

Creating Anaglyphs

Detailed Instructions, using Photoshop

Adapted from the instructions contained on Dr. John Heuser's web page.

Scanning

Scan in both negatives. Settings for an Epson flatbed scanner using Vuescan software:

Input Menu

Scan Mode: Transparency

Media Type: Image

Bits per pixel: 16 bit Gray

Scan resolution: 600 dpi

Output Menu

Select "Output JPEG file" box

Select director for scanning in "JPEG file name" menu

Position both negatives at the same place on the scanner bed and use the same scanning rectangle for both so they will have the same pixel size. Or scan both negatives one above the other. The can later be cut and cropped separately using photoshop.

Convert to RGB

- * Open both images in Photoshop. Convert from grayscale to RGB by selecting
- * **Image>Mode>RGB color**

Change Saturation

- * Crank up the saturation on both images in an attempt to compensate for the washed-out appearance that the 3D glasses give: Use **Image>Adjust>Hue/Saturation** (or ⌘U)
- * Crank the **(Master)** saturation up to 60 and click "OK"

Get rid of the Red component of the right image:

- * Activate the right image (click its title bar). Select: **Image>Adjust>Levels** (or ⌘L)
- * From the **Channel** pull-down menu, select the "**Red**" channel.
- * Change the bottom Output Levels to 0 and 0
- * Click OK (now the right image is Blue-Green)

Get rid of the Green and Blue components of the left image:

- * Activate the left image (click its title bar). Select: **Image>Adjust>Levels** (or ⌘L)
- * From the **Channel** pull-down menu, select the "**Green**" channel.
- * Change the bottom Output Levels to 0 and 0
- * From the **Channel** pull-down menu, select the "**Blue**" channel.
- * Change the bottom Output Levels to 0 and 0
- * Click OK (now the left image is entirely Red)

Put both images into a bigger window (as separate layers):

- * Activate the right image (click its title bar)

- * From the "**Select**" menu, choose "**All**" (or ⌘A)
- * From the "**Edit**" menu, choose "**Copy**" (or ⌘C)
- * From the "**File**" menu, choose "**New**" (or ⌘N)
The file size will default to the size of the image in the clipboard.
- * Choose units of "**pixels**" in the right-hand combo boxes and **add about 200 pixels** to both dimensions.
- * Choose "**transparent**" for the "**Contents**". Click "**OK**".
- * From the "**Edit**" menu, choose "**Paste**" (or ⌘V). You should now see the right image centered in a larger rectangle.
- * Activate the left image (click its title bar)
- * From the "**Select**" menu, choose "**All**" (or ⌘A)
- * From the "**Edit**" menu, choose "**Copy**" (or ⌘C)
- * Paste the left image onto the big window:
- * Activate the big image (click its title bar)
- * From the "**Edit**" menu, choose "**Paste**" (or ⌘V)
- * Now your "**Layers palette**" (activate using the **Windows** menu) shows two layers. "Layer 1" is the right image. "Layer 2" is the left image. (You can rename them if you want.)

Blend the top layer

- * In the "**Layers palette**", activate the top layer by clicking on its name.
- * Change the **Blending Mode** from "**Normal**" to "**Screen**". (The Blending Mode appears in a drop-down combo box after clicking the arrow near the top right hand corner of the "Layers palette".)
- * Now the big window should show the colors of both images and you should be able to see some results when viewing with red-blue glasses (red lens over the left eye).
- * Rotate and move the two layers for the best effect (while viewing with your 3D glasses). The 2 images should be offset horizontally but not vertically and they should not be rotated relative to each other.

To Move a Layer:

- * Activate the layer by clicking on its name in the "**Layers palette**".
- * Activate the "**Move tool**" (right box, first row of the **Tools palette**).
- * Use the arrow keys to move the layer around. Holding down the shift key while arrowing produces bigger movements. Mouse-dragging also works but is less precise.

To Correct the Angle:

- * Activate the layer by clicking on its name in the "**Layers palette**".
- * From the "**Edit**" menu, choose **Edit>Transform>Rotate**.
- * Use the mouse to grab one of the little corner handles of the image and drag it.
- * When finished rotating, double-click the image.

Flattening the Image and Cropping

- * From the "**Layer**" menu, choose "**Flatten Image**" (found by clicking the arrow on the top right hand side of the "Layers palette".) to flatten it into a single layer.

- * Crop the image, excluding parts where the two original images don't completely overlap:
- * Activate the "**Crop tool**" (third icon down in first column of Tools palette).
- * Click and drag the "Crop tool" across the image to make a cropping rectangle.
- * Adjust the cropping rectangle by dragging on the little mid-edge handles.
- * You can move the entire rectangle by mouse-dragging on its middle.
- * Double-click on the middle of the image to finalize the cropping.
- *

Save It. You are done.

To “undo an anaglyph stereo image:

Open the image you wish to convert in full RGB mode in Photoshop, go into its "Window": "Show channels" selection, and once in the "Channels" window, hold down on the arrow in its upper right corner to see and then choose the "Split Channels" command. This command will give you three greyscale images, appropriately named "red", "green" and "blue". The green and blue ones should be identical, but green is usually slightly brighter and higher resolution, so discard the blue image and chose either the red or the green, whichever looks sharper and clearer in perspective. THAT will be your single, high-quality, greyscale image ready for B&W printing, for mounting on your poster or in your thesis, or whatever.

Note: **In order to send the appropriate view to each eye and thus obtain a proper 3-D image, your anaglyph glasses should be held with the red filter over the left eye (regardless of whether they are red/green or red/blue filter pairs). If such glasses are reversed, an inside-out or “intaglio” (mask-like) view will be obtained. This will be very hard to interpret!**