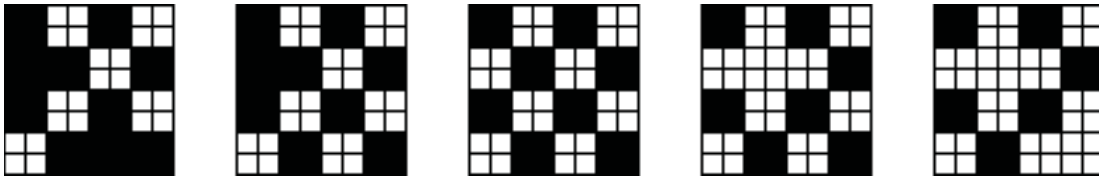
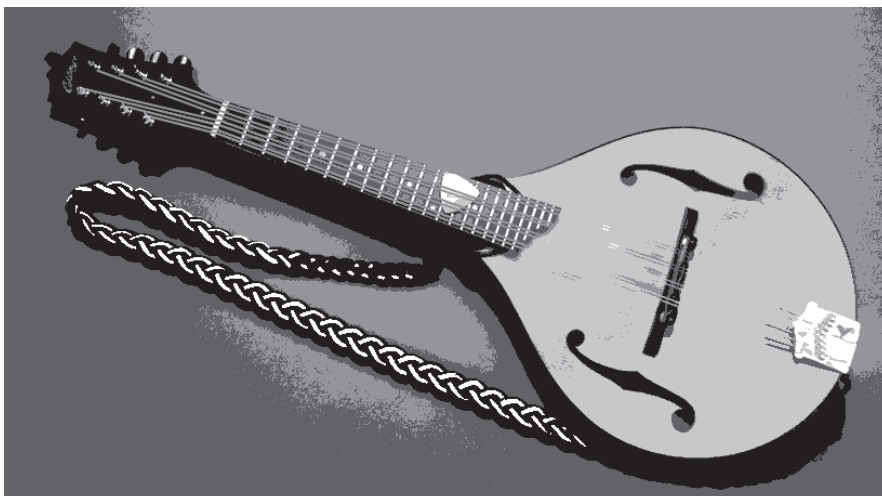
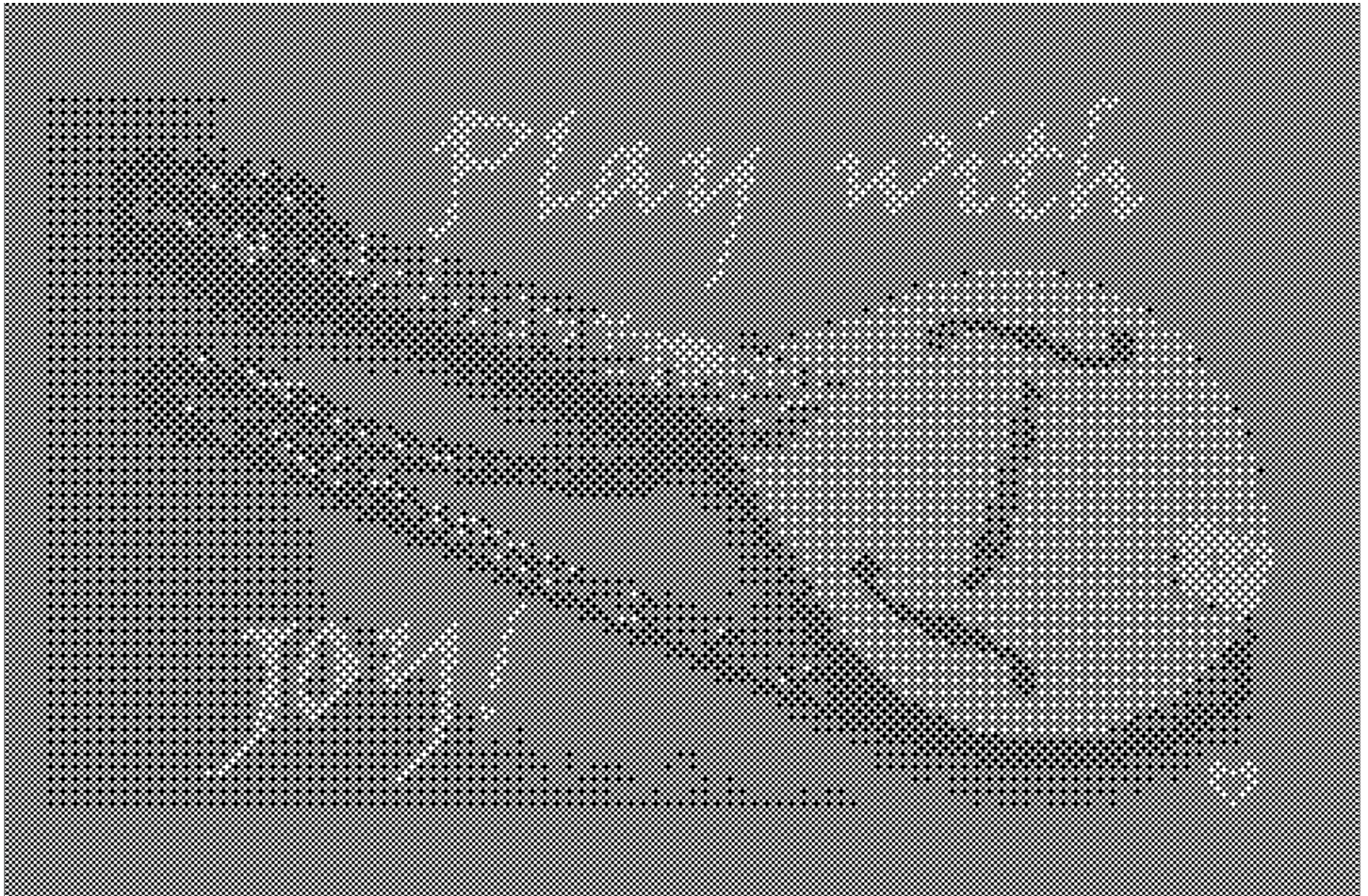


The next iteration of the mandolin used longer floats and a variety of weft colors and fibers, as a sampler. The structures are 8x8, simply doubling all of the threads. It's better in some ways but more pixelated, making the mandolin details less readable.

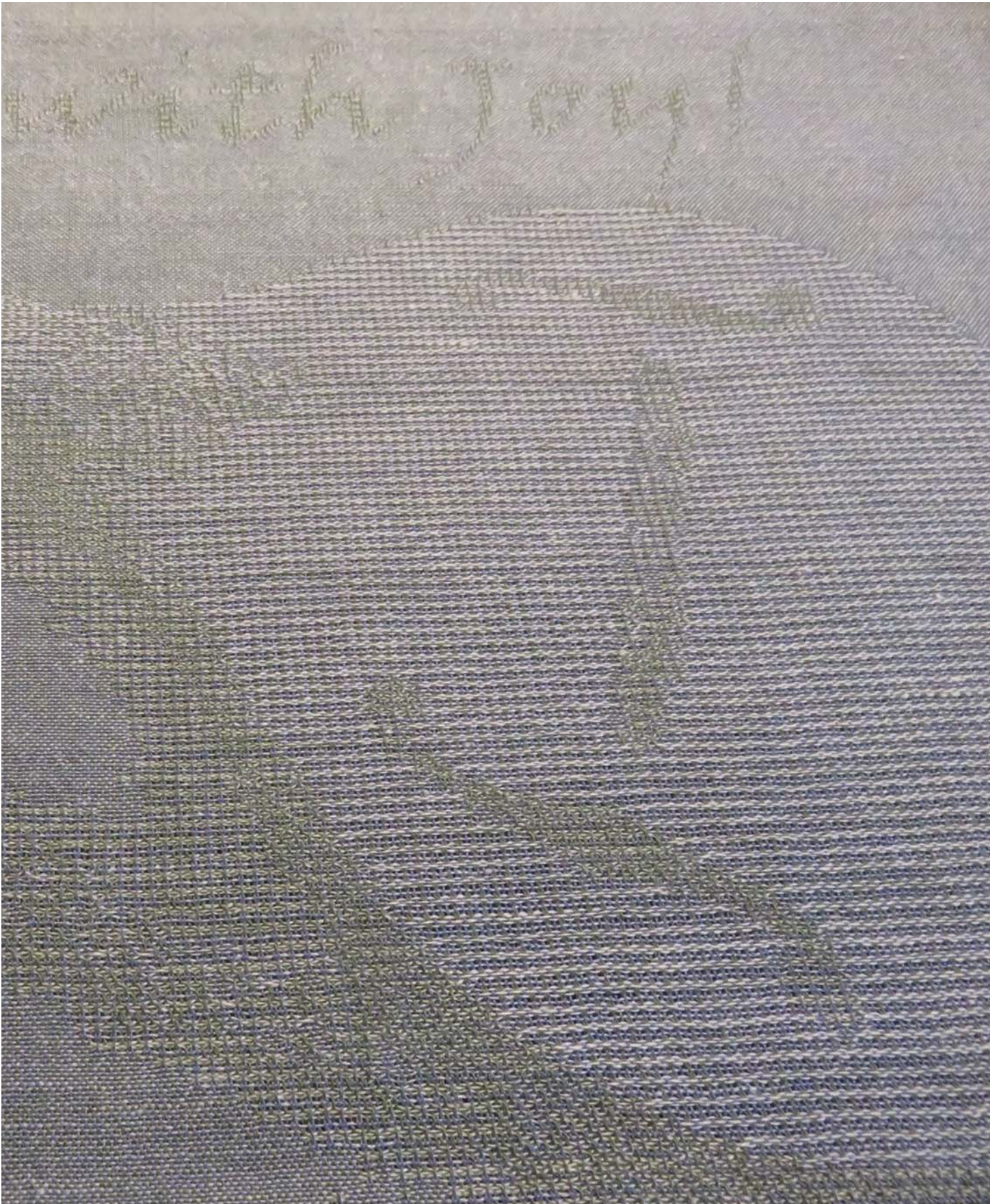


8x8 laces, as before but threads doubled and floats of six threads.



The next step is to work on the photograph, simplifying and strengthening interesting features. To the left is my start in this direction, with the strap, strings on the fret board, sharpening edges, and making the *f* holes more distinct. There is still much to be done, including making the strings across the body stand out.

Mandolin 1, Detail. Too subtle.



Mandolin 2, Detail of sampling on loom.
Better, but still too subtle.



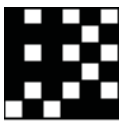
In the process of thinking about how to make the image more visible, I began to play with 6x6 lace patterns. I've been weaving and later teaching lace weaves for more than 25 years. To my surprise, I found over a hundred unique laces on a 6x6 thread repeat. Who knew!

I grouped the laces by value (number of warp threads on the surface out of 36 possible), by shaft-structure name, symmetry, and whether the pattern included only warp floats, only weft floats, or both, if it would develop holes and the type of holes. They were then grouped into sequences which would work smoothly together by adding or subtracting sequentially. I also worked out how many could be mirrored or rotated to

give different, related designs. Knowing the symmetry of the starting pattern it is possible to predict how many variations can be made.

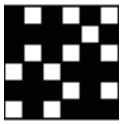
With somewhat less interest, I also considered coloring effects of having 2 to 6 warp and weft colors and shifting the basic pattern to pull up different color combinations.

The unique patterns ranged in value from 13/36 (-5 from plain weave) to 23/36 (+5). Note that this is not as wide a spread as, for example, 6-thread shaded twills or irregular satins (6/36 to 30/36). The difference accounts for much of the subtlety issues. More steps are possible, and a variety of routes can be used to get from one end to the other for different effects.



+5

a. P4mm



b. P4mm



+4

A few of the laces and lacy weaves using only warp floats

No canvas, left/right (L/R), or up/down (U/D) variants shown

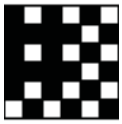
Start with plain weave grid, always with upper left corner up.

Add to make + or # or ‡ (horizontal or vertical) float arrangements.

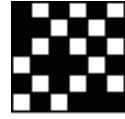
The headers +5, +4, +3, +2, +1, and 0 refer to the number of additions to plain weave.

+3 (can't make P4mm)

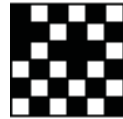
+2



a. P4mm
Holes
Lace Bron.

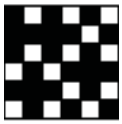


a. P2mm

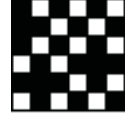


a1. P2mg

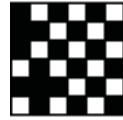
Symmetry Types and number of variants



b1. P1m1

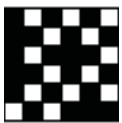


b1. P1m1

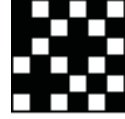


a2. P2mg

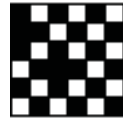
P4mm - 1 variant
Vertical, horizontal, diagonal mirrors



b2. P1m1

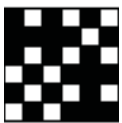


b2. P1m1

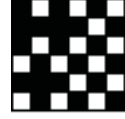


b1. P2mm
(diagonal
mirrors)

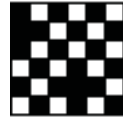
P2mm - 2 variants (90° or L/R or U/D)
mirrors in two directions



c. P4mm
circles
of pw

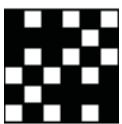


c1. P2mm

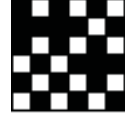


c1. P4mm
(huck)

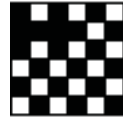
C2mm - 2 (90°)
mirrors in two directions
centered



d1. C2mm

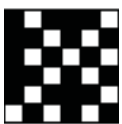


d1. P1m1

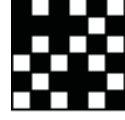


d1. P2mm

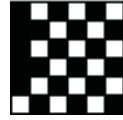
C1m1 - 8 (90°, 180°, 270°, L/R)
mirrors in one (here diagonal) direction
centered



d2. C2mm

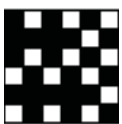


e1. P1m1

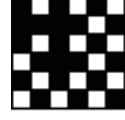


d2. P2mm

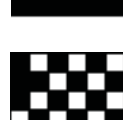
P2mg - 2 (90°)
one mirror, one glide



e1. P2mg

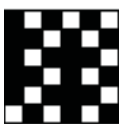


f1. P1m1



+1

P1m1 - 4 (90°, 180°, 270°)
one mirror

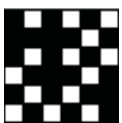


e2. P2mg



a. P4mm

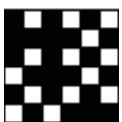
In some cases two of the variants are shown and are labeled as 1 and 2. Patterns without symmetry variants do not have a number. These were the only symmetries I found within the 6x6 and lace constraints but more should occur with larger pattern bases. The symmetry notation is from common scientific usage.



f1. P1m1
mirror on
diagonal



0
(plain weave)

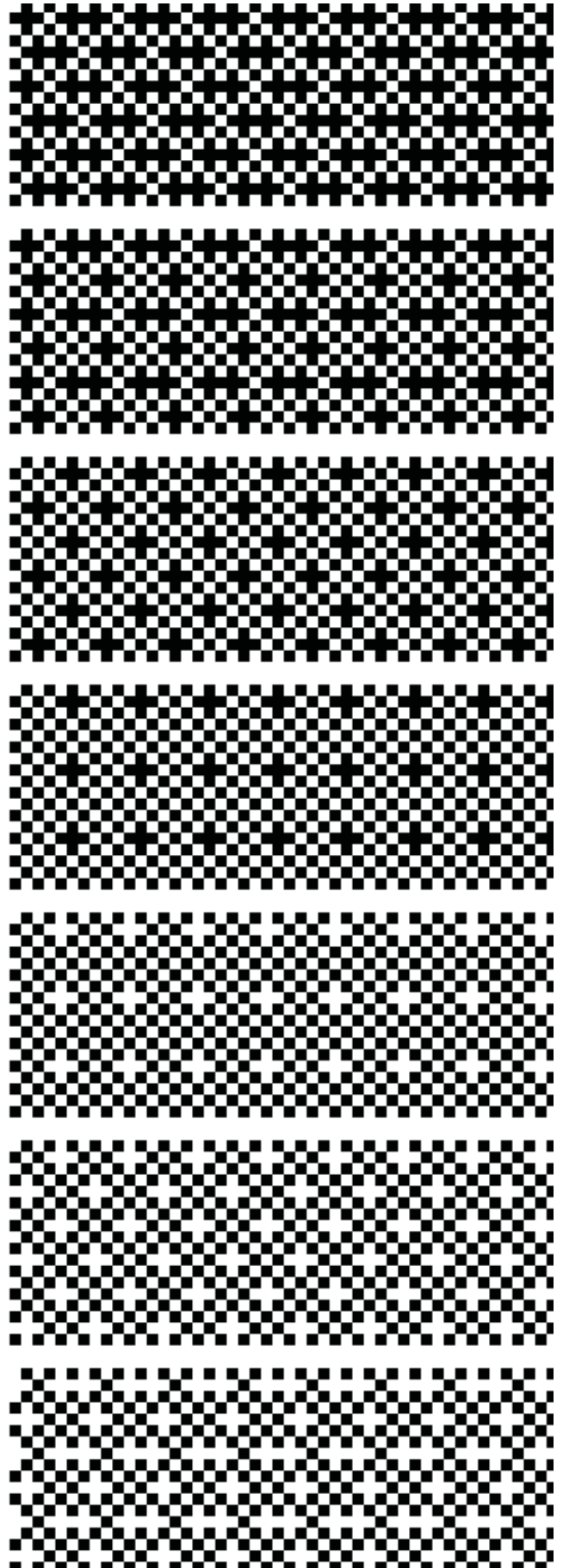
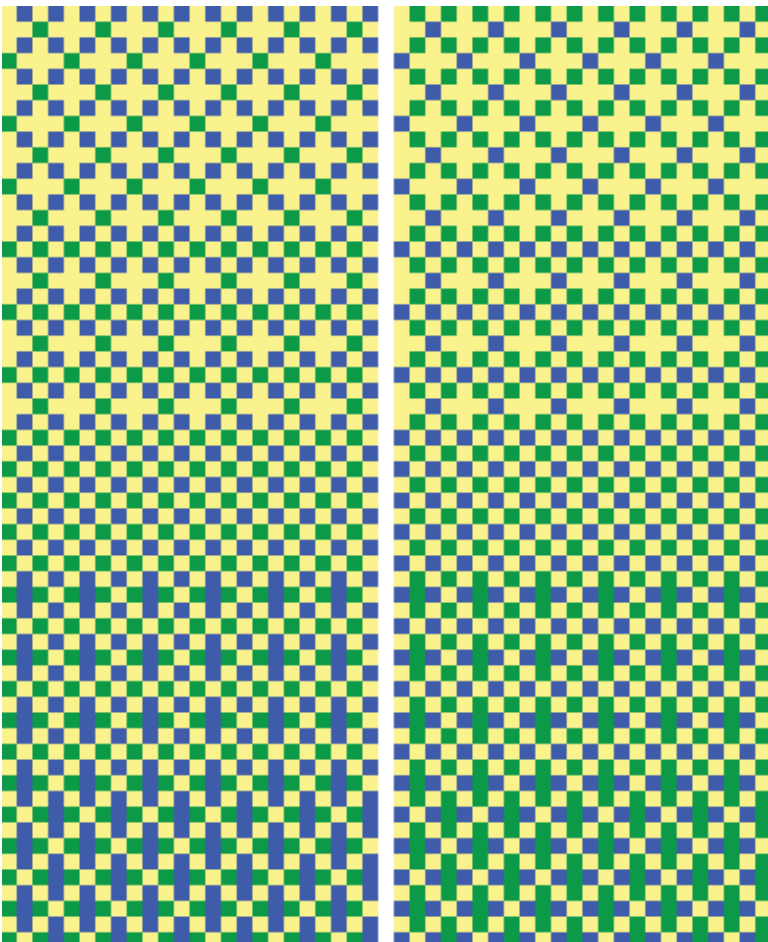


g1. C1m1

Note: This is a small subset of the lace/lacy weaves I have worked on for 5x5, 6x6, and 8x8 structures.

Kingfisher, from antique Japanese scroll by Shien (photo by bureido)

I chose a sequence of seven laces (right), ranging from +4 to -3 in value. I wanted to shift the floats from occurring on the green of the alternating warp to the blue. It was such fun to realize I could do this by casting out the second or third (not the first) thread rather than offsetting the patterns by one. This hack would work on any regularly sequenced warp (color ABCDEF, etc.).





Again, the finished weaving of the kingfisher was too subtle. Way too subtle, as in, “Hmm, I think I can see the beak, and if the angle is just right that looks like the wing..”

I also wove a Swedish lace piece, using a .wif file for a 26-shaft draft with four interleaved patterns. The floats are five threads long and the lace opens up well. It’s a pretty piece of cloth, but again, has too little contrast for all the pattern details to show well. The pattern depends on the difference between warp and weft floats to show well, and with a 40/2 aqua linen weft, they don’t. Sampling a lot of other colors and values showed varying degrees of success, but the piece was a gift for my mother who likes this combination. Designing Swedish lace with Photoshop remains a challenge. Detail below.

Where to?

Wanting to make the laces work better, these are the options I am considering and sampling:

Increase value contrast

Increase hue contrast

Increase reflectivity

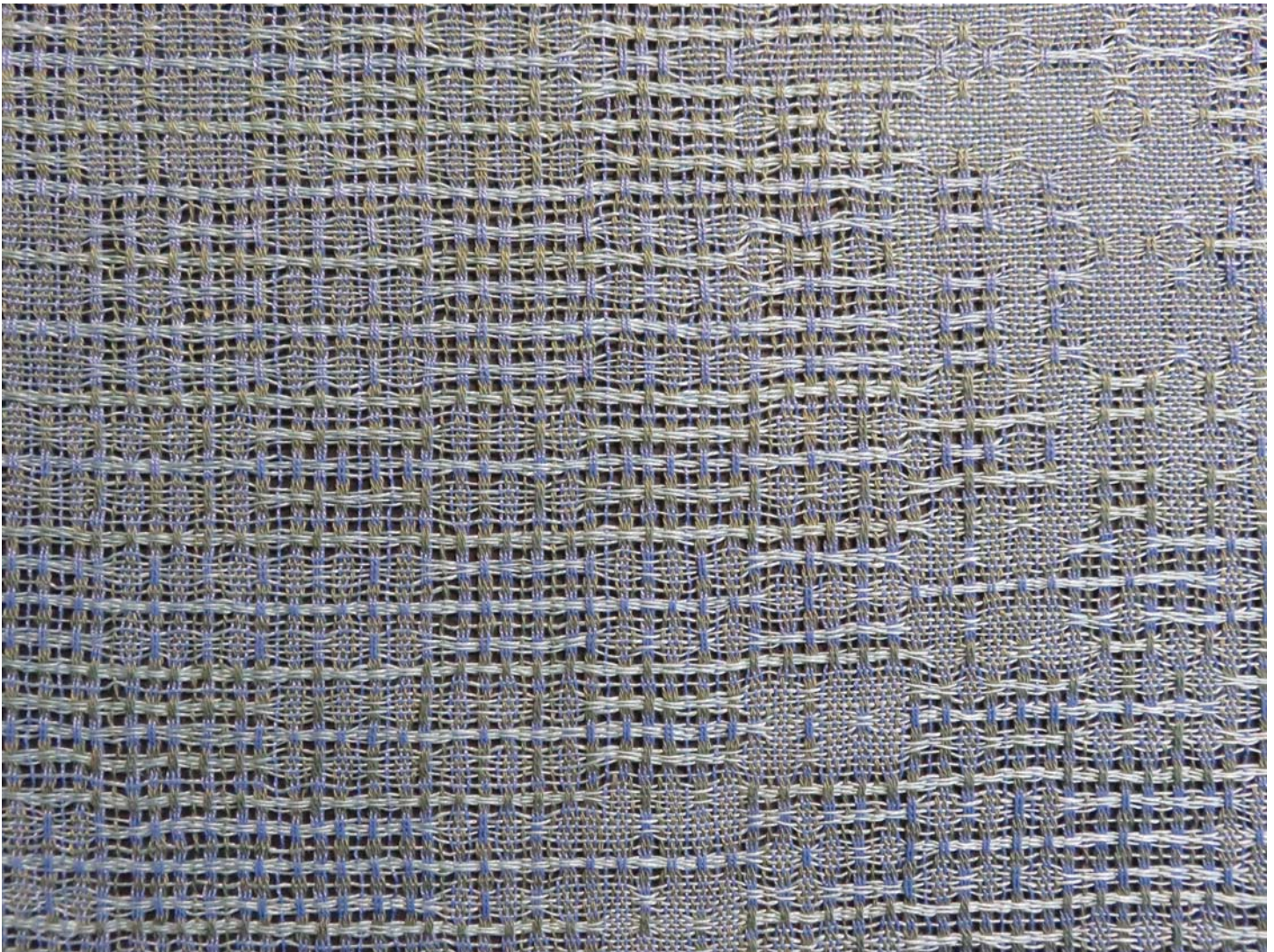
Increase float lengths

Lower sett

Simplify image and/or background

Develop new sequences of laces of various sizes

Changing structures or using more threads would be a quick fix, but I want to work within the laces and the equipment I have.



While very little of this article will be news to the more experienced Jacquard weaver, it documents a starting journey. All in all, I am excited by the possibilities and by the new things I have learned so far. There’s a long way to go to get to where I want to be, and that is good. I’ve enjoyed rediscovering the wheel. Already, I find new approaches creeping into the way I teach classes for shaft-loom weaving. Thanks especially to Vibeke Vestby, Cathryn Amidei, Egil Andre Kristiansen, Bhakti Ziek, and Sandy Hutton for loom help. And always to my husband for the loom and his support. Happy Holidays!

~Laurie Autio