

## The First Refuge Of the Fearful

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*Author's comment:* This is the first of two columns on masking, spiced up with some political commentary and a discussion of the troubles of the once-mighty Seybold Conference. At the time of writing, the east coast version of the show had just been cancelled, but the stronger west coast show still survived. That was only temporary; the 2003 show was drastically downsized and was never again seen in its traditional format.

This archive, to be released over several years, collects the columns that Dan Margulis wrote under the *Makeready* title between 1993 and 2006. In some cases the columns appear as written; in others the archive contains revised versions that appeared in later books.

*Makeready* in principle could cover anything related to graphic arts production, but it is best known for its contributions to Photoshop technique, particularly in the field of color correction. In its final years, the column was appearing in six different magazines worldwide (two in the United States).

Dan Margulis teaches small-group master classes in color correction. Information is available at <http://www.ledet.com/margulis>, which also has a selection of other articles and chapters from Dan's books, and more than a hundred edited threads from Dan's Applied Color Theory e-mail list.



## The First Refuge of the Fearful

Making a selection of part of an image and working on it in isolation seems like the safest way to correct obvious defects. But it usually doesn't look natural—unless you make the selection the natural way.

**P**atriotism, according to the great physician, lexicographer and wit Samuel Johnson, is the last refuge of a scoundrel. Adjusting that old saw for one's own literary purposes, according to me, is the last refuge of the inarticulate, so here goes.

In handling digital images, calibrationism is the last refuge of the incompetent, but that's another column. Selectionism is the first refuge of the fearful, that's today's theme.

In all graphic applications, a *selection* isolates certain areas of the job, allowing them to be altered while other areas are off limits. In images, there's also the possibility of a partial selection, where any changes will be applied half force to areas that are only half selected, and so on. Often, retouchers create a *mask*, an editable, savable means of mapping which parts of an image are selected, deselected, or partially selected.

The October column featured the rare situation where a selection is supposed to be self-evident: I wanted to enhance a small section of a vague-looking image. So, I drew a box around the area and hit it with an enormous correction, making clear not just what the subject was but the boundaries of the selection box.

In the remaining 99.9 percent of cases, the selection is supposed to be non-obvious; the selected object should blend undetectably into its background. And making the selection isn't usually quite as easy as drawing a box. It ranges from a quick click of the magic

wand tool to some very tiresome blending of channels from different colorspace.

For the moment let us admit that selections are occasionally necessary. If you're making some kind of collage with elements from more than one picture, you'll have to select each object before you can merge it. And, even if you're only working a single image, if you're trying to achieve something that absolutely is foreign to the original art, such as dropping out a background completely or changing a red shirt to green, it usually, but not always, requires a selection.

We won't be discussing these special cases. Elsewhere, making a crutch of selections is ordinarily the wrong thing to do, and the more experienced one becomes the less one tends to rely on them.

Dr. Johnson also remarked, "Example is always more efficacious than precept." So dispensing with further palaver, let's proceed to something real-life.

### The hard truth about hard selections

The deer in image A blends neatly into its background because that's the way evolution has designed deer, the better to baffle predators and, incidentally, photographers.

On the other hand, evolution has given us a counterweapon, our sense of simultaneous contrast, which breaks objects away

**Version B is an improvement on A, but even though the selection technique was good, the colors no longer make sense. It's too obvious that the deer has been corrected apart from the background.**





**Clients often request darker, healthier looking fleshtones in images like C. Version D was produced with global curves. Version F isn't all that different, but its background grass and trees are greener, the result of applying the red channel (E) as a mask before wheeling out the curves.**

it. Before lambasting its execution, let me point out that the selection of the deer is as smooth as it is obvious. Less skilled people are apt to make the deer look as if it had been cut out with a saw before being pasted back in.

A less skilled person, also, wouldn't be quite as fastidious about making the background a credible green like that found in version B. You can imagine how foolish it would look if B's deer, however carefully selected, were pasted into A.

Version B has been evaluated by a large number of students, who always like the overall colors and detail. But, even without being told, they immediately see that the deer has been selected and manipulated locally, and they downgrade the image from excellent to acceptable.

There are two lessons. First, if you absolutely must make a hard selection of the foreground object, it's generally better to invert it and work to subdue the background instead. The eye is drawn to the foreground object; any artificial stuff that goes on there is likely to be detected.

Second, version B didn't survive because its colors were incongruous. In the wild, many of the deer's ancestors met a similar fate for a similar reason. The solution is the same

from their background, the better to distinguish good things to eat, and, incidentally, to baffle photographers.

In short, human observers see a very different scene than a camera, which doesn't know simultaneous contrast from Shinola, does. A human might focus in on the deer and see it as being sharper—at the expense of the background. A human might perceive a redder deer—at the expense of all greens. But a human doesn't see a deer in isolation: there's a background there too, and it waxes and wanes with whatever we imagine to be happening to the foreground object.

The professionally corrected version B has a lot going for

in both cases: a process known as *natural selection*.

### **The tanning salon, Photoshop style**

In principle, if one corrects globally and hits all the proper numbers, all the colors fall into place, just as in principle if one takes adequate care of it one's hard drive doesn't corrupt any files. The reality is harsher. In one case, we compensate by doing backups; in the other by using selections or semi-selection tools such as Photoshop's Adjust: Hue/Saturation or Selective Color commands.

None of these would work in the image of the woman at

the picnic table, which illustrates perhaps the most common reason for a move away from the original color.

Those who what people like in a picture have found that viewers generally prefer a darker, more suntanned, healthier-looking fleshtone. So, even if version C is technically correct, the viewer is apt to want a slightly warmer feel.

The flesh starts as a kind of red, which is awkward for any of the commands mentioned above. The lips and parts of the skirt are also red and would likely be adversely affected by any attempt to alter the fleshtone. Yet selecting the fleshtone only would create the same effect as in the deer image. Plus, while it would be easy to make the selection where the shoulder hits the background, it gets considerably nastier as the fleshtone fades into shadowy areas.

The solution is a mask exceedingly complex in construction but simple to invoke—all it takes is a Command-Option-1. That keyboard shortcut loads the first channel (the red of RGB, the cyan of CMYK, or the L of LAB) as a selection. I happen to be working in RGB here, and chose the red channel because its fleshtone is much lighter than background, sky, and clothing. The green and blue channels feature darker flesh and lighter skies.

The darker the mask, the less it permits any alteration of the base image: where the mask is black, the base can't change at all. So, with the red (E) loaded as a mask, the curves that I applied to version D affected the skintones far more than the clothing and the greenery.

The background greenery become slightly more neutral because of the reddening effect of my curves. That slight variation in the background is what makes the greater change in the fleshtone credible, as opposed to what happened when the deer was lifted out of its background and pasted back in. Yet without the partial selection, one is apt to create a mild red cast, as I did when in F by trying to match D's fleshtone without using any kind of mask.

### Hang a lantern aloft in the belfry arch

Professionally shot images usually don't call for moves as large as D, where I actually went slightly overboard to prove a point. Grossly defective originals are another story. The man memorialized in image G was a patriot, but no scoundrel. As for the photographer who took his picture with the sun behind him, the less said, the better.

The rider clearly needs help. But the background (yes, that's the Old North Church) is critical as well, and will be obliterated by any attempt to lighten the statue.

To make mask H, I wanted to make a channel into a selection and then invert it, so that its black

parts would turn into the white that would expose the area to correction. Some of the background needed to be included to avoid the cut-and-paste look, but as little as reasonable.

All of the RGB channels had issues. In the red, the sky was too dark. In the green, the church was. And the blue, as it often is, was too full of garbage to use.

Therefore, I tried Command-Option-~. This little-known shortcut loads a *luminosity mask*: a selection that is in effect a black-and-white version of the color image. Then, Select: Save Selection into a new document (or an alpha channel of the existing one), followed by Select: Invert Selection to make a negative image, and a modest curve to make the dark parts, such as the steeple, even darker.

Then, having canceled the selection in the original document, Select: Load Selection of the new mask, followed by curves that add contrast to midtone-to-shadow. The mask makes sure these changes affect the statue more than its base,

## The Passing of Seybold East

The east coast version of the Seybold Conference on Publishing Systems has died after a lengthy illness, its family has announced. Its older brother, the Seybold San Francisco conference, is also ailing, but is still scheduled for September 2003.

This has been a brutal economy for trade shows (see *The Year of the Rat*, EP October issue) but the problem runs deeper. Seybold originated in the late 1980s as a thinking person's print conference—it accurately foresaw the rapid development of desktop publishing and what it would mean to the industry, and also was out front in predicting what the web would become. It became an indispensable networking ground for industry leaders and power users.

Unfortunately, it wasn't able to retain its reputation for sharp focus and production emphasis. It benefited more than most from the web boom that filled its floors to bursting with exhibitors who were bankrupt a year later. The subsequent bust not only slashed Seybold's revenue but failed to bring back those who had decided it had become a web-centric show. Furthermore, it never matched its earlier skill in predictions or practicality. It chased the field on PDF adoption, and focused on color management trivia rather than production essentials.

By this year, attendance from larger print and prepress operations was down, replaced to some degree by a larger number of independents and professional photographers. Vendors of big iron caught on and abandoned the show floor: there were plenty of people selling inkjet printers in San Francisco, but not a single large scanner, image- or platesetter, or high-volume copier, let alone a press.

In September and October the more explicitly Photoshop-oriented Photoshop World, the more print-oriented Graph Expo, and the more photographer-oriented Photoplus Expo all did much better than September's Seybold San Francisco. While it still offers matchless educational opportunities, if it is to continue to live up to its proud history Seybold desperately needs to figure out who it is for and how to attract not just thinkers but doers—and buyers. —DM



G



H

The statue in G needs to be lightened, but cutting it out of its background will look artificial. On the other hand, lightening the picture globally blows out the background (K). The more reasonable J was produced through an inverted luminosity mask (H).



J



K

the base more than the church, the church more than the sidewalk, the sidewalk more than the sky, and the sky more than the steeple. This prevents the blown-out background of K, while the modestly lightened background of J avoids the cut-out-and-pasted-back-in look.

### A glimmer, and then a gleam of light

Credible masks are much easier when based on an existing channel. Yet there are ten channels available and to take full advantage of all opportunities one has to be able to visualize all of them at once. Next time, we'll delve deeper, and start to consider blending with these channels, rather than merely masking.

Again: overuse of selections, especially before considering other options, is the hallmark of the timorous. But, provided you're willing to settle for subtle effects like the difference between versions D and E, you shouldn't be so doctrinaire as to suggest that corrections should never be done through a mask.

While we're at it, we should recall that Dr. Johnson's remarks about the caliber of person who wraps himself in king and country have a lot of merit also. In fact, had he lived in the land of McCarthy, Mitchell Palmer, and Millard Fillmore, he might have used an even stronger epithet than the one he did.

Be that as it may, we have recently been reminded that, as with selections, there are certain times when patriotism is entirely appropriate. The first line of the following is, in my view, an apt description of what a proper mask is and does. The remainder have nothing to do with masking or with color, but should be read from time to time just the same, now more than ever.

*A cry of defiance and not of fear,  
A voice in the darkness, a knock at the door,  
And a word that shall echo forevermore!  
For, borne on the night-wind of the Past,  
Through all our history, to the last,  
In the hour of darkness and peril and need,  
The people will waken and listen to hear  
The hurrying hoof-beats of that steed,  
And the midnight message of Paul Revere.*

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