North Norfolk U3A
Digital Photography Group

Raw v JPEG

1. When and why to use each type
2. Pros and cons
3. Details of the raw file interface and a worked example
4. Summary of the pros and cons

Raw files – what are they?

- Raw files are just what the name says, raw data taken directly from the camera with no processing so you have the ultimate control over what the photograph looks like.
- Each manufacturer uses different raw files so Canon files (CR2) will be different from Fuji, Nikon etc. Therefore they will require processing before they can be shared with others not using the same camera type

Jpeg – what are they?

- Most camera users will be familiar with jpeg as these are the most common format for many digital cameras and phones
- The camera processes the image and makes some basic corrections to contrast and sharpness so the picture is usually acceptable straight from the camera.
- They are also compressed files which means some of the raw data is lost

Reasons for your choice:

- Purpose – what is going to be the end use of the picture?
- Convenience – do you have the software and the time to spend processing the images?
- Lighting – are there tricky or very contrasty light conditions where you may have to recover details?
- Storage - Raw files are much larger, so if storage is an issue you might want to use jpeg

When to use each type

Jpegs

- As they can be used straight from the camera they are useful for informal or family gatherings , record shots etc
- If you only intend to show the images to friends on a tablet or phone or send using an app or print small then choose jpeg
- If you are short of storage space on your memory card or want to shoot a quick burst then jpeg will be fine
- On the downside there is less scope for corrections such as white balance, exposure or sharpness, especially if you make a mistake when taking. Check on the back of your camera!

Raw files uses

- As raw files hold all the data they can be processed to bring out more detail so if you have difficult or uneven lighting, raw may be better
- If the end use is going to be a large print for your wall or you want the best quality for a competition image then choose raw
- Adobe camera raw has many options for making adjustments to the image, adding a graduated filter, adjusting the lighting to separate areas and so on. Lots of features of the editing software itself.

This is the file data for the raw file
Note 53.8mb

File info

Filename
DSCF0870

Date taken
23 June 2021
10 59

Size
53.8 MB

Dimensions
6240 x 4160

Shot
1/800 sec. f/7.1 400 mm

ISO
160

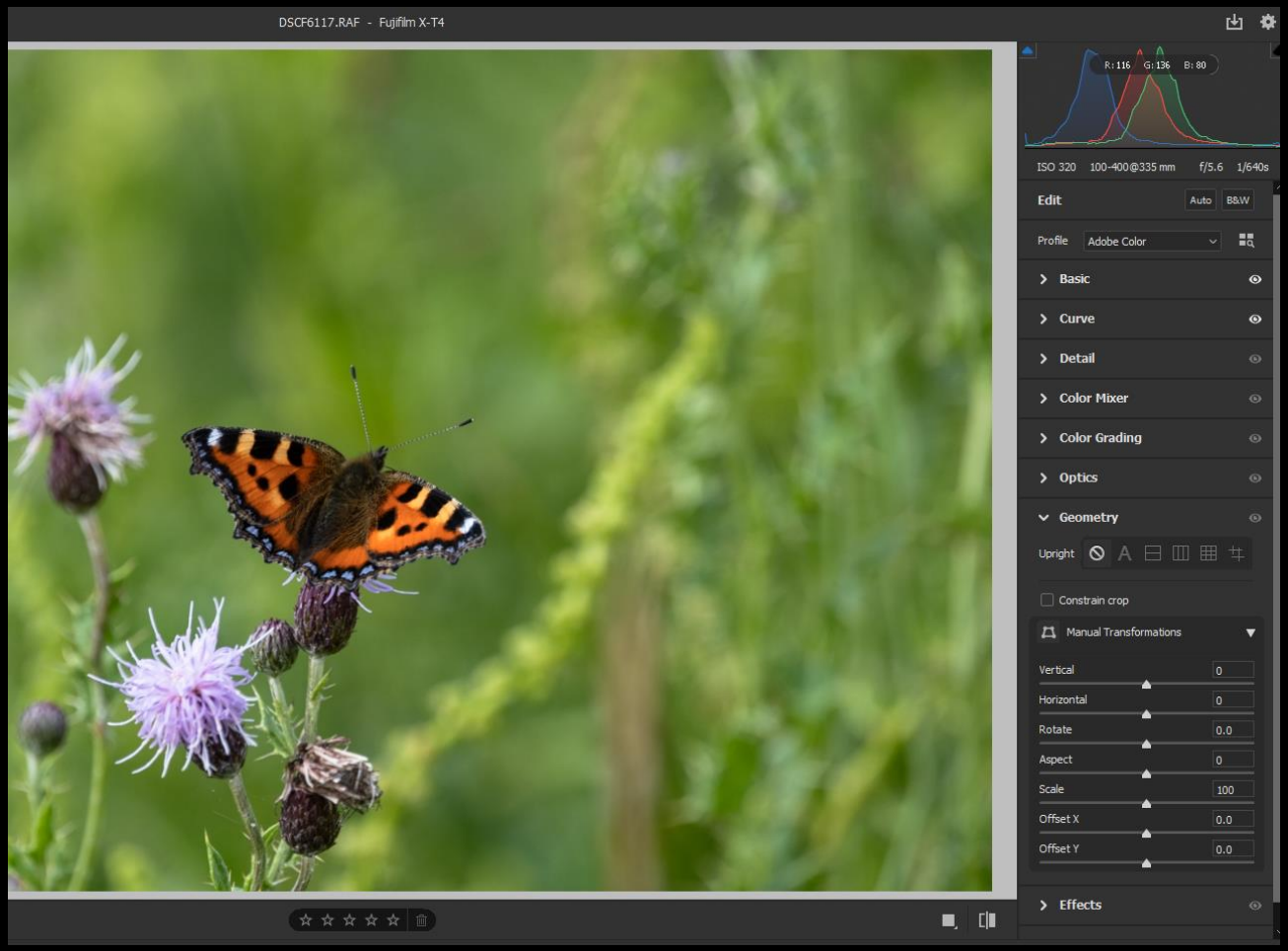
Device
X-T4

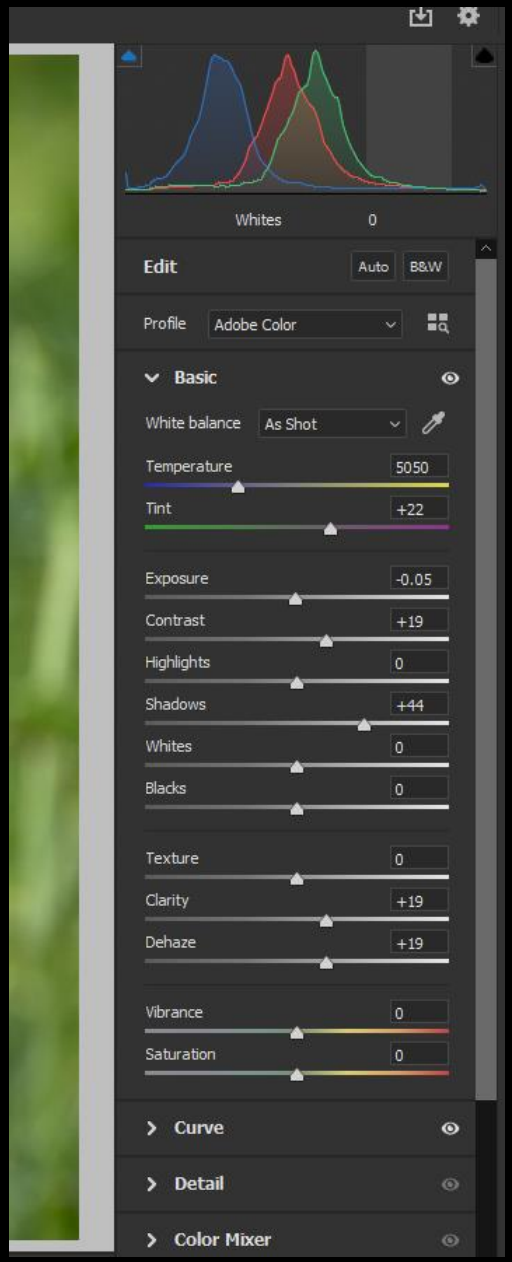
Folder path
F:\Val\2021\Cley Marshes
Open folder

Source
This PC

This is the file data for the jpeg
Note 13.3 mb

Processing a raw file:
I happen to use Photoshop but a lot of other raw processing programmes are similar





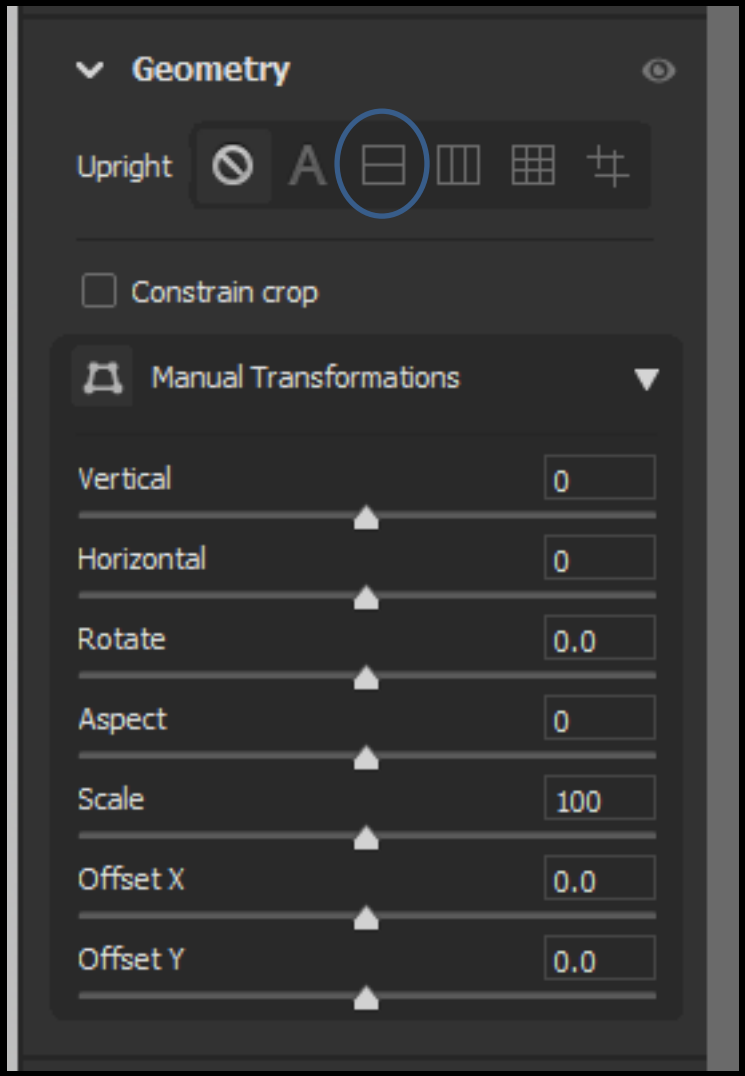
Most of the sliders will be obvious but some might require a bit more explanation:

Adobe colour can be changed, for example to neutral

White balance and colour temperature need not be as taken but can be altered afterwards

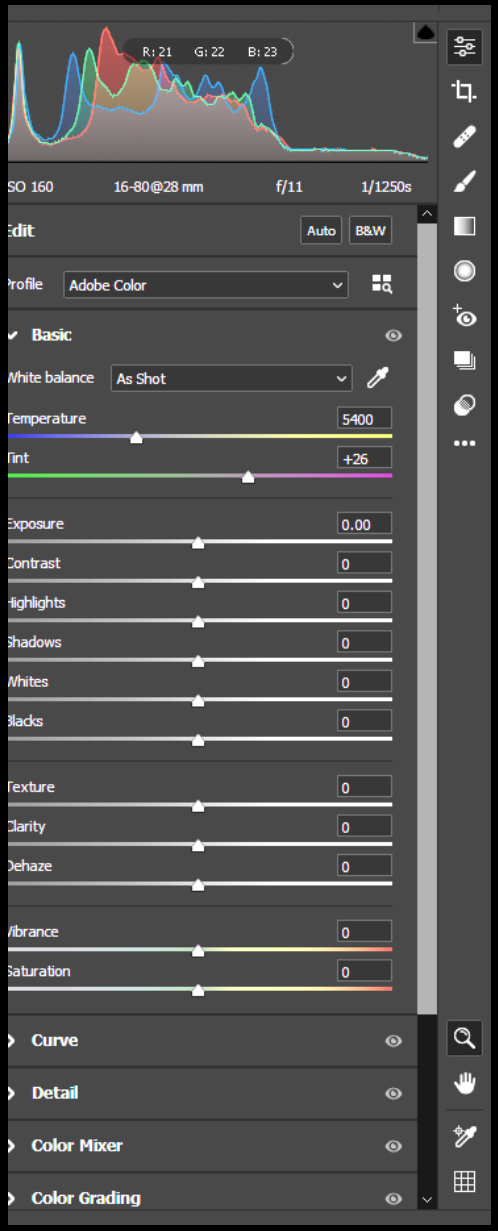
Exposure and contrast. Move slider to the left to reduce and to the right to increase
Highlight and shadow, white and black sliders can be moved to bring out details in shadow area or take down highlights

You can also increase the saturation or vibrance (mid tones) in the whole image
NB Some of these alterations are possible in a jpeg eg shadows and highlights but not all in one place and not with so much control



Another particularly useful set of sliders comes under the heading Geometry

This is very easy to use to straighten verticals, get the horizon straight, change the scale of the image etc
Changes can be automatic or manual
For example clicking on the middle icon circled in blue will level any horizontals in the image, or you can rotate manually using the Rotate slider.



Crop and rotate
Healing brush
Adjustment Brush
Graduated filter
Radial Filter
Red Eye removal
Snapshots
Presets (including black and white)

Zoom Tool
Move
Select Colour (Eyedropper)
Overlay grid (you can change the scale and opacity of the grid

Raw file example

Summary

Jpeg - pros - convenient, smaller file, faster in bursts, easily shared as easy to read, little time spent processing

Cons - lack of control over final results, hard to retrieve details and cannot change white balance etc after taking

Raw files – pros - more control over results, able to change without losing information, better control over shadows and highlights

Cons – bigger files, more processing time, not able to share until converted

Summary

- Whether to use raw or jpeg is not always an easy decision but I hope by giving you some idea of the pros and cons of each you will be able to decide for yourselves.
- Processing of raw files is something to be learned and can be time consuming so you will have to weigh up whether it is worthwhile for the type of images you take and their ultimate use.