

Color Correction by the Numbers- Using Photoshop Elements 3.0

This tutorial demonstrates how to correct a color cast in a photograph. It is based on the presentation at the Photoshop World Conference seminar, called *Color Correction by the Numbers* by Dave Cross and the book *the photoshop book for digital photographers* and *the photoshop elements 3 book for digital photographers* by Scott Kelby.

The Tutorial is divided into four sections. Before you do the exercise, you need to make the appropriate settings in Photoshop Elements 3.0, as outlined in Appendices A through C. Once Photoshop Elements is set, you will probably not have to refer to the Appendices again. The only exception might be with the Eyedropper tool (Appendix B), as you might need to switch the Eyedropper's Sample Size back and forth between Point Sample (for picking a color in a photograph) and 3 by 3 Average (for sampling an area in a photograph).

Below is a list of the various sections.

- Apply the Correction to a Photograph with a Color Cast
- Set the Color Space in Photoshop (Appendix A)
- Set the Eyedropper Tool (Appendix B)
- Set the Preferences in the Curves tool (Appendix C)

Apply the Correction to a Photograph with a Color Cast

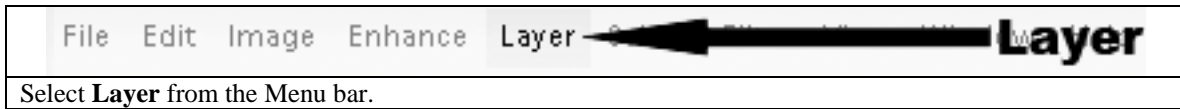
The picture below has a yellow cast. The steps listed below will demonstrate how to remove a color cast, like yellow, from a photograph.

Step 1: Open the photo file named **PEOPLE 0202.JPG**. To open a file, select **File** from the Menu bar. Next select **Open** from the list. Then navigate to where the file is and click on the **Open** button.

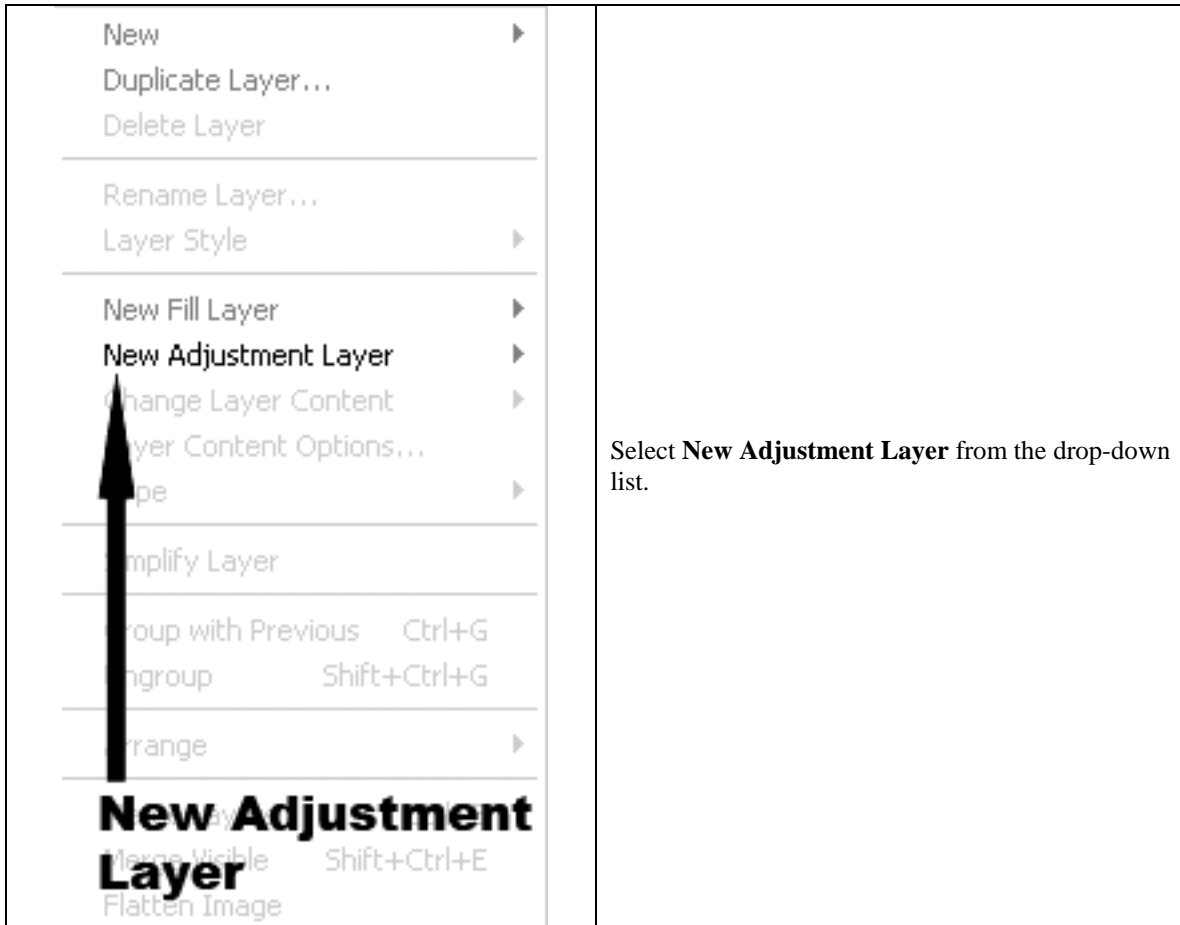
Step 2: Make a duplicate of the photo. To duplicate, select **File** from the Menu bar. Next select **Duplicate** from the list. Then click on the **OK** button in the **Duplicate Image** dialog box.



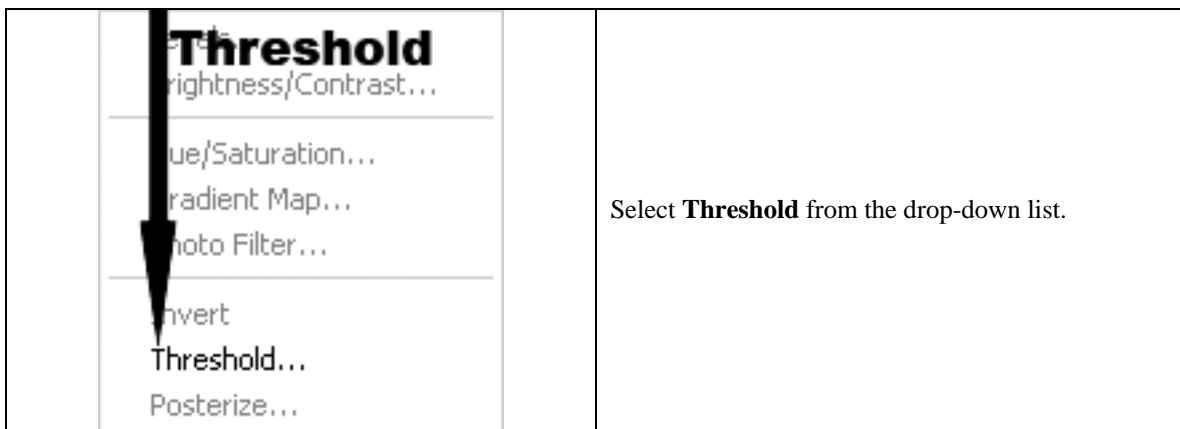
Step 3: Locate the shadows. Start by selecting **Layer** from the Menu bar.



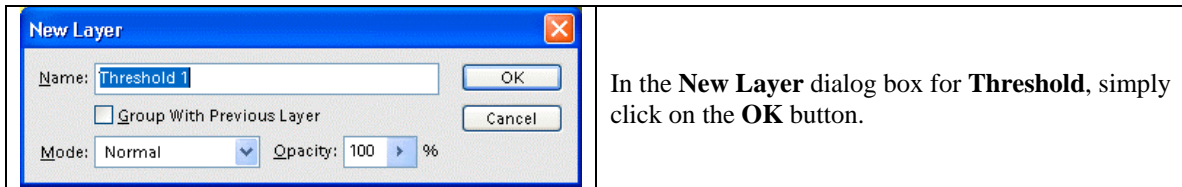
Step 4: Select **New Adjustment Layer** from the drop-down list.



Step 5: Select **Threshold** from the drop-down list.

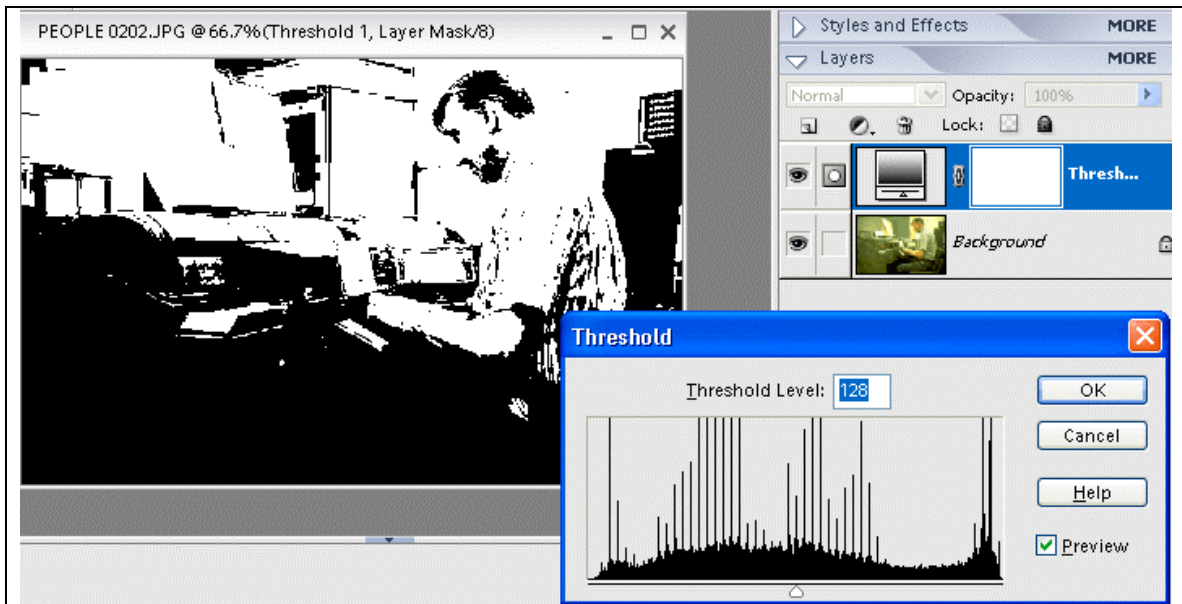


Step 6: In the **New Layer** dialog box for **Threshold**, simply click on the **OK** button.

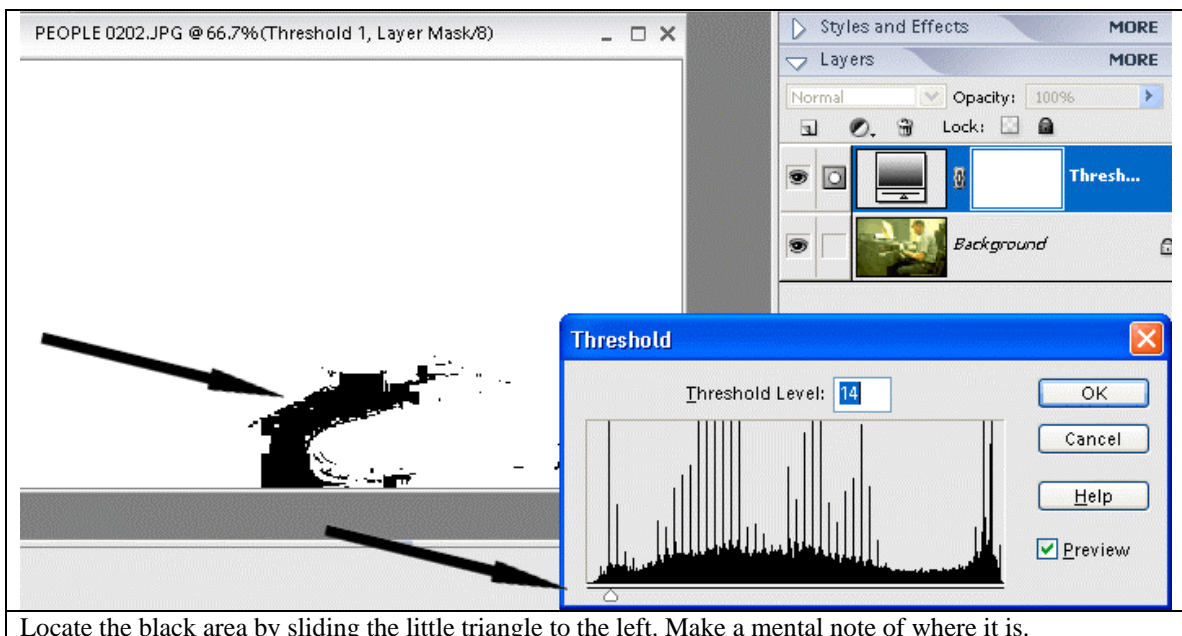


In the **New Layer** dialog box for **Threshold**, simply click on the **OK** button.

A **Threshold** dialog box will appear, as shown below in the lower right corner.

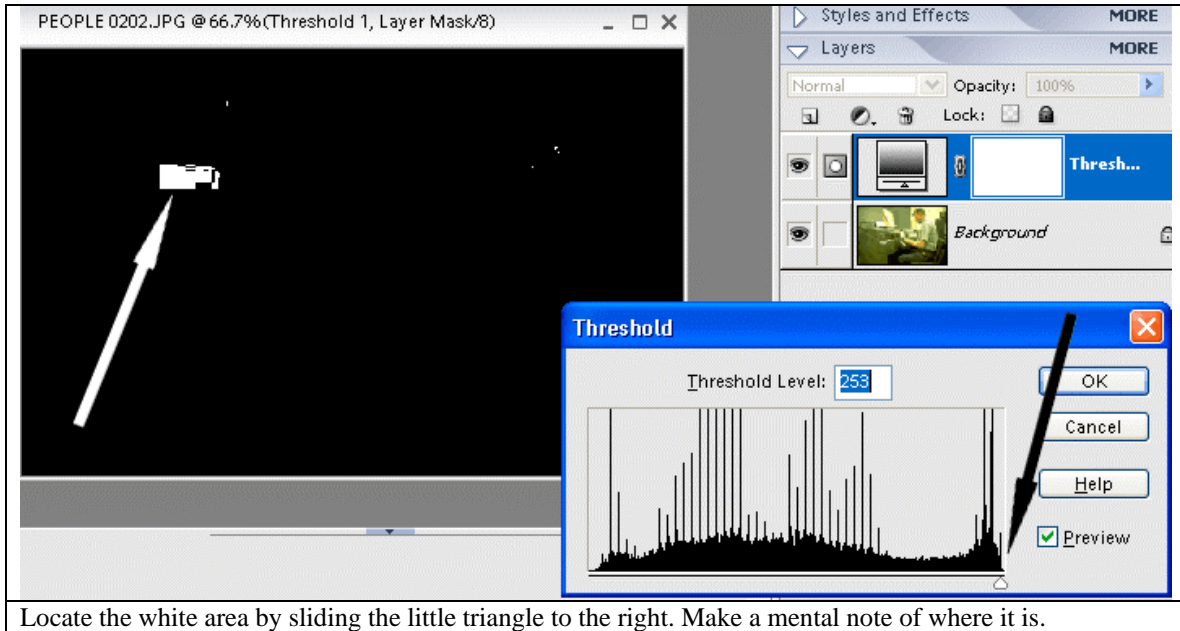


Step 7: In the **Threshold** dialog box, first slide the little triangle completely over to the left. If no black areas appear in the picture, then slide the little triangle towards the right until black areas appear, as illustrated below. Make a mental note of where the black area is.



Locate the black area by sliding the little triangle to the left. Make a mental note of where it is.

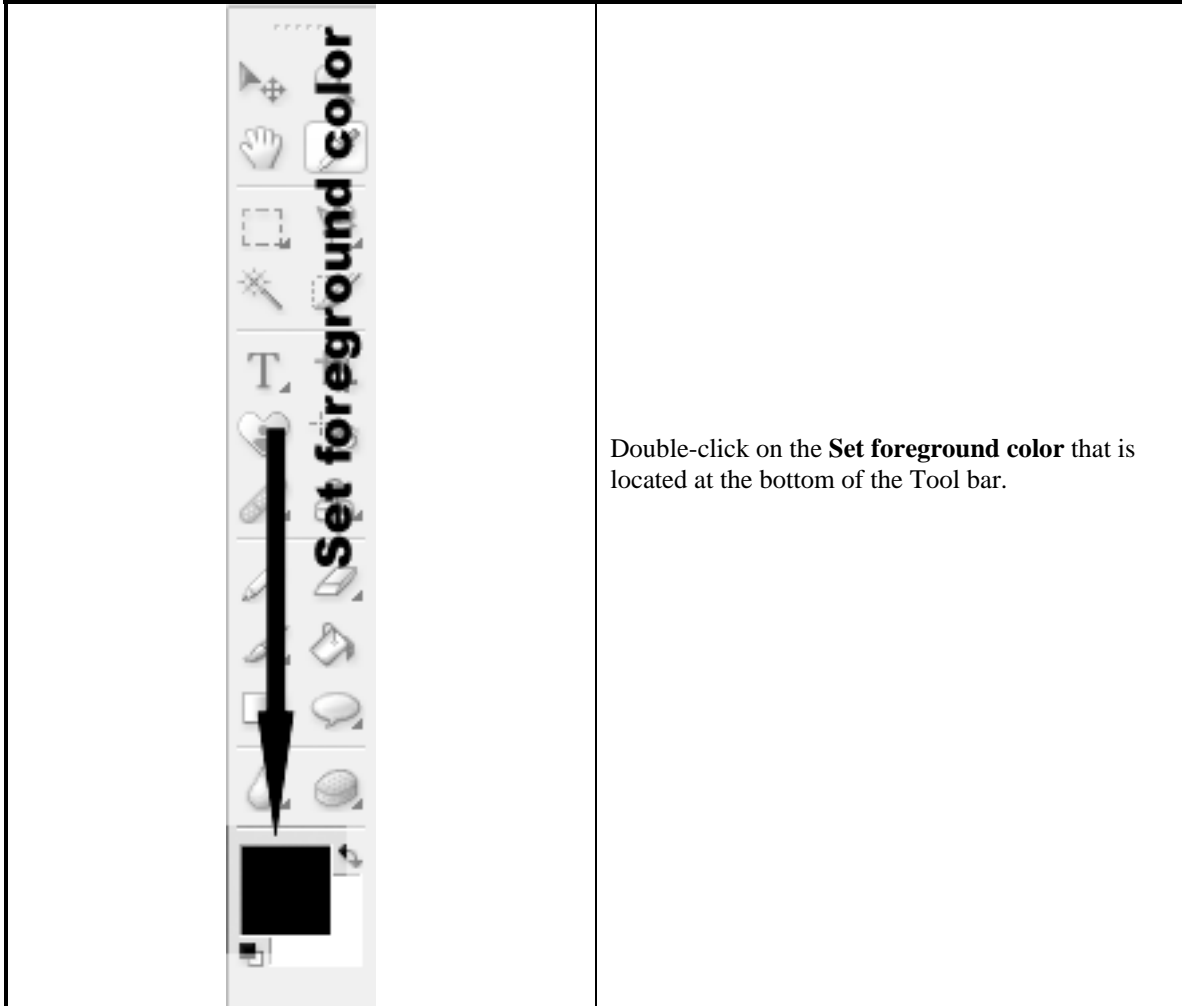
Step 8: In the **Threshold** dialog box, now slide the little triangle completely over to the right. If no white areas appear in the picture, then slide the little triangle towards the left until white areas appear, as illustrated below. Make a mental note of where the white area is.



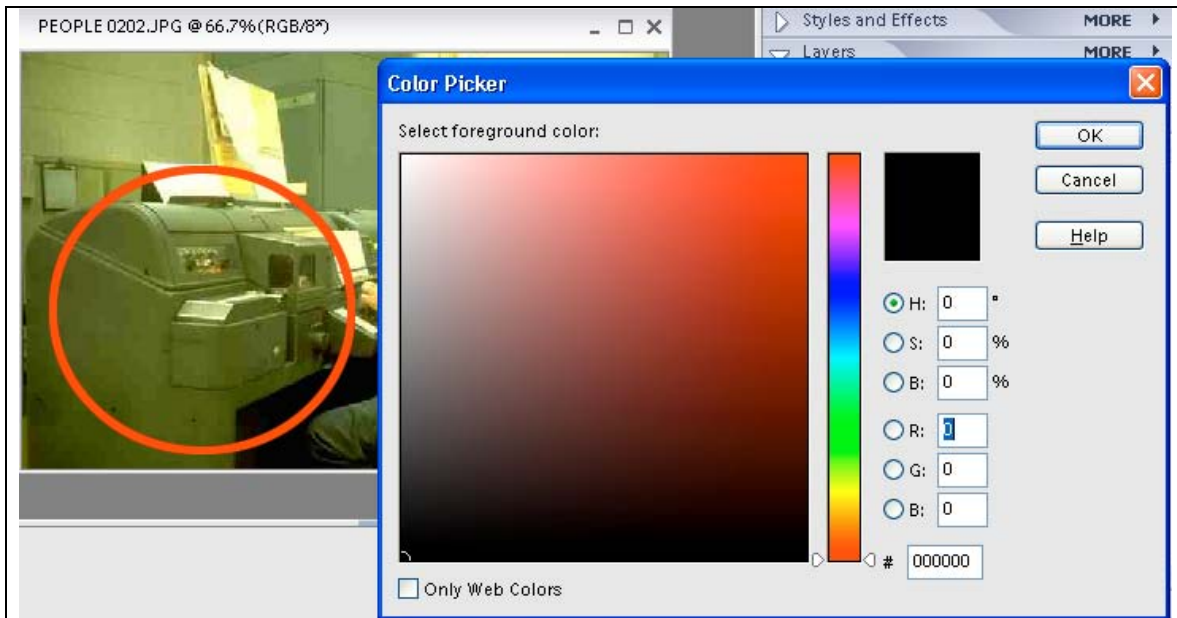
Step 9: We no longer need the **Threshold** layer, so it can be discarded. Simply click on the **Cancel** button in the **Threshold** dialog box.

Step 10: Now we need to look for the midtone, or 50% gray value. A midtone value is where Red, Green, and Blue are all set to approximately **128**. Photoshop Elements doesn't provide a tool that we can use to locate the midtone. However, we can use the **Color Picker** to indirectly locate the midtone.

Double-click on the **Set foreground color** that is located at the bottom of the Tool bar.

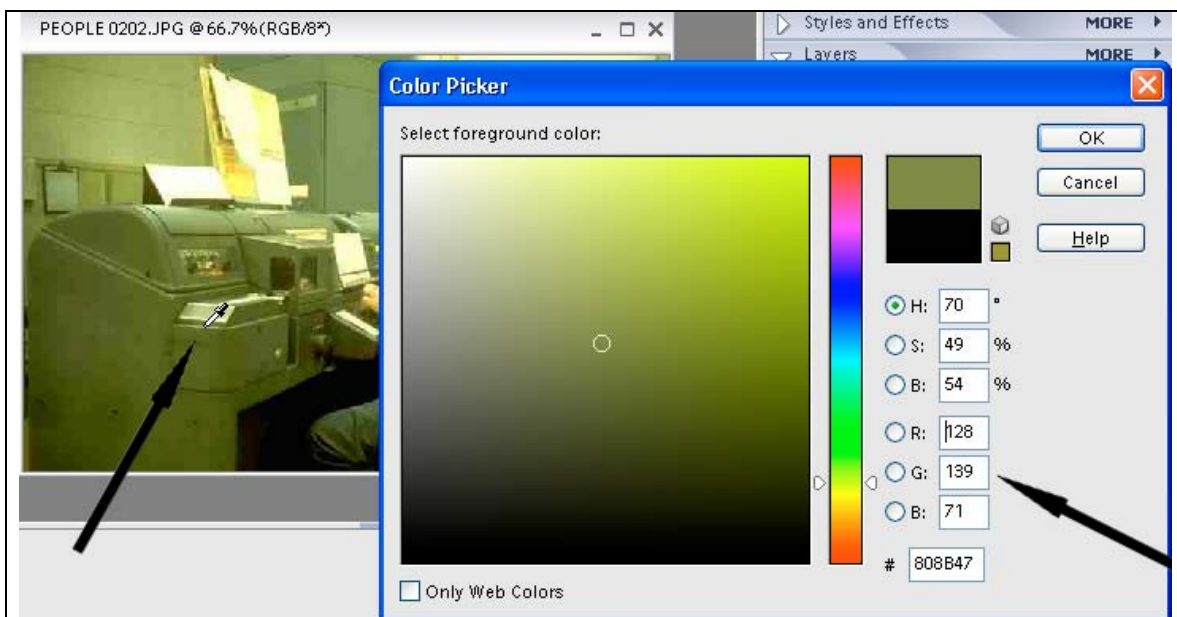


Step 12: A **Color Picker** dialog box will appear, as shown below in the lower right corner. In the picture to the left of the **Color Picker**, the area that is circled is where we think we can find a midtone setting where “R”ed, “G”reen, and “B”lue values in the **Color Picker** will be close to the values of 128, 128, and 128.

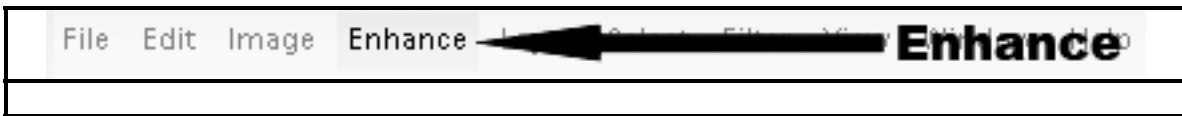


Step 13: Move the mouse over the highlighted area and click on an area that you think is a midtone value. Then look at the “R”, “G”, and “B” settings in the **Color Picker** dialog box to see if all 3 values are close to 128. Try clicking on different areas until you get close to the target settings.

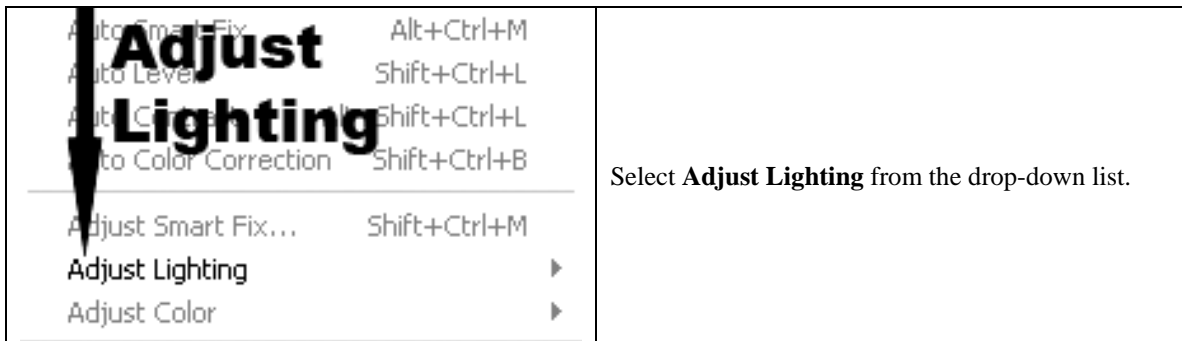
In this particular example, while the “R” and “G” settings are close to the target values of 128, we cannot find a place in the photograph where the “B” setting is close to 128. Instead the best we can get is 71. Even though the “B” value is a bit low, it is enough to help us remove the color cast in the subsequent steps. Make a mental note of where the midtone value is located. Click on the **Cancel** button to exit the **Color Picker**.



Step 14: To actually remove the color cast, we need the **Levels** tool. Start by selecting **Enhance** from the Menu Bar.

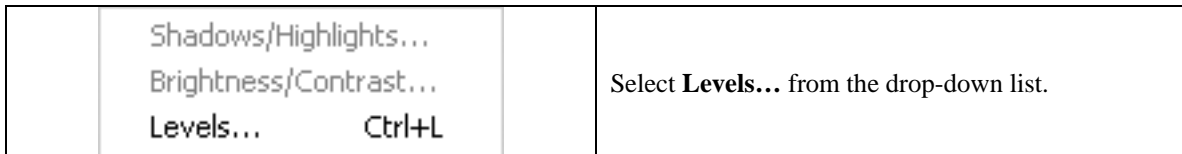


Step 15: Select **Adjust Lighting** from the drop-down list.



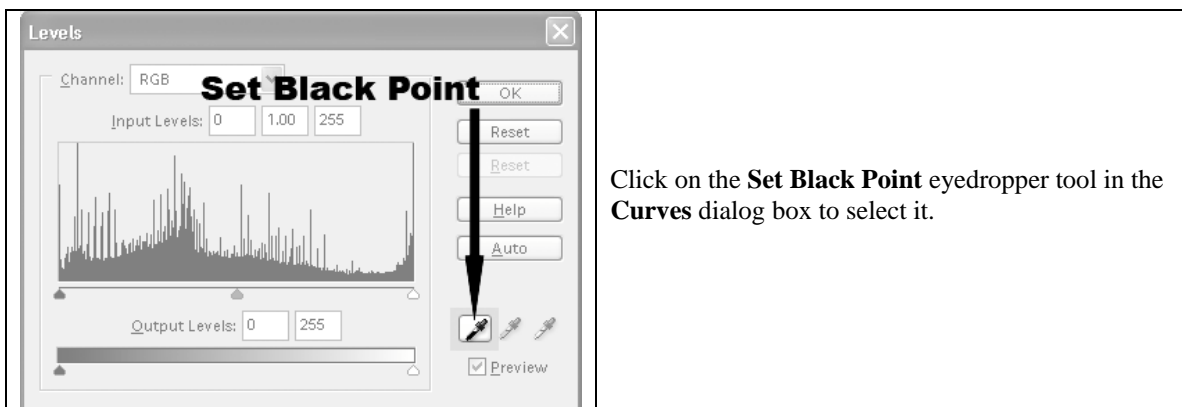
Select **Adjust Lighting** from the drop-down list.

Step 16: Select **Levels...** from the drop-down list.



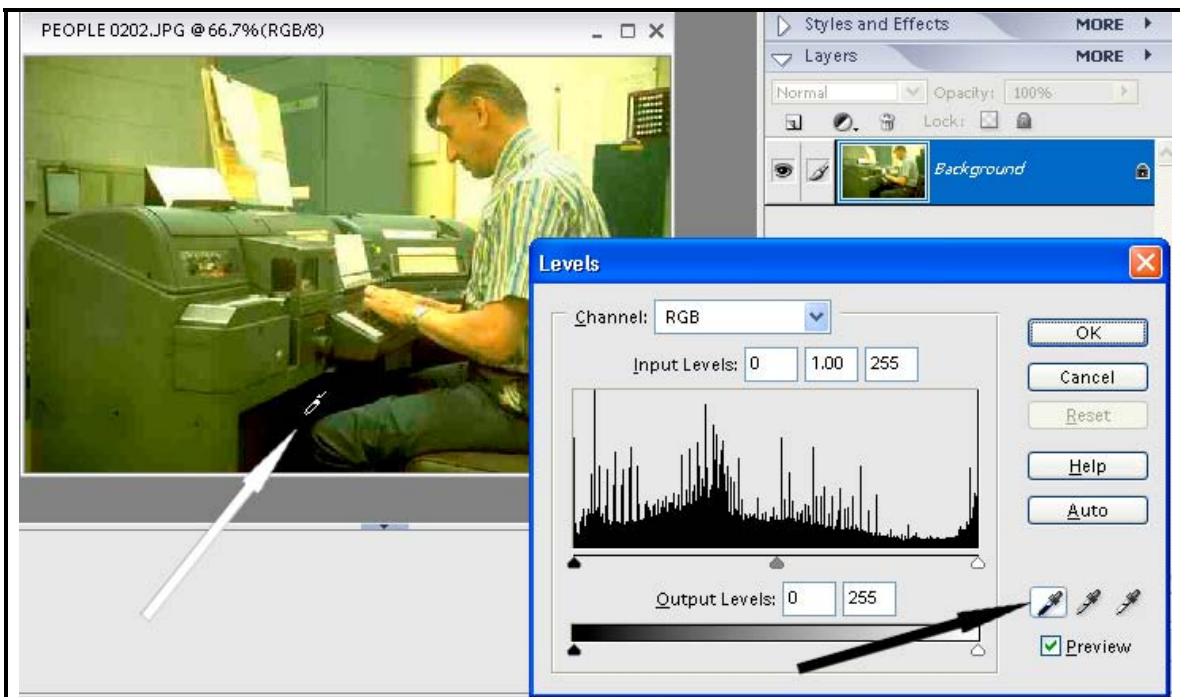
Select **Levels...** from the drop-down list.

Step 17: To remove the color cast from the shadows, click on the **Set Black Point** eyedropper tool in the **Levels** dialog box to select it.



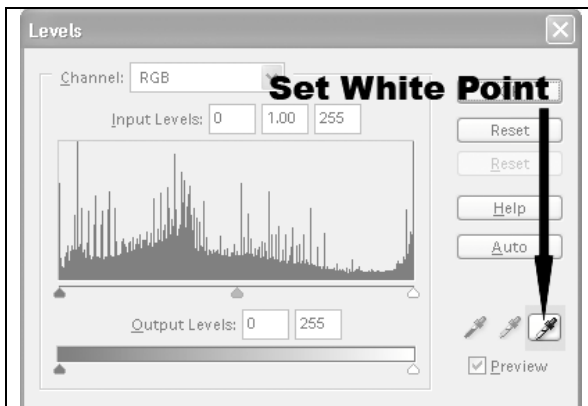
Click on the **Set Black Point** eyedropper tool in the **Levels** dialog box to select it.

Step 18: Move the mouse over to the photograph into the area where the shadows are. Then click on the mouse to set it as the Black Point.



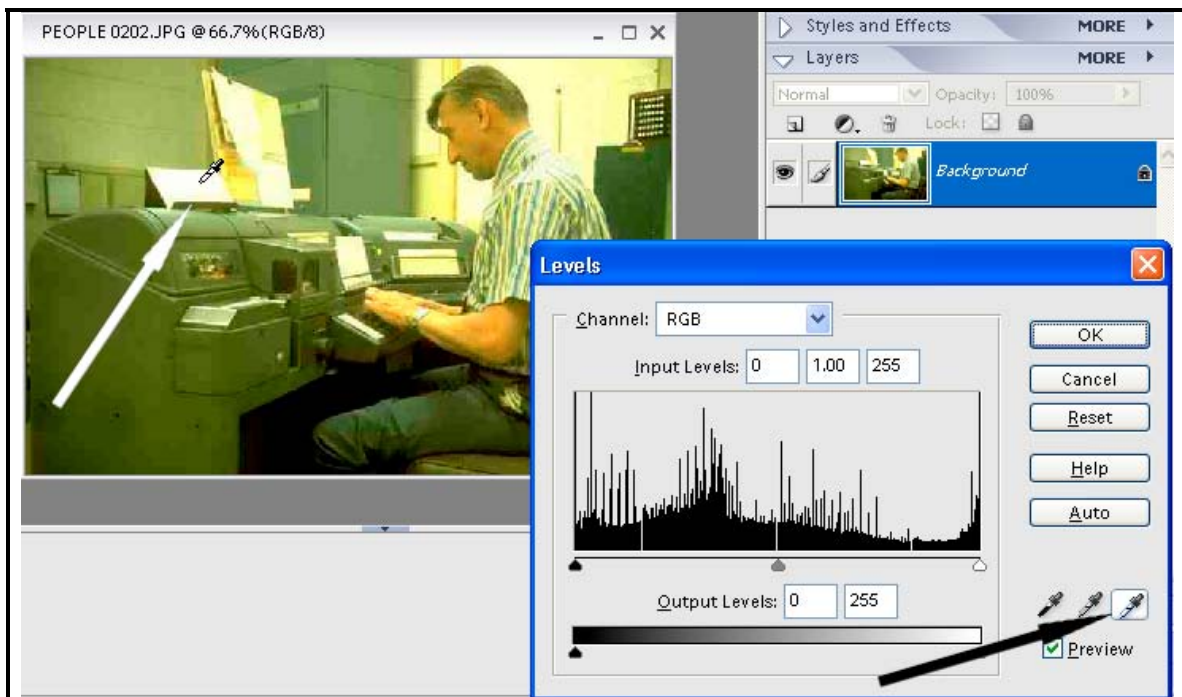
Move the mouse over to the photograph into the area where the shadows are. Then click on the mouse to set it as the Black Point.

Step 19: To remove the color cast from the highlights, click on the **Set White Point** eyedropper tool to select it in the **Levels** dialog box.



Click on the **Set White Point** eyedropper tool in the **Levels** dialog box to select it.

Step 20: Move the mouse over to the photograph into the area where the highlight is. Then click on the mouse to set it as the White Point.



PEOPLE 0202.JPG @ 66.7%(RGB/8)

Styles and Effects MORE

Layers MORE

Normal Opacity: 100%

Lock: Background

Levels

Channel: RGB

Input Levels: 0 1.00 255

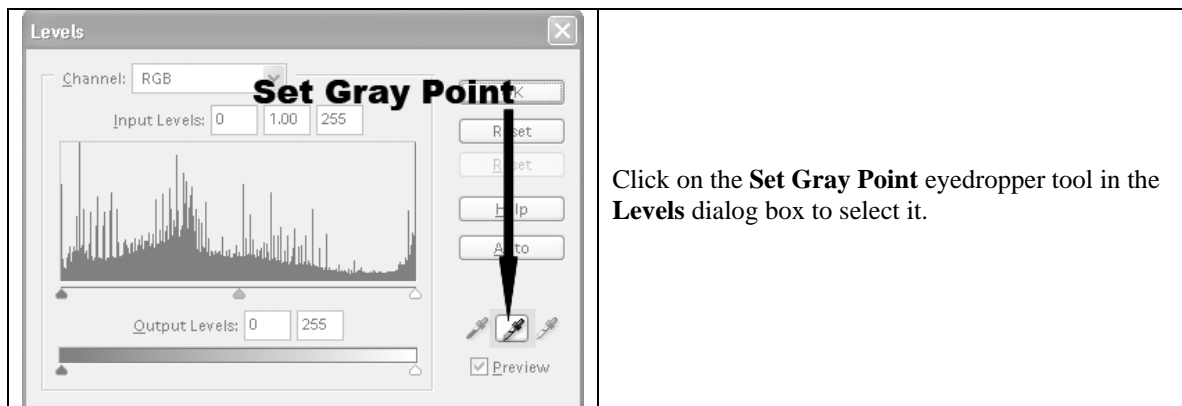
Output Levels: 0 255

OK Cancel Reset Help Auto

Preview

Move the mouse over to the photograph into the area where the highlight is. Then click on the mouse to set it as the White Point.

Step 21: To remove the color cast from the midtones, click on the **Set Gray Point** eyedropper tool to select it in the **Levels** dialog box.



Levels

Channel: RGB

Set Gray Point

Input Levels: 0 1.00 255

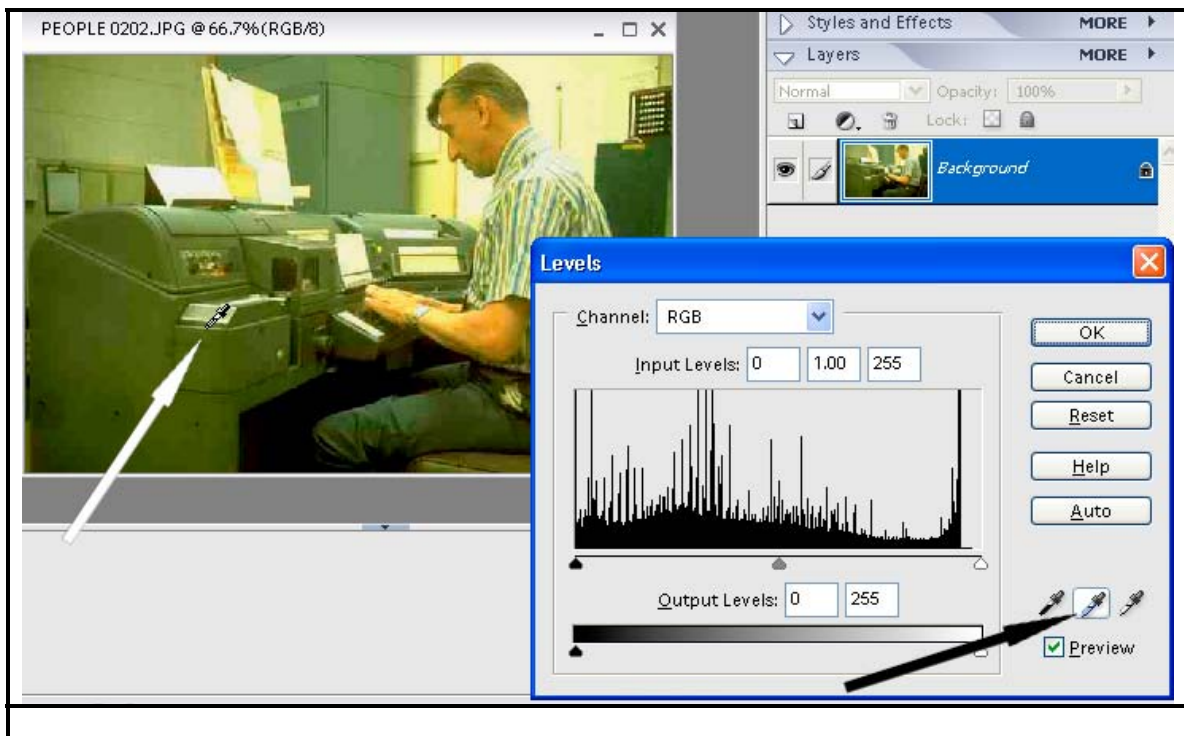
Output Levels: 0 255

OK Cancel Reset Help Auto

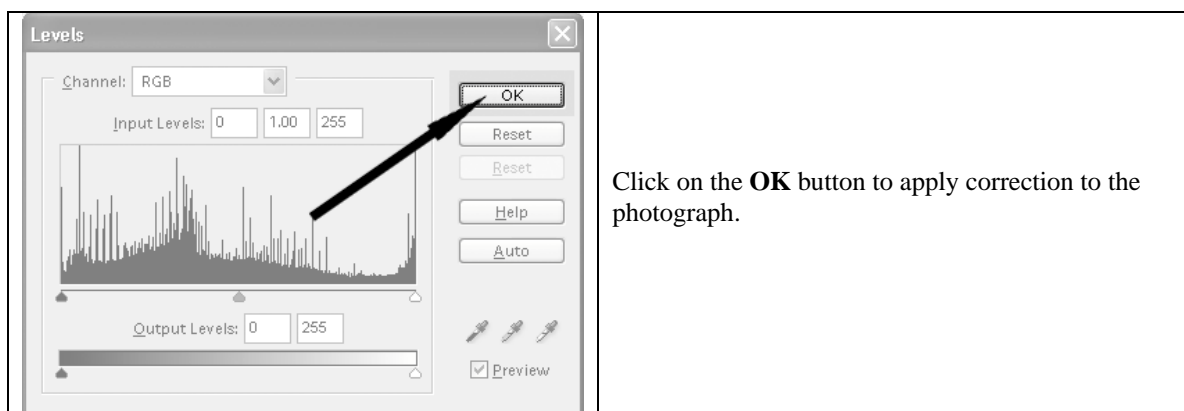
Preview

Click on the **Set Gray Point** eyedropper tool in the **Levels** dialog box to select it.

Step 22: Move the mouse over to the photograph into the area where the midtone is. Then click on the mouse to set it as the Gray Point.



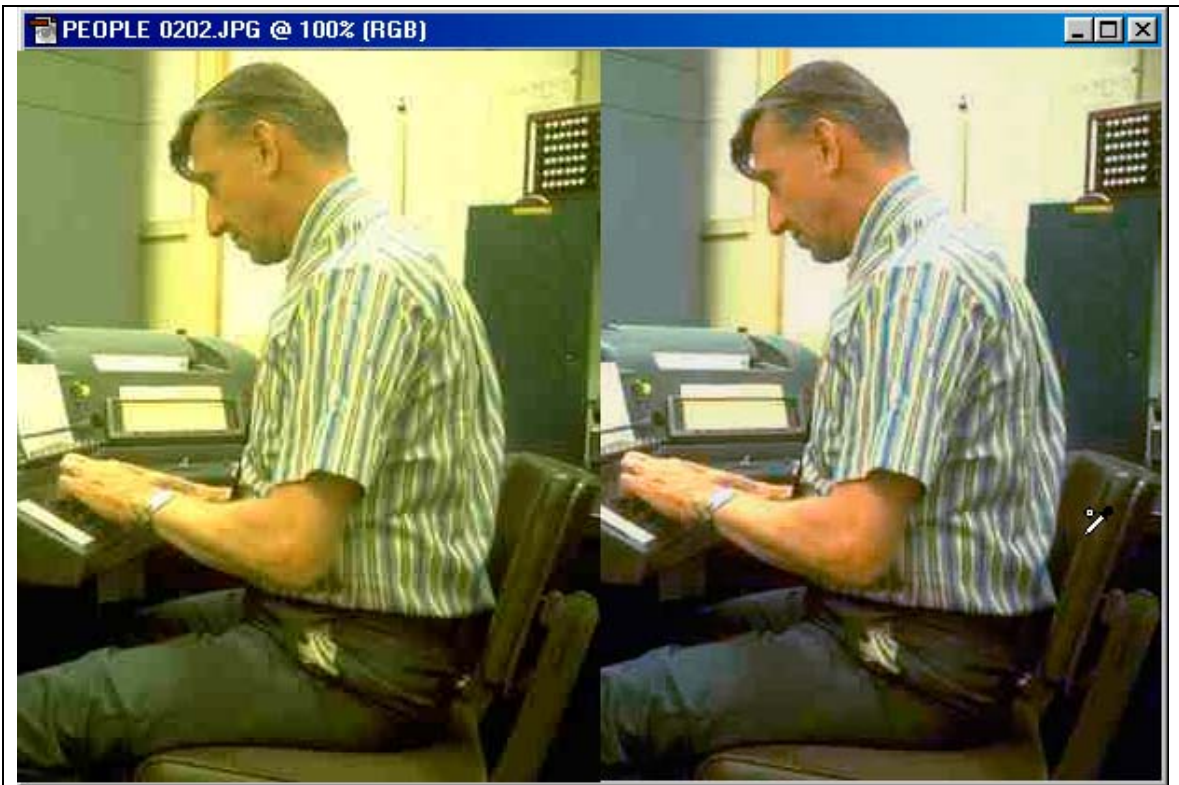
Step 23: In the **Levels** dialog box, click on the **OK** button to apply the correction to the photograph.



Click on the **OK** button to apply correction to the photograph.

Color Correction by the Numbers- Using Photoshop Elements 3.0

In the picture below, the left side shows the original photograph with the color cast and the right side shows after the color cast has been removed.

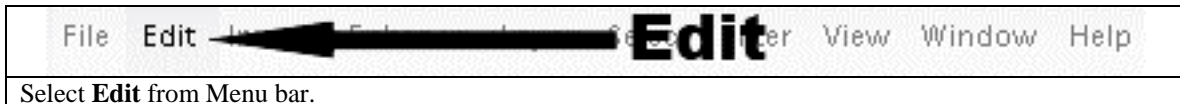


Appendix A

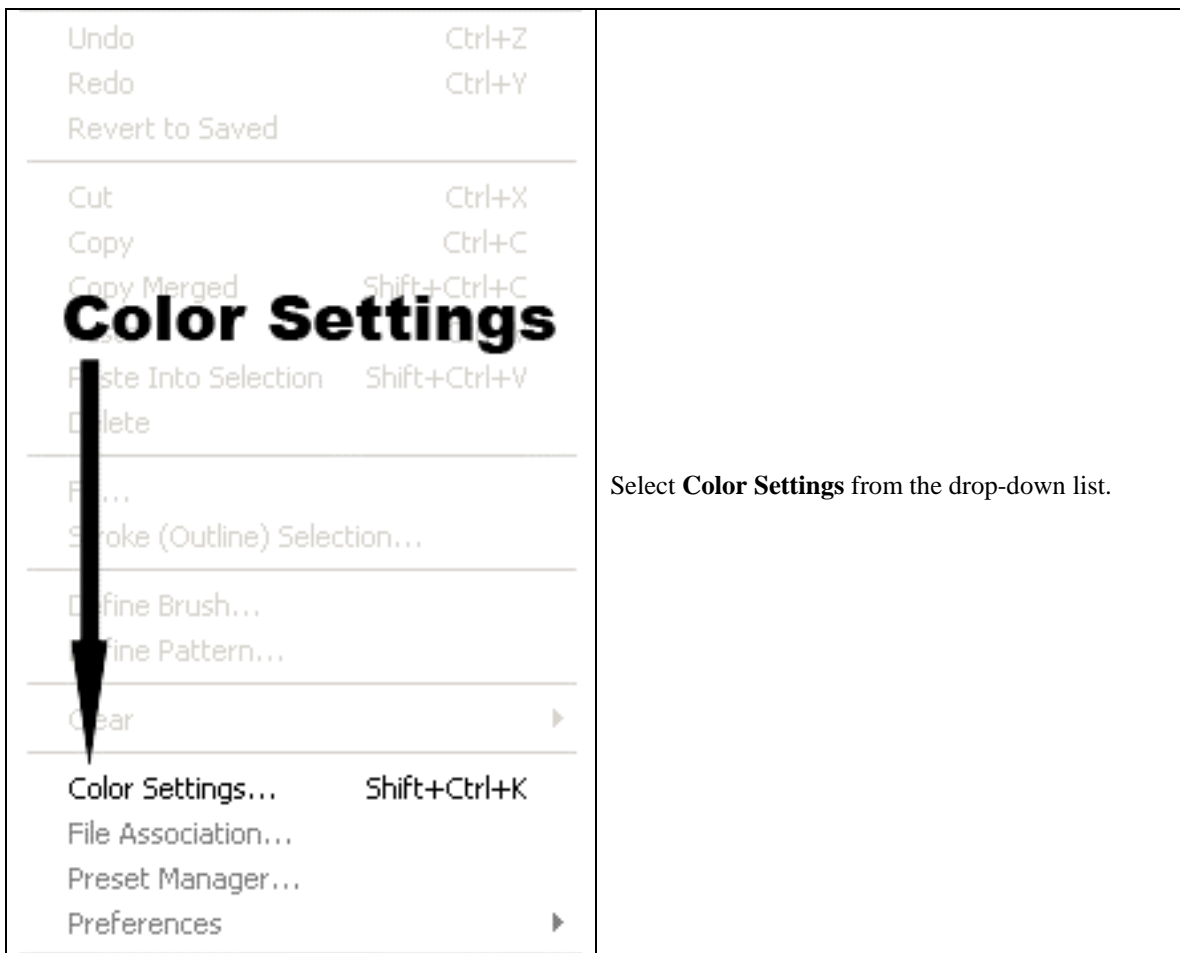
Set the Color Space in Photoshop Elements 3.0

According to Scott Kelby, you need to set the Color Space correctly as it affects the results you get. Originally it was designed for Web designers to emulate a PC monitor from about 4 or 5 years ago. Today Scott does not recommend the default Color Space for either Web designers or photographers. If you have not already done so, please refer to the following steps to setup the Color Space.

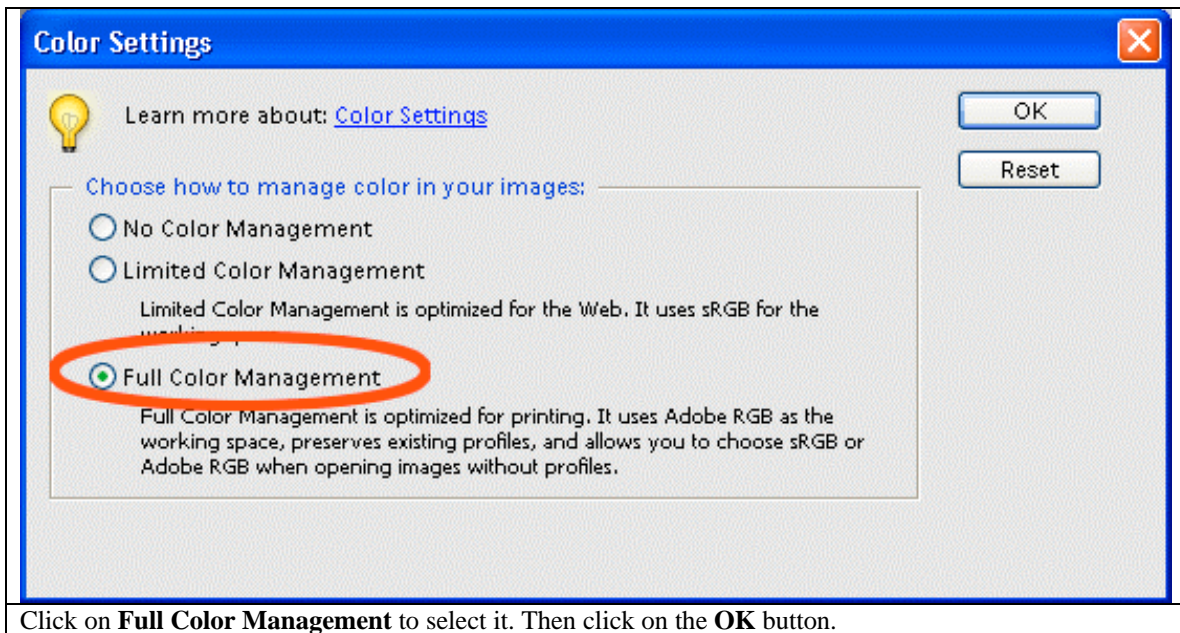
Step 1: Select **Edit** from Menu bar.



Step 2: Select **Color Settings** from the drop-down list.



Step 3: In the **Color Settings** dialog box, click on **Full Color Management** (Adobe RGB) setting. This setting has the widest range of colors, which makes it ideal for photographs.



Click on **Full Color Management** to select it. Then click on the **OK** button.

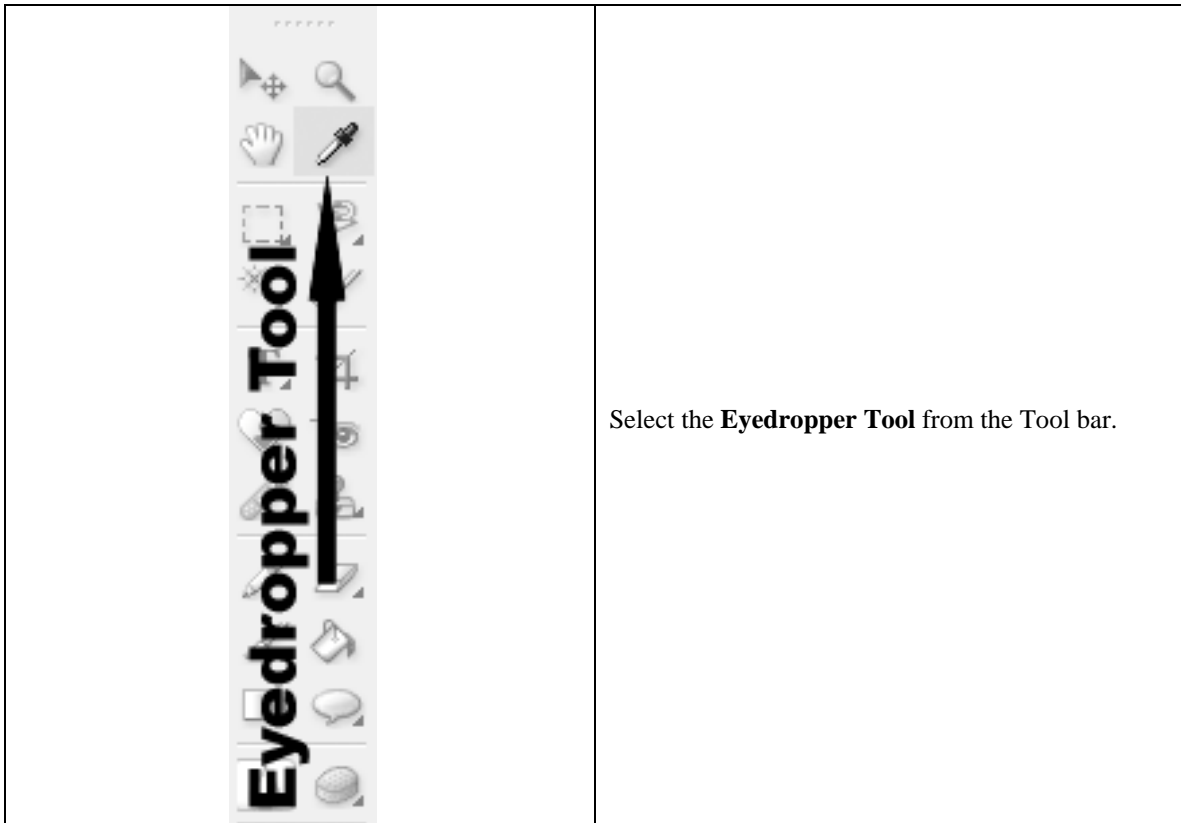
This now becomes your default color work space.

Appendix B

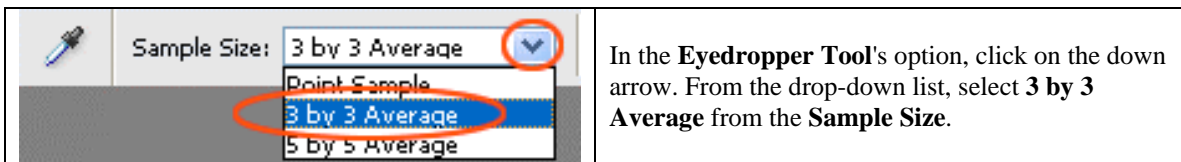
Set the Eyedropper Tool

When correcting color, you need to get a reading that is representative under the Eyedropper, not just one pixel within that area. For instance, flesh tones are comprised of dozens of different colored pixels. You can change this tool back to the **Point Sample** whenever you need to use it to retrieve get a color.

Step 1: Select **Eyedropper Tool** from the Tool bar.



Step 2: Set the **Sample Size** to **3 by 3 Average** from the list.

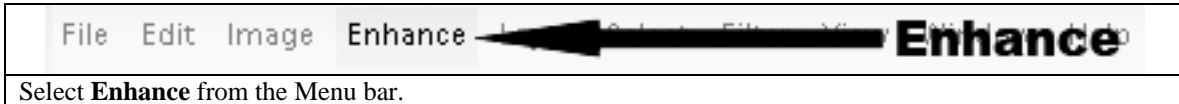


Appendix C

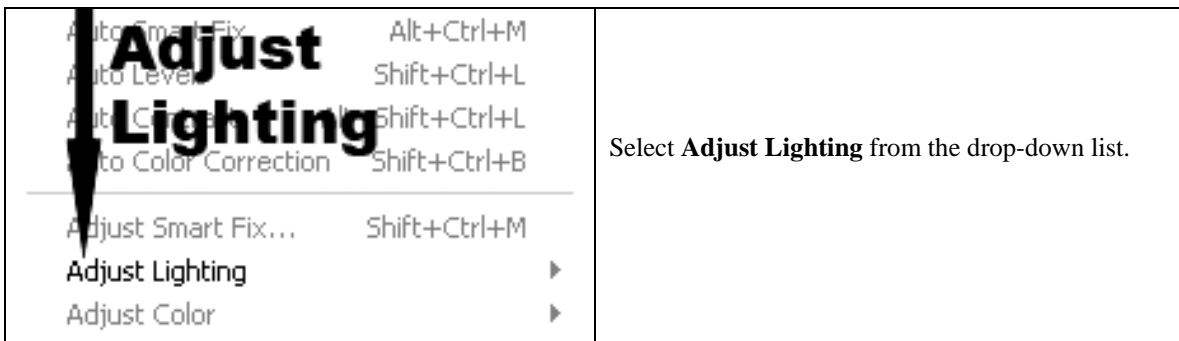
Set the Preferences in the Levels tool

In this section, we'll set the target colors for highlights (white point), shadows (black point), and midtones (gray point). By setting these points, it ensures that the highlights, shadows, and midtones won't have too much of any one color.

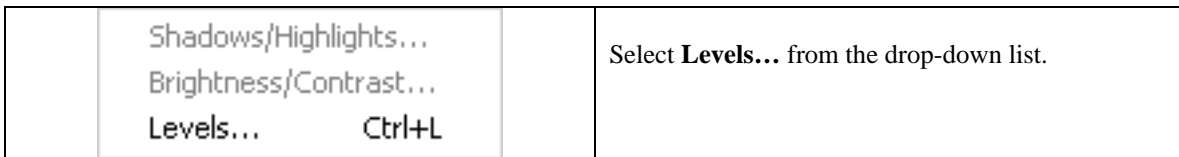
Step 1: Select **Enhance** from the Menu bar.



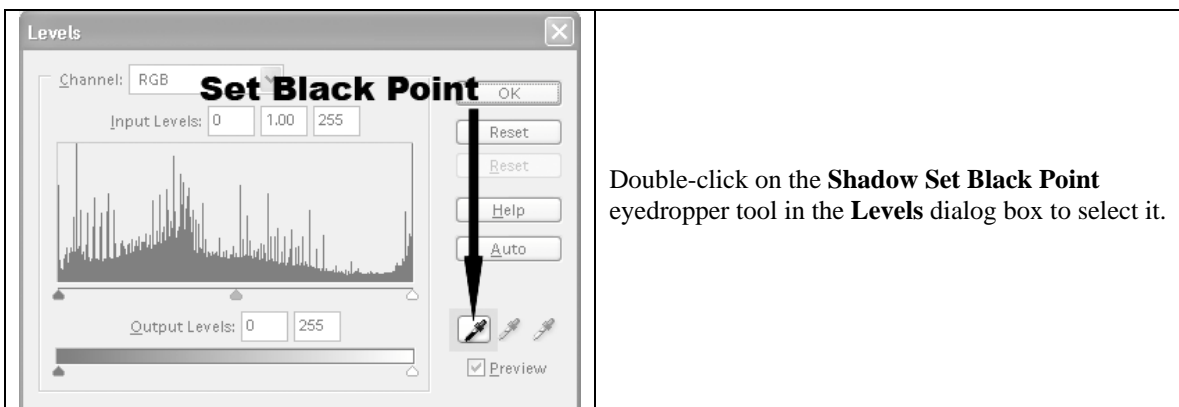
Step 2: Select **Adjust Lighting** from the drop-down list.



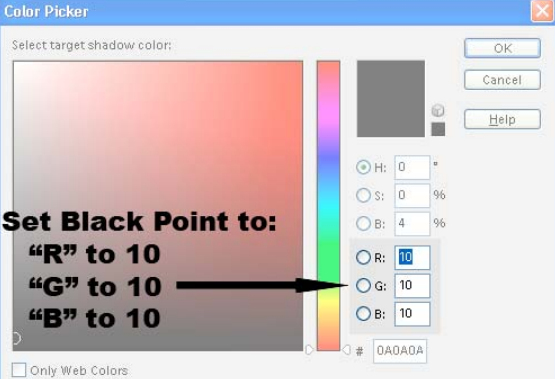
Step 3: Select **Levels...** from the drop-down list.



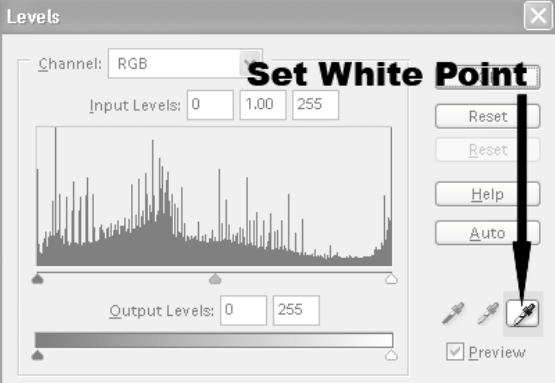
Step 4: Double-click on the **Set Black Point** eyedropper tool to select it.



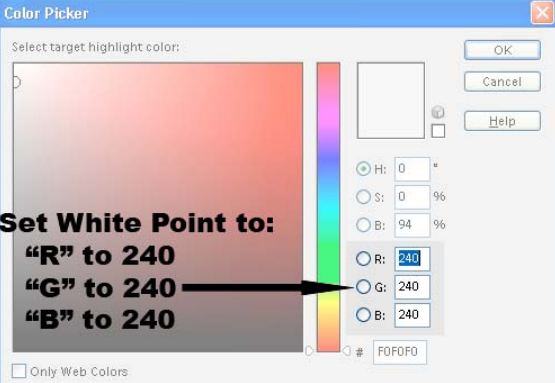
Step 5: In the **Color Picker** dialog box, set the **Black Point** to help remove color casts from the shadows.

| | |
|---|---|
|  <p>Set Black Point to: "R" to 10 "G" to 10 "B" to 10</p> | <p>Set the Black Point to:</p> <p>"R" to 10 "G" to 10 "B" to 10</p> <p>Then click on the OK button.</p> |
|---|---|

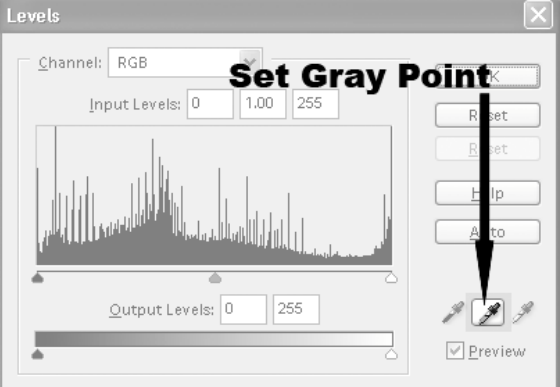
Step 6: Double-click on the **Set White Point** eyedropper tool to select it.

| | |
|--|---|
|  <p>Set White Point</p> | <p>Double-click on the Set White Point eyedropper tool in the Levels dialog box to select it.</p> |
|--|---|

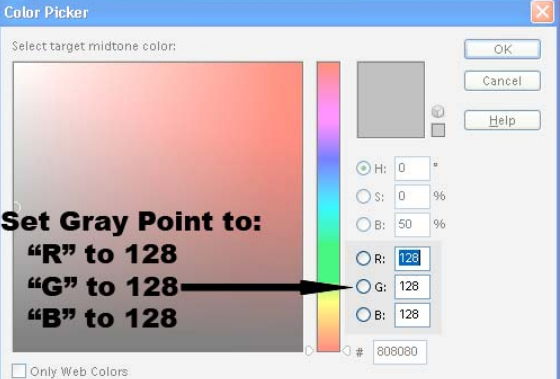
Step 7: In the **Color Picker** dialog box, set the **White Point** to help make the highlight areas more neutral.

| | |
|--|--|
|  <p>Set White Point to: "R" to 240 "G" to 240 "B" to 240</p> | <p>Set the White Point to:</p> <p>"R" to 240 "G" to 240 "B" to 240</p> <p>Then click on the OK button.</p> |
|--|--|

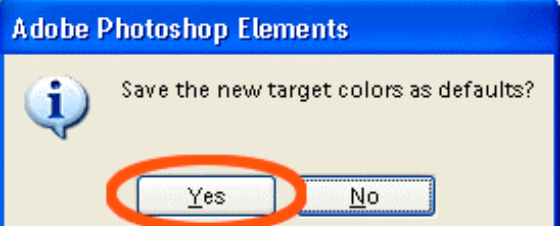
Step 8: Double-click on the **Set Gray Point** eyedropper tool to select it.

| | |
|---|--|
|  | <p>Double-click on the Set Gray Point eyedropper tool in the Levels dialog box to select it.</p> |
|---|--|

Step 9: In the **Color Picker** dialog box, set the **Set Gray Point**.

| | |
|--|--|
|  | <p>Set the Gray Point to:</p> <p>"R" to 128 "G" to 128 "B" to 128</p> <p>Then click on the OK button.</p> |
|--|--|

Step 10: Save the settings.

| | |
|---|--|
|  | <p>When it asks to save new target colors as defaults, click on the Yes button.</p> |
|---|--|