



**Movie 4 (Chapter 7 extract)**

# Masking hair

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### Keeping the edges soft

I have said it before, but I'll repeat it one more time: retouched photographs will not look right if they feature 'pixel-sharp' edges. Softer masks usually make for a more natural-looking finish. A mask derived from a path conversion will be too crisp, even if it is anti-aliased. So, either feather your selections and if you have a layer mask, try applying a little Gaussian blur. You might find it helpful to use the blur tool to locally soften mask edges. Or you could apply a global Gaussian blur filtration to the mask.

### Masking hair

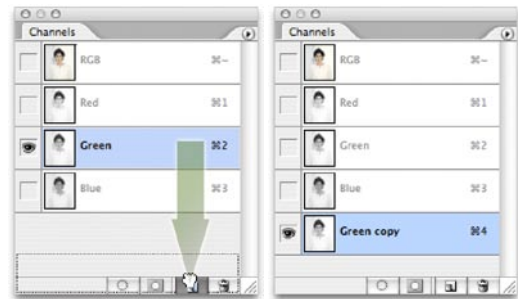
Hair is one of the hardest things to mask successfully and if you are a people photographer who uses Photoshop to create montages, you will readily appreciate the difficulty involved here. There is always a lot of discussion on the various Internet forums on this subject, so I know it is something that interests a lot of users. The problem most people have is how to get rid of the trace pixels around the edges of the hair, which are a sure giveaway that the picture has been comped together on the computer. What follows is a hair masking method which you can do in Photoshop without the need for any extra plug-ins and which I find works well in most cases.

The first thing I would like to point out here is that for this technique to work, your model or subject must be photographed against a white or light colored backdrop. If you don't do this then you are just making the task a lot harder for yourself, so it is important that you plan ahead. All serious composite work is carried out against a plain backdrop. For example, the Ultimatte Advantedge software requires you shoot your subject against a blue or green backdrop. But in this example, I am going to show you how you can use a white backdrop.

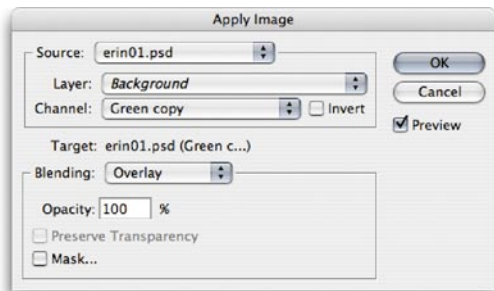
The trick here is to make use of the existing color channel contents and to copy the information which is already there in the image and modify it to produce a new mask channel. So instead of attempting to trace every single strand of hair on a mask with a fine-tipped brush tool, you can save yourself a lot of time by making use of the information already contained in the color channels and use this to define the finely detailed edges. However, you will still find that the pen tool is useful for completing the outline around the smooth, broad outline of the neck, shoulders and arms of the model's body.



**1** The following steps describe how I would go about photographing a model with a view to adding a new backdrop later. I normally always plan my shoots to always photograph against a white background as this is the best way to mask the fine hair detail. In this example the background does have a little detail, but we can still make an effective mask using this shot as it is.



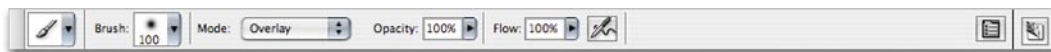
**2** I began looking at the individual color channels and duplicated the one that contained the most contrast. In this case I decided that the green channel had the most contrast between the hair and the background. I duplicated the channel by dragging it to the New channel button in the Channels palette.



**3** The next few steps all took place on the Green copy channel (when you copy this technique, do make sure that the Green copy channel is selected). I wanted to increase the contrast in the alpha channel and make the hair darker. I went to the Image menu and chose Apply Image... As you can see in the above dialog, the Target channel was the Green copy channel, the Source channel was also Green copy and the blending mode had been set to Overlay. So I was using the Apply Image to apply an Overlay blend mode on the alpha channel with itself. With Apply Image you can choose all sorts of channel blending combinations. Most of the time I use Apply Image in the Multiply Blending mode and will experiment blending one color channel with another. The objective at this stage is to increase the contrast in the hair, making use of the pixel information already present in the photograph.

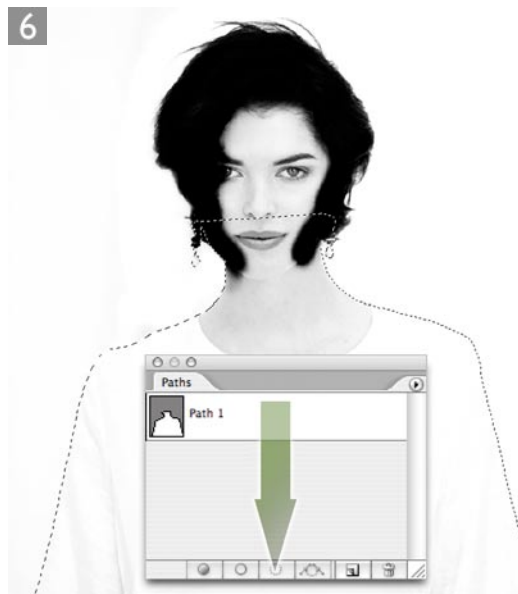


**4** Step 3 made quite a difference to the appearance of the mask channel and I now wanted to increase the contrast. To do this I used the paintbrush tool set to Overlay mode and switched between using black and white as the foreground colors. When using the Overlay blend mode, as you paint with black, paint is only applied to dark pixels. As you paint with white, paint is only applied to the lighter pixels. Overlay is therefore a useful paint mode because you can paint quite freely using a large pixel brush to gradually build up the density around the dark hair strands without risk of painting over the light areas. I continued painting, taking care not to build up too much density on the outer hair strands. I should mention here as well that I prefer to paint using a pressure sensitive Wacom pen and tablet, with the pen pressure sensitivity for the Opacity switched on in the Brushes palette Other Dynamics options.

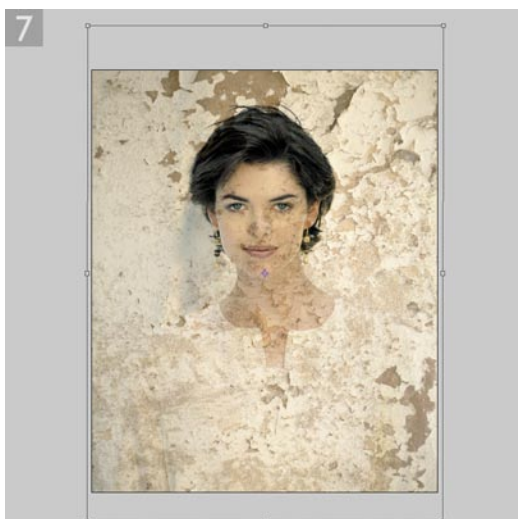




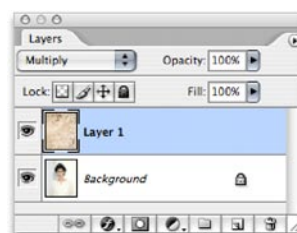
5 Now let's look at masking the rest of our subject. The model's clothing is almost the same color as the backdrop. Therefore, the best way to isolate the rest of her body is to draw a pen path around the sleeves of the shirt and along either side of the neck.



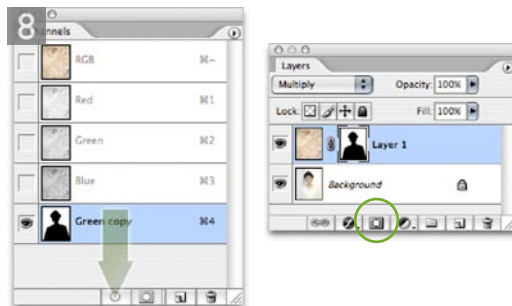
6 I used the pen tool to draw a path that followed the top half of the model, following up as far as her jaws and the outline of her earrings. I then converted the pen path to a selection by dragging Path 1 down to the Make Selection button in the Paths palette. I filled the selection with black and used the paintbrush tool in Normal mode to paint over the rest of her face.



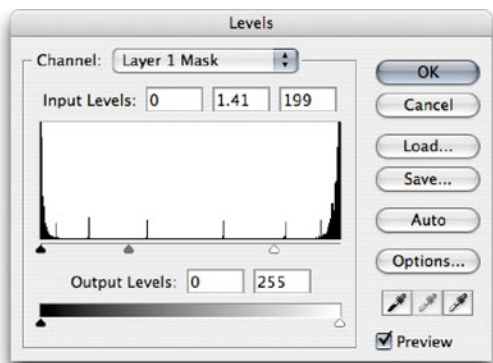
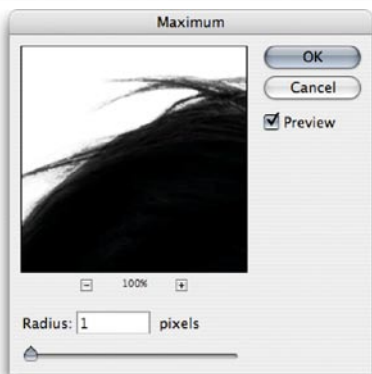
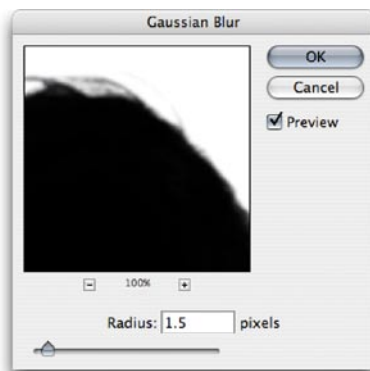
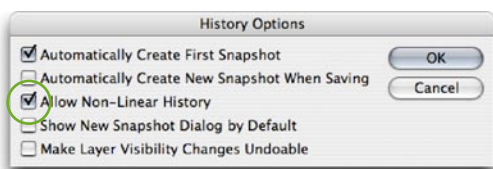
7 With the mask complete, it was time to add a new backdrop. I opened up a photograph of a textured wall in Photoshop, selected the move tool and dragged the backdrop image across to the model image window. This added the backdrop as a new layer. I went to the layers palette and changed the blending mode to Multiply. The Multiply blend mode effectively 'projects' the new layer on top of the background layer. I kept Layer 1 active and chose Edit ⇒ Free Transform and dragged the handles to scale the backdrop layer.

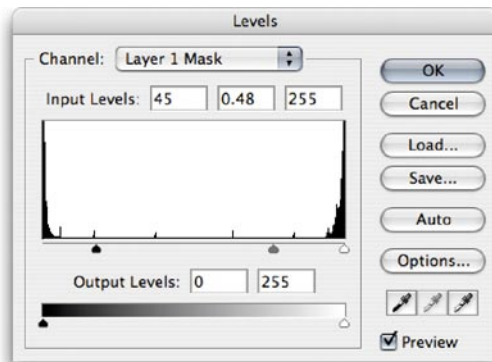


8 I dragged the Green copy channel to the Load selection button in the Layers palette and then clicked on the Add Layer Mask button (circled) in the Layers palette to convert the active selection to a layer mask.



9 The layer mask worked reasonably well, but still benefited from some fine-tuning. I first went to the History palette and made sure that Allow Non-Linear History was selected. The layer mask was selected and I applied: Filter ⇒ Other ⇒ Maximum, followed by Filter ⇒ Blur ⇒ Gaussian Blur, followed by a Levels adjustment using the settings shown on this page. The Maximum+Blur+Levels adjustment shrunk the mask around the hair.



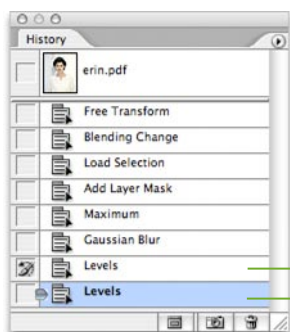
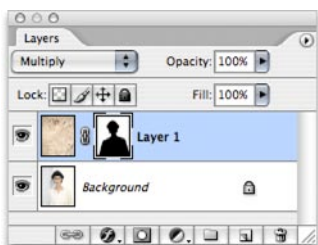


**10** The reason for setting the History palette to Allow Nonlinear History may now become clear. In the last step, I modified the mask using a Levels adjustment to improve the hair masking. But doing so made the edges around the shoulder and neck too crisp.

I went to the History palette and clicked on the Gaussian Blur history state (note that the Levels history state does not go dim). I then applied an alternative levels adjustment, one that modified the layer mask so that this time the edges around the body were kept soft. I went to the History palette and clicked on the icon to the left of the previous levels adjustment. This set the history source to use the previous levels history state. I then selected the history brush from the tools palette and painted around the edges of the hair to restore the optimized hair mask state.

So to recap this final step: in step 9, I had created a modified layer mask in which the layer mask choked the hair outline perfectly. In step 10, I marked that history state as one I would wish to paint from again. I went back to the Gaussian Blur history state and applied an alternative levels adjustment that would choke the rest of the model's outline better. I then selected the history brush and painted over the outline of the hair to paint back the mask around the hair.

This is a complex technique, so I have obtained permission to include the two master images on the CD to help you follow the steps outlined here.



This history state represents the best choke around the hair  
This history state represents the best choke around the rest of the body

Client: Schwarzkopf Ltd. Model: Erin Connelly.