

# NEPG

## EDITING IN PHOTOSHOP

Mark Greenland

18/06/2012

### **Introduction**

In this session, you will be learning how to edit in Photoshop, non-destructively and selectively. You will learn the essential tonal and colour adjustments.

To put this session in context, the complete workflow begins of course with the capture of the digital image when you take a photograph with your camera or a scanner. You then upload the image files to your computer. You then view them with the aid of whichever viewing program you prefer. I use the viewer in Adobe Bridge, which comes with Photoshop.

If you have set your camera to take raw files, then you will want to convert the raw file to a normal image file by means of a raw converter program, such as Adobe Camera Raw ("ACR"), Capture One, or one of the proprietary programs supplied by your camera manufacturer with the camera. Where possible, I use ACR, but some say they can get a better result with one of the other raw converters.

If you shoot jpeg's, you do not need to convert the files, and you can open them direct in Photoshop for editing and printing.

This session is concerned with the step in the workflow where you edit your image in Photoshop. If you are interested in learning more about the earlier stages, such as viewing the images and converting the raw files, please let me know, so that I can take it up with the committee.

There are always many ways of doing things in Photoshop, and other editing programs. I will show you the way I do it, but you may discover for yourself other methods you prefer.

For the purposes of this session, I have arranged for two images to be loaded onto your computers. There is no perfect way to edit these images. The point of this session is to show you how to edit, so that you exercise your own judgment when making editing decisions.

You can open an image file, before opening Photoshop, by right clicking on its name, which produces a dropdown menu in which you should left click “open with” and then left click in the second drop down menu the program in which you wish to open the file. If the file was a raw file, it should automatically open in ACR, which will permit you to make preliminary adjustments, including cropping and straightening, after which, if you open it, it will open in Photoshop itself. If the file was not a raw file, it will not open in ACR but it will open in Photoshop direct.

On the other hand, if you already have Photoshop opened you can open a file by simply left clicking on the file menu at the top left corner and click on open which will allow you to navigate to the image you want to open. The shortcut is Ctrl O.

So let us begin by opening Photoshop.

Once it is opened (ie you can see “PS” at the top left corner), arrange the workspace so that we all have it set out the same way for the purposes of this session. Do this by left clicking on the “windows” menu and left clicking on “workspace” in the drop down menu and then left clicking on “essentials (default)”, which is the first item on the second drop down menu. This will set up the workspace with a section in the bottom right corner of the screen, which has tabs called “layers”, “channels” and “paths”. Click the word “layers” so as to make the layers’ tab active. This session is mainly concerned with this layers “pallet”.

Initially, there will be nothing in the layers pallet because we have not yet opened an image. Go to the *file menu* at the top left corner, and left click to obtain the drop down menu, or press Ctrl O, and then navigate to the image called “Annabel by a window”. Double left click it, which should open it in Photoshop.

This is a jpeg image so it has already suffered some degradation from the original raw file. Maximise the viewing size of the image by pressing Ctrl 0 (0 represents 100%).

When you need to zoom in (press Z for the zoom tool), either position the cursor on the part you wish to magnify, and left click repeatedly or use the left click button to drag a dotted square around the area you wish to magnify. When you let go of the left click button, the magnification will take place.

This image is treated by Photoshop as the “background”, which you can see by looking at the layers pallet in the bottom right corner of the screen. You should see a small thumbnail of the image with the word “background” to the right of it and an eye icon to the left of the thumbnail.

We avoid working on the background. In my workflow, virtually the only things that I will do on the background are to clone out dust spots with the stamp tool, and straighten and crop. The crop tool can be accessed by pressing C. The straightening procedure is:

- A. Go to the eye dropper icon in the toolbox in the top left hand corner;
- B. Left click on it and drag outwards to the right to get the fly out menu, in which click on the ruler. Then left click on one end of a line (such as the horizon) which you want to be horizontal or vertical.
- C. whilst still holding down the left button drag the ruler out so that it is precisely on the line that you wish to straighten and drag it as far as possible before releasing the button. This will leave a white line drawn on the horizon or another line which you wish to straighten.
- D. Then left click on the image menu at the top left corner of the screen, and again on “image rotation”, and again on “arbitrary”.
- E. This will produce a small dialogue box called “rotate canvas” and it will show you the degree to which the line you drew is off the horizontal or vertical. If you click the OK button, the entire image will be rotated so that the line you drew is perfectly horizontal or vertical. You will then have to crop the image by pressing C and dragging out the crop box on the image. You can drag the lines of the cropping marquee. Once you press enter, the crop will be achieved.

To clone out the dust spots and other unwanted features, press S to activate the stamp tool. Zoom into the area to be cloned. While

pressing Alt left click on an area from which you wish to harvest or sample part of the image, then release the Alt button and left click on the area you wish to clone out.

Note that the cursor (like brushes) can be increased or reduced by pressing the square bracket buttons repeatedly.

Note also that the capacity of the effect can be altered at the top of the screen or, preferably, by simply pressing one of the numbers on the keyboard. 1 is 10% capacity and 0 is 100% capacity. When you have finished, restore the image to full size by pressing Ctrl 0.

When cloning areas which have a texture like skin, you may get a better result by using the healing tool (J) which works in the same way as the stamp tool, except that it attempts to blend the cloned spot with the area around it. This makes it unsuitable for use near a boundary between two different parts of the image, such as near the edge of a lip or eye.

### **Layer Masks**

Apart from the cloning and straightening of recropping edits, it is highly desirable when editing an image that:

- A. you can do it selectively (ie not to the whole image);
- B. you can undo and re-do it repeatedly, and redo it farther back than one step. (You can undo the last step you took by pressing Ctrl Z). You need to be able to do this without degrading the background image;
- C. you can quickly see what effect the edit has had with a before/after comparison;
- D. you can blend the change with the surrounding area.

Let's say we want to sharpen the eyes in the image. We can do this with a layer mask. Begin by duplicating the background (Ctrl J).

Observe the result in the layers pallet, which now shows two eye icons and two thumbnails. The uppermost icon has the words "layer 1", but you can rename the layer by double-clicking on the words and typing in a new name, such as "sharp".

Note that layer 1 is highlighted in blue and the background is no longer highlighted in blue. This means that what you are seeing on the screen is the duplicate layer, and not the background, which is behind it. In the layers pallet, you can see a side view of the background and the layer (and subsequent layers), but each layer is shown flat rather than edge on so that you can recognise it.

Let's sharpen the top layer. With that layer active (ie highlighted in the layers pallet) left click on the "filter" menu at the top towards the left. Left click on "sharpen" and left click on "unsharp mask".

In the resulting dialogue box, slide the amount slider to 45%. Slide the radius slider to 2.5 pixels and ensure that the threshold slider is at zero. Left click ok.

Observe the difference you have made, by clicking on the eye icon next to the top layer, which switches it off. With the top layer switched off, you will see the underlying background, and if you click again, you will switch back on the layer which has been sharpened. This enables you to do a rapid A/B comparison.

But we didn't want to sharpen the whole of the image: only the eyes. This means that we need to edit the top layer so that we can see the top layer only in the eyes and not elsewhere.

While you could simply take up the eraser tool and erase the whole top layer except for the eyes, this would be a very lengthy process and if you made a mistake, it would be inconvenient to reverse.

It would be far preferable if we could erase the top layer quickly and in a way that can be easily reversed.

Photoshop permits this when you create a layer mask on the top layer, so that you can edit the effect you have just created (in this case the sharpening).

To create the layer mask, you simply left click on the symbol at the bottom of the layers pallet, which comprises a shaded rectangle with a white circle in the middle of it, and next to the letters "fx"

Once you click on the layer mask icon, you will notice that a white rectangle appears in the layer, next to the thumbnail.

The effect of this mask is that wherever you paint black on the image, you will erase the top layer, revealing the background underneath. If you make a mistake, you paint white which restores the top layer, hiding the background again.

To paint black, press B for brush and adjust the brush size by using the square brackets. You can also adjust the opacity of the brush by using the opacity control at the top of the window, or preferably by pressing one of the numbers on the keyboard. Once again, 1 is 10% and 0 is 100%.

The colour you are painting appears in the foreground colour patch at the end of the toolbar. You will see there that there are two overlapping squares and just above them a double headed arrow. The “front” patch is the foreground colour and the “back” patch is the background colour. The colours can be reversed by clicking on the double headed arrow or preferably by pressing X on the keyboard.

Pressing D gives you pure black and white in these boxes.

(If you wanted to paint with a different colour for some reason, you would double click on the foreground patch which would bring up the colour picker box. You would then click on the colour you wanted, which would make the foreground that colour).

For the present, we want to observe the effect of erasing the upper layer by painting black. So that you can see the effect more clearly, press Z and zoom into the eye. Then press B to select the brush and ensure that you have black in the foreground patch.

Now simply left click and drag on the eye and notice that it becomes less sharp. This is because where you have painted you have erased the sharp layer and you are seeing the background which was not sharp.

Notice that in the white mask on the layer in the layers pallet, a black mark appears where you have painted black.

Restore the sharp layer by pressing X to get white in the foreground patch and paint white over the eye. Notice that the black mark in the mask thumbnail has disappeared.

Since the eyes are a small part of the picture, it would be a lengthy process to erase the whole of the upper layer except the eyes. It would be much quicker if we could erase the whole of the sharp layer with one click, and then paint back the sharp layer by painting white on the eyes. This can be done by pressing Ctrl I. Observe that the layer mask is now completely black, which means that the sharp layer is invisible. The eyes are now not sharp.

Ensure that you have white in the foreground patch, and paint the eyes only, reducing the size of your brush if necessary to achieve an accurate result. You will see that the eyes become sharp because you have restored the sharp layer where you have painted but the rest of the image is not sharpened. You will notice that white marks appear on the mask thumbnail in the layers' pallet, where you have painted white on the eyes.

In summary, the process was :

- A. Duplicate background - Ctrl J
- B. Sharpen
- C. Click layer mask icon at the bottom of the layer's pallet. This automatically sets the default colours of black and white, with black in the foreground).
- D. Paint black over the entire image - Ctrl I
- E. Press X to make the foreground colour white.
- F. Press B to select your brush.
- G. Paint white on the areas where you want to restore the effect.

This layer masking technique applies of course to any editing change you make to the image, eg blur, desaturation, darkening, lightening etc.

## **Adjustment Layers**

Photoshop provides a quick way to do layer masks in relation to the commonest edits. So, for example, if you wish to darken or lighten the picture, you can simply left click at the bottom of the layers pallet on the icon which is a circle coloured black in one half and white in the other. This is the adjustment layers menu icon. You will then have a list of adjustments you may want to make to the image. Four of these will be required on nearly all of the images you edit. They are:

- a. levels
- b. curves
- c. hue/saturation; and
- d. colour balance.

By all means explore the other options, but you will almost always need the four mentioned above, unless you have made all the adjustments you need to make in the raw converter beforehand.

Let us begin with the levels adjustment layer. Click on that circular black and white icon and left click on “levels”. This gives you a dialogue box under the tab “adjustments”, just above the layers pallet.

You will see a black graph or histogram, which indicates the number of pixels at each brightness level from black at the left hand end to white at the right hand end. You will also see three sliders, coloured black, grey and white, under the graph.

It is desirable to have the black graph between the black slider and the white slider, with no part of the graph on the outside of that range. Observe the result when you drag the black and white sliders so that they are at the two ends of the graph.

I do not recommend moving the middle or (gamma) slider.

There are other features of this dialogue box, but they are more usefully used in the curves adjustment layer which we shall look at next.

You may find that you do not need to make any adjustment to the sliders in the levels adjustment layer, or you may prefer the result if you move the black and white sliders so that they are at the very ends of the graph.

Notice that you now have not only a duplicate layer, but also a layer mask, which means that you can edit the adjustments you have made, just as we did when we sharpened the eyes with a layer mask above. In other words, when you created this adjustment layer, photoshop automatically made a layer mask.

Before moving on, check that the levels adjustment that you have made is an improvement, by clicking on the eye icon next to the levels layer in the layers pallet. If you decide that you do not want to make any level adjustment, you can dispose of the layer by

dragging the whole layer to the rubbish bin at the bottom right corner, pressing the delete button or by pressing the rubbish bin icon in the levels adjustment dialogue box.

## Curves

Now let's create another adjustment layer for curves. Left click on the black and white circle at the foot of the layers pallet, and click on "curves". This brings up the curves dialogue box. Notice that it also creates a second layer above the background, complete with its layer mask, ready to be edited.

Curves is the most useful tool available to you. It can do a great variety of things. To begin with, left click on the diagonal line and drag it up and down to observe the effect. Try doing this at different parts of the line and you will notice that the left hand end of the line (at the bottom left corner of the box) represents the darkest tones, and the right hand end of the line (at the top right corner of the box) represents the lightest tones.

Observe what happens when you drag the left hand end of the line to the top and the right hand end of the line to the bottom.

Observe what happens when you drag both ends of the line so that they're half way up the box and the line is horizontal.

Observe what happens when you drag the left hand end of the line to the right a little and the right hand end of the line to the left a little.

These are not adjustments which you would normally make, and in fact, you would not normally drag the line manually at all. Before the next step, restore the graph to its original position by pressing the circular arrow icon below the box.

Left click on the hand symbol at the top left corner of the dialogue box, and click on the image, preferably on the face somewhere. Notice that a dot has appeared on the line in the dialogue box. That dot represents the brightness of the area you clicked on, so that if you click on darker areas a dot will appear nearer the left hand end of the line and lighter areas at the right hand end. Clear off all the dots by pressing the circular arrow at the bottom of the dialogue box. Click on the left cheek in the image, then use the up

and down arrow keys on the keyboard to move the dot and thus the graph. Observe what happens to the image. Notice that, although the whole graph has moved, it has moved predominantly in the tonal area where you clicked on the face. In other words, if you got the dot in the middle, moving it will have more effect on the mid tones than on the darkest and lightest tones. This enables you to adjust the tonality of the picture in a way which has less effect on the tones you do not want to change.

Let's say that you want to darken the left cheek but not the rest of the image, and you want the adjustment to be feathered so it is not an obvious adjustment on the left cheek (as it certainly would be if you selected the left cheek and darkened it).

Clear the curves graph by pressing the circular arrow and then left click on the hand. Left click on the brightest part of the left cheek thereby placing a dot on the graph that represents that particular tonality. Use the up and down arrows to drag the graph down until the brightness of the cheek is where you want it. Disregard the rest of the image!

Now applying the editing techniques discussed above, we want to edit this layer so that the adjustment you just made applies only to the cheek and not to the rest of the image. As the adjustment layer already has a layer mask, you need only paint black and white to edit it. Press B for Brush and X to get white in the foreground colour patch. Press Ctrl I to erase the whole curves adjustment layer. Notice that the layer mask thumbnail is now black and the image is back to the way it looked before you applied the adjustment layer. Now adjust the brush size (with the square brackets) and check that you have the opacity you want. You might for example start by pressing 5 for 50% and gradually building up the effect you are about to create, or you may wish to begin with 100%).

Now brush the bright parts of the face. You can of course reverse what you are doing at any time by pressing X and brushing again, and you may find that when reversing the effect, it works better to reduce the opacity of the brush by pressing one of the lower numbers.

Alternatively to pressing Ctrl I and painting white on the cheek, you could allow the original darkening to take effect and then erase

that layer where you want the brightness of the original layer. To do this, you can go back in the history to the step described as “modified curves layer” and click on that. This takes you back to the step where you darkened the image to begin with. Alternatively, you can simply paint black over the areas where you painted white, restoring the mask thumbnail to a full black.

What we now have is a darkened image which you may wish to lighten in some areas by erasing the curves adjustment layer. You would do this by painting black so you would need to ensure you have black in the foreground patch. Try, for example, painting black on the eyes and the highlights in the hair. Remember that you can reduce the effect by reducing the opacity of the brush, by pressing one of the numbers on the keyboard.

Once you have completed the curves adjustments, you can reduce the strength of the adjustment made by that layer by simply reducing the opacity of the whole layer. This is best done by left clicking at the right hand end of the word “opacity” in the layers pallet and sliding with the left mouse button, to the left. Observe that the percentage in the adjacent box reduces as you slide. This opacity change affects the whole layer of course.

Although there are many other things that we can do with curves, there are two particular features which you should notice today. The first requires another curves adjustment layer, which of course you can make by clicking on the black and white circle. Then click on the blue downward arrow next to the word “default” at the top of the adjustments tab above the curves box. In the dropdown menu, left click on “linear contrast”. Notice that this produces an automatic change in the shape of the graph, slightly brightening the lighter tones and darkening the darker tones, which increases the contrast of the image. Check the effect of this by repeatedly clicking on the eye icon at the bottom of the adjustments tab or the eye icon next to the curves adjustment layer in the layers pallet.

If you decided not to make that adjustment, delete the curves adjustment layer you just made, by pressing delete or by dragging it to the rubbish bin.

Bring up another curves adjustment layer. Zoom into a part of the image which should be the darkest black. In a picture of a face, I often use the pupil of the eye for this purpose. Left click on the

black eyedropper just under the hand in the adjustments tab and then left click on the pupil where you want the darkest black to be. Notice the splitting of the graph in multiple lines. Zoom out, (Ctrl 0) to observe the effect on the image as a whole and toggle the eye icon to compare before and after. This step nearly always improves images and clears up colour casts.

You can also use the white eyedropper (clicked on a part of the image which should be white to achieve the same effect), but I find it is more effective to use the black eyedropper alone. Sometimes pictures are improved by using both.

I suggest using a new curves adjustment layer for each step.

### **Hue/Saturation**

Make a new adjustment layer by clicking on hue/saturation. Find the slider for saturation and slide it to the left and right to observe its effect. Obviously, if you want to confine the effect to a part of the image, for example the face and hair, you can edit the layer by painting black and white as discussed above.

I would not use the lightness or hue sliders in this context, although they can be useful in other respects. Notice that you can saturate different colours selectively, by clicking the dropdown menu next to the word “master”. Notice also the preset styles obtainable by clicking the dropdown arrow next to “default”.

You can do some weird things by checking the colourised box and sliding the hue slider around.

### **Colour Balance**

This tool adjusts colour casts. Once again, create an adjustment layer, and click on colour balance. Notice that you have three sliders which adjust mid-tones, shadows and highlights. The default position is mid-tones. Don't forget to check the other two and make adjustments before you finish.

Because the adjustments in this tool need to be made subtly, it is preferable not to drag the sliders manually. I suggest highlighting the zero in the white box next to each colour bar, and using the up

and down arrows to move the slider. A typical adjustment might involve just two or three points of colour.

Notice that each colour bar is set up so that you can diminish a colour cast by moving the slider away from that colour in the opposite direction. For example, if the picture appears too green, you would move the slider towards the magenta end of the bar. I repeat, these adjustments need to be made subtly, and always check the effect of what you have done by toggling the eye icon.

### **Channel Mixer (Mono)**

One quite useful way of converting an image to black and white is to use the channel mixer. Make another adjustment layer by clicking on the black and white circle and then “channel mixer”. Click in the box next to the word “monochrome” in the adjustments pallet. This will convert the image to monochrome. Now adjust the tones in the image by moving the sliders. The best result is obtained by ensuring that the numbers shown in the white boxes above each slider total 100, although this is not a strict rule.

You can flatten all the layers into the background (which will alter the background) by pressing Ctrl/Shift E. If you want to merge one layer with the layer below it but not with the other layers, then press Ctrl E.

### **Vignette**

Press M (for marquee). Notice the marquee icon in the toolbox is highlighted. Notice also what shape marquee is shown. Drag out the highlighted icon on the toolbox to reveal choices of shape and select the rectangle. Left click in the image and drag to make a selection. Start very close the top left corner of the picture and finish very close to the bottom right corner of the picture, so that the marquee you draw is very close to all edges of the picture. By doing this, you have instructed Photoshop that the next thing you do is to be confined to the area inside the box you have just drawn.

As you want the next thing you do to have an effect only *outside* that box, you need to invert the selection by pressing Ctrl/Shift I. You will notice now that you will have two boxes with a small

space between them. It is that space which will be affected by your next step.

Now make a hue/saturation adjustment layer (as explained above).

Manually slide the lightness slider to the left until the edges of the picture are darkened sufficiently for your vignette. This creates a dark boundary around the edge of the picture but the boundary is sharp and obvious. To blend the vignette in the picture better, left click on the filter menu and left click on blur and then Gaussian blur. Slide the slider all the way to the right and press ok. This will blur the dark boundary, creating your vignette. You can edit the vignette, just as you can edit any adjustment layer by painting black or white

I quite often use both a rectangle vignette and an elliptical one. To do that, repeat the steps above but instead of using the rectangular tool, select the elliptical one from the fly-out list. Now when you drag, you will create an ellipse. If you want to create a circle hold Shift while you drag. Repeat the steps mentioned above for your vignette.