


The RAW File Advantage - I once took an outdoors group photo for a client. Just prior to the outdoor shoot, I had taken some indoor shots and had set the camera White Balance to Tungsten. Problem is, when I took the outdoor shots, I had forgotten to set the white balance back to Daylight. The result was a bunch of pictures with a distinct blue cast!

No big deal! I was saved by **the RAW File Advantage!** In *Adobe Camera Raw (ACR)*, I would simply set the White Balance control to Daylight -- just like the camera would do. BAM! Problem solved! By the way, *Adobe Camera Raw (ACR)* is built-into *Photoshop Elements*.

It's important to understand that even though the original RAW DATA from the camera sensor does not know anything about white balance - it's just delivers pure photographic data describing the amount of light that hit each camera sensor *photosite*. Recall that there are millions of these microscopic photosites - like little buckets that collect the light that enters the camera through the lens. These photosites eventually equate to the image pixels. In my example, the image shows up with a heavy blue cast because *ACR* shows us what the picture looks like with the particular white balance setting *that was set on the camera*.

Exercise 1a - Fixing the White Balance problem in Adobe Camera Raw

- Open the folder called "**Exercise 1 Files**" and then open the file "**Wrong White Balance.NEF**" into *Adobe Camera Raw*, which is part of *Photoshop Elements*. A .NEF raw file is generated by a Nikon camera. Double-clicking the file should open it directly into *Elements/Camera Raw*. If not, then use **menu:FILE>OPEN** in *Elements* and navigate to the file and click OPEN. The file should now open in *ACR* (a window inside of *Elements*). **How do you know?** The answer is found in the title bar at the top of the window - it should say "Adobe Camera Raw" followed by a version number and the camera brand/model that was used for the shot.
- At the bottom of the window, change the **Depth** to **8 Bits/Channel** using the pop-up menu there. This will make the image easier to work with.
- Over on the right side, where all the *ACR* camera control panel is, make sure you are in the **BASIC** panel. This is controlled via the little tabs just above and under the Histogram and Camera Exposure information.
- Use the top control slider to adjust **White Balance**. Pop open that menu and you will see a list of the White Balance settings for that camera. Another camera may have a different set -- smaller, larger, or different white balance setting names. Now, it should indicate "**As Shot.**" This means that *ACR* is showing you this picture applying the setting as it was shot. (which, in the case of this photo, was with the Tungsten setting). Change this to **Daylight** ... and the photo is instantly fixed!! The important thing is this:
NO PIXELS WERE DESTROYED OR ALTERED MAKING THIS CHANGE.
- What if you want this picture to be a bit warmer (or cooler)? ... play around with the **Temperature** slider. Notice that the White Balance pop-up menu item now changes to **Custom**. When done playing, go back to **Daylight**.

6. Next, look at the **Histogram**. Notice that the image is slightly underexposed. Use the **Exposure** control to increase the exposure a bit. This is like working in *Levels*.
7. But, some of the people in the center of the photo are still a bit too dark, and they're hard to make out. You can't see a lot of detail on their faces or clothing. This is a perfect scenario for the **Fill Light** adjustment. Slide the **Fill Light** slider to the right to apply a bit of lightening to the shadows. This is appropriately named because it is similar to using a bit of fill-flash in a bright, contrasty environment such as this in order to bring in detail from subjects in the shadows.



8. Make the people "pop" a bit by adjusting the **Clarity** slider to the right. To see the effect better, zoom in via the **Zoom Tool** (magnifying glass) at the top-left where the **Toolbar** is.
9. Let's finish up with this picture. See the buttons at the bottom-right of the *ACR* window (**Done**, **Cancel**, and **Open Image**)? Clicking on **DONE** will update (or create) a **.xmp sidecar file** with instructions describing any changes you have made to the image. Clicking on **OPEN IMAGE** will also update (or create) the .xmp file, and then open the image up into *Photoshop Elements* where you can proceed to perform other image editing functions.

When you obtained the RAW images for these exercises, you did not get any sidecar files - just the raw files themselves; in this case, the "*Wrong White Balance.NEF*" file. As soon as you make a change in *ACR* and click on **DONE** (or **OPEN IMAGE**), the sidecar .xmp file (*Wrong White Balance.xmp*) is created where the original file is.



Wrong White Balance.xmp

10. Click on **DONE**. Now, **QUIT** or **HIDE Elements**. Go to the "**Exercise RAW Files**" folder and look inside. You should see a file called "**Wrong White Balance.xmp**" right there alongside "**Wrong White Balance.NEF**." If you were to take this .xmp file out of this folder or delete it, you lose any of the setting changes you made in *ACR*, and *the image would open as it did originally in the first step*.

Exercise 1b - Playing around with Adobe Camera Raw

1. From your "**Exercise 1 Files**" folder, open the file, "**Raw_Practice.MRW**." (MRW is a raw image generated by a Minolta camera). It should open into *Adobe Camera Raw (ACR)* within *Elements*.
2. Make the following adjustments:
 - **Rotate** (via the tool bar at the top-left)
 - Look at the **Histogram**.
 - Fix the **Exposure (Exposure Slider)**.
 - Bump up the **Contrast (Contrast Slider)**.

- See how the following controls affect the image: **Recovery** (to tone down the highlights and bring out detail there), **Fill Light** (to brighten the shadows and bring out detail there), **Blacks** (to increase darkness to shadow areas), **Brightness** (to increase brightness to highlight areas), **Contrast** (for the midtones), **Clarity** (punches up local edge sharpening for a nice “pop” effect), **Vibrance** (adjusts saturation of color without affecting mid colors like flesh tones), and **Saturation** (adjusts the overall color saturation).

- Finally, adjust **Sharpness**. But you need to be in the “**Detail**” **Control Panel**. Click on the middle tab at the top (the one with the triangle). You will see sharpening controls there. If you have ever used the **Unsharp Mask Filter**, these work the same way.



3. When you’re satisfied with your adjustments, click on **OPEN IMAGE** to see your image open up in Elements. Then **menu:FILE>CLOSE**. *Elements* asks you to save the image because it wants to save as a PSD file or other file format of your choosing, like JPEG.

Aren’t these *Adobe Camera Raw* controls great? Starting with *Elements* version 6, you can now open JPEGs (and TIFFs) into *Adobe Camera Raw* in order to use its interface and controls! It’s important to remember, though: **adjustments made to JPEGs will change the original pixels!** Whereas, when working with RAW images, no changes are made to the pixels; just the descriptions of changes made. Recall that these descriptions are stored inside an .xmp “sidecar” file and live alongside the original RAW image file.

Exercise 1c - Editing a JPEG image with Adobe Camera Raw

1. In *Elements*, go to **menu:FILE>OPEN**.

2. From your “**Exercise 1 Files**” folder, select “**Finch.jpg**” but before committing to opening it, you must tell *Elements* that you want to treat it as a RAW file and open it into *ACR*. This is done via that little popup-menu down on the lower-left of the OPEN dialog box. It should say “JPEG.” Pop that menu up and select “**Camera Raw.**” Your JPEG will now open in *Adobe Camera Raw*.

3. You can proceed to modify the image. You won’t get as much latitude as you would in an actual RAW file, and most importantly, **any changes you make WILL affect your original JPEG image!**

REMEMBER TO USE THE ONLINE HELP FACILITY TO LEARN MORE ABOUT USING ADOBE CAMERA RAW.