

Intermediate Photoshop: A Workshop

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Some caveats



- I only know a little bit.
- Photoshop has endless permutations.
- There are many ways to achieve the same/similar ends.
- I make some suggestions, but you may have better ways to do things.
- Try to understand what photoshop is doing rather than blindly following recipes – that way you can adapt and extend what you know to solve new challenges.
- What is “Intermediate”?

Outline of this workshop

- On the nature of digital images and image processing
- Working efficiently – shortcuts, ergonomics, workspaces
- “Smart” edits in Photoshop – non-destructive edits with layers and masks
- Blending modes – Layers and brushes.
- Sharpening and blurring filters – multiple uses

- Some examples will be worked on

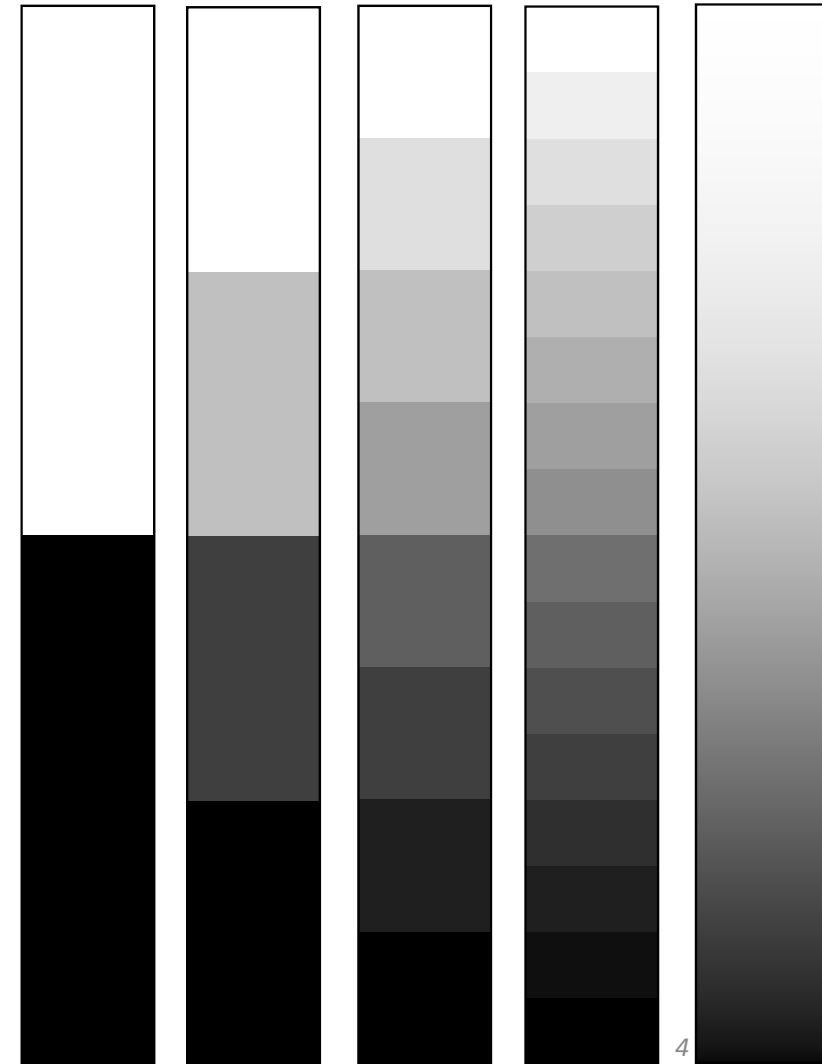
Digital images and processing

- images are a 2-dimensional array of pixels
- pixel brightness is given by a numeric value:
0 = black; 255=white (8-bit)
- Colours are represented by a combination of RED, GREEN and BLUE brightness values

0	255
0	255
0	255
255	128
255	0
128	128

When you manipulate an image you are playing with numbers – so photoshop is a maths program

Bits 1 2 3 4 8
Shades 2 4 8 16 256



bit-depth vs image quality

8 bit / 256 shades



4 bit / 16 shades



Bit depth & number of distinct shades/colours

Bits	Monochrome	RGB
8	256	16 million
16	65,000	281 trillion
32	4 billion	79,228,162,514,264,300,000,000,000,000

Pros and cons of various bit depths

- 8-bit: smaller but can get jumpy gradients.
JPEG files are 8-bit (with *lossy* compression)
- 16 bit: larger file (double) but much smoother gradients that carry much better through post processing.
 - Camera Raw files, DNG etc are usually 16 bit
 - TIFF is a common format that can be 8 or 16 bit (uncompressed or lossless compression)
- 32 bit – useful for some specialised uses where vast dynamic range is needed. HDR. Larger files & slower processing
- Note that 1 bit equates to 1 stop of dynamic range (doubling of light).
 - as an example, the exposure difference between sunlit landscape and a shot of the milky way is about 21 stops

Compression

- compression (eg JPEG) saves file space, but can lose detail. eg JPEG artefacts



My Recommendation:

- Use full size, uncompressed, 16 bit files for processing (eg TIFF).
- Export to JPEG at the end IF NEEDED.
- More edits? work from the uncompressed original.

Efficient Working with Photoshop

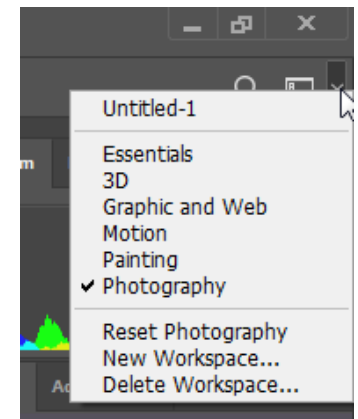
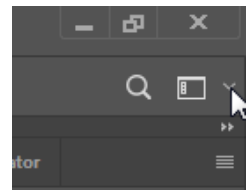
Usability features

- Workspaces
- Keyboard Shortcuts and related tricks.
- Some variation between versions of Photoshop. The notes here are OK for the current photoshop CC 2019, but most will also apply to CS6 etc.
- Note Win vs Mac keyboard equivalents:

Windows	Mac
Ctrl	Command
Alt	Option

Workspaces

- Different jobs require different sets of tools and panels. *Workspaces* give you a quick way to switch between different tools and panel layouts
- At the top right find the select workspace icon/pull down OR use menu **Window >> Workspace**
- Choose a different workspace or manage workspaces
 - select a predefined workspace
 - save your current layout as a custom workspace
 - reset workspaces to default settings
 - delete custom workspace



Managing the toolbar

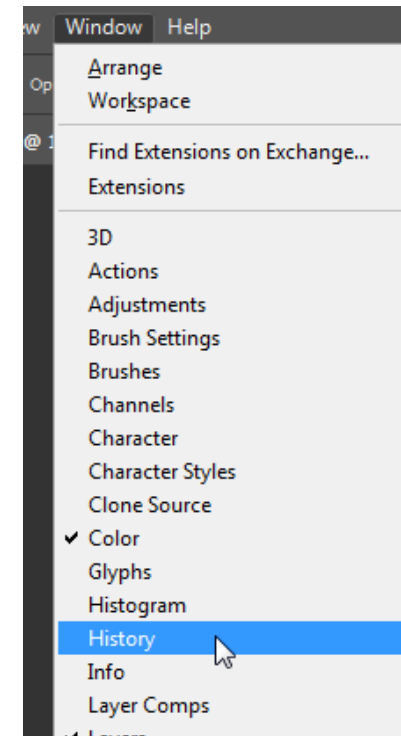
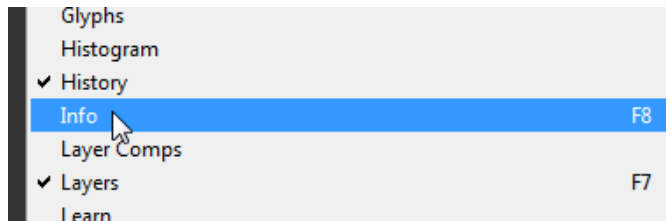


- Photoshop has about 70 tools that can appear on the toolbar at the left. You can customise this to hide tools you never use, add tools that you use often etc.
- Find the ellipsis icon near the bottom of the toolbar. Right click to bring up the Edit Toolbar dialog
- Drag tools from the right “extra Tools” section and drop them where you want them on the toolbar layout on the left. Drag tools you don’t want from the left to the extras on the right. Rearrange the items and grouping to suit your needs.



Customising the Panels

- Use menu Window >> ... to open/close different panels
e.g. Windows >> History opens the History panel
- There are shortcuts to some of the panels
eg F8 brings up the information panel
(or toggles it closed)



Use Keyboard shortcuts

- Keyboard shortcuts can save a lot of pointing and grunting.
- Menu access via keyboard
 - eg **Alt-F** opens File menu then **S** activates the Save menu item.
- Photoshop has hundreds, but you only need to learn the few that are most relevant to what you do often –
 - eg Ctrl-S to save
 - eg Ctrl 1 to zoom the selected image to 100% and Ctrl-0 to zoom the whole image to the screen; Alt-scroll-wheel to zoom
 - eg Ctrl-H to hide/show the marching ant selection boundary
- Shortcuts are customisable to suit your needs.
 - menu Edit >> Keyboard Shortcuts

Some of my Favourite shortcuts

Shortcut	Action
Ctrl-A	Select ALL
Ctrl-D	Deselect
Ctrl-1	Zoom image to 100%
Ctrl-0	Zoom image to fit window
Ctrl-+	Zoom in
Ctrl--	Zoom out
Alt-scroll	Zoom in/out
X	swap foreground and background colours
D	Default foreground/background colours

More of my Favourite shortcuts

Shortcut	Action
Space (hold)	can temporarily activate hand tool
Shift-click	with selection tools- Add to selection
Alt-click	with selection tools- subtract from selection
Ctrl-Z	Undo (note diffs b/w versions)
Ctrl-Y	Redo (note diffs b/w versions)
Shift-F5	Fill
Ctrl-I	Invert colours
Ctrl-Shift-I	Invert selection
Shift-Ctrl-N	New Layer

More of my Favourite shortcuts

Shortcut	Action
M	Marquee tool(s)
L	Lasso tools
W	magic Wand/quick selection
C	Crop tool
I	Eyedropper tool
J	healing tools
B	Brush tools
S	Clone stamp tool
P	Pen tool

More of my Favourite shortcuts

Shortcut	Action
Ctrl-A	Select All
Ctrl-D	Deselect
Ctrl-H	Hide/show marching ants selection
Q	toggle Quick mask mode
Alt-click	on Layer mask – show the layer mask
Ctrl-arrow keys	move selection 1 pixel
shift-arrow	move selection 10 pixels
Ctrl-C	Copy
Ctrl-V	Paste

Resizing the brush

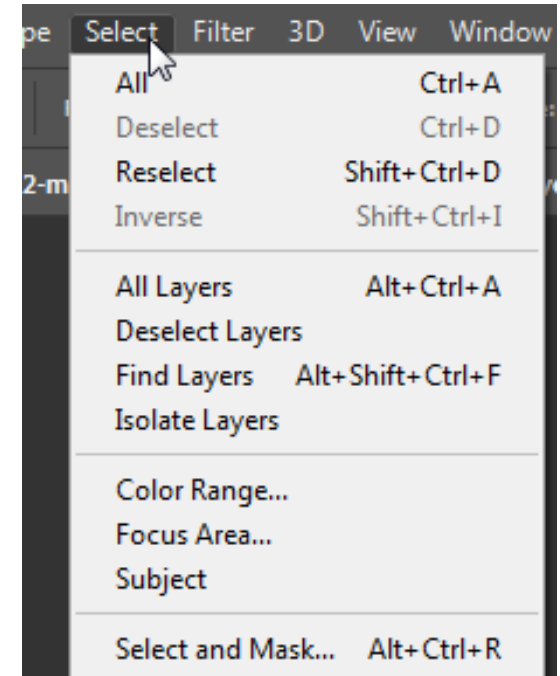
- use [and] to decrease/increase brush size
- use { and } to decrease/increase brush feathering (hardness)

OR

- hold down Alt and right click
 - move mouse left/right to resize
 - move mouse up/down to change hardness

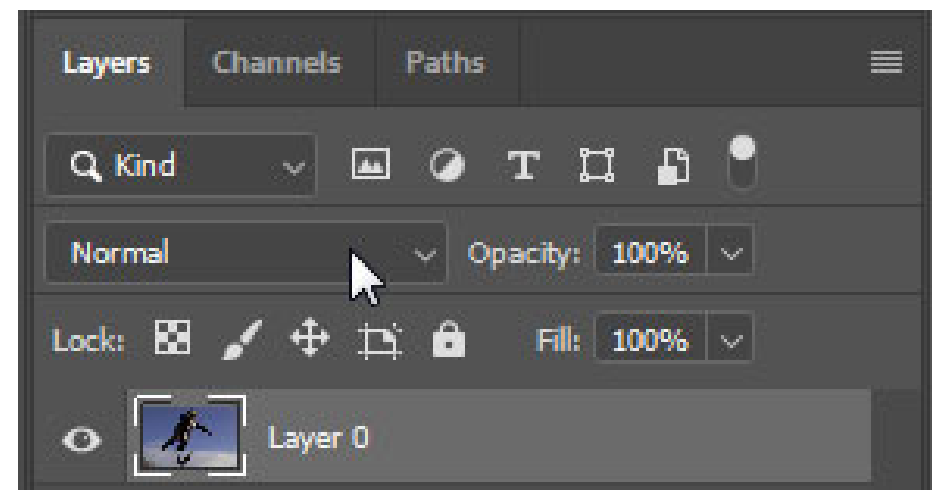
Shortcuts – find the ones you want

- Decide what you do lots of ...
- Check the menus – many menu items have shortcuts shown.
- Web search for shortcuts
- customise the shortcuts if there isn't one already. – Menu: Edit >> Windows shortcuts



Layers

- Background layer is special.
- There are some things you cannot do on it. Moving, changing blending mode etc.
- Convert Background to normal layer by renaming it.
- Layer visibility controlled by “eye”
- Layers can be masked
- How layers combine is controlled by Blending mode, opacity and fill

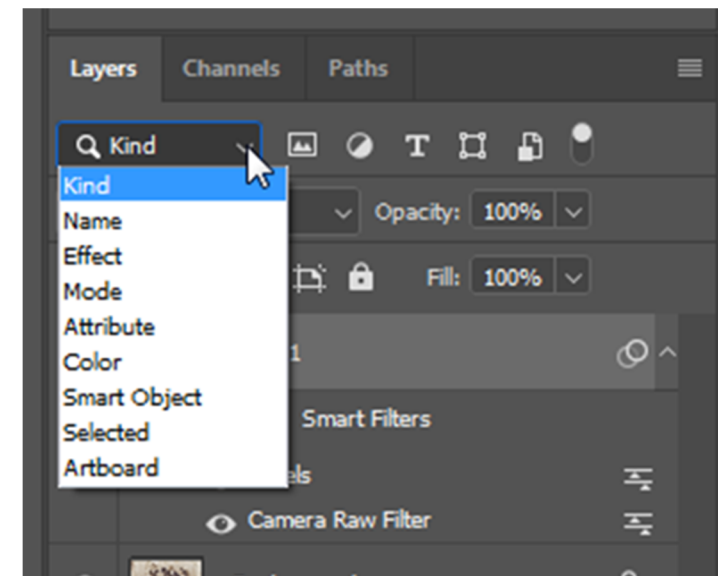


Layers – smart usage

- Keep the original (background) unchanged – it gives you a reference point and you can return to it to try a different approach if you are not happy with the edits you are making.
- Keep your edits in layers.
- Use Smart Layers
 - Filters and adjustments are re-editable and can be turned on and off
 - Camera-raw filter in a smart layer is very powerful – non-destructive editing similar to lightroom
- Adjustment layers can be applied either to the layer directly below, or to all layers below

Managing Layers

- You may end up with tens or even hundreds of layers, especially with a complex composite with many parts. Keeping track can be a nightmare.
- Give your layers meaningful names
- you can filter the visible layer by name or other characteristic



Smart edits – be non-destructive

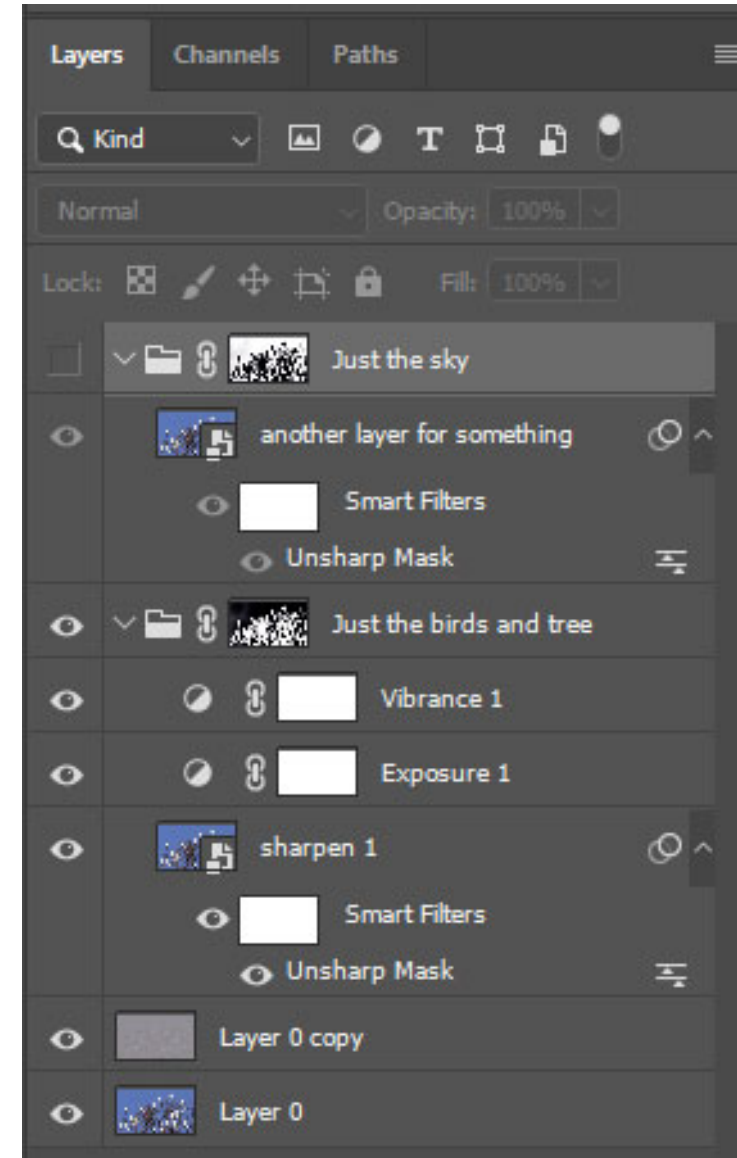
- PS has its roots as a pixel editor. When you edit an image you change the pixels – once you change the pixels you cannot go back (except by undo)
- The undo history has a large but limited capacity (customisable – see preferences) and the undo history is lost when you close the file.

BUT

- You can use layers to hold edited versions whilst retaining the original in its own layer
- Recent versions of PS allow you to do a lot of non-destructive edits (smart layers).

Layer groups

- Layers can be grouped
- Visibility of groups can be turned off or on
- Groups can be masked
- Adjustment layers can be applied to groups

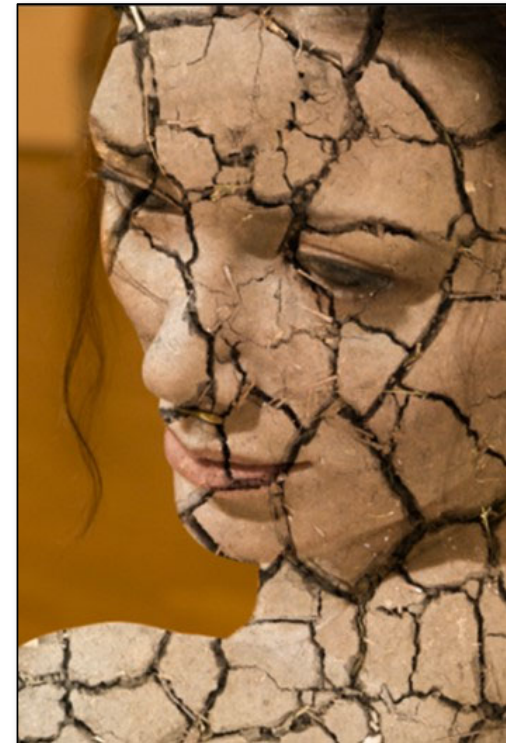


Blending Layers – Blending modes

- How layers combine depends on the Blending mode
- Blending mode controls the maths.

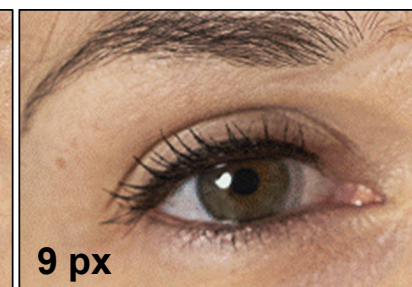
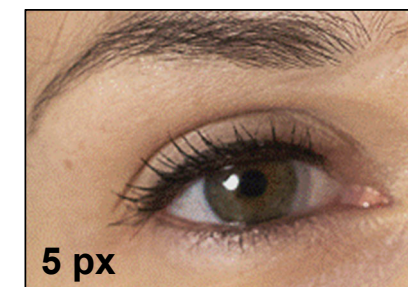
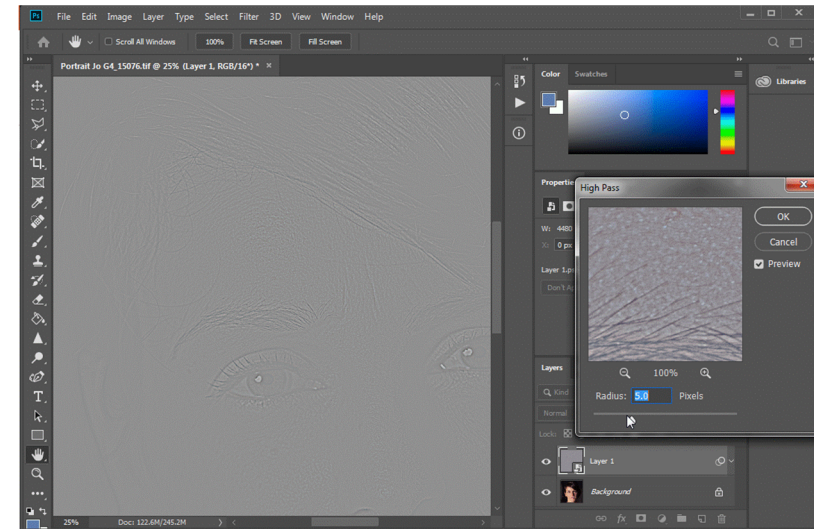
examples

- Use **Darken** to paint out blown out areas using a suitable patch area
- Use *high pass filter* with **Overlay** blending to sharpen (see next slide)
- Blending images in a composite



Sharpen with a High Pass filter

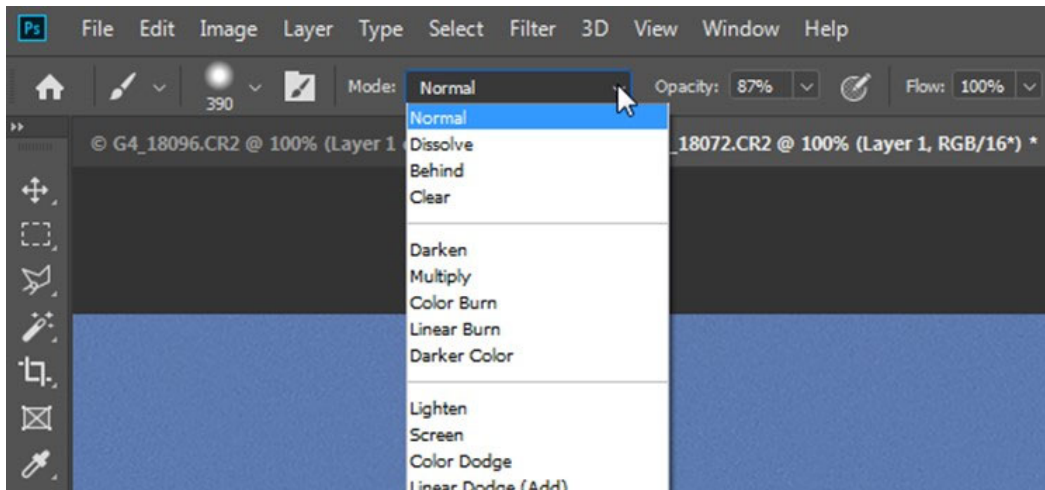
- Duplicate your layer or a selection of the layer you want sharpened (Ctrl-J) – make it a smart layer so you can alter the high pass filter settings easily
- Apply a high pass filter (Filter >> Other >> High Pass). Adjust the radius. 0 gives you a uniform gray. Increase the radius so you can see a shadowy map of the image.
- Change the layer blending mode to overlay
- toggle the layer visibility to see before/after.
- Tweak the filter radius to adjust the effect. Have a play with radius – optimal radius depends on image size.



Blending modes also apply to brushes

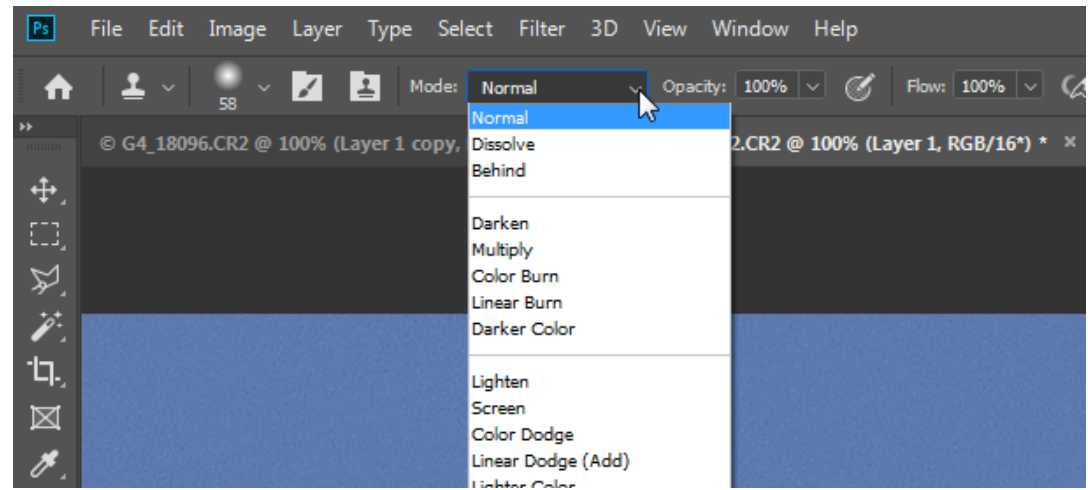
- eg painting over a dark birthmark on skin... sample a suitable section of unpigmented skin, set brush blending to lighten, and paint. the Dark pixels will be replaced. Lighter pixels will be unaffected.

paintbrush tool



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clone-stamp tool



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Blending – Opacity and Fill

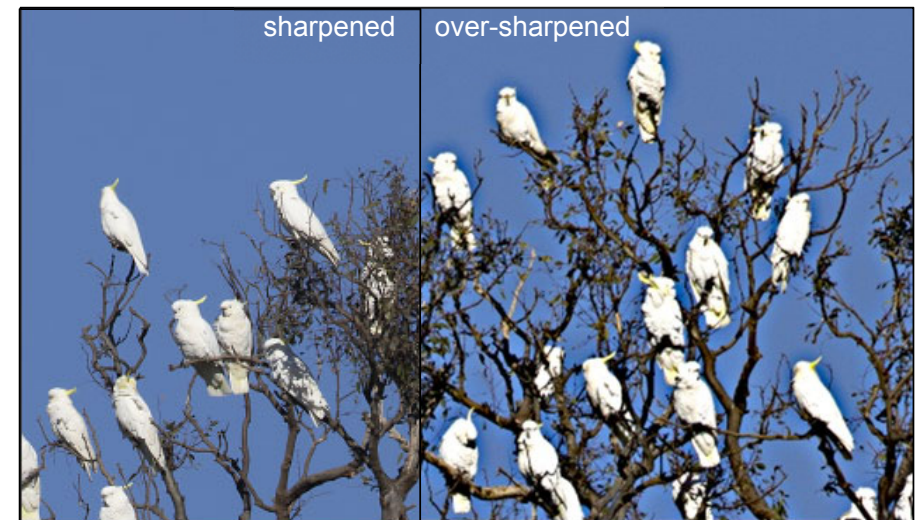
- Use reduced opacity to tone down the effects of a layer, for example an adjustment layer.
- Use opacity to make ghostly overlays etc. controlling the transparency of the layer
- Use opacity to blend several layers, so you can see through one layer to layers beneath

Opacity vs Fill

- Opacity affects the whole layer.
- Fill affects the whole layer EXCEPT any applied layer styles (eg drop shadows, emboss, stroke etc.)

Sharpening and blurring filters

- Many different tools for sharpening with different pros and cons.
- High-pass sharpening (see earlier slide)
- Smart sharpen – useful range of adjustments, complex
- Unsharp mask – good overall sharpening with fewer controls
- Oversharpening artefacts – halos around edges.
- Can use Unsharp mask with large radius and low amount for local contrast enhancements.



Blur filters

- Lots of filters
- Gaussian blur – fuzziness of edges tapers off in all directions
- Lens blur – powerful tool used with masks
eg to blur background whilst keeping subject sharp.

- blur followed by sharpen is sometimes useful for
 - smoothing edges
 - improving appearance where you blow up a photo to gain extra pixels