

Whenever we see a large sporting or entertainment event at night, we cannot fail to notice that hundreds, sometimes thousands, of people hold their cameras high and roughly aim at their subject, and - click! The flash has fired - they look at the back of their camera and they're disappointed that the picture is noisy, dark and "A-Rod" is the size of an ant.

As Photo Club members, we know the things they did wrong - their cameras, at arm's length, have been shaky, they don't know the limits of their lens and - funniest of all - they seem to think that little rectangular flash (that they often cover with a finger) will have illuminated a subject 100 meters away. They may also have pushed the ISO up to something over 1000 ("Oh, is that what it does?") and introduced so much digital noise that they can't see their subject. They've spent perhaps \$400 on a camera that their friend (or the salesman at that big-box store) has suggested and they think they're going to take pictures worthy of exhibition. Of course, most of the pictures never get out of the camera - except maybe to decorate their Facebook page and show their friends how bad they are at taking a photograph.

It's quite odd, really... 100 years back, better pictures were taken on a Box Brownie because people took advice about how to hold the camera, where the sun should be and tried to 'get in close'. With all the technology and 'fool-proof' features nowadays, you'd think photography would have improved.

Well, of course, it has if (like us enthusiasts) people would take some advice, learn a little technology and not waste that \$400 (or a lot more!). Can an experienced photographer expect to get a photograph of exhibition standard out of their camera without doing some editing? Perhaps a very top photographer can get close but.... without editing? That's a very tall order.

So, apart from learning the techniques of how the camera works, how to hold it, how to use the light, how to take the picture etc., we all need to learn a little about the digital editing involved in turning a promising image into a work of art..... and if we don't, we'd better know somebody who can!

Here are 7 Basic Digital Editing Procedures - they may not *all* be essential - but they're all worth checking when you're creating that special image!

I'll be describing how it's done in Photoshop Elements - but these 'essentials' are available in all photo-editing programs.

Histogram and Levels

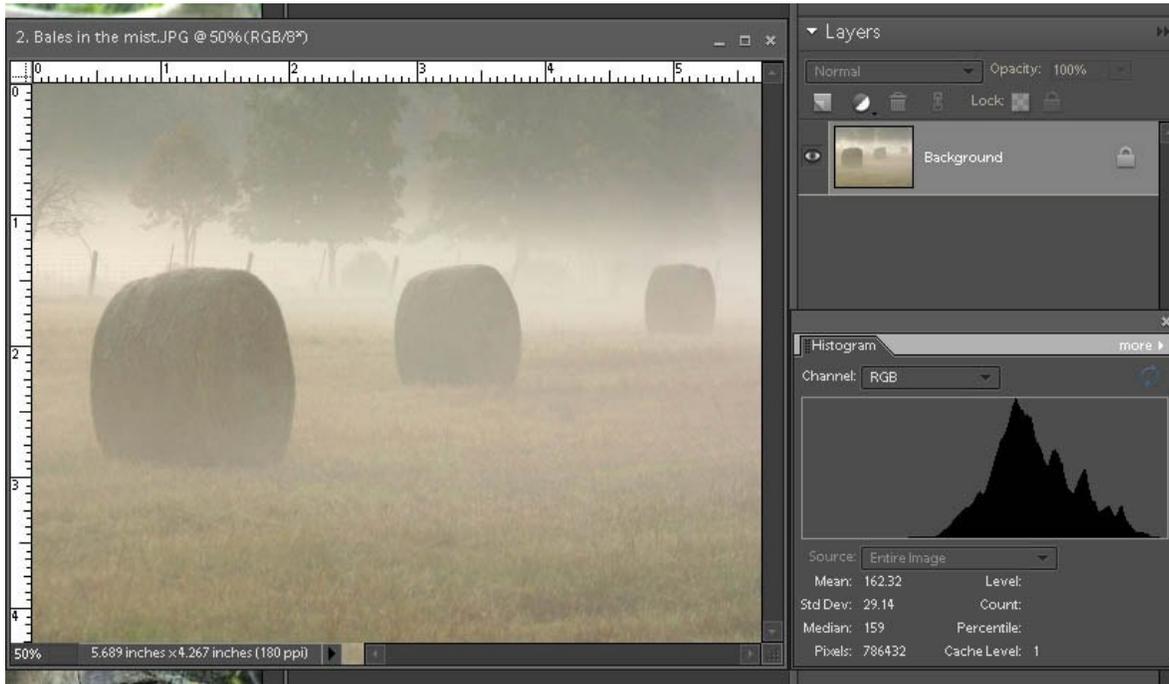
You'll have come across the term and probably seen it in your camera's LCD. It's a representation of the exposure - how much of the picture is dark, how much is bright and how much is in between. It's shown as a hill (or mountain) and can have all kinds of shapes - and a few spikes. If there's an 'ideal' shape, it would be a slowly rising hill, with the edges of the hill extending to each end. You can use the histogram to make adjustments to your exposure as you take your pictures - if you're getting a large hill on the left of the histogram it means you're under-exposing - possibly too many shadowy areas; if most of the hill is to the right, you're over-exposing - possibly too much brightness. I say 'possibly' because very few scenes would give that complete balance. You need to compare it with the preview. If your histogram shows everything in the middle, you're getting a large amount of mid-tones (or grey), so your shot is low on contrast. If your histogram shows a 'valley' - high at each end but very low in the middle - your shot will be high on contrast. Again, this may suit the scene very well and you can't do much about it anyway. You can also see your image's histogram in your editing program - usually via the View or Window menu - but you only really need to see it with a couple of adjustments. If you're shooting and editing Raw, the histogram is more important, and several of the steps below can become irrelevant. But let's walk before we run.....

In Elements (and full Photoshop, Paint Shop Pro and most 'serious' editing programs) you can make Adjustments either from a menu or as an Adjustment Layer. I stick with Adjustment Layers for most edits - I can go back later and reduce, alter or remove the effect. If I make an adjustment from the menu I would (unless it's been applied to just a layer) have to go back many steps and start over.

First Essential Edit... Levels.

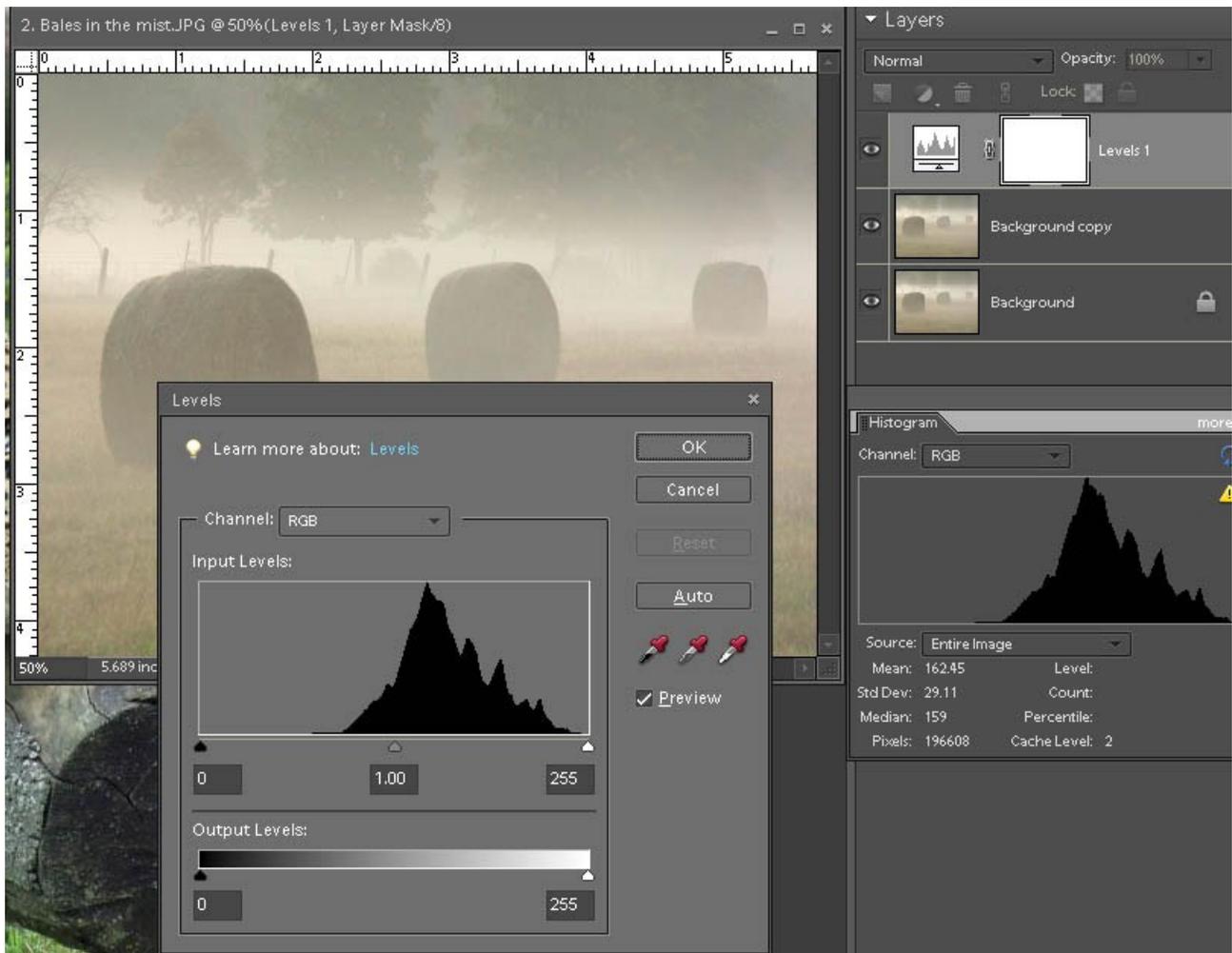
I'm going to use Bruce Gunion's picture of Hay bales in the Mist - an excellent picture which doesn't need any adjustment, but let's see what Levels could have done..... Here's the image opened, with the Histogram and the 'Layers Palette'.

Don't worry about the techy-looking numbers in the Histogram. Notice that most of the tones are generally mid-tones (middle of the histogram) but a little to the right - so they're fairly light and bright tones.



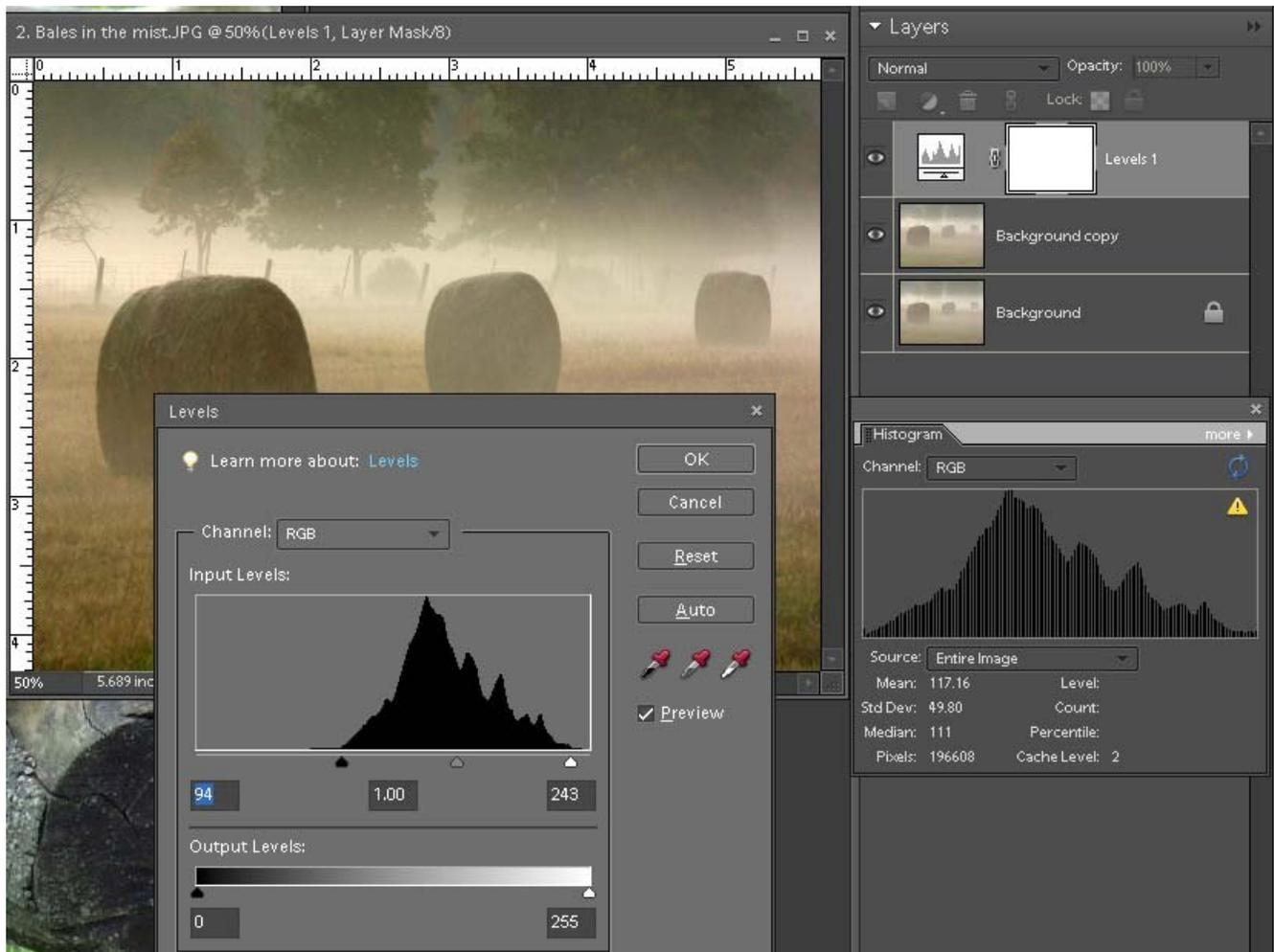
Let's try a Levels Adjustment Layer. I always duplicate my Background (Ctrl+J) so I now have a duplicate layer, called "Background Copy". I never work on the Background itself, even though I'd save as another file name when I've finished, so there's no risk of over-writing it - it's just easier to 'go back to square one' if you keep the Background intact.

With the 'Background Copy' highlighted (active), I click on that little black and white circle above the Layers, then select 'Levels'.



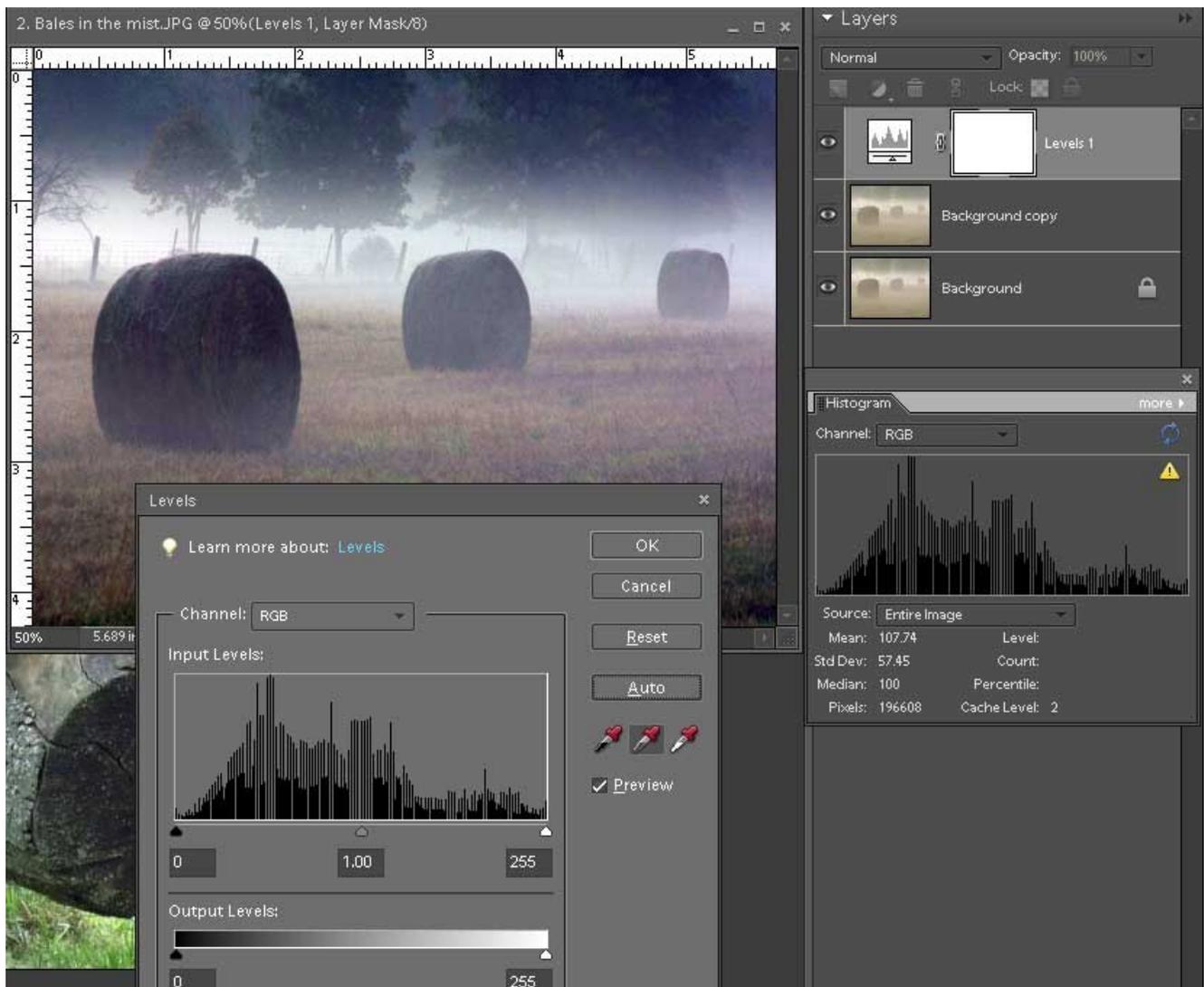
So, we see the Levels Layer in the Layers Palette, above the 'Background Copy'. The location of the Levels Adjustment Layer tells us that it will affect the layers underneath (in the 'stack'). We can set it to affect only the single layer underneath, at another step if we want it. The Levels dialogue is visible (and you cannot do anything else while it's active). You can see "Input Levels" - the main control - and Output Levels. Output Levels control just how far along the light spectrum we want our image and if we moved the small arrows inwards from each end we'd reduce contrast - no need on this image, though. We'll save the eye-dropper tools for another day.

Let's start off by doing the thing that almost all pictures will need.... adjusting the Input Levels. Click and drag the left (black) arrow under the histogram, to the right as far as the edge - the 'foothills' if you like - of that 'mountain'. With the right (white) arrow, do the same, dragging inwards. You'll be able to see, from the Preview, what effect it's having so don't take these as any kind of firm rule. You may not need to touch both of the sliders - in fact you can move the grey slider (for Mid-tones) to see the effect.



That's given the image more dark tones, a tiny amount of lighter tones and increased the contrast. Note in the main Histogram how the 'mountain' has been 'spaced out', as the image takes on more 'in-between' tones. At this stage, if you're happy, you can click on 'OK' and the Levels Adjustment Layer will stay in the Layers Palette. You can go back to it at any time and double click on the Levels icon/thumbnail to open it again. You could also reduce the opacity of this layer via the Opacity slider above, which affects whichever layer is 'active'. If this was the last layer you added, or all you wanted to do for now, you could save your image. If you save as a PSD file (Elements or PS) or as whatever other format that other programs have, you can Save your work, including the layers - so you can go back to it later and alter what you've done. If you wanted to save the image as a JPEG you cannot keep the layers, so you need to 'Flatten Layers' (right click on the layers and choose 'Flatten Image').

You'll also notice the 'Auto' button... this can sometimes do things you definitely don't want but let's see what it would do on this occasion (one of the reasons I chose this image is that it shows how much extra 'information' is actually in the picture, often unnecessarily).



As you see, left on its own, the Auto controls can do some weird and unwanted things - still interesting to see how much details was pulled 'out of the mist', though, eh?

Of course, Bruce's original image was just a good example to show what Levels could do, but had already been edited in the way that worked best, so I wouldn't want to make any changes to it.

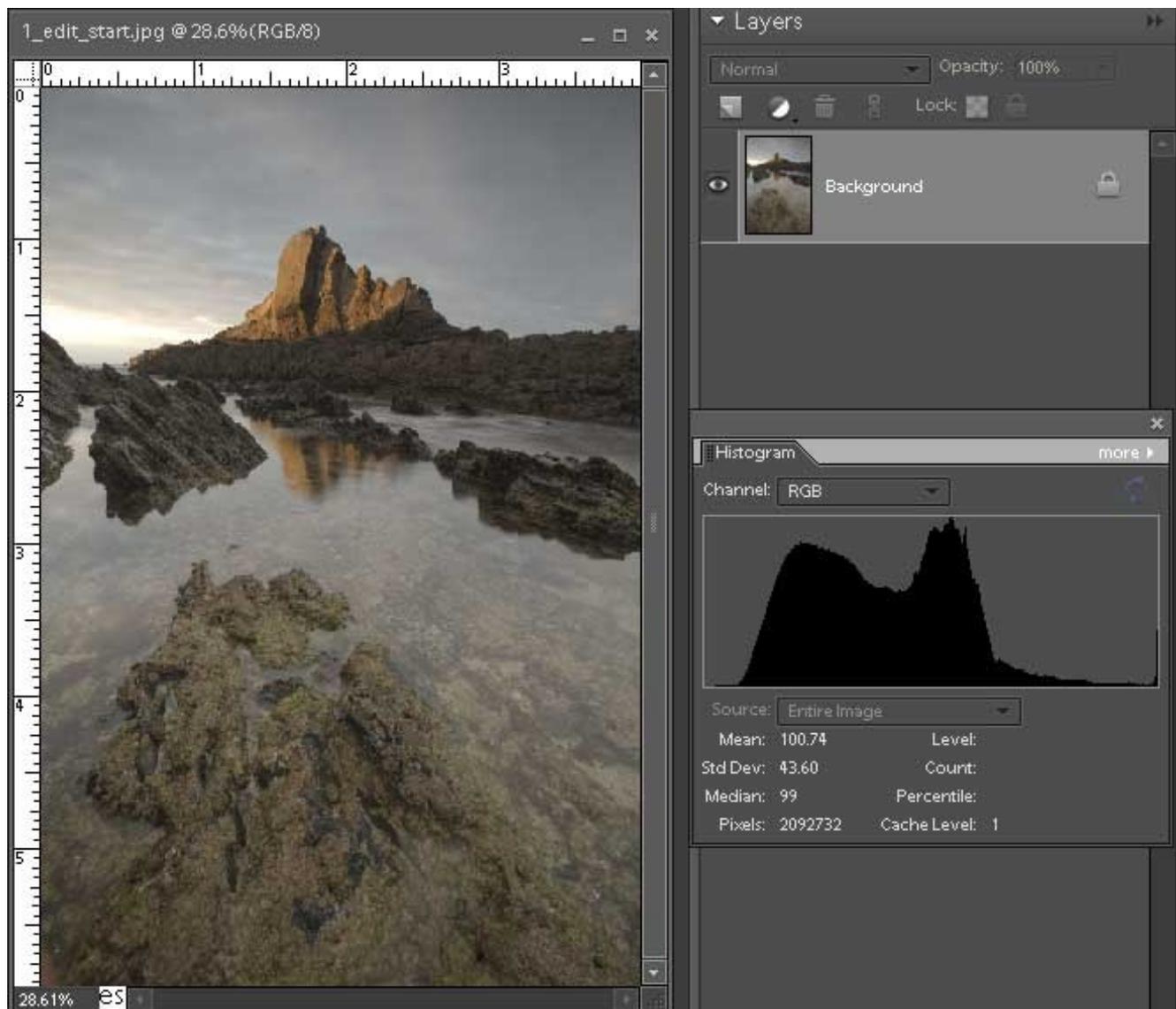
OK, that's **Levels**.... you'll probably add a little contrast and definitely bring your image to life - conversely, you could narrow the Output Levels and flatten the image, reducing the contrast.... a lot of what we might call 'Fine Art' has a full range of tones (think 'Ansel') and can benefit from less contrast, so taking the extreme dark and extreme light can work well.

Second Essential Edit..... Curves

Still not fully-implemented as a feature of Elements, Curves is a tool for, at its simplest, adjusting contrast. The version that is in Photoshop has many more presets to do all kinds of strange things. Frankly, the extras are not necessary to 99% of us, but in any case Elements has a feature to “Adjust Colour Curves”.

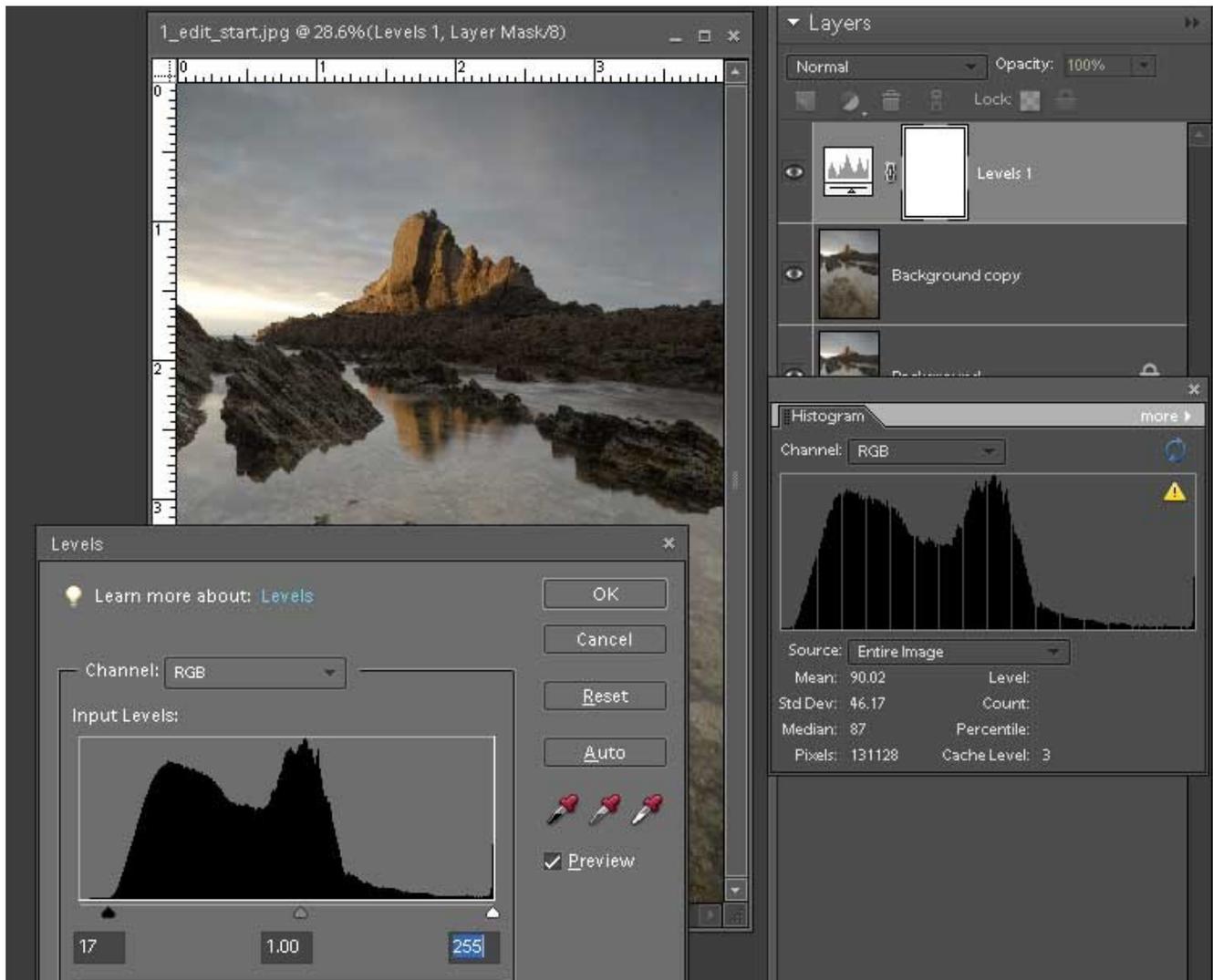
This is a tool best used sparingly - anything 'over the top' with Curves can look truly awful.

I'll use a different image, straight out of camera, to demonstrate. If you haven't already done so, you can download the ZIP file for this image from the Workshop page. Unzip the file “1_edit_start.jpg” and open it in Elements. You'll see from the histogram that the image is full of mid-tones but it also has one very bright area - you may not see it here but there's a 'spike' at the extreme right edge of the histogram, indicating a bright spot.



As before, the first thing required is a Levels Adjustment. Duplicate the Background as

before, and move the sliders in the Levels dialogue towards the 'mountain', just like we did in the last image.



I haven't moved the right slider (the highlights) because if I did, I would put more of the lighter parts of the sky into the highlight range. If you're trying this out while you follow along, try the right slider yourself and see what happens to the sky. OK? So we'll leave that end alone. We've created a little contrast, though - which may, at the moment, appear a little too dark, but just follow along. All will be revealed.

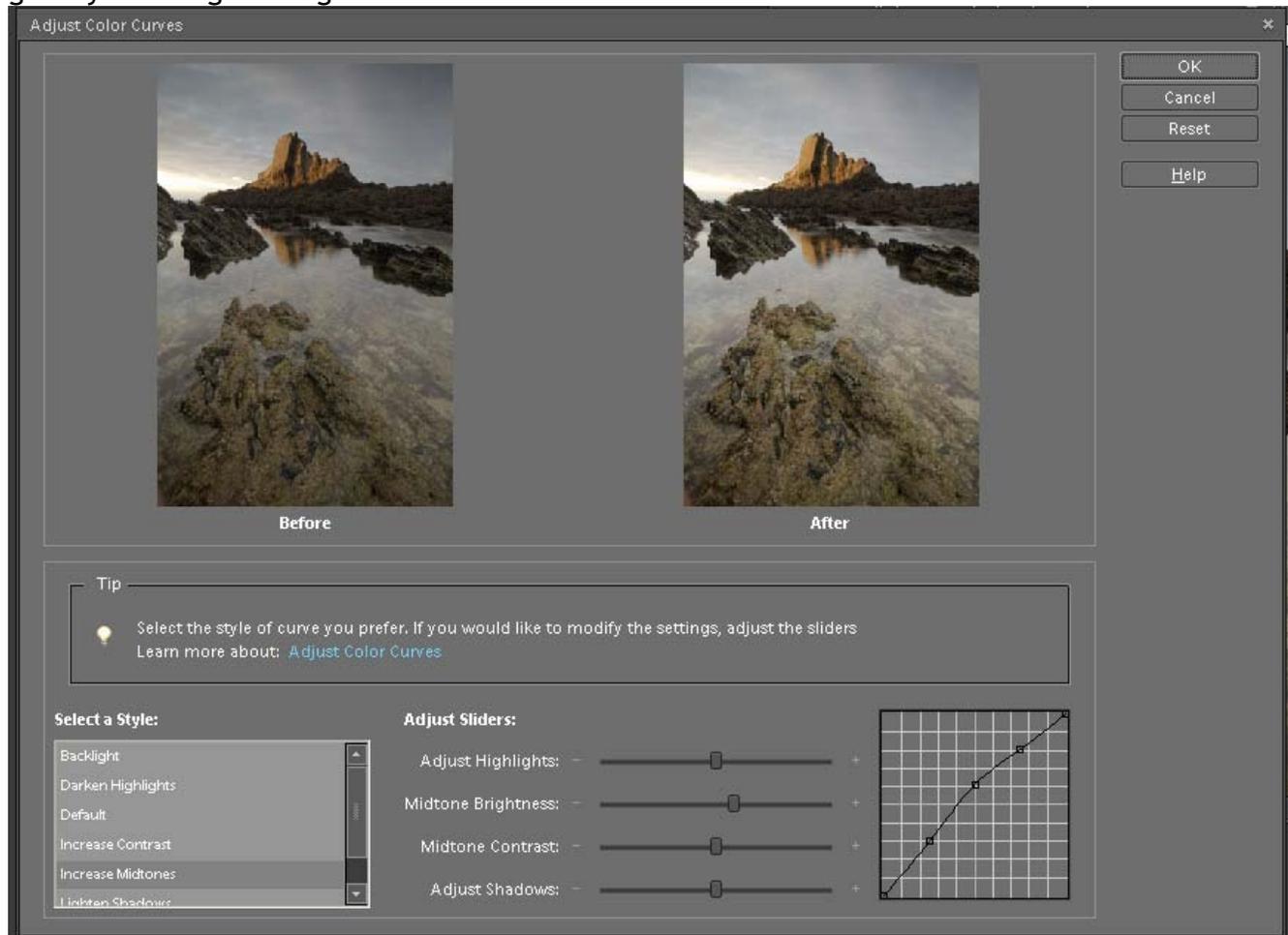
OK, on to the **Curves adjustment** itself. If you're on CS you can use its own Curves adjustment layer but I'm going to use the Colour Curves of Elements (version 6 and later). While on the subjects, you may be aware that some of CS's tools can actually be used on Elements, by using 'Actions'..... most (if not all) of them can be found free on the internet and installed into Elements, giving Elements quite a few more strings to its bow that it doesn't have when you buy it.... e.g. A Layer Mask, A Curves Adjustment, and many editing methods that use 'hidden' parts of Elements. There's a lot more 'under the hood' than you'd think!

Your highlighted layer is probably still the Levels Adjustment Layer, so we'll tidy up a

little..... right click on that Levels layer and choose 'Merge Down'.... this will add that adjustment to the layer below (our Background Copy). click on the Background Copy layer to make it 'active'.

You could also give yourself an image layer of 'what you've done so far' by hitting Ctrl+Alt+Shift+E, all together, which gives you an updated layer. The technique is not well documented but it's called 'Stamp Visible'.

Go to the top menu and find 'Enhance', then 'Adjust Color', then ' Adjust Color Curves'. This gives you a large dialogue box.....



There are several presets on the left 'Select a Style' box. Click on a few to see what you want. Personally, I wanted to see more details in the middle tones, so I clicked on "Increase Mid-tones". Try that and see if it suits your image. In my case, I also pushed the 'mid-tones brightness' slider a little right to give it a bit more of a boost. You can see an instant change in the 'After' image. You'll also see the 'Curves' themselves - the box (the grid on the right) shows tones dark to bright, left to right, and you can see that nudging what was a straight line a little upwards in the middle (giving what's known as a 'shallow C') seems to do what was needed. If you use CS, the Curves box has similar presets but then you can manipulate the curves directly.

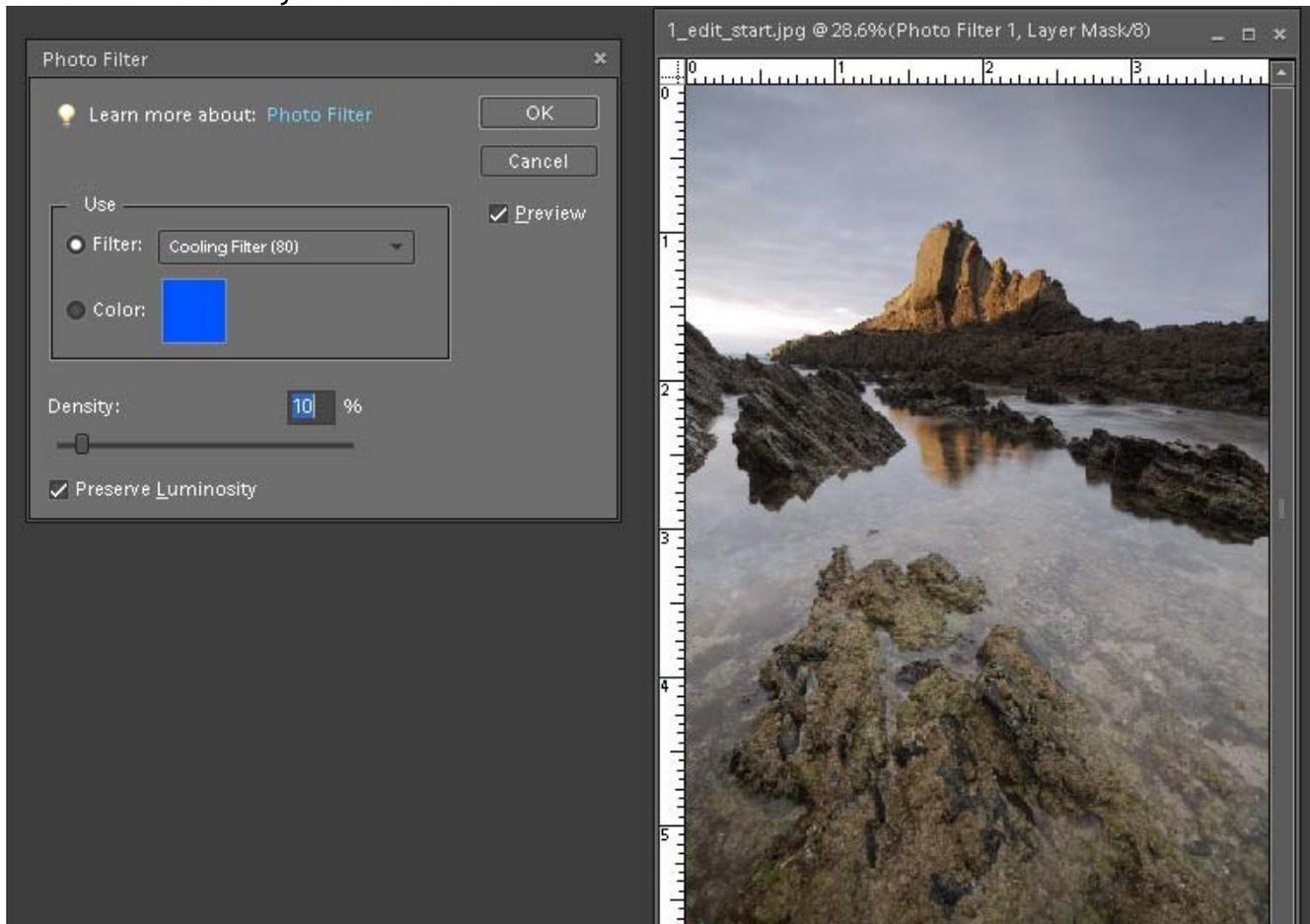
And that, as Forrest Gump said, is all I want to say about Curves.

Colour Temperature - Photo Filter

The shot looks a little yellow in tone.... perhaps it suits the lighting for that time of day but it could probably be improved. You could actually say this is quite 'warm' but you might want to make it look a little 'cooler'.

One of the strange things about our perception of light is that we tend to think of orange or yellow light as looking 'warm', while we think of blue as 'cool'. In reality, when it comes to 'colour temperatures', the opposite is true - white (and blue) hot is hotter than red hot. Just be aware of this when discussing the actual temperature of light in a technical way.

Anyway, we're going to 'cool' the light. You could introduce different colour casts into the image by many means but there's a perfectly good, and under-used, tool available.... the Photo Filter. With the Curves adjusted layer (should be called 'Layer 1' if you're following) 'active', click on the adjustment layer icon (the half-black, half-white circle), and then choose 'Photo Filter'. Again, you'll find some presets that have their ancestors back in the film days, when you'd have to put a filter in front of the lens if you wanted to adjust the colour temperature of the image. So the one you need is the 'Cooling Filter 80' or 'Cooling Filter 82'. On this image, I preferred the first option as it keeps a little warmth in the sky, but you can see the differences in the preview. I find it a little strong, though, so I've reduced the 'Density' to about 10%.



And that's it!

Anything else we should do?

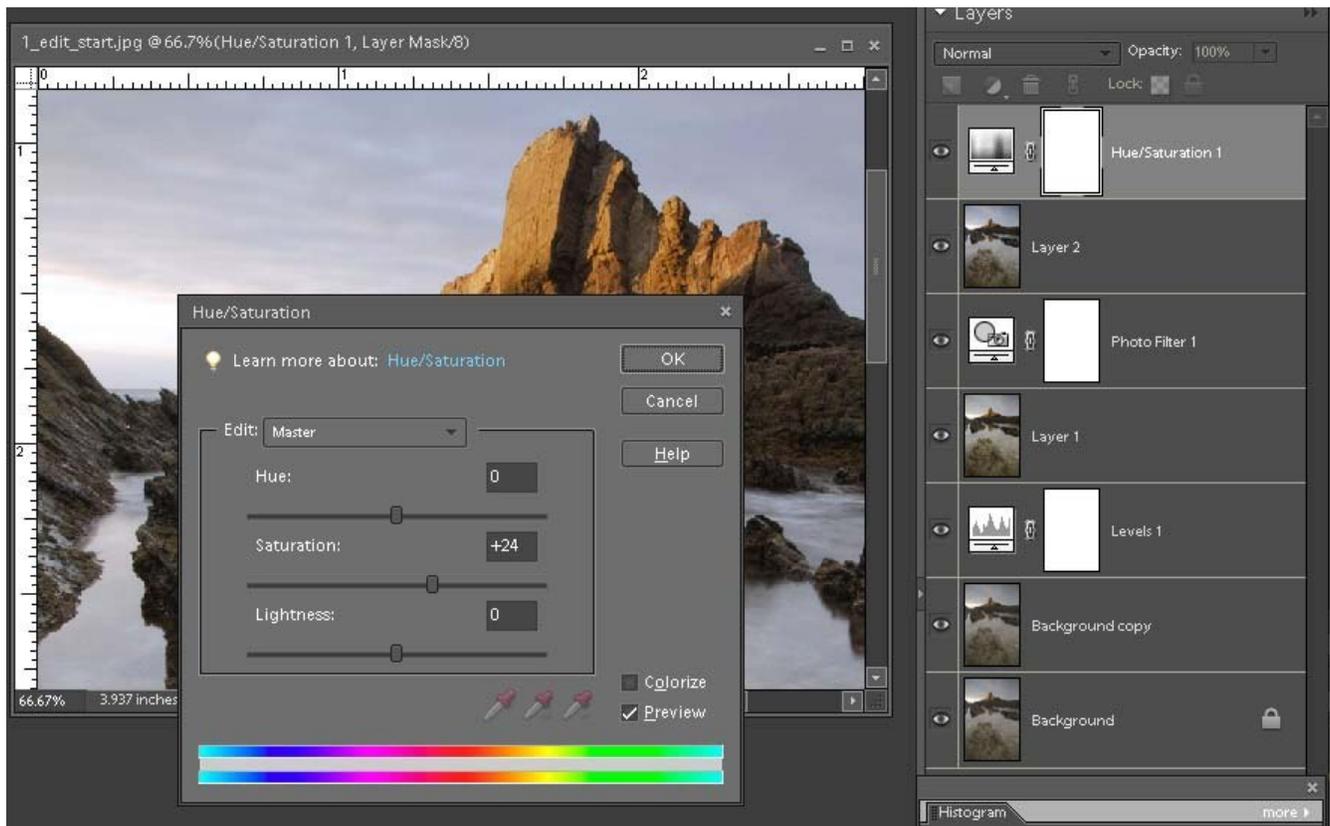
Check the Saturation of the Colours

We don't want technicolor (usually) and we don't want wishy-washy colours, so let's check that we've got the image we want.

With the Photo Filter layer highlighted, let's do that 'Stamp Visible' thing again..... it will take a while to see the benefit of all these layers but when you can see all your editing moves in a 'stack' it helps you to learn about the steps that you've done. So...

Ctrl+Alt+Shift+E (on a Mac that's Command+Option+Shift+E) and we'll get our image updated to a top layer, which should be called 'Layer 2' if we're all together. Zoom into your image a few steps so that you can see what you're doing - otherwise you may get some garish colours happening here - just like 1967 all over again!

Then use the Adjustment Layer button (that black and..... Oh, OK, you've found it!) and choose Hue/Saturation. We don't need a lot more saturation here, but you could nudge the middle 'Saturation' slider a little to the right, giving a little more strength to the colours. I think about 25% extra helps here, but slide completely to the right just to see the power available, then come back to what you feel happy with. Many people find this control and go bananas about it, boosting colours to beyond reality... so be careful out there!



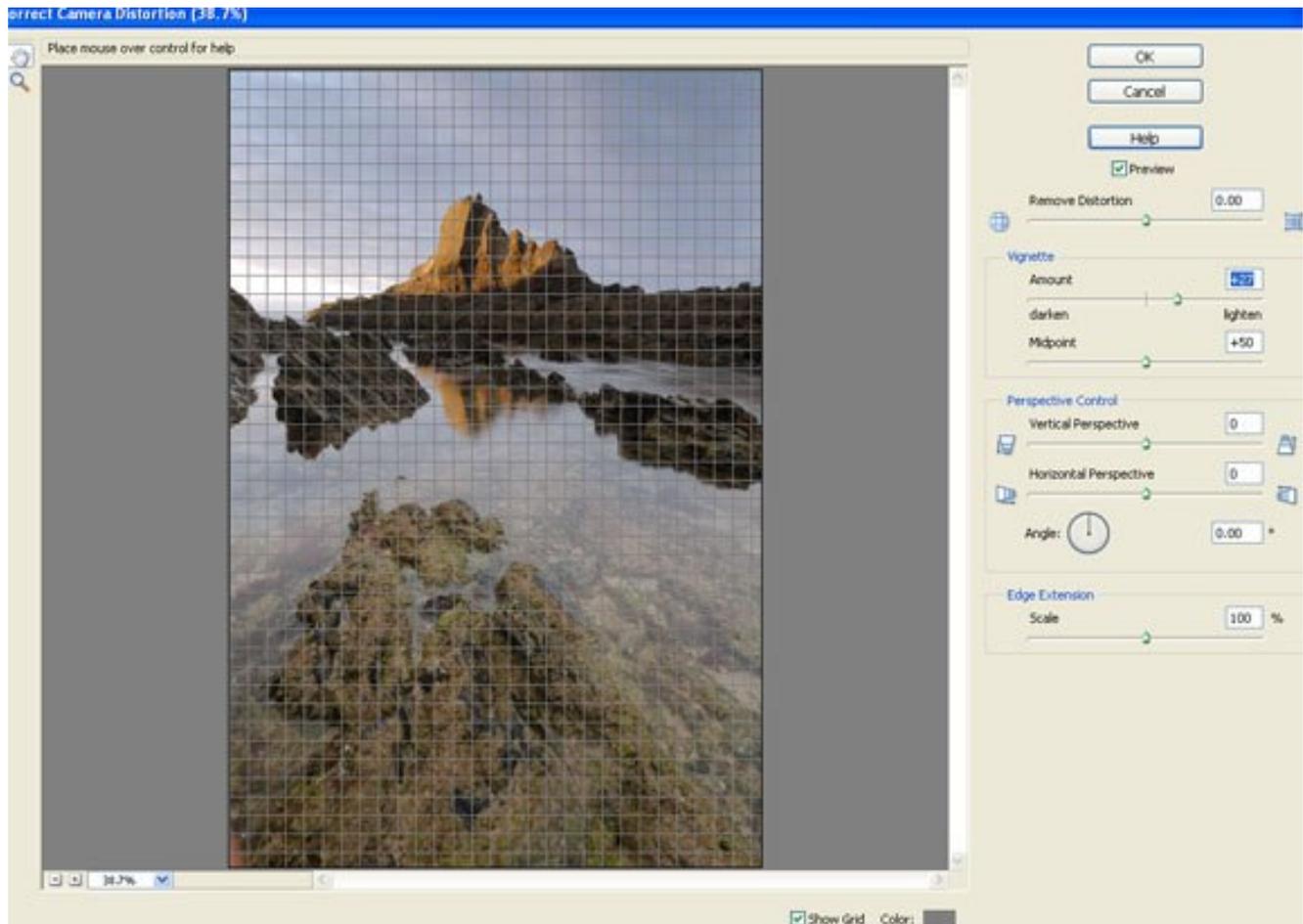
So what now? Nearly all camera lenses have a tendency to create some 'vignetting' in the image. This will look like slightly darker corners and can be easily removed - though the effect can also be quite attractive. So this edit is not absolutely essential.... in fact nothing since the Levels adjustment has been really essential. What is essential is that these things are checked - it's quite possible that nothing needs to be done with them.

Remove Unwanted Vignetting

So, if you find that your image has unwanted dark corners, we'll remove them. Let's do our 'Stamp Visible' again, so we can distinguish each edit step. (Ctrl+Alt+Shift+E).

That will give us a new layer, called, hopefully, 'Layer 3'. Then go to the top menu item 'Filter' and then 'Correct Camera Distortion'.

You'll see a big dialogue box with various controls.... we need the box marked 'Vignette'. For this, we only need the 'Amount' slider, and we need to move it right. Move it all the way and get a feel for this, then settle it back down until there's no obvious difference in lightness between the corner areas and the central area.



When you're happy, OK that.

More? Well yes..... if you have a DSLR you'll know the problems that can be caused by a spot of dust (which cannot be seen by the naked eye) on the sensor. Front and rear of the lens can be cleaned easily - sensors are difficult. (Don't tackle cleaning a sensor without some real preparation, the right tools and patience - otherwise send it to a camera shop).

So... we need to **Check for Dust and Spots**. Zoom right in to your image and look carefully for small areas that look a bit like carpet stains and shows up more obviously in expanses of the same tone. The image we've been working on has at least one spot..... see if you can find it.

Got it? Yes, directly above the mountain summit. There's possibly another one at the top right corner. Easily got rid of, though.

We'll still have 'Layer 3' active, so we can go to the tools and find the one that looks like a Band-Aid. There are two tools in there, one called the 'Healing Brush Tool' and one called the 'Spot Healing Brush Tool'. The first one works a little like the Clone tool - you choose an area adjacent to a blemish, click 'Alt' (or 'Option') and 'paint' the problem away. This works well on small lines and hairs. The one we want is the 'Spot Healing Brush' - ideal for little patches and no need for the Alt-clicks - we're not cloning, we're painting over a spot and letting the program 'fill-in' the problem by looking at the colour and tone of the surrounding area.

So, with a brush a little bigger than our problem area (brush sizes are controlled from the top, options bar), just daub your brush over the offending item. Watch what happens.... gone! Voila! Job done.

So - do we need to **Sharpen the image**? I think far too many images are over-sharpened, or sharpened when it's not necessary. However, just to run through this procedure, let's run some simple sharpening methods.

There are three main methods, one of which isn't used much but I find is the best of all. I'll come to that one last.

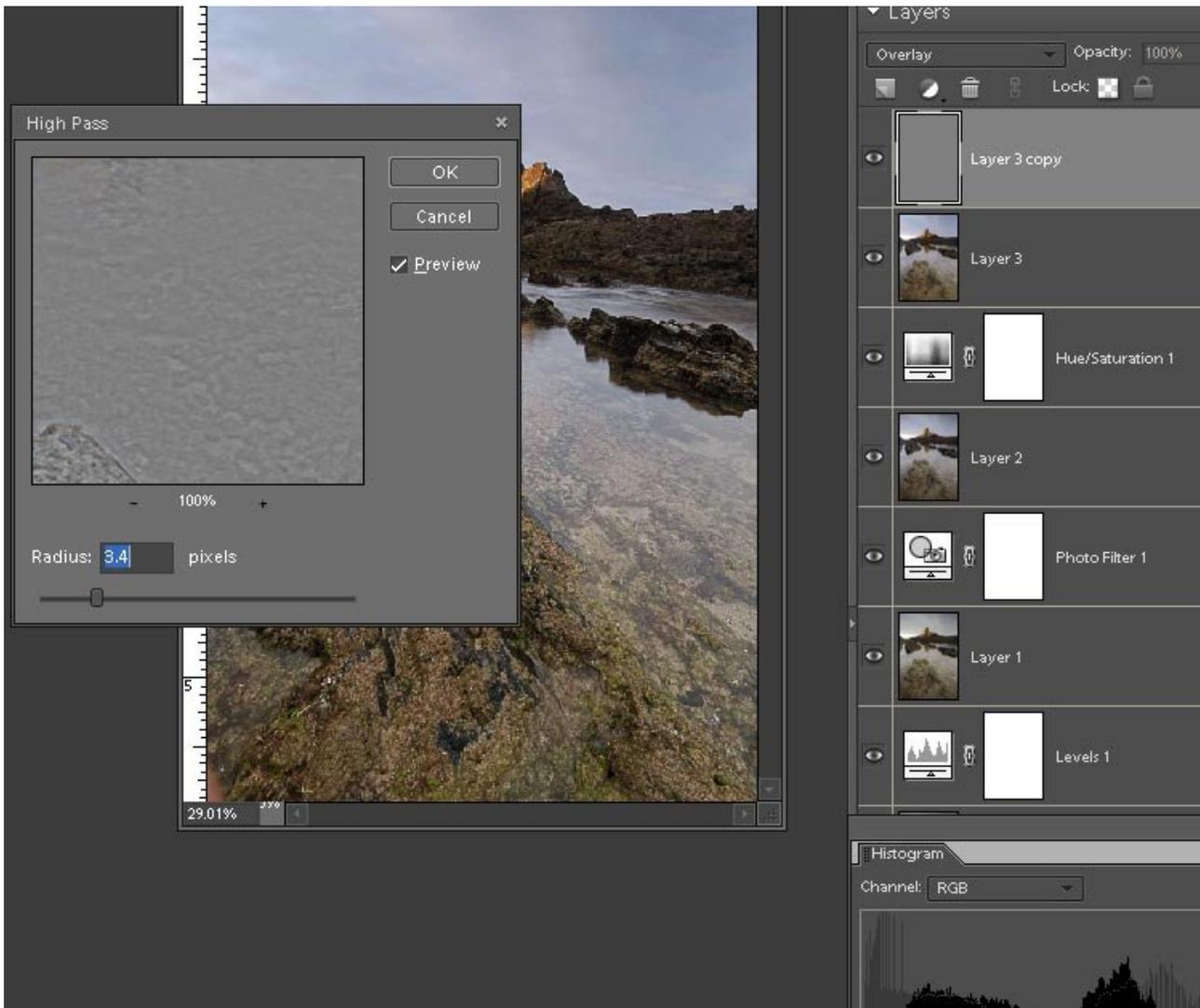
So, first method - perhaps the most obvious - 'Adjust Sharpness', found in the Enhance menu. A very 'broad-brush' method, it works well if not overdone. I recommend settings of no more than 50% and Radius 1.2px (never more than 1.6).

Second method - Unsharp Mask. Common to all editing programs, a hangover from film days. (Why it has that name is a bit complex to answer and outside the aims of this epic). Suffice to say that there are many opinions of settings to be used here..... but you won't go far wrong with Amount 50%, Radius 1.2px, Threshold 12.

The above two methods work by increasing contrast between areas of different tone. When overdone they will create edges in those areas. Hence the very modest settings.

Third method... (which doesn't create edges between areas of different tone, you do it on a dedicated layer and can back the effect off later by adjusting Opacity) is the High-Pass filter. Firstly, though, make a duplicate layer of your top image layer. Click on the thumbnail of 'Layer 3' and drag it onto the icon at the top left of the Layers Palette. A duplicate will be made, called 'Layer 3 copy'. (If you want, you could have done another 'Stamp Visible'. Either way is fine) Now go to the Blend Mode box (top left in the Layers Palette - you'll see 'Normal' in there'. Change that to 'Overlay'. (The image will turn very dark, with too much contrast, don't worry about it). Then go to the top menu 'Filter' and choose 'Other', then 'High Pass'. You'll get a dialogue box with one main slider, a 'Radius'. Move the slider until you can barely see the outline of your subject without be able to see

colours (1.5 to 3.5 are normal). (Out of interest, take a look at the Histogram - it's done some weird things!) OK, Done. The layer box shows a grey layer - don't worry about it.



Well that's it! If you've been working your way through this with the image, I'd suggest you now save this file in PSD format, so that it keeps its layers intact and you can come back to it to check the sequence, refresh the memory etc.

In normal circumstances, you'd flatten the layers (right click in the Layers Palette and choose 'Flatten Layers') so that you could then save the file as a jpg.

So there are the 7 “Essential Edits”..... It may be better to think of them as “Essential Checks”.... I recommend the use of a Levels Adjustment on **all** images.... but the remainder of the techniques above may be unnecessary, even the Sharpening. Is it ready for printing? Well, there's the whole new subject of composition to think about, with possible cropping and resizing. But that's a subject on its own.

Happy editing.

Geoff