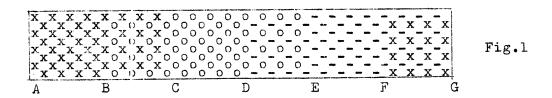
TISSUE WEAVES

BROCHÉ

This technique in its original form was used mostly on draw-looms, i.e. looms which give a practically infinite number of blocks of pattern. The idea was to fill one shed with three colours in a row, each colour appearing in places where it was required. These colours can be combined in alternate sheds to produce intermediary hues.

Fig.1 shows the draw-down of the fabric. If "x" stands for red, "o" for blue, and "-" for yellow, we have the following combinations of colours.



From A to 3 we have pure red; from B to C - purple as a result of mixing red and blue; from C to D pure blue; from D to E - green, or mixture of blue and yellow; from E to F pure yellow; and from F to G - orange (mixed yellow and red). The warp is covered by weft and its colour does not matter. But purple, green, and orange will produce fine vertical stripes if the fabric is woven in tabby as in fig.1. The finer the fabric, the less obvious the stripes.

Thus the face of the fabric will look very much like real brocade. To distinguish the fabric from real brocade it is called Broche (pronounce: Broshay).

When we throw the shuttle with red weft it will form a float from C to G in the first shed of tabby, and from B to F in the second. In other words 2/3 of the weft is wasted. The same applies to other colours. The back is thickly padded with unnecessary floats. We could have exactly the same effect without wasting any yarn if we picked up the pattern using short pieces of weft as in real Brocade, or if we had woven it as tapestry or inlay. But these two techniques mean extremely slow weaving, therefore a waste of time.

Thus we have a choice of wasting either time or yarn, and Broche was devised as a method of saving time at the expense of yarn.

When adapted to normal weaving equipment Broche can be woven on any number of shafts from 6 up. It takes two shafts for each block of pattern in tabby; three in 1:2 twill; four in 1:3 twill, etc. In each case the warp should be set so that the weft will cover it completely, if pure colours are aimed for. But we can also use a closer sett and a warp of a neutral colour. The latter setting will be more economical, but the colours will be diluted (lower chroma) by the partly visible warp.

To make the fabric still lighter, and thus the loss of weft still more reduced, we can add binder after each complete shed of pattern. This will lower the chroma still more.

The floats at the back cannot be cut. First of all, cutting would take a very long time; second - wherever two pure colours meet we would have a slit in the fabric, unless we use the binder.

In fig.2 we have a draft for 8-shaft Broche. The tie-up must be partly skeleton to allow for all possible combinations of blocks.

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In this example of Broche we have used only pure colours, except in the last section of treadling separated from the main draft, but colours can be mixed throughout the pattern, when necessary.

As usual with multi-block patterns, we work them out from a profile, or make the pattern first and analyze it later. Each line of the profile represents one block (or two shafts), and each tie in the short tie-up draft two treadles (1-5, 2-6, 3-7, 4-8). In fig.3 we have three examples of patterns and their profiles.

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Fig.3 A

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Fig.3 C

colours we can have six more blocks. But for blending we must use additional symbols in treadling. For instance if we blend x and o, neither can be used in the treadling directions, except in the full draft as in fig.2. In a short draft the blending can be indicated by additional letters, e.g. "v" = x+o; "z" = -+o, etc. Needless to say that these additional blocks will be only

in treadling, since they cannot change the profile.

With a higher number of shafts we can use twill as the ground weave, instead of tabby. Fig. 4 is an example of 1:3, or rather 3:1 twill. It can be woven as satinet.

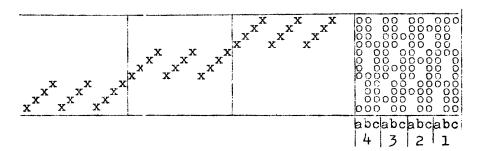


Fig.4

We have here three blocks of pattern only, because each block takes four shafts, Four blocks would require 16 shafts.

The treadling for <u>broken 3:1 twill</u> will be: 4a, 4b, 4c, 2a, 2b, 2c, 3a, 3b, 3c, la, lb, lc.

For broken 2:2 twill: 4a+3a, 4b+3b, 4c+3c, 1a+2a, 1b+2b, 1c+2c, 2a+3a, 2b+3b, 2c+3c, 1a+4a, 1b+4b, 1c+4c.

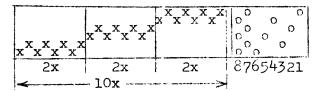
For biased 3:1 twill: 4a, 4b, 4c, 3a, 3b, 3c, 2a, 2b, 2c, la, lb, lc.

These treadlings do not indicate the colours used, because the selection of colours depends on the pattern woven. Of these three treadlings the most satisfactory is the first, because it gives the best coverage of warp without any diagonal in the texture.

Broche woven on a multi-shaft loom has a very limited number of blocks, when compared with a draw-loom. This is why, before coming to this final stage, we had an article on Locked Wefts in Full Swi-vel. In Broche we can use locked wefts exactly as in Full Swivel, and with the same results, that is increasing considerably the number of blocks of pattern, and this time we are speaking about the blocks in the profile. The more complicated the profile, the more we gain. Thus in fig.3 C, where the profile is very simple we gain only one block. In fig.3 A -we have three additional blocks. But in fig.3 B locked wefts can give as many as eight blocks extra.

We shall not go into all details of weaving Broche, because such details would take too much space, and also because the weave is likely to be experimented with by really advanced weavers, who are able to solve purely technical problems.

PRACTICAL PROJECT. Upholstery.



Warp: 10/2 merc.cotton, beige. No.of ends: 480; sett: 20 ends per inch; reed No.10, 2 ends per dent.

Weft: 10 merc.cotton, soft twist, or corresponding pearl cotton. Treadling: 6,5,4,3,2,1. Order of colours: aababb, cbccac, etc. Suggested colours: a - black, b - gray, c - white.