

Introduction to Photoshop

Pixel Editing Tools Part 1

Conventions

Keyboard command sequences will be within <[and]>. Keyboard command sequences will mix both Mac and PC, for example <[Command/Control+j]> means:
On a Mac do <[Command+j]>
On a PC do <[Control+j]>

Most, but not all of the pixel editing tools use the Brush tool as their basis, and therefore the keyboard commands to adjust brush diameter and softness will work on these tools as well. When using the Brush tool, using the keyboard commands to adjust diameter and softness will save you a lot of time. To adjust the size (diameter) of the brush, you use the left or right bracket key (the [or] key); the left bracket key [will reduce the size of the brush, the right bracket key] will enlarge the size of the brush. To vary brush softness in steps of 25% increments, use the left or right curly bracket key (the { or } key); the left curly bracket makes the brush edge softer in 25% steps (100%, 75%, 50%, 25%, 0%) while the right curly bracket makes the brush edge harder in 25% steps (0%, 25%, 50%, 75%, 100%). You can also use a slider to dial in both size and edge softness.

***** SLIDE 3 References

Scott Kelby, How Do I Do That In Photoshop, Chapter 1
Robin Whalley, Essential Photoshop, Chapters 1, 4

***** SLIDE 4 Pixel Editing Tools: Spot Healing set

Of the Spot Healing set, only the Patch and Content-Aware Move tools do not use the brush tool as their basis; they use the Lasso selection tool as its base. The use of the tools are as follows:

Spot Healing: used to remove dust spots on images, also used to remove blemishes on faces and other content that you don't want in the image;

Healing Brush: used to remove larger areas of content, works identically to the Spot Healing tool (in fact, the Spot Healing tool actually works better than the Healing Brush tool for most things);

Patch Tool: used to select an area to be edited; based upon

the option, you will either A) drag the selection of the bad information over to a good area, or B) select a good area to drag over the bad area;

Content-Aware Move: used to make a selection around content that you want to move elsewhere in the image, then the content aware fill algorithm is used to fill in the void of the selection – sometimes works well, sometimes doesn't;

Red Eye: used as the Visine of Photoshop to get the red out of eyes where the flash turns the pupils of the eye bright red (or green in the case of dogs and cats).

***** SLIDE 5 Pixel Editing Tools: Brush set

The Brush tool set has four tools, only three of which we will be concerned with in class. They are as follows:

Brush tool: used for painting content on the currently active layer using the color in the foreground color swatch;

Pencil tool: used as the Brush tool with a option called auto-erase, paints on the currently active layer using the color in the foreground color swatch;

Color Replacement tool: used to selectively replace a range of colors on the currently active layer using the color in the foreground color swatch, replicates making a color-based selection and applying a Hue / Saturation adjustment layer, note that the color for the color replacement tool is slightly pastel in nature and not a vividly strong color;

Mixer Brush tool: not used in class, used to replicate brush strokes of oil painting

***** SLIDE 6 Pixel Editing Tools: Clone set

The Clone tool set has two tools, only one of which you will be using extensively in class. They are as follows:

Clone Stamp tool: used to pick up content from one area on the currently active layer and copies it into another area on the same currently active layer;

Pattern Stamp tool: used to paint a pattern onto the currently active layer – the pattern can be one that Photoshop provides or user defined (Note: user defined patterns and brushes are beyond the scope of this class, but if you are interested the information on how to create either can be easily found with a quick Google search)

***** SLIDE 7 Brush Presets

Photoshop provides ways of adjusting the pattern that the brush paints with and comes with many pre-defined brushes, most of which you are likely never to use.

Looking at the slide, from left to right:

Brush Tip Shape dynamics: you can alter how the brush "physically" paints on the currently active layer by making adjustments to the brush dynamics. By clicking on "Shape Dynamics", "Scattering", and "Color Dynamics" you can alter the shape of the brush, where it paints on the layer, and the painting of random colors. In the large white rectangle you see a preview of what the brush will paint.

Preset Manager: besides the default brush set shown, you have the ability to add in any one (or all) of over a dozen brush shape sets. The numbers below some of the shape icons are the current pixel size of the brush if it is selected to be used. Like with other presets in Photoshop, you can replace the current default brush set with a new set, append a new set onto the current default brush set, or reset back to the default brush set.

A warning note. If you have altered the brush dynamics, Photoshop will remember these values for the next time you use the brush. If you quit Photoshop these values DO NOT RESET to the default! To get back to the defaults, you need to open up the brush preset panel and turn off any of the options that you have selected.

***** SLIDE 8 Working With Pixel Tools

There are some ground rules when working with any of the pixel editing tools:

1. Pixel editing tools always do destructive (alter pixel color information) edits on the currently active layer. Therefore, any edits done with any of the pixel editing tools should be done on a copy of the layer you want to adjust. Remember to do a <[Command/Control+j]> to duplicate the currently active layer.
2. Most of the time you will be using a soft-edge brush, especially when dealing with flesh / skin tones, fur, hair, etc. The atmosphere has dust and moisture which scatters light, which result in even object that have a hard edge looking just a little fuzzy. The only time you'll be using a

hard edge brush is if you're working along hard edges and need that abrupt transformation.

3. <[Command/Control+z]> is your best friend; this will undo the last action in Photoshop that you just did in case you made a mistake painting with the brush – and it will happen, especially when using a mouse which is not the preferred input device when working with the brush tool – under the ideal situation you would be working with a Wacom (or other) input tablet and using a specialized pen to paint and draw. If you have gone past the immediate action and want to go backwards multiple steps, you can use the History panel or by using <[Option+command+z / Alt+ctrl+z]> to go back multiple steps. If you went too far backwards, <[Shift+command+z / shift+ctrl+z]> will move you forward again.

***** SLIDE 9 Working With Pixel Tools: Healing Brush Tools

Note: the red items are the ones that I normally use when working in Photoshop.

The option bar for the Healing Brush tools modify how the tools work.

Spot Healing tool:

– Mode

-- Normal (my default)

-- Replace: preserves noise, texture, film grain at the end of a brush stroke when using a soft edge brush; this will allow the area painted to more seamlessly blend in.

– Type

-- Proximity Match: will use the pixels immediately around the edge of where you paint to fill in – may or may not be the best option depending on the complexity of the pixels in the area – areas of solid or slowly varying color (e.g., blue cloudless sky) will work OK.

-- Create Texture: uses the surrounding pixels to try to mimic the texture of the image.

-- Content-Aware (my default): uses nearby (not just adjacent) pixels to seamlessly fill in. Best for complex content.

Healing Brush

– Mode (see above)

– Source: specifies source to use, sampled (my default) or pattern (either pre-defined by Photoshop or user defined)

– Aligned (my default): continuously samples pixels as you paint (similar to Clone tool); if you toggle this option

off, then it will only use the pixels from the initial sample point

- Sample: samples data from the layer(s) that you specify:
- Current layer (my default): samples pixels on the current layer you're working in, which should be a copy of the layer you want to adjust - right?
- Current & Below: I will use this if I'm working on a transparent layer above the layer I want to adjust - this is the best way to do the edits non-destructively since you're working on a new transparent layer
- All Layers: samples from all layers in the layer stack
- Ignore Adjustment Layers (toggle): either include or exclude all adjustment layers when sampling (default should be to ignore adjustment layers)

***** SLIDE 10 Working With Pixel Tools: Healing Brush Tools

Patch tool:

- Has selection options identical to selection tools (default, add to, subtract from, intersect with) selection options
- Source or destination: how do you want to patch?
- Source: select the bad area you want to patch and move the selection over to the good area that you want to replace the bad area with
- Destination: select the good area and drag it over to the bad area that you want to replace

For some people, it is more intuitive to select the bad and drag over to the good, for others it is select the good and drag over the bad. Doesn't matter how you do it.

Red Eye tool:

- Uses the oval marquee tool to create an oval selection around the red pupil and changes it back to black
- Can replicate this effect multiple ways (make oval selection, fill with black paint; make oval selection, paint in black with brush) - just a little faster and easier

***** SLIDE 11 Working With Pixel Tools: Brush & Pencil Tools

Brush tool:

- Mode
- Normal (my default): paints foreground color on currently active layer
- Flow: rate at which color is applied
- Opacity: how much color is applied

Pencil tool:

- Auto erase
- Set foreground and background colors
- If the center of the cursor is over the foreground color when dragging is started, then the area is painted in with the background color
- If the center of the cursor isn't over the foreground color when dragging is started, then the area is painted in with the foreground color

***** SLIDE 12 Working with Pixel Tools: Brush & Pencil Tools

Color Replacement tool Option bar settings:

- Blending mode: color
- Sampling option: once
- Limits: contiguous
- Tolerance: ~ 30%

Replaces the color range that you click the brush on with the color in the foreground swatch; good for replacing areas of color that fall within a range, such as a solid colored dress. The color deposited will be somewhat pale / pastel / muted due to the blending mode of color.

This somewhat replicates making a selection by color range and then replacing that color range by using the Hue / Saturation adjustment layer. Note that this method will produce colors that are more vibrant, even if you switch the layer blend mode of the adjustment layer to color.

Mixer brush: replicated oil painting effects, not covered in class. Here is an opportunity for you to explore a tool in Photoshop.

***** SLIDE 13 Working With Pixel Tools: Clone / Pattern Stamp tools

The Clone stamp tool picks up content from one area of the layer and paints it elsewhere on the layer. Under most circumstances your selected options will be as follows:

- Mode
- Normal

- Opacity 100%

- Flow 100%

- Aligned sample box checked
- Current layer or Current and below (if working on a transparent layer)

To sample the area of content to pick up, move the Clone cursor over to the sample region and <[Option / Alt]> + click. The cursor will momentarily switch to a crosshair symbol. As you paint with the tool, there will be a small plus sign showing where content is being picked up. You usually want to get content near where you want to make the change so that you have a close match on color tone.

The Pattern Stamp tool will deposit a pattern where you paint on the layer.

***** SLIDE 14 Working With Pixel Tools: Content Aware Fill

While not exactly a brush tool, the content aware fill does do major pixel changes to the currently active layer. Content aware fill will attempt to fill in a selection with an intelligent guess as to what should be in there based upon the surrounding pixel content. Content aware fill works best when there is no motion (blowing tree branches, flowing water, etc.) in the pixels to select from - there can be motion in the pixels to replace, however.

To use content aware fill, perform the following steps.

1. Make a selection around the object you want to replace.
2. Under the Edit menu item select Fill
3. In Use drop down menu select "Content-aware"

The content-aware algorithm will then fill in the selection with an intelligent guess as to what content makes the most sense based on the surrounding pixels. If the content-aware fill doesn't work well, try again making a smaller selection - experience has shown me that multiple smaller selections tend to work better than one large one.

***** SLIDE 15 Working with Pixel Tools: Content Aware Move

Content aware move mixes both the move tool and content-aware fill in order to move a selection on the currently active layer from one area to another, then fill in the void of the selection using the content aware fill algorithm to fill in the pixels.

Using the content aware move tool by doing the following steps:

1. Make a selection around the object in the layer you want to move.
2. Move the selection to its new location on the layer and press <[Return / Enter]> to execute the move.
3. The content aware fill algorithm will fill the void of the selection.

Content aware fill works best when the voids do not have to be filled with a complex pattern of pixels.