Cross for Jean • 1992
14” x 28” x 3” linen—painted warp pickup (3 pieces assembled)
The background is again a Landis checkerboard. The star form is woven separately and sewn onto the background.
Northern Star • 1992
3' x 5' x 3' linen (2 pieces assembled)
Double-width sections are woven between other double-width sections.
COLUMN • 1993
12' x 32' x 2' linen—painted warp
Purple Rain • 1983

A triple weave with painted warp.
Purple Rain • 1983
14” x 36” linen—painted warp
Squares • 1996

Two Paintings, Minneapolis Institute of Arts, are the inspiration for weaving a number of small square designs.

Woven with pickup. Notice that the weaving is mounted between two matboards with rectangular openings so that both sides of the weaving can be seen.
Squares • 1996

10" x 7" cotton covered sewing thread
Supplementary warps and wefts as well as pickup techniques are used for the first time to add design to a weaving. The supplementary warps and wefts are woven between the two layers of double weave until they are brought to the top layer.
Spiral • 1994

6 x 12 cotton-covered sewing thread
Transitions in the threading and in the treadling order can create the shadowy edges for a window design following the rules of network drafting.
Networked Windows • 1994
12" x 24" cotton covered sewing thread
Lines rather than squares act as the fundamental design unit. Supplementary warps and wefts allow the introduction of color.

4" x 7" cotton covered sewing thread
**Lines II • 1998**

4’ x 7’ cotton covered sewing thread

**Lines III • 1998**

4’ x 7’ cotton covered sewing thread
Pickup techniques.
Twill Lines I and II • 1998
each weaving 7' x 12' cotton covered sewing thread
The designs shown on the following pages show how the centers or the corners of a grid are erased to create the design and are woven using pickup techniques. A supplementary warp and weft are required to weave *Red Center*. 
Red Square • 1999
Diamond in Color • 1999
Diamond • 1999
14” x 32” cotton thread
CORNERS ERASED • 1999
CORNERS ERASED • 1999
12” x 48” cotton thread
In the early 1900's, a mathematician proved that 21 squares, each of a different size, is the minimum number of squares required to form one large square. Double weave utilizing pickup techniques is the answer for weaving this design. Also a 22nd square can be added to make a window design.

Three ways to complete the weaving come to mind. The first requires 22 different warp/weft color combinations using four colors in the warp and the same four in the weft. The second is based on the four-color map theorem.

A third possibility adds grid lines around each of the 21 squares and allows a design that would present Mondrian type grids. A moment’s thought shows that this is not a viable method since mathematical lines have no thickness while woven lines do. Many of the squares become distorted into rectangles which no longer squares the square. Nonetheless grids in the style of Mondrian are possible.
22 Color Solution  

4 Color Map Solution

Squaring the Square • 1998

7" x 6" cotton thread
Mondrian Grids • 1998

The painting by Mondrian called *Grid with Blue Rectangle* served as the inspiration for this group of weavings. Through the use of supplementary warps and wefts, color is added to a variety of the grid areas. Pickup techniques are required in many of the weavings.
Mondrian Grids • 1998

12” x 12” cotton thread
MORE MONDRIAN GRIDS • 1998

MONDRIAN GRIDS • 1998
12” x 12” cotton thread
Mondrian Grids • 1998
12’ x 12’ cotton thread
The first of two weavings where two warps and three wefts are used. The development of a gradation of colors from yellows to reds against a background of dark blue is the basic idea for this design. In the pattern sections, two wefts in various yellow, orange, or red colors are woven in the same shed for the gradation while the dark blue weft weaves by itself for the background of the design. No pickup techniques are required.
Arizona Canyon I • 2000
13" x 42" cotton thread
The second weaving uses the same yellow, orange, and red wefts for the pattern and the dark blue weft for the background. But now, by the use of pickup techniques, only one of the wefts weaves in the top layer in the right and left sections of the warp (and weaves with the dark blue weft in the bottom layer in the center). The second colored weft weaves in the bottom layer of right and left sections of the warp together with the dark blue third weft and then weaves by itself in the top layer in the center.
Arizona Canyon II • 2000
13” x 42’ cotton thread
The familiar window design is chosen and the fancy fibers, which appear in the window, run the gamut: metallics, braids, fuzzies, different sizes and colors. A satin treadling ties down the fancy fibers.
Fancy Fibers in Double Weave • 2002
6” x 9” cotton thread and fancy fibers
Color gamps are fun to weave. Wouldn't it be nice if these small squares could be arranged in a variety of ways a la Agam? Well why not cut them into small squares? And glue them on a wood backing? And glue a small magnet on the back?

The refrigerator is an ideal place to display the small woven squares with their magnets, and friends can be invited to arrange and rearrange the squares according to their inclinations.
Refrigerator Art • 2003
each small square $1\frac{1}{2}$ x $1\frac{1}{2}$; entire piece 30' x 30' cotton thread
Double weave, with its two cloth layers, offers an easy way to incorporate beads in weaving. The beads are threaded on a ‘substitute weft’ and used instead of the usual pattern weft shuttle when a bead row is needed for the design. The ends of this substitute weft are anchored in the bottom layer of the double weave.

Do you remember watching your mother work on an embroidery sampler? You know: the alphabet and the numbers and various trees and flowers. Here’s a sampler in beads. In the original weaving the letter “Z” was reversed. No problem, through the wizardry of digital photography and help from a friend, the letter Z is “fixed.”
Bead Sampler • 2004
10’ x 30’ cotton thread and beads

As woven?

As woven!
The design from an old Peruvian weaving, used for one of the rugs, reappears as a bead weaving.