



Improving Image Tonality

This chapter looks at correcting problems such as poor contrast and exposure issues. Here's what will be covered:

- *Common Tonal Problems:* In this part, we'll look at the most common tonal problems in photographic images.
- *Using the Brightness and Contrast Adjustment:* In this part, we'll take a look at how to improve tonality using this tool.
- *Using Exposure:* In this part, we look at how using the Exposure adjustment improves a dark, underexposed image.
- *The Levels Adjustment:* The Levels dialog box is a powerful (and fairly complex) tool used for image tonality adjustments. This part takes a close look at how it works.
- *The Curves Adjustment:* The Curves dialog box is another powerful, complex tool used for image tonality adjustments. This part takes a close look at how it works.
- *Improving Exposure Using Layer Modes:* This section looks at how image exposure can be improved by using two different layer blending modes.
- *Local Tonal Adjustments Using the Dodge and Burn Tools:* This section looks at how image tonality can be improved in parts of an image using these tools.

Common Tonal Problems

Tonal problems are very common not only in casual photography, but in older images that have degraded over time. In many cases, a simple quick fix is all that's needed to correct the image. In other cases, you'll need to use more powerful adjustments such as Levels or Curves.

Tonal problems usually fall under one of the following descriptions:

- Low contrast (dull and flat)
- Underexposed (too dark)
- Mixed tonality (good exposure in some areas, poor exposure in others)
- Overexposed (too bright)

The rest of this chapter shows you various methods describing how to correct these issues using the adjustments (tutorials accompany some of them).

Using the Brightness & Contrast Adjustment Dialog Box

Tonal problems are very common not only in casual photography, but in older images that have degraded over time. In many cases, a simple quick fix is all that's needed to correct the image.

■ **Note** Just as you would compose an image in the best way possible before clicking the shutter button, it's also a good practice to follow your camera's user manual guidelines on how to achieve the best exposure before shooting the picture.

The Brightness & Contrast adjustment is a basic tonal correction tool designed for making quick corrections. It doesn't offer the precise control found in the Levels and Curves dialog boxes, but will work well for many types of images with contrast problems. The image shown in Figure 5-1 is washed out and lacking in contrast.



Figure 5-1. *This image is lacking in contrast*

Now the image is opened in Pixlr Editor, and by using the Brightness & Contrast dialog box (Adjustment ► Brightness & Contrast), the image is improved by setting the Brightness to -15 and the Contrast to 35 (Figure 5-2).



Figure 5-2. The tonal quality of this image is improved using the Brightness & Contrast adjustment

Using the Exposure Adjustment Dialog Box

The Exposure adjustment is a useful function for making quick improvements in underexposed images. The inside of an old church turned out underexposed in this image (Figure 5-3).

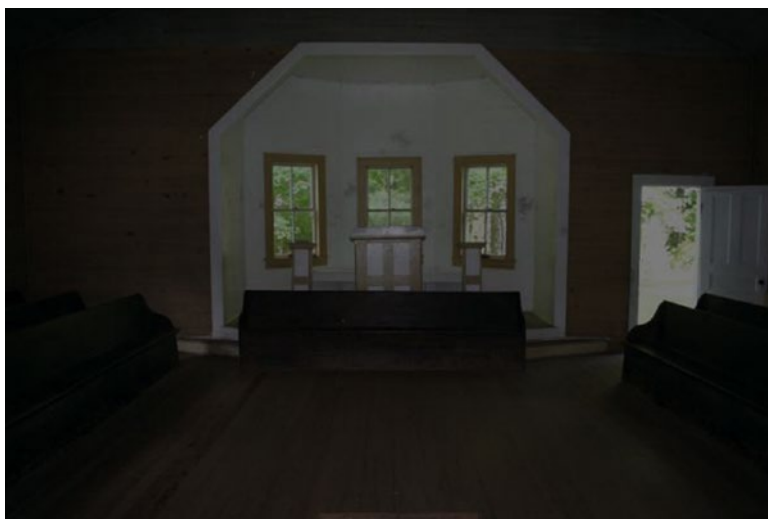


Figure 5-3. *The image of this old church is underexposed*

By setting Exposure adjustment to 30, the image is quickly improved, and more detail is revealed (Figure 5-4). The Exposure adjustment ranges from 0-50.

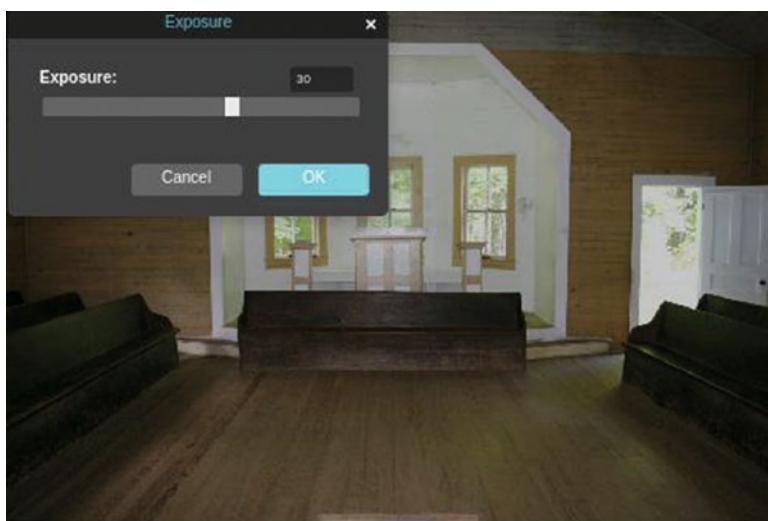


Figure 5-4. *The Exposure adjustment quickly improves this underexposed image*

The Levels Adjustment Dialog Box

The Levels dialog box allows you to make an image lighter or darker, or to change the contrast. It offers more precise control than the Brightness & Contrast adjustment. Color corrections can also be made using Levels, which we'll look at in detail Chapter 6.

The Levels dialog box displays a *histogram*, which is a graphical representation of the pixel brightness values ranging from 0 (pure black) to 255 (pure white).

The tonal information of the black and white (grayscale) image of the car is mapped in the histogram shown in Figure 5-5. All of the darkest pixels are contained in the left portion of the histogram, the middle range pixels are in the center portion, and the lightest pixels are in the right portion.

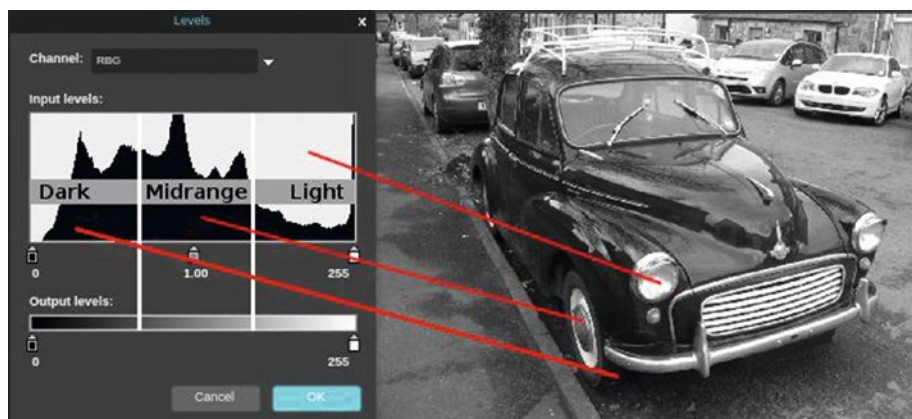


Figure 5-5. The tonal information of this image is mapped in the histogram

TUTORIAL 4: TONAL CORRECTION USING LEVELS

Improving Contrast in a Dull Image

The Levels adjustment is very useful for correcting tonality in images. In this tutorial, Levels will be used to remap the tonality to improve the contrast in a dull and flat image.

1. Open the image titled `Ch05_Lady and Baby.jpg` found in the `Ch05 Practice Images` folder.
2. Duplicate the background layer (Layer ► Duplicate Layer).
3. Rename the duplicate layer `Contrast Fix` using the layer thumbnail's textbox.

4. Open the Levels dialog box (Adjustment ► Levels). Note that most of the tonal information is clustered in the midtones range of the histogram—the dark and light ranges are lacking.
5. In the Input Levels window, move the left black point slider toward the center where the histogram data begins—repeat this process moving the right white point slider toward the histogram data (Figure 5-6). Click OK when you're done.



Figure 5-6. Moving the black and white point sliders remaps the tonality in the image to improve contrast

Now the image has much better contrast, as seen in the before and after comparison (Figure 5-7). When you're finished, either close the image without saving or save it as a PXD file for future reference. *If you are a student, your teacher may instruct you to save the image with a certain name and in a certain location (such as a flash drive).*



Figure 5-7. Before and after comparison

Using the Levels Mid Point Slider

In the previous tutorial, the contrast was improved by using the black point and white point sliders to remap the tonality. These sliders make adjustments to the darkest and lightest ranges in the image.

The mid point slider (also called the *gamma* slider) is useful for revealing detail in images that are moderately underexposed. The mid point slider produces results similar to those that the Exposure adjustment dialog box does.

TUTORIAL 5: EXPOSURE CORRECTION USING LEVELS

Improving an Underexposed Image

This tutorial involves only a couple of slight adjustments, but they make a noticeable difference.

1. Open the image titled `Ch05_Little Grand Canyon.jpg` found in the `Ch05 Practice Images` folder.
2. Duplicate the background layer (Layer ► Duplicate Layer).
3. Rename the duplicate layer `Exposure Fix` using the layer thumbnail's textbox.
4. Open the Levels dialog box (Adjustment ► Levels). Note that most of the tonal information is clustered in the darker range of the histogram.
5. In the Input Levels window, move the white point slider toward the point where the histogram data begins (the numeric value should read 243). Move the mid point slider slightly to the left until the numeric value reads 0.8 (Figure 5-8). Click OK when you're done.

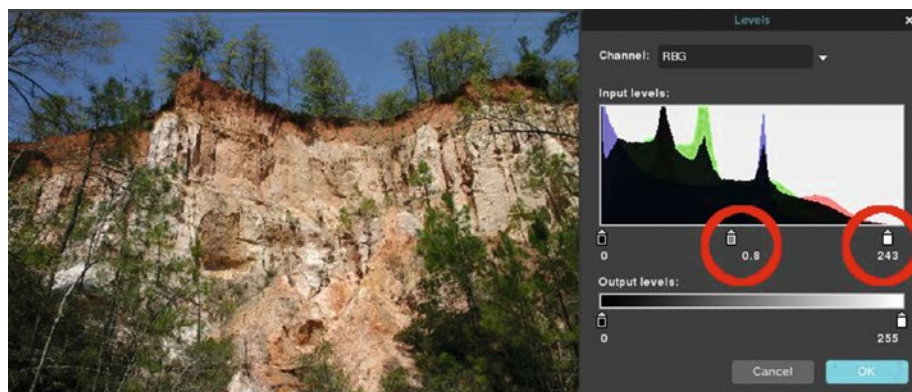


Figure 5-8. Making a slight exposure correction using the white point and mid point sliders

Now the image is a bit lighter—note a little more detail is revealed in the darker areas of the image (Figure 5-9). When you're finished, either close the image without saving or save it as a PXD file for future reference. *If you are a student, your teacher may instruct you to save the image with a certain name and in a certain location (such as a flash drive).*



Figure 5-9. Before and after comparison

The Curves Adjustment Dialog Box

The Curves dialog box is a powerful function that allows you to make precision adjustments in your image. Depending on the type of adjustment being made, the diagonal line is moved in specific areas, or parts of the line can be anchored to prevent changes in certain parts of the image (Figure 5-10).

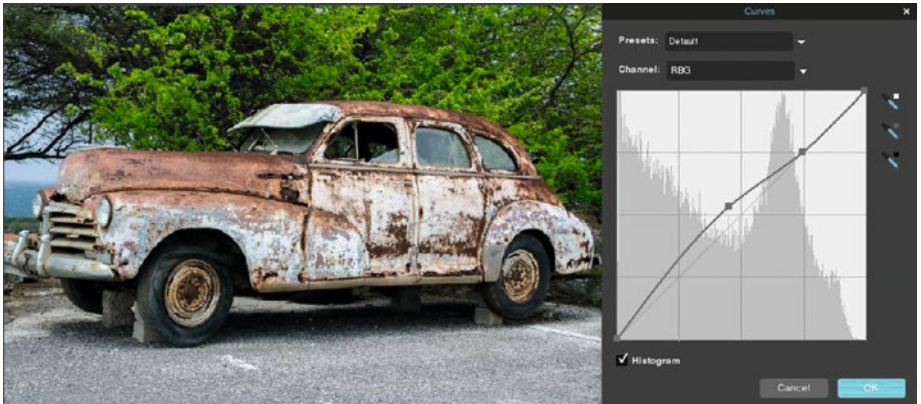


Figure 5-10. Adjustments are made by moving the diagonal line in specific areas

By default, the histogram is not shown, but you can display it by checking the Histogram option box (which I recommend, since the histogram is a “map” of the tonal information).

TUTORIAL 6: TONAL CORRECTION USING CURVES

Improving Contrast in a Dull Image

In this tutorial, the contrast of a tonally flat image will be boosted with a commonly used method in the world of image editing known as an “S” curve.

1. Open the image titled `Cho5_Flat Cat.jpg` found in the `Cho5 Practice Images` folder.
2. Duplicate the background layer (Layer ► Duplicate Layer).
3. Rename the duplicate layer `Contrast Fix` using the layer thumbnail’s textbox.
4. Open the Curves dialog box (Adjustment ► Curves). Check the Histogram option box.
5. Note that most of the tonal information is clustered in the mid range area of the histogram.
6. Click in the center of the grid to place an anchor point (Figure 5-11). *Do not* click OK just yet.

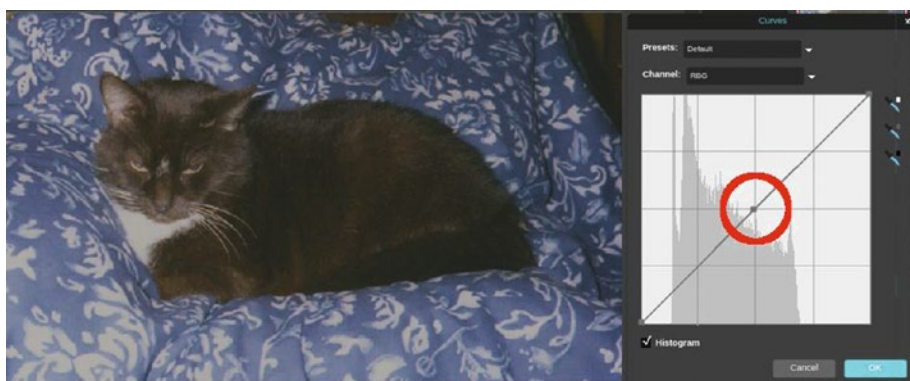


Figure 5-11. Click the center to place an anchor point

7. Now, place points on the line and move as shown in Figure 5-12 (note that it bears a slight resemblance to the letter “S”). Click OK when you’re done.

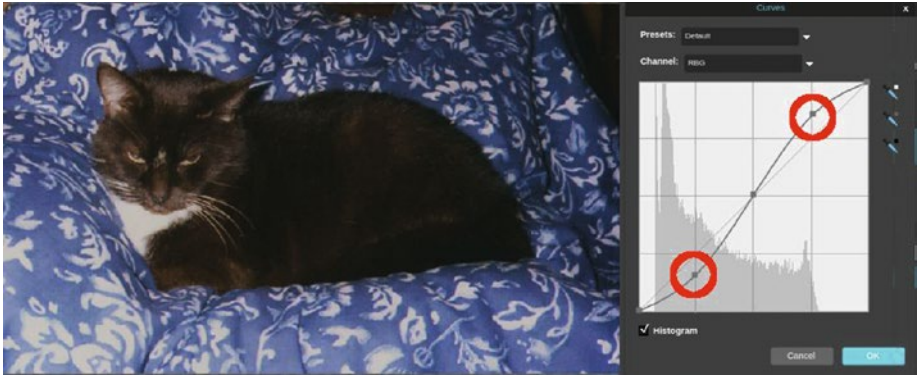


Figure 5-12. Contrast is improved using an “S” curve

Note The purpose of this tutorial is to get you accustomed to making manual adjustments using Curves. However, there is an Increase Contrast setting in the Curves presets. Some of the Curves presets will be covered in more depth in Chapter 6.

Now the contrast is boosted and the image is improved (Figure 5-13). When you’re finished, either close the image without saving or save it as a PSD file for future reference. *If you are a student, your teacher may instruct you to save the image with a certain name and in a certain location (such as a flash drive).*



Figure 5-13. Before and after comparison

TUTORIAL 7: PARTIAL EXPOSURE CORRECTION USING CURVES

Improving an Image with Mixed Tonality

In this tutorial, Curves will be used to create a fill flash effect. It will lighten the harsh, darker areas of the image while not affecting the lighter areas.

1. Open the image titled Ch05_Hiker at Rest.jpg found in the Ch05 Practice Images folder.
2. Duplicate the background layer (Layer ► Duplicate Layer).
3. Rename the duplicate layer Exposure Fix using the layer thumbnail's textbox.
4. Open the Curves dialog box (Adjustment ► Curves). Check the Histogram option box. Note that most of the tonal information is clustered in the mid range and dark range areas of the histogram.
5. Place anchor points along the line, as shown in Figure 5-14. This will “lock down” the pixels in the lighter-to-lightest range of the image. *Do not* click OK just yet.

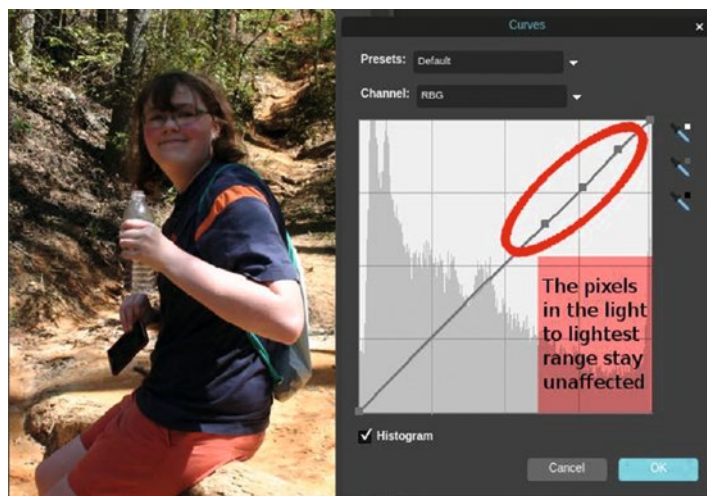


Figure 5-14. Placing this anchor point “locks down” the light to lightest pixels

6. Click on the line and pull upward to form a bow shape, as shown in Figure 5-15. Click OK when you're done.

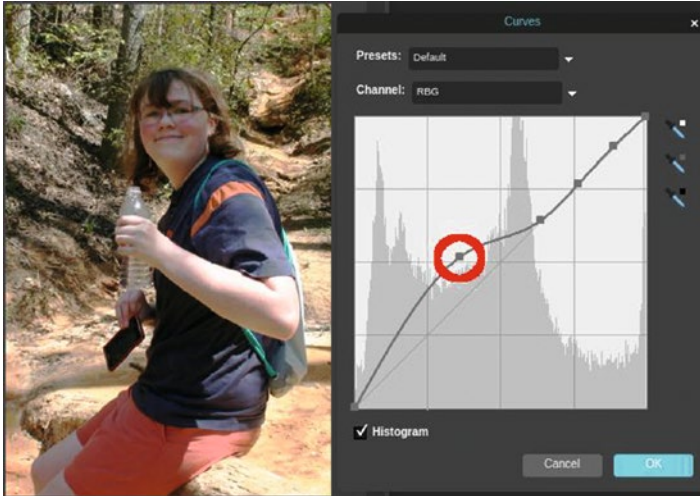


Figure 5-15. Making this adjustment reduces the harsher dark areas

The effect reduces the harsh shadows, while keeping the lighter areas from washing out (Figure 5-16). When you're finished, either close the image without saving or save it as a PXD file for future reference. *If you are a student, your teacher may instruct you to save the image with a certain name and in a certain location (such as a flash drive).*



Figure 5-16. Before and after comparison

■ **Note** In the next chapter, we'll look at the commands (represented by eyedropper icons in the Curves dialog box) to set the white, gray, and black points for color-correcting an image.

Improving Exposure Using Layer Modes

Using layer modes (particularly Multiply and Screen) can be useful for quickly correcting images that are overexposed or underexposed.

Figure 5-17 is an example of a slightly overexposed image.



Figure 5-17. *A slightly overexposed scenic image*

By duplicating the background layer and changing the mode to Multiply, the image is much less washed out. The layer's opacity was lowered to 80% to achieve the result shown in Figure 5-18.

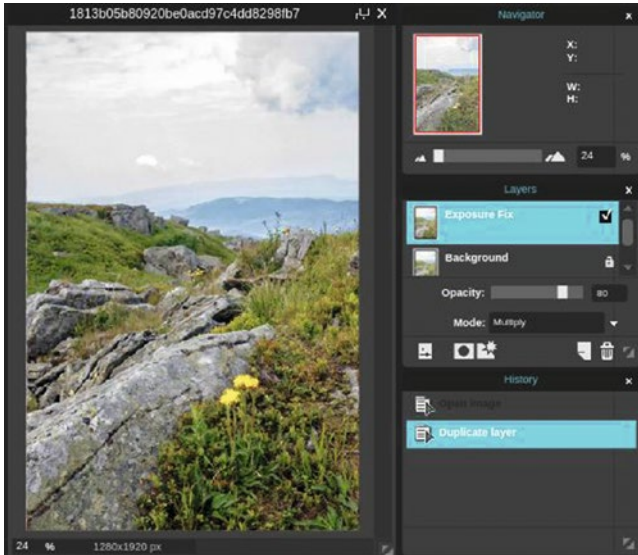


Figure 5-18. The overexposed image corrected using the Multiply layer mode

TUTORIAL 8: EXPOSURE CORRECTION USING THE SCREEN LAYER MODE

Improving an Underexposed Image

Just as using the Multiply layer mode improved the overexposed image, the Screen mode can improve underexposed images.

1. Open the image titled `Ch05_Dark Ship.jpg` found in the `Ch05 Practice Images` folder.
2. Duplicate the background layer (Layer ► Duplicate Layer).
3. Rename the duplicate layer `Exposure Fix` using the layer thumbnail's textbox.

4. Change the layer mode to Screen. This is done by clicking Toggle Layer settings, then changing the mode from Normal to Screen (Figure 5-19).

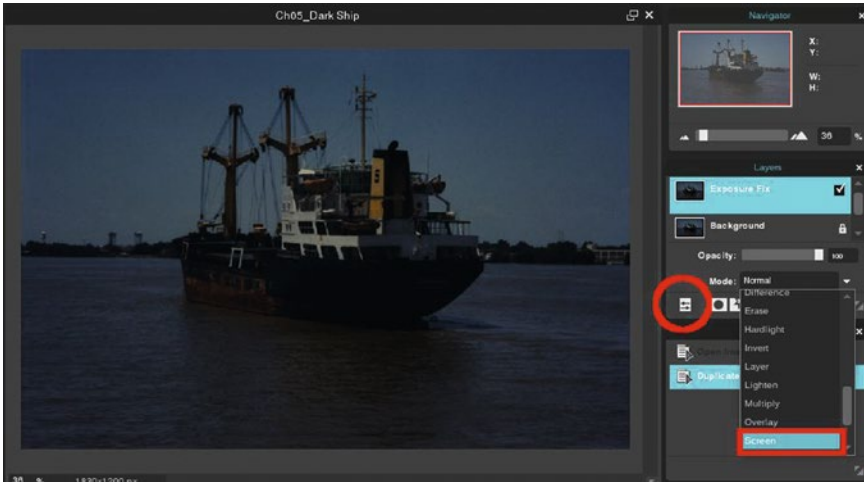


Figure 5-19. Changing the layer mode from Normal to Screen

5. This image is better, but will need further correction. Duplicate the Exposure Fix layer (Layer ► Duplicate Layer) two times. Lower the opacity of the top layer to 50% (Figure 5-20).



Figure 5-20. Duplicate the layer named Exposure Fix twice, then lower the opacity to 50% on the uppermost layer copy

The exposure of this image now looks more like it should (Figure 5-21). When you're finished, either close the image without saving or save it as a PXD file for future reference. If you are a student, your teacher may instruct you to save the image with a certain name and in a certain location (such as a flash drive).



Figure 5-21. Before and after comparison

Local Tonal Adjustments Using the Dodge and Burn Tools

Some images might need tonal corrections only in specific (or local) areas. The Dodge and Burn tools are used for this purpose. As shown in Figure 5-22, the Dodge tool is being used to lighten the opening in the brick wall, revealing some detail.

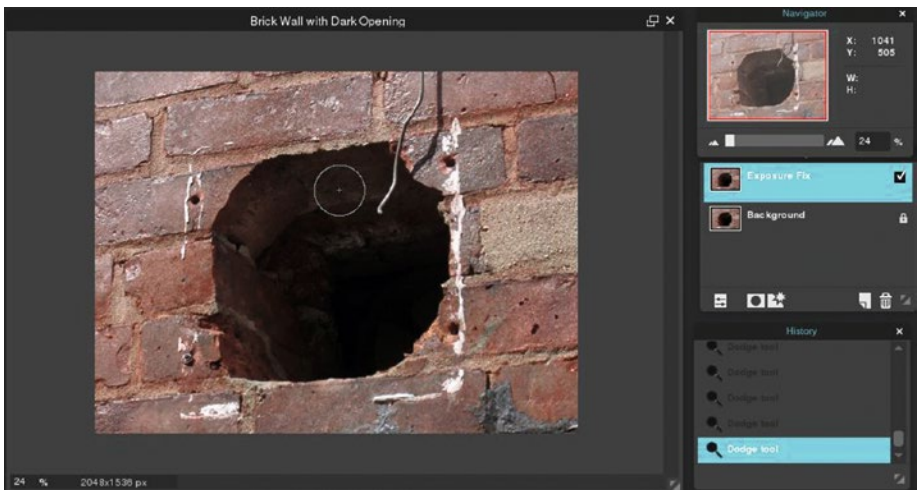


Figure 5-22. Using the Dodge tool to lighten the opening

■ **Note** In addition to the upcoming tutorial, you can also refer to the *Tools Tryout Guide and Practice Images* folder, which can be obtained from the Source Code/Downloads tab from this Apress page: <http://www.apress.com/9781484226971>.

TUTORIAL 9: USING THE BURN TOOL

Darkening Parts of an Image

In this tutorial, the Burn tool will be used to darken part of a hazy image.

1. Open the image titled `Cho5_Castle.jpg` found in the `Cho5 Practice Images` folder.
2. Duplicate the background layer (Layer ► Duplicate Layer).
3. Rename the duplicate layer `Exposure Fix` using the layer thumbnail's textbox.
4. Click the Burn tool icon and select a brush 200 pixels in diameter with a hardness of 50%.
5. Select the Midtones option and set the exposure to 50%.
6. Work along the top of the hazy part of the castle (Figure 5-23).

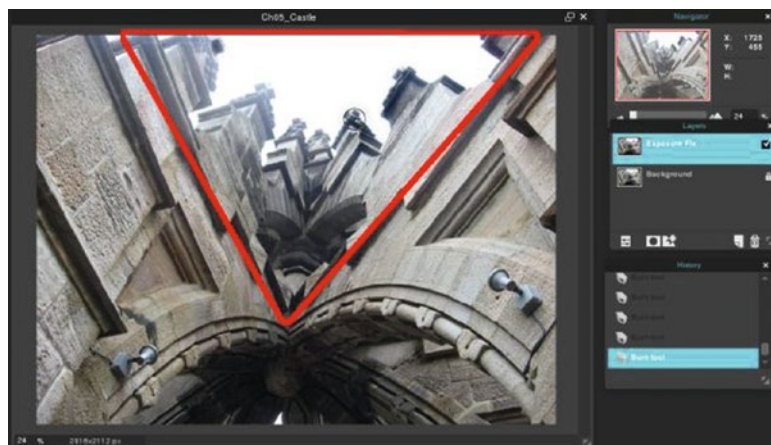


Figure 5-23. The Burn tool will darken the hazy portion of this image

7. Make short strokes, so if you need to undo any mistakes, it won't reverse too much of your work.

Using the Burn tool in the hazy area now makes the image look more evened out (Figure 5-24). When you're finished, either close the image without saving or save it as a PXD file for future reference. *If you are a student, your teacher may instruct you to save the image with a certain name and in a certain location (such as a flash drive).*



Figure 5-24. Before and after comparison

Summary

This chapter covered several methods for correcting tonal problems. The Brightness & Contrast adjustment dialog box is a basic tool that works well in many cases, but has limits. The Exposure adjustment dialog box is a quick method for improving underexposed images.

The Levels and Curves adjustment dialog boxes (while being more complex) offer more control in the tonal adjustments being made.

The Multiply and Screen layer modes can be used to improve images that are overexposed or underexposed, respectively.

The Dodge and Burn tools are used to make local tonal adjustments.

The next chapter covers a variety of color correction methods.