



INTRODUCTION TO GRAPHICS

Displacement Mapping II: Satin

Information
Sheet No. PS738

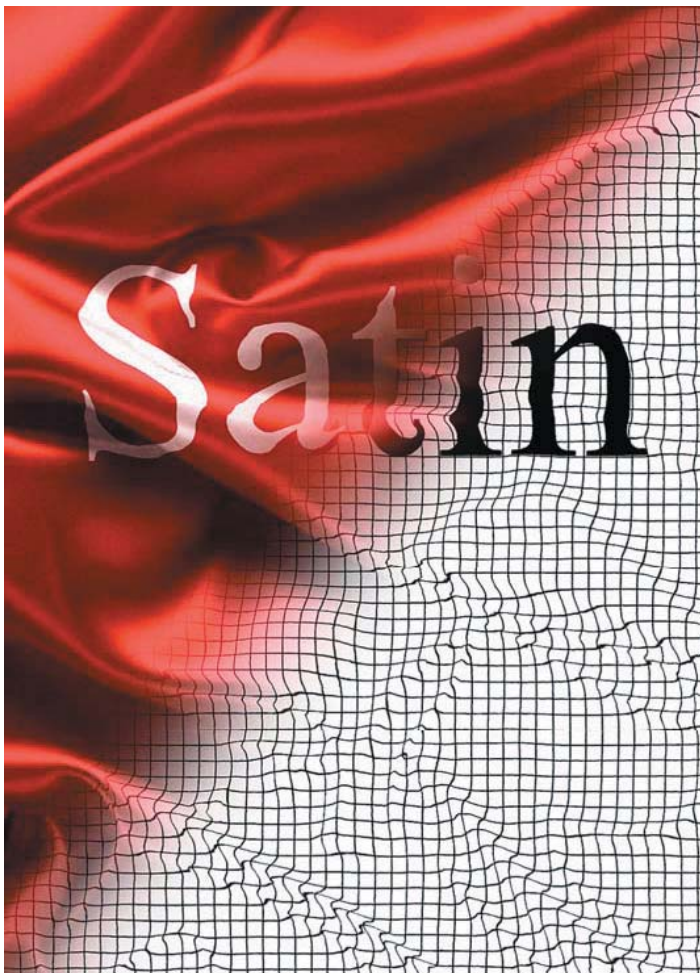
The Displace filter is an undervalued tool in the Photoshop toolbox.

This is a continuation of the A173a activity and provides a slightly different and sometimes better take for accomplishing similar results.

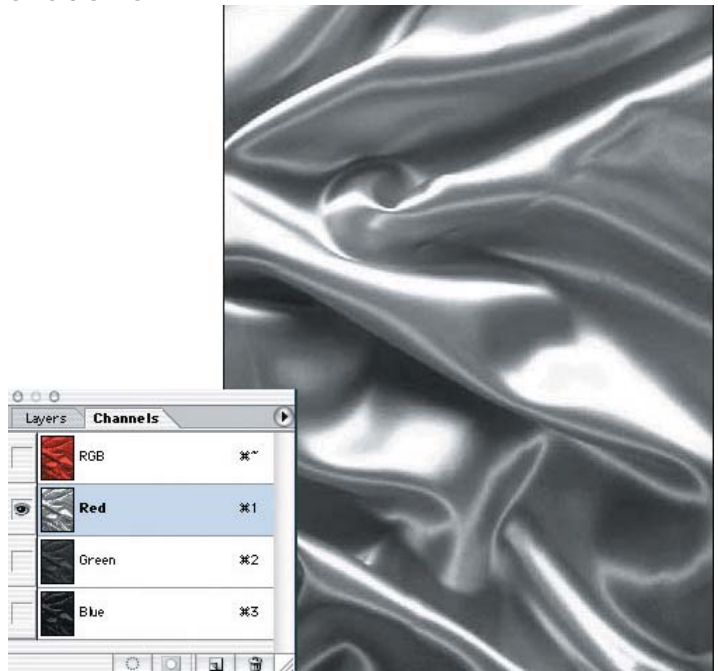
This activity shows another method of how to distort type using a displacement map to make it follow the folds in a satin background.



Shadows are easy too. Learn how to blend the type into the background by letting the background show through in the shadows.



Displacement maps are not as hard to understand and use as you may think. Just follow along and you will see how easy it is.

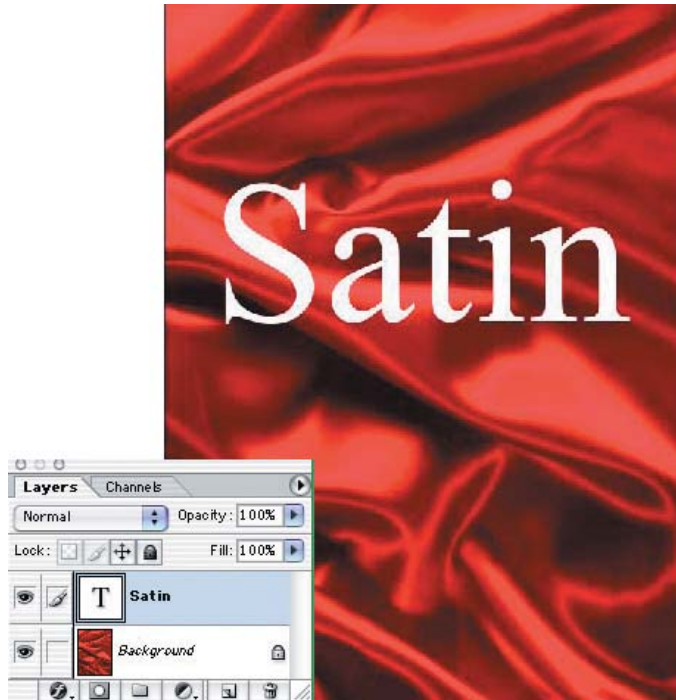


Duplicate a channel

You want to make a new displacement map which you will apply to your text layer. To do this you will select a channel with maximum contrast and save it as a separate file.

View each channel in the Channels palette separately and select which channel has the most contrast (in this case, the Red channel).

Duplicate the selected channel to a new file, and save it as a separate document. Be sure to flatten the file and save it as a Photoshop file (.psd) as this is the format the Displace filter is expecting.

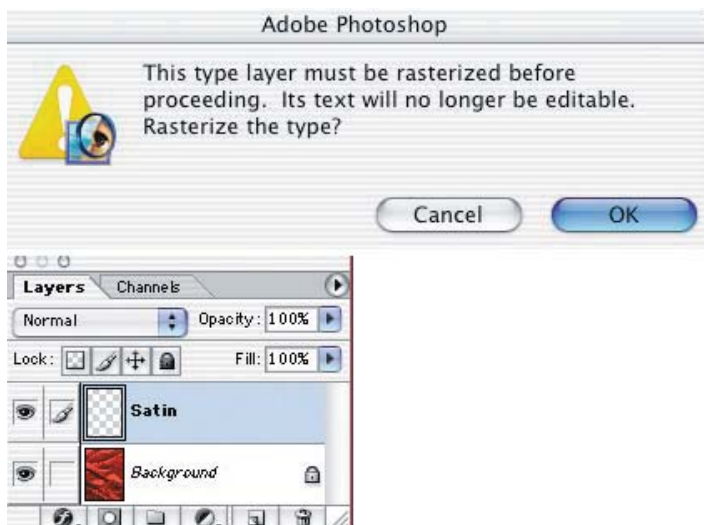


Create a type layer

It's now time to add the type that we want to blend into our satin. Create your type, and color it white. When placing your type, look at the background image to ensure that there is a good mix of light and dark areas which will bend the type.

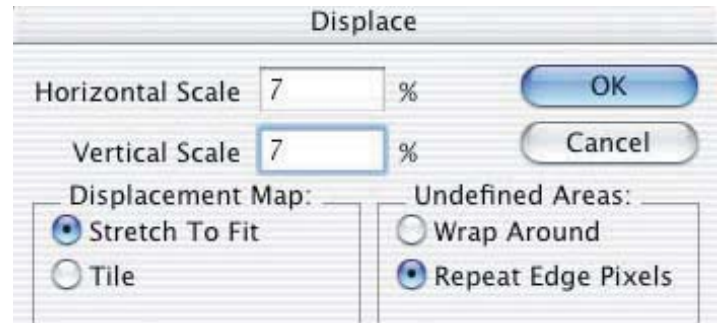
Rasterize?

Choose Filter > Distort > Displace. Because you are applying the Displace filter on a Type layer, a dialogue will appear asking if you want to rasterize the Type layer first. Click OK.



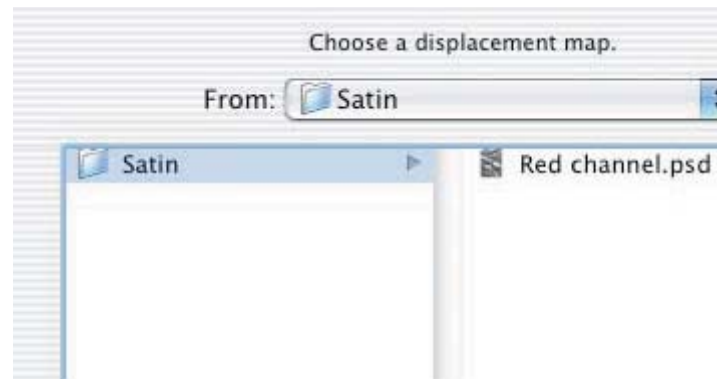
The Displace filter

Once the Displace filter is open, set the Horizontal and Vertical Scale values to 7%. (You might need to undo this step and try it again with different values because there is no preview before you apply this filter.) Click OK.



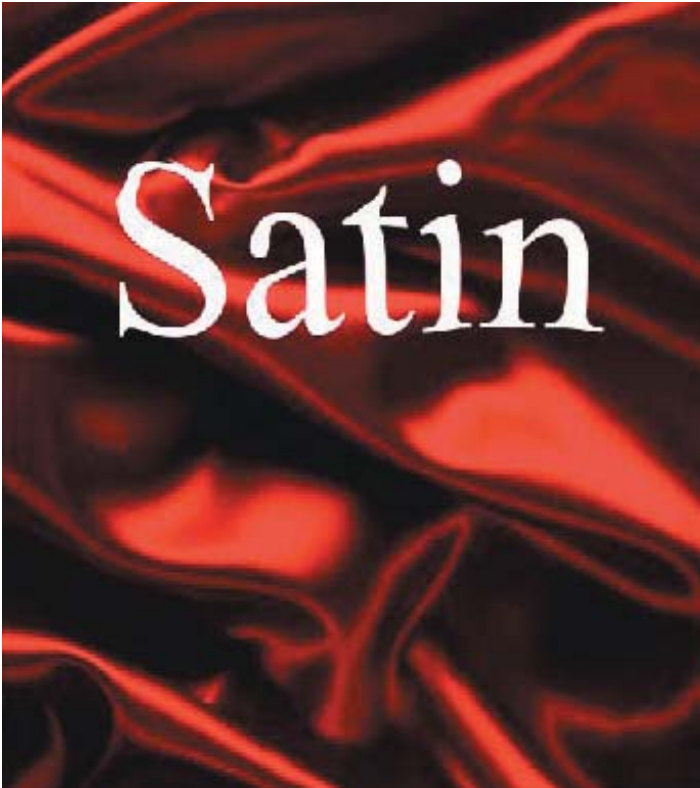
Find a map

An Open file dialogue will appear asking you to choose a displacement map. Locate and select the file you saved previously.



Distorted type

Your type has now been distorted based on the contrast of the red channel giving the effect of it following the folds of the material.



What's really happening?

The Displace filter can take a little time to fully grasp. The theory behind the filter is that it will displace pixels in one image based on the greyscale information of another image.

The filter uses the luminosity values (lights and darks) of the greyscale image to do this. White, or light values, will distort an image up and to the left. Black, or dark values, will distort an image down and to the right.

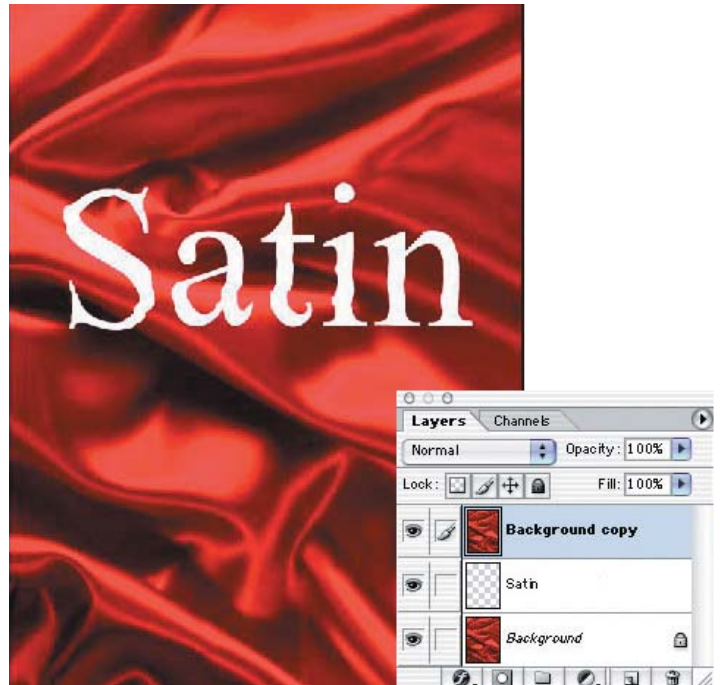
A 50% grey value will have no displacement (distortion).

Above we have created a grid to show the effect of the red channel of the satin when used as a displacement map on the grid. The whiter areas of the image have moved the grid up and to the left while the darker areas have moved the grid down and to the right.

This gives us the effect of the grid following the contour of the satin.

Duplicate the background. Select the Background layer and duplicate it (Ctrl-J). Move the duplicate layer above the 'Satin' type layer in the Layers palette.

PS738 - DISPLACEMENT MAPPING II - SATIN



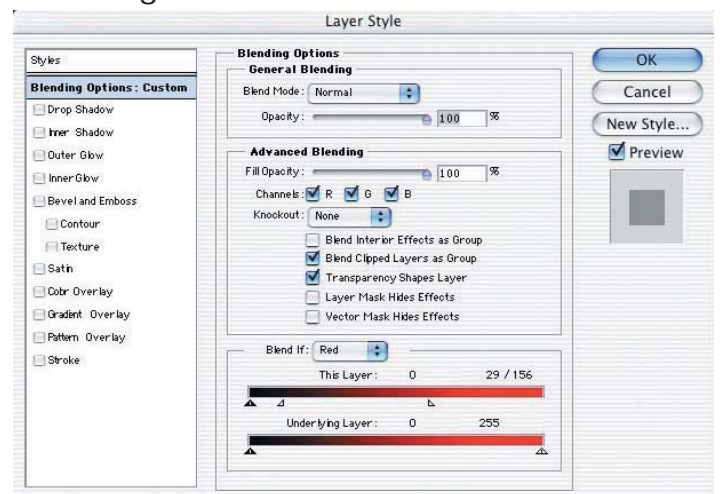
Blending Options

Double-click on the duplicate layer (not on the name) in the Layers palette to bring up the Blending Options for the layer.

At the bottom of the Advanced Blending options section, change the Blend If option from Gray to Red.

Because this image is predominantly red, you will blend out the red of the top image to reveal the underlying type layer.

Drag the white triangle slider in This Layer section to the left until you see the white type appear at the strength you would like. Hold down the Alt key to split the triangle into two parts, and drag the right half back to the right to create a smooth transition.



Blend If

The Blend If function in the Layer Style

dialogue allows you to blend pixels from the current layer or show through pixels from lower layers based on their brightness.

By selecting a colour channel (R, G, B, or C, M, Y, K depending on the color space you're working in) and adjusting the sliders, you can determine which pixels from the channel will be blended. Dragging the right slider blends the colours from the selected channel with the layer beneath.

You'll notice that there is an abrupt transition between the blended colors by doing this.

To soften this transition, hold down the Alt key and drag the right slider which separates the slider to give you a softer transition.

These examples show the results of blends from the various colour channels. You can see where the colors have blended into the white background.

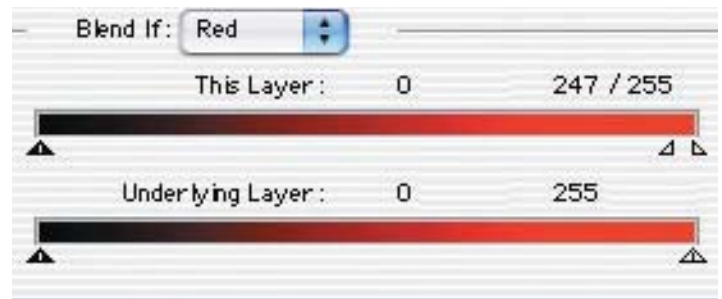
Note: When working in CMYK, you must use the left slider to achieve the same blending effect as the right slider in RGB.

Original RGB image

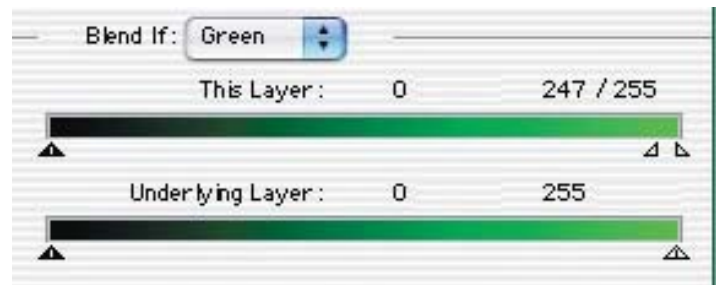
Note: For reproduction purposes, these RGB images have been output as CMYK images.



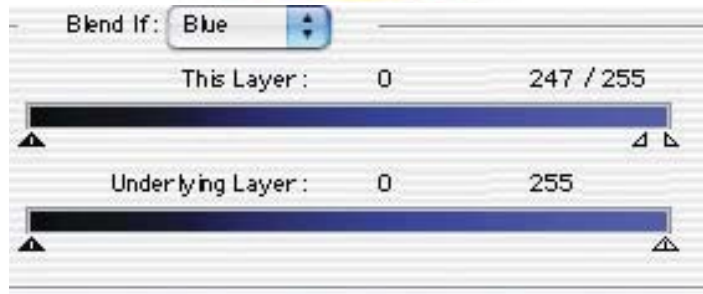
RGB gradient affected by Blend if Blend if Red



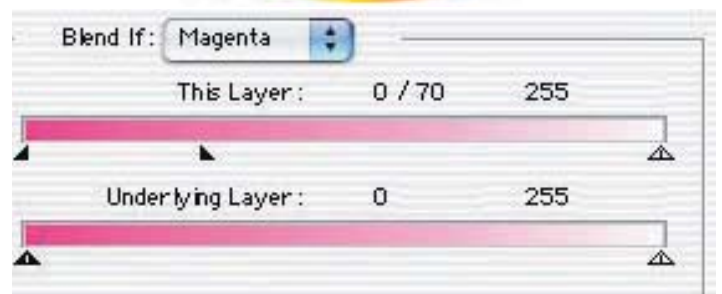
Blend if green:



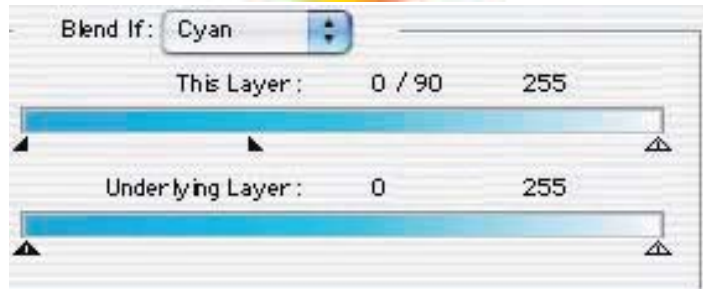
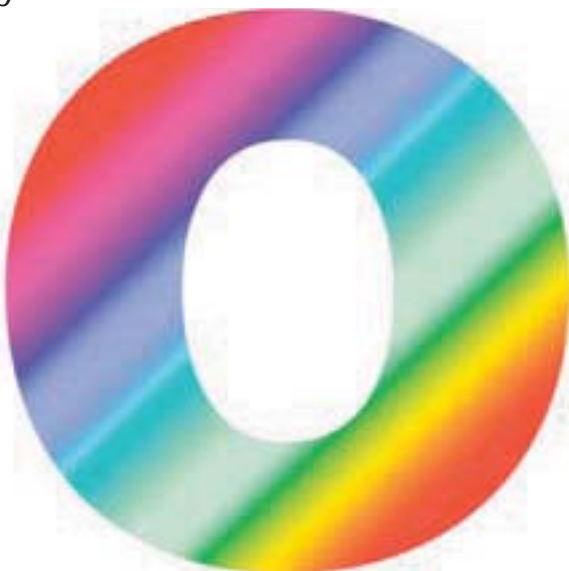
Blend if blue



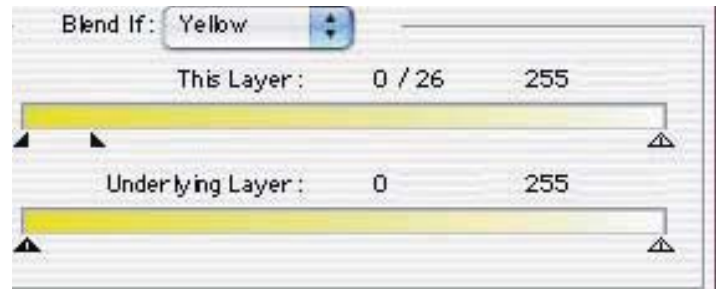
Blend if magenta



CMYK gradient affected by Blend if Blend is cyan



Blend if yellow



The final result

As you can see, the text now follows the creases of the satin with highlights appearing whiter and shadows appearing grey.

