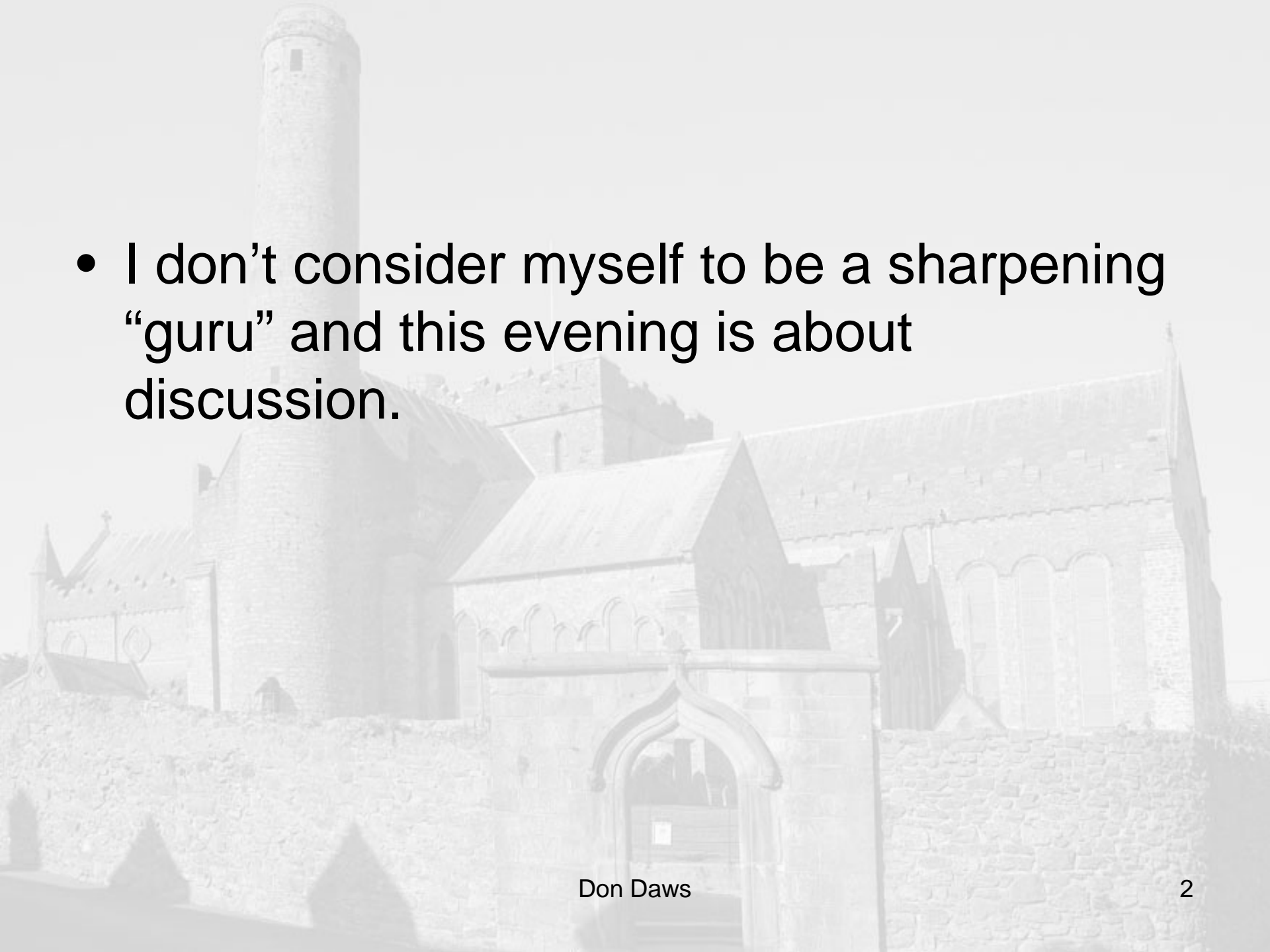




Sharpening

Sharpening

Sharpening

- 
- I don't consider myself to be a sharpening “guru” and this evening is about discussion.

Fundamentals

- No software will satisfactorily sharpen a blurred image because of focus or motion I often forget to
change my shutter speed as I zoom in for example and much of the world moves
- Don't confuse "noise" for lack of sharpness. Deal with noise first.
- The quality of your lens, camera and size of your sensor will all affect quality.
- The aperture that you chose will affect the sharpness of your image. Lens diffraction at small apertures is a problem

What is “software sharpening”?

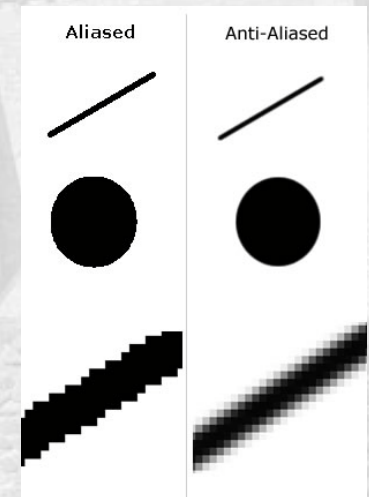
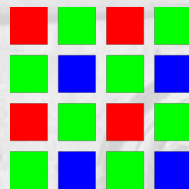
- It's no more than identifying the borders between light and dark and making the dark darker and the light lighter
- Various “controls” allow you to control how the sharpening algorithm works

The steps

- It is now widely accepted that there are three types of sharpening:
 - Capture sharpening
 - Creative sharpening
 - Output sharpening

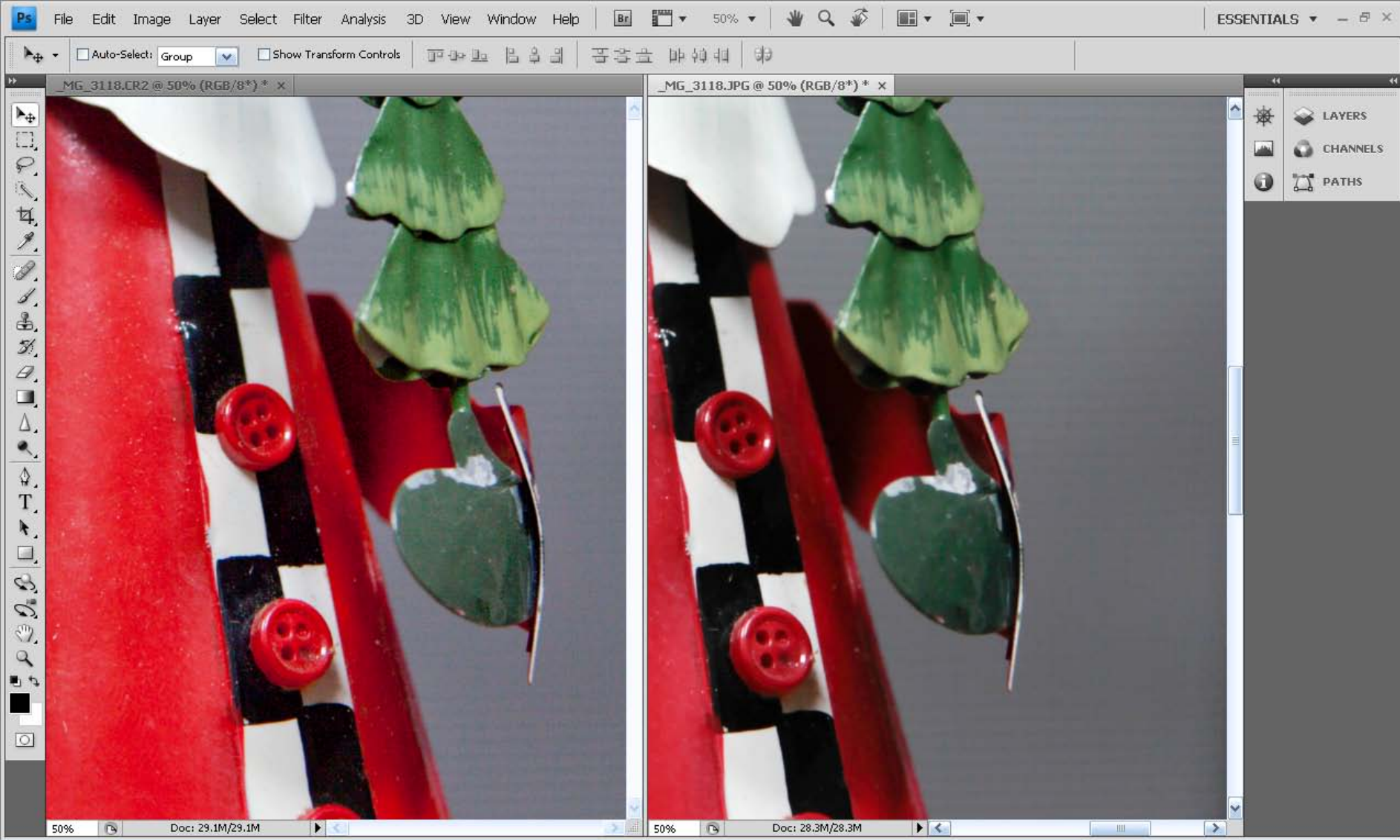
Capture sharpening

- A first stage to overcome the slight blurring that has occurred in capturing the image.
- Your expensive camera does not “see” “colour” it only “sees” greyscale, and filters over each pixel are dedicated to either red, green or blue so as you can see you’ve already lost detail and the camera uses very complicated software to “smooth” the image. For “smooth” read “blur”
- Similarly anti aliasing



Capture sharpening

- In my experience if you get this right the image will require very little further sharpening

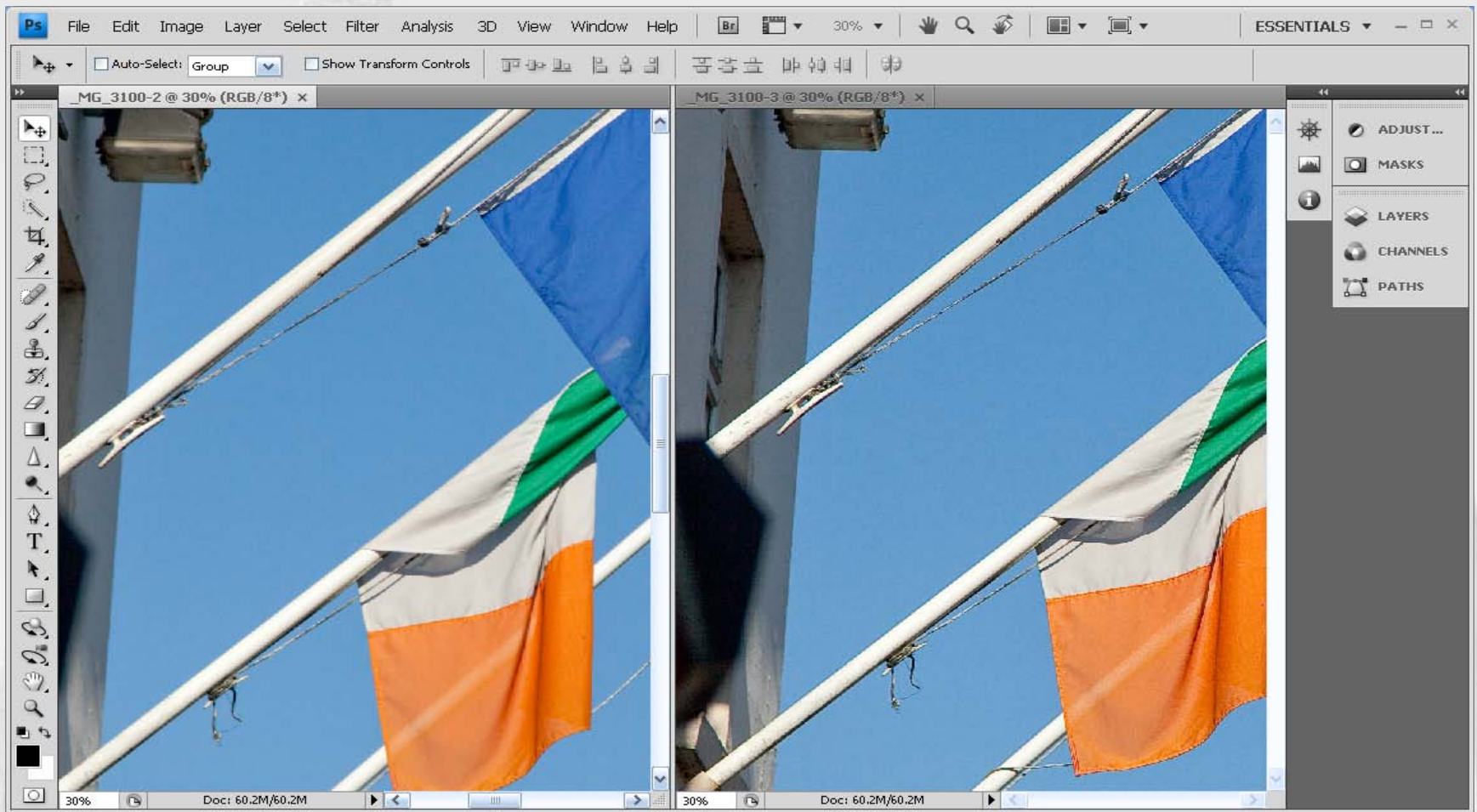


The image on the left is an unsharpened RAW and the image on the right is the unsharpened Jpeg. The differences are slight but notice the edges are sharper on the Jpeg also the specular highlights are better defined.

If you shoot RAW you will need to sharpen in the RAW converter

(the default values are pretty good)

- I'll demonstrate this in Photoshop but lightroom works much the same
- The “Amount slider” controls the intensity of the edge contrast.
- The “Radius” slider controls how wide the edge is.
- The “Details” slider determines exactly what is an edge.
- The “Masking” slider creates a mask that controls where sharpening is applied. This control is useful for portraits or other images that contain large areas of continuous tones that you want to remain unaffected by increases in contrast

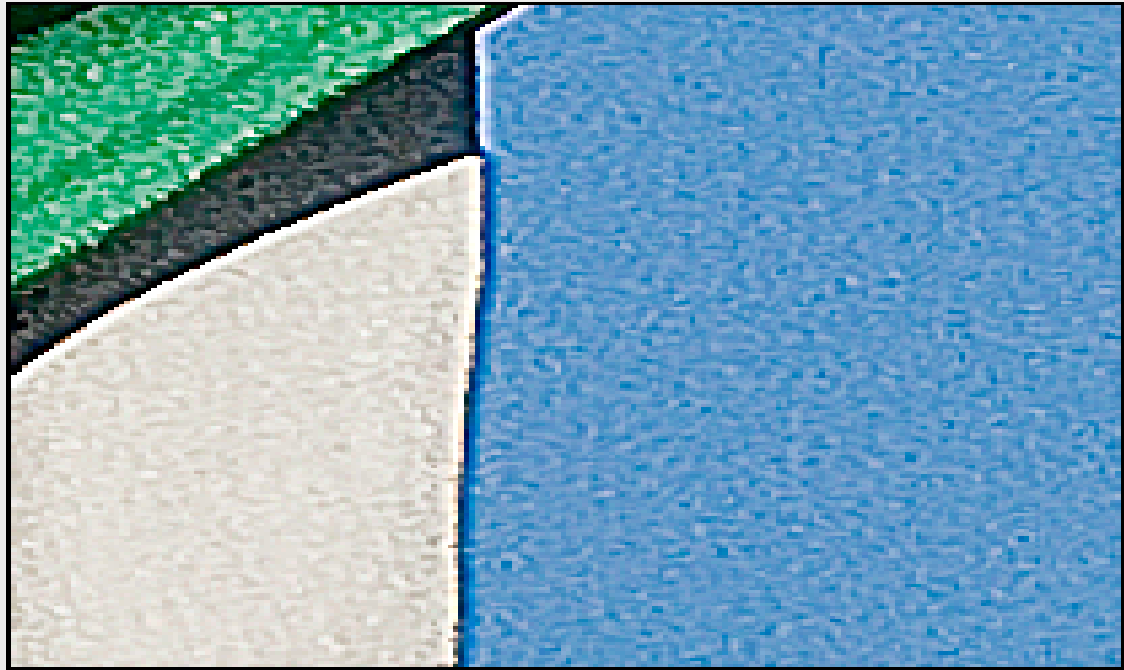


The image on the left is an unsharpened RAW image. The image on the right has been sharpened Again difficult to see on screen but notice the stitching in flag.

Creative sharpening

- The most popular method of achieving this is to use “unsharp mask”
- There are three sliders:
 - Amount speaks for itself
 - Radius is “how many pixels define the border between light and dark”
 - Threshold is “how much difference should there be between light and dark”

Unsharp Mask



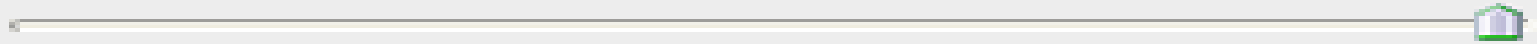
OK

Reset

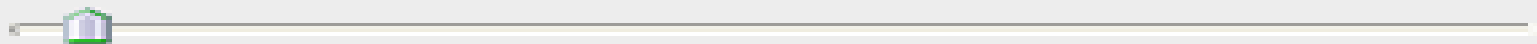
Preview

- 100% +

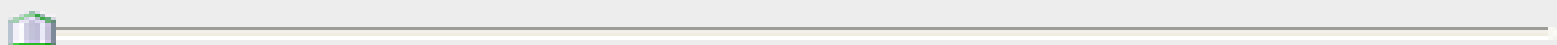
Amount: %



Radius: pixels



Threshold: levels



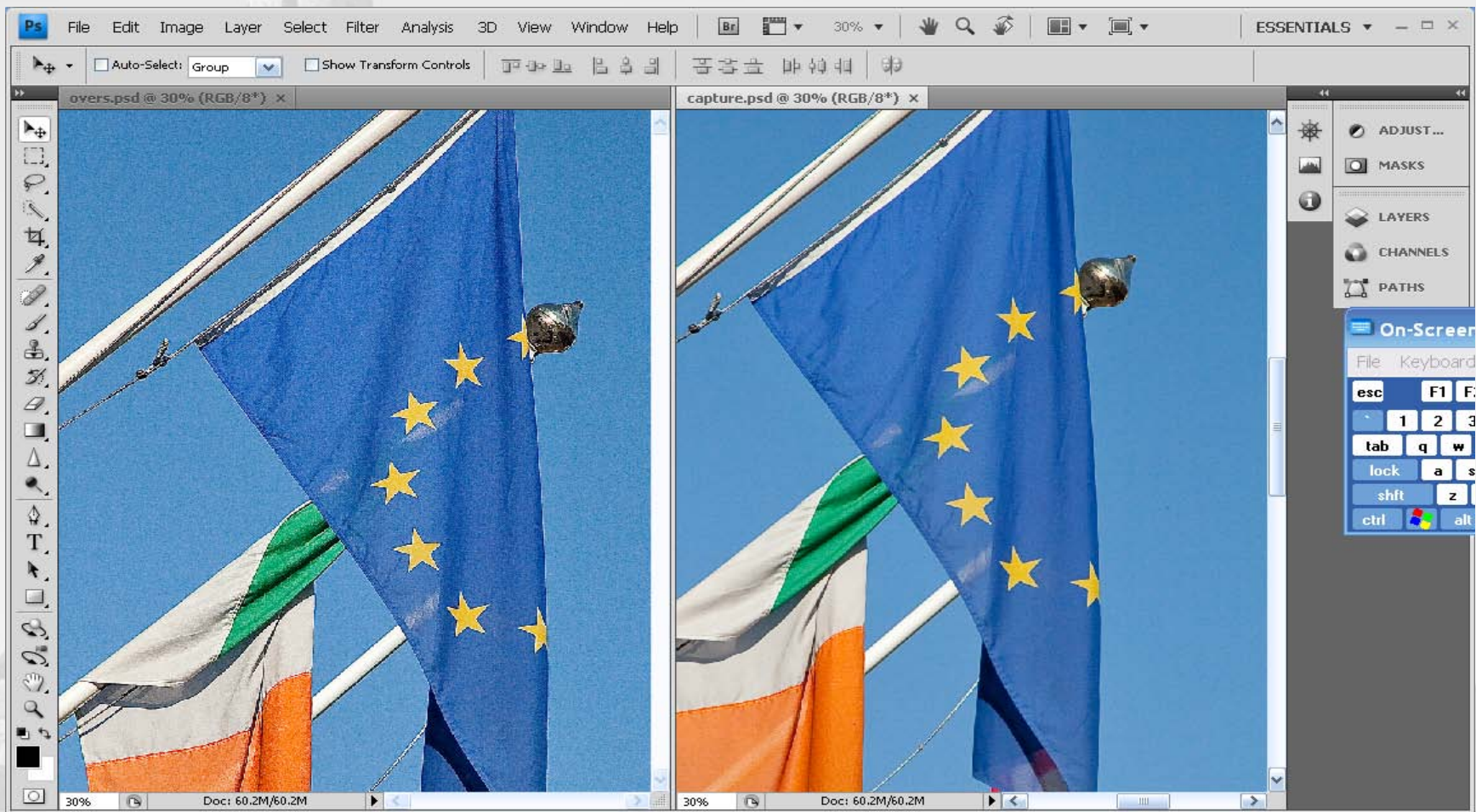


Image on left has been sharpened by a huge amount – too much but illustrates the effect. Notice the folds in the flag

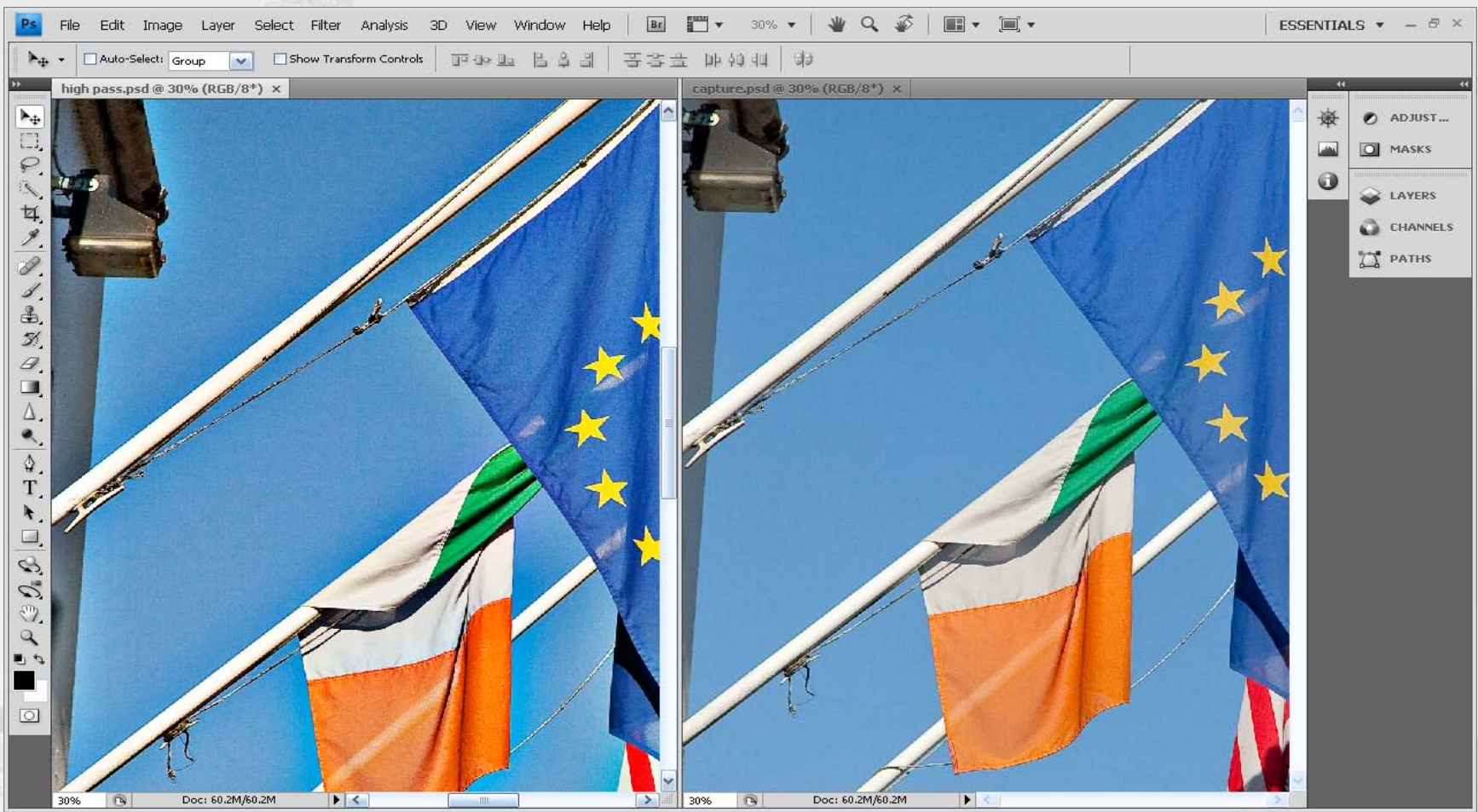
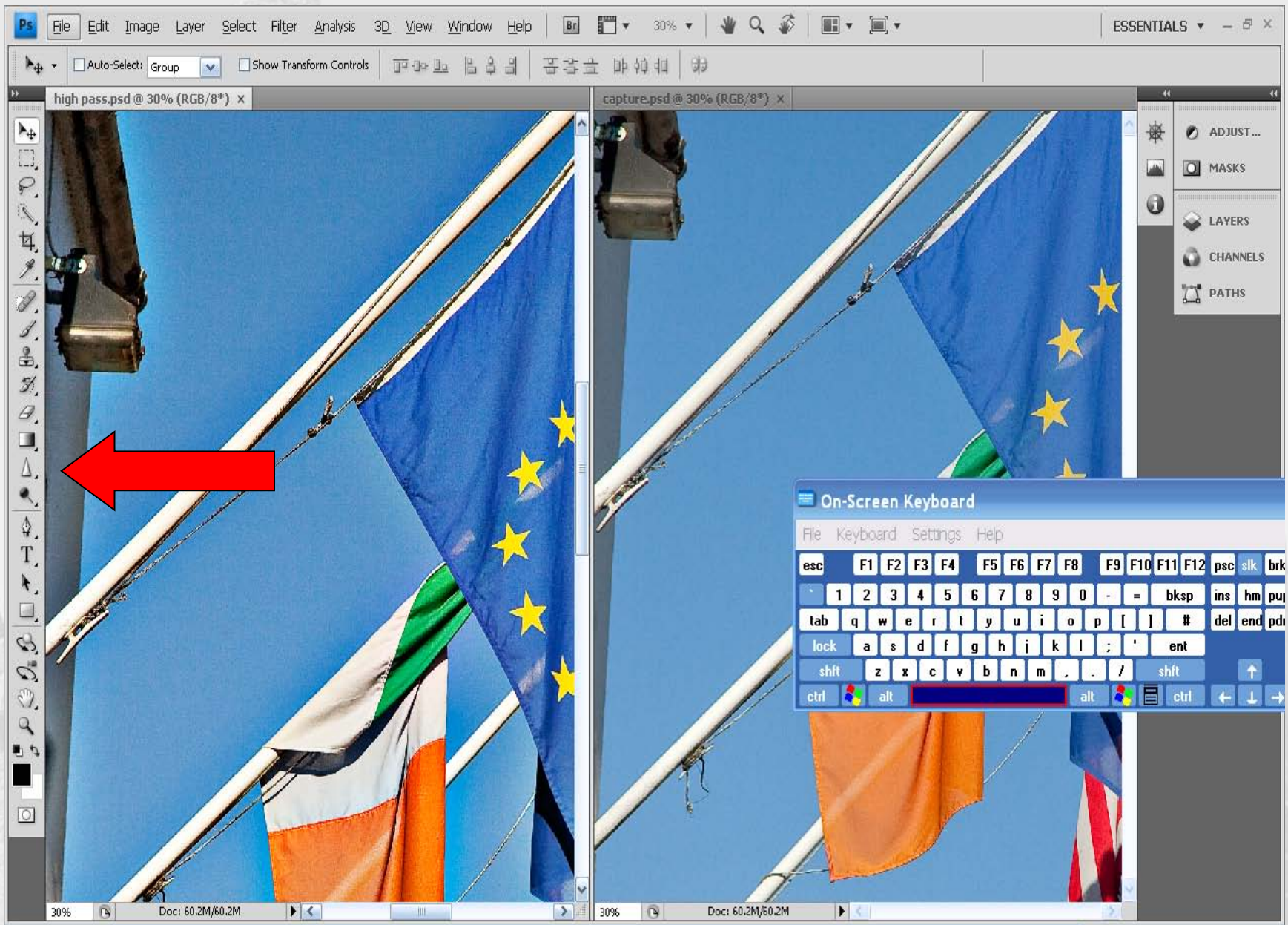


Image on left has been sharpened by “high pass layer” Notice haloling at building edge



Arrow points to “sharpen” brush

Don Daws

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Output sharpening

- Unlike the earlier sharpening procedures “Output sharpening” is applied to the whole image as the last step before printing
- As thus it is the simplest procedure but complicated by the enormous variety of different outputs – screen – gloss paper-matte paper-fine art paper etc
- The only way I have found to get satisfactory results is to make test prints

Did I say “simple”?

- “Jason Odell, in his eBook on NX, recommends the following sharpening routine for output sharpening:

Create USM step with settings of 64/2/4 and set the Opacity to 70% in the Luminance Channel; and

Create a High-Pass step with Radius of 2 pixels, change the Blending Mode to Overlay, and set the Opacity to 50%.

He recommends these settings when printing with an inkjet printer on glossy paper for an image at 300dpi.”