

# 21 Common Image-Editing Techniques Using PHOTO-PAINT

Photography tells a different story than the vector graphics you create in CorelDRAW. Although vector drawings can look crisp, powerful, and brilliant in coloring, photographs typically mirror more of a literal human story. Digital images deliver emotional content through soft tones, an intricate latticework of highlights and shadows, and all the photorealistic qualities that portray the world as we’re accustomed to seeing it. Understandably, the tools you use to edit a digital photo or other bitmap image are different from those you use to edit paths in CorelDRAW. This is where PHOTO-PAINT enters the scene to round out your creative toolset.

This chapter introduces you to the fundamentals of *bitmap images*—how to measure bitmaps, how to crop them to suit a specific output need, and ultimately how to make your original photo look better than when it came off the camera.



**Note** Download and extract all the files from the [Chapter 21.zip](#) archive to follow the tutorials in this chapter.

## The Building Block of Digital Photos: The Pixel

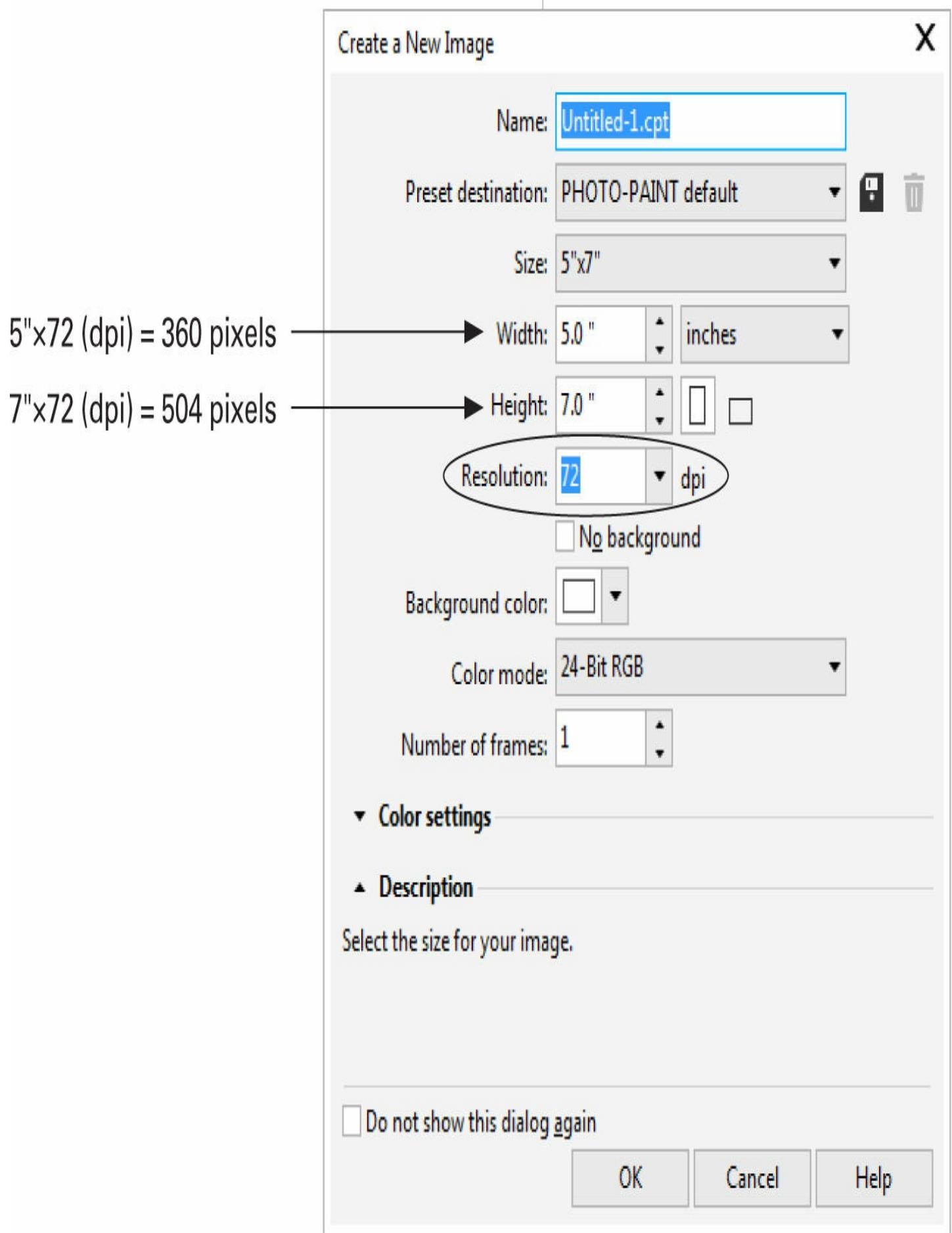
We all use the word occasionally in a humorous context in conversations, but seldom is an explanation or *definition* of a pixel provided in a way that is useful when you need to alter a digital photograph. A *pixel*—an abbreviation for *picture element*—is the smallest recognizable unit of color in a digital photograph. It is *not* a linear unit of measurement; a pixel doesn’t have to be square in proportions, and it’s not any specific color. Now that you know what a pixel *isn’t*, read on to learn what a pixel *is*, and how understanding its properties will help you work with PHOTO-PAINT’s tools.

### Pixels and Resolution

A pixel is a *placeholder* in a bitmap image; as such, it has no fixed size you can measure the same way you'd measure the length of a 2-by-4 piece of wood (which is usually 2" by 4"). It's hard to discuss a pixel with a friend or co-worker without any sort of *context* because these pixel units cannot exist unless they're within a background, which is usually called the *paper* or the *canvas*, which in PHOTO-PAINT is an imaginary grid into which you assign units of colors with the Paint tool or the Fill tool. When you open a digital photograph, the paper is predefined by the capability of the digital camera; the *resolution* of your photographs are of a fixed size.

*Resolution* is expressed as a fraction, a ratio: how many *pixels per inch* there are expresses image resolution, in much the same way that *miles per hour* expresses speed. We often call this resolution *dpi* (dots per inch), owing to the visual similarity between dots of ink on a printed page and the pixels of color we see on a monitor. Bitmap images are also called *resolution-dependent* images because once a photo has been taken or a paper size defined for a PHOTO-PAINT painting, you cannot change the resolution without distorting the visual content of the picture. Here's an example that shows the use of resolution when you click the New Document title on the Get Started welcome screen, press CTRL-N, or choose File | New:

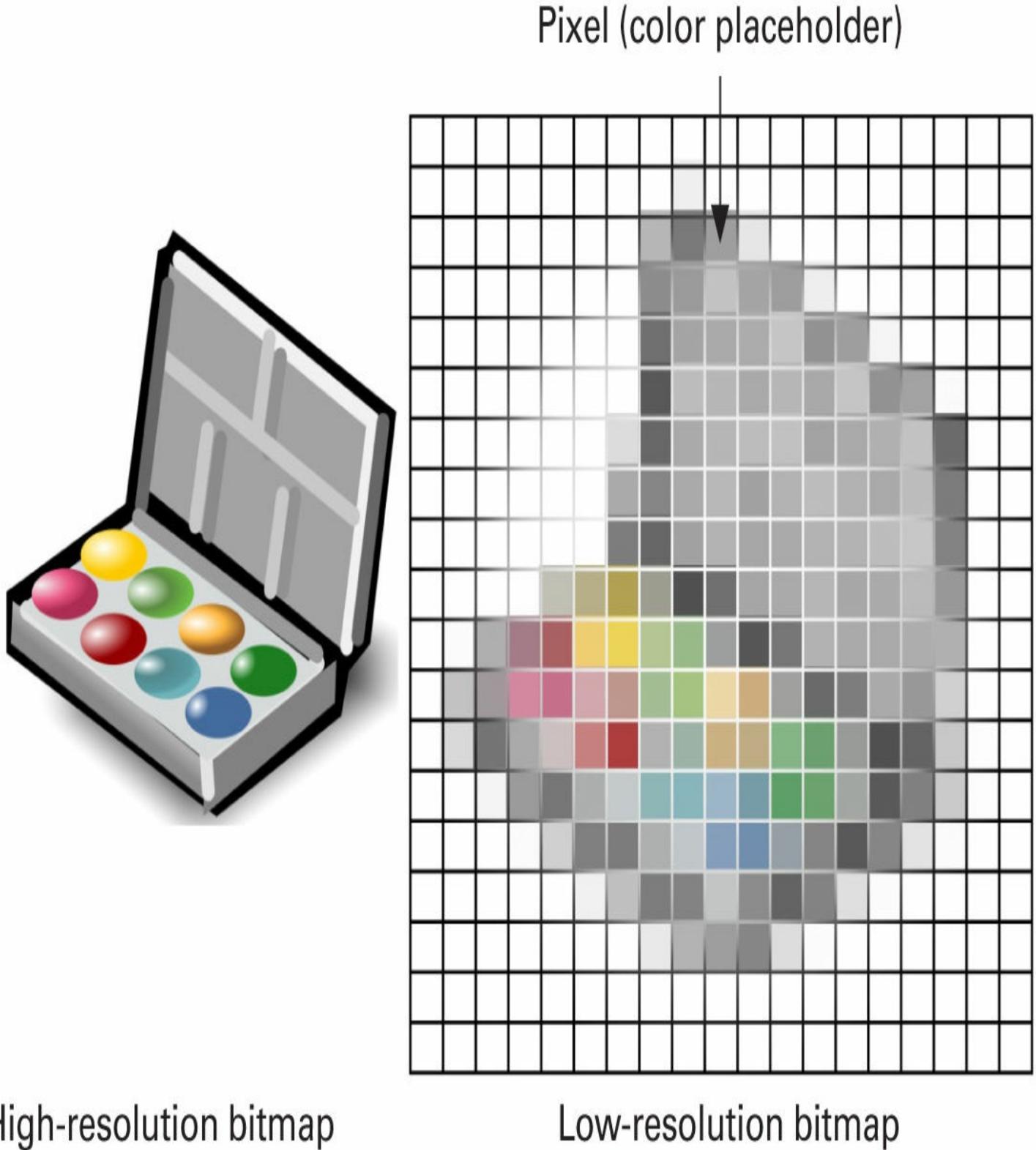
1. In the Create a New Image dialog, you're offered a Preset Destination setting of PHOTO-PAINT Default, which, as you can see here, is 5 inches in width by 7 inches in height. However, this is not a *complete* description of how large the default paper size is in real-world units. How many *pixels* will be created per inch? Without knowing the resolution, the paper size is as meaningful as how many grapefruits per inch will fit on the page! Fortunately, below the Height and Width fields, you see the Resolution field, set to the default of 72 dpi.



2. Aha! Now we can discover the number of pixels in the new document. Knowing this can be important for just about all types of work because you always presume a fixed screen resolution with the audience; therefore, images destined for a website, for example, are measured in absolute number of pixels in width and height for graphics. In this example, 504 pixels wide might make a good logo at the top page of a website; in 2017, many people who browse the Web run a screen that displays  $1280 \times 1024$  pixels or higher, so this default image size is a little more than one-third the width of an audience's screen.

## Image Resolution

Any PHOTO-PAINT document resolution can be great for web graphics, but *not* so good for printing. The finite number of pixels in the resolution-dependent bitmap image can be the culprit. [Figure 21-1](#) shows, on the left, a CorelDRAW illustration of a child's paint box. In this book, the drawing looks crisp around the edges and smooth in its transitions from neighboring tones. It was a graphic suitable for printing as a bitmap because it was exported at a high resolution (300 dots per inch) for printing in this book. On the right, however, is an illustration of the same paint box, with the imaginary bitmap grid shown, but it was exported at desktop icon size (about 19-by-19 pixels), and the loss of image detail is evident at its resolution of 72 pixels per inch.



**FIGURE 21-1** The number of pixels in a bitmap, combined with the image's resolution, determines whether an image is suitable for printing.

## Resolution, Pixel Count, and Printing

It's a frequently asked question, and one whose answer is not precise: what is the

resolution needed for a photograph to make a good print?

To answer a question with a question: how good is “good”? Also, how large is the print you need? Of lesser importance but still something to think about is, how large are the individual sensors on your camera? PHOTO-PAINT can’t do anything about the quality or resolution of your camera, but in general, the more pixels you have, the better the detail, and the larger the print you can make that has fine details. This details stuff will become more clear in a moment when you see a chart of camera capability and the corresponding image size.

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**Tip** Scanning a physical photograph doesn’t provide the best sampling of color pixels to produce a terrific photograph, but it *does* ensure that you have a *sufficient* number of pixels (an image’s *pixel count*) to print the scanned photo.

Keep in mind that this chapter was written in 2016, and the speed of technology development might contradict some of this info by next month! The movement, even with many professional photographers, from a digital SLR camera to a mobile device (such as Apple’s iPhone) has been due not just to portability (spontaneity, the ability to photograph where a larger camera is impractical) but to quality as well. Last year’s iPhone could capture 12 megapixels (MP) using a quality lens and sensor array. Almost all of today’s digital cameras are capable of taking full-frame pictures that can be printed to inkjet printers at 12” by 18” in high quality. Digital cameras measure the number of pixels in width and height of the picture’s frame in *megapixels* (a million pixels equal a megapixel). For example, for about the same price as an unlocked iPhone (under \$600), the Canon EOS Rebel T6 EF-S can take approximately 18.70 megapixels. The width of a frame is 5184 pixels, and the height is 3456 pixels. When these numbers are multiplied, the result is 17,915,904 pixels, almost exactly 18 MP.

Depending on the make and model of your digital device, you can take photos that vary in maximum print size. The following table provides the maximum printable dimensions for different megapixel-capable cameras and corresponding resulting image quality:

Sensor	Resolution	Excellent Print Quality (300 dpi)	Good Print Quality (200 dpi)	Poor Print Quality (150 dpi)
3 MP	2048x1536	7"x5"	10"x8"	14"x11"
4 MP	2464x1632	8"x6"	12"x8"	16"x12"
6 MP	3008x2000	10"x8"	15"x10"	19"x13"
8 MP	3164x2448	12"x8"	16"x12"	22"x16"
10 MP	3872x2592	13"x9"	19"x13"	26"x17"
12 MP	4290x2800	15"x10"	21"x14"	28"x18"
16 MP	4920x3264	17"x11"	24"x16"	32"x22"
36 MP	7360x4912	24"x16"	36"x24"	48"x32"
42 MP	7952 x 5304	27"x18"	40"x30"	54"x36"
50 MP	8688x5792	30"x20"	44"x29"	58"x39"



**Note** What you can conclude from the preceding chart is that resolution decreases as physical size of a print increases. Given the critical factor of viewing distance,

most of the time you can get away with printing a very low resolution image to, say, the size of a billboard. Because we see billboards from far away, no one notices the pixilated quality of the image.

Print size at 1-to-1 resolution can be far greater than computer screen resolution, and that's why digital photos can be enlarged to a great extent while retaining focus and clarity. This is because even the largest computer monitor resolution of  $2560 \times 1440$  pixels yields a count of only 3.67 megapixels.

The maximum print sizes listed in the previous table are not hard-and-fast dimensions, but are guidelines for print output for two reasons:

- The dots that inkjet printers render are imprecise. They are more like *splats* than dots as the print head sprays color onto the page.
- There is flexibility when printing to home inkjet printers because *image dimensions are inversely proportional to image resolution*. You can see from the previous chart that if your home inkjet can print 200 to 300 dpi, you have some wiggle space for the final print size.

The math for calculating maximum resolution goes like this: most affordable inkjet printers advertise a high-quality resolution of about 720 dpi. The documentation might claim that the printer offers “enhanced resolution of 1440 dpi,” but usually this enhancement is only rendered in one direction, height or width, depending on your print layout. The *true* resolution is always the lower number when two are offered in the inkjet printer’s documentation. Manufacturers of inkjet printers, makers of inks, and other printing experts agree that the ideal resolution for printing (in dots per inch) requires about one-third this number (in pixels per inch) for the image to be printed, so 720 dpi divided by 3 is 240 dpi.

In PHOTO-PAINT, you can change the resolution of an image, thereby changing its real-world dimensions, *without changing the pixel count*. If you *change* the number of pixels in an image, the image appears sharper when it’s made smaller, but appears blurred when it’s enlarged. For example, a photo that is 3” by 3” at 300 pixels per inch (ppi) is *exactly equal* to a 6”-by-6” image at a resolution of 150 ppi. Both images have the *same number* of pixels, but the print *dimensions* and *resolution* have been changed inversely proportionately.

Let’s walk through an example of how to determine a photo’s resolution and then adjust it for printing.

## Resizing a Photograph

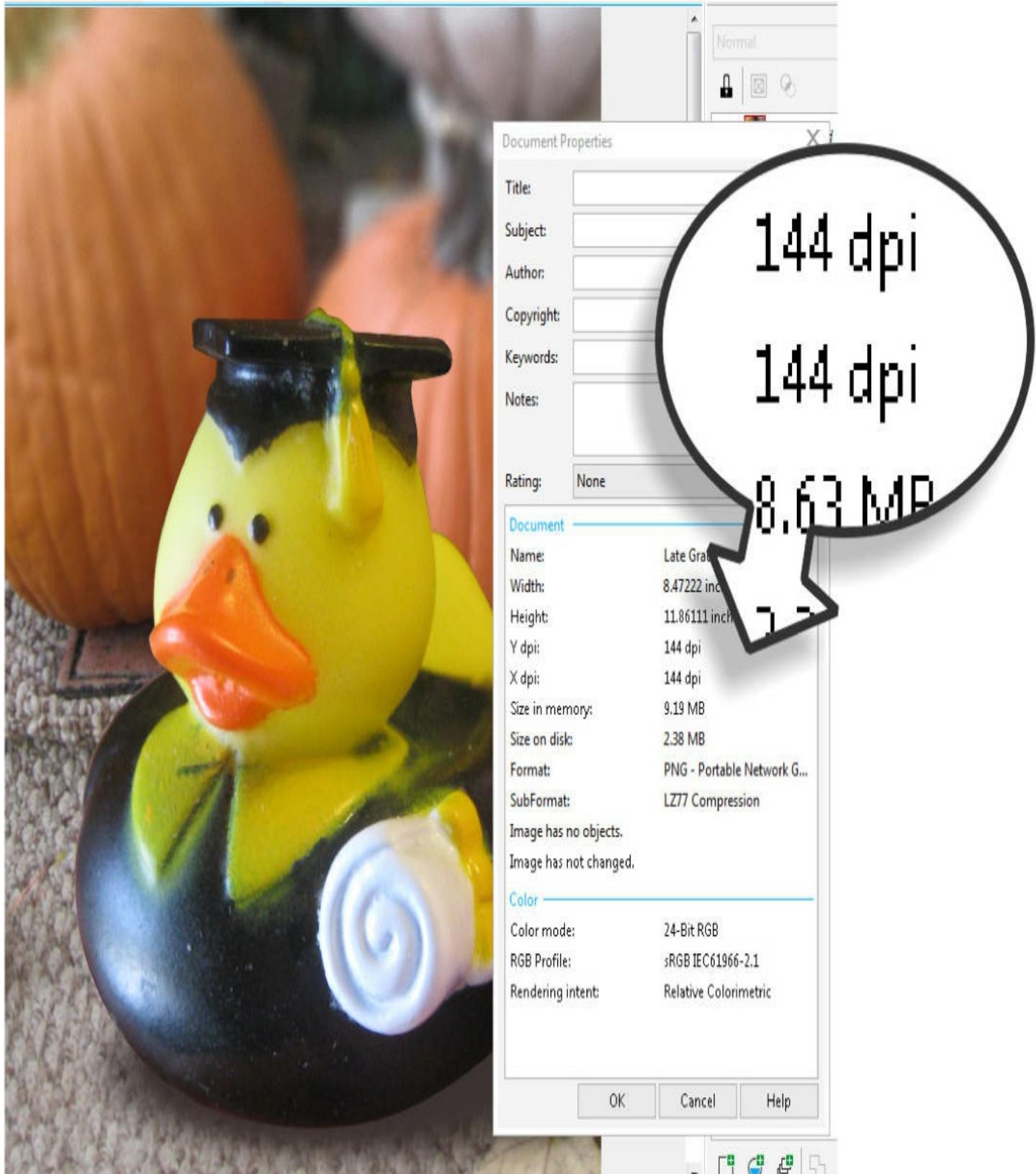
### Tutorial

1. In PHOTO-PAINT, open Late Graduate.png, a photo that has been somewhat contrived to demonstrate a technique in this chapter.
  2. Let's say you need to print this photo at inkjet high quality. You decide to settle for a good-to-excellent print—let's say 240 pixels/inch in resolution. That's a resolution the author often uses on his own inkjet. To check the resolution of the current foreground document, with the Object Pick tool, right-click over the document and then choose Document Properties from the context menu.
- 



**Tip** To display rulers around the edges of a document, press CTRL-R. To hide rules, press CTRL-R again to toggle them off. If the rulers don't display the units you need, right-click over either ruler and then choose Ruler Setup from the context menu.

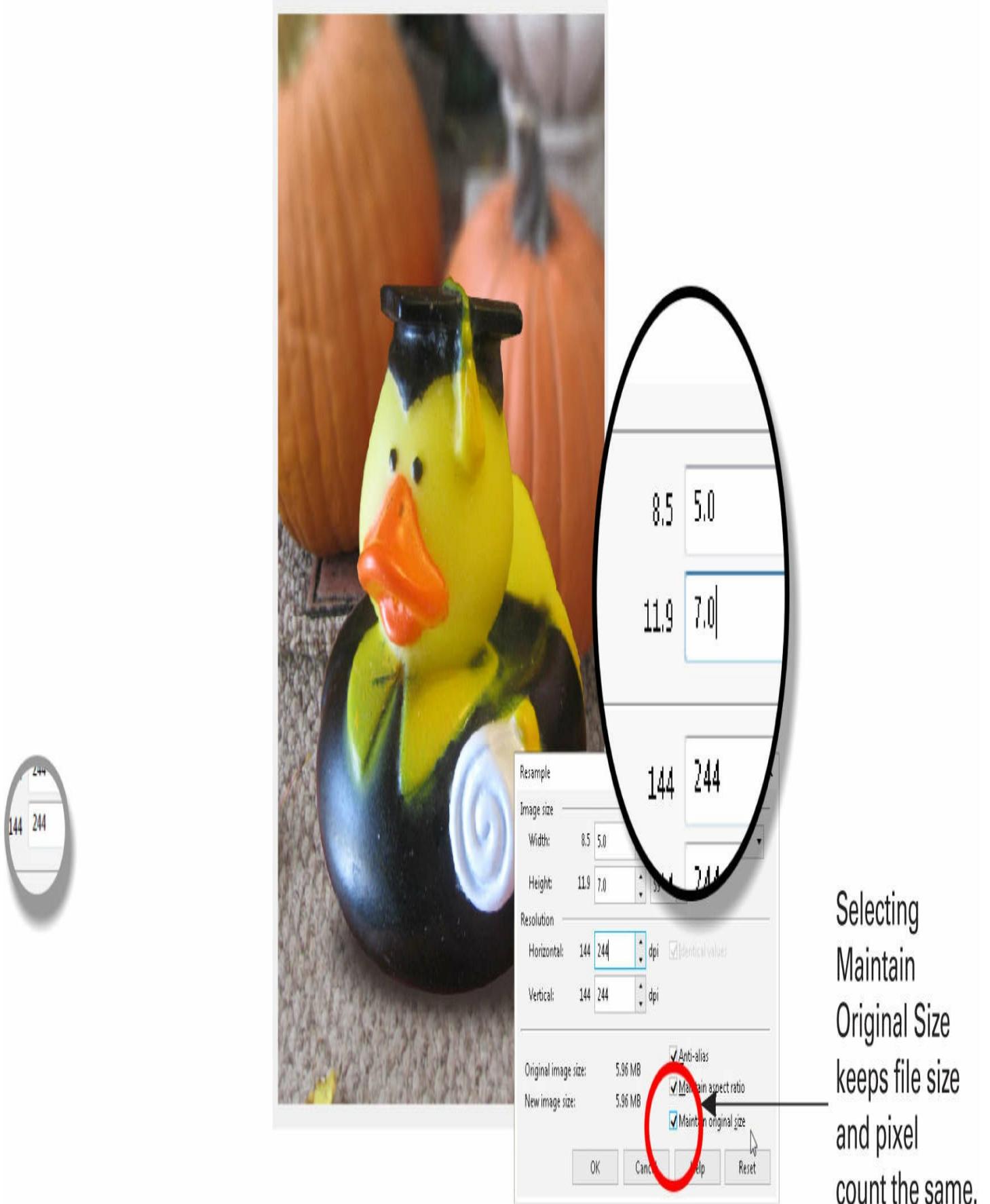
Well, oops. This photo is a nice 8" by 11", but it's of insufficient resolution to print at the desired 240 ppi, as shown here. It *can* print with high quality and great image fidelity, but the physical output dimensions need to be decreased to *increase* the resolution.



3. Right-click over the photo and then choose Resample from the context menu. The Resample (Image menu item) box does more than resample an image; it can also *resize* an image, and the two terms are very different. *Resizing* is the action of decreasing or increasing image resolution, affecting image dimensions inversely, and the result is an image that has the same number of pixels. *Resampling* (covered in this chapter)

involves *changing the number of pixels* in the image. Original pixel colors are moved around the grid—some are duplicated, some removed—and the resulting color pixels are a new color based on an average of neighboring original color pixels. Resampling changes original image data and occasionally blurs or creates unwanted harsh edges in image areas.

4. Click to check the Maintain Original Size box, and make sure the Maintain Aspect Ratio box is checked. Then type 7 in the Height field. Because the photo was doctored for this example, the photo is now a perfect 7" by 5", smaller than its original dimensions. As the dimensions decreased, as shown in [Figure 21-2](#), the photo's resolution increased and is now more than adequate for inkjet printing. Save the file if you like ducks, or college, or both, and then print it to see what image resolution does for digital images: it *improves* them.



**FIGURE 21-2** Resolution is inversely proportional to image dimensions.



**Note** There is a little disagreement in the imaging community about screen resolution: whether it should be measured at 72 or 96 pixels per inch, the standard that Microsoft put forth with Windows 95. The answer to this disagreement is, when you're measuring pixels for screen display, *it makes absolutely no difference*. Screen resolution, regardless of how you measure it, is a fixed size, so a 300-pixel-wide bitmap might look larger or smaller depending on the screen resolution you use for display, but it doesn't change the number of pixels in width or the total pixel count of a bitmap when you display it on your monitor.

## Resampling and Resizing Photos

At times, you absolutely *have* to upscale a photo; you might not have a better image and you can't retake the scene or person's portrait. When you increase the number of pixels in a photo, you're *not* increasing image detail—all the details in the scene were captured when you took the photo. PHOTO-PAINT adds pixels by duplicating existing pixel colors and then averages the colors a little to make a smooth photo transition between neighboring pixels in the resampled photo *if* you leave Anti-alias checked in the Resample dialog.

How much larger you can make a photo before the individual pixels become apparent depends on the visual content of the photo. Pictures of intricate machinery and images of lots of differently colored small objects such as leaves do not upsample nearly as well as, say, a photo of soft clouds on an overcast day. If you need to make a photo 150 percent of its original size, usually you can get away with this without taking any additional steps. However, if you need to print a picture from the Web that's only 300 pixels wide, for example, you have two things going for you in this endeavor:

- Inkjet printers tend to smooth out small rough areas in a digital image because ink spreads on the printed page, blending flaws together. Don't count on this factor; it's an assistant, but a small one.
  - PHOTO-PAINT can sharpen edges in the resampled photo while keeping large areas of similar colors smooth in appearance.
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**Tip** PHOTO-PAINT has several sharpening filters under Effects | Sharpen. PHOTO-PAINT's Help system provides a good general explanation of the Sharpen filters; launch any of them and then click Help button in the filter dialog. Generally, when in

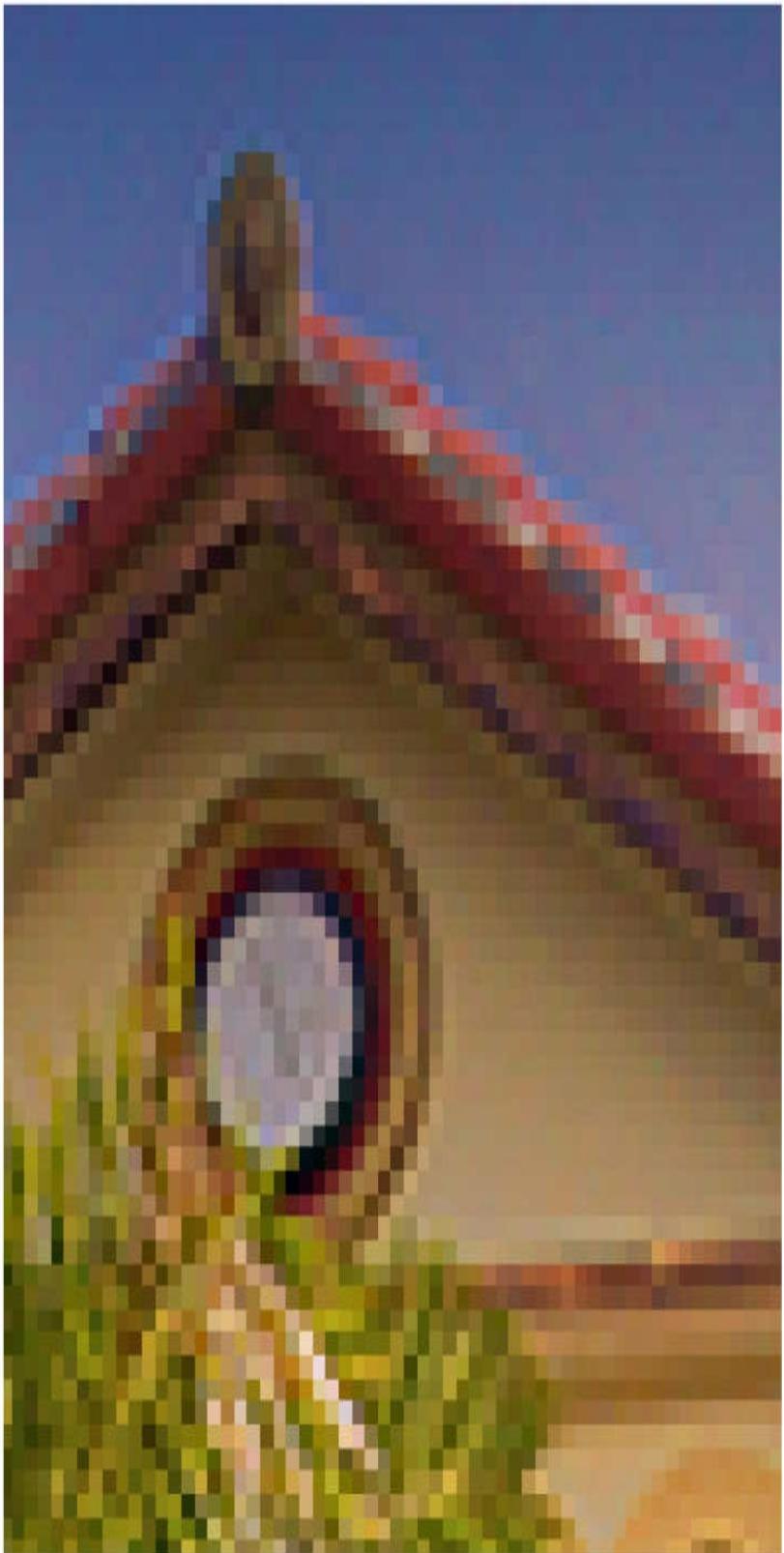
doubt, choose Unsharp Mask to add some crispness to resampled photos. Unsharp Mask provides good sharpening without an overwhelming number of options you need to learn. Click the Preview button in any of the filter dialogs to toggle the effect on and off within the document window for comparison.

[Figure 21-3](#) shows a small JPEG photograph; let's pretend for the purposes of working through a tutorial that you own this condo and want to time-share it. And you want to print postcard-size images to hand out in addition to using the image on your website.

350 pixels wide



Zoom to 800 percent



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**FIGURE 21-3** Unless some corrective steps are taken, this small photo would print with huge, clearly visible color pixels.



**Tip** The Zoom tool (Z) affords you the opportunity to get in very close to an image area to view and edit. However, if you’re not familiar with resolution-dependent bitmap editing, a zoomed-in view of a photo might look coarse and your instinct might be to soften the image. Periodically check the document title bar: after the name of the file, there’s an @ symbol followed by your current viewing resolution. If the zoom factor is greater than 100 percent, this document is not displaying as your audience will see it. To quickly zoom a document to 1:1 (a 100 percent viewing resolution), double-click the Zoom tool on the Toolbox.

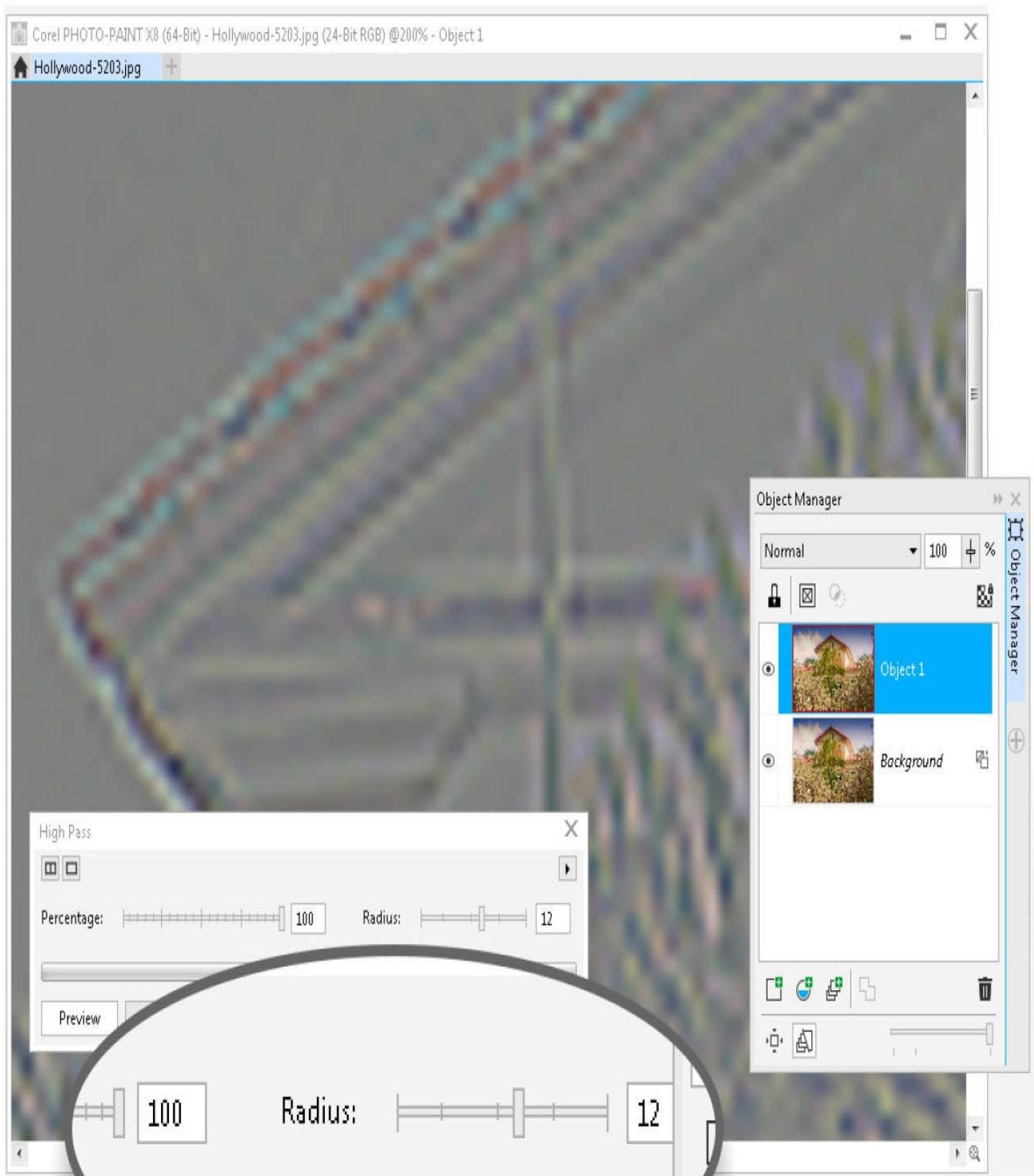
The following set of steps is a “worst-case” scenario—you will almost certainly be able to enlarge photos so they become print-worthy by resampling up to 150 percent or so; you won’t have to make the *gross* sort of enlargement and image corrections shown in these steps. However, as you’ll soon see, the High Pass effect you’ll use does, indeed, enhance a copy of the small JPEG photo to a usable state.

## Making a Thumbnail Image Suitable for Printing

### Tutorial

1. Open Hollywood-5203.jpg in PHOTO-PAINT. With the Object Pick tool, right-click over the image and then choose Resample from the context menu.
2. In the Width field, type 7, and then click an insertion point in the Resolution | Horizontal field. Make sure the Maintain Aspect Ratio and Anti-alias check boxes are checked, and then type **240** in the box. Click OK to resample the photo.
3. Press CTRL-D. This places a duplicate object above the original.
4. At 100 percent viewing resolution, clearly the photo needs a little edge sharpening without sharpening the larger smooth areas. Press F7 if the Object Manager docker isn’t docked to the window or isn’t visible. You’re going to duplicate this image and put the copy on top of the original. This is an unusual thing to do—and *to be able to do*—but PHOTO-PAINT has advanced image-editing features that let you change and merge image areas (called *objects*) so the pixels in objects can have different colors while being aligned to the imaginary grid in the document identically.
5. Click the Object 1 thumbnail on the Object list to select it—you want to edit this, not the Background object.
6. Choose Effects | Sharpen | High Pass. Wherever sharp transitions between pixel colors appear in the photo, edge details are retained and strengthened. Wherever there is little

color difference between neighboring pixels (called *low-frequency* areas), the visual information is filtered out, leaving a light gray area with almost no color. The higher the percentage you specify (use **100** in this example), the less original color is retained. The greater the radius (use about **12** in this example), the greater the distance this filter examines from neighboring pixels to filter out areas of little detail difference. This tends to result in sharp edges in the photo with smooth color areas where there's little or no detail, such as a clear sky. Click OK to apply these settings.



7. Beyond the strong edges in Object 1, this object doesn't look as though it will contribute much to enhancing the enlarged image, but the correct answer is, "Yes, it will!" Here's a simple explanation of why Overlay mode will turn this largely gray object into a perfect "lens" to sharpen the underlying Background photo. The brightness values in a photo (the tones, not the colors) are usually calculated on a scale of 0 to 255, with 255 representing the brightest area (pure white has a brightness of 255). Overlay Merge mode can be thought of as a filter: Overlay mode objects that have a brightness greater than 128 lighten (bleach, screen) objects under them, whereas brightness pixel values less than 128 darken (multiply) the underlying pixels. The High Pass filter made most of the pixels in this object neutral gray—which has no effect in Overlay mode on the underlying pixels. However, the *edge details* in Object 1 are darker and lighter than the underlying, corresponding Background areas. Choose Overlay from the Merge Mode drop-down list.
8. Objects do not have to be 100 percent opaque. This Overlay mode object contributes a little too strongly to the overall picture; click the Transparency combo box at the top right of the Object docker to reveal the slider and then drag the slider left to about **29%**, or whatever value looks best in the document window.
9. You can choose to save this file right now as a PHOTO-PAINT (CPT) or Adobe Photoshop (PSD) document, and the objects will retain their order using these special image file formats. And you can now print the composition. However, if you'd like to standardize the image so it can be saved to practically any file format (PNG, JPEG, TIFF, and others) and thus shared with most other computer users, with the Object Pick tool, right-click on either object on the Object Manager docker and then choose Combine | Combine All Objects With Background.

As you can see for comparison in [Figure 21-4](#), without the High Pass copy of the image in Overlay mode, on the left, the pixels dominate the image in visual importance. On the right, however, with the duplicate object you filtered and merged with the original, it's a fairly photogenic image...given that you enlarged it to almost *23 times* its original file size!



without High Pass object

High Pass object in Overlay mode

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**FIGURE 21-4 Use PHOTO-PAINT filters and objects to strengthen and smooth image areas selectively.**

## Automation: Recording Your Cropping and Resampling

It's almost a foregone conclusion that if you work at a small- to medium-size business, you

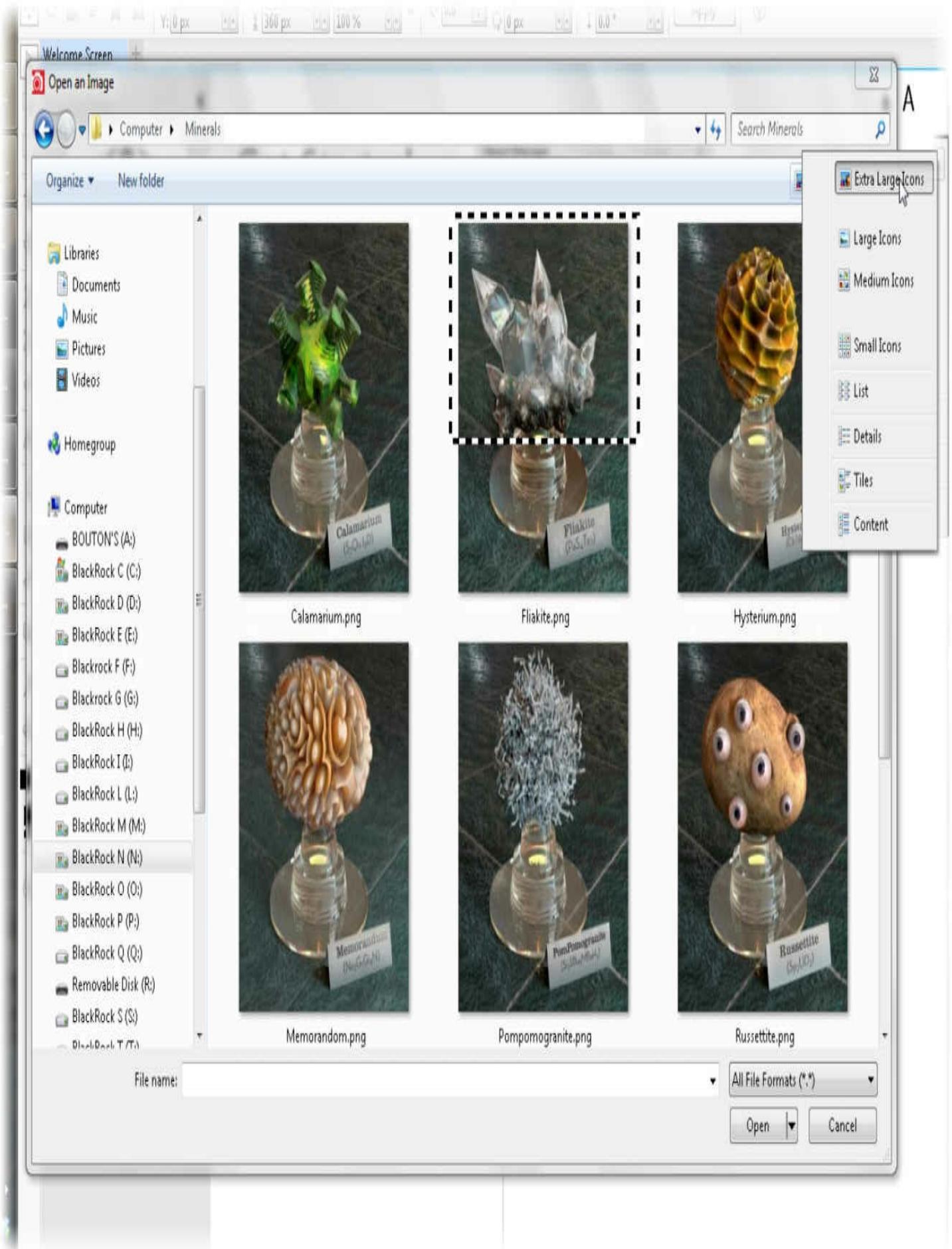
have dozens if not hundreds of photos that need some sort of alterations and uniformity so they'll look consistent in size when you make a catalogue or web page. Cropping is a separate process from resizing photos in PHOTO-PAINT, but the good news is that if your photos are even remotely similar in subject matter, you can record your cropping and resampling moves and then play this recorded script back on an entire folder of images. No errors, no recalculations, and you might have a free hand to eat your sandwich as you work through lunch.

## Evaluating a Crop Area for a Collection of Photos

PHOTO-PAINT's Crop tool does only one thing perfectly well: it eliminates areas of a picture outside the crop rectangle you drag before double-clicking or pressing ENTER to finalize the crop. You are free before finalizing to reposition, reset, and move the crop rectangle. The Crop tool resizes an image area, and depending on whether you've chosen Custom on the Property Bar, the Crop tool can possibly resample an image (but you might not be happy with an upsampled photo). Therefore, if you want to enlarge or decrease the number of pixels in the finished version, you must perform the additional step of resampling *before* saving a copy of the photo.

The imaginary company in this scenario (leading up to a tutorial) specializes in exotic minerals—no common quartz or hematite to be found on their website—and the photographer took seven pictures whose visual content is more or less all in the same position from photo to photo. Your mission is to crop out the bottom pedestal and place a card in all the photos to favor the mineral itself. You also want to reduce the size of all the pictures, all sized to exactly the same dimensions, so the collection of minerals can be featured on a web page. Because Windows 7, 8, and 10 can display large thumbnails of common image file formats such as PNG, you can easily preview the contents of an entire folder of images to better see which individual photo needs the most height or width to then apply a suitable crop for all the images.

[Figure 21-5](#) is a view of the folder of mineral pictures as seen from the File | Open An Image window in PHOTO-PAINT, with Extra Large Icons chosen from the drop-down list. The overlay of the dotted line shows that the Fliakite.png image requires the greatest width of all the files—this is something you can detect by eye. Therefore, when you begin the tutorial, you'll begin by choosing Fliakite.png as the image on which you'll record your cropping and resampling edits.



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**FIGURE 21-5** Out of the many images you need to resample and crop, choose the one that requires the loosest cropping as the basis for your automation recording.

## Recording Your Edits

### Tutorial

The following set of steps guides you simultaneously through recording and editing the resampling and cropping process. Playing the saved recording back on a folder is quite simple and covered in a following section. If you have a real-world need to crop and resample scores of images, and your boss or client wanted them yesterday, you're going to have your solution and the images completed sooner than anyone might imagine! Locate the images you downloaded at the beginning of this chapter; put only the mineral PNG files in a unique folder.

1. Choose Windows | Dockers | Recorder (CTRL-F3).
2. Choose File | Open (CTRL-O) and then open Fliakite.png from the folder to which you copied the seven PNG files.
3. Click the red button on the Recorder docker; you're recording now. Choose the Crop tool from the Toolbox.
4. Drag a rectangle around the top of the image, excluding the glass pedestal from your crop.



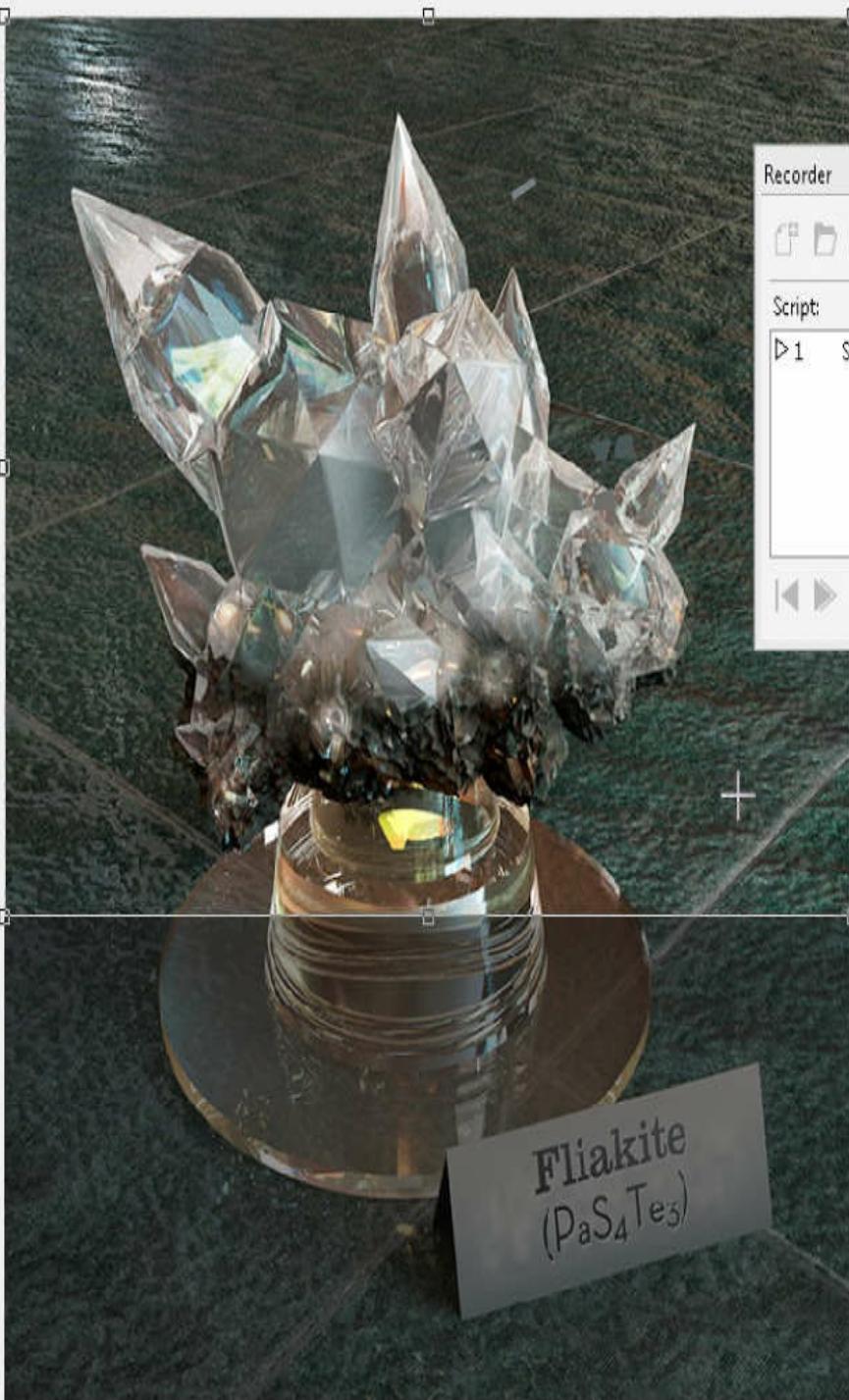
Crop D



Image Slicing 6



Fliakite.png



Background

Recorder



Script:

D1 SetDocumentInfo 618, 700

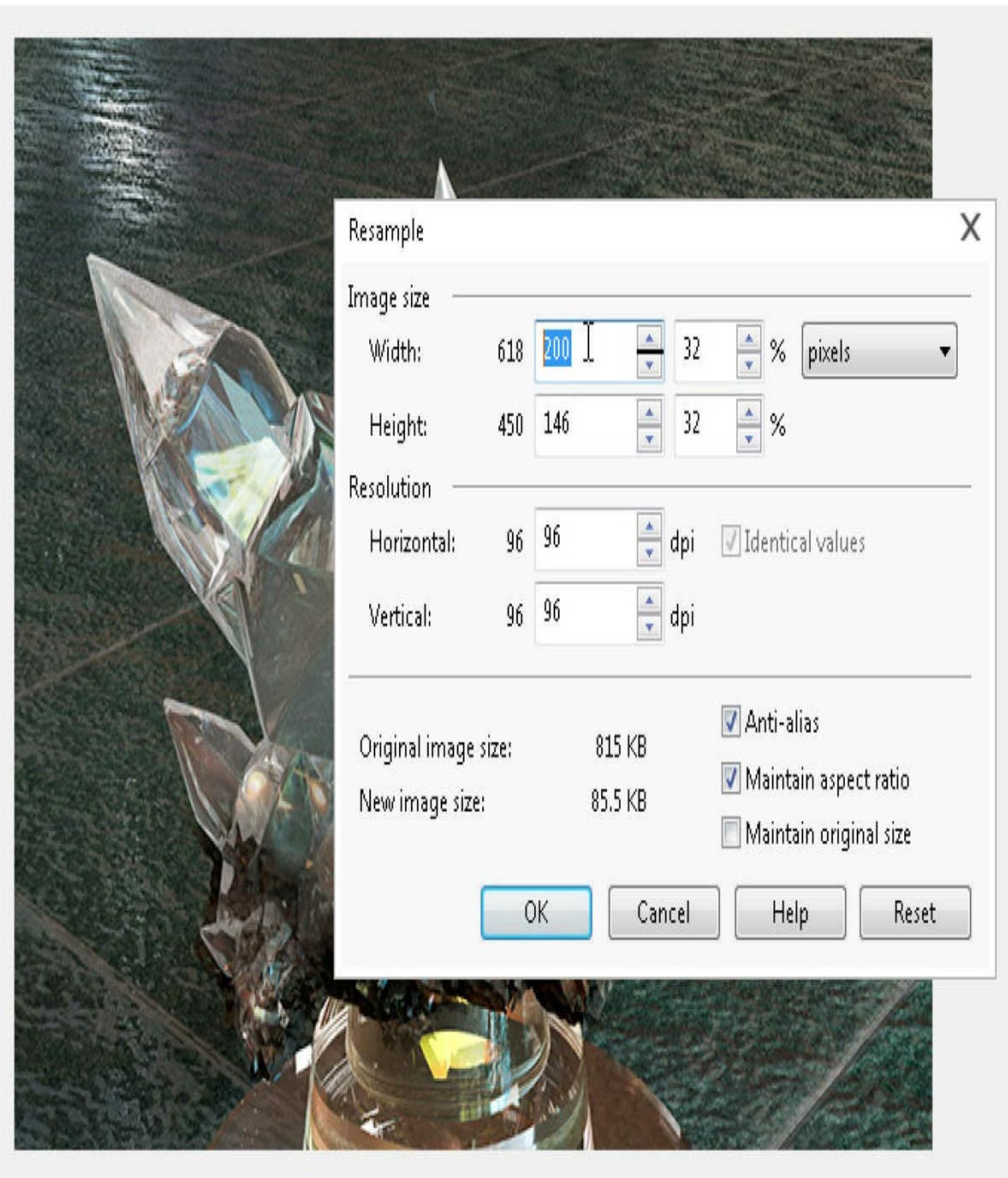


X

Recorder

+

5. Press ENTER to finalize the crop (double-clicking inside the document does the same thing).
6. Press V (Object Pick tool) and then right-click over the image and choose Resample.
7. Three or possibly four thumbnails across a conservatively sized web page of 800 pixels wide means the width to resample this image should be about 200 pixels. Choose Pixels from the Image Size units drop-down list and then type **200** in the Width field. The height will automatically scale down in proportion.
8. Because you're not measuring in real-world units, but instead in number of pixels, you don't have to specify 72 or 96 dpi for the resampled image. On the Web, a screen pixel is an absolute, unchangeable size. Additionally, if you change the dpi setting now, you'll need to go back and again specify the width as 200 because you've changed the resolution value. If the percentage field reads approximately 32%, you're good to go—click OK to apply.



9. Double-click the Zoom tool to move your view to 100%. The resampled image could use just a touch of Effect | Sharpen | Sharpen, a good choice for extremely small images. Set the Edge Level to about **26%**; this is the degree of sharpening with emphasis on neighboring pixels that have dissimilar colors. Set the Threshold to **0**

(zero)—the lower the value, the more pronounced the sharpening effect. Click OK to apply the filter.

0. Click the square Stop button on the Recorder docker.
  1. Click the Save button on the Recorder docker, name the script, and then choose a location on your hard disk where you keep important files.
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**Note** The Save icon on the Recorder and other dockers is of a floppy disk. Floppy disks were once used to store digital media before DVDs, CDs, air travel, and horses were invented.

You can close the Fliakite file without saving changes. In the following section, you'll run the recorded script on this image and save it, so your work that's not done yet will be automatically done for you in a moment.

## The Fun Part: Playing Back Your Script

The following steps will seem anticlimactic; the bulk of the work you have ahead of you is accomplished merely by filling out a few fields in the File | Batch Process dialog and clicking Play.

1. Choose File | Batch Process.
2. Click Add File. Navigate to where you stored the mineral images. Select all of them by clicking on one file to place your cursor inside the file box and pressing CTRL-A, and then click Import.
3. Click Add Script. Look at the default path where PHOTO-PAINT saves scripts at the top of the box. The default location is under *your user account* | Appdata | Roaming | Corel (in case you lose a file in the future). Click the name of the script you saved in the previous tutorial and then click Open.
4. In the Options field, click the drop-down list and then choose On Completion: Save As New Type.
5. Save To Folder is an important choice if you want to find the processed images later! Because you'll be saving to JPEG, it's okay to save the processed images to the same folder as the originals, which are in the PNG file format, and will not be overwritten by the batch process.
6. You'll probably want the JPEG file type for the resampled photos if this is a website display. Click the Save As Type drop-down list and then choose JPG-JPEG bitmaps.

## Batch Process



### List of files to batch process:

1\Example files\Minerals\Hysterium.png  
1\Example files\Minerals\Memorandom.png  
1\Example files\Minerals\Pompomogranite.png  
1\Example files\Minerals\Russettite.png  
1\Example files\Minerals\Calamarium.png  
1\Example files\Minerals\Fliakite.png



Add File...

Remove File

### List of scripts:

C:\Users\Gare\Desktop\Cropping rocks.csc

Add Script

Remove Script

### Options

#### On Completion:

Save as new type



Close file after batch process

#### Save to folder:

[Browse...](#)

C:\Users\Gare\Pictures

#### Save as type:

JPG - JPEG Bitmaps



Play

Cancel

Help

7. Click Play, and you're done!

Back in CorelDRAW, use the Extrude tool for a fancy website banner. When you select the multiple files for import into CorelDRAW from the destination folder to which you saved your batch processing, you can simply click the page to place the images, one at a time, at 100 percent their size, and in no time you'll look like a miracle worker to your boss. And if you're self-employed, you can look in your bathroom mirror and say, "Darn, I'm good!" (Keep in mind this is a PG-rated book.)

## Fun and Fantastic Image-Retouching

If you've ever seen a fantastic, unbelievable image in a magazine, the chances are it was retouched using an image editor, PHOTO-PAINT being one of the best ones on the software market. The next sections will run you through a basic retouching assignment, an ambitious one, and an over-the-top exercise that will trigger several variations of your own invention in the future. Come along and play with people's faces!

### Ridding a Photo of the Red-Eye Effect

Even with digital cameras, when you use a flash and the subject is a human—and they have their eyes open for a change—you're probably going to get a red dot where their beautiful blue eyes should be. This is because the flash is bouncing off the blood-rich retina in the individual's eyes. In the future, you probably want to angle the flash so it bounces off (ideally) a white ceiling onto the subject, but when you have a bum photo like the one shown in the upcoming illustration, thank goodness you're reading the right chapter for the remedy.

It's really quite simple: PHOTO-PAINT's Red-Eye Removal tool makes quick work of removing red eye, and more refined work than you could do manually with the Paint tool. Let's take a quick ride through the next steps to make this wedding photo perfect, and then we'll get to messing with it using PHOTO-PAINT's Objects feature and some tricky masking techniques. More on that in a moment. Let's use the Red-Eye Removal tool now.

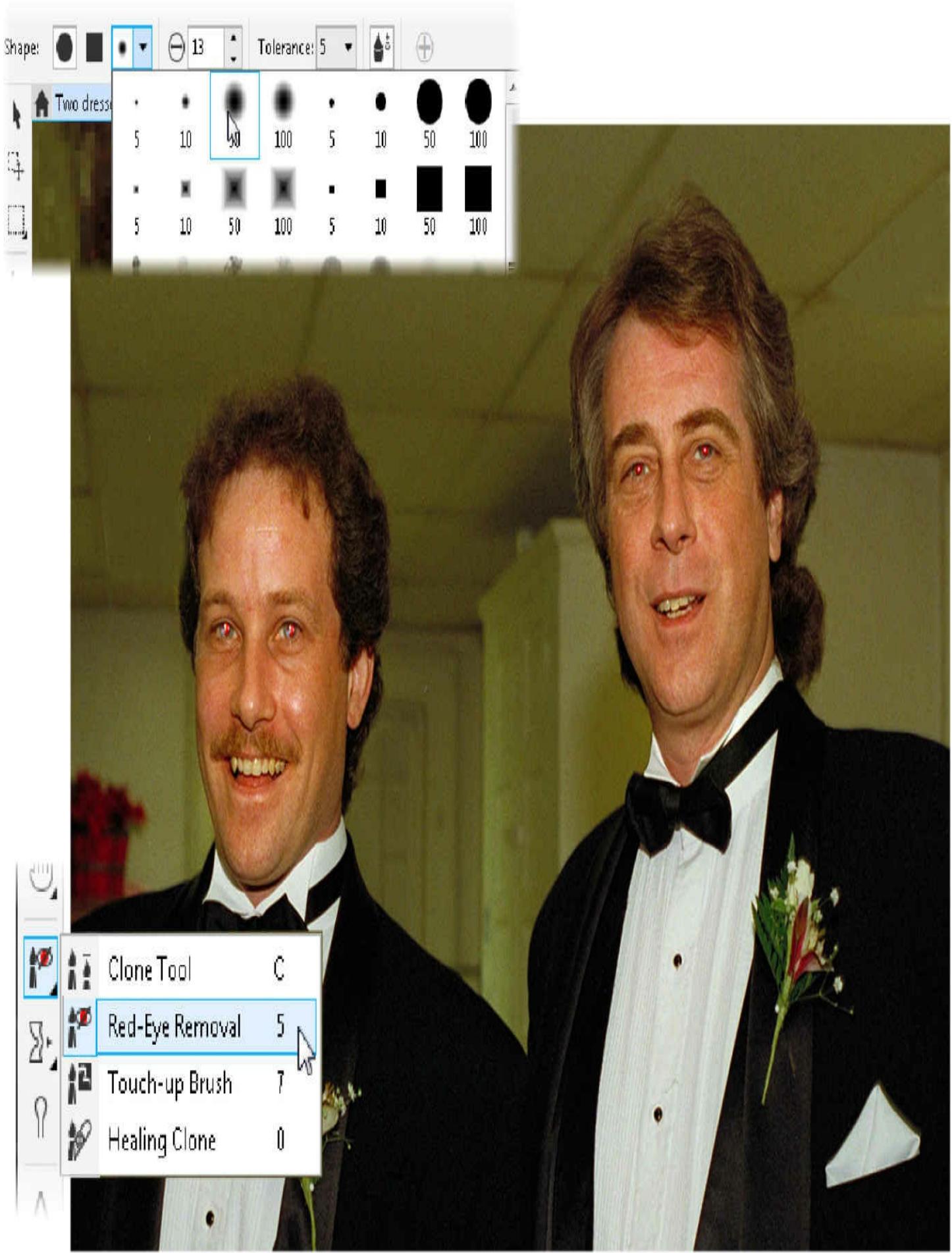
### Bye-bye, Red Eye

#### Tutorial

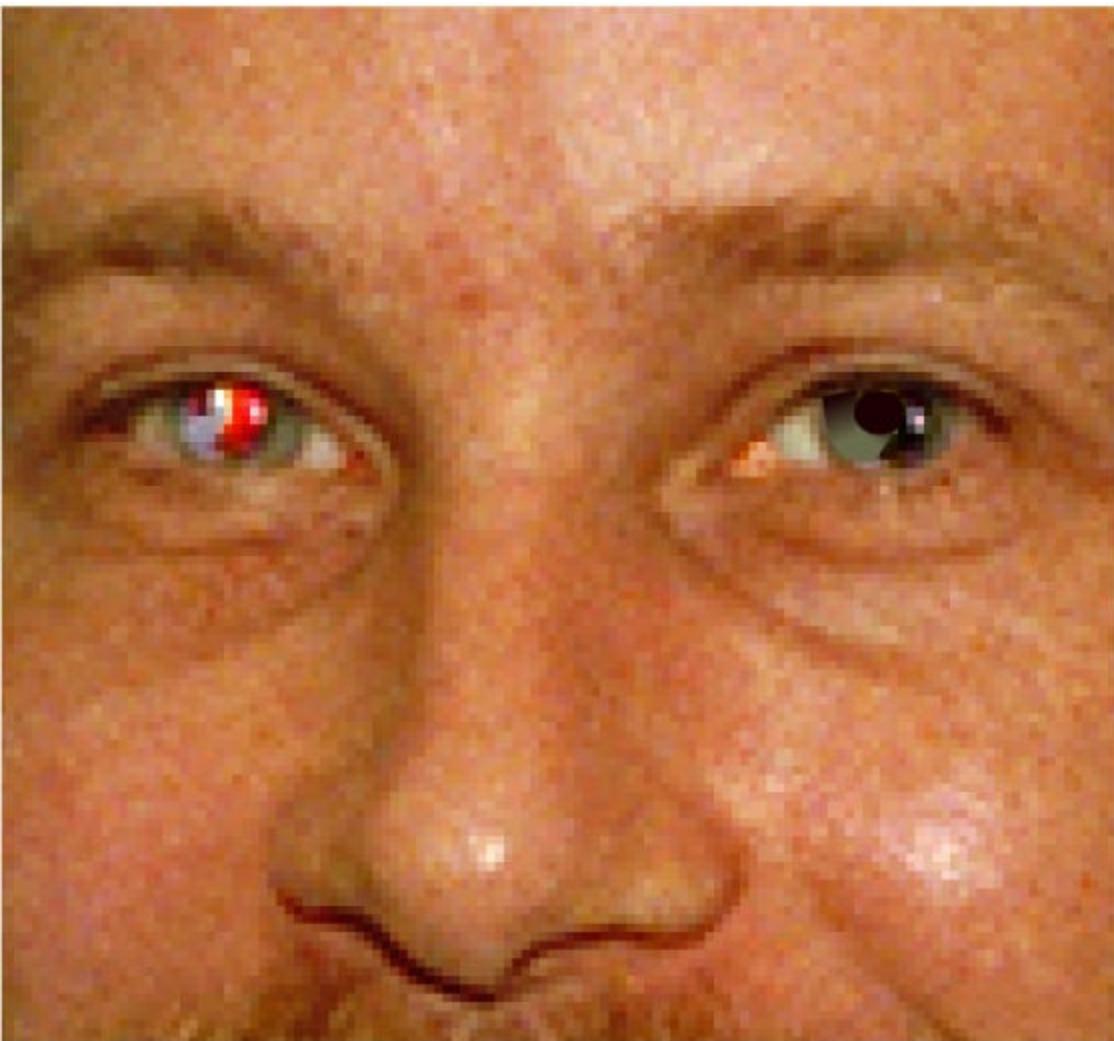
1. In PHOTO-PAINT, open the Two dressed-up guys.png file and then choose the Red-Eye Removal tool from the Toolbox.
2. Now, you'll want to choose a soft brush to avoid hard edges in the restoration, so on the Nib shape drop-down in the Property Bar, click the 50 pixel diameter nib. Because 50 pixels is too large, zoom into the guy's eye on the left of the photo and hover the cursor over one eye to get an idea of how much you need to reduce the diameter. A

suggestion here: the Red-Eye Removal tool produces the most natural results when the size of the cursor's nib is a little larger than the red-eye area, and a little larger than the subject's pupil.

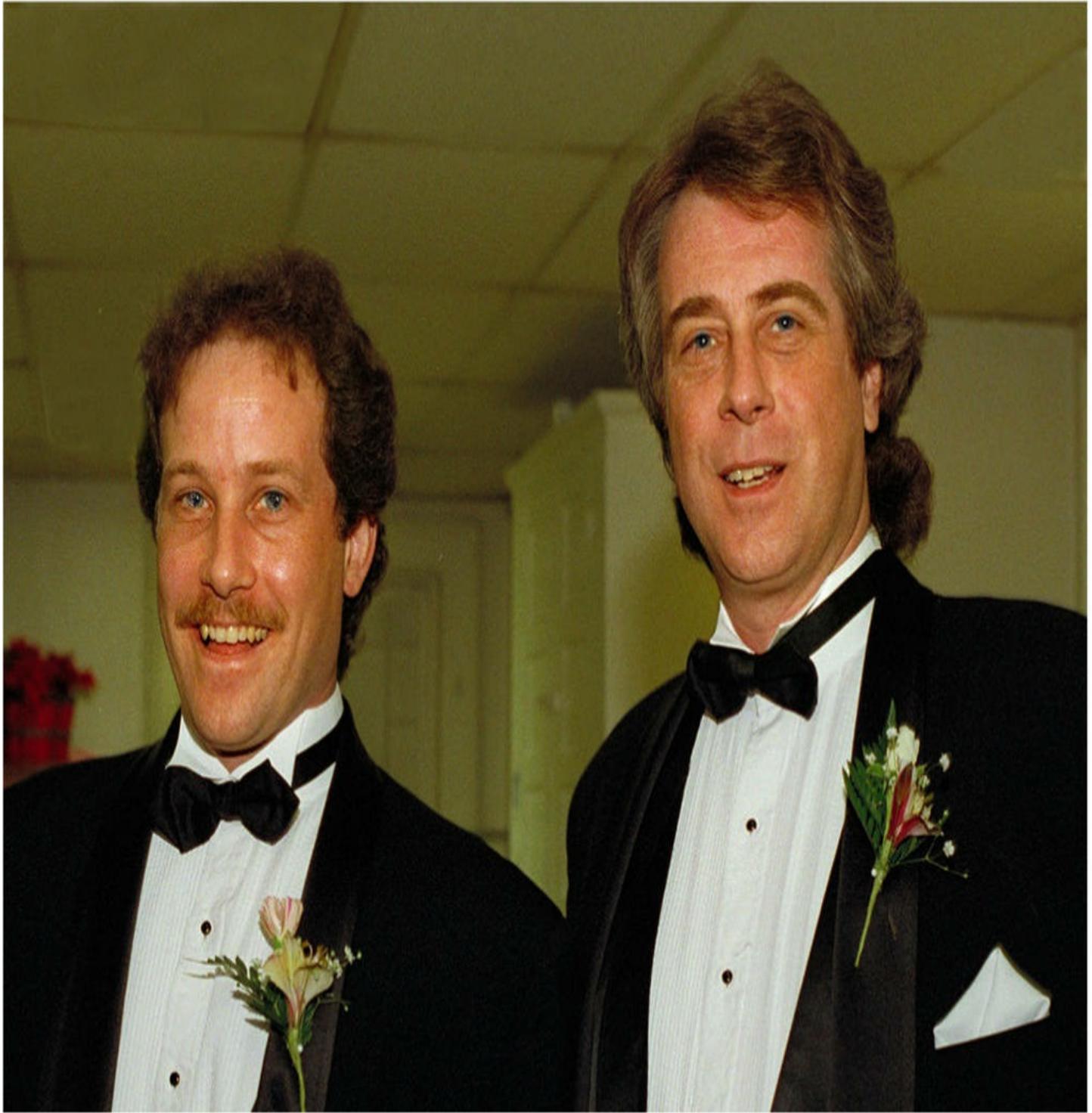
3. Set the diameter to 12 (because I said so) and then set the Tolerance to the maximum of 5 to ensure that all the red will be replaced by a blackish color.



4. Zoom in (push away from yourself with the mouse wheel) if you haven't done so already, and then with the cursor, click on the red area of one of the guy's eyes. As you can see in the following illustration, the tool does a pretty good job of restoring the handsome guy's peepers to a semblance of normality.



5. The excitement is all downhill from here: you just click the Red-Eye Removal tool on the guy's other pupil, and then do this twice more for the other guy's pupils.
6. Save the file as "Two good-looking guys" in the native CPT file format and leave the file open. See the following illustration of the finished photo.



That didn't take much, did it? The picture is now picture-perfect. Next, we'll use our imagination and some PHOTO-PAINT features that are as of yet undiscovered to make the two guys into twins. How's that for digital mischief?

## Face Replacement and Editing

The guy on the left in the photo has a better smile than the guy on the right. So what do you say we make both guys have not only the same smile but the same face? Head replacement has been the sport of "Brand P" users for decades, and there's absolutely no reason why

you can't do the same stunt with the same finesse in PHOTO-PAINT. You've got a good teacher here!

First, you need to make a copy of the left guy's face; let's call him Dave. To do this, I recommend a soft brush nib and the Brush Mask tool. Just follow my lead here.

## Selecting a Face

### Tutorial

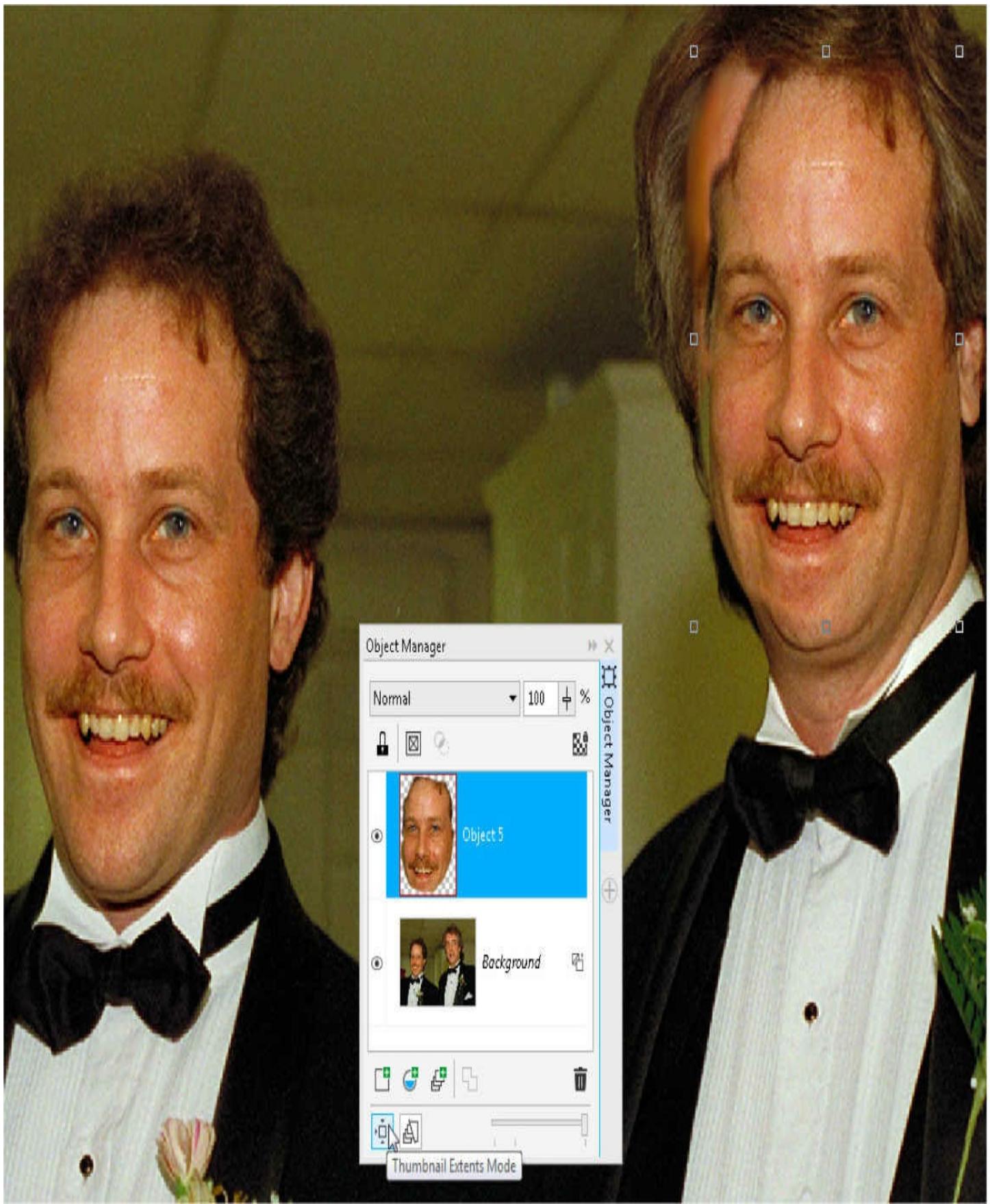
1. Zoom into Dave's face. Choose the Brush Mask tool, and instead of creating marquee lines, use the Mask Overlay feature from the Mask menu. Now, the first time you stroke over an area, a tinted mask appears over places you have not stroked. So the idea is to clear all the tint overlay from Dave's face in order to select it.
2. Before beginning with the Paint Mask tool, make sure you click the green + button on the upper left of the Property Bar; doing this adds to each stroke you make instead of starting over each time you release the mouse button! You can also subtract from the mask (add to the selection) by holding SHIFT while painting over the mask.
3. You want to select a little more than Dave's face, because you'll be scaling it and rotating it over the other guy's face (let's call him Phil), and it's easier to erase excess face than to try to add to it after it has been selected.



- Once the face area has been revealed (not masked, not protected from editing), get out Window | Docker | Object Manager. Click the bottom-left button for Thumbnail Extents

mode, the author's preference for displaying objects on the Object Manager's list. Doing this helps you more clearly see what's where in the file.

5. Right-click over any area of the photo and then choose Copy from Mask. The tinted overlay disappears and Dave appears to have a rectangle around his head. But no; a duplicate of his head is surrounded by translation handles. You can see Dave's spare head on the Object Manager.
6. With the Object Pick tool, drag the object to over Phil's head, as shown in the next illustration. The composition is beginning to look surreal already, isn't it?



Save this file now as “Two Dressed-up Guys Retouched” and keep the PNG file open. If you *must* close the file because you’re late for bowling league night or something, save it in the PHOTO-PAINT file format because it can accept objects whereas the PNG file

format cannot.

Now that the face has been copied and repositioned, it's time for some pinpoint plastic surgery to totally integrate Dave II's head onto Phil's one head.

## Getting A Head with PHOTO-PAINT

### Tutorial

- Once the copy of Dave's head is approximately centered over Phil's face, reduce the opacity of the object on the Object Manager so you can see both part of Phil's face and Dave's face to line up the mouth and eyes and possibly widen the face. Here's the deal with the modes for transforming an object in PHOTO-PAINT: when an object is selected, it's in Move (Translate) mode. Click the object a second time and it's in Rotate and Skew mode: in a specific mode you manipulate the properties of the edit by click-dragging the control handles that bound the object. One more click, and Rotate becomes Distort mode, where you can drag on the handles independent of one another. Finally, another click puts the mode into Perspective, which is not used at all in this tutorial, but it's great for making head objects look funny. (Do this on your own time!) See [Figure 21-6](#).

## Scale (Position and Size)



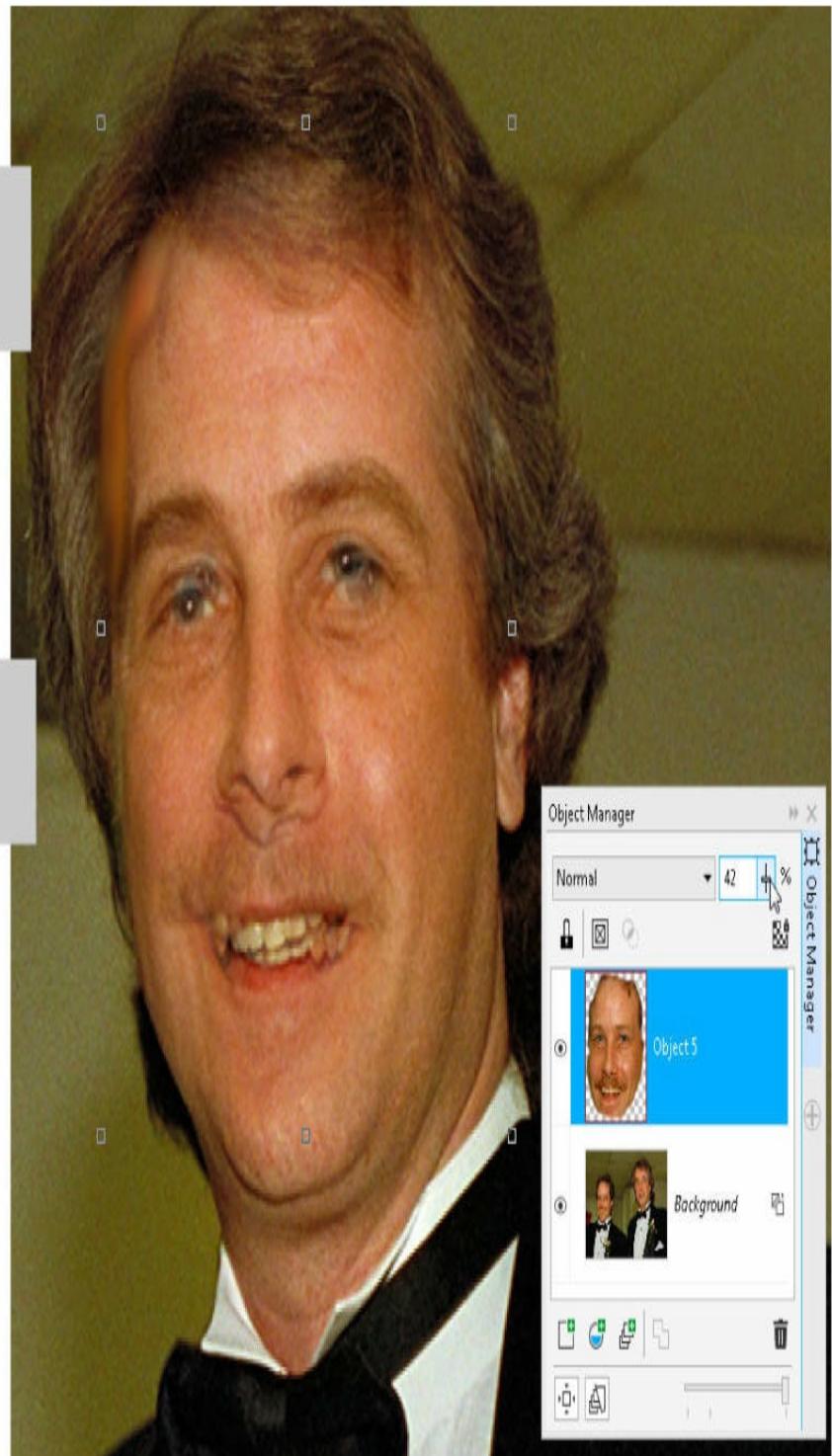
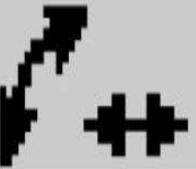
## Distort



## Perspective



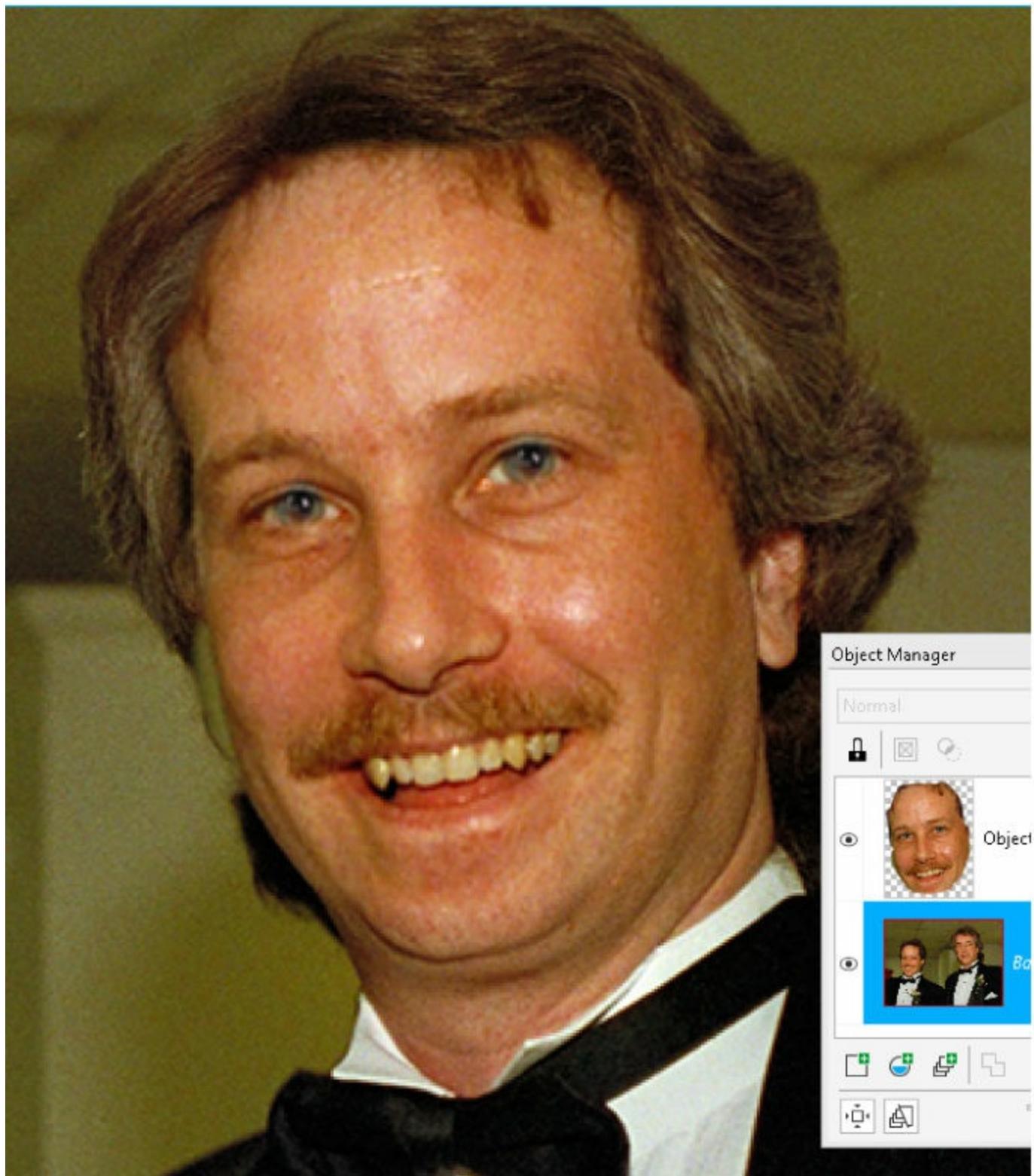
## Rotate/Skew



**FIGURE 21-6** Use different Object modes to correct, rotate, and distort the chosen object.

2. There's no shorter way to put this step other than "massage the head object"; first rotate the duplicate head so its angle matches the angle of Phil's head. Use the Distortion mode to unevenly increase the height of the face—the right side, facing closer to the camera, should probably be a little larger than the left side. Finally, move the face

around in Position and Size mode. Once you have the face looking a lot like the one shown in the next illustration, it's time for two more touchups.



Earlier, I recommended that you select (remove mask) to just outside of Dave's face for a little leeway when scaling and positioning the rotated face. Now that we're in the home stretch, it's time to remove a little of the excess surrounding Dave's second face here. Also, we don't want flawlessly identical twins; ideally they should have slightly different

features and expressions, and that's a job for the Liquid Smear tool. Let's finish up, get this guy off the operating table, and send him a bill.

## Erasing and Liquefying the Subject

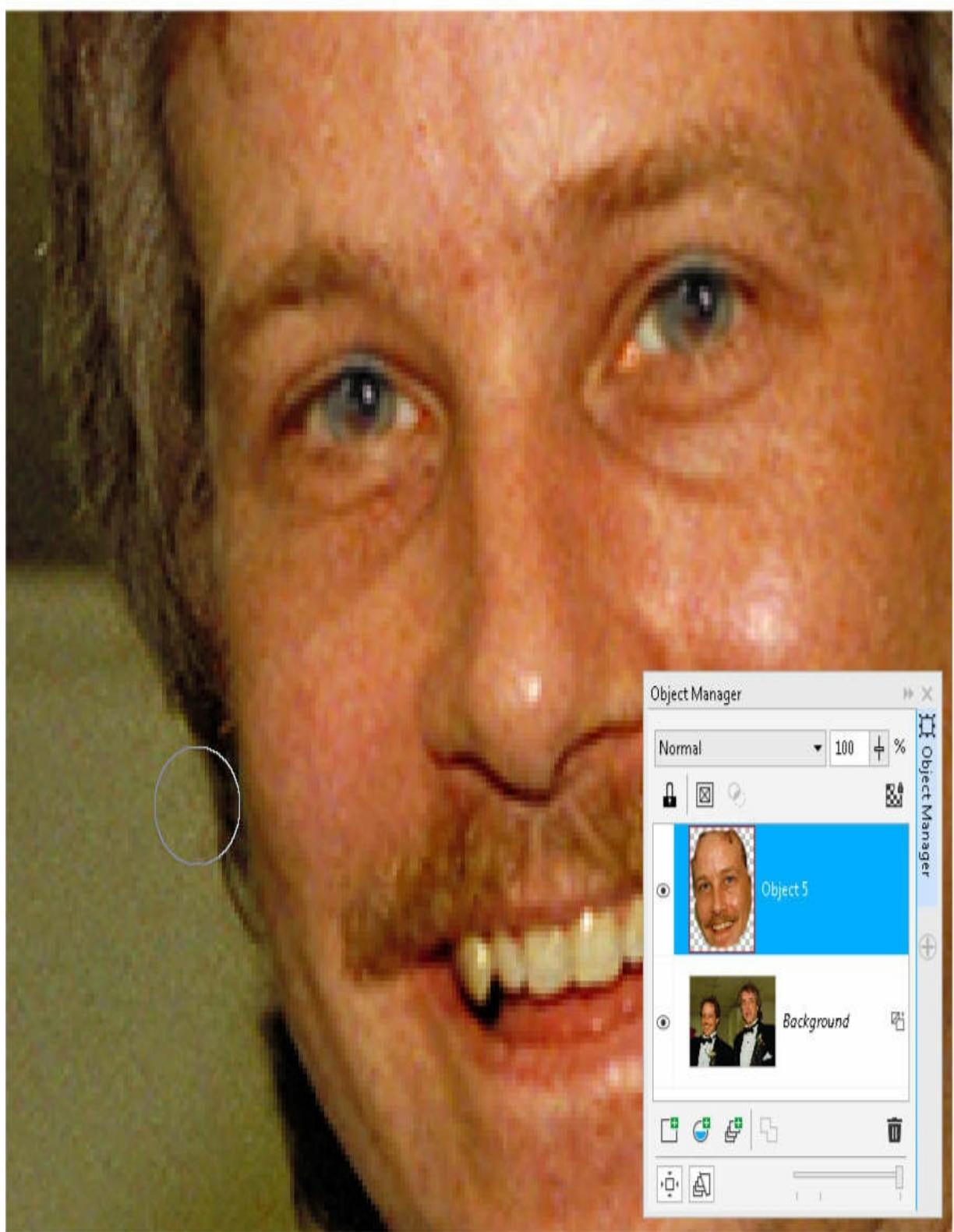
### Tutorial

1. Choose the Eraser tool from the Toolbox. On the Property Bar, the ideal settings for this example are as follows:
  - **Nib size** 20.
  - **Flatten nib** +90. You don't want to go erasing with a pointy nib!
  - **Transparency** 14, for just a little blending of erased into underlying areas.
  - **Feathering** About 60. You want a very, very soft erasure to make the image retouching look undetectable.
2. Try hiding the Background image for a moment, just to see what the outer edge of Dave's duplicate face looks like; how much do you need to remove? You hide a layer by clicking on the eye icon to the left of the layer. And oddly, the layer doesn't mind being poked in the eye. Then, click the vacant area to the left of the Background image to restore the eye (visibility) icon.
3. Erase the areas that clearly don't belong in the finished image. Dave's hair beneath his right ear can be removed, and you might even want to try restyling the front of Dave's hair by removing just a little of the Object 1. See [Figure 21-7](#).

Nib size 20 Flatten nib Transparency 14 Feather 59

Nib size

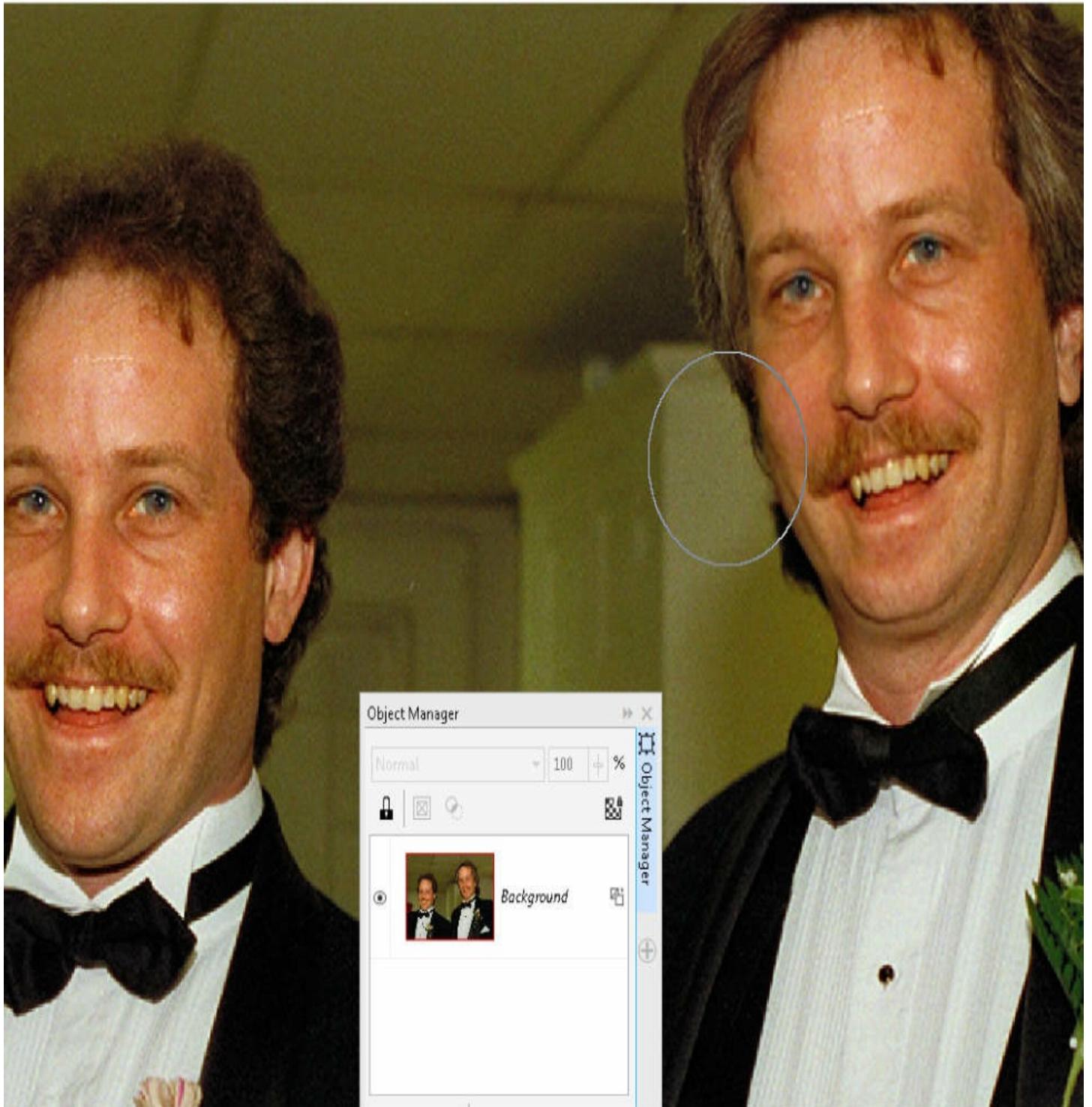
Flatten nib Transparency Feather



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## **FIGURE 21-7 Erasing superfluous areas further helps disguise telltale edges in this photo-phakery.**

4. The object no longer needs to be on top of the background. With the Object Pick tool, right-click over the Object title on the Object Manager and then choose Combine | Combine Objects with Background.
5. Press CTRL-S to save. Now it's on to some very minor but highly noticeable editing. Choose the Liquid Smear tool, and before beginning, here's some advice: Define a nib size a lot larger than the area you intend to alter. Small Smear sizes look fake, and when they don't look fake, they look ugly. Try to get the effect you need with "broad strokes" so the transition between edited and original areas is gradual, thus making your work subtle. Set the Nib size to about 59 pixels in diameter and keep the pressure at about 50 percent. Make sure the Smooth Smear button is clicked.
6. With small but smooth (not jerky) strokes, pull the Dupli-Dave's nose down ever so slightly. We're looking for variations on the faces of twins, not caricatures. Push his nostrils just a little toward the tip of his nose, and perhaps raise the eyebrows just a little. Get ready to press CTRL-Z to undo any mistakes, because this is a very powerful PHOTO-PAINT tool.
7. Reduce the pressure to about 20, and increase the nib diameter to about 120. Pull the hairline down ever so slightly so the twins don't have identical haircuts.



8. You're done. Examine and revel in your terrific work. Now these twins can eat a 2-for-1 meal on the house, and only pay for one tuxedo.



## Flipping Images, with a Twist

Let's cover another common retouching need. A problem can occur when you try to accomplish something seemingly as simple as mirroring a photograph. This is going to be your first step into the league of the pros with invisible image retouching.

Many objects that you photograph in the real world—in particular, portraits of people—are bilaterally symmetrical: when you look in the mirror, you recognize yourself because

even though your image is horizontally flipped, the right and left side of your face looks pretty much the same. This reality usually allows you to flip a photograph when you need, for example, your subject looking to the right instead of the left. The fly in the ointment, however, is when your subject is wearing a garment that has text on it; similarly, when a building in the background has a sign, or there's only one shirt pocket on a garment—these flipped images will have something in them that looks clearly wrong to the audience.

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**Note** The image you'll work with is not sharp. It was taken with a cheap camera at a planned event with children who played with water balloons. You'll be happy to know that our DSLR is safe and dry at home.

The following steps venture into the area of PHOTO-PAINT objects: how you can lift an area, copy it to a new object, and then flip the background but not the new object—which in this example is the text on a child's T-shirt. Retouching is not this simple; you will have a little edgework to clean up before considering the task completed, but with a little guidance, you'll learn a technique now that can be applied to a number of different retouching needs down the road:

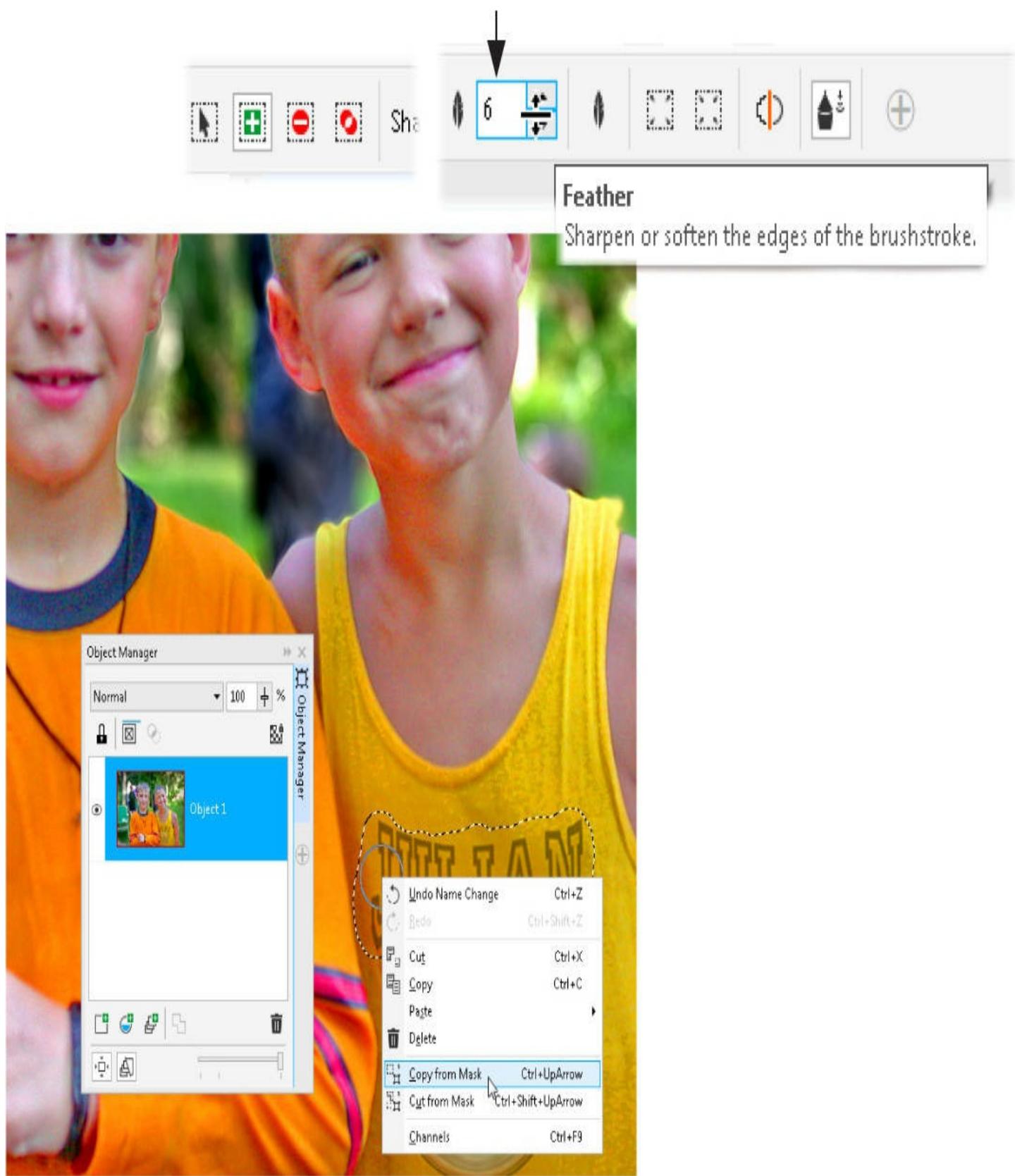
1. Open Two Kids.png in PHOTO-PAINT. On the Object Manager docker, you need to convert this “normal” bitmap image into an object-capable one so the objects can be flipped independent of one another. Click the From Background icon at the right of the thumbnail, and the name of the item now changes to “Object 1”. Once a photo is an object, you can perform many PHOTO-PAINT feats not possible with a standard JPEG or other image file.



2. Choose the Freehand Mask tool from the Toolbox; if it's not visible, click-hold on the third-from-top icon on the Toolbox (usually the Rectangle Mask tool) to reveal the entire group of Masking tools, and then choose the Freehand tool.
3. On the Property Bar, set the Feather value to about **6** pixels. Feathering softens a selection, so inside and outside the edge of a selection mask there are pixels that are *partially* selected. Having an area partially selected might sound strange (like an egg being partially broken), but the effect ensures smooth and seamless retouching work.

4. Choose Mask | Show Mask Marquee and uncheck Mask | Mask Overlay. Drag around the word “Julian” on (Julian’s) T-shirt to select it; double-click when you’re done, and the image area is now available for editing. If you don’t include the entire name on your first try, click the Additive Mode button on the Property Bar and use the Freehand Mask tool to add to the existing mask.
5. Right-click inside the dashed indicator lines for the mask area, and then choose Copy From Mask from the context menu, as shown in [Figure 21-8](#). On the Object Manager docker, you’ll now see a new thumbnail at the top of the list of objects, titled “Object 2.”

## Feather amount

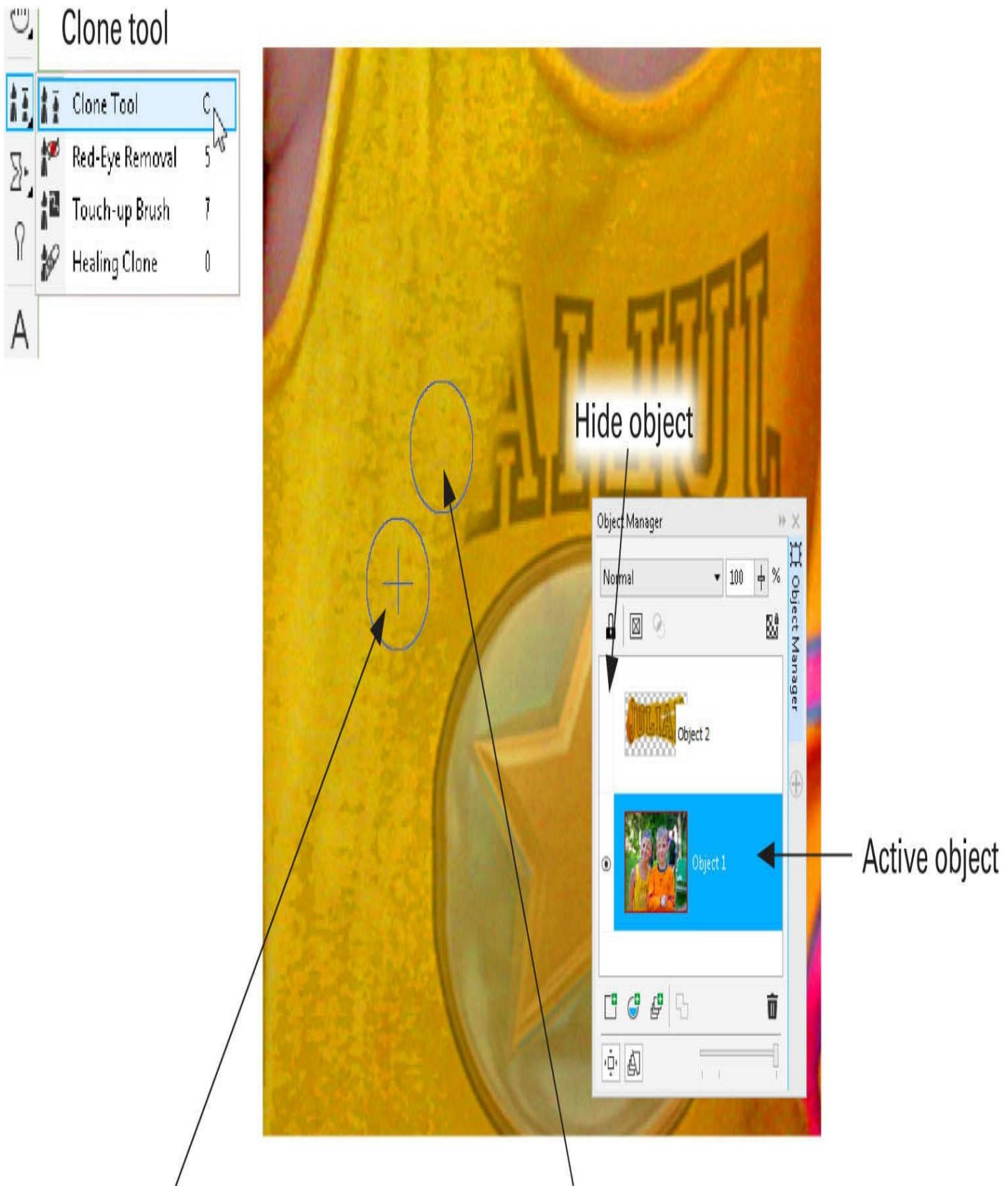


**FIGURE 21-8** Copy the image area that you *don't* want to flip to a new object in the document.



**Tip** Pressing CTRL-SHIFT-H reveals and hides an object marquee onscreen. CTRL-H alternately hides and shows mask marquees—not the same thing as the dotted lines running around objects.

6. Click the Object 1 entry on the Object list to make it the current editing object. Then, choose Object | Flip | Horizontally.
7. Click the Object 2 entry on the Objects docker, choose Lightness merge mode from the Object Manager's drop-down list—a good mode for making underlying areas fade away only if the top affecting object has lighter corresponding pixels—and then move the object over Julian's chest at left on the image with the Object Pick tool.
8. Evaluate the composition for a moment. What needs to be done now is to remove some of the backward text on Object 1 to keep it from showing through. A straight paint color won't do the job because the image area has varying tones of color from the texture of the T-shirt. Choose the Clone tool from Toolbox; it's the Toolbox icon with the two brushes.
9. The Clone tool picks up an image area you define by right-clicking and then applies the image area to a different area when you drag, based on the diameter and hardness you set for the tool. On the Property Bar, choose Medium Soft Clone from the drop-down list.
0. Click on Object 1 to choose it for editing, and then hide Object 2 by clicking the Visibility (the eye) icon to the left of its thumbnail.
1. Right-click with the Clone tool just below the name on Julian's T-shirt. You're choosing a sampling area that's close in tone and color to the area you want to hide.
2. Drag, ever so slowly, slightly, and carefully over the backward lettering on the T-shirt to get a feel for the Clone tool. When you release the mouse button, the sampling point for the Clone tool snaps back to its original position. Therefore, release the mouse button when you see that the traveling sampling point is getting mighty close to an undesired area for sampling. Work from the outside inward, resampling frequently to match the original tones of the light shirt. Periodically, unhide Object 2 to see how much work you need to do and what areas are not necessary to clone away. See [Figure 21-9](#).



Right-click to set the sample point, then stroke over the area to be retouched.

**FIGURE 21-9** Use the Clone tool to visually integrate the areas in Objects 2 and

1.

3. When you think you're finished cloning, restore the visibility of Object 2. You might be done, but you might want to refine the edges of Object 2 with the Eraser tool. If so, continue on to Step 14.
4. Click Object 2 to select it for editing. Choose the Eraser tool, and then on the Property Bar, choose a soft tip from the Presets drop-down list and set the size to about **35** pixels in diameter.
5. Zoom into the editing area and then drag over any areas whose brightness doesn't match the edge of the object. The work in progress and the illusion shown here look pretty convincing.



6. Optionally, you can standardize this image's data by combining all objects—as you did in the Hollywood condo example. Right-click over either object title on the Object docker and then choose Combine | Combine All Objects With Background. The following illustration shows the visual payoff.



Consider what you've learned in this chapter: you now know how to repeat actions on an entire folder of images; you can scale, crop, and flip pictures; and you have a basic handle on all the sophisticated editing you can perform using transparency, objects, and merge modes. But the biggest payoff is an ironic one: a good photo retoucher's work *should* go unnoticed!



## **PART IX Motion Graphics and Halting Thoughts**

# 22 Creating Animations in PHOTO-PAINT

You have a *lot* more power than you might expect once you begin investigating all the effects, the exquisitely cobbled brushes, the modes for compositing objects—and the capability to make *animations*. This chapter takes you through two examples of animations you can create if you have multiple drawings in CorelDRAW as the subject matter, and a clip of video from which you can pull frames. Although PHOTO-PAINT is perfectly capable of importing AVI files, I'd recommend that you take a whole three minutes and download and install a third-party utility that snags and saves frames from a video. The utility is free, and it is the simplest way I've ever seen to get stock for an animated GIF from movie stills. The URL can be found a little later in this chapter.

This is a fun and ambitious chapter, so let's start with an ambitious venture, but one that's not overwhelming and involves using CorelDRAW—remember that program from earlier chapters?

## Creating an Animated GIF

GIFs had a waning popularity on the Web only a few years ago, giving way to Flash files. However, due to the relative insecurity of Flash videos (they can be hacked to make an exploit booby-trap), the MPEG-4 format has become the standard for high-resolution videos with sound. You see MPEG-4 videos all the time on YouTube and other websites with breaking news stories, and they are also used as tutorial files for specific software.

The good news is that there has been a resurgence of GIF animations, which are by their nature short in length and therefore very pointed in their message. Today you can see banners and movies that are only 15 frames in length, and they serve as almost a totally new visual communication device because of software such as PHOTO-PAINT.

An additional marvelous thing about animated GIFs is that they can play on any device without a special codec or plug-in. GIFs are native to HTML code, and they play on any web device. In contrast, it's estimated in 2016 that about half the web audience is using mobile devices, and Flash media will not play on handheld Internet devices. This is motivation enough to play with PHOTO-PAINT, the program that comes free in the Corel