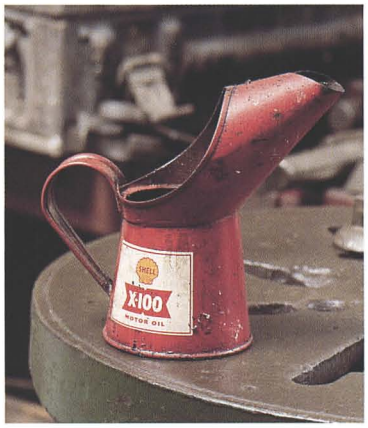
PAINTING BLACK AND WHITE

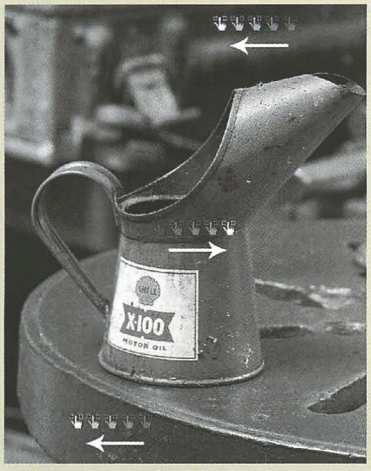
The Black and White adjustment layer's real strength is how it makes the cursor become a powerful creative tool. Stroke image areas and Photoshop will adjust the grayscale brightness of the corresponding colors.

In other words there's no need to know which sliders produce the right black-and-white treatment. This means you can safely push the Black and White dialog over to the side of the screen, well out of your way, and you're left to focus all your attention on the picture—which seems a pretty good concept, don't you think?



Above: *The default Black and White adjustment makes the red oil similar in grayscale tone to the workbench's green edge. But you can exploit such color differences to produce much more interesting treatments of the subject.*

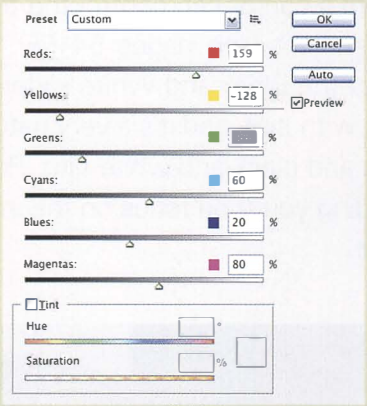
Left: *The final image. The best way to use Photoshop CS3's Black and White adjustment is to stroke image areas with the cursor. Here, the oil can has been made brighter and the background darker.*



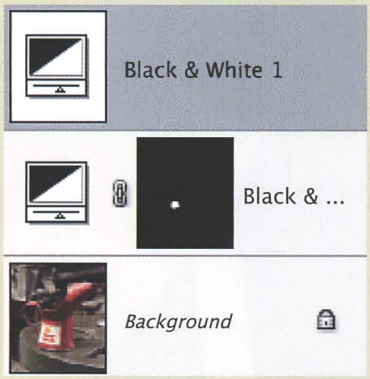
Above: *Stroke image areas with the cursor. A leftward motion darkens how the area's color appears in black and white, while dragging to the right brightens the color's grayscale output.*

1 Decide which parts of the picture you want to darken, then click and drag the cursor over those areas in a leftward direction. Use a series of short strokes, or single longer ones, in a painting or sketching-like action. Where you want an area to be brighter, the stroking motion should be to the right.

I felt this picture needed the oil can to be brighter and more obvious, and the bench and the background to be darker. So I stroked the can to the right, reviewed the result, and then stroked it a little more until it looked bright enough. Photoshop detected I was stroking an area containing red values, and moved the corresponding slider to the right, brightening their grayscale appearance. Likewise the image's greens were darkened by dragging to the left over the workbench's green edge, and the background was treated in the same way.



2 It's vital to understand that this isn't dodging or burning, or changing the brightness of a selected area of the image. Photoshop samples the colors in the area which you stroked, and changes how brightly those colors are rendered in grayscale tones, moving the dialog box sliders for you. So you are adjusting the grayscale brightness of the colors that were found in that area, not the brightness of the area itself. Just watch the sliders in the dialog before you release the mouse button to see this in action.



3 Because the stroking action is really targeting and adjusting colors, you also need to keep a close eye on the rest of the picture. It's very easy to inadvertently lighten other areas which share the same color as the area or object that you are stroking.

Because I had stroked leftward over the bench's edge, Photoshop had reduced the grayscale brightness of greens and yellows, but this made the Shell logo unacceptably dark. To try to resolve this, I experimented and dragged left over the can and to the right elsewhere. The logo's appearance was much improved and this also produced an interesting alternative treatment of the overall subject.

4 This emphasizes how there is no one correct black-and-white interpretation. But while I quite liked the alternative version's much oilier-looking can, and certainly preferred the logo detail, I still preferred my initial treatment for the picture as a whole. Another photographer might decide differently, but in my mind were thoughts about the composition's balance, since the can's darker appearance seemed to make the background all the more distracting. So to restrict the alternative conversion to the logo, I simply added a mask to that adjustment layer.

BLACK AND WHITE PRESETS

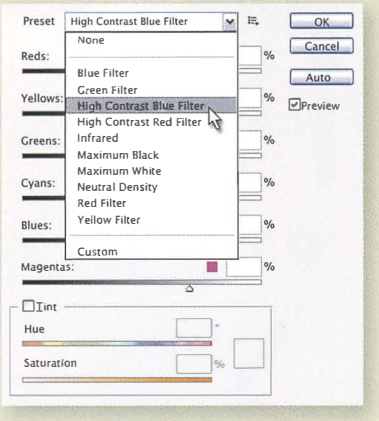
The Black and White adjustment's cursor can control the tonal composition and guide the viewer's interpretation of the subject (see pages 54–55). While the cursor technique is quick and easy, you can also set the Black and White sliders using one of the built-in Filter Presets. There's nothing wrong with that, and it's a very natural approach for photographers familiar with colored lens filters and black-and-white film. Presets can be a great timesaver and a good starting point, providing you then focus on the image and on what the grayscale rendition says about the subject.

Above: *The original image is quite soft and the woman's lined face isn't unusual for her age.*

Right: *The Red, Orange, and Yellow Filter presets are usually kindest to faces and produce softer-looking skin tones.*

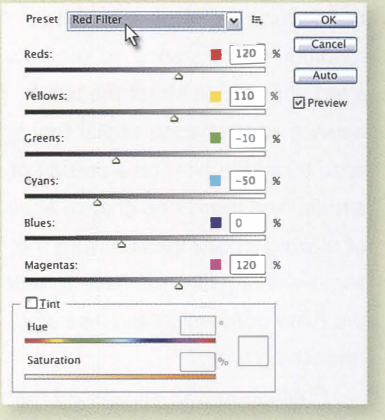
Above: *The default Black and White adjustment is very neutral or natural.*

1 Photoshop ships with a selection of Presets which set the dialog box's slider values to mimic black-and-white photographers' commonly used colored lens filters. Start off by looping through them, evaluating each one's effect on the image, and then choose the one that best suits your intended interpretation of the picture.



2 Skin tones have low Blue channel values, so typically the Blue Filter preset isn't the best choice for portraits; certainly not of women or children. Applying the Blue Filter preset to this image darkens and separates the woman's facial tones, bringing out details and exaggerating the signs of aging. It's one interpretation, but not a flattering one.

3 When you evaluate the results, it's important that you don't dismiss an interpretation because of overall brightnesss and contrast. You can resolve these later. Here, for example, a Curves adjustment layer has brightened the midtones and highlights.



4 While the overall brightness and contrast are now acceptable, the end result is a little "chalk and charcoal" and suffers badly from the Blue Filter's unflattering interpretation of the subject. The Red, Orange and Yellow Filter presets would all produce softer-lloking softer-looking skin tones. If the skin tones become too light, just add a Curves adjustment layer for a more natural appearance.

CAMERA RAW AND SMART OBJECTS

It's not new to use your RAW converter to make a picture black and white, and there is a certain attraction to working directly on the RAW file's high bit data before it is demosaiced. It does mean applying a single tonal balance to the entire image area, and Photoshop supports 16-bit imaging. But Photoshop CS3 and Adobe Camera Raw 4 give the black-and-white photographer new opportunities that are really worth investigating.

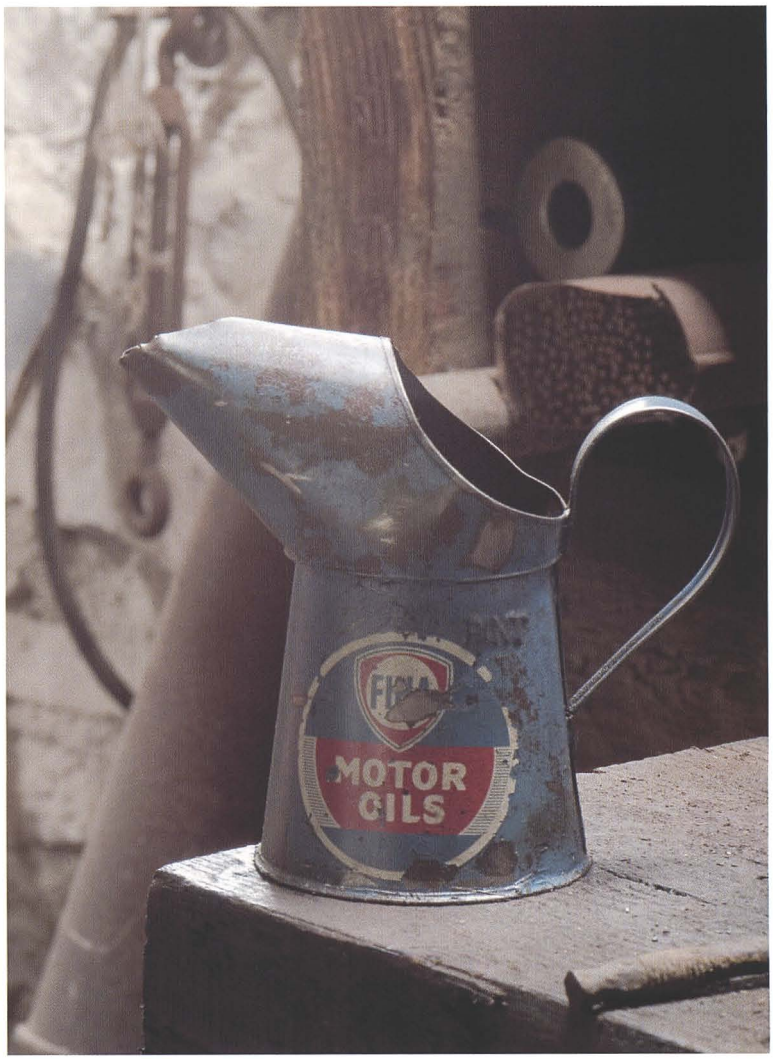
In earlier versions of Photoshop, opening a RAW file invoked Adobe Camera Raw or another conversion plugin, and you could set Saturation to 0 and produce a crude mono rendition. Alternatively, standalone raw converters like Nikon Capture, Capture One, or Bibble included channel-based sliders to output more considered black-and-whites. Like the newer Lightroom and Aperture, you could then "send to" or "edit with" Photoshop.

These methods deliver a file to Photoshop with no RGB values. So you're out of luck if you later want to fine-tune the black-and-white rendition—for instance, to see how a red filter would affect the tonal balance and separate similar tones, or to try a blue filter on a portrait of a man. And there's no chance at all of making a color version from the same working file. You have to redo the RAW conversion and lose any retouching time.

Photoshop CS2 introduced the idea of "placing" the raw data in a new document, and you could double-click the "smart object" layer and update its RAW conversion settings. But there still wasn't enough black-and-white control in the RAW converter, and it was still better to deliver a color image to Photoshop and do the mono conversion with the channel-based adjustment layer techniques. The method lacked versatility and remained a rather obscure trick. All that changed with Photoshop CS3 Smart Objects and Adobe Camera Raw 4 black-and-white conversions.

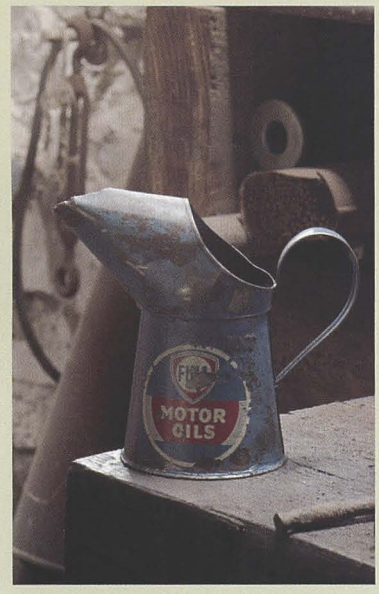
Right: *The final image combines the power of Photoshop CS3 Smart Objects and Adobe Camera Raw 4 black-and-white conversions. Because the output is a Smart Object, the raw conversion remains editable.*

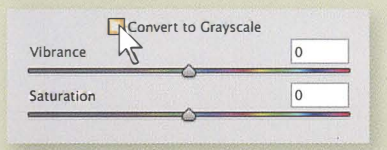
Below: *The original color image presents a a great deal of raw data which it is wise to preserve during conversion.*



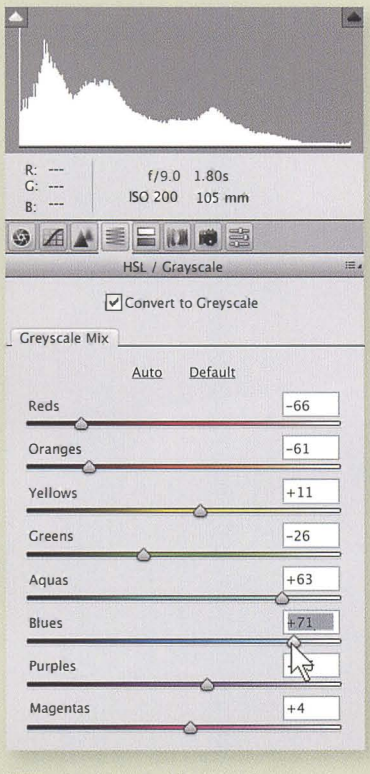

MOTOR
OILS

USING ADOBE CAMERA RAW AND SMART OBJECTS





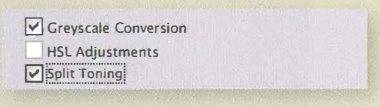
1 In Adobe Camera Raw 4, tick the Convert to Grayscale check box. This switches the image preview to black and white using a default setting.



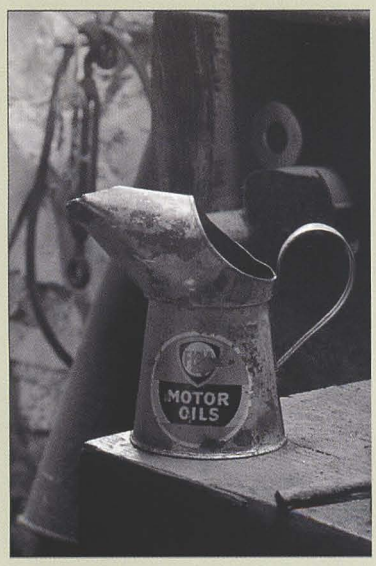
2 Activate the HSL/Grayscale tab, the fourth one along with the sliders icon. This is where you can tune the black-and-white treatment. Dragging a slider to the left darkens that color's grayscale rendition; the opposite happens when you drag it to the right. Here, I wanted to brighten and draw the eye to the picture's focal point, the oil can, and make the label and background darker. This meant dragging the Blue and Aqua sliders to the right, and Red and Orange to the left.

3 The fifth tab, Split Toning, lets you add color during the raw conversion stage. Start by moving the two Saturation sliders to the right, and then drag one or both of the Hue sliders.

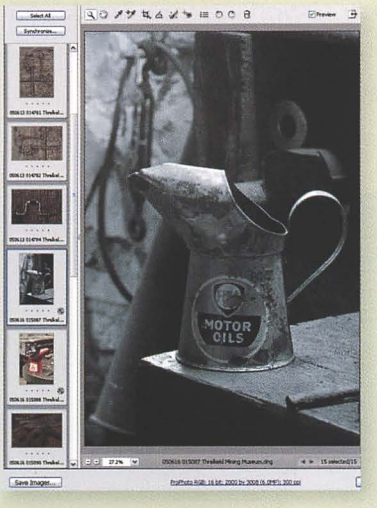
The swatches below the Hue sliders are quite small. To be sure about the exact color, a good trick is to hold the Alt/⌥ key as you drag the sliders.



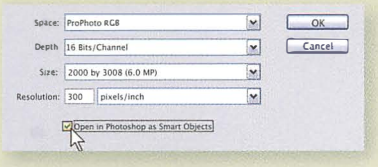
4 You can save the combination of slider settings for reuse on other images. From the small menu on the right-hand side of the Adobe Camera Raw dialog box, choose Save Settings. Pick the settings carefully—after all, you wouldn't want your saved preset to apply exposure adjustments as well as the black-and-white conversion and split toning settings. Click Save.



Left: *The pure monochrome result visible as you adjust the sliders under the HSL/Grayscale tab.*

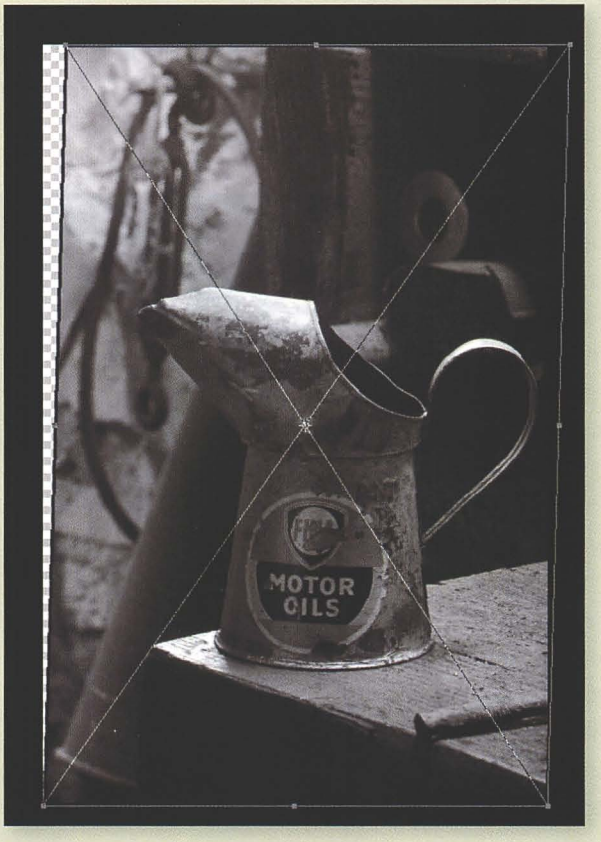


5 These settings can then be called up when one or more RAW files are selected in Adobe Camera Raw. They are also available in Bridge's grid view, so you could apply them to large numbers of RAW files by right-clicking and choosing the setting.



6 Before Photoshop CS3, you would have clicked Open Image after making your RAW conversion adjustments. That choice remains available, but there is a new option that keeps the raw conversion editable: Open Object.

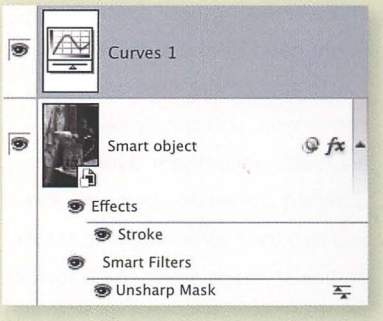
Hold down the Shift key and the Open Image button changes temporarily to Open Object. To change it more permanently, click the Workflow Options hyperlink below the image and tick Open in Photoshop as Smart Objects. Click this Open Object button and the RAW file is sent to Photoshop's editing environment as a "smart object", a special kind of layer that contains the raw data.



Photoshop CS3 Smart Objects can be transformed, sharpened, or blurred—all without damaging the image data.

7 Why would you do this? The obvious benefits are versatility and a non-destructive workflow.

Regardless of RAW conversion and specific black-and-white issues, smart objects are worth using because they can be big timesavers. When they were first introduced, you could add adjustment layers as normal, but you could also do things like apply *Edit > Transform* to correct converging verticals and reverse or fine-tune those transformations when needed. Photoshop CS3 went further and introduced Smart Filters, which mean you can also apply filters like Unsharp Mask or Gaussian Blur to the smart object, and change or remove those settings without damaging the image.



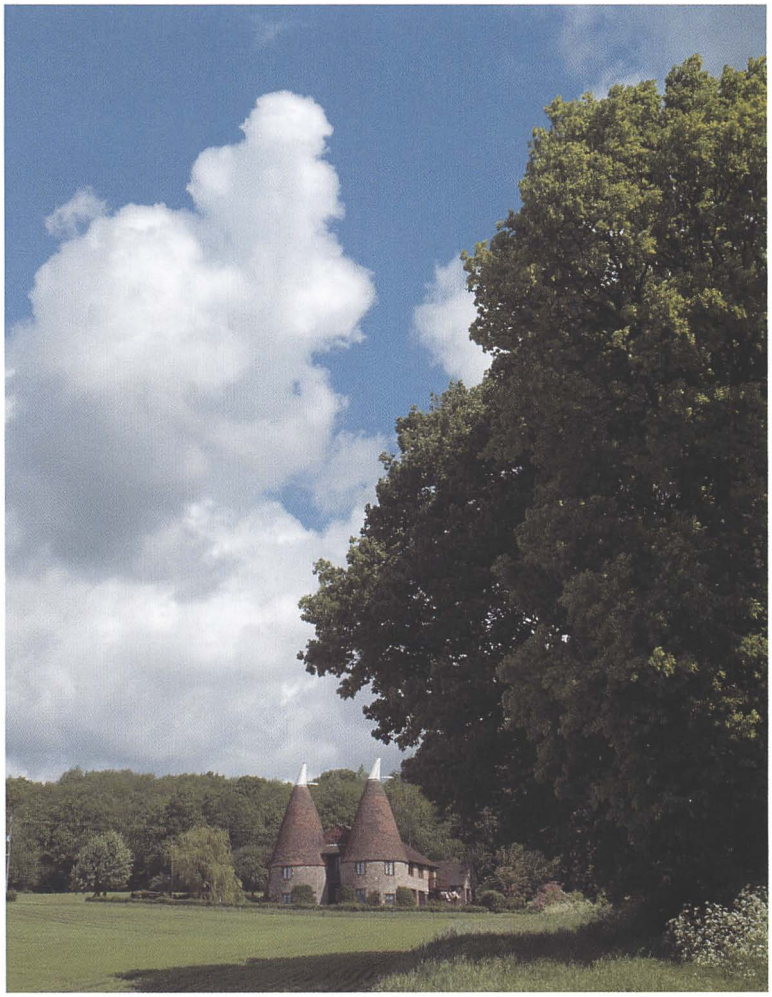
You can change the RAW conversion settings of a RAW file smart object. Just double-click the smart object's thumbnail in the Layers palette. This launches Adobe Camera Raw and afterwards Photoshop applies any filters and layer styles. Since the smart object contains the RAW data, you can save your work and adjust it on another computer or send the file to a colleague or client.

CONVERTING SELECTED IMAGE AREAS

Today's best black-and-white conversion techniques rely on adjustment layers. With enormous hard drives, there's no longer much point in flattening your working files and losing the chance to change your mind, tweaking or completely reworking your black-and-white interpretation. Adjustment layers have another big advantage, however, and that is in enabling you to make different mono conversions in different parts of the picture, using the channel values that are right for those areas.

This is important because when you browse through the channels, one part of the picture may look at its best in the Red channel and other areas be better in the Green. At worst, features may be unacceptable in one or other channel. The newer adjustment layer techniques allow you to have the best of both worlds, while older "one-size-fits-all" methods like Grayscale, Lightness, and Calculations forced you into uncomfortable workarounds. In black-and-white film terms, these new techniques are like having an infinite range of colored lens filters, red-green grads, yellow-red spots, and whatever other "exotic" you might need for the subject.

To apply more than one mono conversion, you simply need additional adjustment layers with different conversion settings, and you use their layer masks to target particular image areas. We'll look at an example of how you do this, and note a few other Photoshop techniques that make the work quicker and easier.

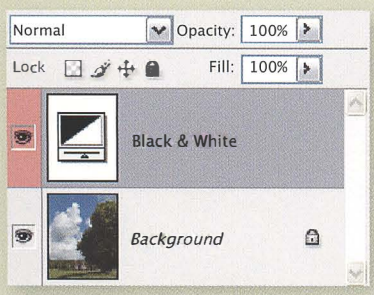


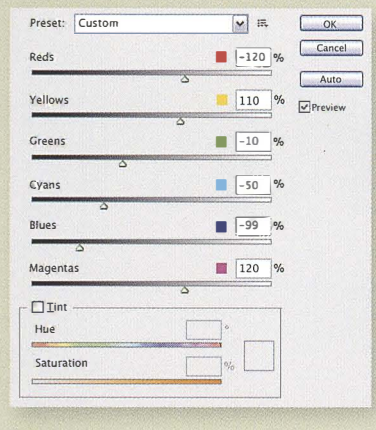
Above: *In the original image, a polarizing filter turned the sky a rich blue and made the grass and trees look particularly verdant. One mono conversion layer might not be enough.*

Left: *The final image. You can have the best of both worlds by using two—or more—masked Black and White adjustment layers. One renders the sky, the other the tree and the foreground.*

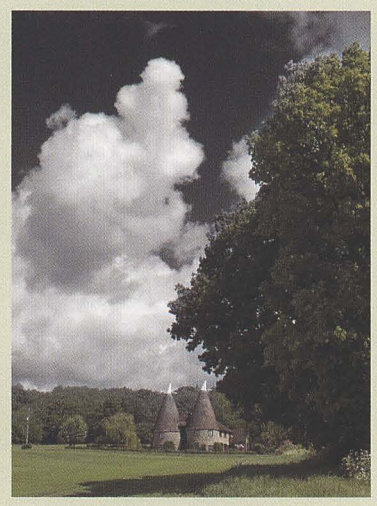
CONVERTING SELECTED IMAGE AREAS

USING MASKS





1 Add your conversion adjustment layer. Here I chose the Black and White technique and dragged the cursor a long way left in the blue area of sky. This renders blue as near-black in grayscale, but rendering the sky in this way has left the tree and foreground looking very dull.

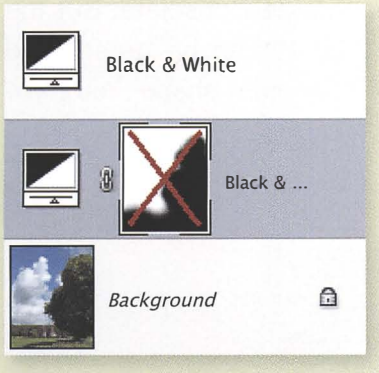


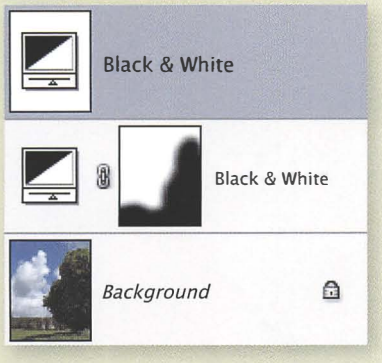
Above: *Paint on the adjustment layer's mask. This allows you to convert important image areas using different black-and-white settings.*

2 Paint black onto your existing conversion layer's mask so those areas will be left unaffected by the adjustment layer. You can use any of the painting tools, such as the Brush (B) or the Gradient (G). Here, I activated the Brush tool, used the [and] keyboard shortcuts to set a large brush size, and then Shift+[to soften its edges. I then painted black onto the mask so the tree and foreground remained in color, ready for the second adjustment layer.

Above: *The Black and White adjustment layer has darkened the blue sky but made the tree and field unacceptably heavy.*

3 Add a second adjustment layer with different settings. There is no need for this layer to have a mask—it will not affect any image areas which have already been made monochrome. Here I dragged the cursor to the right across the tree and foreground, causing Photoshop to sample those areas and move the corresponding sliders to the right, lightening their grayscale rendition.





4 In this sort of work, you often need to compare the output with and without your adjustments. You can click the eye icon next to the adjustment layer and toggle its visibility, but that gets more awkward when one of the layers is masked. Another way is to delete the mask and then Undo by pressing Ctrl/⌘+Z.

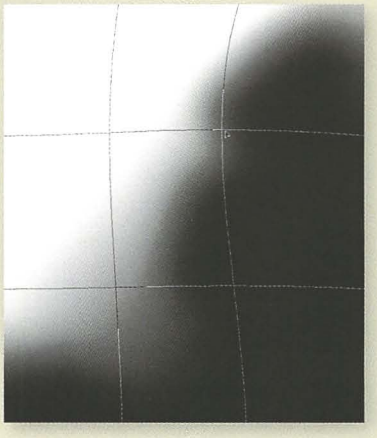
A less well-known trick is to Shift+click the layer's mask. This temporarily disables the mask so the adjustment applies to the entire image area. In this example, while the red X is present, you can see how the image would look if only that layer were present. Shift+clicking the mask again will switch the mask back on. To see the layer mask on its own, Alt/⌥+click it.

Above: *Dragging the Green and Yellow sliders to the right makes the foreground and the tree are more luminous and spring-like, but the sky and clouds look weak.*

5 The Gradient tool can also be used to paint the mask. Its default behavior is to replace any existing mask, but you may want to add to a carefully painted mask. Switch its blending mode to Lighten or Darken—here I chose Darken—and then drag the Gradient diagonally from the bottom right.

6 When the mono conversion is done with more than one adjustment layer, the transition needs to be smooth. For example, my Red and Green adjustment layers render the tree very differently and a join would be obvious, evidence of a Brush edge that was too hard.

You can adjust the mask's contrast with regular image adjustments like Levels or smooth transition areas by applying filters like Gaussian Blur. Make sure you click the mask before applying a filter so you don't change the image pixels. You should see the mask's simple black and white in the filter's preview.



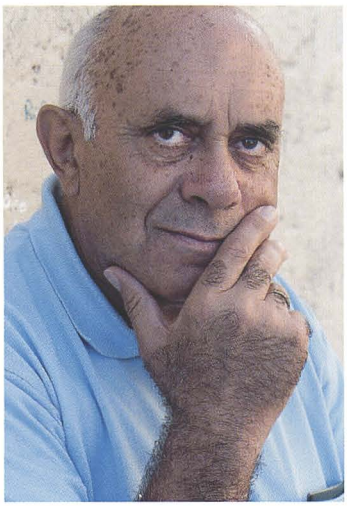
7 You can also move and stretch the area affected by the adjustment layer. Try using *Edit > Transform* on the mask, dragging the corner points outwards or reshaping it with *Edit > Transform > Warp*.

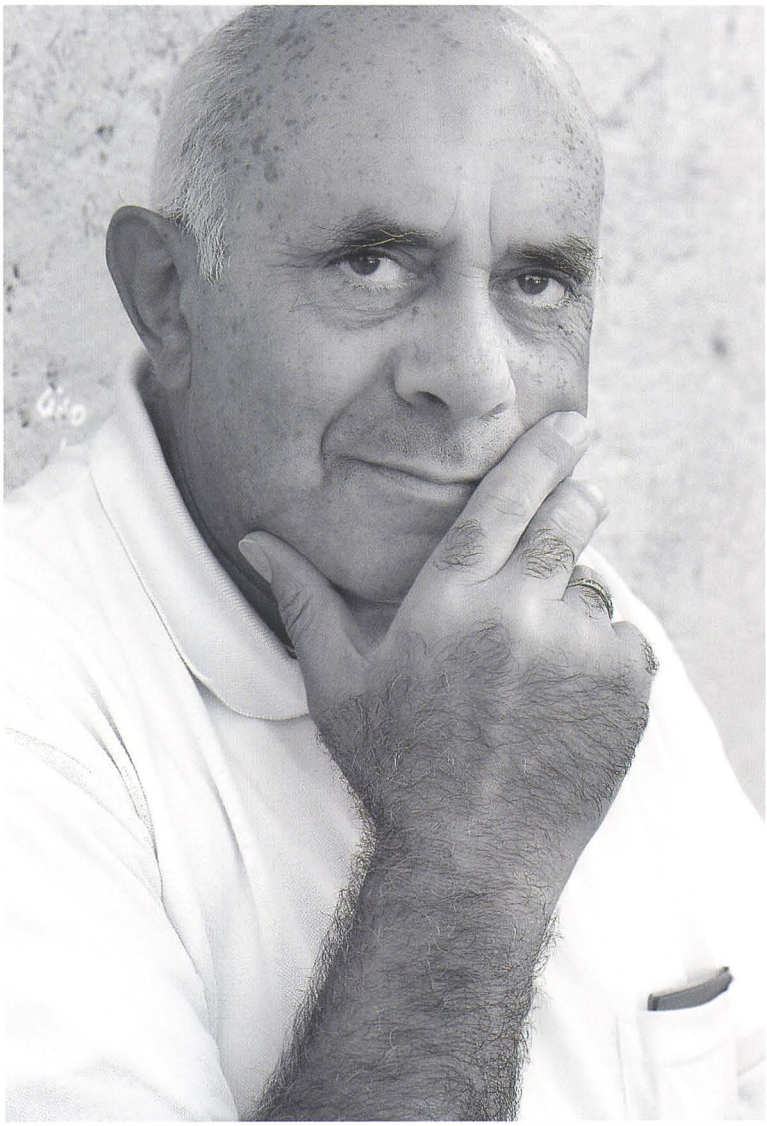
This emphasizes a key point—the versatility of the adjustment layer-based conversion techniques. You may start off with one idea of how different areas should be rendered as grayscale tones, and then save and close your work, but you always retain the opportunity to completely revise the conversion and the resulting interpretation of your picture.

CREATIVE CONVERSION : PEOPLE

In the previous pages we have looked at today's best ways of converting color digital images to black and white. It's all very well knowing most of the techniques, and it's essential to distinguish the good ones from those that are now largely obsolete. But the art of black and white is not a mechanical process where "best" can be determined objectively. There is no scientifically perfect contrast range or histogram shape. You have choices and creative decisions to make.

There is a lot more to black and white than turning down your TV's color saturation, or pressing an auto button in Photoshop. The mono conversion step is where you make key compositional choices and determine how you want to interpret the digital negative. A number of black-and-white renditions can be made from the same color original, changing the composition of grayscale tones or telling the viewer a different story about what is depicted. To see what this means in practice, let's examine one image, focusing a lot less on the technique and a lot more on interpreting the picture's subject. This is a process I call creative mono conversion.





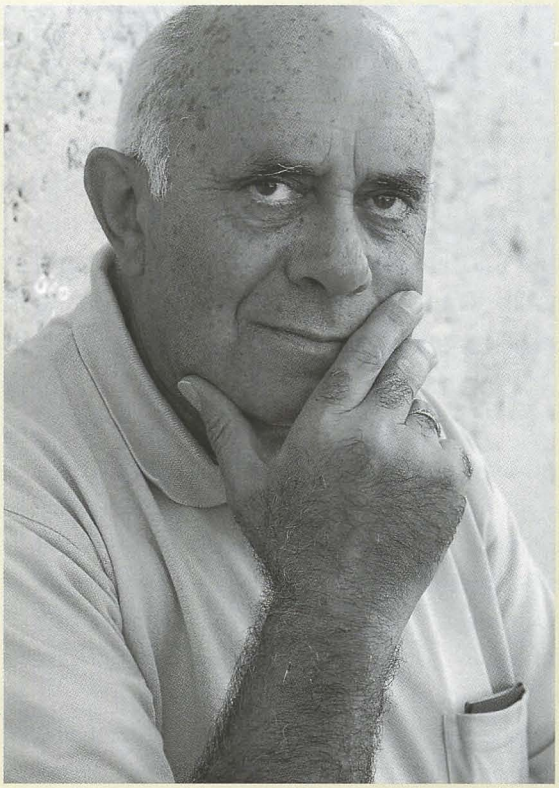
Left: *The color original shows a well-tanned man with a pale blue shirt, but the conversion only needs to present the viewer with a realistic image—not one that is faithful to the original.*

Above: *The final interpretation of this picture is just one way to depict the subject in mono.*

GRAYSCALE

If you merely want the black-and-white image to represent the original's tone, choose the Grayscale or Desaturation methods. Both methods are quick, and Grayscale produces smaller output files and is the only way to prepare a picture for a true Duotone. Grayscale's rendition is realistic and is close to how the eye captures color (that's the basis for Photoshop's use of 59% green channel, 30% red, and 11% blue).

But more often than not—and it's certainly the case with this portrait—the results are rather flat and lifeless. Do you really want to surrender your creative opportunities?

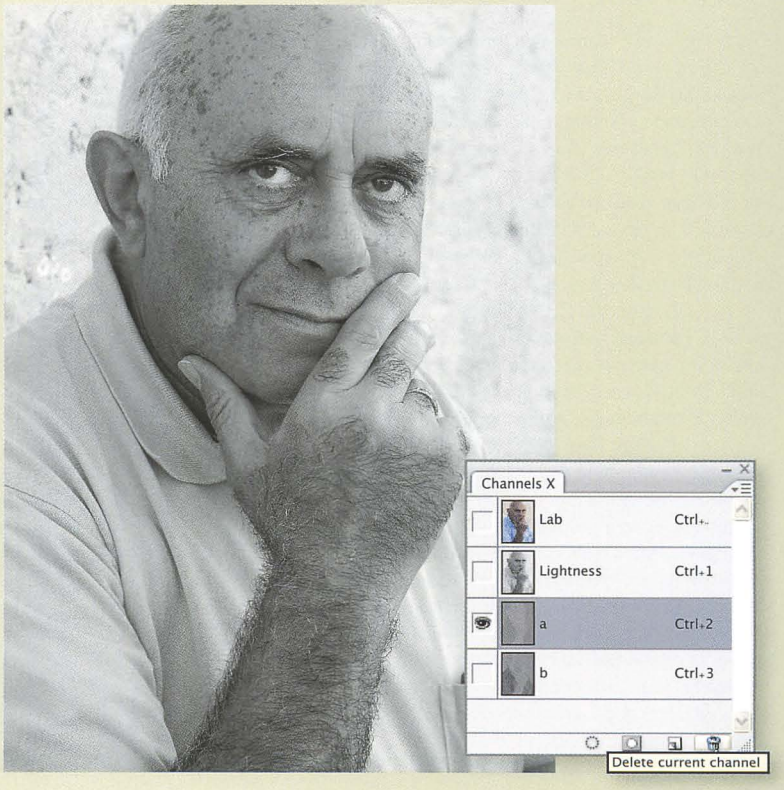


LIGHTNESS

For inherently neutral results, try the Lightness method. Again, you have no control—you simply choose the command *Image > Mode > Lab* and then delete the "a" channel from the Channels palette. What remains is the image's brightness values alone, and the black-and-white output is unaffected by the colors present in the original; any color information is discarded forever.

The Lightness version is usually the most faithful to the original color picture. Is accurate recording of brightness what you really want to achieve?

These methods share a huge shortfall. They're destructive. While you are still working on the file, you can only fine-tune or reverse them by undoing subsequent work, up to the number of History steps available. Once you save and close the file, the conversion is fixed forever. These methods were fine for an earlier era of computing and in earlier versions of Photoshop. Stick with them if you never change your mind later, but why rule out that possibility forever?



CREATIVE CONVERSION : PEOPLE

Forget for a moment the color image on the previous page, as if you had never seen it, and ask which of these pictures you believe fairly represents the subject. Below sits a dark-skinned man wearing a very light shirt. In the next shot, the man remains heavily tanned, though his shirt is darker, while in the third his face is lighter and less rugged and the shirt darker still. Without the color original, you have no way of knowing which is "true." Each is credible, each tells a different story about the subject.

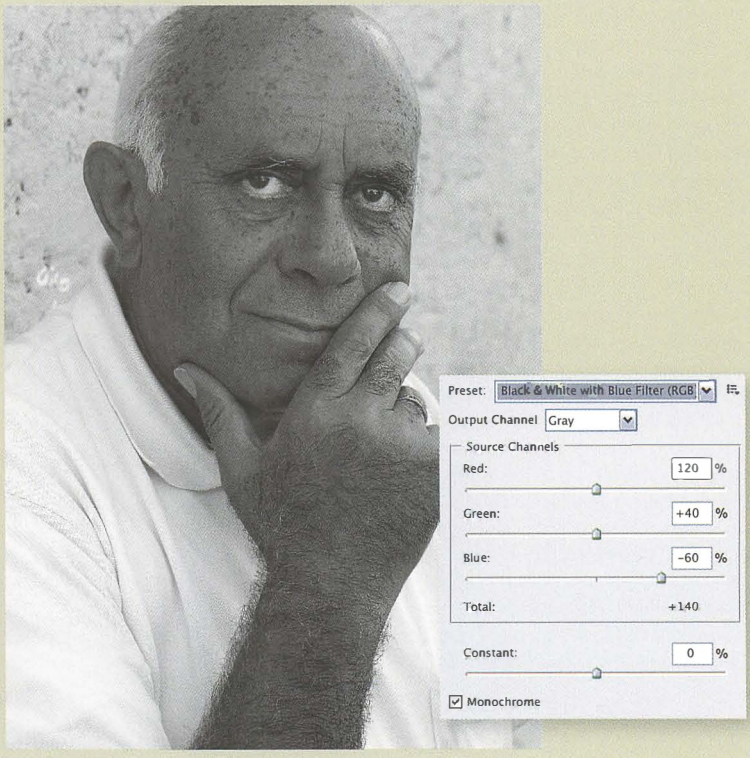
The only difference between these three shots is the way I chose to set the Channel Mixer, using the Blue, Green, and then Red presets. There's just a single adjustment layer, no masking or different conversions applied to selected image regions, and no Curves or Levels. I could have done precisely the same with the other two adjustment layer methods—Black and White and Film/Filter—which also allow the user to exploit the picture's channel information. It's not the technique that matters so much, it's how you use it to express the image. Photoshop CS3 introduced the Black and White adjustment, which offers six rather than the three tones I've examined here, but these are the primary colors. The principle is to choose which one to emphasize, and the extra three color groups in CS3 are really just a bonus.

BLUE

The pixels which record skin tones have low values in the Blue channel and higher ones in the Red. So if you want to make skin look dark, you might use only the Blue channel values. Add a Channel Mixer adjustment layer, tick Monochrome, and set the Blue slider at 100% and the others at zero. Alternatively, add a Black and White adjustment layer and use the cursor to drag left from the face.

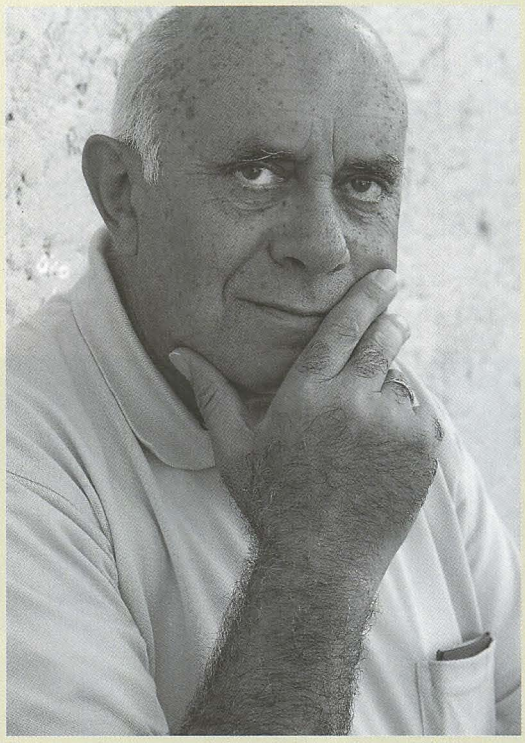
In each case, the Blue treatment darkens skin tone and also reveals more details and blemishes too, so it usually works better for subjects where you're aiming to express age and experience.

Also consider how the image is composed and where the grayscale tones are positioned in the picture. Here the shirt is a pale blue, so its pixels have high Blue channel values, which turn into very light grayscale tones. That may be desirable in some cases. Here, to my eye, it unbalances the picture. With black and white, the viewer is drawn from dark areas to the highlights. Here, attention is drawn to the eyes, which is good, and then straight down to the shirt; less good. A selective adjustment is one possible solution.



GREEN

Because the human eye records green more than red or blue, you can render the image more naturally by choosing the Green Filter presets in Channel Mixer or Black and White dialog boxes. In Channel Mixer, this sets the Green slider at 100% and the others at zero. With portraits, Green tends to be somewhat average and in this case it is the least interesting or attractive version.

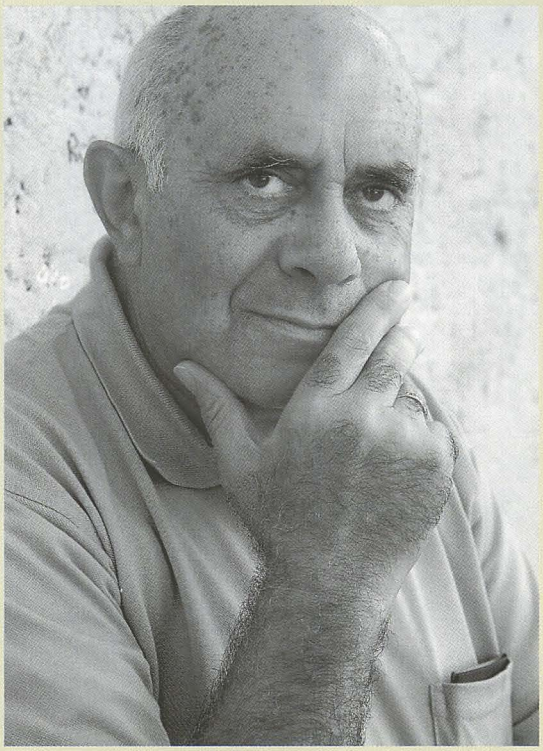


RED

Red channel values are higher in skin tones, so to make them brighter grayscale tones, pick the Red Filter presets in Channel Mixer or Black and White dialog boxes.

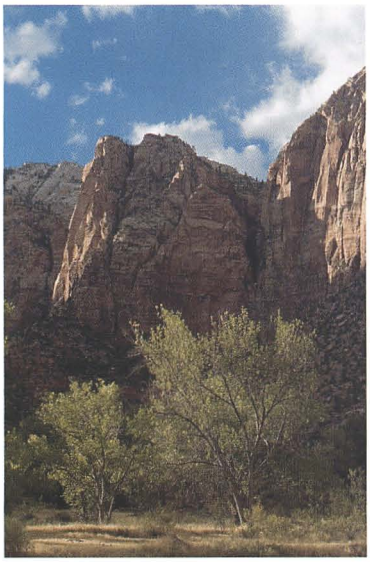
The Red Filter style produces softer, more attractive skin tones. Some men may well appear insufficiently butch, too gentle, but it can suit women and children better than a blue-bias conversion.

As well as subject appearance, also consider compositional impact. Here, the blue shirt is now darkened and is hardly noticeable. Again, contrast that to the Blue Filter treatment. On the other hand, if the shirt had in fact been bright red, it would have continued to distract from the face.



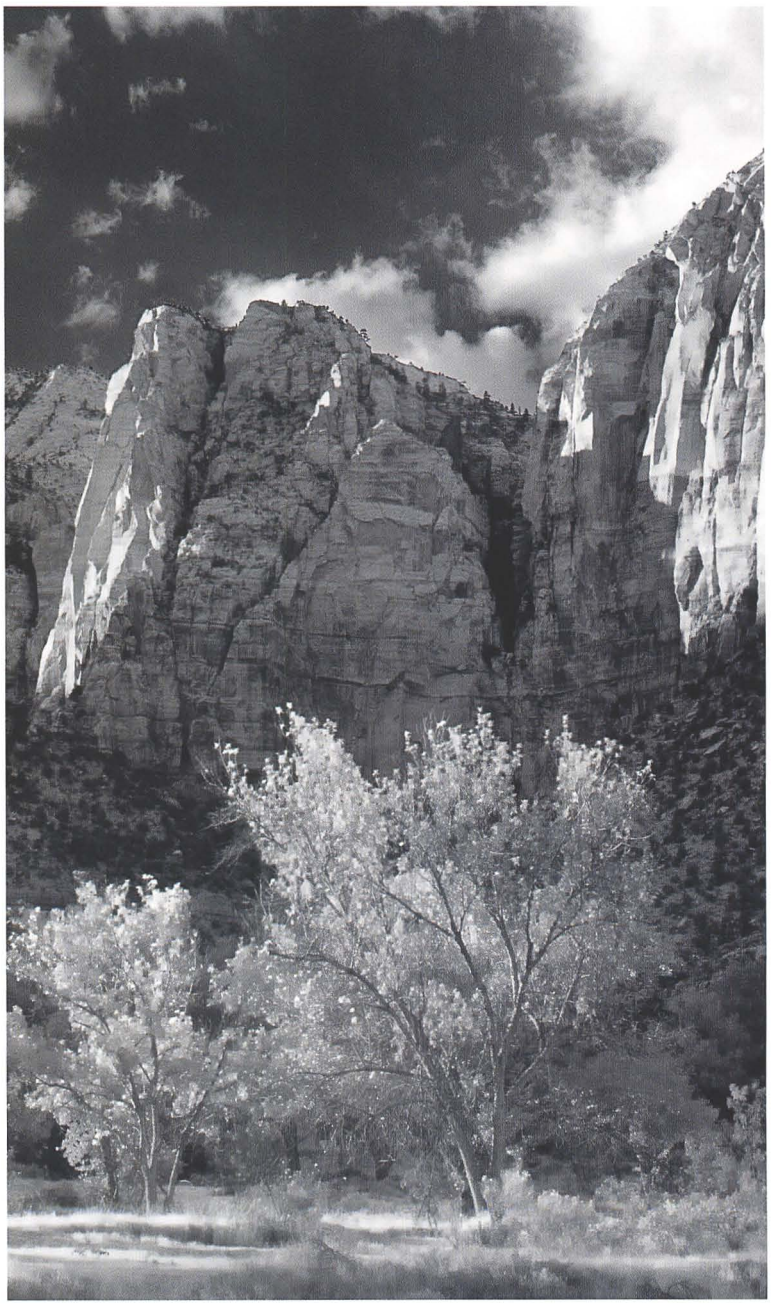
CREATIVE CONVERSION : LANDSCAPES

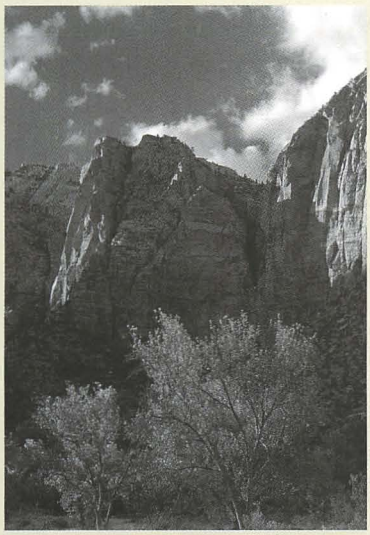
No book on digital black-and-white photography can avoid providing a recipe for Ansel Adams-style landscapes. Nor should it. Adams himself, who died in 1984, wrote about how much he looked forward to electronic imaging, and his pictures and writing continue to inspire and influence many of today's photographers. Equally, such a digital recipe should not be overblown. Instead, it should be more a starting point for expressing your own style of black-and-white landscape photography.



Above: *If there is a typical Ansel Adams scene, it often contains strong skies with cloud detail, as in this shot from one of his old stamping grounds, Zion National Park.*

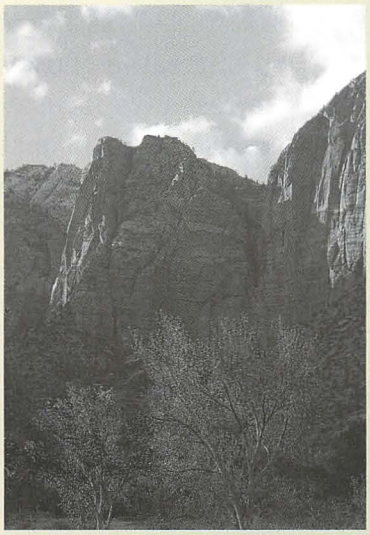
Right: *The final image has strong sky details and a landscape full of tonal information. It's the result of using the black-and-white conversion as a key step in the creative process.*



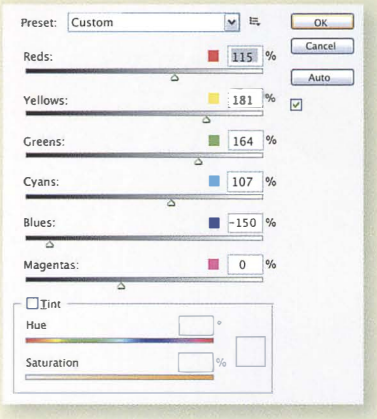


Above: *A simple* Image > Mode > Grayscale *produces a black-and-white image but the result is lackluster. The red rock canyon wall and the trees become similar grayscale tones.*

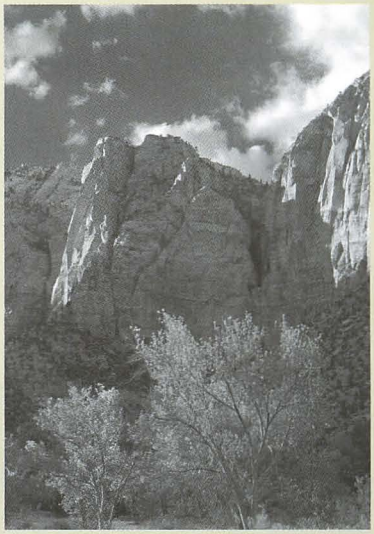
1 The hard work isn't applying a particular technique, Channel Mixer or Black and White, or using masks. It's evaluating the picture and deciding how you want to interpret it in your black-and-white composition. Film photographers often tried out different colored filters, attaching them to the lens or sometimes holding them up to the eyes. It's the same thing when you run through the channels with Ctrl/⌘+1, 2, 3, ~ (tilde); you get a good idea of the scene's mono appearance and expose yourself to alternative treatments.



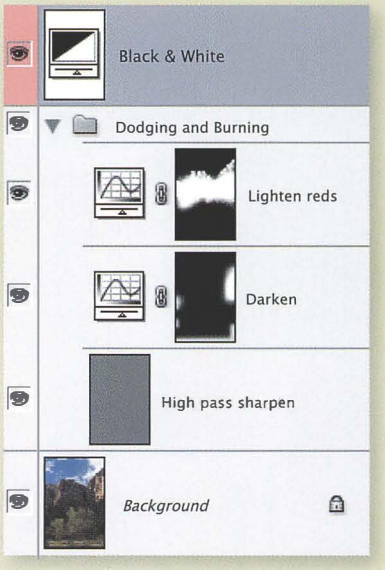
Above: *The sky contains lots of pixels with high Blue channel values, so Ctrl/⌘+3 shows it as very bright grayscale tones, in fact so pale that cloud detail is greatly reduced. The canyon wall becomes very dark and the trees look dead. So if you wanted to brighten the sky and darken the landscape, you could add a Channel Mixer or Black and White adjustment layer and choose the Blue Filter preset.*



2 So for a typical Ansel Adams-style landscape, add a Black and White adjustment layer and choose the Red Filter preset as a starting point. Then drag the cursor over areas whose tone you want to modify. Here I clicked in the sky and dragged left, making Photoshop darken that area in the black-and-white rendition. The rock wall was then lightened by dragging the cursor to the right in that area.



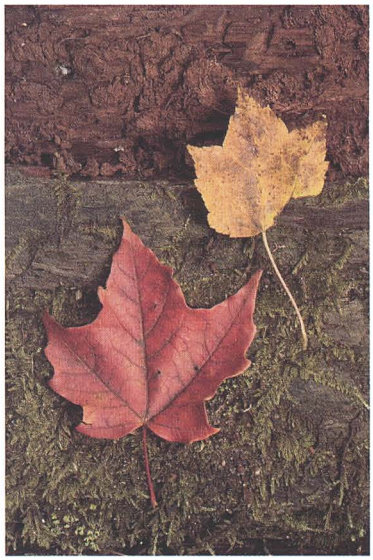
Above: *Ctrl/⌘+1 shows the Red channel. Like the black-and-white film user's red lens filter, this makes the sky very dark and makes the clouds stand out. Both the canyon wall and the trees become much brighter and are separate tones. Pick Channel Mixer or Black and White's Red Filter preset.*



3 Adams was an enthusiastic and highly skilled darkroom printer and was a master of dodging and burning, brightening and darkening selected areas of the print. We'll see how to do this in Photoshop later—for now, notice how the work has been done with Curves adjustment layers and grouped together.

TONAL SEPARATION

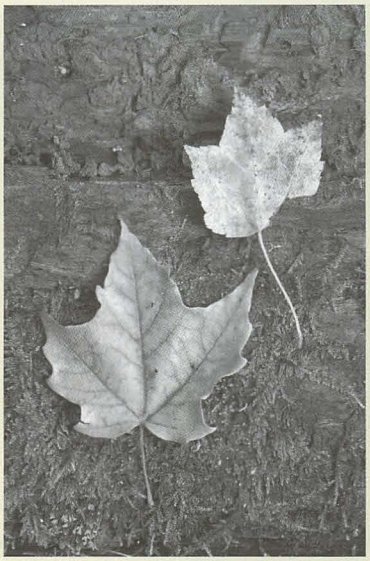
We've seen two examples of the kind of creative choices you can introduce during the conversion to black and white. In those cases we focused on interpretation, on why you control the conversion, and how its grayscale output might tell the viewer something about the subject. Each treatment also affected the basic composition—the brightness of the man's shirt unbalancing the image, or the darkened sky drawing attention to the canyon wall and the tree. So, for a third example, let's look at how you might add some compositional creativity, and tonal separation, to the black-and-white conversion process.



Above: *The original image. The leaves differ in brightness, but an important part of the color composition is the line between the wet bark and the green moss.*

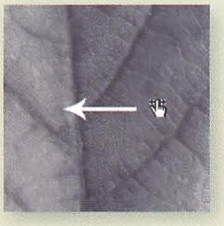
Right: *Any of the channel-based adjustment layers can produce excellent results and let you choose how to compose your black and white. In this final image it seemed important to separate the leaves' tones and darken their background.*

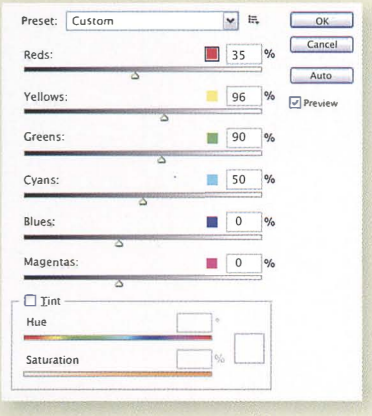
Above: *The Blue channel or Blue Filter presets (Channel Mixer or Black and White adjustment layer) make the leaves look close in tone. Blue values are low in red and yellow. There's a lack of tonal separation that seems to make the composition less interesting.*



Above: *Emphasizing Red in either the Channel Mixer or Black and White Filter shows the viewer that the leaves differ in color. There's not as much tonal separation as in the Green Filter output (right), and notice how the lower red leaf is also much brighter. Is that desirable? There's no simple answer; it's for you—the creative performing the conversion—to decide.*

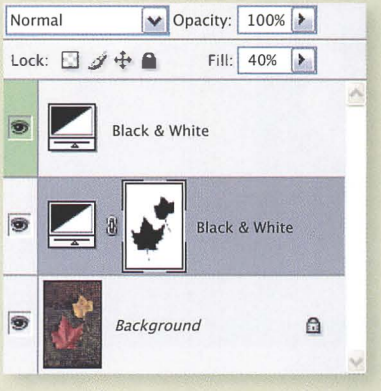
Above: *In this picture, the Green Filter presets produce the most tonal separation between the key elements of composition. The red leaf is now a lot darker and, since it is lower in the frame, this seems to anchor the picture. Again, whatever your preferred conversion technique, this is where judgement rightly takes over.*





1 It's worth asking why tonal separation plays a part at the conversion stage. After all, switching the image to Grayscale mode might be "good enough," and masked Curves and Levels can "dodge and burn" key features and image regions. Looping through the channels makes it easy to discover alternative black-and-white renditions. It's also quicker and more versatile to use the color channels for selective mono rendition than to build masks which target specific areas, and it doesn't leave traces. You can still dodge and burn as well.

The new Black and White adjustment layer is the most interactive of the tools, helping make creative experimentation simple. Start with a preset—I picked the Green Filter—and click and drag the cursor on the image, moving to the right to brighten the area in the conversion, or left, as I am here, to darken the red leaf.



2 One size rarely fits all. While the Green Filter preset worked well for the leaves, I wanted to darken the bark and moss, so I added another adjustment layer and carefully masked out the leaves.





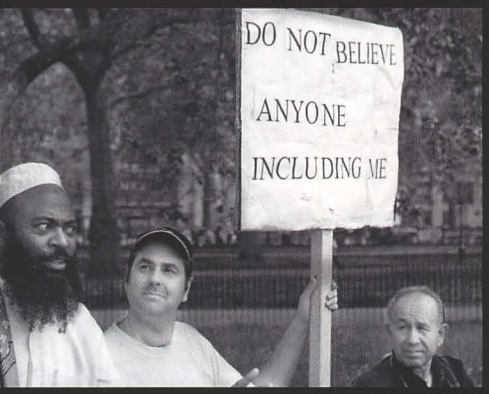


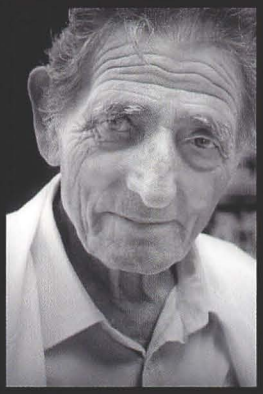


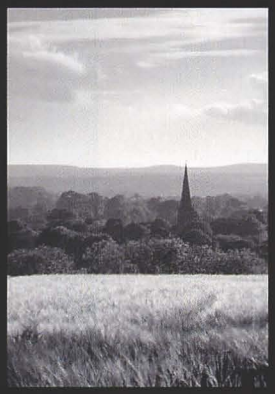


THE DIGITAL DARKROOM 2

FINE TUNING THE PHOTOGRAPH





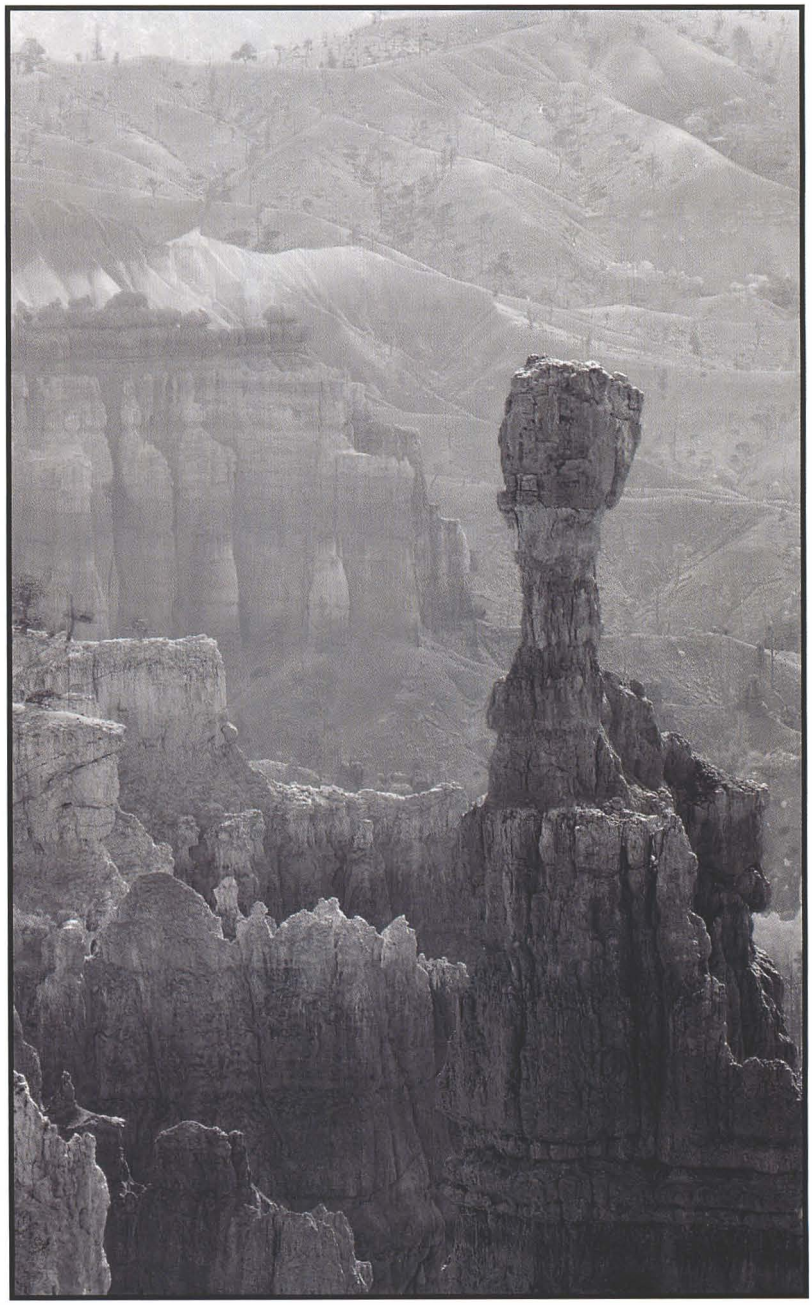


SETTING THE BLACK AND WHITE POINTS

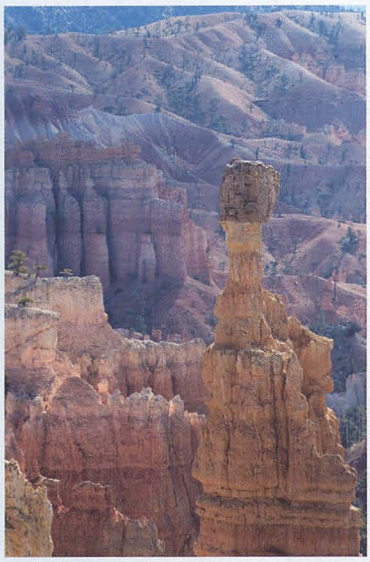
Converting the digital picture from color to mono, and fixing overall image contrast, need to be seen as distinct steps. Without pushing the analogy too far, the black-and-white film photographer chooses a colored filter to control where tones are distributed around the negative, and sets the final print's contrast by picking the right grade of paper.

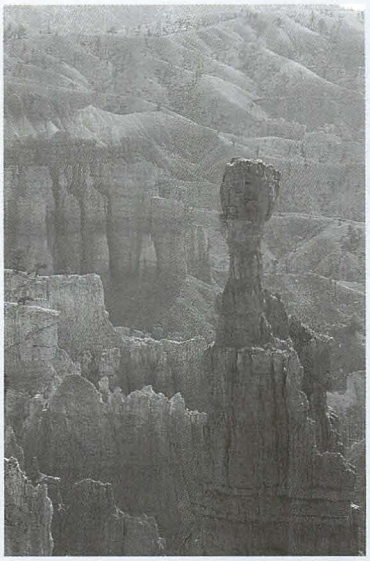
In the digital darkroom, you don't have just one shot at setting the most pleasing tonal composition and contrast, and there's a very good case for not trying to do so. Contrast may not be irrelevant when you look at the preview and adjust the Channel Mixer or Black and White sliders, but it is secondary to using the creative mono conversion step to compose in grayscale blocks, and secondary to fully interpreting your subject. You can sort out the contrast later.

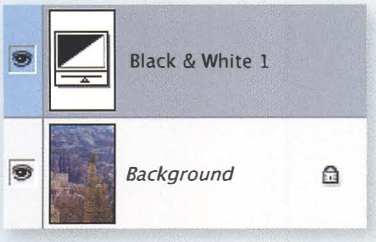
Not every photograph needs to contain the full range of tones from pure black to pure white, but it certainly helps. So first set the black and white points.



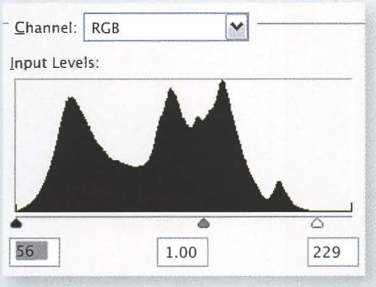
Right: *As well as setting the black and white points with Levels or Curves, a black border helps anchor the tones in the final image.*



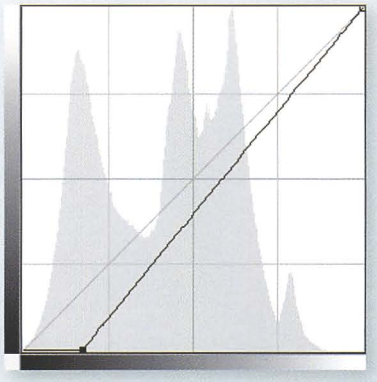




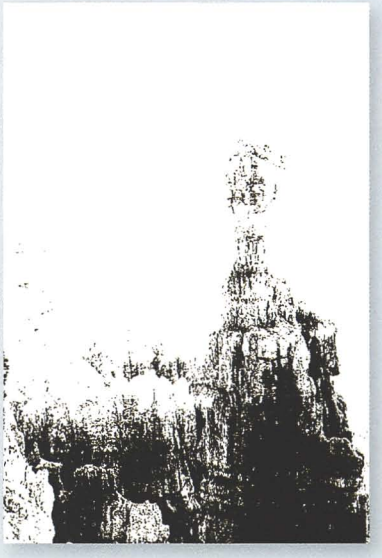
Above and Left: *Using the Blue Filter preset exaggerated Bryce Canyon's heat haze and, unlike Red and Green, it also separated the hoodoo from the background. Although the overall contrast range was lower, this separation was very important to the picture. Pure blacks and whites can be restored as a distinct step.*



1 Until Photoshop CS3, setting the black and white points meant adding a Levels adjustment layer. In the Levels dialog there is a histogram, and beneath it are three triangles. Drag the white triangle to the left until it reaches the far-right limit of the histogram (the edge of the shape). This makes the image's brightest pixels white. Similarly, drag the black triangle to the right until it reaches the histogram's far-left limit.



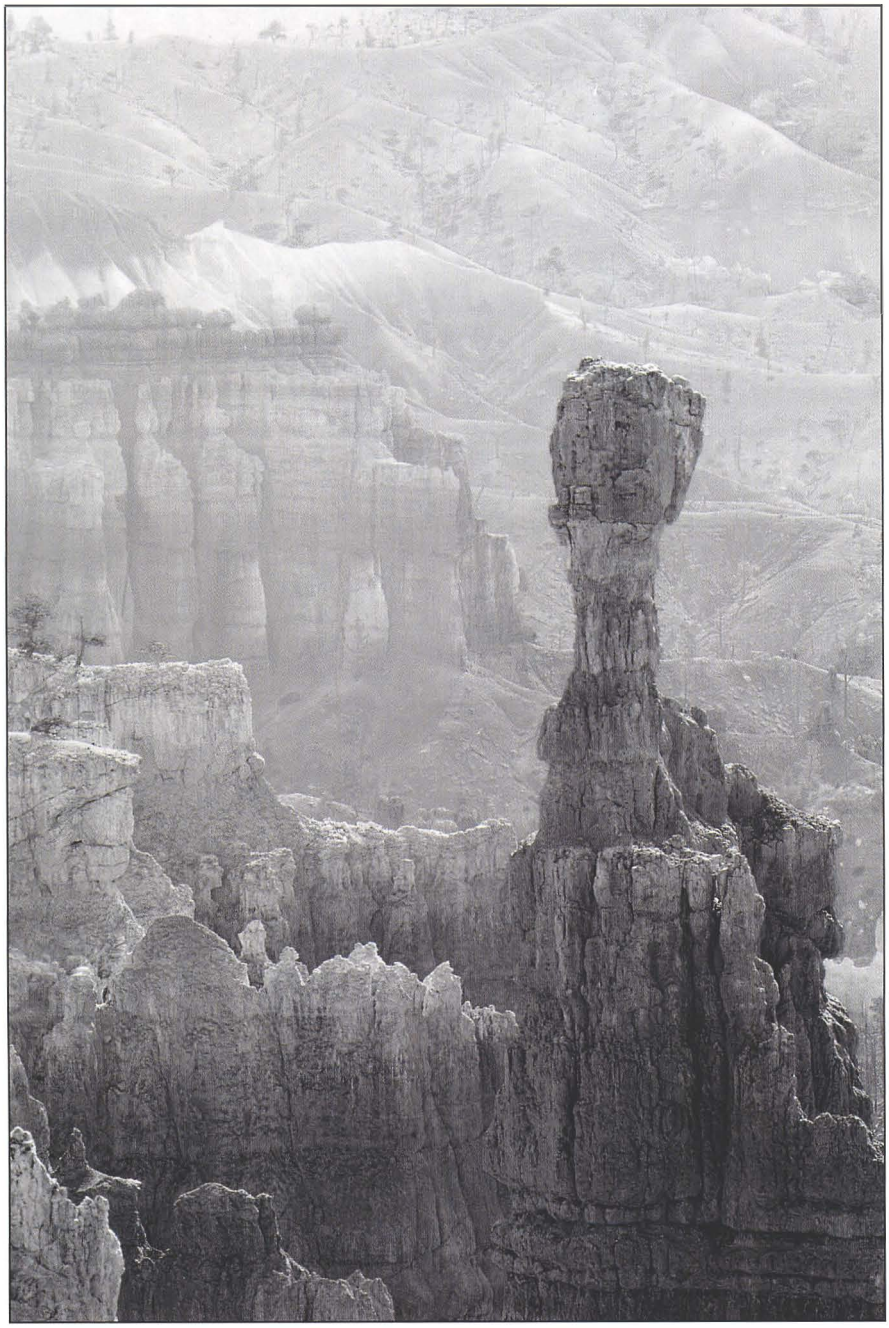
2 With Photoshop CS3, you can use the Curves dialog in the same way. As with the Levels dialog box, drag the white and black triangles below the histogram. Because Curves give you so much more tonal control than Levels, it's likely that this will be the better way to work from now on.



3 A helpful tip is to hold down the Alt/⌥ key while you drag the triangles. This works in either Levels or Curves and makes Photoshop display the image in clipping mode. As soon as detail becomes visible, you know the white or black point is mapped to the image's content and those areas are "clipped" and contain no visible detail. Especially with the shadows, a tiny amount of clipping anchors the tonal range, but large areas are generally unattractive.

OVERALL BRIGHTNESS AND CONTRAST

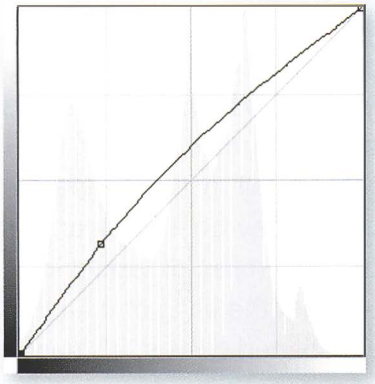
After fixing the image's black and white points, the next task is to review the balance of dark and light tones—the proportions of shadows, midtones, and highlights. Brightness and contrast say a lot about the picture. We talk positively of high-key images and might apply such a bright palette to weddings, fashion, or children. A darker, grittier realism seems more appropriate to photojournalism or reportage images, while a more even spread of tones can suit landscape shots with realistic or natural aspirations.



Left: *The final image has a slightly greater contrast and remains high key, but Curves is a very versatile tool, offering very precise contrast and brightness control.*

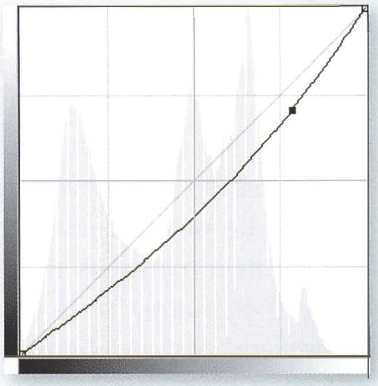
CURVES: BRIGHTNESS AND CONTRAST

Above: *After setting the black and white points, you need to assess and set the overall image contrast.*

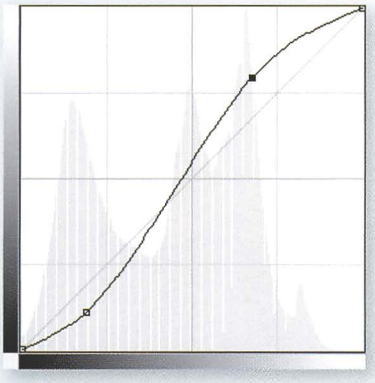


1 To brighten all image tones, click anywhere on the curve line and drag it upward, looking all the time at its effect on the image. An inverted U-shaped curve brightens all tones.

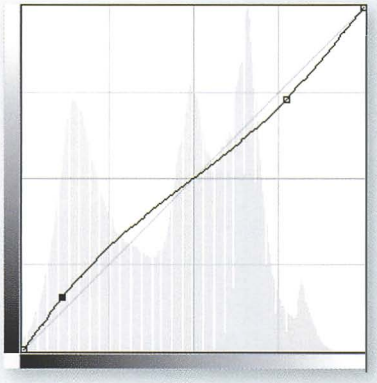
Curves have a daunting reputation but aren't really that difficult; a few tricks can get you a long way. The principle behind the Curves dialog is that the bottom of the chart or X axis shows the brightness values in the underlying image. The curve maps these input values to the values at which they will be output, shown on the left side or Y axis. If the chart doesn't make sense at first, keep an eye on the Input and Output values in the surrounding dialog box. Here a dark gray value of 60 will be output as 80.



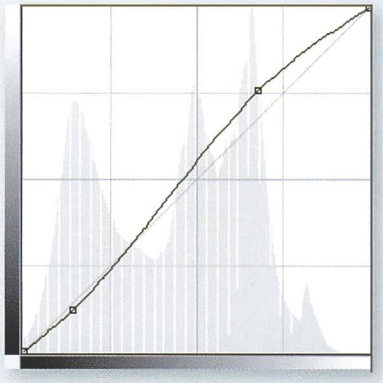
2 Darkening the image is done by clicking the curve and dragging it downward. So here a mid gray value of 200 will be output as 180. You could do exactly the same by dragging the top slider in the Brightness and Contrast dialog box, or by dragging the gray midpoint slider in Levels. Curves are much more flexible, as we are about to discover, but for now it's important to remember that a U-shaped curve like this darkens all tones from shadows to highlights.



3 Adding contrast to a picture obviously means making the shadow tones darker and the highlights brighter, and the Curves adjustment layer is ideal for controlling this process. Drag down the lower left region of the curve and drag up its top right. Here it is exaggerated, but its characteristic shape means the contrast-increasing curve is commonly called an S curve.



4 A reversed S curve makes shadows lighter and highlights darker, reducing overall contrast.



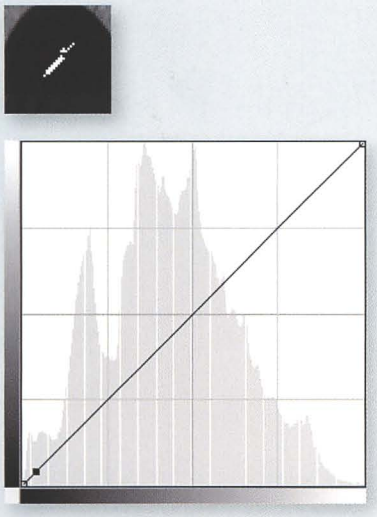
5 The beauty of Curves is the subtlety you can introduce. The key is to think first in natural terms about what the picture needs—in this case, a very gentle increase in the shadows' contrast and the brighter midtones and highlights to be lifted a little. So here the curve's dip below the diagonal "neutral" line is very brief, and then it runs gently above.

FINE CONTRAST CONTROL

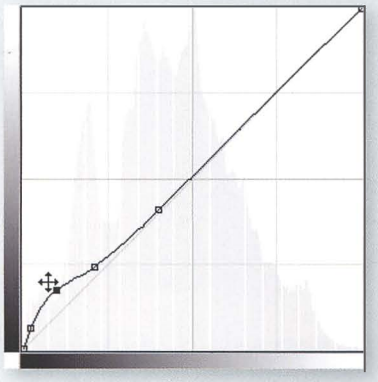
Control of the black-and-white image's brightness and contrast would be a pretty blunt tool if you could only adjust the shadows or highlights as a whole. Some pictures benefit from adjustments that change the character of just the very darkest tones, lifting their brightness so the viewer notices detail in the deepest shadows. The highlights might need to be pulled back a touch so they don't appear featureless; or part of the picture may contain midtones that look too similar, or would look better if they were brighter or darker. Fortunately, once you have got the hang of creating U-shaped curves for brightness control and contrast-increasing S-shaped curves, it's easy to move beyond this and target individual tonal ranges.

Above: *The finished image. The shadows are more interesting than their previous near-black state, while the brighter highlights make the valley seem sunnier. Notice how the sky is much brighter.*

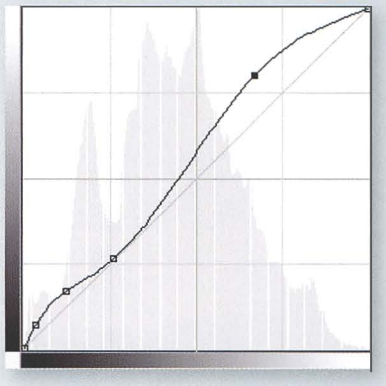
Above and Right: *While the Green Filter preset rendered this landscape as a flat and uninteresting black and white image, the creative mono worker needs to utilize the full range of tones that the image contains. The arches' shadows are too deep, but elsewhere the conversion contains plenty of usable detail.*



1 The key to fine brightness and contrast control is to move beyond S and U shapes, and add extra points to the curve that identify and target individual tones. Hold down the Ctrl/⌘ key and click the image area containing the tone whose brightness you want to control. This makes Photoshop sample the image and add a point on the curve.



2 You can drag this point immediately or sample other tones from the image and add more points to the curve. Here I initially wanted to brighten up the darkest shadows, but leave the darker midtones and highlights unchanged, so the curve returns to the neutral line after its brief upward movement.



Above: *Curves can control more than one tonal range. As well as lifting the shadows, this curve brightens the highlights but leaves the midtones relatively unchanged.*

ADDING CONTRAST SELECTIVELY

Some pictures only need one contrast or brightness adjustment, but other pictures benefit from more selective application of contrast curves. Although this may seem like a new development, it isn't: as digital loomed over the horizon, darkroom techniques continued to develop and variable contrast papers appeared, enabling photographers to print their work with varying contrast levels in different parts of the frame.

This valley landscape is a good example of where contrast needs to be added in one area of the picture. Even before opening up the arches' shadows, the sky looked relatively light and the image seemed unbalanced. The initial black-and-white rendition was improved by adjusting the shadows, but every photographer has a style to express, and for me this picture was always more about the stormy clouds than it was about the viaduct. Such creative interpretation of the scene often means you need to apply more than one adjustment to its brightness and contrast.

Below: *The sky's contrast is very different in the final version, but this was possible because the mono conversion stage focused on providing a full tonal range rather than on getting overall image contrast right. There was plenty of detail in the sky and this could be exploited to fully interpret the scene.*