How to…

- *Build a Panoramic Photo*
- *Using Lens Correction to Fill in a Panorama*
- *Make a High Dynamic Range Composition*
- *Setting Up a Session for HDR Imagery*
- *Save an HDR to 8 Bits per Pixel*
- *Understanding Channel and Image Bit Depth*
- *Move Objects Together with Content-Aware Scaling*
- *Create a Natural Media Brush*
- *Putting Your Brush to Good Use*
- *Make Your Own Seamless Patterns*
- *Using a Fill Layer for Backgrounds*
- *Save Time, Create Actions*
- *Modify an Action*

Bonus Chapter
Tricks of the Trade

This chapter introduces many of the advanced features in Photoshop CS4 that you use when you need that "special something" that makes your great photos into positively *stellar* compositions. Some features are new to CS4, such as Content-Aware Scaling, while Automation saves time and makes extraordinary image editing easy to access. If you've taken camera raw photos while bracketing exposures, Photoshop can merge a series into a single high dynamic range (HDR) photo that features image detail in zones you thought were impossible. You can also use Photoshop's Automation capability to autostitch several photos into a panorama: then, your only problem will be finding a 2×24-foot frame!

Take a deep breath, dip into this chapter, and prepare to realize imagery performed by the pros.

Build a Panoramic Photo

Panorama images are created from two or more photos taken of the same scene, ideally with the same lighting (and a tripod that has a swivel head you can lock), and the only real help you can lend to Photoshop to autostitch the panorama is to allow at least 10 percent of overlapping visual content as you take the sequence of stills.

First you need to select your photos and launch Photomerge. There are two approaches to how you can do this:

Figure 1: *Choose the images you want to use to create a panorama either in Bridge or Photoshop.*
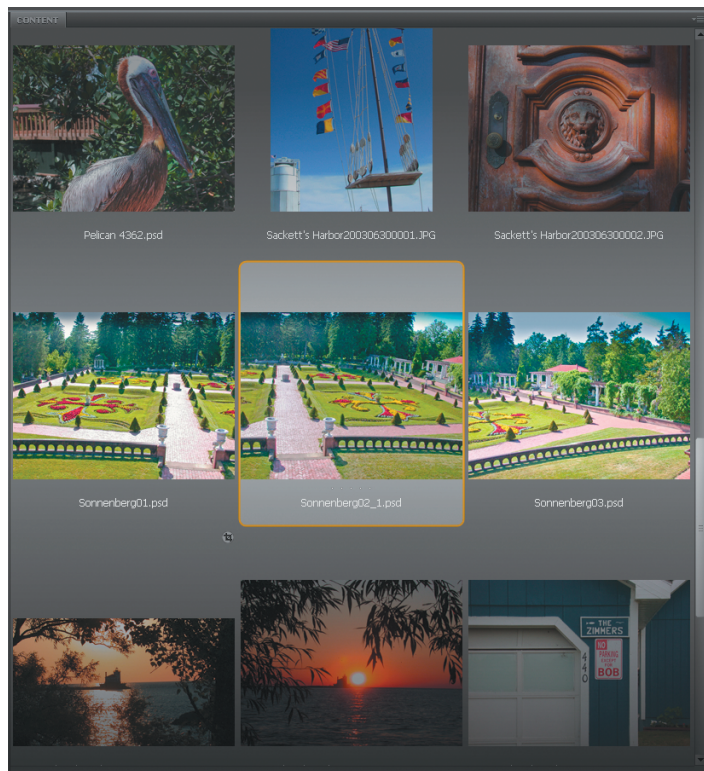
In Bridge:

1. This is a convenient workspace in which you can arrange and preview your candidates for building a panorama. **SHIFT+**click neighboring thumbnails to select them, or **CTRL/CMD+**click non-neighboring thumbnails.
2. Click **Tools | Photoshop | Photomerge**. Photoshop launches and you're into the Photomerge process covered in the following section.

–Or, **in Photoshop**:

1. Click **File | Automate | Photomerge**.
2. Select files in the same dialog box as you get using Bridge, but without the benefit of previewing the images you want Photoshop to build the panorama upon.
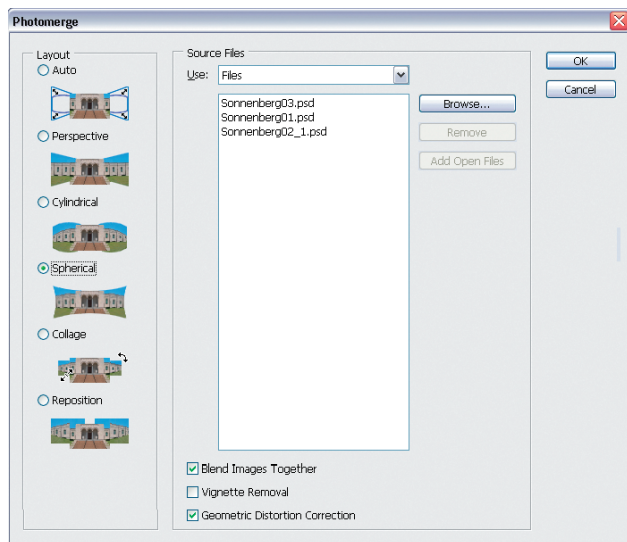
Figure 1 shows a view of three thumbnails in Bridge that are acceptable candidates for the Photomerge Automation. Note that although the far-right image was taken at an angle and the railing in front of the garden doesn't line up with its neighbor to the left, this is okay—Photoshop can perform a number of lens corrections (*distortions*, actually!) based on image content to dovetail the images seamlessly.

1. Select the **Layout** option. Regardless of which way you've launched the command, the Photomerge dialog box appears, which has the following options that relate to how Photoshop distorts the component photos to produce a seamless panorama:
   - **Auto** Photoshop precalculates the details in each component photo, and decides for you whether Perspective, Cylindrical, or Spherical distortions best stitch the photos together without anomalous panorama image areas.

- **Perspective**   Photoshop distorts the left and right images in a sequence, leaving the center photo in the panorama composition as the "focal point," distorting it the least.

- **Cylindrical**   This option creates a panorama exaggerated depth at the left and right sides, particularly well suited when you have, for example, five (or more) photos of a scene. Imagine all the images mapped to a cylinder, and then the cylinder is unfolded. The result is that the far-left and far-right photos suggest a lot more diminishing perspective than using the Perspective option.

- **Spherical**   This is your option if you've taken 360 degrees' worth of photos of a scene. The result is a surreal, almost fisheye-lens composition, with much distortion, but the effect often makes up for the reshaping of the photographic visual content.

- **Collage**   Similar to Perspective, Collage repositions matching visual content, with scaling and rotation passes on the component photos, but without other transformations, leaving original perspective in the photos alone. You can therefore achieve more of a "scrapbooking" look, occasionally and unintentionally surreal in the finished composition.

- **Reposition**   This option moves the images around in a single document window, with no distortions applied. Your finished panorama, depending on the visual content, will need cropping as a final step, although Photomerge will indeed attempt to align overlapping objects from the different photos.

2. Find and select the files to be merged by clicking **Browse** and finding the path to the files you want to use. The files will be listed under Source.

3. Select among the three check boxes at the bottom of Photomerge:

- **Blend Images Together**   Usually, leave this option checked, because it performs more of the blending work you really don't want to perform manually—especially if you have 45 panoramas to build by 5 p.m.! Blend Images Together creates layer masks that are quite complex and refined for the composite photos on their individual layers. This option also takes a pass at color-matching the edges of the photos as they meet each other in the composition.

- **Vignette Removal**   If one or more of the resource files for your panorama have light fall-off at the edges of the picture, check this option. Vignetting occasionally happens with inexpensive lenses and very narrow ones such as a 25mm.
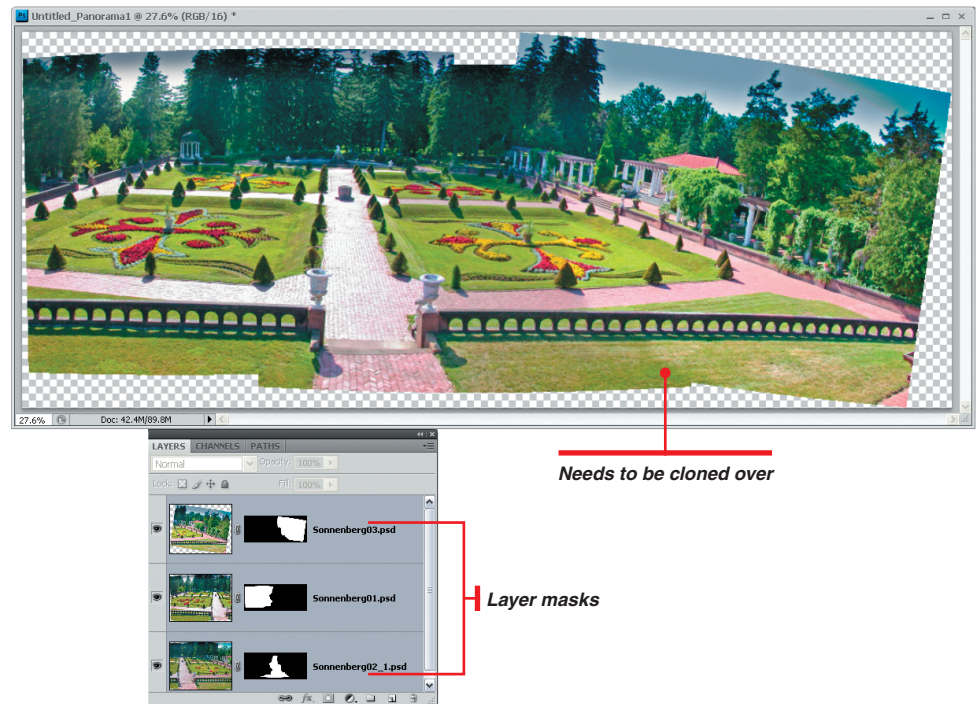

TIP

The Blend Images Together feature is available *after* the composition has been created by Photoshop, so if you turned off this option while in Photomerge, you can correct the mistake. **SHIFT**+click all the layer titles on the Layers panel list, click **Edit | Auto-Blend Layers**, and then click the **Panorama Blend Method** button.

- **Geometric Distortion Correction**   Choose this option to tell Photomerge to correct for fisheye distortion, barreling, or other photo imperfections. This is a useful option when your resource images were not taken perfectly as you panned the scene.

4. Click **OK**, and then arrange your sock drawer or perform some other task while you wait for Photoshop to perform substantial calculations. Seriously, even with a Quad Core processor (or better), this is one of the few commands that will take a minute or more to complete, using three 9–11 megapixel photos.

The result is a multilayer image based on copies of the source images, with layer masks added for blending where the images overlap. The layer masks are editable in case you want to refine the finished composition; see Chapter 6 for the details on using layer masks. In Figure 2 you can see the component images of the panorama on the Layers panel, the layer masking Photoshop did, and some transparent areas that need to be addressed.

Needs to be cloned over

Layer masks

Figure 2: Photoshop does 90 percent of the panorama composition, but you need to manually finish it.

MANUALLY TWEAK PHOTOSHOP'S PHOTOMERGE COMPOSITION

By following the steps in the preceding section, you'll see in the workspace that Photoshop has done a remarkable—and incomplete—job of turning overlapping photos into a panorama. There is no "make finished artwork for me" button in PS CS4, but the good news is that your own creative input will make a synergy with Photoshop's calculations and create a piece that reflects your skill, and not a fully automated composition.
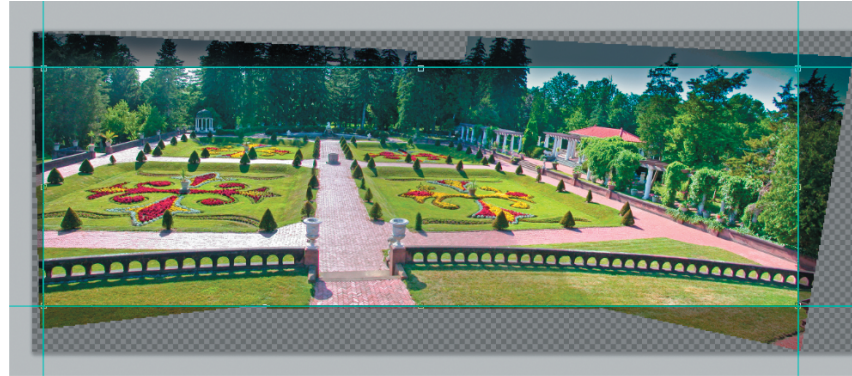
Follow these steps to make the panorama Photoshop stitched together into an image you can print and share with others on a web gallery:

1. Examine the edgework, where layer masks were automatically generated. First, look at the image and then look at the corresponding white areas on the Layers panel, on the layer mask thumbnails. If everything in the document looks okay where edges meet from layer to layer, proceed to Step 3. If not, to manually adjust a layer mask, click its thumbnail to let Photoshop know you want to edit the mask and not the image itself.

2. With the **Brush** tool, paint along the edge of the mask on a layer with white (foreground color on the Tools panel) to restore the corresponding image areas to visibility. Often this works best with a soft brush tip and partial opacity (75% for example); use the Options bar to set brush opacity and to choose a brush size and softness. Conversely, if you want to extend the mask of a different layer after you've restored a specific layer, use black foreground color and stroke over the edge areas for that layer's mask.

3. Right-click any layer title (not the thumbnail or the layer mask thumbnail) and then click **Merge Visible** on the context menu. This not only merges all the layers to a single layer image, but also applies the layer masks.

Although it's not necessary if you have a keen eye, you might want to press **CTRL/CMD+R** to display rulers around the top and left of the document window now, so you can access and move guides into the image for cropping. Drag a guide to the left, right, top, and bottom of the image, but *don't* put the guides precisely at the innermost region of visual content on the layer. If you crop to only the opaque layer areas, you'll be cropping way too much from this image.

Instead, consider the edge areas that contain little visual detail, such as grass or a solid-blue sky. You can *extend* these areas using the Brush tool and Clone Stamp tool:

Too much cropping

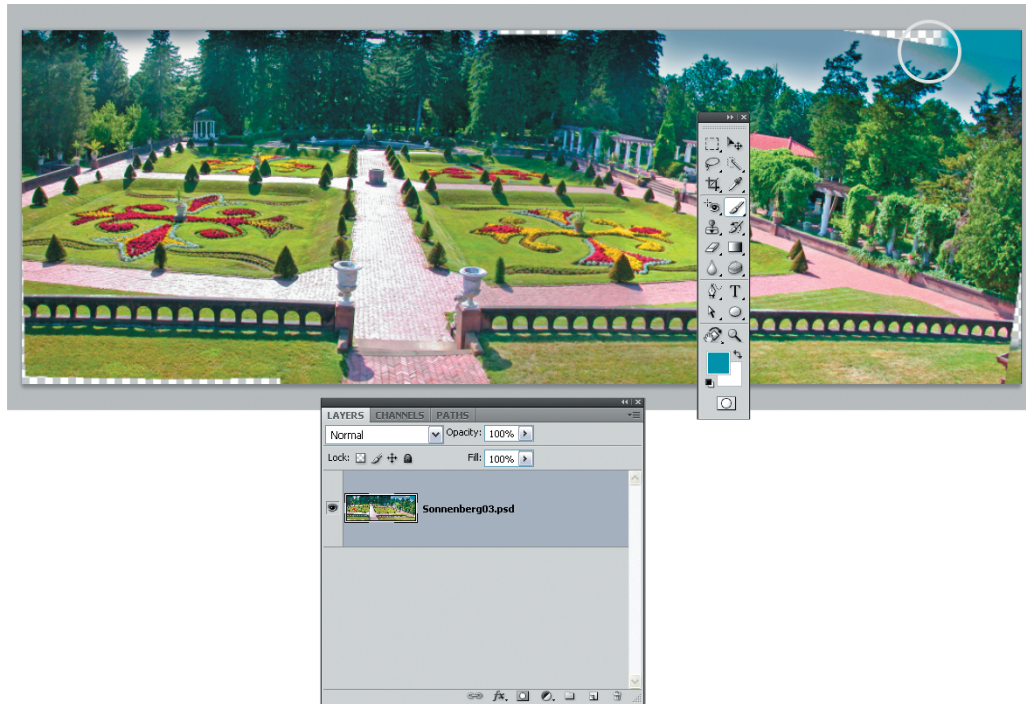**Good cropping—you can paint in the missing areas**

1. For sky-blue areas, first click the **Eyedropper** tool, and then set the **Sample Size** to **5 By 5 Average** on the Options bar. By doing this, especially with today's megapixel photos, you're assured that you're painting with an average of sampled colors for the sky, and not a single pixel color sample, which will vary noticeably when you want to paint in a sky area that appears to be a solid and consistent color.

2. Click the **Brush** tool, and then click the **Mode** down arrow on the Options bar. Click **Behind** so you're painting behind the layer and not editing original image pixels.

3. Choose a brush size that corresponds to the area you need to fill in, and then stroke over this area, as shown in Figure 3.

4. For areas that have random variation in tone such as grass, click the **Clone Stamp** tool on the Tools panel, **ALT/OPT**+click to sample a grass area, release **ALT/OPT**, and then stroke over the neighboring transparent layer areas. As with Step 2, it's a good idea to use Behind blend mode with the Clone Stamp tool to preserve original image areas.

5. Save the file in Photoshop's PSD file format. Then click **File | Save For Web & Devices**. The saved file will probably be too large for the Web, and you'll certainly lose friends if you attach it to e-mail at full size, so type **1000** (or less) in the **Width** Image Size field, click an insertion point in the **Height** field to update the preview and to scale the height aspect proportionately, click the **Preset** down arrow, click **JPEG Medium**, click **Save**, choose the destination for the saved JPEG, and you're done.
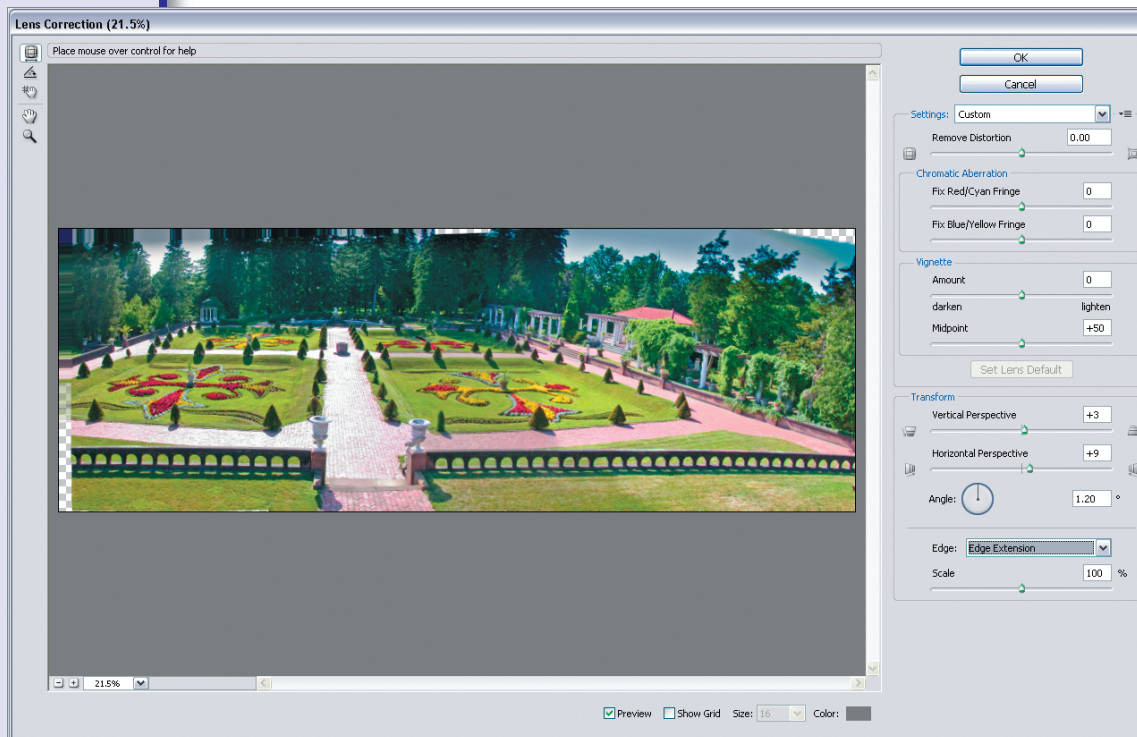
There will be some lens distortion in a Photomerge composition, at least a perceived one; part of the charm of a panoramic image is that it creates a visual that cannot be taken in with the human eye in the real world in a single glance. You can perform minor corrections and actually fill in transparent layer areas using **Filter | Distort | Lens Correction** in addition to painting in missing composition areas:

1. Click **Filter | Distort | Lens Correction**.

2. Uncheck **Show Grid** below the preview window.

3. To add to the top of the photo, drag the **Vertical Perspective** slider to the left.

4. To add to either side of the photo, drag the **Horizontal Perspective** slider left to enlarge the left side, or to the right to emphasize the right side of the photo.

5. To perform minor edge filling, drag the **Remove Distortion** slider to the left. But don't drag farther than –8 or so, or the image will take on a noticeable fisheye-lens appearance.

6. If the missing edges are of little visual detail (such as solid colors), click the **Edge** down arrow and click **Edge Extension**. Click **OK** to apply the changes, and you might just see you have less painting to do to finish the panorama; see Figure 4.

Make a High Dynamic Range Composition

Believe it or not, a typical 8-bit/pixel photo—which has a capability of displaying 16.7 *million* different colors—won't always represent a scene as faithfully as you saw it with the naked eye. The human visual system is not only phenomenally sensitive, but there's also a factor of time, over which our visual sense adapts, opening up shadows to see details and contracting our pupils to better make out elements in a brilliant sky. Our impression of a scene is often a "composite" view that our brain stitches together from different exposures viewed over time of the same scene. We call this an *adaptive dynamic range*, while digital cameras use a *fixed dynamic range* to capture visual data.

Figure 4: Lens Correction can save you time finishing a panorama, and remove some innate image distortion.

SETTING UP A SESSION FOR HDR IMAGERY

To take the source images upon which you can build a single HDR image, you need to take into account the following:

- You'll need at least three bracketed exposures, and five or even seven will produce an outstanding HDR image (depending on how outstanding your scene is!). Generally, it's better to change your shutter speed instead of your f-stop to take exposures for shadows, a middle exposure, and one for highlights, although many digital cameras that offer autobracketed exposures for camera raw output can produce acceptable source images; try to set the camera to 1 eV steps up and down. When you change your f-stop, you change the depth of field, and this changes image content from frame to frame. A photo's exposure is a combination of f-stop and shutter speed. For example, although there will be a depth-of-field difference, a photo shot at f2 at 1/250ths will be the equivalent exposure as the same scene shot at f 2.8 at 1/125ths.

- A tripod is a must. Your scene should also be locked down—no waving flags or blowing leaves. Actually, it's quite hard to do HDR human portraits, for more than one reason. Although Photoshop can attempt to blend visual content, some blurring is a likely result when you try to photograph a person. Also, because of the hyper-real quality of HDR imagery, the result is unflattering to people, and makes them look almost like statues in a wax museum. But if this is your intention, go for it, and try to keep your subject as *still* as a model in a wax museum!

High Dynamic Range (HDR) images can present an audience with an exceptionally detailed view of a scene, and they are made from several different exposures of the same visual content; HDR images look hyper-real and also are quite captivating because we are not used to seeing all the visual detail they can contain, all in a single photo. Similar to Photoshop's Photomerge automation, HDR images are stitched together—guided by your own artistic input—and the success of the finished HDR image depends on taking the same scene several times using different exposure values (eVs).

Let's suppose you've taken at least three exposures of a scene that demands an HDR treatment to display all the details in the shadows and highlights. Follow these steps to have Photoshop build you such an image:

1. In Bridge, **CTRL/CMD+**click the image thumbnails to select them. If they're neighboring thumbnails, use the **SHIFT+**click technique to select them.
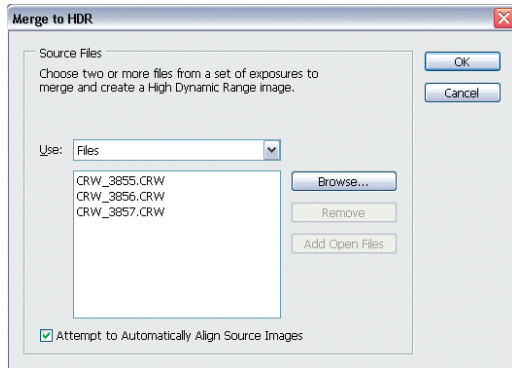
   –Or–

   In Photoshop, click **File | Automate | Merge To HDR**. Figure 5 shows three exposures in Bridge and the command on the menu.

Figure 5: Use Bridge or Photoshop to automate the construction of an HDR image.

2. The Merge To HDR dialog box, which appears after you make the HDR command, shows you a list of files you've chosen plus a check box Attempt To Automatically Align Source Images. Check it, it can't hurt; in fact, occasionally you might find your camera has moved while taking multiple exposures, even if you use a tripod.

Click **OK** and wait a moment or two. If you're using images *other* than in camera raw format, the next dialog box is Manually Set EV, where you visually determine the exposures (because Photoshop can't read the value in the file).

3. Eventually, the Merge To HDR workspace appears, as shown in Figure 6; notice how detailed the tree bark is, and yet the lighter areas such as the sky—four camera stops different than the wood of the tree—also display detail. At left, you have the images you chose: if you'd like to experiment with the composite HDR preview in the center window, check or uncheck the thumbnails at left to preview what the finished image can look like without including all the files. At right is the White Point slider: drag it to the left to reshape the preview's histogram to set the highest relative brightness area in the preview.

Figure 6: Choose which images preview the best as part of an HDR composition.

Camera raw exposures –2, 0,+2 stops

White Point slider

4. Click **OK** and you now have an HDR image.

5. Save the file to HDR or Photoshop's PSD file format.

NOTE

It's usually best to leave the Bit Depth at 32 Bit/Channel. When you do this, the file can eventually be saved with all the tonal information as "undeveloped" (floating-point as opposed to fixed-point integers). This means you can change the exposure in the future without degrading the image in any way. Note that when you have a saved PSD 32-bit or an HDR file open in Photoshop, there is a slider at the bottom of the document window. This slider is used to vary the HDR image's exposure; see the following section on how to convert a copy of your HDR images to 8 bits per pixel so you can share them in JPEG or other common file formats.
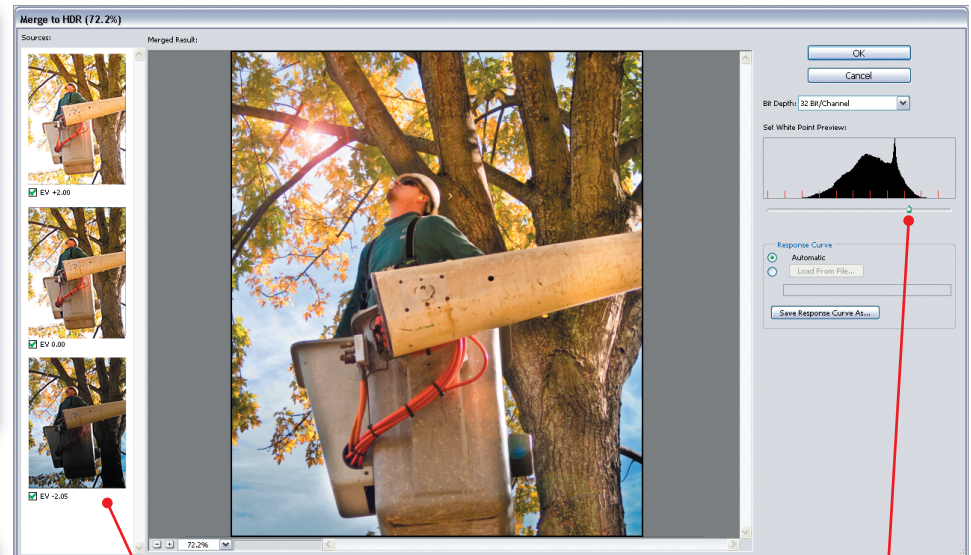
TIP

See Chapter 6 for working with adjustment layers, particularly if your HDR composition is close to, but not exactly, the way you want it. With an adjustment layer for Exposure, you can set the Black, White, and Midpoint in the image, adjust areas that don't please you, and then use the Brush tool with black foreground color to hide the areas that do indeed look correct in your HDR file.
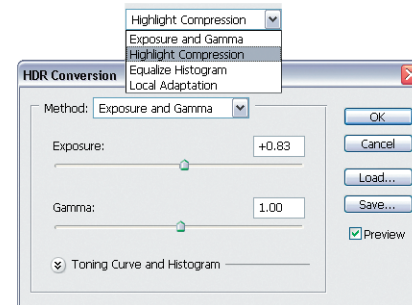
UNDERSTANDING CHANNEL AND IMAGE BIT DEPTH

With the exception of CMYK and a few other image modes, we usually work with photos that have three individual planes—channels—of color: red, green, and blue. We look at the RGB composite, and we see a fair representation of the photo we took. Within these channels, there is a range of brightness measured in bits/pixel. And this is the area that can be difficult to understand, partially because professionals tend to bandy about phrases that are ambiguous.

Typical digital photos have 3 color channels, and each channel has a brightness capability of 2 to the eighth power (8 bit) for a maximum possible range of 256 possible tones. Many professions shorthand this image type by calling it a 24-bit image (3 channels times 8 bits). However, people also talk about 32-bit images, but usually, this is a 24-bit image with an 8-bit alpha channel, not to be confused with an HDR image that has 32 bits of information *per channel*. You'll often see in Photoshop the suffix bpc: this stands for bits per channel. Don't mistake a 32-bit image with a 32-bpc image; we don't refer to HDR image color capability as a 96-bit image, but HDR images are indeed 32 bits of information per channel times 3 color channels (for a maximum possible color capacity of 4.29 billion unique colors).

Save an HDR to 8 Bits per Pixel

Because HDR images do not have fixed-point data for pixel brightness values, when you convert a copy of an HDR image to fixed-point pixel values (8-bit images have fixed-point values), Photoshop offers you a final exposure dialog box in which you set the values that are ultimately written—hard, fast, and no longer undeveloped—to JPEG, PNG, or any other common image file format that's easy to print accurately and share with friends.

To make the best "common" image from your HDR, a lot of pixel colors need to be reassigned to a smaller color palette (called *dithering down* by Adobe Systems), so you click **Image | Mode | 8 Bits/Channel**. You choose one of the four conversion schemes from the **Method** drop-down list:

- **Exposure and Gamma**   To increase or decrease the luminance of the image, drag the **Exposure** slider left or right. Drag the **Gamma** slider to the right to add the most contrast to the midtone regions; drag left to open up the midtones. Click the **Toning Curve And Histogram** button to adjust the image interactively instead of using sliders (check out Chapter 4 for details on using curves and histograms). Usually, adjusting Exposure and Gamma does the trick and the other choices tend to produce worse, not better, conversions, but do experiment with them.

- **Highlight Compression**   This is an automatic routine to bring the current highlight values into 8- or 16-bit file mode range. If the image looks better, click **OK** to apply the automatic highlight compression; if not, return to the previous Method setting from the drop-down list.

- **Equalize Histogram**   It's automatic, there are no options. If your image looks better in preview with the entire histogram of your image compressed, click **OK**; if not, return to the previous Method setting.

- **Local Adaptation**   This routine searches the entire HDR photo and corrects exposure based on regions of the image and not the entire image all at once.

When you've discovered the best-looking method for reducing the color range in your HDR, click **OK**, and then save the document in any file format offered in the **File | Save As** dialog box. If your HDR image was saved in PSD file format and you want to save your 8-bit image to PSD, definitely type a different name for the saved file, or a different location on hard disk.

Move Objects Together with Content-Aware Scaling

New to version CS4 is a layout person's dream: Content-Aware Scale. This feature detects areas of little visual importance (a solid sky, a field of green with little brightness variation), evaluates areas of importance, such as people, cars, and so on, and then enables you to scale only the areas of little or no importance. You can therefore take a landscape photo, for example, of a graduating class whose grads are too far apart, and push them together to make a portrait orientation photo.

Here are the steps for a typical photo that requires no special instructions you lend to Photoshop; the *advanced* method is described in the next section:
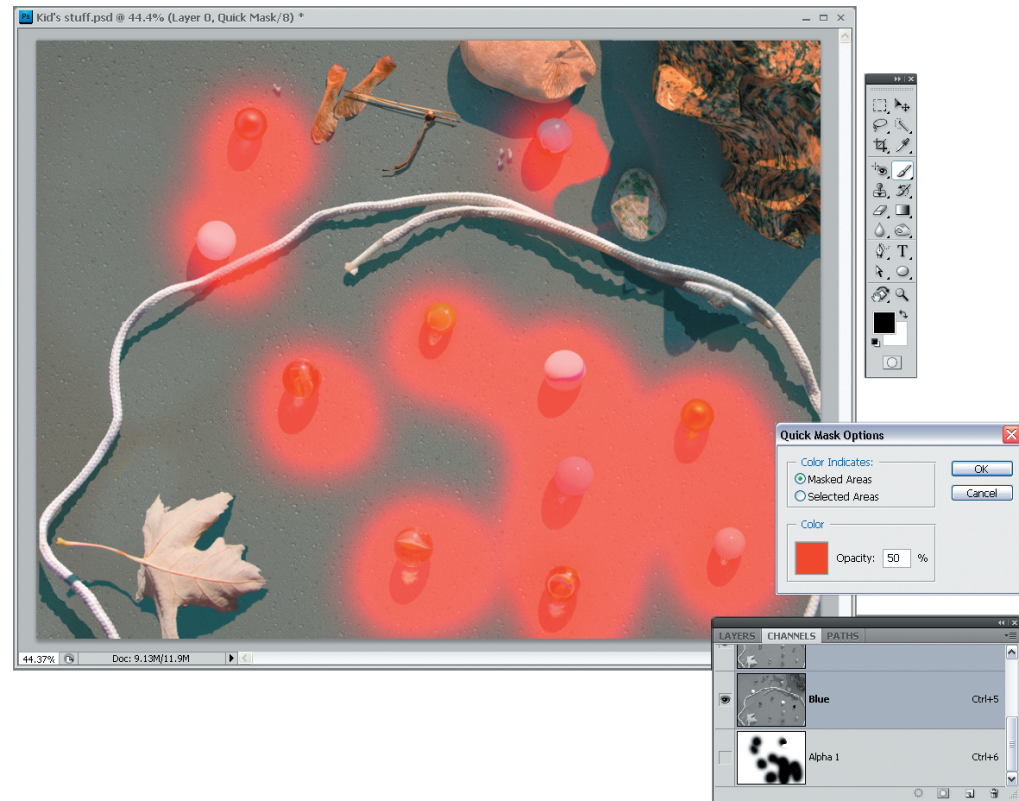
1. Double-click the background title on the Layers panel list (then click **OK** to accept the default name in the dialog box) to make the image into a single-layer image.
2. Click **Edit | Content-Aware Scale**.
3. You probably want this command to be sensitive to people in the photo; click the **Protect Skin Tones** button on the Options bar, the little person symbol, before continuing.
4. Drag a bounding box handle in the direction you want to re-proportion the photo.
5. When you're through, click the **Commit Transform** button (the check mark) on the Options bar (alternatively, press **ENTER/RETURN**).
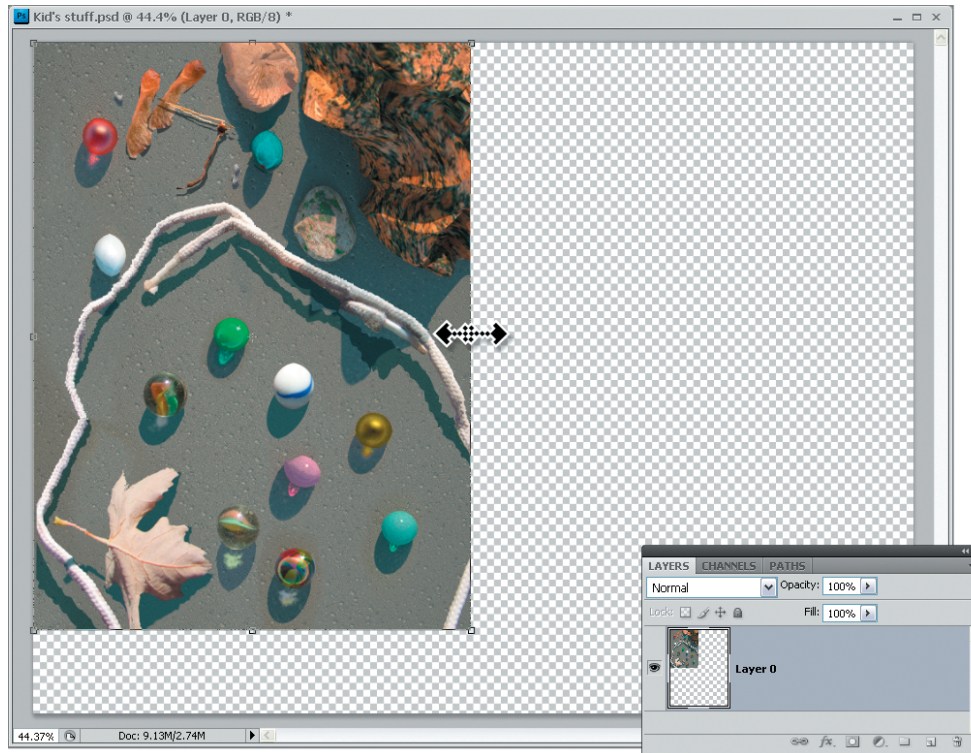
Content-Aware Scale is amazing, but will not return perfect results 100 percent of the time. At least not without some guidance from you. This is why a mask feature is built into Content-Aware Scale; if you paint a mask and save it prior to launching the command, then areas you've specified are protected from scaling. Follow these steps to learn how to make and save a mask, and then get Content-Aware Scale to *honor* the mask:

1. Double-click the **Edit In Quick Mask Mode** icon on the Tools panel to check to see whether color indicates masked or selected areas when you paint.

2. Click **Masked Areas**, and then click **OK** in the Quick Mask Options dialog box. The image is in Quick Mask mode now.

3. With the **Brush** tool and black foreground color on the Tools panel, stroke over areas of your photo that you want Content-Aware Scale to leave alone, to disregard in its calculations.

4. Click the **Quick Mask** icon to return the document to Standard Editing mode; you now should see marquee lines running around and not tinted overlay.

5. On the Channels panel, click the **Save Selection As Channel** icon. Then press **CTRL/ CMD+D** to deselect the selection. Figure 7 shows a visual of the elements you'll see in Steps 1–5.

Figure 7: Create and save a mask of the corresponding image areas that Content-Aware Scale should leave alone.

Figure 8: Unless you scale the content to an extreme extent, Content-Aware Scale usually creates a perfectly re-proportioned photo, moving objects of visual importance closer together without distortion.

6. Click **Edit | Content-Aware Scale**, then drag the bounding box handles toward the center of the composition until you've achieved the proportions you need for the image. See Figure 8.

7. **CTRL/CMD+**click the layer thumbnail on the Layers panel to select the image and not the transparency around it.

8. Click **Image | Crop**, and then press **CTRL/CMD+D** to deselect the selected image.

Create a Natural Media Brush

Chapter 8 explains how to access and use the options for scores of brush tips that ship with Photoshop, from workaday image-editing tips to beautiful artistic strokes that imitate chalk and other physical art tools. Now, you're going to learn how to *build* a brush of your *own*, specifically a natural media-type tip that simulates watercolor, complete with "wet" edges.

BEGIN BY PAINTING A BRUSH TIP

There are two types of brushes you can build and use in Photoshop:

● **Geometry based**   This sort of brush is created by duplicating a Photoshop preset labeled "Soft Round" or "Hard Round," and then customizing it as shown in the following sections; you click a brush, click **New Brush Preset** on the pop-up menu, name the brush in the **Brush Name** dialog box, and you're all set to modify it. The limitation to building this type of brush is that it's always elliptical in shape—you cannot give it an irregular outline, as a stroke with a physical paintbrush can produce.

● **Bitmap based**   This is the type of brush you'll learn to create in this chapter. It's a mental, but not a physical, challenge, and the payoff is that a saved bitmap-type brush can be used in scores of design and retouching situations. The strokes it produces can look quite natural and photographic; additionally, all the options on the Brushes panel are available for customizing the bitmap brush tip.
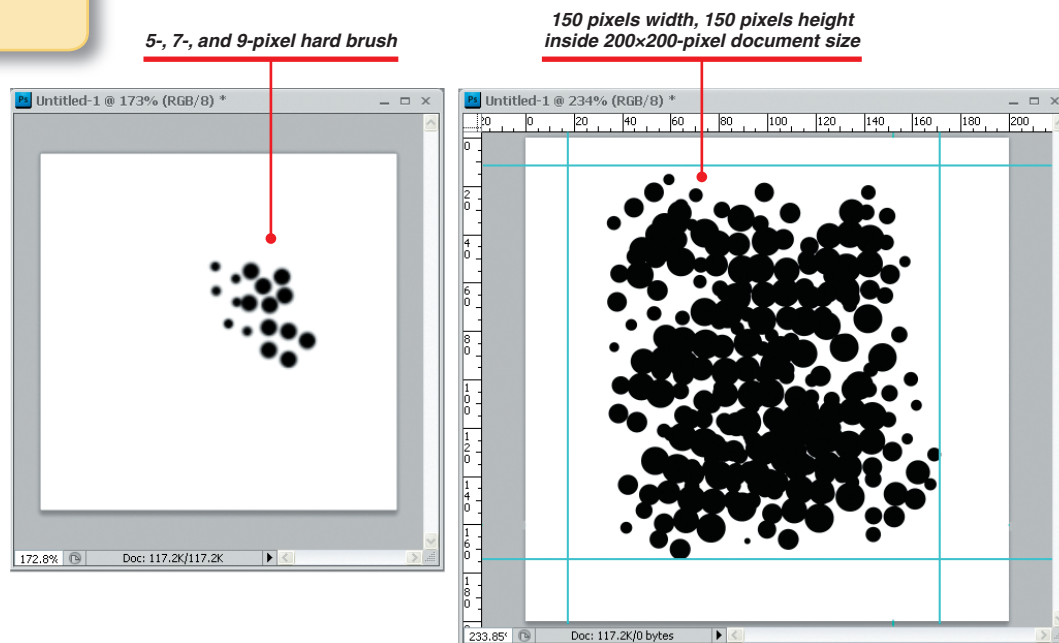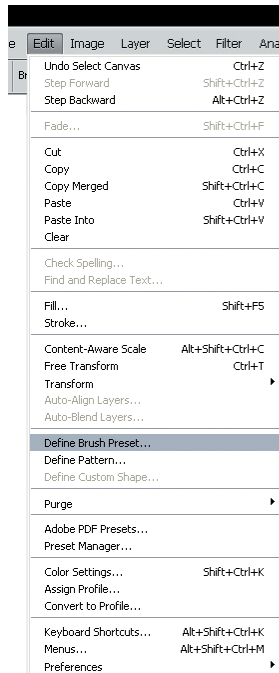
To create a brush tip that will simulate bristles when you stroke with it:
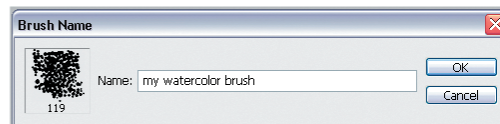
1. Press **CTRL/CMD+N** to open the New dialog box. Type <u>**200**</u> in both the **Width** and **Height** fields, set the units to **Pixels**, set the **Resolution** to <u>**72ppi**</u>, and set the **Background Contents** to **White**. Click **OK**; this is the document window in which you'll create the brush tip.

2. Set the foreground color swatch to black on the Tools panel.

3. Select the **Brush** tool, and then click the **Brush Preset** down arrow on the Options bar. Click a brush tip and then click it several times in the workspace to create a cluster of dots. Repeat with other brush tips. You'll get the most natural effect if you paint individual dots—think of a downward view of a very used toothbrush—alternating between the 5-, 7-, and 9-pixel hard round default brushes and the Brush tool. Keep the extent of the "bristle points" you paint about 25 pixels or so away from the edge of the document; if necessary, press **CTRL/CMD+R** to display rulers and then drag guides out of the rulers (right-click the ruler and click **Pixels** to get the units to match your workspace). You do this so the brush tip's Spacing settings work correctly when used. Figure 9 shows the beginning of the process and, at right, the finished brush for sampling.

5-, 7-, and 9-pixel hard brush

150 pixels width, 150 pixels height inside 200×200-pixel document size

Figure 9: Create a brush by clicking the Brush tool, using existing brush tips.

Figure 10: *Save the brush you created as a preset.*

4. Press **CTRL/CMD+A** to select the entire canvas. If you don't select the entire document, Photoshop will read only the extent of nonwhite pixels in the brush you've designed; this means it will disregard the white padding you've created surrounding the bristles.

5. Click **Edit | Define Brush Preset**, name your brush, and then click **OK**. See Figure 10.

Your brush is saved to the currently loaded collection of brushes; if you haven't read Chapter 8 on how to load the presets Photoshop ships with, the brush is at the bottom of the Default brushes. However, a brush isn't permanently saved until you either save the whole set (not a good organizational strategy when you're just beginning) or save as a preset. Therefore, as you continue, don't change brush sets from your current one!

CREATE A MASK FOR DUAL BRUSH SETTINGS

The Brushes panel (click **Window | Brushes**, or press **F5**) is where users take a bitmap brush, as you created in the previous section, and apply dynamics, including scattering, changing size over the course of stroking, and also specifying a *Dual Brush*. A Dual Brush is made up of two bitmaps you sample through the **Edit | Define Brush Preset** command.

You've created the brush, and now it's time to create a mask for the brush, the second part of building Dual Brush properties into your custom brush:

1. Create a new document within which you'll build the brush mask—this is a different use of the term "mask" as used in other features in Photoshop. With the Dual Brush, the second brush hides and exposes the strokes made by the main brush you already designed, based on brightness values in this brush mask. However, when used, you don't see a typical Photoshop "mask"; it hides and reveals the first, the main brush's strokes, in an event that is only apparent in its results. Usually, you'll want to build the brush mask using a document size two to three times larger than the main brush bitmap. Doing this gives some "air" around your stroke so the mask performs exactly what it's intended to do—to reveal areas of the main brush according to the percentage of black you paint into the mask.

2. Click on the document, creating a cluster of dots using the new brush tip. Figure 11 is a good example of a brush mask that works well to produce natural, irregular strokes with a little "skipping" as your stroke is drawn. Notice there are shades of black in the tip.

● Vary the **Opacity** of the brush on the Options bar as you paint.

Figure 11: *Create a larger canvas for the brush mask.*

● Use the **Smudge** tool here and there to mess up the regularity of the bristles in this document. If you do this, be sure and reset your tool to be a Brush tool.

● Click **Edit | Define Brush Preset**. Name the brush "My Brush Mask" or something similarly easy to find in the brush preset list.
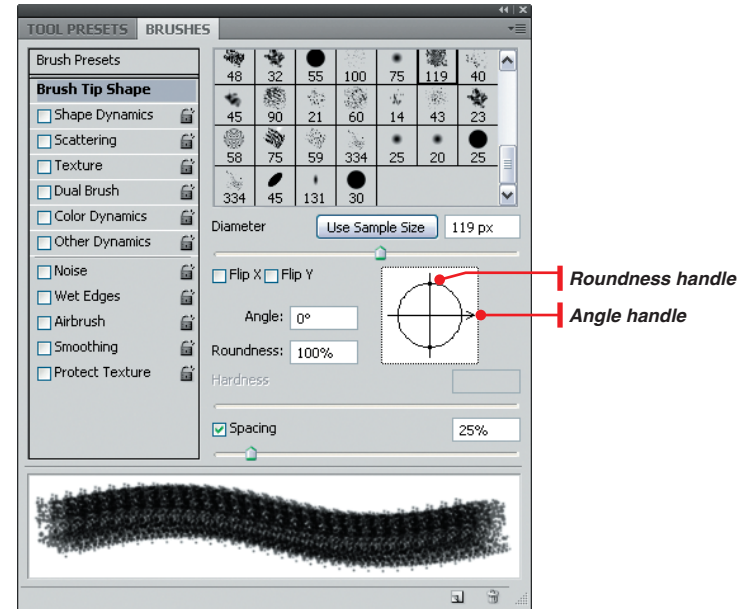
USE THE BRUSHES PANEL

Here the adventure begins: The Brushes panel is where you set "behaviors," some of them relating to how the bitmap brush makes an impression on a canvas, while others are specially coded Photoshop properties, such as jittering (randomizing an event), scattering, fading from foreground to background color across a stroke, and other neat stuff. Let's build the natural, watercolor-like brush in steps, to better explain what the areas on the Brushes panel do, and to make brush-building in your own adventures straightforward and predictable:

1. Press **F5** to display the Brushes panel. Here are some of the options you'll want to use (click each to see the options to the right):

   ● **Brush Presets**   This is the top entry on the list; click it to reveal all the brushes in the currently loaded collection of brushes (such as Default Brushes.abr). Click the first saved brush tip you created on the panel to select it for enhancements. If you have a difficult time locating it on the panel, click the menu button on the top right of the panel and click **Large List** as your view.

   ● **Brush Tip Shape**   In this example of building a natural brush, there is nothing to change from the defaults. The **Diameter** slider is used to shrink or grow a brush tip, but if you increase a bitmap brush more than, say, 25% of its original size, some blurring will occur when you use the brush. This is why the Use Sample Size button is in this area—click it to reset the chosen brush tip to its original size. Use the **Flip X** (width) and **Flip Y** (height) check boxes to mirror a brush tip—you can create interesting variations using the same bitmap-sampled tip. You can use the **Angle** and **Roundness** fields to type in specific values for distorting a brush tip, but it's much easier to use the handles in the proxy box to the right to accomplish this. When you begin with a round tip (usually without irregularities or textures), you can create a calligraphic tip using Angle and Roundness settings. The Hardness slider is dimmed when you choose a bitmap tip; Photoshop can calculate feathering only on geometric preset brushes (discussed at the beginning of this chapter), typically the Round category of brush tips. Spacing is usually best set to 25%. The way Photoshop (and most other paint programs) create a continuous stroke is by overlapping single paint daubs, the shape of the brush tip. At 25%, the daubs
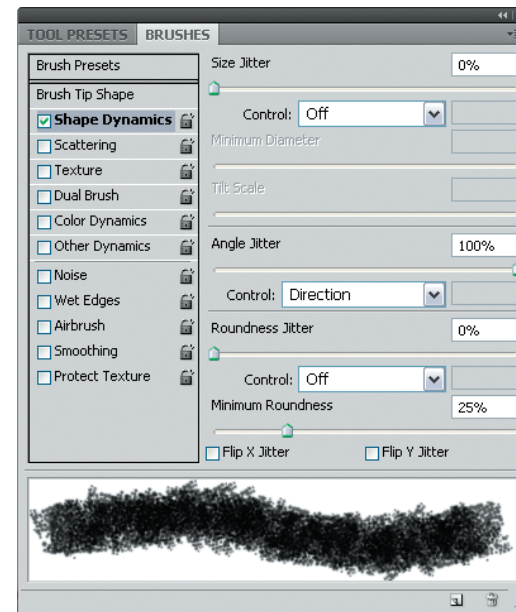
overlap so much we see the action of stroking as a solid paint stroke. If you, for example, want to create a snowy background, you'd break the rules, set the Spacing to 200% or higher, and then add some Scattering properties (discussed later in this section). For this example, we do not make any changes to the Brush Tip Shape options.
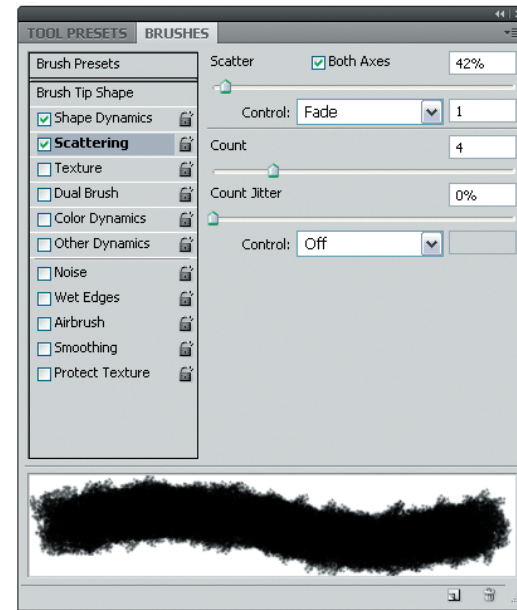

Roundness handle

Angle handle

● **Shape Dynamics**   If you use a digitizing stylus, you have many more options for interactively adjusting the shape of the brush as you stroke: Pressure, Pen Tilt, and Stylus Wheel movement can all trigger a change in all the properties you find in this area. If you use a mouse, you can still accomplish some customization to your brush using Dynamics—they will simply be static variations you can't suddenly change using a stylus gesture. **Size Jitter** changes the size of the brush as you stroke, from a minimum of 0% (doesn't jitter) to 100% (creates a very splotchy stroke as you paint). The **Control** drop down list presents five options. All users can use Off, which results in an endless stroke that varies in size according to the Jitter value. The other Control option—Fade—for Size Jitter, works in tandem with the unmarked number box to its right, which is used to specify the number of steps for the fade. If, for example, you set the Minimum Diameter to 0%, and the Fade Control's steps to 20, using the Hard Round 19 pixel, a brush stroke will taper to suggest a comet tail or a quotation mark, making the transition from its original diameter size and

running out of color quite fast. The size goes from its original to its minimum in 20 steps. Similarly, Angle Jitter and Roundness Jitter offer limited controls when using a mouse, but in this example brush, some randomness can be added to strokes by setting the **Angle Jitter** to <u>**100%**</u> and choosing **Direction** from the **Control** drop-down list. Now, this natural brush will change its angle depending on the direction in which you drag the cursor. And because this brush was defined as having no Roundness distortion (as specified in Brush Tip Shape), there would be no change if you introduced Roundness Jitter for this example brush. However, if you define an elliptical instead of a circular brush shape, the Roundness Jitter can be used to vary the amount of roundness, making the brush less predictable in shape as you use it.
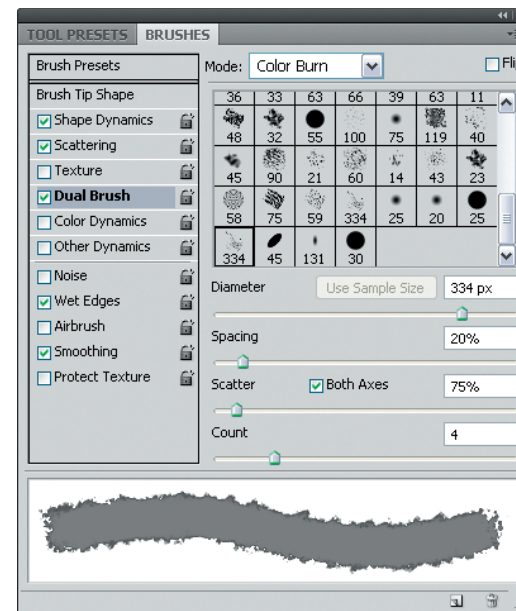

- **Scattering**   This area controls the random placement of individual brush strokes; by using it, not all individual daubs will lie directly under where your cursor drags on a document. This might sound like deliberate imprecision, but if you set Scattering to a mild degree, you introduce a more natural feeling as pixels are rendered to the canvas. Set **Scatter** to about **43%** for this example brush, check **Both Axes** so it scatters horizontally and vertically, set **Jitter Control** to **Fade** (to fade the Scatter effect), type <u>**1**</u> in the Steps box so there is only an initial scattering effect as you drag the brush, and set the **Count** to **4**. Count has to do with Spacing (set on the Brush Tip Shape area); it determines the number of daubs a brush produces between spacing intervals. You can

also apply jitter to the Count, which is not really necessary in this example because the number of steps is so small. However, on your own, if you set the Count Jitter to a high value, an unpredictable number of daubs will be produced, and will vary as you stroke, which is good for simulating autumn leaves but not a natural watercolor brush. As you can see in the preview at the bottom of the Brushes panel, this brush is shaping up to look very organic in the style of traditional painters.
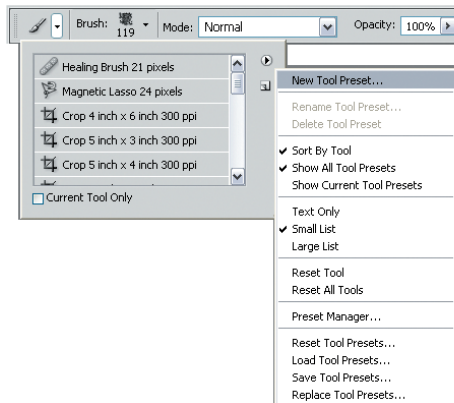

- **Texture**   You can use any saved pattern or preset that ships with Photoshop as a sort of mask, to introduce partially hidden areas based on the brightness values of a saved pattern. This setting isn't used in the natural watercolor brush example.

- **Dual Brush**   This area is where you choose the mask for your brush. Click it on the list and then leave the diameter at its original size, set the **Spacing** a little tighter than 25% (**20%** is good, because the brush mask is mostly masked, white, hiding the main brush tip), set the **Scatter** to **75%** to allow a lot of randomness in the masking, and the **Count** to **4**—so at each interval there are four randomly placed masks for the main brush to show through.

- **Color Dynamics**   Here you can set Jittering between foreground and background colors you define via the Color Picker, accessed through the Tools panel. This setting isn't used in the natural watercolor brush.

- **Other Dynamics** Here you can define Jitter values for the Flow and Opacity of the brush. This setting isn't used in the natural watercolor brush.

- **Noise** Modulates the tones while you stroke at a very small level (size). This effect is most evident when you use a brush sample that has shades of black in it. Our example watercolor brush does indeed have some grayscale values, so click this option if you'd like more randomness in the stroke.

- **Wet Edges** Check this option to add pigment build-up to the edges of the brush when you stroke it.

- **Airbrush** This is not really a necessary property to build into a brush; the Airbrush option on the Options bar does the same thing to any brush you've chosen to paint with.

- **Smoothing** Because this brush is irregular in its tip's shape, check **Smoothing**. The result is that Photoshop slows down the produced strokes to smooth the edges—you might notice a little wait between stroking and seeing the result in the document, but usually this wait is worth the payoff in stroke quality.

- **Protect Texture** Any brush that has a texture can be forced to use the same pattern at the same scale for the texture if you check this option. This makes using different shaped tips that have different texture options look as though you're consistently painting on the same canvas.
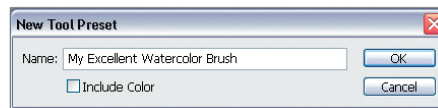
2. Save the brush now:

- In the Options bar, click the **Tool Presets** down arrow, and make certain that **Current Tool Only** is *un*checked. Now, every tool that uses a brush tip (even the Toning tools and Focus tools such as the Smudge tool) can use this brush. It's quite interesting to smudge an area with a textured brush tip.

- Click the options right-arrow at upper right; click **New Tool Preset**.

  - Name your brush, as shown in Figure 12. You can leave Include Color checked if you like; doing this sets the foreground color to the current color every time you use this preset brush. If you don't save foreground color swatches as you work, you might not want to check this box; you can inadvertently overwrite a favorite, unsaved color you're using.

Figure 12: Save your custom brush as a Tool Preset.

CAUTION

If you use your custom brush for purposes other than painting (such as using the Smudge tool), be sure to reset the tool before using other tools with this brush, to avoid unexpected results.
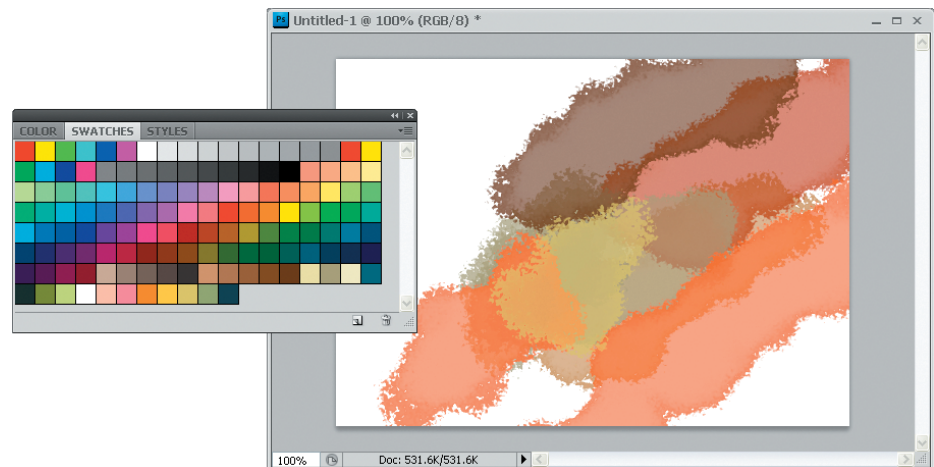
You're naturally anxious to test-drive your new brush! Create a new document— Photoshop's default size is fine—then press **F6** to display the Color grouped panel. Click the **Swatches** tab. Click a foreground color, make a stroke, then click a different swatch and make a second stroke. Stroke over the strokes you've made with different colors. As shown in Figure 13, you can build up color and a little texture; this is because of the jittering, rotation, and the Dual Brush properties, along with Wet Edges.

Figure 13: Simulate the natural look of physical pigments such as oils and watercolors with a handmade brush.

UICKSTEPS

PUTTING YOUR BRUSH TO GOOD USE

You might not always have the time to take a good foreground composition with an equally handsome background. In this case, a custom brush, some colors that are compatible with the foreground objects, and the inspired use of Photoshop's Vanishing Point filter can effectively replace the background with your own painting. The composition can actually look better than if you tried substituting a background photo.
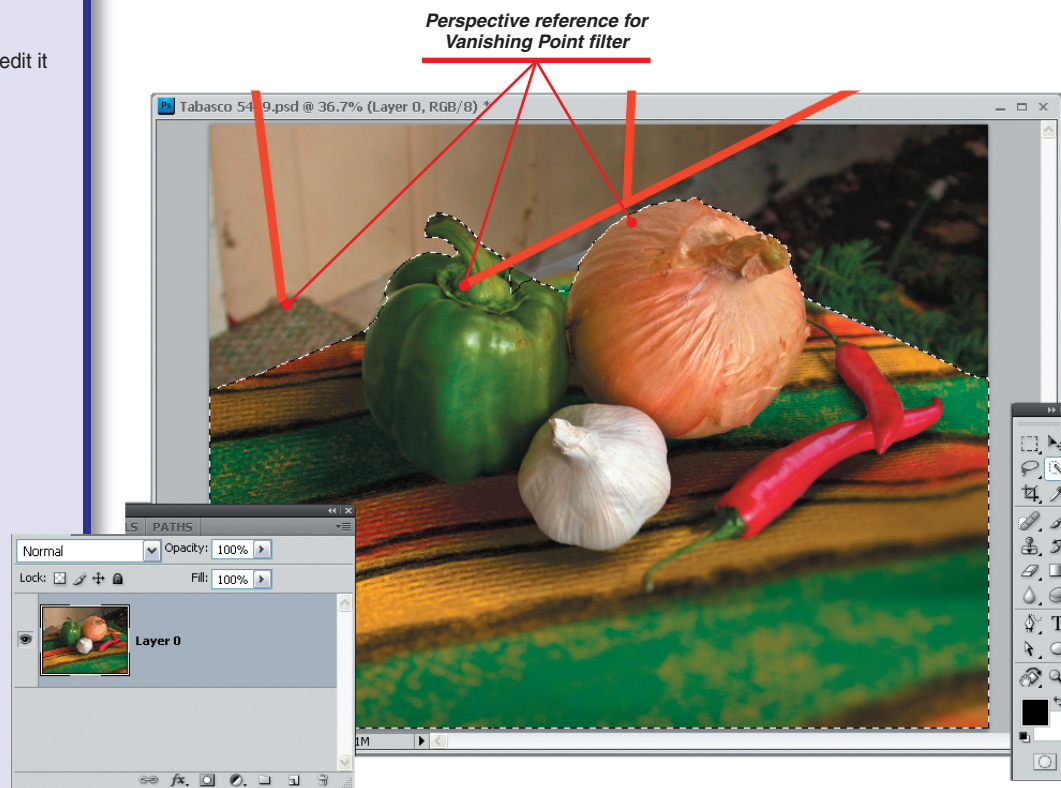
To paint a new background for a composition and edit it in with proper perspective:

1. Select the foreground objects. You're in luck if the foreground items have sharp edges and distinct colors; you use the **Quick Selection** tool to select them.

2. Right-click the marquee selection, and click **Layer Via Cut** from the context menu.

3. Chances are good that your background will have a horizon and perhaps a vertical pole or tree. Click **Filter | Vanishing Point** and then build a perspective plane that matches the perspective lines in the background layer. Click **OK** and the data is written into the document for future use. You can delete the background layer now. Optionally, you can press **CTRL/CMD+ALT/OPT+C** for **Canvas Size**, and increase the size to **150%** of the original, centered, so you have some wiggle room to position the new background you'll build.

ADD A STYLE TO CUSTOM PAINT STROKES

Photoshop Styles are ingeniously crafted multiple effects, the sort you can apply to the nontransparent pixels on a layer when you click **Add A Layer Style** (the "fx" icon) on the Layers panel. Part of the power of Styles is that after you apply a style to a layer, you can edit the opacity of the layer's contents, thus changing and significantly modifying the finished look of a Styled composition.

Perspective reference for Vanishing Point filter

QUICKSTEPS

PUTTING YOUR BRUSH TO GOOD USE *(Continued)*

4. Click **Create New Layer** on the Layers panel, drag the new layer on the list to beneath your foreground object layer, and then fill it with a solid or a gradient, using compatible colors (use the **Eyedropper** tool to sample colors from the foreground, ensuring that no "wildcard" colors clash in the finished composition.

5. Click **Filter | Texture | Texturizer**, and then apply a mild **Canvas** (or Burlap) preset texture to the new layer to suggest a canvas for the composition (very classy).

6. Click the foreground layer on the Layers panel, and then click the **Create New Layer** icon twice; once for your foreground strokes and once as a host for Vanishing Point. Drag one of the layer titles to beneath the foreground object layer on the Layers panel. The other will be at the top of the layer list.

7. Use your custom brush to paint abstract highlights that emphasize the foreground objects, as shown in Figure 14 on the layer beneath the foreground layer. Unfortunately, this book cannot teach you how to be a painter in three steps (!), but if you trust your artistic eye, keep in mind that "less is more" and emulate interesting looks you've seen in ads and commercial signage, you'll arrive at something better than your original photo's background.

8. Right-click over the paint strokes layer, and then click **Merge Down** from the context menu.

9. Press **CTRL/CMD+A** to Select All, then press **CTRL/CMD+C** to copy the painting and textured background merged layer to the clipboard.

Figure 14: Paint some abstract strokes in compatible colors to draw attention to your foreground subject.

Here's where your natural watercolor stroke can really shine. Figure 15 is a layered image—a smiley face is painted above the toast on its own layer, using the natural brush that you were shown how to create earlier.

It makes no difference what foreground color you use to embellish a picture; layer Styles replace all colors on a layer with most presets:
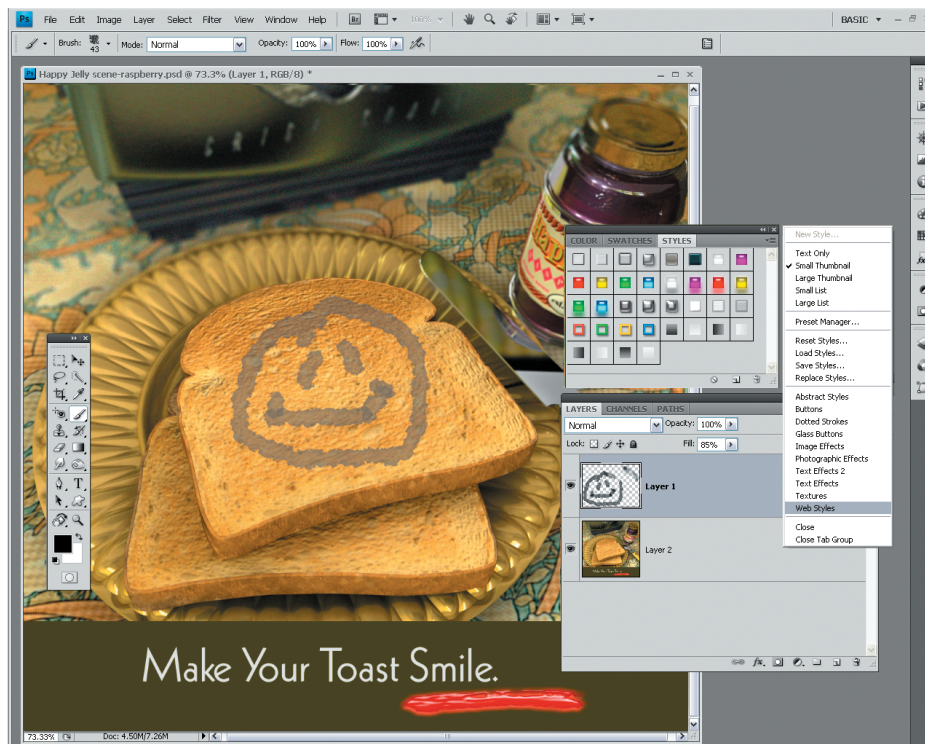
1. Create a new layer and paint on it.

2. Display the Styles panel, grouped with Colors and Swatches, by pressing **F6**.

3. Click the **Styles** panel, and click the options button on the panel.

PUTTING YOUR BRUSH
TO GOOD USE *(Continued)*

10. Click the top empty layer on the Layers panel and then click **Filter | Vanishing Point**.

11. Press **CTRL/CMD+V** to paste the clip art artwork into the perspective plane you built in Step 3. Position the pasted artwork so it covers your intended background area, and click **OK** to apply the filter.

12. Drag the rendered **Vanishing Point** layer to beneath the foreground and you're essentially done. Hide or delete your original artwork, flatten the image, and then crop your composition. The finished image is shown in Figure 16. **Filter | Render | Lighting Effects** (see Chapter 10) was used on the background before flattening the composition, just to add a little more drama, while playing down the visual importance of the background, a subordinate element in this Tabasco-ingredients still life.

Figure 15: Paint with a textured brush to arrive at an interesting effect after you apply a Style to the layer.

Figure 16: It's half photo, half painted artwork, and entirely successful as a finished piece of Photoshop magic.

4. Click **Web Styles**, a very nice collection of chrome and gelatin finishes for a layer's contents. Click **OK** to replace the current styles with those of the Web Styles.

5. For this example, click **Red Gel With Drop Shadow** on the Styles panel.

6. Because the natural brush strokes vary in opacity (determined by the Dual Brush mask, covered earlier), you should have a visually sumptuous layer rendering, with the effect fading in and out at certain areas. Play with the opacity on the layer now by stroking areas with the **Eraser** tool set to about **35% Opacity** (on the Options bar). You'll see dynamic changes and might even feel as though you're working with wet media. With the Red Gel Style preset, as you decrease opacity of the strokes on a layer, the highlight—one of the style effects, the Bevel and Emboss in this case—will fade. Experiment with other Styles; you'll probably wind up with something as interesting, or *more* so, as Figure 17!

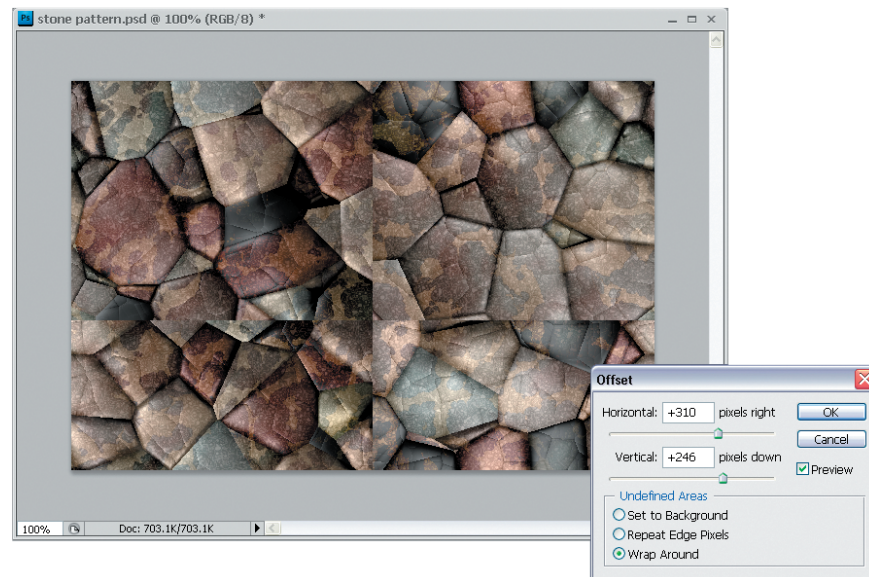*Figure 17: Use layer Styles to simulate natural media based on your brush strokes.*

Make Your Own Seamless Patterns

Many Photoshop pros have an ongoing need to fill a background with an interesting texture; however, no one can pre-guess the size of a background one needs! Happily, there's a fairly fast way to retouch an image of almost anything—leaves, rocks, anything that displays a natural, random object placement—so that it can *tile*, repeat several times across a document *without displaying seams* as one image edge meets another.

Here's how to create a seamless tile pattern and save it to Photoshop's collection of patterns:

1. Open the image from which you want to make a pattern. Crop out anything superfluous you don't intend to keep in the pattern.

2. Click **Filter | Other | Offset**.

3. Click **Wrap Around** in Undefined Areas, and then drag the **Horizontal** and **Vertical** sliders left or right until you see the horizontal and vertical edges of the original image, as shown in Figure 18. Don't put the seam perfectly in the center of the image, because later, after you've created the first "draft," if it's off-center, you can repeat the Offset command by pressing **f** (last-used Filter) and continue refining your work. Click **OK**.

Figure 18: The Offset filter wraps an image, putting the edges toward the center of the image, and the center at the document edges.

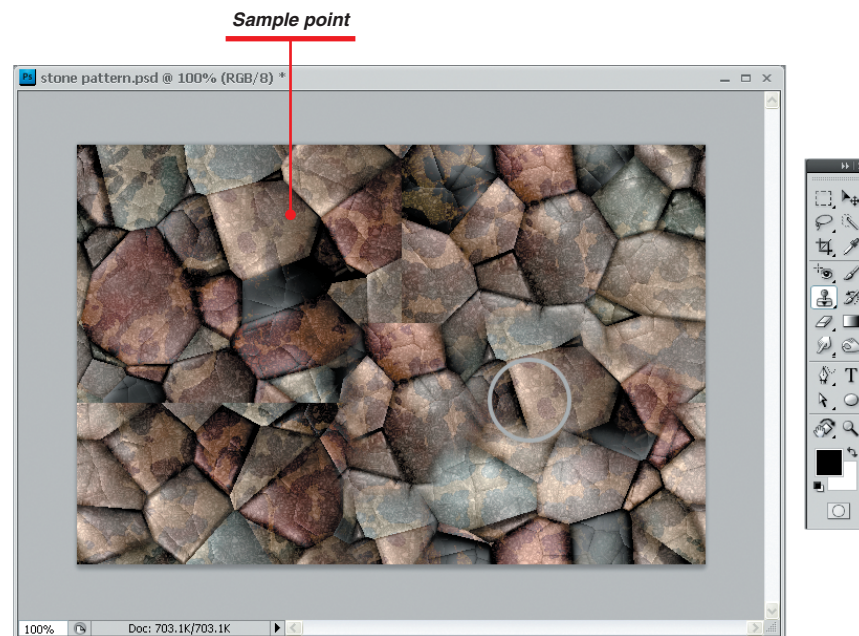**4.** Click the **Clone Stamp** tool, then **ALT/OPT+**click a sample area, an area without the seam, in the picture to set the sample point for the tool. On the Options bar, uncheck **Aligned**.

5. Stroke over areas where you see a seam, as shown in Figure 19. Depending on the image, you may need to sample frequently (**ALT/OPT**+click) to ensure that the colors and other details you sample match the area you're repairing. But generally, with random textures of rocks, sand, and other natural materials, you don't have to be overly careful.
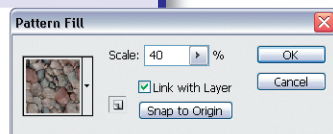
Sample point

Figure 19: Use the Clone Stamp tool to hide the edges in the image.

6. Press **F** to apply the last-used settings for the last-used filter—Offset. Examine your work. If you see an area that needs cloning over, set a sample and then stroke over it. Repeat this step until no seams show in the image after pressing **F** several times.

7. Click **Edit | Define Pattern**. Name the pattern and then click **OK**. Your pattern is saved to Photoshop's default patterns and you can now use it with several different Photoshop commands.

QUICKSTEPS

USING A FILL LAYER FOR BACKGROUNDS

A convenient way to add a background to foreground areas you've copied to layers is by using Layer | New Fill Layer | Pattern. Your saved pattern will be applied to your composition as a new layer, complete with a layer mask so you can hide areas you don't want or need. Additionally, the Fill Layer process is the *only* one in Photoshop by which you can *scale* the seamless pattern you created to a pattern size you need.

1. Make sure you've saved the pattern you want to use via the **Edit | Define Pattern** command, covered in this section, "Make Your Own Seamless Patterns."

Continued . . .

2. Click **Layer | New Fill Layer | Pattern**.

3. In the New Layer dialog box, name your layer (or accept the default name). If you want the nontransparent areas on the layer beneath this new one to serve as a hole through which the pattern is visible, check the **Use Previous Layer To Create Clipping Mask** box (you might not, though), and then click **OK**.

4. In the next dialog box, Pattern Fill, you can set the scale of the pattern relative to your current document. You can preview the scale of the pattern in the workspace, and using these steps, you can preview the seamless textures you create in Photoshop.
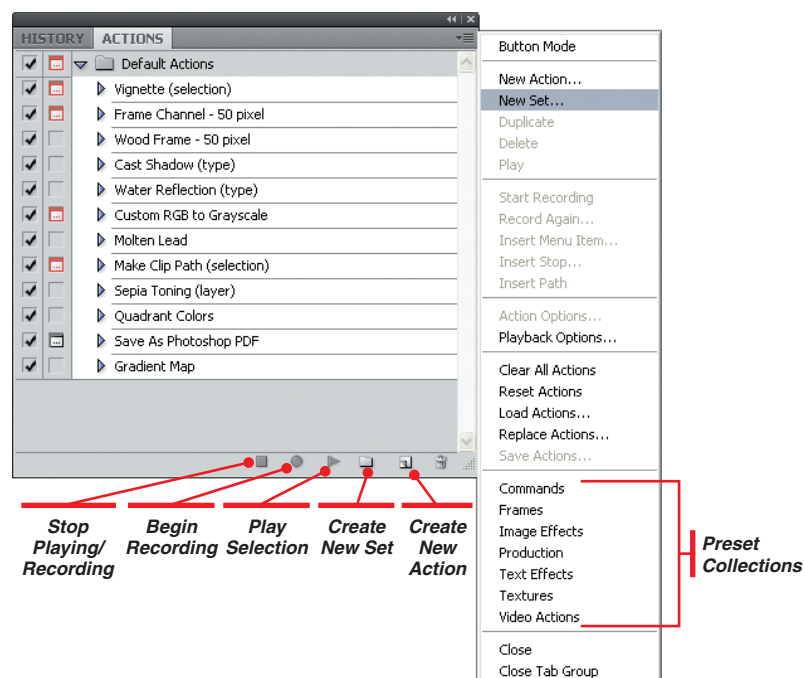
Save Time, Create Actions

Actions in Photoshop record your keyboard strokes, and to a limited extent your mouse motions and clicks, so you can play back steps you often use as part of a personal automation workflow. Actions are a terrific timesaver and you can run a saved Action in Batch mode to apply the same edits you've recorded once to scores of images.

Photoshop comes with a collection of default Actions that you can use to perform rote chores, such as saving an image to PDF file format, and to apply some cool effects, such as adding a wood frame to pictures.

● **To display the Actions panel**, click **Window | Actions**, or click its icon on the docking strip or press **ALT/OPT+F9**. As you can see there are buttons for stop, record, play (just like an old VCR), and for deleting, creating new sets (folders of Actions), and creating new actions. The flyout menu offers sets of preset collections that come with CS4.
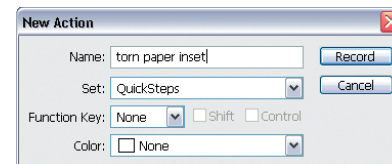
● **To play an Action**, click its title on the Actions panel and then click **Play Selection**.

To get the most out of this invaluable feature, read on to see how creating your own Action is done.

RECORD AN ACTION

You begin with a concept. Let's say you want to put up a web gallery, and you want all your images to have a common theme: a frame that adds about 25 percent to the overall size of a dozen images. Here's how to record the first steps for accomplishing this goal:

1. Open an image and display the Actions panel.

2. Click an empty area on the Actions panel list so your new set (we presume you'll want to create several new Actions in the future) does not become a subset of the Default Actions.

3. Click the **Create New Set** icon, and then name your set; click **OK** to add the set to the list.

4. Click the New Set folder icon (whatever you named it) on the list to highlight it, then click the **Create New Action** icon.

5. In the Create New Action dialog box, type a name you'll remember in the Name field. As soon as you click **Record**, the Actions panel begins recording, but don't worry if you don't have your plan all mapped out in your head—you can pause the record process at any time by clicking the Stop button.
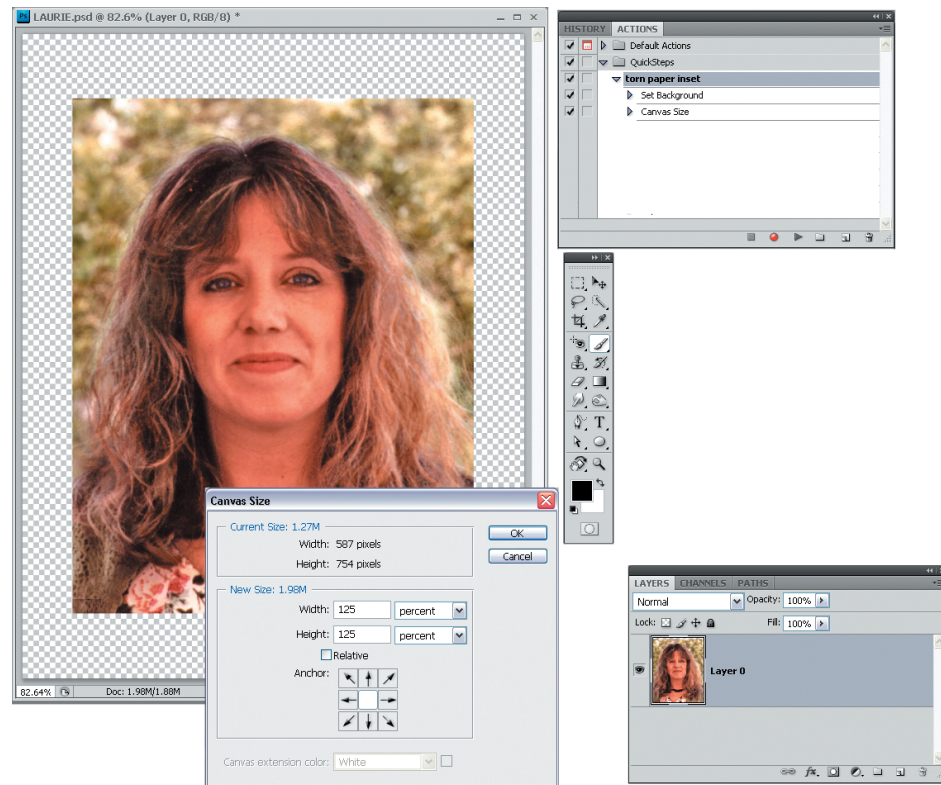

6. Double-click the background layer title on the Layers panel; accept the default name for the new layer, and click **OK**.

7. Click **Image | Canvas Size**. In the Canvas Size dialog box, click either the **Height** or **Width** down arrow and click **Percent**.

8. Type **125** in both fields, as shown in Figure 20, and then click **OK** to increase the canvas size.

9. Click the **Stop Playing/Recording** button. You're not finished, but here is a good place to take a break and examine the list of actions you've performed, as recorded and entered on the Actions panel.

NOTE

If you make a mistake recording a multistep Action, click **Stop Playing/Recording**, click the entry on the Action panel that's wrong, and then drag it into the **Delete** (trashcan) icon at the bottom of the panel. You can then resume recording.
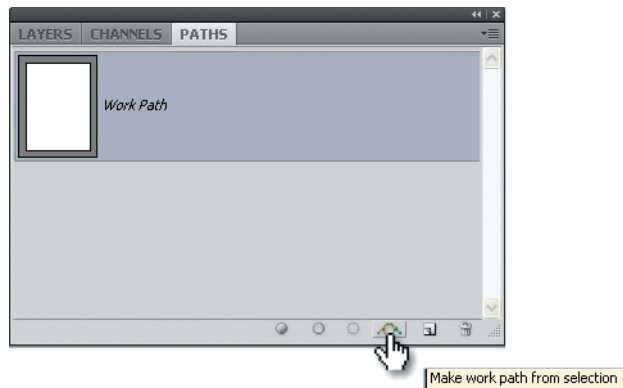
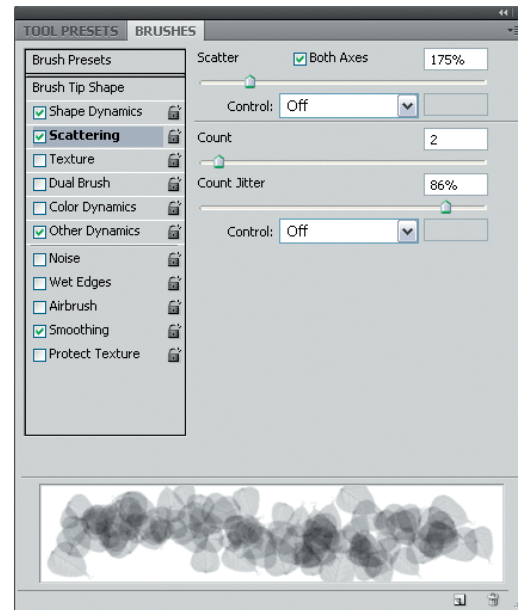*Figure 20: Enlarge the canvas proportionally so you can add a frame.*

MAKE A PICTURE FRAME'S EDGE INTO AN ACTION

Continuing the above section, if you're into portrait photography, an irregular, natural-looking border around a subject is a nice look. The following steps show you how to use a Photoshop default brush (with a little modifying), a path made from the edge of the photo on the layer, and the Quick Mask mode to create a novel border for the frame:

1. Start recording again; click the **Begin Recording** button on the Actions panel.

2. **CTRL/CMD**+click the layer's thumbnail on the Layers panel to load the nontransparent pixels as a (rectangular) selection.

Make work path from selection

3. Click the **Paths** panel on the Layers/Channels/Paths grouped panel. (If it is not there, click **Window | Paths** to display the panel.)

4. Click the **Make Work Path From Selection** icon. Now you can stroke the path (you can't stroke a selection with a brush tip).

5. Click the **Quick Mask Mode** button on the bottom of the Tools panel.

6. Click the **Brush** tool on the Tools panel, and then press **F5** to display the Brushes panel.

7. Click the **Scattered Leaves** preset tip so you can edit it (this is Brush Tip #95 in the Default Brush Presets). It's selected now, and you won't save your modifications in this example so you won't ruin the preset.

8. Click the **Scattering** entry in the list at left, and then drag the **Scatter** slider down to about **175%**. The stroke will be random, but denser now, perfect for creating an elegant frame border.

9. Click the **Stroke Path With Brush** icon on the Paths panel three times. You need to do this step several times because the bitmap Scattered Leaves brush tip is partially transparent and by stroking more than once, you build up opacity; see Figure 21.
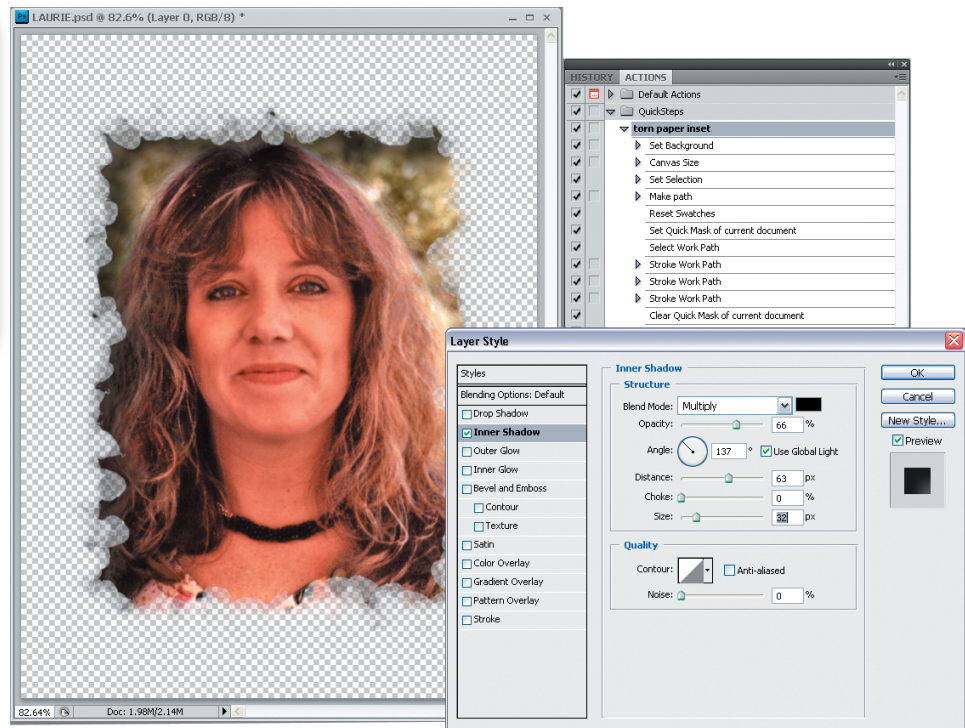
Figure 21: Create an elegant selection by stroking the path in Quick Mask mode.

10. Click the **Edit In Quick Mask Mode** button to toggle back to Standard mode.

11. Press **CTRL/CMD+SHIFT+I** to invert the selection, click on an empty area of the Paths panel list to deselect the path (so the path is also hidden, and the selected pixels of the image will now be what is deleted in the next action), and then press **BACKSPACE** to delete the selection's contents. Press **CTRL/CMD+D** now to deselect the selection. Click **Add A Layer Style** on the bottom of the Layers panel and then click **Inner Shadow**. In the Layer Style dialog box, under Structure set the **Angle** to about **137** degrees.

12. Then drag in the document window to the lower right—this interactively adjusts the Distance of the inner shadow so the effect is visible, as shown in Figure 22. Click **OK** on the Layer Style dialog box to apply the effect.

13. Click the **Stop** button to pause the Action you're recording.

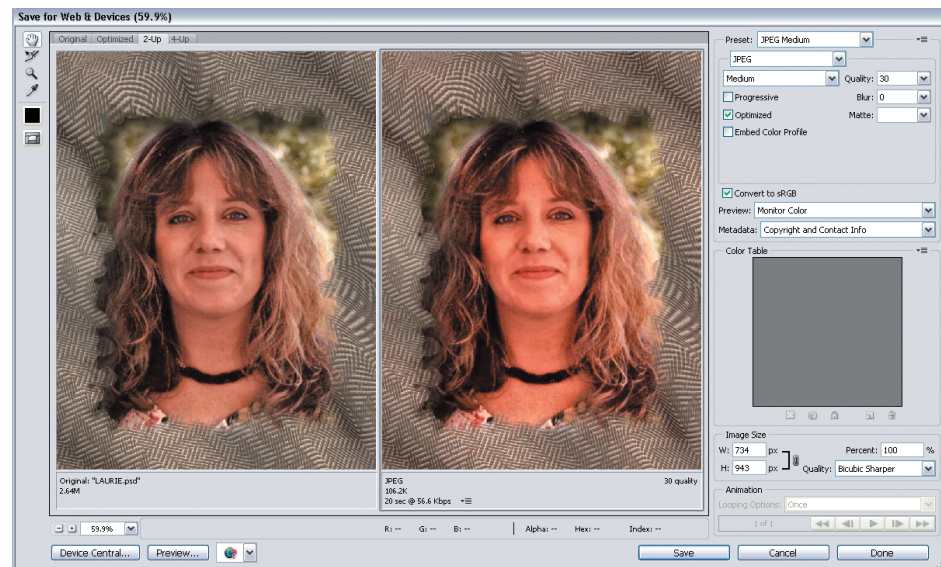*Figure 22: Create an inner shadow so the photo looks as though it's cut out from the background.*

ADD A BACKGROUND

The grand finale for this rather complex Action is to add a background. Aren't you glad you only have to program an Action once to use it an unlimited number of times? If you followed the steps in the "Make Your Own Seamless Patterns" section earlier, you can use your pattern in the following steps; this chapter is highly integrated!

1. Resume recording; click **Record** on the Actions panel.

2. Click **Create A New Layer** on the Layers panel.

3. Press **CTRL/CMD+SHIFT+[** to send the new top layer to the bottom of the document stack.

4. Click **Layer | New Fill Layer | Pattern**.

5. Click **OK** in the **New Layer** dialog box. In the following **Pattern Fill** dialog box, click the down arrow, click a pattern you'd like for your entire web gallery, set the Scale for it, and then click **OK**.

6. Click **File | Save For Web & Devices**. In the dialog box, check the **Convert To sRGB** check box; at present, most web browsers default to displaying images in sRGB color mode, and you don't want your web gallery to look dull, as shown in the left preview pane in Figure 23. Set the **Preset** field to **JPEG Medium**. Click **Save**, find a location for this image in your hard drive (it doesn't really matter where, because this file is only part of this example), and then click **Save**.

Figure 23: Export the multilayer composition as a single flattened JPEG.

7. Click **Stop** on the Actions panel to stop the recorder.

8. Close your image without saving it. You always need a test image to record Actions, but there is no reason to save the edited image—your goal here has been accomplished; you've recorded a very difficult and intricate Action that you can now play in Batch mode.

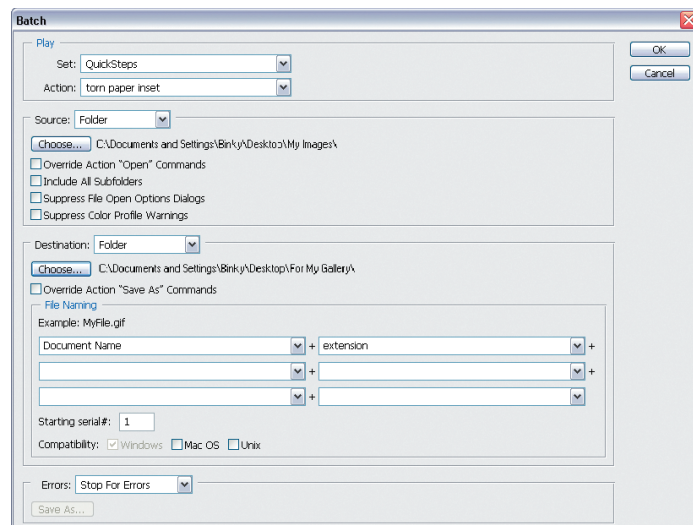### RUN A BATCH ACTION TO CREATE WEB GALLERY IMAGES

There are really only one or two special things you need to do to apply your Action (or any Action) to a number of files:

● Place the files you want to process in Batch mode in the same folder on your hard drive. To do this, copy the photos by dragging their icons into a new folder you've named something you'll easily remember.

● Create a new destination folder for the processed images. Your Desktop is an ideal place for making a new folder, and it's a location that's easy to find in Photoshop's Batch dialog box.

Get about a dozen of your favorite photos corralled together in a folder, and follow these steps to learn how to put your Action into action:

1. Click **File** | **Automate** | **Batch**.

2. If the Action you created in the previous section is the last one you used in Photoshop, it will automatically appear in the Play field. If it's not there, click the **Set** and **Action** down arrows and click the Action you want there.

3. **Source** should be set to **Folder**; click **Choose**, and then locate where you put your images.

4. **Destination** should be set to **Folder**; click **Choose** and then locate the new folder you created previously on your desktop.

5. It's probably best to allow the Batch feature to leave the filenames as they are, so you can tell what the images are by name. However, if you need to number batch exports—or use uppercase names, or use dates—you should click the first field's down arrow and click the naming convention you want.

6. If you want the files saved in the source and destination folders, it is important to click the **Override Action "Save As" Commands** check box. If you do not, the files will be saved in the folder specified in the action.

7. Click **OK** and sit back for a while. You're done!

Figure 24 shows a bare-bones web gallery created by running the Batch automation after creating the Action. Learn more about exporting all the web code and files you need to make a working web gallery in Chapter 13.
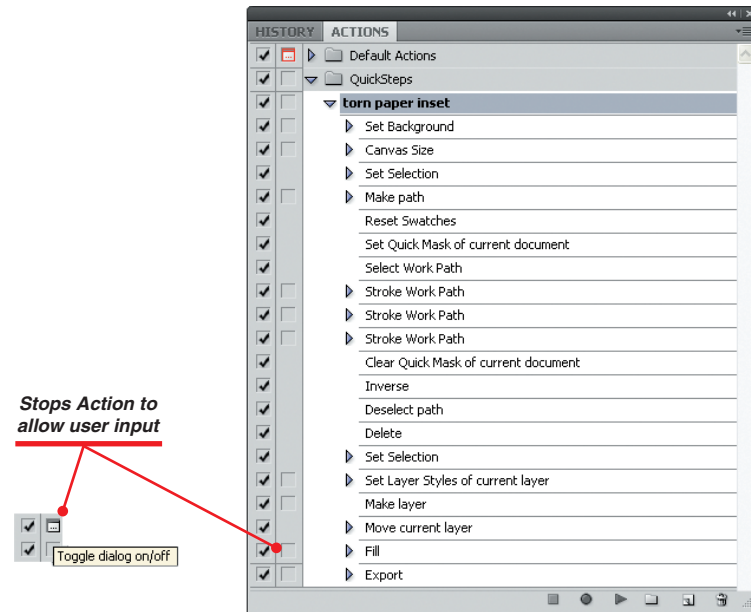
Figure 24: The torn-edge effect and background are consistent from image to image when you build an Action to create the look.

Modify an Action

In addition to being able to delete Action steps—by stopping the recording and deleting, or deleting any step after you've finished—you can toggle any step off when you run an Action: you click the associated check mark icon next to the step. You can insert an action by clicking the step you want directly before the new step, clicking **Record**, recording the step, and then clicking **Stop** to halt the Action recording.

There is also a neat way to *modify*—not delete, replace, or add—an existing step in an Action. Let's say you're in love with the torn-paper framing Action covered in "Save Time, Create Actions," but you feel the background is
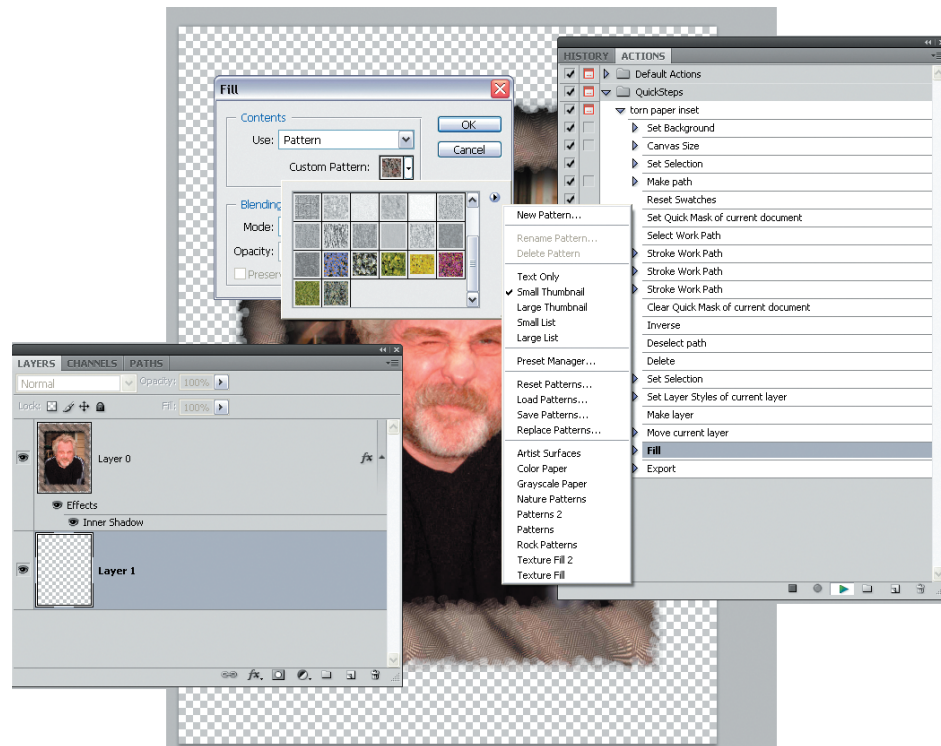
inappropriate for future web galleries you want to post. No problem: here's the list of steps in this framing Action. Where the step is to fill the layer, you click the column at right to make the step a **Toggle dialog on/off** step, meaning that if a dialog box is used in the step, the Action pauses while you fill in the dialog box.

Stops Action to allow user input

Here's how to change the pattern in an Action that fills the background with a saved pattern:

1. On the Actions panel, click the **Fill** step, and then click the box in the right column.

2. Test out the Action by opening a test image and clicking **Play Selection** on the Actions panel.

3. When the Action comes to the Fill step, the Fill dialog box appears.

4. Take your time with the two dialog boxes and choose a pattern. You can even load a new collection of patterns from the flyout menu and click one of the new collection's thumbnails, as shown in Figure 25.

Figure 25: Change a parameter in mid-Action by toggling the step's dialog box on.

5. Click **OK** for each dialog box, and the Action runs to completion.

If you need to run a Batch with this new background, it would be tedious to sit there 24 times or more, clicking the new Pattern choice; it's better to duplicate the saved Action by dragging its icon into the Create A New Action icon on the panel, rename it, delete the Fill step, click the previous step title, and then insert a new Fill step with the pattern of your choice while recording.