

Color Correction for Slides and Snapshots

Wayne Bretl

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for

Tucson Creative Cloud for Photographers Meetup Group

Two Basic Steps – Only Two!

- Step 1 (the dramatic part) – neutralize the color cast over the full range of black to white
- Step 2 (refinement) – correct non-gray colors



STEP 1



STEP 2



Some Details Needed

Simple

We Need to Fix Dye Fading {Mostly}, NOT White Balance

- **What's the Difference?**
- **WHITE BALANCE** - typical digital camera error
 - Affects all gray levels EXCEPT black
 - White is no longer white
- **DYE FADING** – typical analog photo error
 - Affects all grey levels EXCEPT white
 - Black is no longer black
 - {However, substrate yellowing can affect whites}

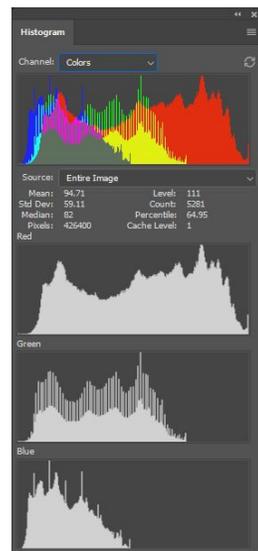
NORMAL



ORANGE WHITE BALANCE Green and Blue Reduced (not exactly today's topic)



FADED CYAN and YELLOW DYES (on Yellowed Paper)



Green and blue histograms shrink to left due to orange light



Red histogram shrinks to right due to fading

Blue histogram shrinks to right (fading) and to left (paper yellowing)

App to use:

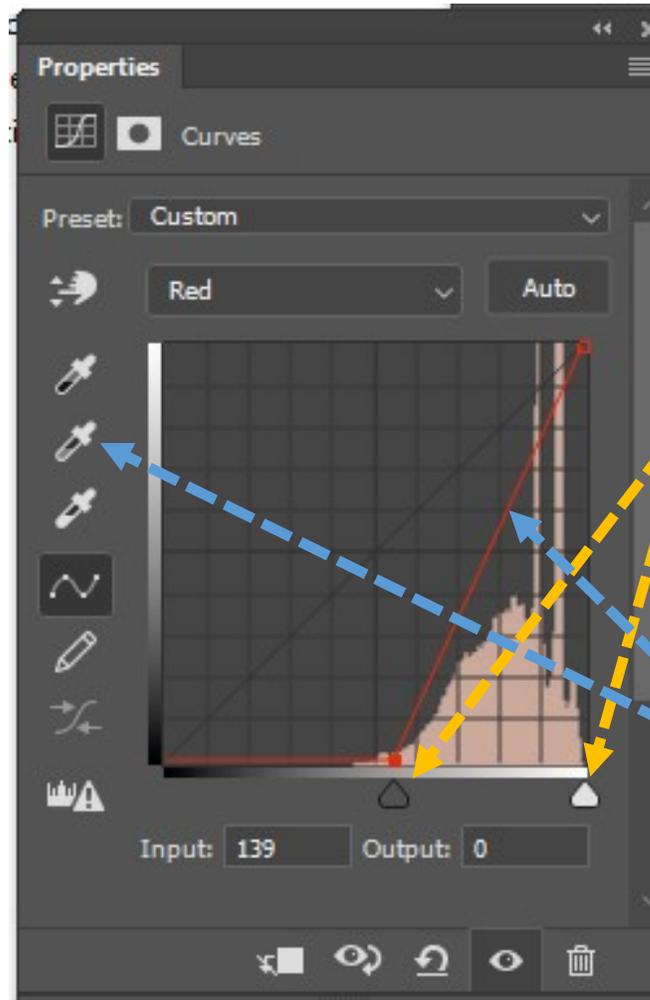
- **A photo app with adjustment layers and RGB histograms**
- **Photoshop, NOT Lightroom**
 - Tools for the Two Main Steps must be applied in the right order
 - Photoshop layers let you do that
- Lightroom has the tools, but does not let you select the order of application as needed
 - Warning: Lightroom lets you move the tools up or down in the Develop Panel, but this does not change the order of operation

Correction Tools

- **Step 1 – Fix neutral tones**
 - **Curves adjustment layer** (most flexible/capable)
 - (or often, a **Levels adjustment layer** is good enough)
 - (or sometimes, **Color Balance + Brightness/Contrast adjustment layers** will work)
- **Step 2– Fix non-neutral colors**
 - **Hue/Saturation adjustment layer**

Summary of Curves Adjustments...

Curve Adjustments for R, G, B



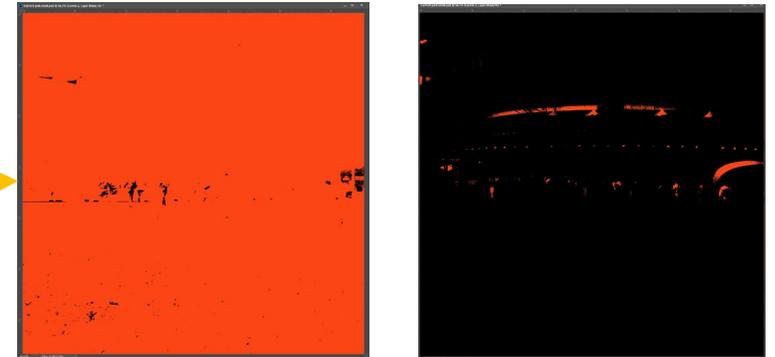
- 1. Adjust Min/Max**
 - Hold ALT/OPTION key
 - Drag black slider then white slider
 - Repeat for each color channel R, G, B

- 2. Adjust Mid Tones**
 - Select gray eyedropper and click on known neutral object

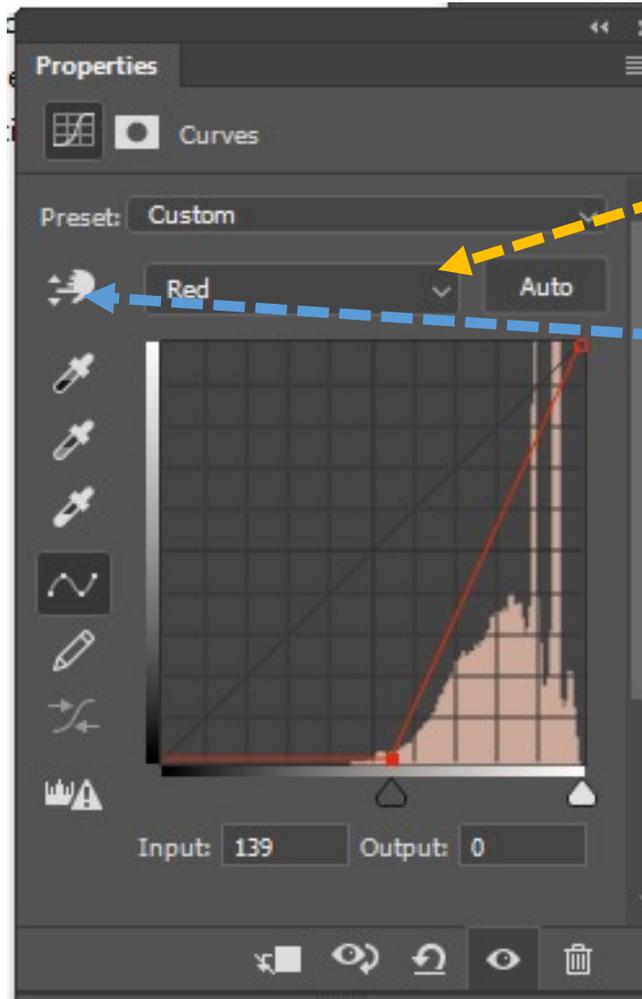
OR

 - Click on midpoint of curve and drag up or down

Example - Red Channel Blacks and Whites



Curves Touch-Up for Shadows

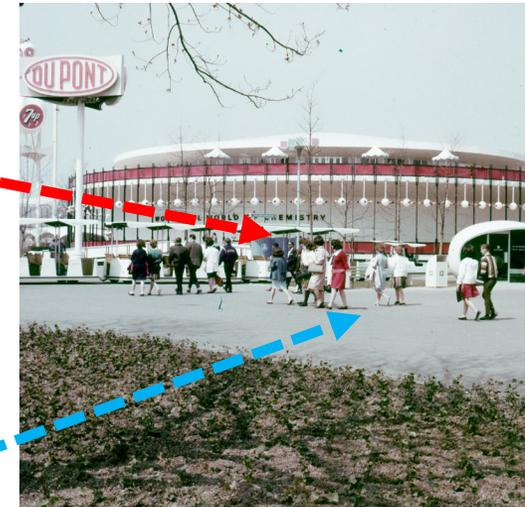


1. Select the color channel that appears to be excessive or deficient in a particular area

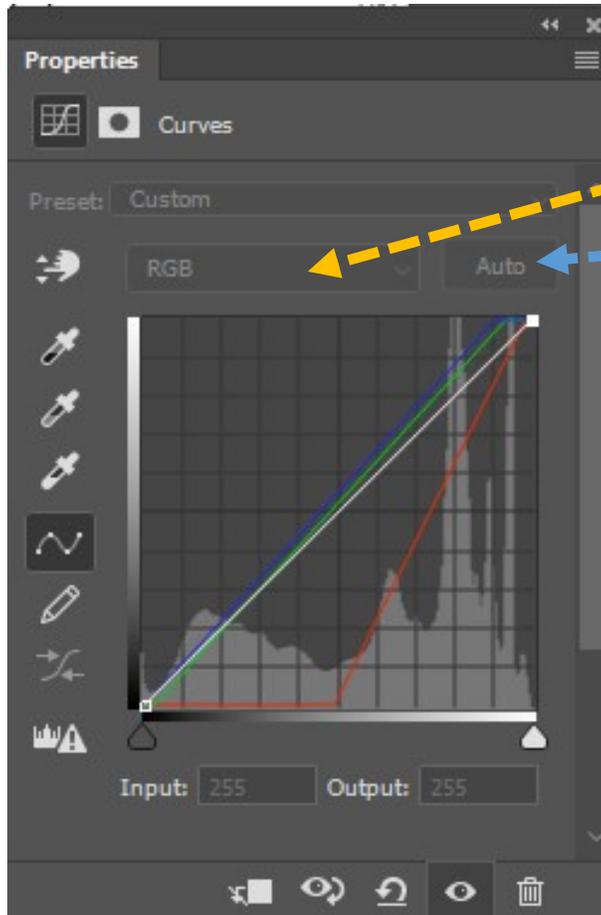
2. Select the Directed Adjustment Tool

3. Click on the area of concern and drag up or down to adjust the curve

4. Use the Directed Adjustment Tool one more time (not the mid-gray eyedropper) to correct any incidental changes to brighter tones

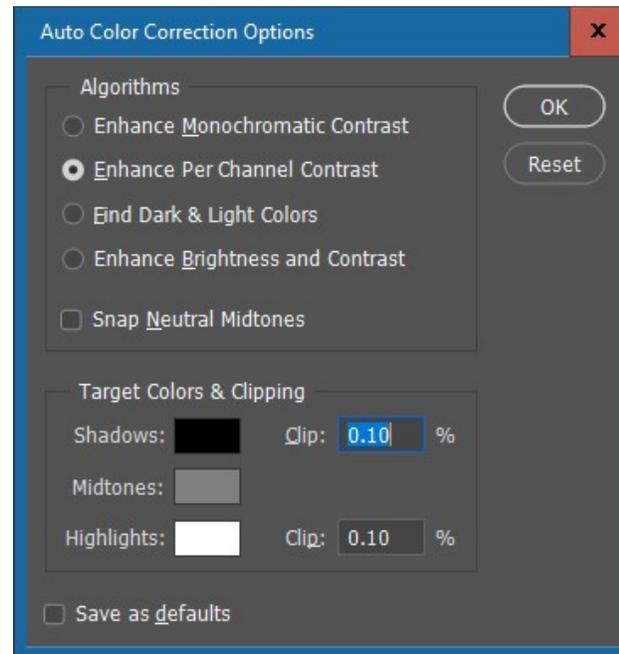


Alternative – Use of *Automatic* Curve Adjustments for R, G, B Levels



1. Select RGB channels in Curves Properties

2. Hold down ALT/Option key and click AUTO. Options panel opens.



3. Select AUTO algorithm that works best.
Usually:
Enhance Per Channel Contrast
or
Find Dark and Light Colors

4. Proceed with mid-tone corrections

What About Negatives?

- Step #0: Invert in scanner software or in Photoshop
- Note: Orange negative background (blue when inverted) – don't worry if not removed by scanner software
- You now have a positive
- Apply same steps, #1 neutral grays, and #2 hue/saturation as for any positive
- Apply an additional Curves Adjustment layer to increase contrast if needed for a snappier result

Do's and Don'ts

- DO Start with the best version you can
 - Any artifacts in the original file will be magnified greatly by the contrast increase required to correct fading
- DO Use 48 bits instead of 24 (16-bit mode, not 8-bit mode)
- DO Scan to .tif, DON'T Use .jpg
- DO Use the highest quality if you must use .jpg
- If you use your digital camera instead of a scanner:
 - DO Use raw format

Do's and Don'ts

- DON'T *Blindly* click “Automatic”
- DO Know what you want to do
 - Find black and white points
 - Correct mid-grays with eyedropper on a KNOWN neutral object
- DO beware of Automatic mode failures;
 - For example, automatic correction of a sunset may take out all the brilliant color
 - Even Automatic “find black and white points” fails on some images
 - May select black dirt spots as the black point instead of the pink-faded shadows
 - May select image tears as the white point instead of yellowed paper

Do's and Don'ts

- **DON'T** Use *average-and-subtract* or *mid-gray-difference-threshold* techniques found on YouTube
 - **Results vary depending on scene content**
 - **More suitable for white balance problems than faded film**
 - Many scenes do not average to grey – like the sunset problem, averaging will take out some color that should be there
 - Many scenes do not *have* a gray mid-tone anywhere to click on – clicking on a *near-gray* area will generally be inaccurate compared to manual Levels or Curves adjustments