

# Adventures in Not-So-Parallel Threading, Part II

## by Sandra Rude

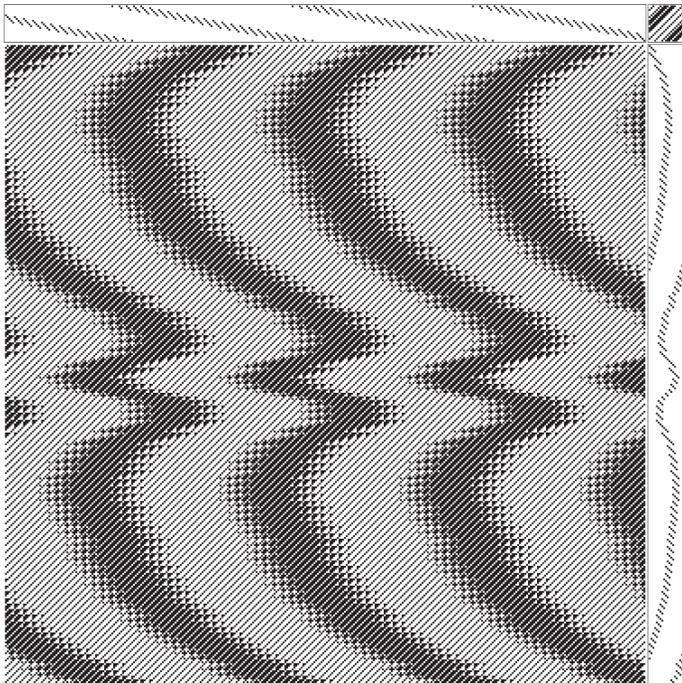
After experimenting with two-color and three-color echo weave for a while (see *Complex Weavers Journal* No. 79, October 2005, page 36), I wanted to know what would happen if a draft interleaved two *different* design lines instead of two copies of the *same* design line. I asked several weavers who had experience with echo weave, and the universal response was negative. “Mud,” said one. “Don’t bother,” said another. “Oh, you can’t do that,” said a third. So, of course, I had to try it. (That should tell you something about my personality!) The first few attempts on the computer did indeed resemble mud. I found that overlaying two designs usually diluted or diffused both to the point where neither really showed up. So far all I had done was digital designs, not weaving with threads, so starting over only wasted time, not precious yarns.

The failed attempts had used two different, very dissimilar curved design lines. I decided to simplify my approach and interleave a straightforward five-end advancing twill threading with a threading that consists of a large curve followed by a smaller curve.

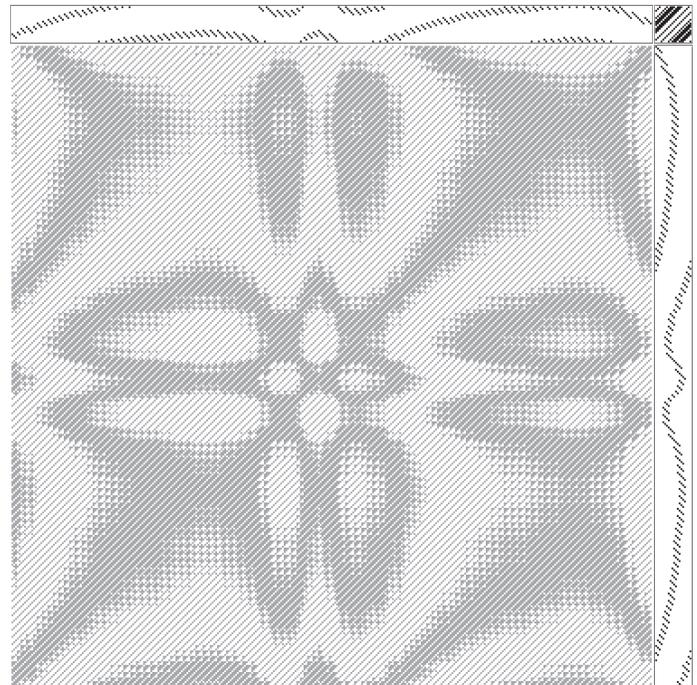
This curved design line is used in the following examples with the kind permission of Bonnie Inouye, who gave me a lot of help during my early experiments with echo weave. One of Bonnie’s sample echo weave files that I studied had this design line in the treadling, with a threading of parallel advancing points. I have turned Bonnie’s draft to place the curved design line in the threading, expanded it to twenty shafts, and combined it in various ways with other threadings and treadlings.

Figure 1 shows the advancing twill by itself with a treadling that is the same as the curved design line. Both are compatible with a four-end network initial. Figure 2 shows the curved design line combined with the same treadling. Figure 3 shows the interleaved threading, again with the same treadling. The effect is what I would see if I printed the two drawdowns on acetate film and laid one drawdown over the other, stretching them somewhat horizontally. In the actual weaving, the horizontal stretching is not as apparent, because of the relationship between a fairly close warp sett and a fairly loose pick density.

For color scans of the woven cloth see:  
<http://complex-weavers.org/journal.htm> and [http://3springshandworks.com/complex\\_weave\\_structures.htm](http://3springshandworks.com/complex_weave_structures.htm)

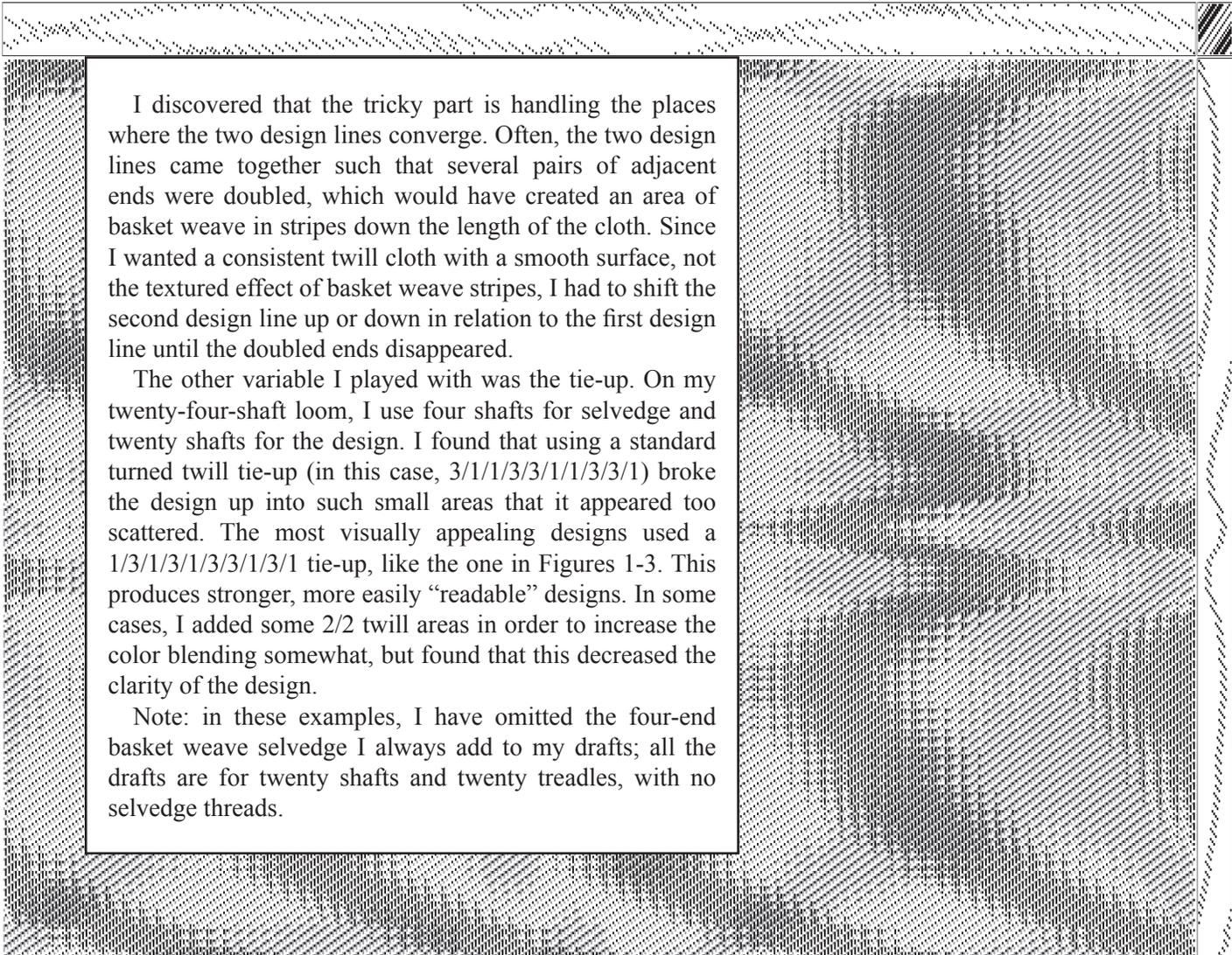


1. Threading: advancing twill



2. Threading: curved design line

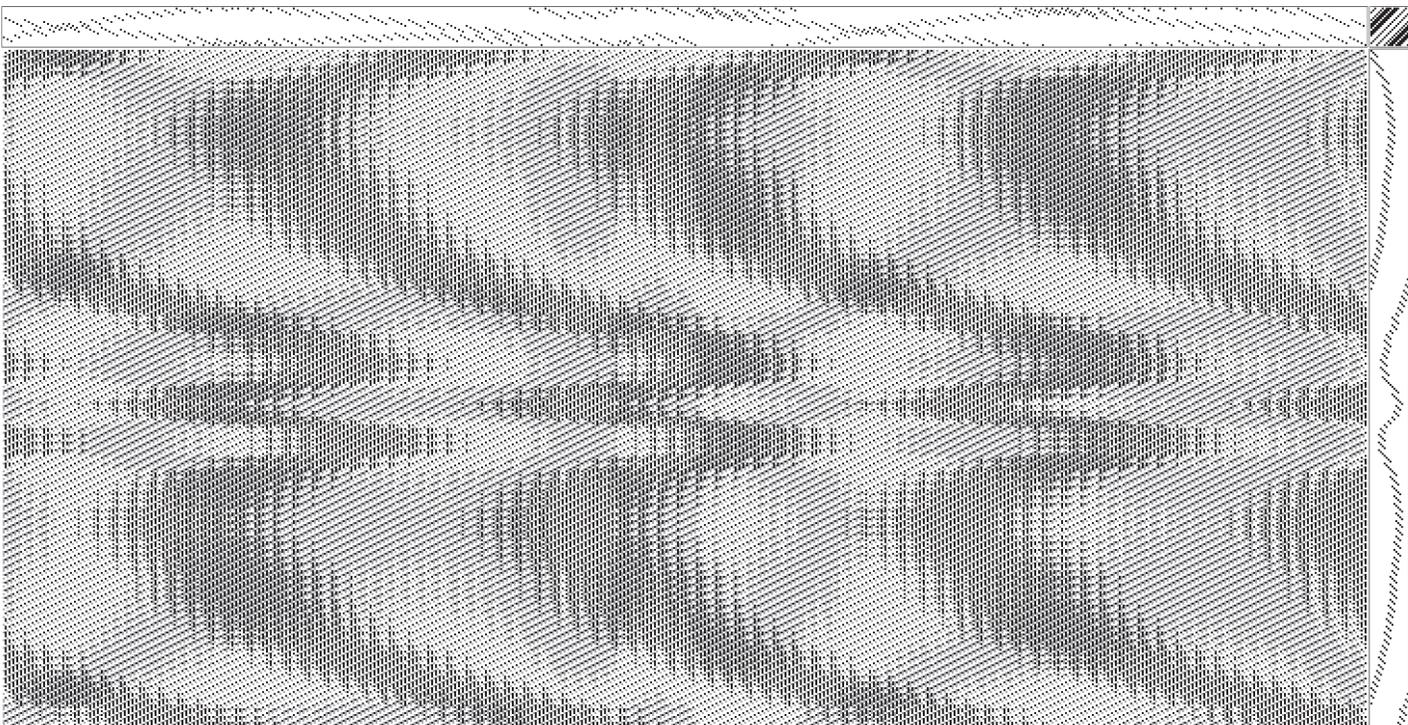
All figures:  
First design: black warp  
Second design: gray warp  
Weft is white



I discovered that the tricky part is handling the places where the two design lines converge. Often, the two design lines came together such that several pairs of adjacent ends were doubled, which would have created an area of basket weave in stripes down the length of the cloth. Since I wanted a consistent twill cloth with a smooth surface, not the textured effect of basket weave stripes, I had to shift the second design line up or down in relation to the first design line until the doubled ends disappeared.

The other variable I played with was the tie-up. On my twenty-four-shaft loom, I use four shafts for selvedge and twenty shafts for the design. I found that using a standard turned twill tie-up (in this case, 3/1/1/3/3/1/1/3/3/1) broke the design up into such small areas that it appeared too scattered. The most visually appealing designs used a 1/3/1/3/1/3/3/1/3/1 tie-up, like the one in Figures 1-3. This produces stronger, more easily “readable” designs. In some cases, I added some 2/2 twill areas in order to increase the color blending somewhat, but found that this decreased the clarity of the design.

Note: in these examples, I have omitted the four-end basket weave selvedge I always add to my drafts; all the drafts are for twenty shafts and twenty treadles, with no selvedge threads.



3. Threadings are interleaved; treadling remains the same

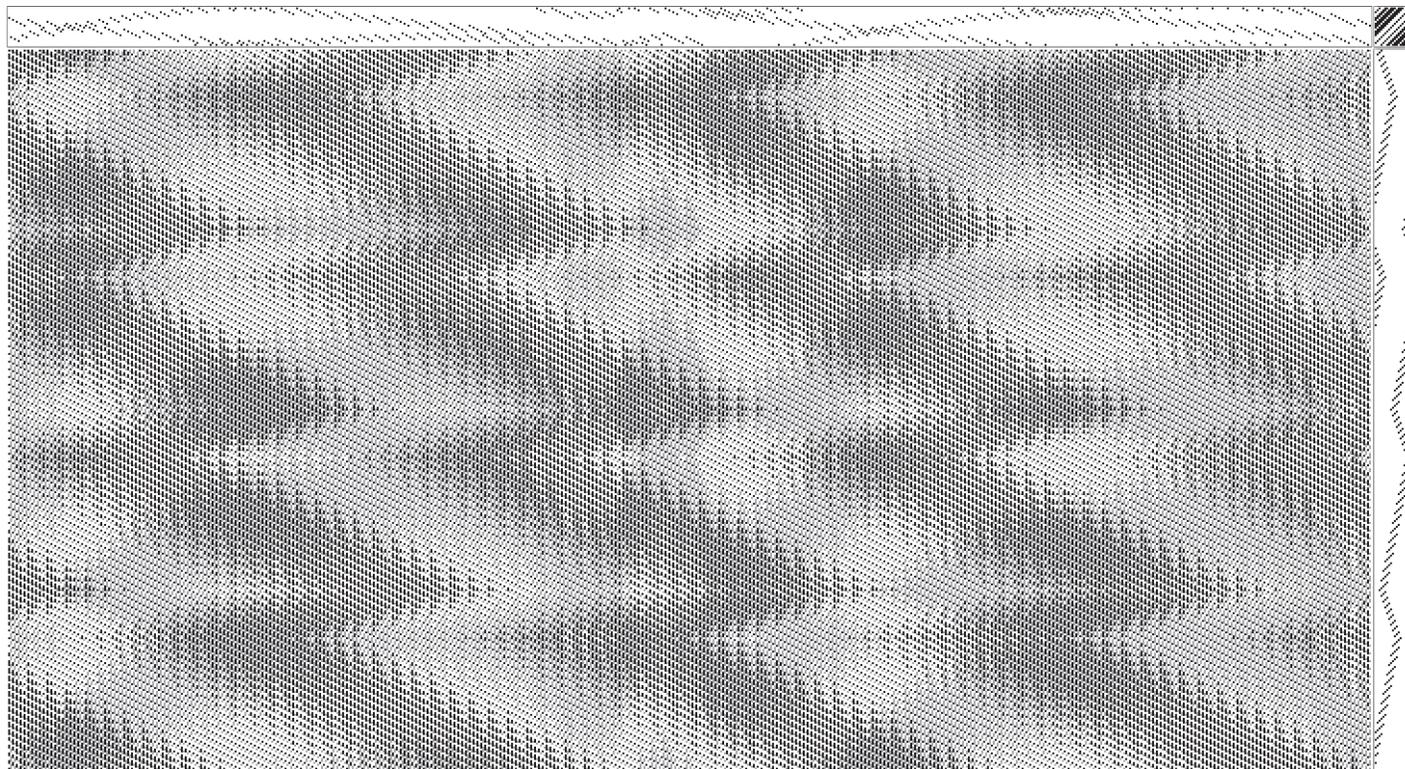
Once I had a tie-up I liked with the interleaved threading and the original treadling, I tried other treadlings. Since both design lines and tie-up are compatible with a four-end network initial, I can safely use any treadling in the same network “family.” Figures 4 and 5 show some examples. In the end, I made eight or nine different drafts, and wove five of them.

Bonnie reports that she has successfully mixed threadings compatible with a four-end network initial with tie-ups that contain areas of three-end twill (2/1/2/1), so it isn’t absolutely necessary to adhere strictly to the four-end twill family. In addition, she has experimented with plaited twill

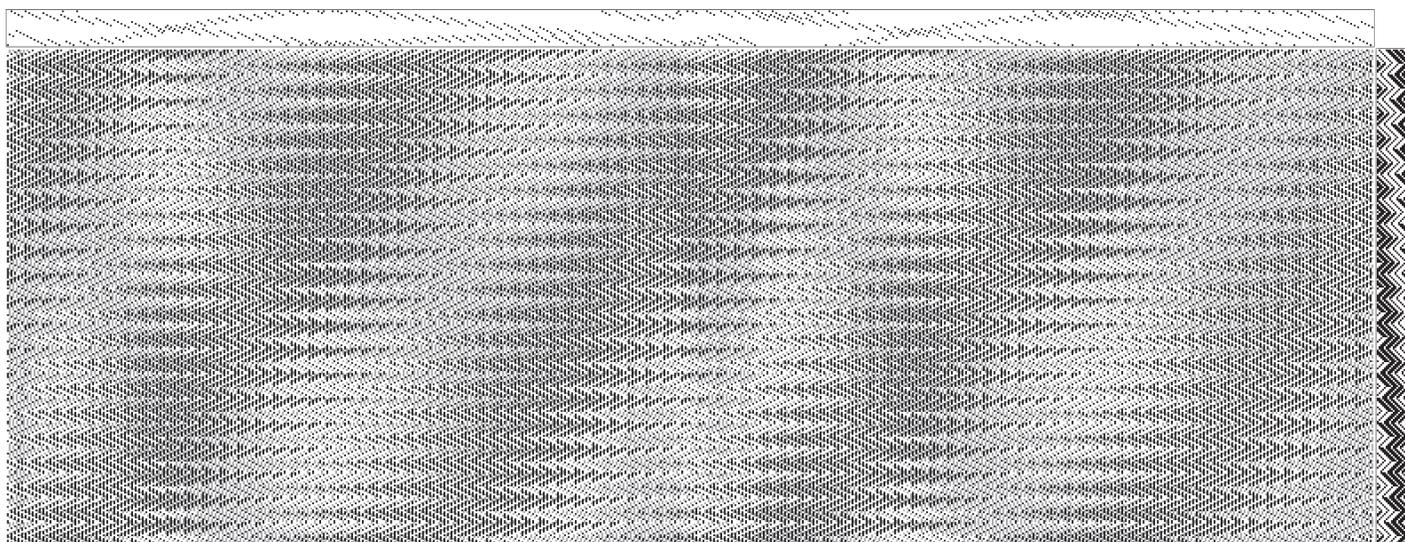
tie-ups in addition to straight twill tie-ups.

I had no idea how this type of interleaved draft would affect float length, so with each version, I used my weaving software to check for floats. I was pleased and relieved that the floats on all of the drafts was no more than six ends, which at 60 ends per inch is insignificant.

I wove the scarves in 20/2 tencel, dyed in navy and light blue for the two warps and different colors of 30/2 tencel or 60/2 silk for each scarf’s weft – dark green, teal, turquoise, grey, purple. The warp was sett at 60 epi; the weft was beat in at around 40 ppi.



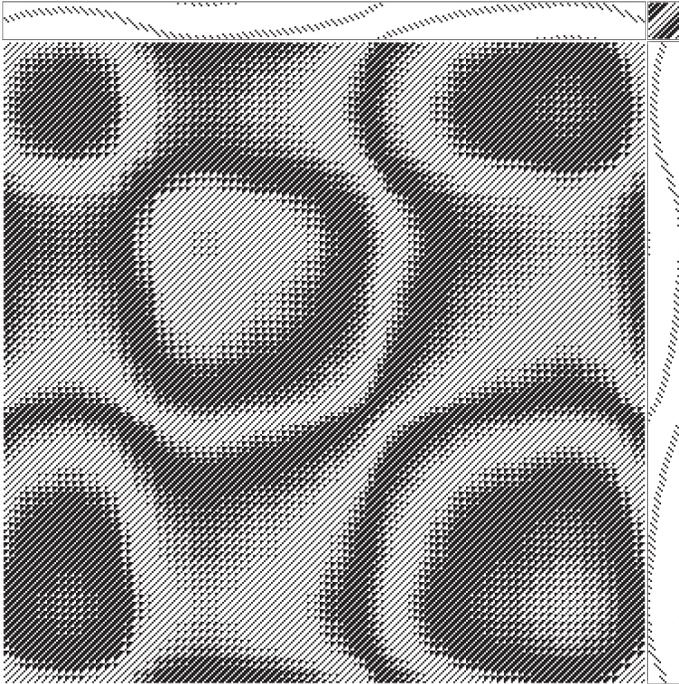
4. Threading is the same, treadling changed



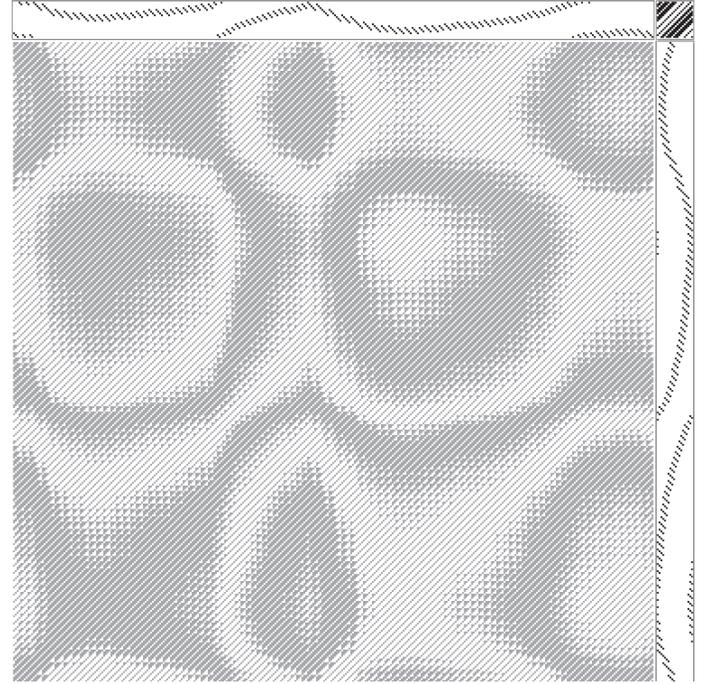
5. Threading is the same, treadling changed again

The cloth looks far more complex than it really is. Depending on the angle of viewing, one pattern appears dominant. Then as the cloth shifts in the light, the other pattern becomes more apparent. Using closely related colors in high-luster yarns like silk or tencel enhances this “Now you see it, now you don’t” effect. On some variations, the degree of color blending is such that it is very difficult to believe that only three yarn colors are used in the weaving.

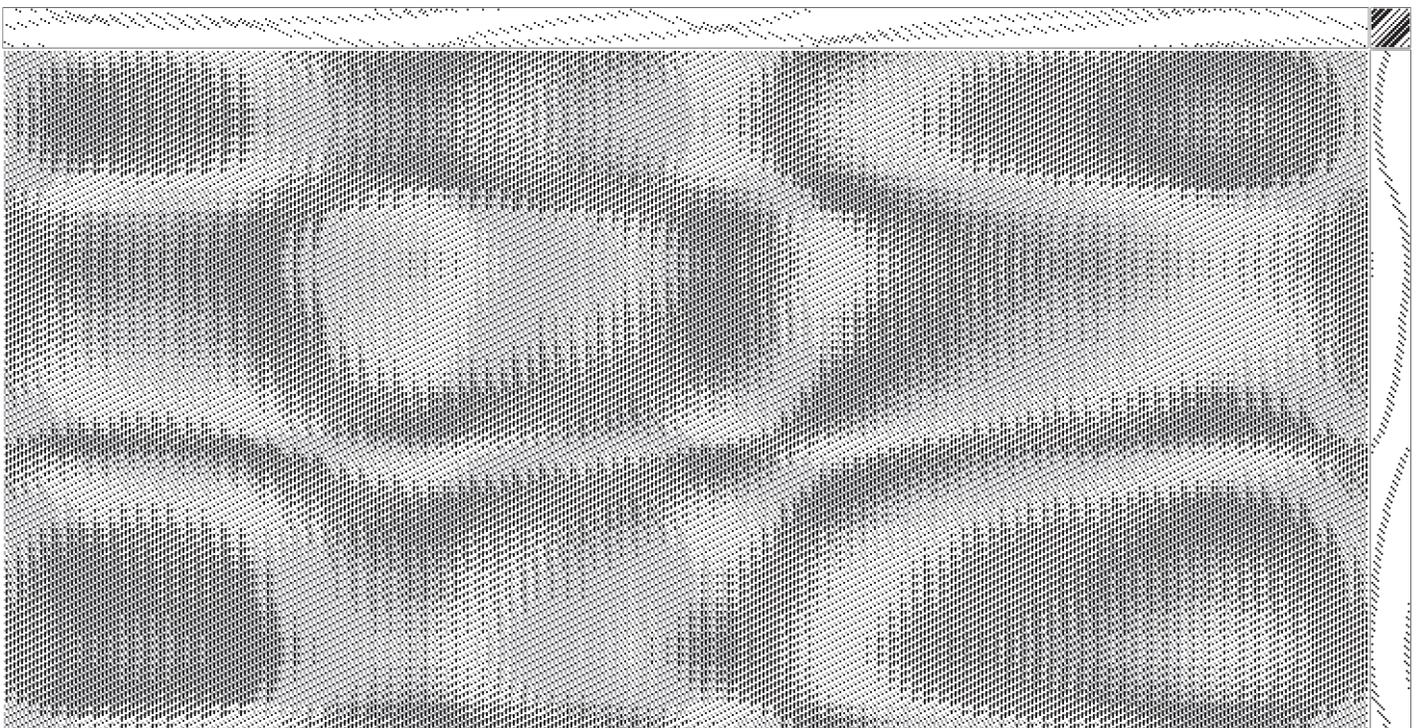
My next set of interleaved drafts used two different but related curves as design lines. I took a design line that consisted of a very large irregular curve (Figure 6). In a copy of the file, I manipulated the design line by cutting off the rightmost third of the threading, pasting it onto the leftmost side of the threading, and rotating and wrapping it until it conformed to the network base. As shown in Figure 7, it is now a different design line, but derived from the original design line. The interleaved draft appears in Figure 8.



6. Threading: large irregular curve



7. Threading: rotated and wrapped curve

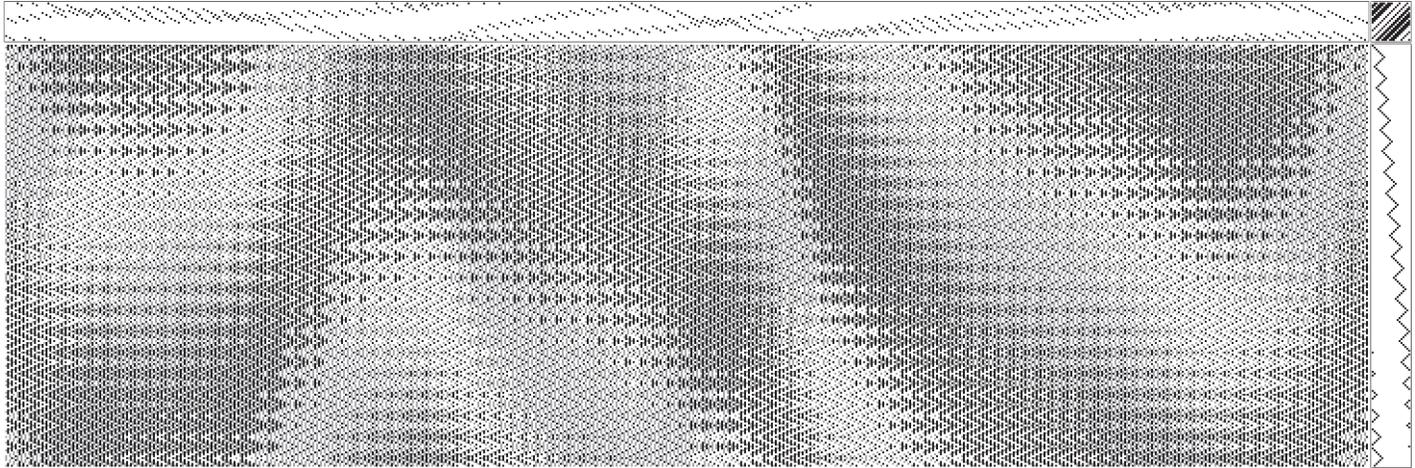


8. Threading: Interleaved curves; treadling remains the same

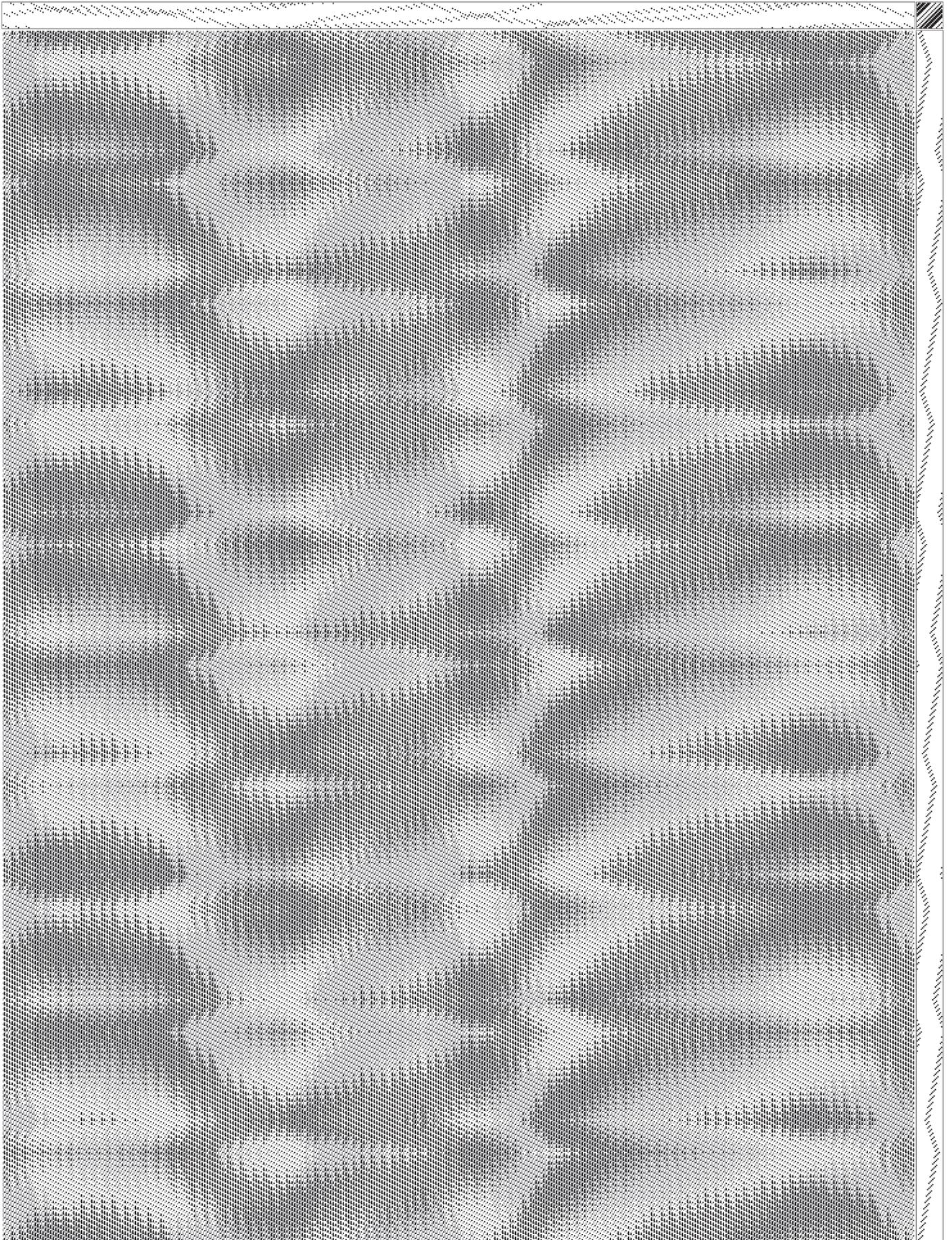
Figures 9 and 10 show alternate treadlings.

The more designs I try out on the computer, the more confidence I have in being able to tell from what I see on the screen what will make a pleasing woven cloth. I'm getting braver about combining different design lines and trying new color combinations. At the same time, my curiosity about other methods of interleaving designs ensures that I will always have more exploring to do.

Postscript: In the article "Adventures in Parallel Threading, Part I" in *Complex Weavers Journal* No. 79, October 2005, I mentioned my difficulty in getting WeaveIt to interleave three design lines. Sally Breckenridge has made a change to Version 5.22 of the software that makes this operation much simpler. The new feature is the ability to set the ratio between the threads in the first and second drafts. Thus if two design lines are in the first draft and you want to interleave them with the one design line in the second draft, you set the ratio box to "draft 1:2 and draft2:1" and the software will pick two threads from the first draft and one from the second. Thank you, Sally!



9. Threading is the same, treadling changed



10. Threading is the same, treadling changed