# SIMULATING FILM TYPES

One of the most popular Photoshop effects has always been to simulate the appearance of favorite film stocks. You can easily find dozens of recipes in books or on the web that try to give digital color pictures that saturated Velvia look, and you can compare such slide films' typical characteristics by examining actual transparencies on a lightbox or projected onto a screen.

There are also many methods for simulating specific black-and-white films. Some of these involve standalone programs, though the best are usually Photoshop plug-ins that add a command to the Filters menu. It's definitely worth pausing to ask if you're fooling yourself by thinking mono films like HP5 or TriX ever have a "typical" look. The basic choice of film stock is just one variable. That film's color response could be controlled with a colored lens filter, for instance, and its grain character varied with the developer, dilution ratio, and agitation technique. Beyond that even the paper and contrast grade had an effect. In the digital age we need to ask ourselves, "How are we printing this supposedly typical TMax or PanF negative?" To my mind, those are quite big limitations, and that's before we question why we should seek imitate the film medium in the first place. But bearing that in mind, download the plug-in trial versions and decide for yourself.
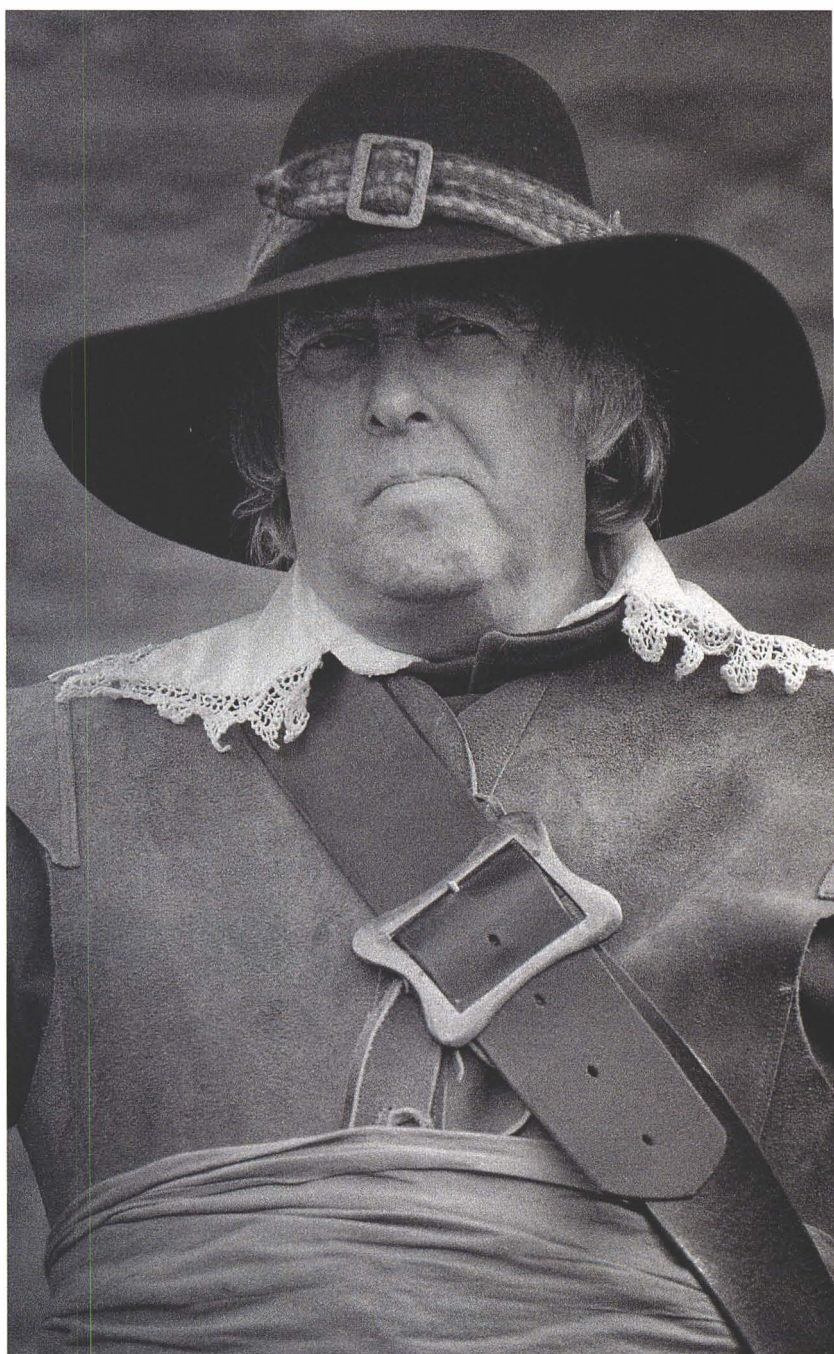
Right: *In a single dialog box, a well-designed Photoshop plug-in like RealGrain can approximate the tonality and grain patterns of various types of film stock.*

USING THE REALGRAIN PLUG-IN

Right: *The colors in the original image are all quite similar. Converting it to black and white can add definition and exaggerate the differences between them.*
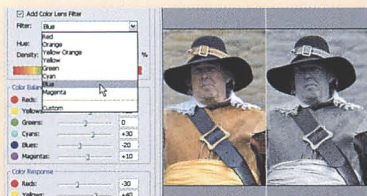
3 As well as letting you vary the canned recipe's grain, RealGrain also seeks to mimic the use of colored lens filters. Choosing a filter preset varies how the colors are mapped to black and white, and works in a manner similar to Photoshop CS3's Black and White adjustment.

To me this poses a dilemma: do you want to imitate a film, or do you want the most pleasing black-and-white tonal composition? You'll need to resolve that one for yourself.
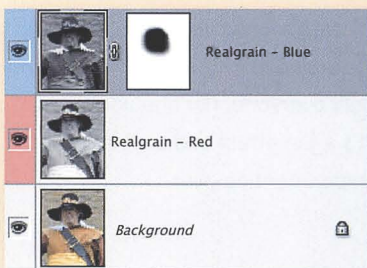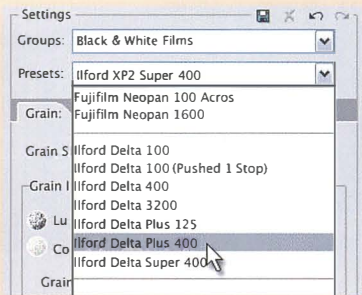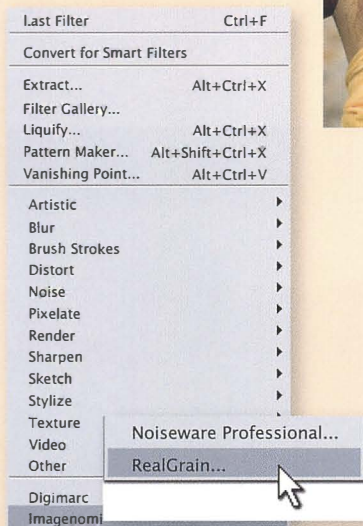
1 Let's look at one plug-in that's available for both PC and Mac—RealGrain from Imagenomic. Others to look out for include Alien Skin's Exposure, Power Retouche's Black/White Studio Pro, and Convert to B&W from theimagingfactory.

Like most of these tools, RealGrain is essentially a black-and-white conversion adjustment with grain pattern noise. It isn't an adjustment layer but is "destructive," directly adjusting pixel values, so always make a copy of the image layer first. Then launch the plug-in from the Filters menu.

2 These plug-ins generally let you choose from a list of popular film types and then adjust the grayscale rendition of colors to match the film's typical spectral response and grain pattern. RealGrain mimics color films too, so here I've chosen the black-and-white group and picked the HP5 preset.

4 Another aesthetic issue is that plug-in filters operate on the entire image and there are many instances when one overall conversion isn't the optimum black-and-white treatment. Here the color of the battle re-enactor's jacket is a little too close to his skin tones. Ideally it needs to be darkened to draw more attention to his facial expression, but darkening the jacket also renders the face in darker grayscale tones. To get round this, use masks and multiple image layers.

SIMULATING PINHOLE CAMERA PHOTOS

While some photographers feel the need to own the latest and most expensive equipment, others take equal delight in showing what they can achieve with the simplest and cheapest. Many pinhole cameras are little more than a wooden box with a tiny lens. The resulting pictures can be of good quality, but perhaps the most charming aspects of pinhole images are their imperfections. But all is not always what it seems. Recently I watched an enthusiast circumvent a major landmark's tripod ban by placing a taped-together box (with pinhole) directly onto the ground. It was a bit of a disappointment when I learnt he would scan the resulting negative and finish the picture in Photoshop, but then I thought, why not take a digital capture and make it look like a pinhole camera picture?

Imitating an effect is usually a matter of listing a few key characteristics and then being a little resourceful. The best starting point for a "typical" pinhole image is probably a wide-angle shot with a small aperture and good depth of field. Even better if it has obvious signs of a long exposure too, but blurred motion and vignetting can be added in Photoshop. You'll never fool everyone, nor should you, but it's a fun effect and well worth experimenting with.

Below: *Choose a wide-angle shot with good depth of field. Many pinhole images are square format, so use one which works well with a near-square crop.*

USING SURFACE BLUR
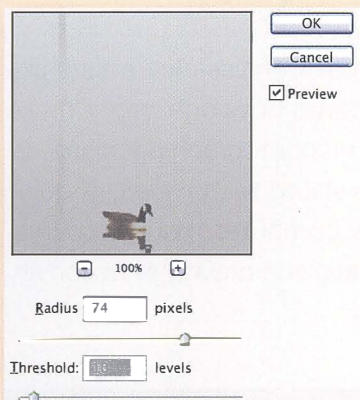
1 The Surface Blur filter can be useful for eliminating subtle details while preserving larger shapes. In this picture it helps simulate how a slower exposure smoothes the water—notice how the ripples of the post's reflection in the original are gone in the finished version.
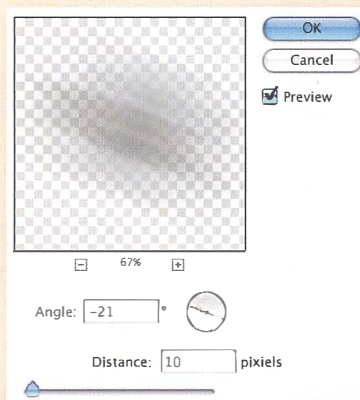
2 Less fluid objects like clouds, vehicles, or this goose would have moved during a long pinhole exposure. Try selecting and copying them into their own layer, and then applying the Motion Blur filter.

This filter blurs the selection along the plane of movement, both in front and behind the object, obscuring its shape. While this might resemble a pinhole exposure, it makes my goose an ugly, unrecognizable blob. One solution would be to clone the bird away, or you could restore some detail by reducing the layer's opacity. In this case, I painted black onto the layer mask so that the motion blur was only visible behind the goose.
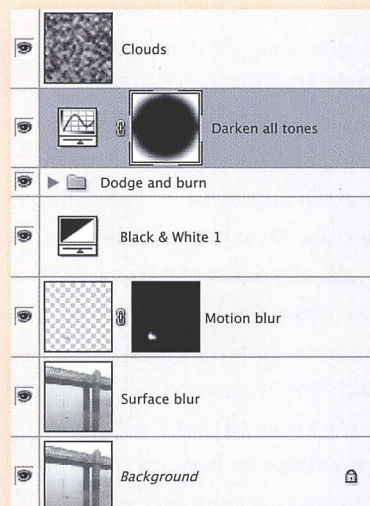
3 Vignetting is characteristic of many pinhole images. After doing routine dodging and burning, add a Curves adjustment layer and darken the highlights and midtones.

Next, activate the adjustment layer's mask. Pick the circular Marquee tool, hold down the Alt/⌥ key, and drag outward from the center of the image. If you cropped your image into a rough square format, like many pinhole images, also hold down Shift as you drag—this constrains the Marquee to make a circular selection.

Fill the selected part of the mask with black so the Curve only darkens the corners. Then clear the selection and blur the mask—the vignetting needs to remain obvious but blend in gradually.

Left: *I finished this pinhole-style picture by distressing it with a Multiply blending mode layer. The Clouds filter was applied with the opacity was reduced to 10%, retaining that home-brewed quality so typical of pinhole images.*

PHOTOREALISTIC LINE DRAWINGS

I've looked many times at the lithographs and woodcuts by great Renaissance artists like Durer, or those of unknown 17th century engravers, and wondered how one might make photographs look that way. While I have a strong interest in photographing historical subjects, you can also see more modern examples of similar, related techniques. A quick search around the house turned up a selection as diverse as computer manual covers, banknotes, and cultural tour brochures, all which use photorealistic line drawings to convey tradition and timeless value.

Reproducing these effects in Photoshop always seemed challenging. They are essentially line drawings with the density of shading built up by cross-hatching strokes. Most modern examples involved the sort of drawing skills few possess—Michael Halbert, for instance, combines scratchboards and Photoshop—and I've balked at buying plug-ins. But the idea has never been far from my mind. Creating a line drawing was an easy step. Bigger obstacles were how to select areas for shading less laboriously, creating line patterns that "tessellated" or repeated perfectly, and how to accumulate or multiply the lines so they could form the cross hatching that built up the shading. I hope you'll agree it's an interesting combination of techniques.

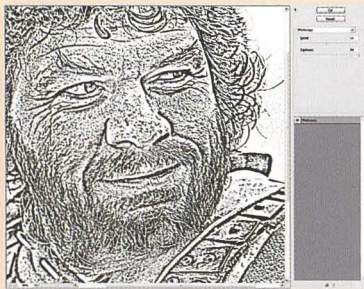**Right:** *The first few times you try this technique, use an image with relatively simple detail.*

Far Right: *Once you have constructed the line drawing and added the cross-hatched shading, a nice finishing touch is to manually fine-tune the shading. Activate the Brush tool and paint the layer masks.*

PHOTOREALISTIC LINE DRAWINGS

LAYERED METHOD

1 The first task is to prepare the edge drawing. Start off with your picture in 8-bit mode, with any layers flattened, and converted to black and white. Create a copy of the image layer using Ctrl/⌘+J, then reset Photoshop's colors by pressing D, and select *Filter > Sketch > Photocopy*. Push the Darkness slider up to the maximum, and then adjust the Detail slider until the layer is rendered as a coarse drawing.
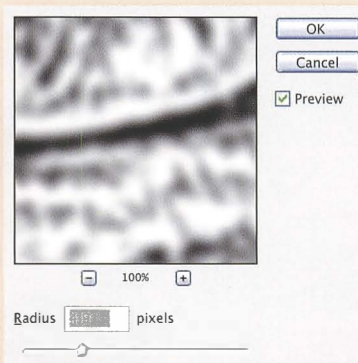
2 The edge drawing will probably contain some small details; these should usually be removed so the image looks less like a photograph. Apply Gaussian blur with a radius of 5-10.
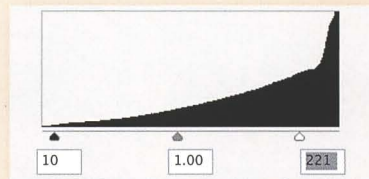

3 Increase the contrast by choosing *Image > Adjustments > Levels* and dragging the white and black points inward. If necessary, repeat the process or use the Eraser tool to remove any distracting detail. Your picture should now have two layers, the original and the edge drawing.
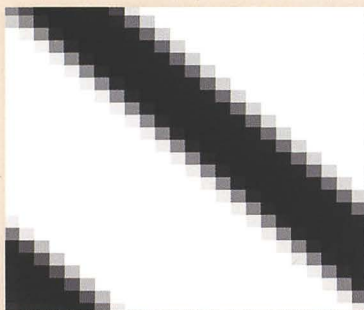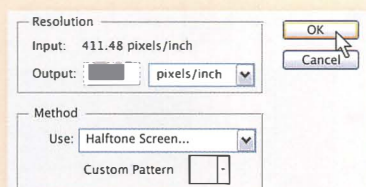

4 Turn now to making the patterns of diagonal and horizontal lines— the key to making the picture resemble an engraving. The most obvious and elegant method is with Pattern presets. Create a small, square document and draw a pattern similar to mine. Notice the two lines, one just in the corner, and imagine how the corners would match up if the pattern were repeated like wall tiles. The goal is to create a tessellating pattern, so it fills an area with matching lines. You could try zooming right in and painting individual pixels with a 1-pixel hard-edged brush.
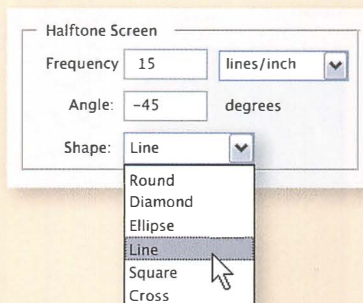
When you're done, choose *Edit > Define Pattern* and add the pattern to your presets. Create a second, mirror image with *Image > Rotate Canvas > Flip Canvas Horizontal*, and also save that as a preset.
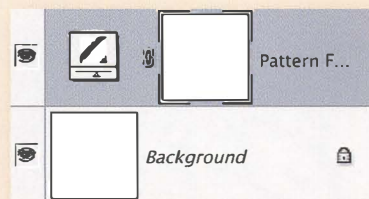
5 Making a tessellating pattern often proves very tricky and, for all the care you take, you can still end up with jagged lines. Test your preset by adding a new Pattern adjustment layer to a blank image.

Resolution

Input: 411.48 pixels/inch

Output: [____] pixels/inch [▾]

OK
Cancel

Method

Use: Halftone Screen... [▾]

Custom Pattern [___] -

6 I prefer a more prosaic way to make the patterns. Create a new document that is the same size as your picture, duplicate your image, and delete all the layers. Make sure it is in Grayscale mode, and fill the background layer with a pale gray. Then switch it to Bitmap mode. Set the output resolution to 600 pixels/inch and choose Halftone Screen as the method.

Halftone Screen

Frequency [15] lines/inch [▾]

Angle [−45] degrees

Shape: [Line ▾]

Round
Diamond
Ellipse
Line
Square
Cross

7 Halftone Screen gives a choice of the pattern used to simulate the pale gray as a halftone. Select Line from the Shape drop-down box, and choose an angle—here, minus 45 degrees will produce a diagonal line.

At the same time, set the Frequency—but not too high. A number between 15 and 20 lines per inch will print well with each line being distinct.

right: *You can make photographs into line drawings with a number of different Photoshop filters. I preferred Photocopy in this case because the results are quite coarse, more craftsmanlike.*

TIP

Once you follow how this technique works, leave the base image in color and keep any conversion adjustment layers. You can then use Select > Color Range *to select individual color areas and vary the cross hatching.*

PHOTOREALISTIC LINE DRAWINGS

LAYERED METHOD (CONTINUED)

TIP

Line patterns don't always display properly in Photoshop if you have zoomed out and made the image fit your display. To check a pattern's true appearance, zoom in to 100%.

8 Then select the entire image and use *Edit > Define Pattern* to save this pattern. You will also need a couple of alternative line patterns, so use Ctrl/⌘+Z to revert to a Grayscale image. Then make it Bitmap mode, but with a plus 45 degree angle. Save the pattern and repeat the process with 0 degrees so that the lines are horizontal.

9 Once you have saved the line patterns, it's time to return to the main image and apply them. First make the Photocopy layer invisible, then reset Photoshop's Foreground color (D), and choose *Select > Color Range*. Drag the Fuzziness slider until the shadows are a distinct, recognizable shape. Click OK.
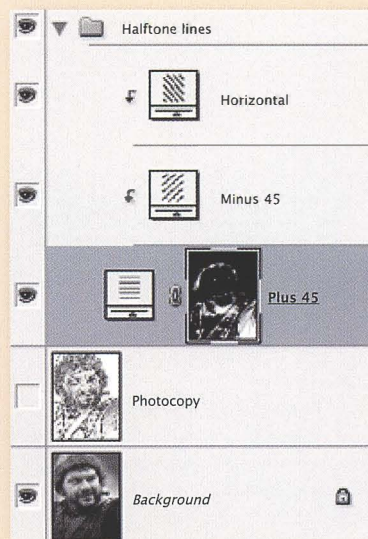
10 Photoshop now has the shadow tones selected. Hold down Alt/⌥ and add a Pattern adjustment layer, choosing one of your Halftone patterns, and set the blending mode to Multiply, which will make the pattern's white areas invisible. Click OK and Photoshop adds your pattern and turns the selection into a mask.
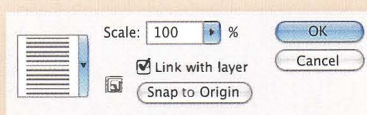
Left: *Pattern Fill adjustment layer dialog.*
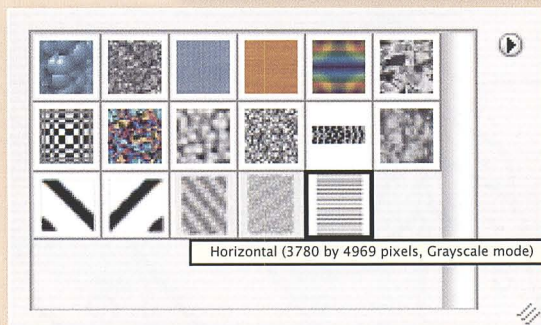
11 The shadows need to be cross-hatched more densely, so add further Pattern adjustment layers using the Minus 45 and Horizontal patterns. Remember to use the Multiply blending mode, too. But instead of creating masks on these layers, hold down Alt/⌥ and click the dividing lines between the three layers—this applies the lower layer's mask to all three. Here I grouped them into a Layer Set.
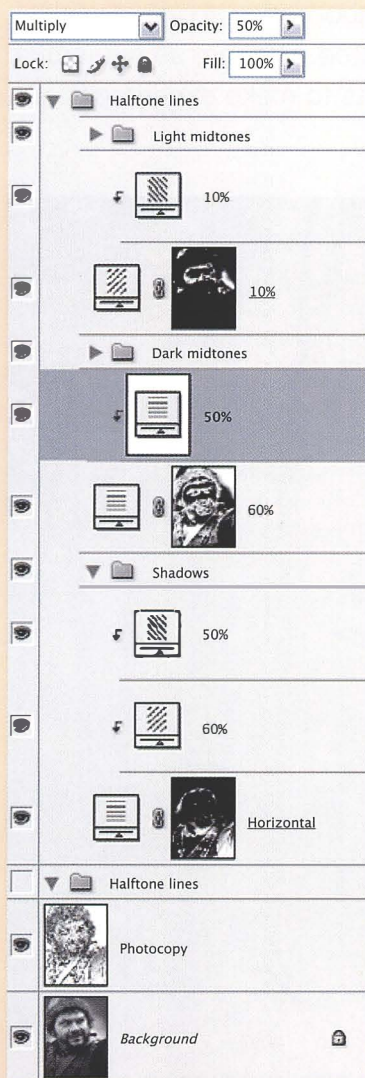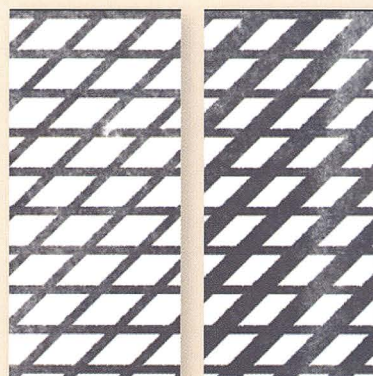
12 Now lighten the foreground color to a mid gray and repeat steps 9, 10, and 11 for the dark midtones. *Select > Color Range* will make a selection of the base image's mid grays. With the selection active, you then add Pattern adjustment layers. Reduce their opacity percentage—50–60% works well—and consider varying the pattern, perhaps by only using the Horizontal pattern.

Follow the same process for the light grays, using 10–20% opacity. Forget the highlights; the finished picture needs pure white space.

At any time you can peek at how the final picture is building up by just toggling the Photocopy layer's visibility.

Before   *After*

13 Switching on the Photocopy layer's visibility, the result is now a line drawing with cross-hatched areas of tone. The lines can look a little mechanical, so you can paint on the masks to change how the adjustment layers are applied. Or duplicate an adjustment layer and choose *Layer > Rasterize > Layer*, which converts it to a standard pixel layer.

This opens up many possibilities. For example, you can use *Edit > Transform > Warp* and bend some of the lines, use the Smudge tool, or apply a filter to the rasterized layer.

Adding more cross-hatching lines, or increasing the layers' opacity, doesn't really reflect how lithographs use wider lines to darken the shading. To do this, press the keyboard's Up and Left arrows and nudge the rasterized layer a few pixels upward and left. Four or five pixels is enough. Don't let a gap appear between the lines.

SOFT FOCUS

Many darkroom enthusiasts fashion a variety of tools to add soft focus to their prints. Often these are as simple as shrinkwrap stretched over an old picture frame which you hold between the enlarger light and the print, just moving the tool gently so you avoid any telltale shadows. In the digital era the tools are more sophisticated. They are so numerous, and the effects so varied, that you need to develop good habits to make experimentation easier and more productive.

Soft focus has many uses. It might give a picture a romantic, dreamy, or Impressionistic appearance. With portraits, you may wish to hide imperfections in the skin or simply soften their appearance, in the same way as manipulating the channels in the black-and-white conversion. Equally, low key images can be made more gloomy and menacing when the details are indistinct. And let's not forget that adding soft focus later can disguise the fact an original image wasn't completely sharp.
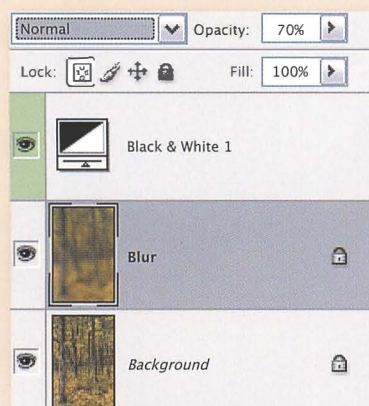
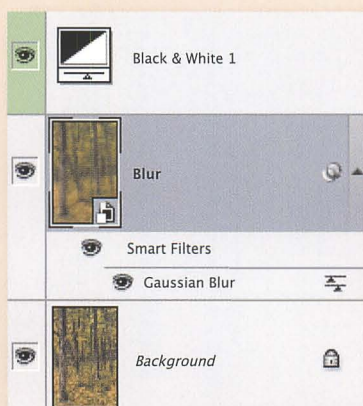**Right:** *The original image is not entirely sharp, and lacks any real distinction.*

Above: *The soft-focus effect in this final image has obscured the original's lack of pin-sharp focus and given it a dream-like fairytale atmosphere.*

SOFT FOCUS

SELECTIVE SOFT FOCUS

2 Since Photoshop CS3 it has been possible to convert an image layer into a special type of layer called a Smart Object. This allows you to apply a filter to the layer and re-run it later with different settings. Choose *Filter > Convert for Smart Filters*, and then apply Gaussian blur or any other filters. To adjust the results, just double-click the filter's icon in the Layers palette.
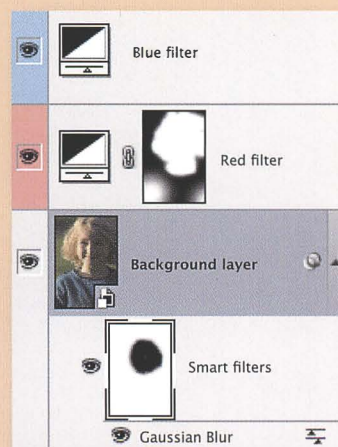
1 Before Photoshop CS3, it was always best to work on a copy of the image layer. You could then add soft focus with *Filter > Blur > Gaussian Blur*, and fine-tune the effect by changing the layer's opacity percentage or removing the layer completely.
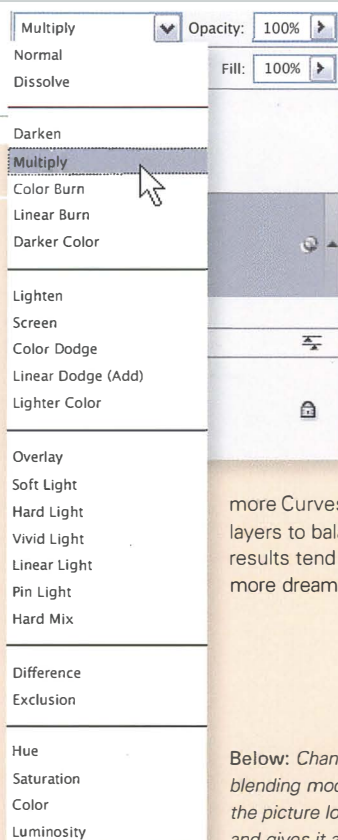

Right: Only the girl's face has been left sharp. This was done by painting on the Smart Filter's mask.

While a completely blurred image may sometimes be the intention, it's more common to let some of the original detail appear more distinctly. One way is to paint on the Smart Object's mask, removing blur from a subject's eyes, or you can reduce the blur layer's overall effect by reducing its opacity percentage in the Layers palette.
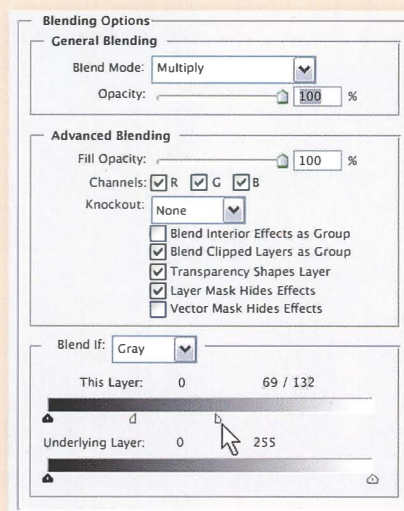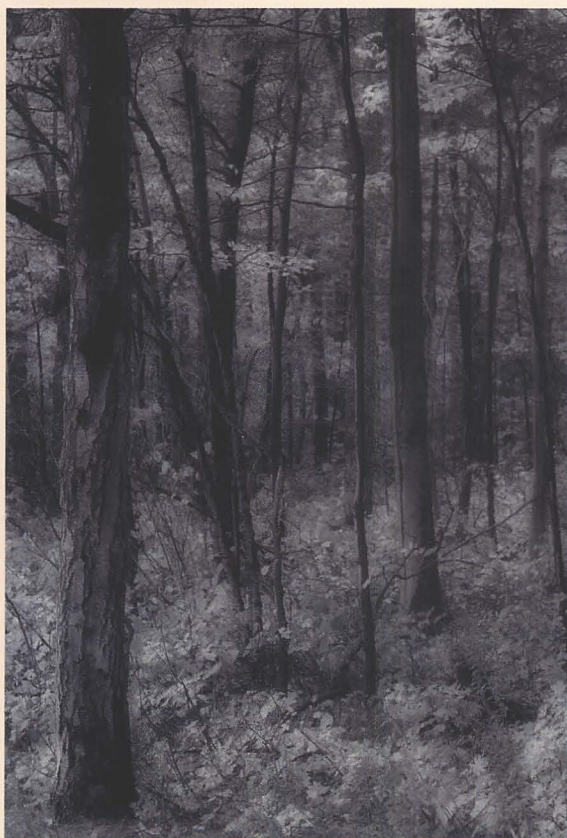
| Multiply | ▼ | Opacity: | 100% | ▶ |

Normal
Dissolve

Darken
Multiply
Color Burn
Linear Burn
Darker Color

Lighten
Screen
Color Dodge
Linear Dodge (Add)
Lighter Color

Overlay
Soft Light
Hard Light
Vivid Light
Linear Light
Pin Light
Hard Mix

Difference
Exclusion

Hue
Saturation
Color
Luminosity

Fill: 100% ▶

3 Less obvious is what you can achieve by changing the layer's blending mode. Try Screen with high key pictures. This lightens the resulting image, though blacks are preserved, and you may want to add more Curves or Levels adjustment layers to balance the tones. The results tend to be more gentler and more dreamy.

Below: *Changing the blur layer's blending mode to Multiply makes the picture look more low key and gives it a mysterious feel.*

Above: *Soft focus works best when it applies to selected image areas. Here it has been restricted to the darker areas by using layer Blending Options.*

Blending Options
General Blending
Blend Mode: Multiply
Opacity: ──────── 100 %

Advanced Blending
Fill Opacity: ──────── 100 %
Channels: ☑ R ☑ G ☑ B
Knockout: None ▼
☐ Blend Interior Effects as Group
☑ Blend Clipped Layers as Group
☑ Transparency Shapes Layer
☑ Layer Mask Hides Effects
☐ Vector Mask Hides Effects

Blend If: Gray ▼

This Layer: 0   69 / 132

Underlying Layer: 0   255

4 As well as changing the opacity percentage and adjustment layers, another option is to restrict the blur layer to certain tones by using the Blending Options (under Layer Styles). Here the blur layer's effect is only going to apply to tones between the Blend If slider's black and white triangles. Use Alt/⌥ to drag either triangle apart and smooth the transitions.
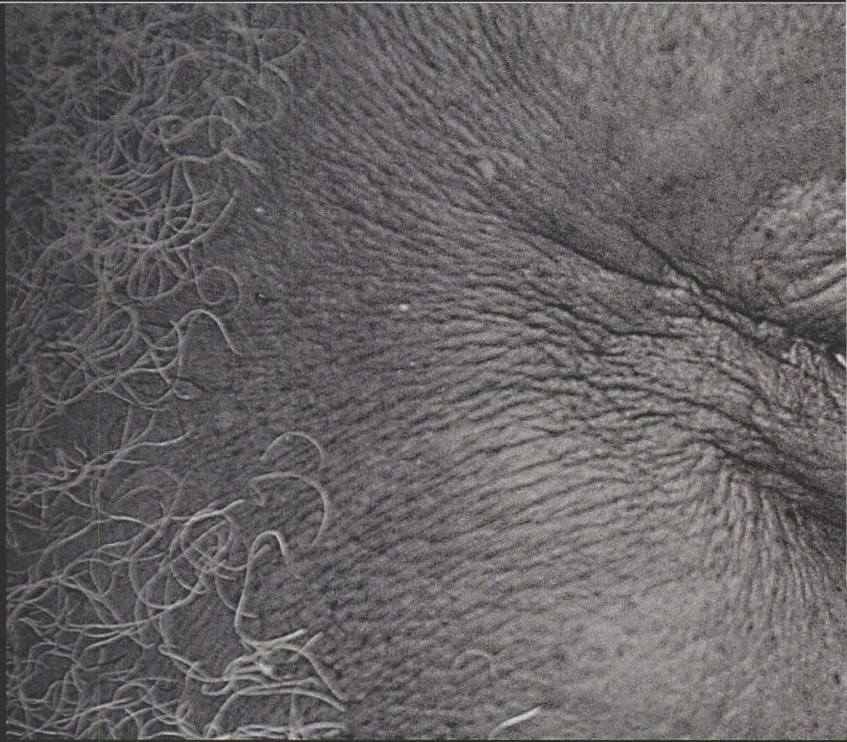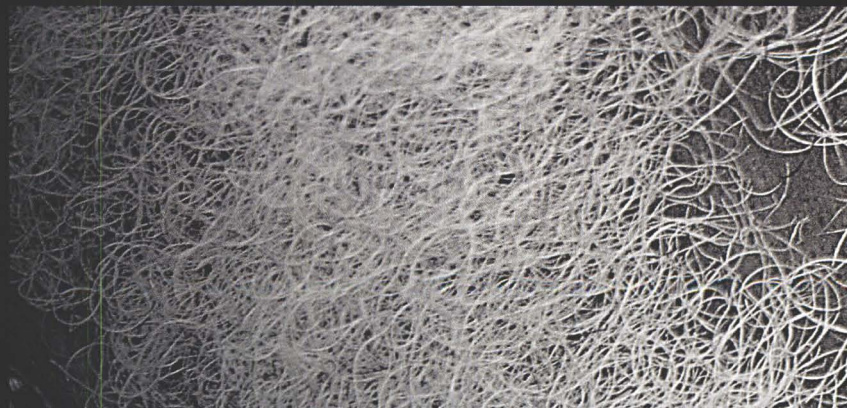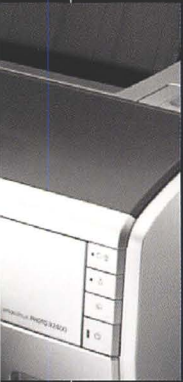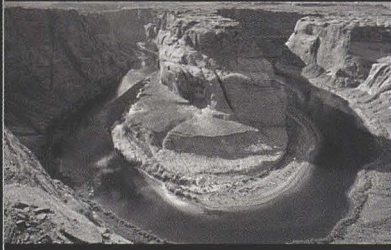
PRESENTATION
AND **OUTPUT**
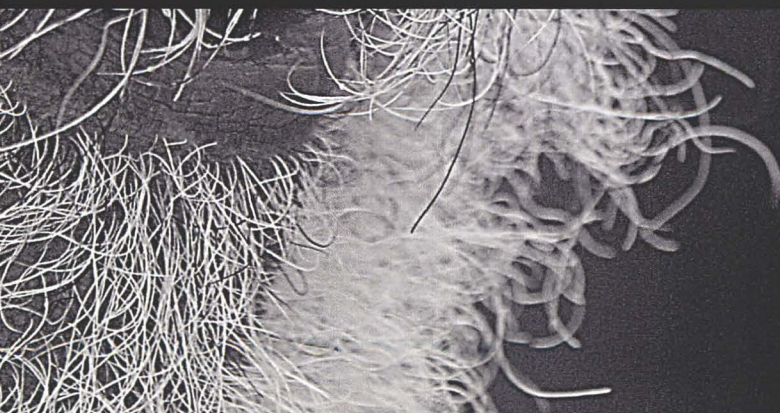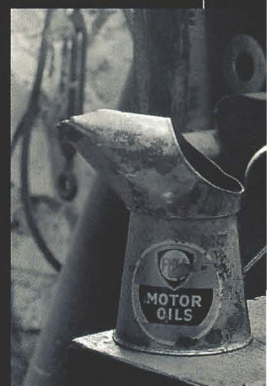
BORDERS

Particularly with a black-and-white print, the highlights can often be very close in tone to the paper and those around the picture's edge easily bleed out and merge with the surrounding white space. Examine the two images on the facing page—the bright clouds at the top left make the borderless image look very ragged. If the picture is framed and mounted, the matte can help hold the viewer's eye within its rectangular format, but not always. Moreover few of us frame every picture.

One obvious solution is to add a border and the example here shows how neatly a border can contain the picture's contents. As with most things in Photoshop, there are good and bad ways to do it.

Below: *Adding a border isn't the only solution, but it holds the viewer's eye without becoming a distraction.*

Opposite: *With no border, there is little difference between the highlights in the picture and the paper. This is especially damaging at the top left.*
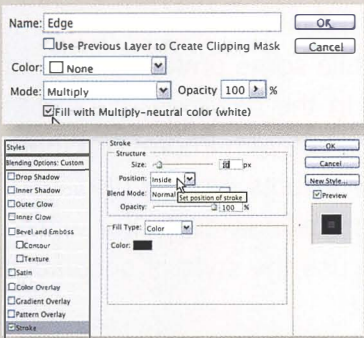
1 Avoid adding edges directly to image layers. Instead, add a new layer beneath the original and increase the overall image size using the *Image > Canvas Size* dialog.

Now reselect your image layer, which will have some surrounding transparent pixels, and, using the Blending Options (accessed via the "*f*x" button in the layers panel), choose Stroke. Choose a color for the border and set the position to Outside to avoid obscuring any pixels of the artwork.

2 You should usually add a border layer as one of the very last steps before the picture goes to the printer or the web, generally after running any sharpening actions or plug-ins which often work on a pixel layer created by merging the visible layers. Here, for example, the High Pass sharpening has also sharpened the border and produced a light rim. So either switch off the border layer's visibility before running such sharpening processes, or add the border afterward.
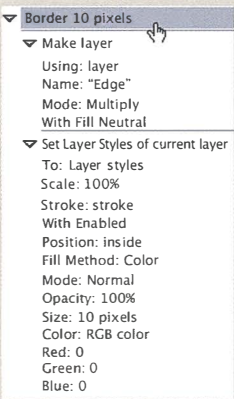
DECORATIVE BORDERS

Many photographers like simple borders, others none at all, while some prefer something fancier—if not all the time then at least for one-off specials. In the darkroom this often meant plenty of trial and error, and ruining perfectly good prints, but with Photoshop there is so much freedom that one regularly sees gruesome border effects proudly displayed. I won't altogether exempt those on these pages—after all, taste is individual—but what's more important is the underlying method and knowing how to use the style of decorative border that looks right with your images.

Right: *Try painting a border using your own Brush shapes. These can be derived from the image itself.*


Left: *Add a decorative border by choosing one of Photoshop's Brush presets or by adding a Layer Style.*

ADDING A DECORATIVE BORDER

1 To make space for a decorative border, increase the canvas size. Zoom out a little, press D to reset Photoshop's colors, then activate the Crop tool (C) and select the whole image area. Holding down Shift and Alt/⌥, drag outward until you have made enough space. Hit the Return key or double-click inside the image to commit.
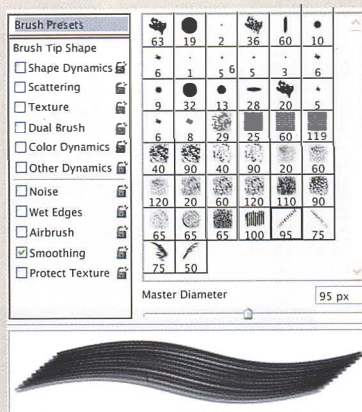
2 Always draw borders on a new layer. As usual, this is so you can reverse or fine-tune your work later. Activate the Brush tool (B) and expand the Brushes palette. You can choose one of the brushes shown, or expand your choice by loading a preset. Those in Dry Media and Faux Finish have particularly good textures. Here I chose a brush that reminded me of Japanese calligraphy.

3 While you can draw the border freehand, the results can be a little too inconsistent and simply not worthwhile. Instead, paint at one corner, hold down Shift, and then dab the next corner. Holding Shift makes Photoshop draw a straight line between two points. Here I tried to echo the gate's shape.
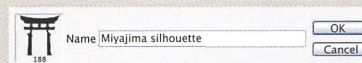
4 Another idea is to paint a border with your own Brush shape and use elements derived from the current image. Here, for example, I duplicated my main image and applied Levels adjustments until the gate's silhouette was all that remained. Selecting the whole image area, *Edit > Define Brush Preset* added my new brush shape to the Brushes palette.
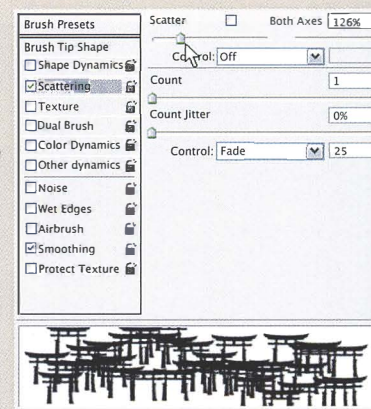
5 You can paint with the brush straight away or experiment with some of the Brushes palette's other settings. The Scattering controls are great for making a repeating pattern.

FILM REBATES

For a period in the 1990s it seemed in vogue to print images with the negative's rebate showing. Rather like Madonna's famous bra, what had previously been hidden was now displayed, and the film stock and sprocket holes were used as the border of the final print. One method was to contact-print from large-format negatives, or you could file down or customize the enlarger's negative carrier. The rougher the better.

At first this technique seemed a striking demonstration that the photographer had so little need of digital trickery that the image could be presented raw and uncropped. While interesting at first, printing with visible rebate seemed to become a more tiresome reaction to the unstoppable rise of digital, so perhaps there's a certain irony in seeking to imitate it in Photoshop.

Left: *The final image, with "rebate" added digitally. Once you have scanned a strip of film, clean it up and save it as a template. This can then be applied to any image.*

Below: *The original image reveals its digital origins when compared to the final. Here it is seen without its square crop.*

| | | | Darken Midtones |
			Darken Shadow
			Frame
			Black & White
			Black & White
			Background
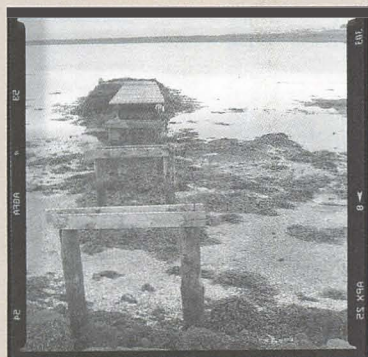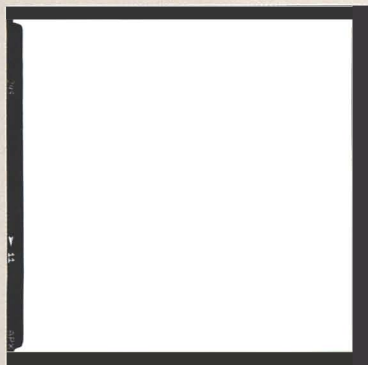
1 If you've never shot on film, and don't have any available, a few templates are available on the internet as JPEG or Photoshop files, or in theory you could create your own with Photoshop's drawing tools. If you do have access to some old film, it's far easier to do with a scanner.

My flatbed scanner has a transparency adapter, so I placed a strip of medium-format film onto the glass platen and scanned it directly into Photoshop at 1600dpi. Such a high resolution wasn't for optical quality but so the acquired scan would be similar in size to the digital captures. In this case my 2¼ inch (6cm) square negative would become a 3-4,000 pixel scan.
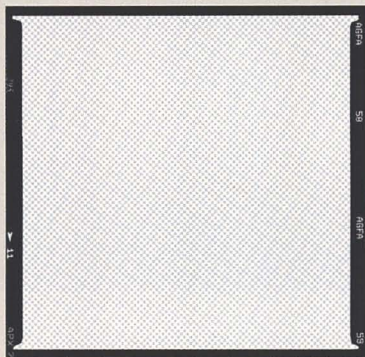
2 The scan usually needs some straightening and cropping and the removal of obvious defects, but the biggest task is to remove the negative's existing image. Double-click the background layer to make it into a regular layer, and then delete the central area using Photoshop's selection and masking tools. Take time over this, and you'll be left with a template with a transparent central area and which you can apply to as many images as you like.
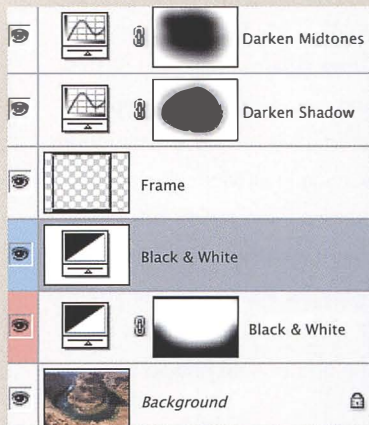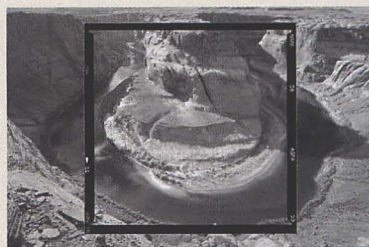
3 With both the film template and your main image open in Photoshop, drag the film template layer from the Layers palette. If you need to resize the film frame, use Ctrl/⌘+T and hold down the Shift key so the frame's proportions are maintained.

EDGE BURNING

Edge burning is a gentle darkening around a picture's edge that is almost imperceptible yet is still sufficient to contain and hold the image together. Its function is closer to a border line than it is to the typically compositional or interpretative role of dodging and burning, though the methods are similar. Employed on its own, edge burning may be all that is needed, but marginally darker edge areas and a simple border can be an ideal combination.

How much to darken the edge areas is a subjective decision. Ansel Adams reckoned 5–10% and also described a couple of alternative methods. They were burning in all four sides at once, or burning in each side individually so that the corner received double helpings. As well as the strength of burning, consider how wide the border area should be.

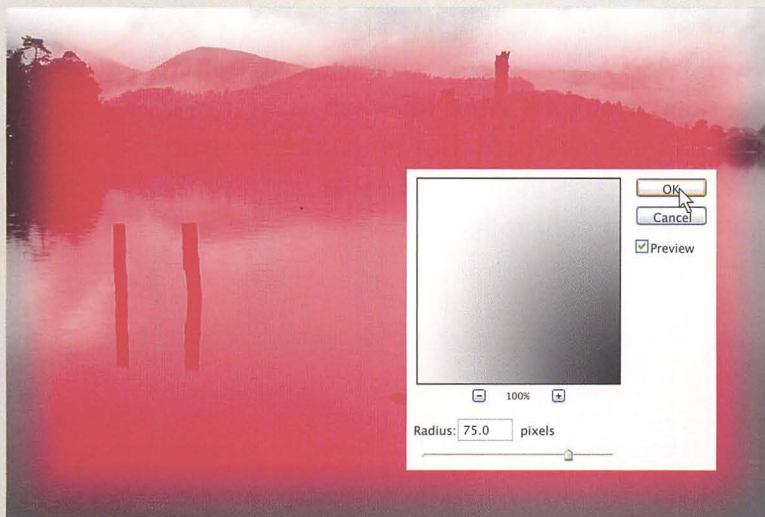**Above:** *After dodging the poles and burning in the surroundings, this picture still feels uncontained, with bright clouds at the top left.*

Below: *The final image includes the edge burning effect and a fine border for much stronger definition.*

SELECTIVE CURVES

1 Start by using the Marquee tool to make a rectangular selection. The selection can be closer to those edges which are already dark. Then invert the selection (Ctrl/Cmd+I) so it only covers the border areas.

I like to feather the selection by entering Quick Mask mode and applying some blur. Press Q, which covers most of the image with a mask (which is red by default) and leaves the border areas clear. Apply some Gaussian blur, using the red mask to judge the softness of the selection's edges, and exit Quick Mask mode by pressing Q again.

2 Add a Curves adjustment layer and pull the curve down to darken the edges.

Each picture should be judged individually. Here I dragged down the curve's top-right corner, making all tonal ranges darker and rendering pure whites as pale grays. This was because this picture contained distracting bright clouds near the top-left edge. I then shaped the curve so that shadows and midtones weren't significantly darkened and wouldn't create ugly dark areas around the edges.
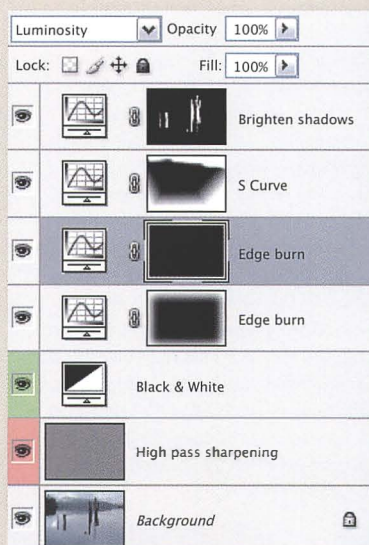
3 If the transition is too obvious, apply more blur to the mask, change the adjustment layer's opacity, or use other adjustments and filters. *Edit > Transform > Warp* can also be useful for reshaping the mask and changing the darkened border area.

This image benefited from a second edge-burning area, initially applied as an experiment. The Layers palette also shows how I've kept edge burning separate from the dodging and burning layers—one S curve adjustment layer adds contrast to "shape" the scene, and a second curve lifts the shadow detail in the poles.

FLIPPING THE IMAGE

Mounting the film in the negative carrier gives darkroom workers an opportunity to see, if only for a moment, how the image would look if it were reversed. It seems no big deal to flip the negative and print the picture in the darkroom. But on computer exactly the same action often seems to be only the first step on the road to devious digital trickery. But in the list of digital misdemeanours, this is a very minor infringement indeed. You should never be afraid to flip an image.

FLIP HORIZONTALLY

Clearly you might not want to flip a well-known landscape, pictures with lettering, or anything which would undermine the image's credibility. Portraits, still-lifes, and abstracts, however, can often benefit. In Photoshop, choose *Image > Rotate Canvas > Flip Horizontally*. If the result doesn't look right, choose Undo.

A lot depends on the exact composition, and also on our way of looking at a picture. In the example here, the man's eyes are positioned centrally, so perhaps the image works well in either direction, but the picture certainly seemed much more "closed" when it was oriented correctly. I immediately saw the eyes, and then stopped looking. This may well be due to being accustomed to reading from left to right—the correctly orientated picture forced me to jump leftward twice, first from the nearer eye and

then from the other. Reversing the image made me read the left eye, then the right, and then continue into the space. It made "reading" this picture feel more natural and the resulting composition seemed more open.

Below: *The black-and-white composition looks more "closed" than the original.*

Opposite: *Flipping this image makes the picture read from left to right.*

Above: *The eyes in the original image are centrally positioned so this picture can work either left-to-right or reversed.*