

BIPC DIGITAL IMAGING STUDY GROUP  
ASSIGNMENT 2002-04  
SUBJECT: COLOR CORRECTION PROCESS FLOW

**PROBLEM:** You have a digital image that you have stored on your computer. You want to correct colors and prepare the enhanced image for printing. Many tools are available to you in Photoshop. Which tools should you choose and what should your process flow be?

**CONCEPT:** Even after getting a great scan or digital camera image, you usually need to do some further color correction work. The process flow discussed below contains the process flow favored by the experienced.

Two of the tools used in the following process flow are the Levels and Curves tools. They provide nonlinear transformations as they are applied. An alternate set of tools such as Brightness/Contrast, Color Balance, and Variations provide linear transformations (they do exactly the same thing to each pixel in the selection). These later tools throw away much more information than the nonlinear tools. In general the linear tools are “less precise” than the nonlinear tools and “they are more for color beginners and don’t offer as much control as the<sup>1</sup>” nonlinear tools. The linear tools should be avoided as we avoid the Auto Adjust features of all tools.

The Hue/Saturation tool is recommended over the Color Balance tool. The Hue/Saturation tool should be used when you want to change the color, saturation or lightness of a particular object or color range without changing its gamma or other characteristics.

**PROCEDURE:** The basic process for color correction when starting with an RGB scan or digital image will follow below.<sup>2</sup> For this process flow it is assumed that the image has a bit depth of more than 8 and hence the initial processing will be in 16 bit mode. The process:

### **Initial Steps**

1. Crop image to final size and resolution (unless you are creating a Master Image which will be cropped, resolution set and sized for multiple uses from the Master Image)

### **Overall Color Correction**

1. Go into Levels (Cntrl-L)
  - a. Set the Highlights
  - b. Set the Shadows
  - c. Adjust the overall brightness of the image
  - d. Go into the Red, Green or Blue Levels channel and remove color casts, being especially careful that neutral colors stay neutral and don’t have a cast
  - e. Save your Levels or Curves adjustments in case you want to revert to the original, apply and tweak the above settings
  - f. Make your OK for all the Level’s adjustment only once
2. If needed, use the RGB channel of Curves (Cntrl-M) to adjust the overall contrast of the image and the Red, Green or Blue channels to adjust color casts in particular color ranges within the entire image
3. Use Hue/Saturation (Cntrl-U) to increase or decrease overall saturation. Make adjustments to the hue, saturation and lightness of specific colors
4. At this point use Image/Mode/ to convert from 16 bit to 8 bit color depth

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<sup>1</sup> Haynes, B & Crumpler, W; Photoshop 6 Artistry; New Riders; 2001

<sup>2</sup> Ibid

### **Color Correction of Specific Areas Using Masks, Spotting**

1. Make color changes to specific image areas using Levels, Curves, Hue/Saturation and other adjustment layers each with a mask to isolate its target correction area. There can be as many of these as needed to get the job done.
2. Remove spots and scratches from your Master Image (could use clone tool in 16 bit mode too) and do any required retouching
3. Save and archive your Master Image

### **Final Processing**

1. In the event that you have not cropped image to final size and resolution for a specific purpose do so now. Genuine Fractals could come into play as appropriate
2. Sharpen the image using the Unsharp Mask filter (could use this filter in 16 bit mode too)
3. Perform final checks before printing such as viewing the Gamut Warning and performing a Soft Proof
4. Print

ASSIGNMENT: Choose an image that has good detail in the shadows and highlights and perform the above steps. Print a before and an after version and be prepared to discuss.

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