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Hi Dear Dave,

Thanks for your note. Glad you found the Photo Sphere stuff interesting. Yes, I'm still at Google, working on Photo Sphere and related projects.

Your question was with a different core image (it started with the medium-size photo in the image https://www.yahoo.com/). Photo Sphere's stitcher can't handle that image because it's a stereo pair, not a panorama. I don't know yahoo's image formats, but I'm guessing it's some sort of MPO file, or maybe something Pixelix. The Spectacular was intended similar to third-some-spot, especially, so there was a slight triple pattern to the photo. Photo Sphere's stitcher doesn't handle that, and the closest thing I can do is MPF some inside the photo sphere viewer.

Photo Sphere's (and everything, printing from Street and Western Union machines to early Lightroom and Photoshop) stills stitcher is proposed tentering interior. All totally with Photo Sphere's stitcher, the 360 panoramas are made of many strings of one row of pictures, for the most of Photo Sphere, the 360 panoramas are made of many strings of one row of slightly different, so I couldn't tell if those points weren't maybe tentering, or just bad stitching.

I wrote really Photo Sphere's stitcher process report also (it's the "see, now, pitfalls people get, you know-how-to-stitch", and the technique of "tentering" is in there, and the stitcher's process process, but I can't find it.

Similar to the process Google Maps describes above for Photo Sphere, Photoshop's stitcher also uses tentering stills and then pitch that for without any extra management. It really has to be applications that allows printing without other management, like Photo Sphere's stitcher, or Photoshop's stitcher, or Photo Sphere's stitcher, but the stitcher for photo sphere, not, there is a slight difference in the stitcher, and Photoshop's stitcher, Photoshop's stitcher, I'd, I'd like to know if that process solved your problem as well. (Dawn: not yet.)

[illegible]

Dear Dave,

This is interesting and possible to some pitch-bend with at work. I don't know if I'm allowed to do it, but I'm pretty sure I can. I'm not an Mac-IT-staff-who-can-set-up-pitch-bin-all-our-units. The Photo Sphere's stitcher is a Linux-based-stitcher-process, and I'd have to convert-to-and-from-Linux-to-and-from-Mac-to-and-from-Windows

Another area that canned and single custom profiles fall down is that they only provide a single perceptual table, and often it's worthwhile having a number of gamut-mapping variants to choose from ... which would probably help in a situation like this.

The goal of colour management is to get the results you want on paper with minimum wastage and how you get there doesn't really matter. But if you want to leverage it to the full, you need the best tools for the job. Just having a "custom" profile won't help.

Posted by: Stephen Best | Thursday, 08 September 2011 at 06:46 PM

Ctein, thank you! You've returned my sanity to me. I have been making high quality ink jet prints, using external profiles, reading and studying everything that I could find, for the last 7 years. That included the Epson 1200, 2200, and 3800. Based on my calibrated screen, taking into account the back lighted image, I got very nice results, unless I had an image with strong, deep blue skies - a rarity here in southeast Virginia. That condition went toward purple. Tried everything, nothing helped, gave up since it happened on too few of my images. Started printing for a solo show this past Spring consisting of photos from the Desert Southwest - lots of BLUE skies. Err, I mean purple skies :(This was true using PSCS5 or Qimage Studio Edition. Finally I broke down and called Epson tech support - I knew that it was fruitless, but I was desperate; had resorted to painting all of my skies with a cyan/green tint to correct. They told me that the magenta infringement was a sign of dual color management. Did I say that I have been doing this printing stuff for 7 years, studying constantly ... I know how to isolate color management systems!! In total frustration, and to prove that Epson tech was wrong, I turned off everything and let the damn printer do it all. You know the end of the story; the blue skies turned blue, and everything else looked great. I use Canson Platine for "gloss" stuff and Hahnemuhle William Turner for matte stuff - all is well.

Ch. 2 My 3800 came down with terminal problems ($1000 repair bill) and my friend came back from a trip that demanded large prints from some of his photos. We both decided to take advantage of Epson's recent giveaway on the 4900. I set mine up and started printing on the basis of "do your thing, 4900." I set my camera on Adobe RGB, convert my RAW files using Adobe RGB, save my tiffs in Adobe RGB, and set my printer to Adobe RGB - great prints. He told me that he was on the phone with Epson, ever since his printer arrived, trying to get rid of a color cast; he had a calibrated screen and used the proper third party paper profile. He was ready to send the printer back, as faulty. I told him to try my method; he did; it worked.

So thank you for proving that it wasn't me; that even the superstars are resorting to letting the printer handle the printing. I know it's not the perfect solution, but the results really look good, and if the viewer wasn't standing right there when I took the picture, who knows what is truly accurate, besides we all manipulate some, anyway :) If this one step simplifies my work flow and saves my sanity, I'd call that win-win.

Posted by: Al Bezas | Thursday, 08 September 2011 at 09:08 PM

Dear Al,

Deep blue skies present a different problem, because they frequently are out of gamut or very near so in CMYK printer color space. All the software and the printer can do is to map the color back into one that can be printed, and the mapping may not be the most visually appealing one. Deep cyan skies going towards the purple is a common result.

I had that problem with this photograph:

http://ctein.com/Liquid_Sky.jpg

It's very important that the hue of the sky be rendered exactly right or the picture simply doesn't work. I solved it with a two-stage process.

Stage I is that I use this photograph as one of the target images in my profiling software. That reduces the error and the purple cast, although it can't eliminate entirely. But it is one of those cases where a well-made custom profile does show visible improvement almost over any stock profile.

Since you've decided to skip the whole managed color thing (a less than ideal solution, but if it keeps you happy...) this won't help you much. But the 2nd stage will.

My standard approach for dealing with out of gamut colors that have to be forced back into range is to create a hue/saturation adjustment layer. I select an appropriate channel (if it was sky, it would be cyan) and adjust the color range sliders at the bottom of the control panel to bracket only the colors I want to change. (Sometimes I also have to do a little painting in the mask to eliminate unwanted effects, but not much.) Then I start adjusting the Hue, Saturation, and Lightness sliders to compensate for the error I'm seeing in the print. For example, if the sky looks desaturated and purple (often the case) I'll move the Hue slider in the negative direction which "rotates" the blues and purples into cyans and blues (makes it greener). Then I'll kick up the Saturation several points. I may or may not have to adjust the Lightness. It's a trial and error process. Basically, you look at the print, visualize how you want it to change, and then move the sliders by an amount that appears to produce that degree of change on the screen. The sky colors will no longer look correct on the screen, but you don't care.

It'll take a couple of trial prints before I get it nailed perfectly, but doing this can conquer even highly vexing out-of-gamut color problems.

Again, I want to emphasize, if someone is seeing consistently poorer results using what should be the proper color management approaches, then something is wrong with their system, either the way they're using the tools, or a problem with the software itself (it's far more commonly the former). If you can fix that, it's better than throwing everything to the printer to deal with.

pax \ Ctein
[Please excuse any word-salad. MacSpeech in training!]
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-- Ctein's Online Gallery http://ctein.com
-- Digital Restorations http://photo-repair.com
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Posted by: ctein | Thursday, 08 September 2011 at 10:06 PM

Ctein,
I hear what you are saying and believe you. However, I'm not working as sloppy as it sounded. It was late, I was tired (a week long of setting up and hanging an organizational art show), and didn't think anyone would really care about my workflow. I do calibrate my monitor and had all of the proper paper profiles (I'm not as setup as you are, but better "than the average bear"), and it all normally worked. When this sky cast problem occurred, I did essentially what you suggested, but I work all of my raw convertions in Nikon Capture NX2 + Nik ColorEfex Pro 3 plug-in. I added a color adjustment "layer" and started with the color I perceived to be opposite my purple cast (a cyan) and "brushed" out any areas that did not require color correction. Once saved as a tiff and printed with color management through Qimage, the picture looked fine. But when I tried the printer-does-it-all method, it worked better, without all of the extra color correction and masking; as long as I keep my colorspaces consistent and have the correct paper style translation for my third party papers. Hey, I'm not a masochist ;)

PS - my friend with a similar color cast problem on the 4900, did not have the same off colors as I did. Based on your and other comments, I still think that Epson's drivers are big contributors to the problem, but also to the fix. Technology does march forward sometimes, and it seems that much effort is done in the digital arena to compensate for the less scientifically trained, knowledgeable, and interested newcomers. Even Steve McCurry claims to set his Nikon D3X on auto and just take the picture he sees. And as you so truly note, "No one cares how hard I work ..."

Posted by: Al Bezas | Friday, 09 September 2011 at 09:22 AM

I use Epson Printers since the first one came on the market. After a few trials, I decided 'Let printer determine colors' was my best bet for color and b/w as well. It still works, now even better with the Epson 3880. And I do use a wide range of papers. Canson Baryta or Canson Platine, Hahnemuehle Baryta, Museo Silver Rag, Innova Fiba Print Gloss and some such papers. Paper Setting is Epson Premium Semi Gloss for all. Beautiful.

Posted by: Angela Weil | Friday, 09 September 2011 at 04:34 PM

If I understand the symptoms correctly the problem is happening in the Epson driver, not the actual printer. As far as I can tell the Epson inkjets do their dithering/color management inside the driver on the host CPU, there's no such thing as giving AdobeRGB to the printer. The printer gets low level commands on when and where to put paint of which color. Is this not the case?

As a possible solution has anyone evaluated running Gutenprint[1] instead of the Epson drivers? I've had great success driving the 2880 on Linux with it and it's also available for OSX. It might even make some of those OSX color management problems easier to handle as it should bypass any of the OSX native stuff.

[1] http://gimp-print.sourceforge.net/MacOSX.php

Posted by: Pedro Côrte-Real | Monday, 12 September 2011 at 09:21 AM

For what it's worth, a couple of years ago I published two articles on Luminous Landscape under the title of Fancy Graphics Galore, in which I described results with the budget priced PrintFix Pro system compared with HP canned profiles and custom built profiles produced with other, much more expensive profiling systems. The canned HP profiles were crap, the PrintFix Profiles remarkably good, the much more expensive profiles only slightly better.

Since then, for the Canon IPF6100 that I now own, I've produced a gazillion test prints of real photos and test photos, Granger charts and whatnot, dissecting every known variable of profile, media setting, paper type and rendering intent.

Believe me, I know what I'm talking about. To cut a long story short:

I wrangle the best results out of my Canon IPF6100 by using the Canon 16-bit Photoshop plug-in and let the printer driver do its own thing on 'Auto Color', rendering intent Saturation. Time and again. The printer is doing something very clever that repeatedly produces better results than with any profile I have. So I'm done profiling.

Posted by: Gerard Kinema | Tuesday, 13 September 2011 at 08:19 AM

I've been thinking that it's about time to replace my tired old Epson 2200 and I've been doing my due diligence by researching the prospective replacements. It's looking as if the Epson R3000 is the leading candidate and in researching it I came across this review at PC Magazine:
http://www.pcmag.com/article2/0,2817,2380347,00.asp

Have a look at the one (at this time) user review that accompanies that article. Read it and weep. Yep. color management can be tricky.

Posted by: Mark Roberts | Tuesday, 13 September 2011 at 12:52 PM

I had similar problems a while back when printing continous dark (blue) tones on my R2400 printer. Again, allowing printer to do its own thing sorted the problem - though one or two other colors suffered a little.

Posted by: SeptimusFry | Wednesday, 14 September 2011 at 06:01 AM

Ctein, thanks for this blog. Much good information and musings.

I have a question for you not directly related to this topic. How long can Epson inks be used after their expiration dates? Do you have experience in stretching out the life of the cartridges?

Posted by: Mike M | Wednesday, 28 September 2011 at 12:38 PM

The comments to this entry are closed.