

clean breaks blurring would occur at the edges of adjoining blocks because weft floats would extend into warp-faced areas and floats that were three or four ends or picks long would appear at each interface. We will return to the idea of clean exchanges or breaks again and again.

Think of the four threads that make up one threading repeat for a block as being one **unit**. The area threaded in repeats of one unit is described as a **block**; the draft shown in 2.4 has two blocks, each consisting of four units or repeats in the threading.

Look at the tie-up for draft 2.4. Think of it as being divided into four quadrants. The lower left quadrant is the tie-up for a 1/3

	8	8	8				8
7		7	7				7
6	6		6		6		
5	5	5		5			
			4		4	4	4
		3		3		3	3
	2			2	2		2
1				1	1	1	

*Below, Left: Two-block double-faced twill. The colors reverse on the other side.
Right: Three-block double-faced twill. The reverse of red areas is blue and vice versa. Where two colors are blended, the same blend appears on the other side. This example is woven from a very fine woolen singles.*



twill. Just above it is the tie-up for a 3/1 twill. The upper right quadrant produces 1/3 twill and the lower right 3/1, just the reverse of the two left quadrants. The twill diagonals move in opposite directions. Notice that the line forming the interface between the units makes a clean break in the tie-up as well as in the cloth. The last column in the tie-up, the right-most column, is likewise exactly the opposite of the first column. When the cloth is woven the last shot in the repeat (the right-most column) is followed by a shot woven in the shed made by the left-most column in the tie-up.

Twill drafts may be written for more than two blocks. Each block requires its own shafts; a three-block twill based on 1/3 and 3/1 twills requires twelve shafts, four for each of the blocks. To maintain the clean breaks, there are only two choices (setting broken twills aside for the moment): warp-faced and weft-faced twill. The use of three blocks does not introduce a third possibility; rather, it means that the third block may be woven along with block one, with block two, with both of them, or alone. The addition of just one more block greatly increases designing options. The tie-up and treadling must be worked out carefully for each possibility, of course, but a three-block tie-up is no more complicated than the tie-ups we have already considered.

Here is how you go about working out the tie-up. First, decide which blocks will be warp-faced, 3/1, and which will be weft-faced, 1/3. Work out the treadling for one of the blocks first. Keep the diagonal for all the weft-faced sections consistent and do likewise for the warp-faced sections as you write the rest of the tie-up for that treadling block. That is, all 1/3 twill sections will have ribs moving in the same direction and all 3/1