, sectional or plain, brake or ratchet controls, double back beam, warp yardage counter, extra treadles, are optional features which make this a true custom loom.

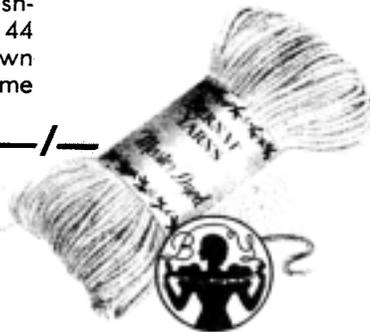
L W MACOMBER
16 Essex St
Saugus, Mass

is to follow the familiar slogan, "Ask the man who has one." And this is what most weavers do—they consult with weaver friends, with fellow Guild members, with a weaving teacher, or they write a letter to a recognized authority. Since the comparative evaluating is more comprehensive and satisfactory if the buyer asks the man who has had fifty, rather than the man who has had one, the tendency toward seeking advice from a professional of wide experience, is to be advocated. A very important factor enters the picture here—the unavoidable fact that the objectivity of judgment is inevitably diminished

For thirty-five years handweavers have found **Bernat Handweaving Yarns** the best in their types. Two sizes of soft, lustrous, high-quality English-spun Worsted are now available. The famous FABRI and AFGHAN, in 44 glowing colors. FABRI is 2/18 worsted with 4800 yards per pound, known as the most versatile handweaving worsted there is. AFGHAN is the same yarn in 2/28 with 7600 yards per pound.

Bernat yarns are available only through agents.

Bernat Yarns



See the CLASSIFIED DIRECTORY and RECOMMENDED SOURCES for your favorite source.



Grant Hand Weaving Supply Company handles just about everything the weaver can want: looms including the HERALD and LECLERC, warping equipment of all kinds, a wide variety of domestic and imported shuttles, yarns in magnificent array. Yarns include Bernat Afghan in 16 colors, Bernat Fabri in 44 colors, the Golden Rule Yarns, Durene, loop wool, chenille, and cotton and rayon boucles and ratinnes in many types and sizes, and metallics, all of these in colors. In addition, Grant has several equipment items which they manufacture themselves, including the All-Purpose Electric Bobbin and Spool Winder, and the Swivel Spool Rack and inexpensive spools for warp winding. The Swivel Spool Rack with plated metal rods is the finest creel we have ever used. Reeds in any length of dentages 4-5-6-7-8-9-10-15-18-20 pr inch, heddles, yarn stand and twister, and many other useful things. All of these items, including looms, are in stock for immediate delivery and may be seen on the floor of the beautiful Grant store at:

3186 West Pico Boulevard, Los Angeles 19, California
(Write for complete catalogue.)



THE CROSS-COUNTRY CRAFTSMAN

A monthly news bulletin for all artist-craftsmen. Friendly and informal, it brings news of fellowcraftsmen and events from all parts of the country, exhibit announcements and reviews. Illustrated with photographs. Single copies 25c. Subscription, \$2.50 a year. Address: PO Box 1237, Fayetteville, Arkansas.

BOBBIN and SPOOL WINDING and YARN MEASURING EQUIPMENT, which will "last a lifetime."

Manufacturer and sole distributor of the WE-GO WINDER and the WE-GO YARDAGE COUNTER which the Shuttle Craft Guild has found to be the most satisfactory equipment for these purposes. Also instruction, accessories and general supplies.

HAND WEAVERS WORK BASKET, Grace D Blum, Box 691, RR 1, West Chicago, Ill.



The Macmillan Company
60 FIFTH AVENUE, NEW YORK 11, N.Y.

A HANDWEAVER'S WORKBOOK, by Heather G. Thorpe. Beginners can now learn the skills for weaving on the 4-harness treadle or handloom from the teacher, Heather Thorpe. This comprehensive guide has illustrations, diagrams, glossary and handsome weaves. \$4.50

THE SHUTTLE CRAFT BOOK OF AMERICAN HANDWEAVING, by Mary Meigs Atwater. This definitive book on handweaving, revised in 1951, includes the important loom techniques: Overshot, Summer and Winter, Crackle, Bronson, Double, Leno, Rug Weaves, Pickups. \$7.50.

BYWAYS IN HANDWEAVING, by Mary Meigs Atwater. The unusual handweaving techniques from all over the world: Card Weaving, Inkle Weaving, Twinning, Braiding, Knotting and Plaiting and many primitive weaves. 8 full color plates, many drawings. \$8.50.

Twenty-Eighth Annual Sessions



Penland

School of Handicrafts
Penland, North Carolina

INSTRUCTION in BASIC HANDICRAFTS: Hand Weaving, Metalcrafts, Pottery, Enameling on Copper and Silver.

INSTRUCTION in NATIVE CRAFTS: Carding, Spinning, Vegetable Dyeing, Corn Shuck Chair Seating, Doll Making, and others.

INSTRUCTION in HOBBY CRAFTS: Non-Fired-Pottery Lamps, Lamp Shades, many others.

Continuous instruction from March 18 to June 22, 1957 affords the opportunity for coming during this period for long or short terms of personalized training in small groups.

Summer Sessions: June 24 to July 13; July 15 to August 3; August 5 to 24, 1957. Excellent equipment and teaching personnel. Modern living conditions in a beautiful mountain country-side. Write the Registrar for full information.

when the monetary profit picture enters. Therefore, the professional who has no financial connection with the product under consideration is the one to seek.

As the Shuttle Craft Guild, during its thirty-five years of supplying information to handweavers, has been called upon to answer uncounted thousands of questions from weavers who are anxious to purchase exactly the right equipment and materials for their personal uses, one of the major assignments of the Guild has always been to keep abreast of the many products offered to handweavers, and to guide the manufacturers toward supplying the things which handweavers need. Sincere, detailed, and continuous effort have always marked the Shuttle Craft Guild equipment and yarn testing activities. In the Shuttle



The New Model Gilmore Loom

The famous GILMORE LOOM is now available in a revolutionary new model. Retaining all of the outstanding characteristics of rigidity, superior craftsmanship and good balance, this is a **compact loom**. Its depth of 28½ inches makes it movable through any standard door, and gives it the efficient 11" weaving space. It is supplied with stainless-steel 15-dent reed and two of the excellent Gilmore shuttles, plain warp beam, 6 treadle. There are three widths at very attractive prices:

22"—400 heddles—\$95.00

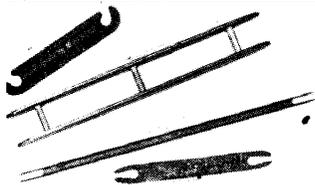
32"—600 heddles—\$135.00

40"—800 heddles—\$175.00

Mr. Gilmore was the originator of the popular "push-up harness" loom, which has all the mechanics under the harness and no top-castle, making it a handsome livingroom loom. The standard rigid and folding models known for many years, are still available. For brochure and complete information write to:

E E GILMORE, LOOMS
330 South Commerce St
Stockton, California

LOOM MUSIC by Mary Sandin and Ethel Henderson, has been one of the standard and most popular small, practical periodicals for handweavers for thirteen years. Presents well designed projects, mainly for four harnesses, with such thorough and clear directions that they are good for the beginning weaver and stimulating for the experienced weaver. Ten issues a year; subscription \$5.00. Address: MRS R B SANDIN, University of Alberta, EDMONTON, ALBERTA, CANADA

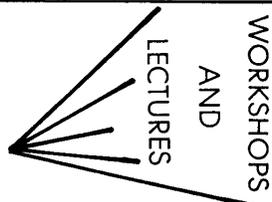


SHUTTLES OF ALL KINDS—27 varieties

Throw, Belt, Flat, Rug, Twido, Chanel-Stick (original design), and Pick-up Sticks and Shed or Sword Sticks. The shuttle you want must surely be here. Send for illustrated descriptive leaflet from: CODDIE PRODUCTS COMPANY, 2764 29th Avenue, North St Petersburg 4, Florida.



Dorothea Hulse, noted for having woven THE ROBE and other textiles for motion pictures, and now rapidly gaining fame as a lecturer and a conductor of dynamic Workshops, will be available again in the spring and summer of 1957. Mrs Hulse is scheduling trips to the Middle West and East. Any Guilds wishing to avail themselves of this opportunity write to **Dorothea Hulse, 517 1/2 N Robertson Blvd, Los Angeles 48, Calif.**



Craft Guild Studio there has been a continuous in-and-out flow of looms, warping equipment, bobbin winders, shuttles, minor accessories, and yarns, yarns, yarns. Therefore, the Shuttle Craft Guild may be considered as, "the man who has had fifty."

The Shuttle Craft Guild never evaluates from a quick examination or a photograph and description, nor from a few minutes or hours of use. Through testing, use of the equipment under home or studio conditions, by several people sufficiently experienced to make objective comparisons and also by beginners, and a considerable variety of applications, have always been the Shuttle Craft method. If an item is basically good, but unsatisfactory in certain details, suggestions for correction or improvement are offered to the manufacturer. Experience with the soundness of Shuttle Craft Guild suggestions has guided manufacturers to heed these suggestions, and to improve their designs accordingly. So the Guild testing has always been a service to both manufacturers and consumers.

Since it is no longer possible for the Shuttle Craft Guild to answer the increased volume of questions—hundreds each month—about the virtues of specific equipment and yarn items, we have set up the **LOOM-SIDE MARKET** to bring the information to all weavers who read the words on these pages.

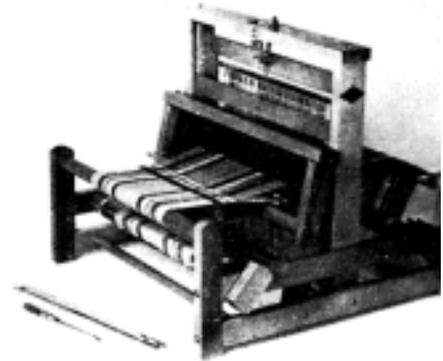


The Hand Weaving Yarn Company woolen yarn is one of the best for suitings. It comes in 20 attractive colors, solid and heather mixtures, as shown on the free color card. Very light weight fabrics may be woven in tabby with this yarn set at 20 ends per inch, average suitings in twill at 24 per inch, heavy fabrics in multiple-harness twills at closer settings. All virgin wool, 3600 yards per pound, this yarn is strong and when handled correctly will cause no trouble even to the beginner. Order from **HANDWEAVING YARN CO, P O Box 7145, ELKINS PARK, PA.**



The popularity of the LECLERC 4-harness counterbalanced loom is well deserved. Because of the loom's solidness, strength, easy action, efficiency for threading as well as weaving, and simplicity, there are more Leclercs in use in Canada and the U.S. than any other make of loom. The loom is completely reliable. There are four weaving widths: 27", 36", 45", 60". LECLERC also furnishes auxiliary equipment of excellent design and quality, and several other loom models. Particularly useful is the little 14" wide, 2-harness table loom. This is so inexpensive that it serves the person wishing an introduction to weaving with little expenditure.

NILUS LECLERC INC
L'Isletville, Quebec
Canada



LECLERC LOOMS and all other LECLERC equipment are sold through many agents throughout the U.S. and Canada. For a complete catalogue and the name of your nearest dealer, write to: NILUS LECLERC INC.

The answers to most purchasing questions will be found here. If there are details or special problems which are not answered on these pages, we are happy to have you write to us at 165 O'Farrell St, San Francisco 2, California.

Although the space on these pages is paid for by the manufacturer or distributor, most of the remarks are written by Mrs Tidball, from testing experience and never from hearsay, though often other unbiased sources are consulted in making an evaluation. These recommendations differ from the usual advertisements in that they have been written by an objective agency instead of by the man who is trying to "sell" his own product. They differ in that the publishing agency, the Shuttle Craft Guild, instead of the seller, tells you that the product is satisfactory for its intended purpose if correctly used. Space on these pages cannot be purchased until the product has successfully passed the rigid Shuttle Craft Guild testing; and the maximum amount of space available to any single product or service is regulated.

This system, unconventional though it is, has been set up for the protection of both the purchaser and the person who wishes to serve him. If you, as the purchaser, find this system more helpful than the usual form of advertising, please let us know; and also tell the person from whom you are ordering who recommended the product or service to you.



MEXICO ARTS & CRAFTS TOURS with T. H. Hewitt

13-Day, All-Inclusive Tours . . . Craft Demonstrations in Remote Indian Villages . . .
Your Tour-Companions are Fellow Craftsmen.

June 9: to Oaxaca, Mexico City, Texco—co-host BERTA FREY.

July 28: to Guadalajara, Patzcuaro, Mexico City—co-host VALBORG
GRAVANDER.

June 30: Painting Workshop in Mexico with DONG KINGMAN.

Former tour members all vote: One of the most delightful vacations experienced.
TURISMO DE LAS ARTES POPULARES, 2413 Driscoll St, Houston 19 Texas.

From WEAVER to WEAVER

My dear Handweaver:

The past six weeks has been a period of upheaval and reorganization as the new Bulletin shows. Along with the changes have been temporary frustrations—the culmination of them being that the January issue of the new SHUTTLE CRAFT was mailed exactly one month late. This has tried the patience of subscribers, I well know, but your letters have shown understanding, and we hope that now you feel rewarded. The new routine for us and the printer is smoothing out nicely already, and we shall gradually make up time until we are again on schedule.

You have no doubt noticed the announcement that the June and July, and the August and September issues will be combined, which means ten instead of twelve mailings a year. The originally announced plans for SHUTTLE CRAFT were for a twenty-four page periodical, twelve times a year. Further consideration has led us to the decision that we can make a more effective and useful publication by expanding to thirty-two or more pages with just ten issues. This makes it possible to include in our annual program a feature which we have long wished to add—a SHUTTLE CRAFT PORTFOLIO ANNUAL. The ANNUAL will be a special monograph-style publication, devoted to a single designing subject, well illustrated with samples. It will be sent to all Portfolio-edition subscribers without further charge, and will be available for purchase by regular subscribers.

Interest in budding weavers was stimulated by a clipping which came recently about a very young "bud." The subject was a little bright-eyed girl, Jane Davenport of Hartford, Connecticut, who recently entered a handwoven mat in the National Girl Scout Americana Art Exhibit, which was awarded a permanent exhibit place in the Girl Scout Art Collection. Jane's teacher is her mother, who has long been a handweaver (and also happens to be a distant cousin of mine, which makes me particularly proud). We have sent Jane a subscription to SHUTTLE CRAFT, as a special award, and would enjoy making further such awards. And I hope there are many SHUTTLE CRAFT subscribers who have this particular pleasure of being able to pass along all the joys of weaving to this oncoming generation.

Yours, for the greatest weaving pleasure,

Harrist Tidball

Directory of Handweaving Services

This section is planned to answer the constant flow of inquiries to the Shuttle Craft Guild from new weavers who wish to locate a near-by instructor or to know of local sources of supply, from Guilds who wish to secure speakers or a capable person to direct a workshop, from weavers who are traveling or are moving and wish to establish weaving contacts in new localities. We hope that this section will grow until it is a truly comprehensive DIRECTORY for all the small commercial and instruction services in the United States and Canada, and a clearing bureau for exhibits and for lecturers and workshop leaders. Classified rates are placed low to permit the individual and the small business to list. For securing a two or three-line listing, please write to the Shuttle Craft Guild Editorial Office, 165 O'Farrell Street, San Francisco 2, California.

YARNS

Marie Phelps, Strawberry Hill Studio, Sherman's Point Road, Camden, Main. 20/2 linen, snow white, \$3.65 a pound; 4 beautiful colors at \$4.75 a pound. Custom dyeing of 20/2 linen, minimum quality 30 pounds, to a color. Prices post-paid.

The Craft Shop, 448 So Coast Blvd, Laguna Beach, Calif. Imported Norwegian and Swedish Homespun, 18 colors. Swedish linen bleached and natural 12, 16, 20. Knox Mercerized linen 30/2 in 35 colors. Bernat Fabri in 32 colors. Also accessories.

The Weavers Workshop, Miss Gynethe Mainwaring, Dodgeville, Wis. Bernat Fabri 80c per skein, Afghan 95c per skein, both in 44 colors. Knox mercerized linen 16/3, 20/2, 40/2, 50/2 and No. 2 Floss, colors. Orders post-paid. Immediate delivery.

Maypole Handcraft Yarns, 8300 S E McLoughlin Blvd, Portland, Oregon. Thirty-six colors, 100% English-spun worsted yarns in two sizes on 2-ounce tubes: Willamette 700 yards per tube, and Clackamas 1050 yards. Samples, 10c.

GENERAL SERVICES

Countryside Handweavers, 5605 West 61st St, Mission, Kansas. SILICONING of Yardages a specialty. Also yarns, Looms, Accessories, Books. Mail orders accepted.

The Garrisons, 5 Cherry Tree Lane, Middletown, New Jersey. Instruction to beginners. Agent for the HERALD LOOM and accessories, and Maypole yarn. Custom weaving. Visitors welcomed. Mail orders accepted.

EXHIBITS

Dr W G Bateman, 2501 S 116th St, Seattle 88, Wash. Study Exhibits for experienced weavers. All original designs, many original techniques, mainly multiple-harness weaves. Fourth year. Something new every year.

INSTRUCTION

Kate Van Cleve, The Garden Studio, 14 Marshal Street, Brookline 46, Mass. Master Craftsman and Medalist, Society of Arts & Crafts, Boston. Certificate Courses in Weaving.

PUBLICATIONS

Elmer W Hickman, R 2, Emlenton, Penna. MODERN DRAPERY AND UPHOLSTERY, A Folio containing twenty new samples for decorating fabrics, with complete directions including yarn sources. 4-harness weaves. Order direct, \$6.50, postpaid.

Mary E Black, Box 14, Bedford, Nova Scotia, Canada. HANDWEAVERS REFERENCE, \$3.25, postpaid. An index of subject-matter in several classifications for the basic handweaving periodicals and books. Makes any weaving library useful.

Alena M Reimers, West Pines Hotel, Joliet, Illinois. WAYS TO WEAVE OVERSHOT. Loose leaf manual in three-ring binder, well illustrated including 16 woven samples, well organized and printed. Good for study groups. Order direct, \$10.00 post-paid.

LECTURES AND WORKSHOPS

Elsie H Gubser, 647 No Denver, Tulsa 6, Oklahoma. This well-known lecturer and Workshop director is again available for engagements with groups. Write directly to Mrs Gubser.



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