

TWO-WARP FABRICS 2

In the former article we had both warps with the same sett, i.e. one warp end of the first warp alternated with one warp end of the second warp. But this does not need to be the case. Since the first warp is always invisible, it may have fewer ends provided that they are strong enough to support the comparatively high tension.

Thus drafts No.1, 2, and 3 may be replaced by drafts No.6, 7, or 8:

x	x	x	o
xx	xx	xx	o
			21

Fig.6

x	x	x	o
xxx	xxx	xxx	o
			21

Fig.7

x	x	x	o
xxxx	xxxx	xxxx	o
			21

Fig.8

and when the fabric is woven on 4 shafts, instead of the drafts No.4, or 5, we shall have drafts No.9, 10, or 11:

x	x	x	o	o
x	x	x	x	x
x	x	x	x	x
				21

Fig.9

x	x	x	x	o	o
x	x	x	x	x	x
x	x	x	x	x	x
					21

Fig.10

x	x	x	x	o	o
x	x	x	x	x	x
x	x	x	x	x	x
					21

Fig.11

In drafts 6 and 9 the ratio between the two warps is 1:2; in 7 and 10: 1:3; and in 8 and 11: 1:4. If both warps are closely set, the warp will cover the weft, or nearly so, and we shall have a warp-face fabric. The treadling in the above drafts is the same as in drafts: 1 to 5.

So far we have described only 2-shaft drafts, even if they woven on 4 shafts, because shafts 1 and 2, and also 3 and 4 were always tied together. Without changing anything in the threading draft we can introduce more treadles, and therefore more variations of structure. For instance in fig.12 we have divided the second warp so that only one half of it will be raised at any time:

x	x	x	o	o	o	o
x	x	x	x	x	x	x
x	x	x	x	x	x	x
						4321

Fig.12

x	x	x	o	o	o	o
x	x	x	x	x	x	x
x	x	x	x	x	x	x
						654321

Fig.13

What do we gain by doing it? We may have for instance yarn of one colour on shaft No.1, and of another on shaft No.2. Then we may bring either of these colours to the top. The treadling may be: 4H,2H,4H,1H; or: 4f,3f,4f,3f,4f,2H,4f,3f,4f,3f,4f,1H.

Should we want to make our fabric reversible, i.e. to get the same effect on both sides, we must use the tie-up in fig.13. The treadling either: 4H,1H,3H,2H; or 6f,5f,2H,6f,5f,4H,6f,5f,3H,6f,5f,1H.

All treadlings given here are only examples of types of treadlings. For instance the first treadling in both figs: 12 and 13 gives a heavy fabric, comparatively smooth, when the second treadling produces somewhat finer fabric with raised "cords" on one or both sides. Both types may have many variations and since we are dealing here with predominantly 3D textures, there is little we can do on paper, and we should experiment right on the loom. A sampler will teach us a lot.

We are already at the stage when warp-pile effect may be obtained with no extra effort. The pile can be used exclusively or mixed with fine and heavy cord.

Let us take as an example the draft in fig.12 and the second treadling. Whenever the heavy weft (H) is indicated we insert a smooth steel rod. For a narrow sampler we can use knitting needles of different thickness. After about 5 of these needles are in the fabric we can pull out the lowest one and move it up to the next H shed. This will give us a Terry pile (uncut pile).

For cut pile we must have velvet rods (MW 34/6), or flossa rods, i.e. anything which makes it possible to cut the pile without damaging the ground.

Thus we can combine in the same fabric the following elements of texture: ground (fine weft on treadles 3 and 4 in fig.12); raised cords on 1, 2, or 3 with colour effects; terry pile also with colour on 1, 2, and 3; finally cut pile on the same treadles. The pile, both cut and uncut may be of different lengths.

There are a few reservation however: we must use the second warp at the same rate, i.e. in any repeat of treadling treadles 1 and 2 must be used the same number of times. Also the average length of pile must be the same on both treadles. Otherwise one half of the second warp will become much tighter than the other. This does not apply to treadle 3. Finally terry pile is difficult on the back of the fabric (fig.13) and cut pile impossible.

Here we have enough material to experiment for a while, before we turn to other techniques.
