What is “real”? What is “art”?

We have been discussing this pair of questions at various points this semester, with drawings, paintings, the camera lucida, the Mars photos, etc.

These are challenging questions, and the answers are often subject to the context in which they are asked, and the mindset of the individual considering them.
How were photographs “made”?

A common process of creating a photograph was to…
– “take” the photo with a camera by exposing film to light
– develop the resulting negative using chemicals
– make a print using that negative by
  • exposing treated to paper to light through the negative
  • developing the print using chemicals.

Decisions were typically being made at each stage of this process. Multiple test prints might be made before the final photograph was created.

“Instant” Photography

Polaroid developed the first commercial (and to me, really the first true) instant camera.
– There was no film negative in the traditional sense (though there was a negative sheet and a positive sheet) and there were fewer decisions being made by the photographer, and just one print as the output of a single shot.
– The core idea was to have a self-contained chemical darkroom within the camera or within the actual print media itself, with little to no photographer interaction.
SX-70 Film Pack
*(do not do this to a pack)*

http://www.obsoletemedia.org/polaroid-sx-70/

Digital Photography

What steps can we consider as the lifecycle of a digital photograph?

- Captured by the camera.
- Manipulated by the photographer?
- Displayed somehow.
Digital Photography

What steps can we consider as the lifecycle of a digital photograph?

– Captured by the camera.
  • Light “seen” by the sensor.
  • The raw data from the sensor might be stored.
  • The data could be processed by the camera’s on-board processor and saved to a JPG.

– Manipulated by the photographer?
  • Smartphone app with filters, etc.
  • Image editing programs ranging from Paint and GIMP to Photoshop and Lightroom.
  • Via special purpose software (such as the Microsoft ICE panoramic stitcher)
Digital Photography

What steps can we consider as the lifecycle of a digital photograph?

– Displayed somehow.
  • The camera itself (which might be a smartphone).
  • The photographer’s computer monitor.
  • Someone else’s device (PC, smartphone, etc).
  • Printed on paper.

The Digital Darkroom

We have used Photoshop to build a color image from individual grayscale ones. What can we (easily) do to our own photos?

– Adjust exposure and contrast based on a histogram to try to make it look more as we remembered.
– Straighten our image.
– Crop our image.
– “Fix” visual defects.
– Resize and sharpen the image.
History of Changes
I like to have the History panel open (it makes it easy to undo things) when doing this type of work. You can have it appear by going to the Window menu, and checking History if it is not yet checked.

Auto Levels
The general idea behind “auto levels” is to adjust the exposure and contrast of a photograph based on the histogram describing the luminosity of the image.

- The key idea is to enhance visual “look” (brightness, color, tone, contrast) of the image. For example, using this might make certain parts of the image darker and others lighter, making the contrast between them more noticeable.

There are ways in Photoshop to “guide” the auto-levels options (what to enhance, how, etc.) but for now we will just look at the using the default settings version.
Adding an Auto-Levels Layer

With your image open in Photoshop:
- go to the **Layer** menu
- go down to **New Adjustment Layer**
- select **Levels**…
- give the layer a name if you’d like (like *AutoLevels*)
- in the **Properties** panel, click on the **Auto** button, and see what happens to the preview
- perhaps move the medium gray triangle slider a little to the left and right to see what happens to the preview

Go ahead and close the Properties panel.

Changing the Auto-Levels Layer

Because we added this as an adjustment layer, you can show/hide the layer by toggling the little eye icon of the layer.

- This will allow you to more easily observe the before/after effect of the adjustment.

You can also choose to set the **Opacity** of the layer to something other than 100% if you’d like to apply some of the impact of the change, but not the full effect.

- Again, we are looking at quick, mostly automated changes.
Straightening an Image

When shooting freehand, or even with a tripod, we sometimes don’t position the camera perfectly aligned to the desired vertical/horizontal.

– By rotating the image on the canvas, we can correct this.
– When rotating, we will be forced to crop the image as well to trim the now-rotated edges.

It is important to note that rotating anything other than multiples of 90° is a lossy operation. Observe this square that I rotated 15° at a time, many times.

Straightening to a Line

In Photoshop we can “draw” a line that we would like to be straight along the horizontal, and straighten to that.

– Go to the tools palette, if you don’t see the Ruler Tool then right-click on the … to add it, and then select it.
– Click & drag to draw a line between to points that should be level with each other to set the new horizontal alignment.
– Go to the Image menu, then to the Image Rotation sub-menu, and select Arbitrary (it will have pre-filled the angle correction identified in the previous step).

This should also work if you “draw” your line on a vertical to which you want to straighten.
Cropping an Image

A common way to crop an image is to use the selection tool to identify the part of the image to keep and then crop to that selection.

– When making your selection, you might want to work free-hand, but it is more likely that you want to restrict your selection to a certain fixed aspect ratio (1:1 for a square, 2:3 or 3:2 for a “traditional” photo since that’s what a 4x6” print would be, etc).

Crop Settings

First, in the tool palette, select the **Rectangular Marquee Tool**.

– For the **Feather** value, have it be 0px (you want a hard edge when doing this sort of cropping).

– For the **Style**, you can select **Normal** for freehand selection or **Fixed Ratio** for maintaining a specific aspect ratio while making your selection.

  • With **Fixed Ratio**, you enter a width and height for the ratio. For example 3:2 would be **Width: 3** and **Height: 2.**
Resize and Sharpen

When we are ready to display an image that we have created (perhaps upload it to the web or social media, or print it out on paper) that can sometimes be the time to do one final step; bring it to an appropriate size and “sharpen” its look.

– Again, there are many techniques that can be used to sharpen the look of an image, and we will look at one mostly-automated technique.

“Output” Size

The size at which you’d like to save your final image will depend on the medium in which it will be displayed.

– For social media, perhaps a maximum side length of 800 pixels is enough.
– For use in a slideshow or digital picture frame, perhaps 1800 pixels is a better maximum length.
– For printing, it depends on the size of the print. 300 pixels per inch is a common suggestion.
Resizing the Image

To resize the image:
– go to the Image menu and choose Image Size
– in the dialog that comes up, keep the width and height linked (there will be a little chain link icon that should be solid), and change one of the sizes (the other will change to maintain the aspect ratio)
– choose the Resample technique (essentially, how the software will create the new pixels from the existing ones) as Bicubic Sharper (for each pixel in the new image, 16 pixels “around it” are sampled in the original)

Unsharp Mask

The sharpening technique that we will utilize is the “unsharp mask” option.
– The core idea behind it is to create a blurry inverted version of the image, and use that as a “mask” by which to pick which pixels to highlight or intensify in the original image.

After you have scaled the image down, go to the Filter menu, down to Sharpen, and choose Unsharp Mask.
– In the dialog that comes up, use an Amount of 100%, a Radius of 1 pixel, and a Threshold of 0 levels, then “play” with the amount percentage while watching the preview.
Legal vs. Ethical vs. Artistic vs. ???

What is the difference between something that is illegal and something that is unethical? Where do things like art and aesthetics come into play?

– Is this a topic that you’d like to explore in class?

There are MANY ways that we can “fix” a photo.

– Enhance certain colors, remove certain objects, etc.

– We are no longer limiting ourselves to trying to recreate reality.

Saturation

There are times when an image might feel “muted” and boosting the saturation of the image can help there.

– go to the Layer menu and down to New Adjustment Layer

– select Hue/Saturation…

– give the layer a name if you’d like (like Saturation)

– in the Properties panel, move the white triangle slider for Saturation to the right a few notches (or just type in a positive number) and see what happens to the preview

• By default, all colors are adjusted together, but you can change from Master to a single color group like “Reds”.

Removing Things

This is a huge topic in and of itself, but I will introduce one automated approach that often works…

With this, I tend to duplicate my actual photo’s layer and then work on that.

– To do that, simply right-click on the image’s layer and select **Duplicate Layer**.
– If for some reason you’d like to work on the result of multiple layers of adjustments, you could also go to the **Select** menu, choose **All**, go to the **Edit** menu, choose **Copy Merged**, and then paste it as the top-most layer.

“Smart Erase”

If there is a simple/small item in an area of the image that is “generic” looking (grass, sand, wall) the following might allow you to “erase” it.

– Go to the tool palette, choose the **Lasso Tool**.
– Use it to “circle” the item that you would like to remove (give a little buffer around it, but not much).
– Go to the **Edit** menu, go down to **Fill**, and in the dialog that comes up set the **Contents** option to **Content-Aware**.
…but remember, ethics!

https://mediadecoder.blogs.nytimes.com/2010/07/05/on-the-economists-cover-only-a-part-of-the-picture/