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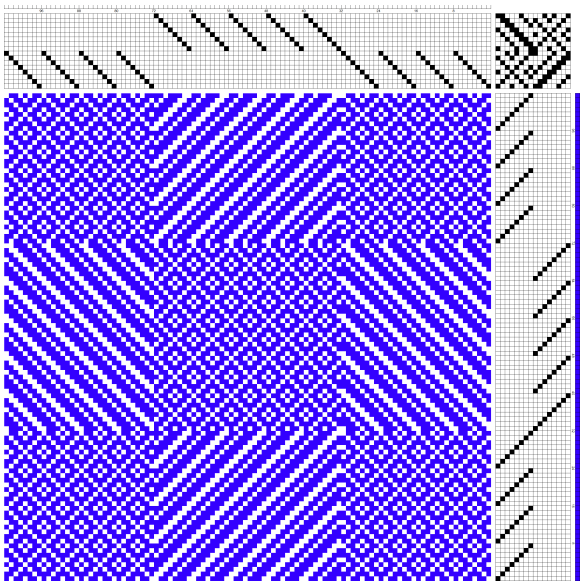
Complex color simulations in Photoshop

Much has been written about Photoshop for designing drafts. But it can also be a powerful tool for simulating cloth, especially complex color combinations that weaving software is unable to handle. Painted warps, stenciled warps, color gradient wefts - these can all be mocked up easily in Photoshop. Here's how.

Step 1: Set up the pattern in your weaving software. Make each section of threads that you want to simulate separately a different color. For example, consider this draft:

(Figure 1)



Suppose you want to see what happens if you use a painted warp for the blocks on shafts 1-8, a solid color on shafts 9-16, and a color gradient in the weft. Then you would color the threads like this:

(Figure 2)

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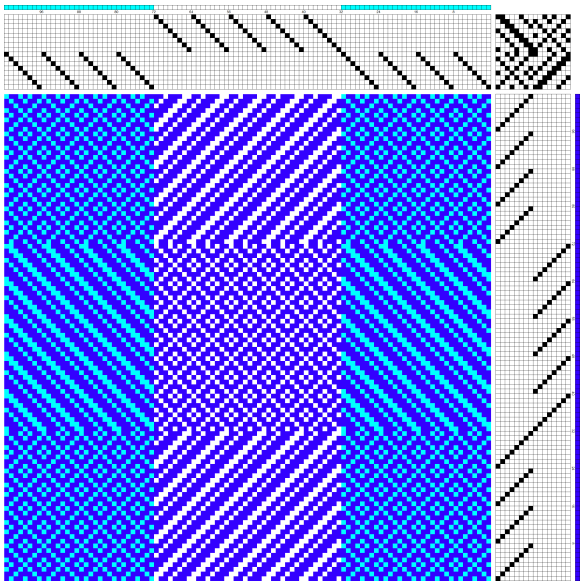
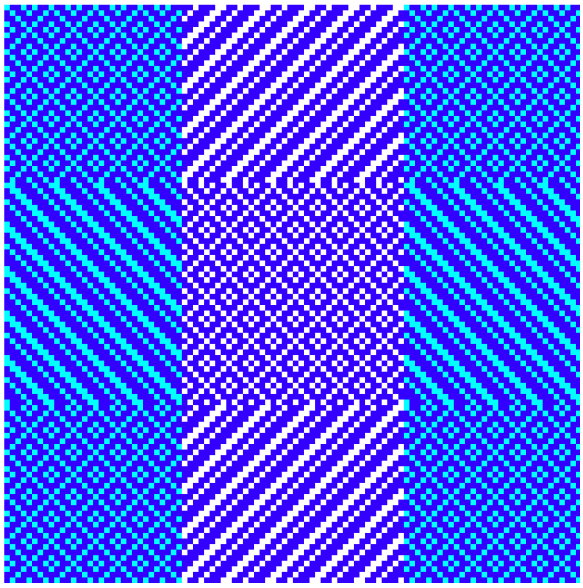


The painted-warp sections are colored in turquoise, the solid color in white. The weft will be a single gradient, so can be left as one color.

Step 2: Convert the draft to an image, either by exporting it to an image file (if your weaving software has this functionality) or by taking a screenshot. If you are taking a screenshot, make sure that only the drawdown is shown, not the interlacement of threads. (In Fiberworks PCW, this can be done using the Cloth-->Normal Cloth command in the menu bar.) If you can't get the entire drawdown on the screen, you will have to cut and paste multiple screenshots together.

Step 3: Open the image file in Photoshop. Using the Crop tool, crop out everything but the drawdown:

(Figure 3)



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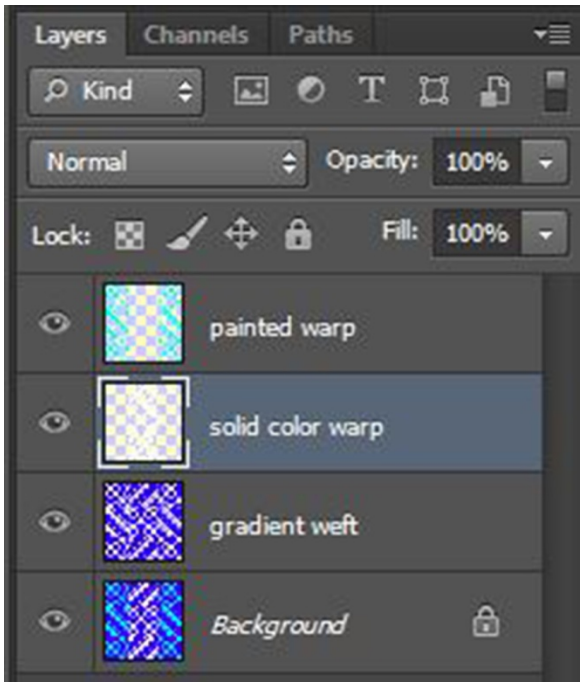
Step 4: Put the colors on different layers. Use the Magic Wand tool to select one color, then press CTRL-J to move that color onto a different layer. Repeat until you have moved each color onto its own layer, as in Figure 4:

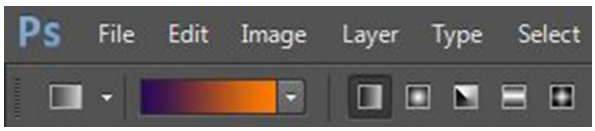


Here you can see that the turquoise pixels (representing the painted warp) have been moved onto one layer, the white pixels (representing the solid warp) have been moved onto a second layer, and the blue pixels (representing the weft) are on a third layer. The original drawdown remains as the background layer.

Turn the visibility of the background layer off by clicking the eye to the left of the layer. (Or delete the layer, if you prefer - you won't be using it again.)

Step 5: Simulate the painted warp. Create a new blank layer on top of the turquoise layer. When creating the new layer, check the box "Use previous layer as clipping mask". This ensures that your color changes will only affect the turquoise pixels.

Select the Color Gradient tool (which hides behind the Paint Bucket Tool). The top left corner of your screen should show some kind of color gradient, as in Figure 5.



Click the color gradient to bring up the Gradient Editor. Adjust the colors to the colors and spacing of your painted warp. Here I've simulated a painted warp in yellow and orange (Figure 6):

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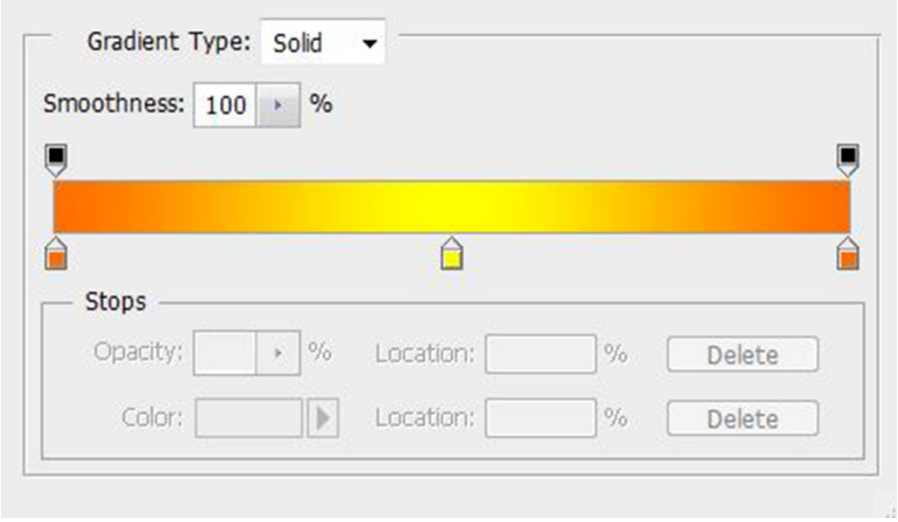
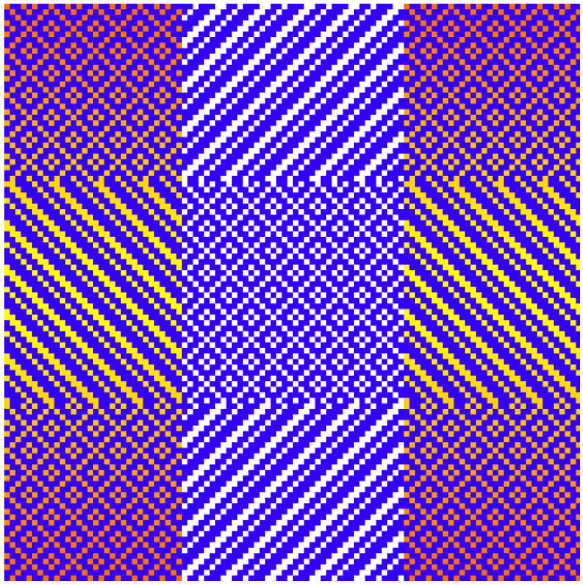


Now, create the gradient on the new blank layer by clicking on the top of the image and dragging down to the bottom. The color gradient is applied on top of the turquoise layer, resulting in this image (Figure 7):



Step 5: Create the gradient weft. Repeat Step 5 on the blue layer, changing the color gradient to the colors in your weft. In this case, I've chosen a color gradient from purple to blue to purple, as in Figure 8:

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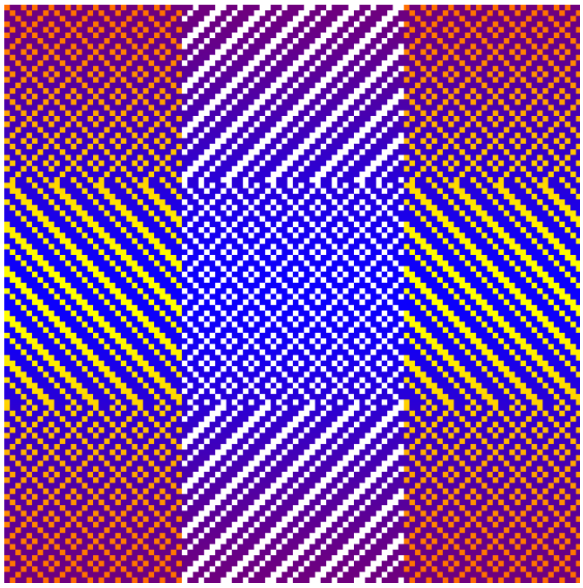
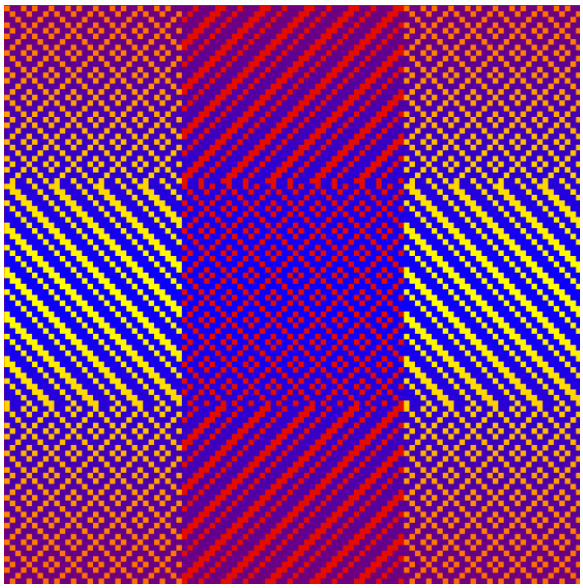


Step 6: Change the solid color layer. Create a new layer on top of the white layer, checking the box "Use Previous Layer as Clipping Mask". Use the Paint Bucket Tool to fill it with a new color. I've chosen solid red (Figure 9):



Voila! The color simulation is complete.

You aren't limited to solid or gradient color fill layers, either. If I wanted to stencil a white circle on the red section of warp, I would simply select the solid red fill layer and add a white circle in the center. The end result would look like this (Figure 10):

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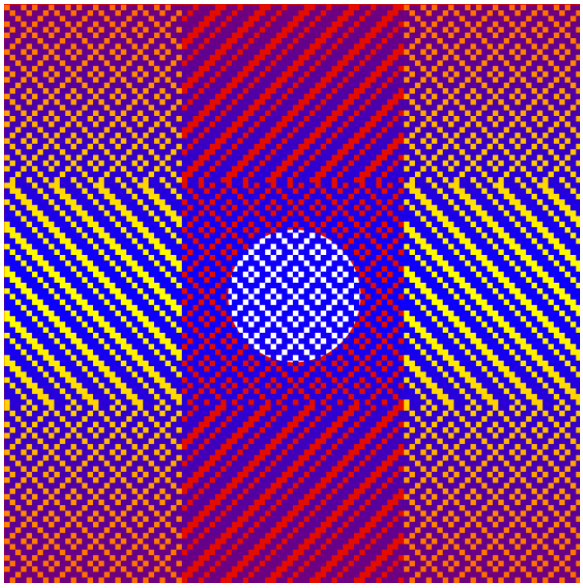

I hope this has given you an idea of how to simulate colors in cloth using Photoshop!