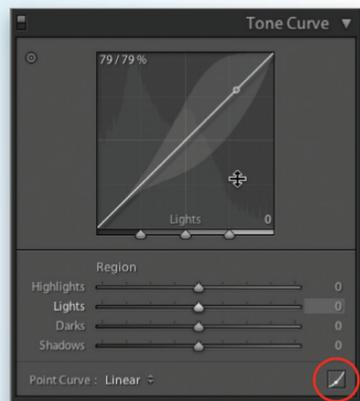


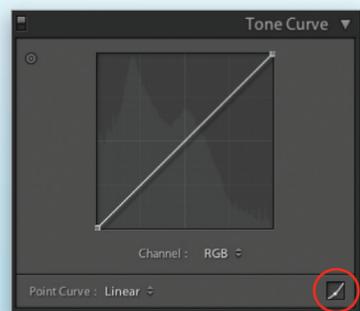
CREATIVE

CURVES

by GENE McCULLAGH



Parametric curve



Point curve

DON'T TURN THAT PAGE. I KNOW, YOU SAW THE WORD *CURVES* AND PANICKED. IT'S A COMMON REACTION, BUT I'M HERE TO TELL YOU IT DOESN'T HAVE TO BE THAT WAY.

When talking to photographers about curves I get some pretty common comments: "Curves are way too complicated!" or "I tried using curves once and I destroyed my image." If you have this kind of reaction to curves, I encourage you to take the time and revisit them. Whether in Photoshop or Lightroom, the curves feature is one of the most flexible and powerful tools you have available.

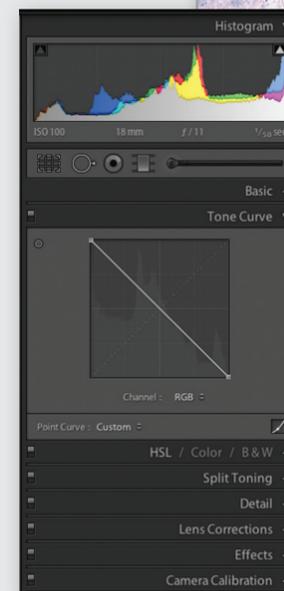
A complete course in how curves work is beyond the scope of this article; however, trying out some of these techniques might give you an insight into how curves work and inspire you to learn more about them. So let's start with a quick review of basic curve functionality.

THE BASICS

In Lightroom, the curves feature lives in the Tone Curve panel on the right side of the Develop module. Since Lightroom 3 we have enjoyed two distinct types of curves: Parametric and Point.

If you haven't worked in the Tone Curve panel, then you most likely will see the Parametric Curve displayed. This is a useful tool and is very much like curves with guardrails. It allows you to adjust your image but prevents you from making wild adjustments. That won't help us for these techniques, so let's switch to the Point Curve.

In the lower-right corner of the panel, you'll see an icon that looks like, you guessed it, a point on a curve. Click that icon to toggle between the Parametric Curve and the Point Curve. When you have the Point Curve selected, you'll notice that the four sliders have been replaced by a simple drop-down menu that says Channel: RGB. If you don't see that menu, your photo is probably using an earlier process version. Separate channel curves are only available for PV2012, the process version intro-



duced with Lightroom 4. If you see an exclamation point icon to the lower-right corner of the image preview, that's an indication that your image is not using PV2012. Simply click the icon and you can convert to the current process version. Now we can add points to the curve. We can move them around. We can add as many or as few as we like. Heck, we can even make wild and crazy curves for those psychedelic images!

You may already know how this kind of curve works; click anywhere on the curve to add a point. If you've spent any time with curves in Photoshop, this will look familiar. Curves in Photoshop have more bells and whistles, but don't let the simplicity of the Tone Curve panel in Lightroom fool you.

When you hover your mouse over a point, the cursor will turn into a horizontal bar with up and down arrows, indicating that you can now drag the point wherever you like. As you adjust the point, the readout in the upper left of the curve display will show you the position of the point. It's important to note that Lightroom is using a 0% to 100% scale instead of a 0 to 255 scale for measuring tonal values.

Should you decide that you no longer want a point you've already set, you can delete it in several ways. One way is to click-and-drag it outside the grid where the curve is shown. You'll see the curve snap back and the point will be gone. Another way is to Right-click on the point and choose Delete Control Point from the contextual menu. If you want to start over and clear all the points you've added, Right-click anywhere on the grid and choose Flatten Curve from the contextual menu. This will remove all your points and return you to a standard flat curve.

HOW DO CURVES WORK?

So how does this curve thing work? It's actually elegant in its simplicity and power. What you see is a graph where the x-axis is your input value and the y-axis is the output value. With a flat curve those are equal. When you add a point and start bending the curve, you're telling Lightroom to change the relationship between input and output values. For example, when you click in the middle of the curve and pull that point downward, then the line in the panel begins to curve. Now that 50%/50% input/output relationship may be 50%/40%. This darkens the midtones because you've asked Lightroom to return a darker value for the 50% tone than before. Once you get your head around how this works, you'll wonder why you've avoided curves.

Here are a few more basic ideas before we proceed: the steeper the curve the higher the contrast; a curve that's horizontally flat has no contrast at all; and downhill curve sections create inverted tonal ranges (i.e., negatives).

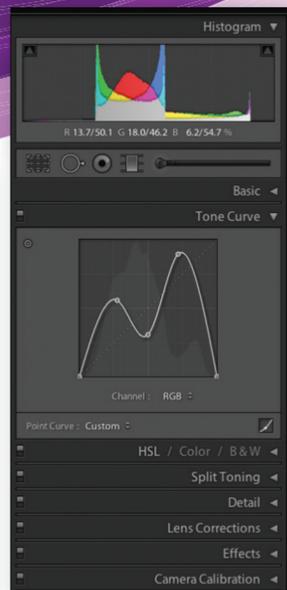
Entire books and courses have been written about curves, so I'd direct you to them for a full background in this powerful tool. For now, this quick tour should be enough for us to dive in and learn some special effects with curves.

THE COMPOSITE CURVE

The Tone Curve panel begins in the composite curve mode (RGB). The composite curve usually controls tonal values rather than color values, but these first two techniques show you how to bend that rule a bit.

A LITTLE BIT NEGATIVE

Making a curve run *downhill* (in the opposite direction of the default curve) will invert the tonal values along that downhill range and create a negative of your image. To do this, simply grab the lower-left point and drag it to the upper-left corner. Then drag the upper-right point to the lower-right corner. Black becomes white, white becomes black, and every point in between goes along for the ride. This is also a great technique if you scan in negatives and want to create positive images from them.



DOWNHILL CAN BE DANGEROUS

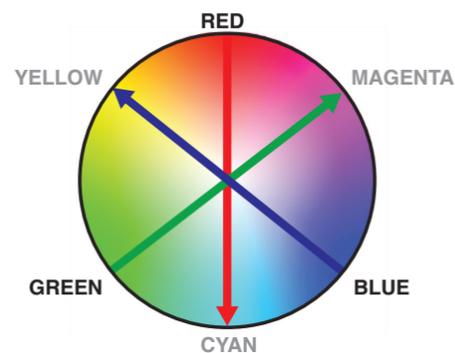
Building on the previous technique, what happens if we only make parts of a curve go downhill but not the entire curve? We simulate an effect called solarization. With a black-and-white image, this can have a really artistic effect, and with a color image, it can create some wildly psychedelic images.

In this example, I've added and dragged points to create an M-shaped curve, which gives me two tonal ranges that are downhill. All tones in those two ranges have their values reversed. You can see the effect. There are no rules here; simply drop some points and make some downhill slopes until you get the image you're after.

TIME TO CHANGE THE CHANNEL

Lightroom 3 brought us the Point Curve. Lightroom 4 expanded on that by giving us access to the curves for each individual channel: Red, Green, and Blue. The ability to manipulate these color channels individually opens up a whole world of effects to us.

Unlike the composite curve, the relationship between the x- and y-axis in a color channel deals with color opposites, not tonal values. It's important to understand the relationship between red, green, and blue and their color opposites. Knowing this will allow you to make general color corrections, as well as expand your color effects. A quick review of the color wheel will remind you of the relationship between the channel colors and their opposites. As you can see, red is opposite cyan; green is opposite magenta; and blue is opposite yellow. In curves terms, if you add more red, you remove cyan. In the Blue channel, removing blue adds yellow.

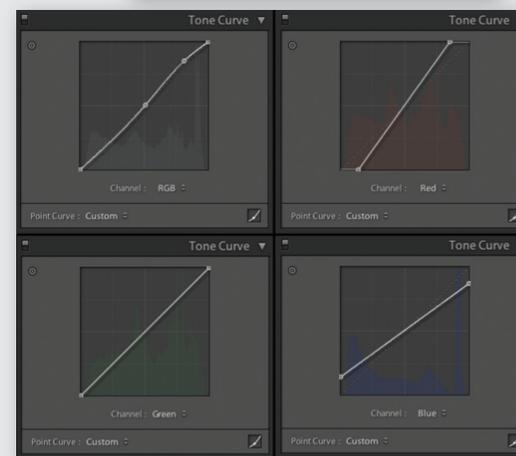


BLEACH BYPASS

Bleach bypass was a darkroom technique that skipped the bleaching step. That retained some silver along with the color dyes resulting in an image with reduced saturation and higher contrasts.

This effect is achieved by creating an S-curve on the composite RGB channel, which gives you the increased contrast. Then adjust the three individual channels slightly downward to introduce a color shift. Simply select the channel from the drop-down, adjust it, then select the next channel. Which channels you change more depends on your subject.

The final step of this technique requires you to go to the HSL panel and reduce the Saturation sliders to achieve the look you want. In this example, saturation was reduced to -50 on all sliders.



CROSS PROCESSING

Another darkroom technique, cross processing, came from processing film in chemicals designed to process a different kind of film, resulting in quite a few variations. This example is a cross process red effect, so you can see some red shifting and a little blowout in the highlights.

Here, we need to blow out the highlights a bit by first locking down the midpoint of the composite curve with a point, and then dragging the curve in the highlight range upward. Make the Red channel curve steeper by dragging the lower-left point to the right and the upper-right point to the left. Decrease the slope of the Blue channel curve by dragging the lower-left point upward and the upper-right point downward. The opposite change in slope on two of the channels simulates the chemical cross processing. (Note: We left the Green channel alone.) You can play with any two channels and vary how steep or shallow the slope adjustments are to achieve a wide variety of cross-processing effects.

SEPIA

Classic color tones for black-and-white images (selenium, cyanotype, sepia, etc.) are all achievable via curves. Let's look at a sepia example.

Here's where our understanding of the color wheel relationships really becomes essential. We want to introduce brownish tones into a black-and-white image. To start, convert your color image to black and white by pressing V. We can get to brown by mixing magenta and yellow, but we don't have channels for magenta and yellow, do we? Yes, we do! Magenta lives on the Green channel and yellow on the Blue channel. Remember, when we remove one channel's color, we introduce its opposite. So go to the Green channel and pull down on the curve to remove some green. This will introduce magenta into the image. Doing the same in the Blue channel introduces yellow. Go ahead and mix these two until you get the sepia tone you like. Complete the effect on the composite RGB channel curve to add the contrast you want. Voilà! Expert sepia toning.



THE POINT OF CURVES

So what's the point? Why should you use curves for these techniques when there are presets or other panels that will yield similar results? Two reasons. First, it's good to know that there are multiple ways to achieve an outcome in Lightroom. That's what makes it such a powerful and flexible application. Second, curves are extremely useful and a better understanding of how they work and what they can do enhances your skills.

I hope you've gained some insight into how powerful curves can be, and I encourage you to research them further. ■

