

## WHY WE NEED TO EDIT IMAGE FILES AND HOW MUCH IS APPROPRIATE

Presentation for LCCP July 2018

### INTRODUCTION

The problem with photography is that the camera does not capture what we “**see**”. In our mind's eye (previsualisation) we “**see**” how the image **should look**, but our camera only captures the light from the objects in front of us.

This is called “**The Democracy of the Lens**” by Dr Les Walkling and reminds us that the camera in all of its 21st Century splendour, is still an “**idiot**”. It can't decide what is important in the image, can't emphasise these elements and reduce those unimportant elements. All it can do is record the light coming through the lens.

In its purest form, **digital image capture is just “data gathering”**. It is up to us to turn that data into an image that expresses our feelings and the message we want to convey.

In fact, it is more than this. **RAW files demand to be processed**. The whole point of RAW capture is to give us the tools to work with post capture, so we can massage the data to reveal what we want from the image. Therefore, it is our responsibility to process the image to achieve what we want. It is us, and only us who can determine what the final image should look like.

So, the question is, not so much **Why**, but **How** and **When** do we process the image data ?

Or, to ask another question, “**How much processing is acceptable ?**” Everyone will have a different opinion on this and that is perfectly OK, so for each of us, our experience, vision and ability to use the tools of image processing will influence our opinion of what we see as acceptable image processing.

A useful definition of what is acceptable is: **As long as the finished work can be traced back to a photographic process, then anything is acceptable, it's up to the photographer.**



**Above:** Turning Day into night – a perfectly acceptable use of processing.



**Above:** Taking the image at Left to make the image at right might be a step too far for some!

## PRE-CAPTURE CONSIDERATIONS

Before we start to think about our image processing – some call it “**Post Processing**”, but in reality it is just “**Processing**”, we need to remind ourselves of the important considerations in capturing the image data.

These are the things we cannot readily adjust or modify in processing:

**Framing** (mostly). Getting the camera angles and overall composition correct. Some cropping or changing the image format (to square or panorama) is possible in processing.

**Focus point.** Deciding what (if anything) is the centre of interest informs choices of focus point. A poorly focused image cannot be rectified in processing.

**Depth of Field.** Determining the aperture and lens selection will affect the perceived depth of field. Some background blurring in processing can be done, but often looks artificial. Better to get this sorted out before pressing the shutter.

**Overall Exposure** (Mostly). Getting a good overall exposure is the aim in capture. Avoid under or over exposure of key areas. Clipped highlights are difficult or impossible to recover and too much underexposure results in noisy images when shadows are brightened. Some recovery of over or under exposure is possible.

**Lighting Direction and quality.** Getting the appropriate light on your subject matter, plus the direction of that light is critical to making a memorable image.

**Camera and/or subject movement.** Inadvertent camera movement (shake) results in degraded images that can't be processed. Make sure any camera and/or subject movement is deliberate and supports your interpretation.

## POST CAPTURE PROCESSING – OR REALLY, JUST “PROCESSING”

In thinking about what and how to process our image data, we first need to understand what is important for human perception – how the viewer sees and understands the image. Using our understanding of perception, we can make informed decisions on what we want the viewer to respond to in our finished image.

To make things really simple, we can break down the processing steps into a series of options.

## PROCESSING – THE FOUR WAYS WE MANIPULATE THE IMAGE DATA

***There are really only four things that we adjust in our image processing.*** Why and when we use these adjustments will be informed by our decisions about we want our viewer to see in the image. Let's look at them in turn:

### PROCESSING TYPE # 1: LIGHTEN OR DARKEN THE IMAGE, OR PARTS OF THE IMAGE

The most important part of human perception is our response to Luminosity, or the range of tones within an image. 93% of our retina is responsive to luminosity, so we are most sensitive to the brightness and range of tones within an image.

Therefore, our viewers first and foremost respond to the tonal range (contrast) and the most important response is to the brightest part of the image. The most important part of the image should also be the brightest and have the highest contrast, to attract our viewer's attention.

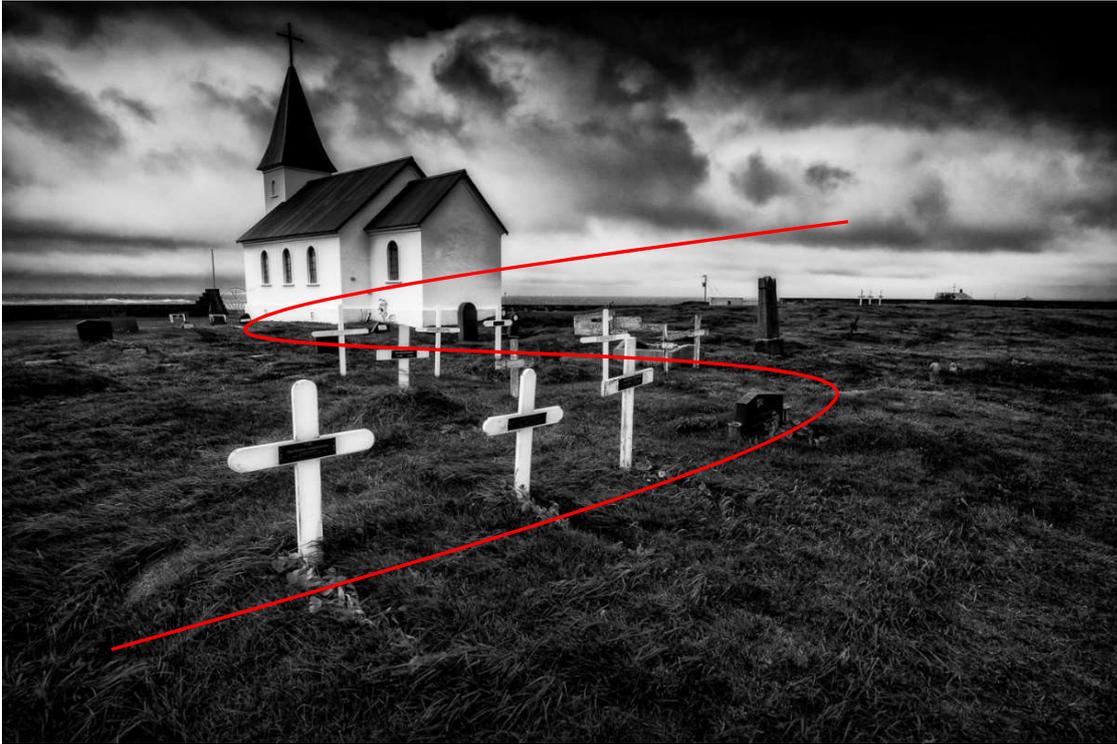
The overall brightness, or "key" of the image sets the "mood" of the image. Bright images tend to be happier, restful and are generally relaxing. Dark images are often said to be "Moody" – brooding, emotive and full of mystery. Make sure the Key of your image is appropriate to the story and subject.

Conversely, the parts of the image that are less important, or form a supportive role should be darker, so not to distract or lead the viewer away from the important elements.

The contrast within the image will also convey a sense of the "energy" within the image. Like the overall brightness, the contrast within the image elements adds to the mood and conveys emotion. High contrast images have more energy, are more dynamic and add drama. Lower contrast images are more restful and contemplative.



**Above:** This image of a fledging mangrove tree has an overall high key, or light mood.



**Above:** The church at Tjorn is the burial site of Agnes Magnúsdóttir, the last woman to be executed in Iceland (See the book "Burial Rites" by Hannah Kent). The bright areas draw the viewer through the image. The low key sets the mood appropriate to the story.

**PROCESSING TYPE #2: MAKE THE IMAGE OR PARTS OF THE IMAGE SHARPER OR BLURRY**

Sharp parts of the image, like the bright parts, attract our attention.

Sharper parts of the image appear closer, less sharp parts appear more distant, aiding the perception of depth.

The most important part of your image should be sharp, or sharper than the surrounding elements, to let our viewer know that this is the important part to look at first.

Applying sharpening to an image, or parts of an image is really just adding selective contrast along the boundaries between tones. Lighter tones are made lighter and darker tones are darkened further.



**Above:** The eyes and beak of this Giant Petrel tell us all about this ruthless scavenger.

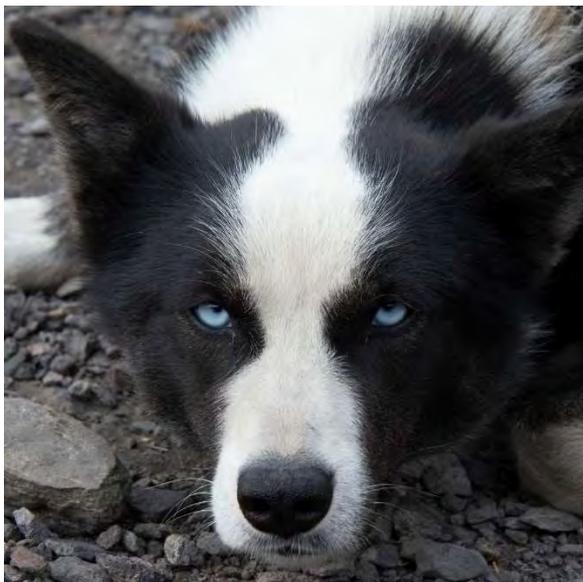
### PROCESSING TYPE #3: ADDING OR SUBTRACTING SATURATION TO PARTS OF THE IMAGE

Highly saturated colours in an image also attract attention, therefore, if it suits the part of the image, you can increase saturation selectively to direct attention, as in the Giant Petrel example on the previous page. Note the eyes and the beak have increased saturation.

Likewise, we can reduce saturation of parts of the image that are less important.

Remember that saturation, unlike brightness and contrast, is perceived differently by different people, and is therefore highly subjective.

The amount of saturation in the image sets the “personality” of the image – a subjective term, but one that gives a sense of the character conveyed by the saturation of various objects within the image.



**Above:** Increasing saturation of the eyes draws the viewer to the most important part of the image. Note that the background has also been darkened to reduce distraction.



**Above:** Selectively increasing saturation of these Polar Bears adds separation from the background.

#### **PROCESSING TYPE #4: CHANGING COLOUR BALANCE TO WARM OR COOL THE IMAGE**

The last thing we can change in our image is to alter the colour balance, or the “colour of the Colour”. Using colour balance, we can make parts of the image warmer or cooler.

Cooler parts of an image tend to recede into the background, with warmer hues coming forward. This can greatly enhance the sense of the third dimension missing in a two-dimensional print. The overall colour balance of an image can also add to the mood of the image. Warmer tones tend to be more comfortable, restful and pleasing, cooler tones are less comfortable and indicate tension or drama.

Changing the colour balance to a warmer hue in an image can allow the photographer to give an image a more “Edge of the Day” feel, especially good for images captured in overcast conditions when the colour balance is naturally cool.



**Above:** In this image of Walrus on the beach in Svalbard, the natural blue hue of the background has been reduced, with the warm colour of the animals enhanced a little.



**Above:** the two images have different colour balances. At left the overall balance is cool, with the image on the right having a warmer colour balance.

## USING THE FOUR ADJUSTMENT TOOLS FOR PROCESSING IMAGES

Note: It is always better to do the most processing in Lightroom – adjusting the data parameters (known as **Parametric Editing**) before rendering the image into an RGB image file in Photoshop. This gives the photographer the best quality image data to make further adjustments with layers and masks within the Photoshop workspace.

### RAW PROCESSING STEPS IN ORDER OF IMPORTANCE:

#### THE PHOTOTUTOR 60 SECOND QUICK DEVELOPMENT GUIDE:

1. Crop and straighten the image using the **Crop tool**. (This can be done at any time, but eliminating extraneous data – such as unwanted highlights will aid in the following steps).
2. Set the **Black point** using the **Blacks slider**. (Hold down the Alt key to see the clipping warning overlay – most images will have some black pixels). **LIGHTER/DARKER**
3. Set the **White point** (usually a specular highlight) using the **Whites slider**. (Hold down the Alt key to see the clipping warning overlay). **LIGHTER/DARKER**

**Steps 2 & 3** set the overall tonality. Most images should have a black and a white point, so adjusting these values gives us the overall tonality of the image).

4. Set the **Mid Tone Balance** using the **Exposure Slider** (this is misnamed in Lightroom. Adjust this to set the balance of tones within the overall tonality) **LIGHTER/DARKER**
5. Set the **White Balance** using the **White Balance eyedropper**, choose a **White balance pre-set** or manually adjust the **Temperature and Tint sliders**, or a combination of all three options. The eyedropper is useful if there is a neutral toned area in the image. **WARMER/COOLER**

Steps 5 and 6 can be carried out in either order.

6. Set the **colour intensity** using the **Vibrance** and **Saturation** sliders. Sometimes a mix of plus and minus adjustments of both together will work. **MORE SATURATION/LESS SATURATION**
7. Apply some **local contrast** using the **Clarity slider**. A value of 20-30 is a good starting point. **SHARPER/SOFTER**

8. Apply **sharpening** to the image using the sharpening tools in the **Detail Panel**. Set **Amount** to less than 50, (as a guide), **Radius** to 1 pixel, set **Detail** to a high level (80-100) for images with fine detail (landscapes) or lower amounts for large detail (portraits). Hold down the **Alt** key and apply masking to the areas of no detail – shown as black on the mask. **SHARPER/SOFTER**

### **PRIOR TO MOVING INTO PHOTOSHOP FOR FINESSING AND REFINING, THESE OPTIONAL ADJUSTMENTS MAY BE OF USE**

In addition to the basic adjustments above, these are some further useful “optional” extras.

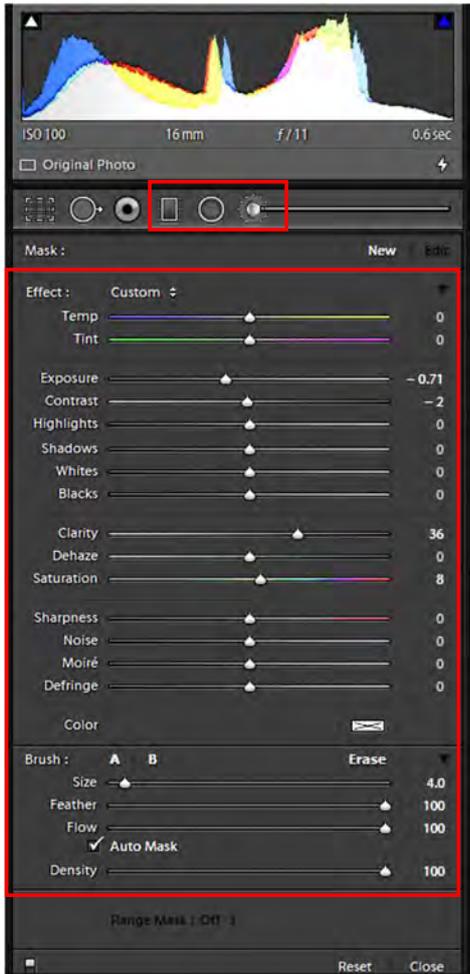
9. Adjust the **Shadows and Highlights** separately using the **Shadows** and **Highlights** sliders. **LIGHTER/DARKER.**
10. Adjust the **overall contrast** using the **Contrast slider** (or use the Tone Curve panel). **LIGHTER/DARKER.**
11. Go to the **Lens Corrections** panel and apply the **lens profile** and/or the **Chromatic aberration correction** filter.
12. Go to the **Effects panel** and apply a **Vignette** using the **Post Crop Vignette** slider.
13. For images with low contrast or clarity, try applying some additional overall contrast and saturation using the **Dehaze** slider. **LIGHTER/DARKER + SATURATION.**
14. Get rid of **dust spots** with the **Spot Removal tool** – found in the toolbar under the Histogram at the top of the Develop panel. Works well most of the time.

### **MAKING SELECTIVE ADJUSTMENTS IN LIGHTROOM**

In addition to the Global adjustments available in Lightroom (Adjustments that affect the whole of the image), we have three tools that allow us to make selective adjustments to selected parts of the image. These are: **The Gradient Tool, The Radial Filter** and the **Paintbrush tool.**



**Above:** The selective tools in Lightroom.



The selective tools are located just below the Histogram in the Right-Hand panel in the develop Module.

All of the above tools can be selectively applied in Lightroom using the tools in the panel below the Histogram.

These tools all have available sliders to adjust the Hue, Saturation, Brightness, Contrast and Sharpness.

These are the four types of adjustment that apply to all images. Every filter, plug in and Photoshop filter uses combinations of these four basic adjustments.

## MAKING REFINEMENTS IN PHOTOSHOP

Once the essential processing steps have been completed in Lightroom or Camera RAW, rendering the image into an RGB Pixel based image allows us to make further selective refinements to bring the image to life.

In Photoshop, all adjustments should be carried out on separate layers, to maintain the integrity of the original file and to allow use of **Masks**, **Blend Modes** and **Opacity** controls, all of which add considerable power to our processing tools.

There are many schools of thought regarding the optimum way to work in Photoshop, but I prefer to make many small adjustments on individual layers, rather than try to do a lot with one layer.

We also use and recommend the NIK filters collection (formerly from Google, now owned by DXO labs) as well as other packages, such as On1 offering similar packages of filters.

## LIGHTENING AND DARKENING TOOLS IN PHOTOSHOP

**Curves layers blended to Luminosity** have little effect on Saturation (but due to some fundamental design flaws, all darkening tools increase saturation, when it should decrease). You may need to add a Hue/Saturation layer to reduce the effect of the possibly unwanted increased saturation.

**Brightness /Contrast** and **Levels** are really just “dumbed down” versions of Curves and also work on Brightness and contrast.

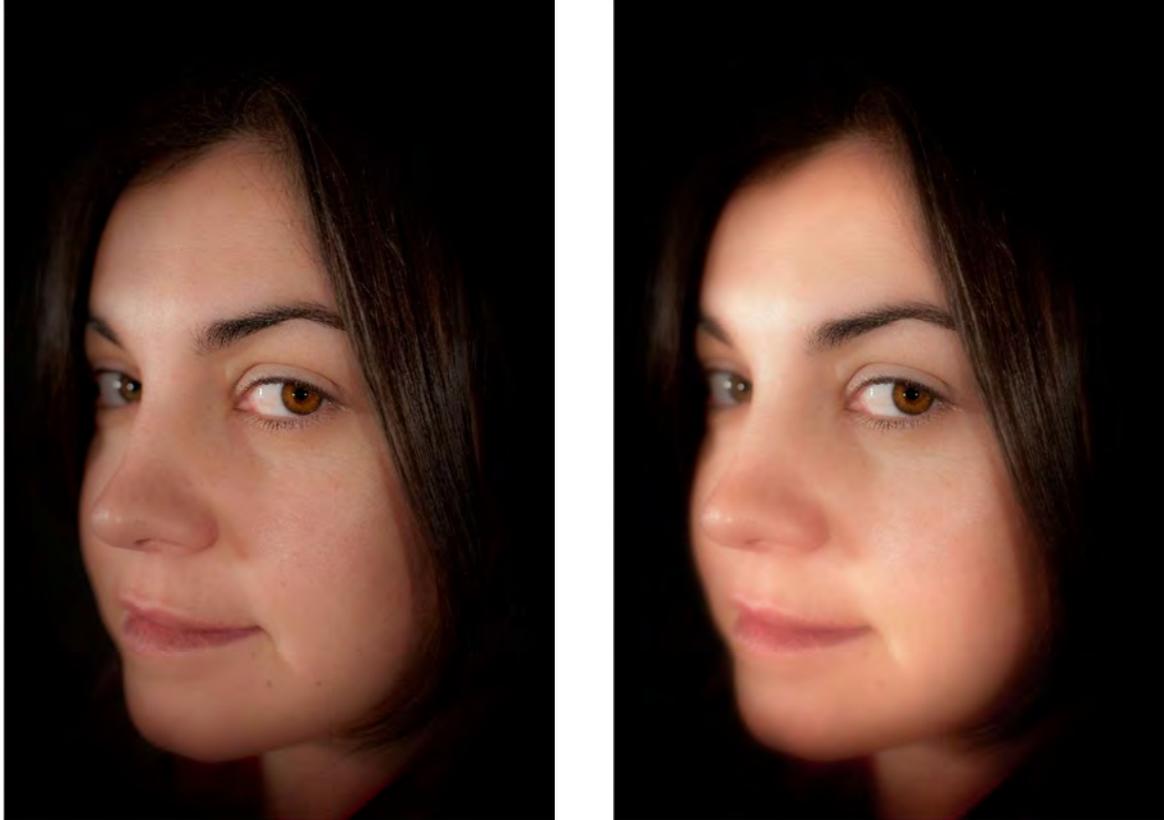
**NIK Silver Efex** layers blended to **Luminosity** (and adjusted for opacity) can remap the colour information to create different “looks”. The same layers blended to **Normal** blend mode can create high or low key and contrast monochrome images.



**Above:** Applying a monochrome filter (Photoshop or NIK) blended to Normal remaps the colour information to pure luminosity values. Different filters or channel adjustments yield vastly different results.

## HARDNESS AND SOFTNESS TOOLS IN PHOTOSHOP

**Sharpening** using any of the Sharpen filters adds sharpness to the whole image, but when used on a composite layer (a combined layer combining all adjustment layers below) together with a Mask can be selectively applied



**Above:** In this portrait, the original at left was sharp over a wide area. To emphasise the eyes a composite layer was created and a blur filter (Nik Color Efex Classical Soft Focus) was applied. Adding a mask and painting in the eyes with black revealed the sharpness, while the remainder was softened.

This is a good technique for portraiture where skin blemishes are not wanted.

NIK Color Efex filters can add sharpness. Detail extractor, or any filter that has controls for Structure can increase sharpness. Always add a mask to limit the effects of the sharpening.

NIK Silver Efex filters blended to Luminosity can also bring out the fine structure in images. Adjust the Opacity to find the optimal setting and add a Hue/Saturation adjustment layer to add back some of the slight loss of saturation that comes with using this method.

Softening can be applied using a composite layer with a Blur filter (Gaussian) and a mask to limit the effects.

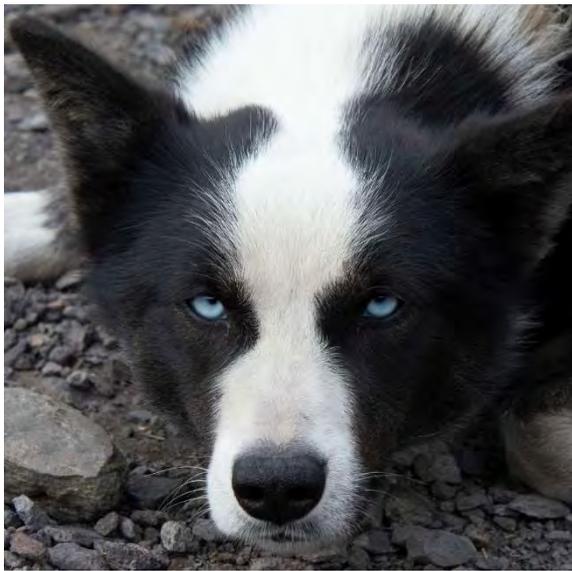
In NIK the Classical Soft Focus, Midnight (adds blur along with severe darkening), Glamour Glow, or the Vignette- Blur filters will add softness to the image. Add a mask to restrict the effect as desired.

### SATURATION TOOLS IN PHOTOSHOP

Unsurprisingly the **Hue/saturation** adjustment layer is the first stop for adding or reducing saturation. Using the selective tool, you can choose to increase the saturation of particular colours.

A Curves layer blended to Normal will give an increase in saturation to the darkened areas. This is also true for Levels and Brightness/Contrast adjustment layers.

In NIK Color Efex, most of the filters have some effect on Saturation, including the Tonal Contrast, Brilliance/Warmth, Color Styliser and many others. Always use with a Mask for control over where it is applied.



**Above:** Selectively increasing the saturation in the eyes (and darkening the edges) draws the viewer's attention. Original image at left.



**Above:** Increasing the saturation of the Walrus fur in the foreground and not the background adds to the separation in the image. I have also added some fine structure to bring out local contrast. Original image at left.

## HUE OR COLOUR BALANCE TOOLS IN PHOTOSHOP

Using a **Hue/Saturation** adjustment layer will give the image an overall colour cast. By restricting the effect to highlight areas only (or Shadows) will give a different effect. To select either Highlights or shadows, make a selection using the Colour Range tool and choose either Highlights or Shadows.

Alternatively, use a **Colour** Filter adjustment layer or a **Lookup Table Adjustment** layer (LUT) with a mask and opacity adjustments.

In NIK Color Efex Pro, use filters like Brilliance/Warmth, Indian Summer or Photo Styler, In Viveza, use control points to select a colour range and then adjust the hue using the Warmth (positive and Negative) and/or the Hue control.



Above: top is the original image. Below a Look up Table (LUT) adjustment layer has been added and opacity altered to suit.