

Current status and Requirement on How to use Photoshop

by Kunitoshi Yabe (Photographer)

Self-introduction

I am a professional photographer. Also, I do image data processing both for my photos and for others' works. Sometimes, however, my activity includes that of art director and photo producer, managing the process ranging from planning, photographing, design and printing.

Today, I would like to talk on photograph from my various standpoints as mentioned above.

Preface

In finalizing photo art, sometimes photographer cannot control every process, leaving some process to other's decision. On the other hand, photographer finalizes art work on his/her own responsibility. We have to draw the line between these two cases. Otherwise, it makes confusion.

Also, in Japan, we have some local rules in printing and prepress. This means that we Japanese do not always work on transparent rules unlike SWOP in the US.

We can say that these are the same as the issue of "profile" photographer has. But we should not group them together.

I would like to mention following thing, although this is not today's theme. In Japan, photographer's position is not high.

Photographer is subjective to decision of designer, editor or person in charge of printing. In reality, a printing company misconstrues the reception of photo removing a profile as color management in printing. Or, some other printing companies mis-manage profiles, which result in different colored production. Put simply, although photographer has his/her own clear intention for coloring, this is not reflected in works.

In other cases, the printing side misconstrues profile management as abandoning its own technology. Or, sometimes printing companies cannot receive and use profile due to lack of capital expenditure to install necessary configuration for profile.

This is caused by followings; they do not have opportunities to learn about profile simply because of lack of knowledge that profile management is simple and useful. I think other reason is the issue of Japanese fonts indigenous to Japan. These factors either in combination or independently give negative impact to designer, and indirectly to photographer who is in position to receive order from designer.

Interestingly or expectedly, there are some companies who manage profile in a right way. If principle of capitalism works properly, those who cannot manage profile would have to be

dumped into the dustbin. However, the reality is not such. Is this due to profundity of Japanese culture?

Main Body

1: Photographer works fairly intuitively on photo

1-1 Confusion

Unlike in silver halide photographing, color management in series of process ranging from shooting, data management and Photoshop processing in digital camera photographing is quite confusing to those who are not accustomed to new rules. Apparently it is easy to follow traditional method if possible. However, digital photographing requires terminology and method quite close to PC world.

1-2 Comfort in compliance with right procedure

After having mastered fair knowledge of digital photographing, we face a next challenge – there are so many approaches. Needless to say, we are astray on which is right way.

Digital camera photographer, using artistic side of brain on picture composition and coloring on one hand, racks his/her brain over the question of approach proper to computer processing on the other. This is very much troublesome.

We might think it is hard to find difference between digital and silver halide photographing. In case of silver halide, however, photographer exclusively focus his efforts on how to master the use of film, and then come into photographing after having perfected the art of it. As a result, he/she can concentrate on taking pictures. On the other hand, digital camera photographer has to pay attention not only to taking picture but also to other things – always keeping finalization including coloring in mind!

1-3 Responsibility and guarantee

Probably any professional is responsible for and guarantees finish of his/her work. It is the same for photographer. While silver halide cameraman can clearly be guarantee it in form of print and positive film, digital camera photographer cannot always guarantee the quality of final work since the final outcome is dependant on those who use it in form of data. A profile is necessary for avoiding this type of defect, but a problem is that everyone can properly master the use of profile. If I come up with a right solution by use of profile, unfortunately it is hard to have opportunities to show it clearly to client. At the end of the day, photographer has to spend additional and less meaningful time in order to deliver final outcome in accordance with adjustment on coloring from clients.

1-4 Choice of PC

In many case, we cannot choose proper hardware to run ICC profile in proper way – I wrote down an article regarding the choice of hardware in a monthly business magazine just for

“enlighten”. Some people buy hardware by which they cannot fully run Photoshop due to lack of monitor calibration, just for price. This is very ordinary issue but it is even more profound problem. PC in compliance with ICC profile is more than expected in the market.

2. Color in shooting

2-1 ICC profile in shooting?

Photographer likes to maintain his/her own image into finalized work, but is sometimes required to reconstruct original colors of the object. Some people mis-believe that the profile can process those different requirements. It is not.

2-2 Monitor and preview

Even in photographer's world in Japan, it is rather a matter of common sense to calibrate monitor but unfortunately there is a kind of confusion around the calibration due to a lack of guideline. Many calibration software fail to properly function to calibrate the monitor, since they simply sort out gamma by distinction between Windows and Macintosh. Still, there are professionals who misunderstand between the monitor profile and the profile of file. In order to avoid this kind of misunderstanding, we need country-by-country guideline, which should be free of different platform.

Also, after having properly calibrated the monitor, there exists the issue of appropriateness of profile in the preview – we cannot necessarily come up with proper profile in different software and even if we have it we counter with the other issue – unexpected render intent! As a result, the same photo data generate different color in the screen. This kind of confusion leads some photographer back to the use of silver halide.

I think we need to give proper instruction to developers when they develop software.

2-3 Adobe Bridge and Camera RAW Driver Software

There software may finally generate coloring. This gives another confusion to photographers. This is outside the scope of ICC profile, but due to a lack of common guideline in softwares the original color data in shooting becomes useless without any processing.

Some softwares generate clear outcome in line with photographer's intension just by chance but some not. We dare say this is a issue of probability and unfortunately evaluation on softwares totally depends on this probability.

2-4 Working color space and profile in digital camera (or scanner)

There is not a problem if photo is based on color space photographer has chosen by him/herself. It is, however, a bit difficult to understand how to come along with, if photo is based on the profile digital camera or scanner originally has. It is rather better if each equipment has its own profile but it is somewhat confusing to understand between working color space and color space in data when data exchange from different source is necessary. One might say “really?” since it is more than our common sense. However, given the fact

that we cannot find a right solution, we are confusing under various color space. This is caused by the fact that we too much cling to the principle of minimizing the number of exchange of profiles.

3: Image processing

3-1 CMYK processing and RGB processing

In image processing, photographer is swayed depending on choice of color mode by clients. In some business photographing, client ask photographer to reconcile between data of new shooting and already-existed data – to make image processing between CMYK data and RGB data.

In this case, the conversion from CMYK into RGB is a bit of trouble. It is obviously not an ideal data processing. We might solve this conversion problem if convertible profile become in general use.

3-2 Color space in RGB

As the use of photo data in Web explodes, the issue of color space in RGB has become serious. Photographer is required to use Adobe RGB for a printing purpose by clients in most of cases. However, sRGB is a de-facto standard in the Web world. Also, monitor does not usually provide ample color space.

If photo, originally delivered in Adobe RGB, is used in Web as it is, the final coloring is far different from the original one. Web builders do not apply color management in general. We need to pay higher attention if we multi-use photo data, but Web browsers do not recognize the profile, which result in mistake in coloring.

I think it's preferred that a new color space with a bit broader red based on Adobe RGB should be standardized at 6500K. On the top of that, however, we need other configuration to enable all monitors and browsers to display RGB properly.

3-3 Color outside of CMYK spectrum

When we work with broader color space of RGB, we face some problems – not be able to print as it is in monitor, or, not obtain good result by profile conversion due to tone jump.

Photographer is liable for this defect anyway.....

4:Printing

4-1 Print profile

When we create a profile from print, we need to average data though a trimmed mean processing on various sample. However, a software enabling this is very expensive. Therefore, we create a profile through a print outcome and examine the rightness of the profile through trial and error.

In many case, there are more or less fudge errors in one sample and consequently the creation of profile picks up density fluctuation.

In order to avoid this defect, we need to pick up fudge errors within a certain target color.

4-2 Profile provided by makers

Printer maker provide profiles for the use of specified papers in some cases. Many photographers think this is a kind of panacea but the reality is that these profiles do not necessarily pick up fudge errors in each instance. Many people simply rely on there maker-provided-profiles without examining their accuracy.

4-3 Print dialogue

In Photoshop, the print dialogue pops up as print option in printing. User has to choose the method of color processing at this point, but the outcome might be different even with the same profile, depending on OS version

Usually, user do not understand what really functions behind the option bottom and what is the best settings, since outcomes differ a lot.

Also, user either throw questions/complaint to printer maker or cry him/herself to sleep!

Profile become useful only if there is common rules across OS providers, PC makers, printer makers and software developers.

4-4 CMYK

Profile in CMYK is pretty difficult to use. In Japan, the variety of CMYK is in use. I think a CMYK profile in Photoshop is not so useful in a current form.

A rule in profile says that different outcomes mean different profiles. However, the most important thing in CMYK is how to choose between inks, papers and black printers. Even with small difference in dot gain, we cannot have right settings in printing without having option to set up individual points.

In fact, in printing, there is not perfect consistency in coloring between the beginning of printing and the end of it. Also, the outcome is not consistent depending on printing speed or humidity. It is misleading to understand that profile is panacea to solve these defects. This misunderstandings sometimes embarrass printing companies.

I think if we have 4-6 profiles (roughly classified by character of ink and paper) with dot gain adjustment as a parameter, that will be of great use.

As a photographer, I feel difficulty when I am asked to deliver data in CMYK. However, if I deliver data in RGB, that would be converted into CMYK data by clients and consequently the outcome would be different from what we expected...

4-5 Profile filing (or arrangement)

If we convert profile in Photoshop, we come up with a chunk of profiles in disorder. In that situation, we are confused among similarly-named profile and do not understand what this and that profile are use for. We can reduce this confusion if there is some system which automatically classify profiles according not only to name but also to attribute.

5 Miscellaneous

5-1 Various applications

We usually display photos in combination with other various media (i.e. news photo, advertisement, fashion and portrait with text) rather than show them independently (i.e. photo exhibition, portrait). As I mentioned above, in all of these media color is not properly managed, in my view, but photographer is always responsible for his/her own works. I hope the concept of profile management becomes common.

This is the same not only for Web but also for monitor in mobile handset or something like that.

5-2 Color temperature

Photographer uses film (silver halide) reactive to light source of daylight and tungsten, 5500K and 3200K respectively.

Roughly speaking, photographer regards light at 5500K-6000K as the alternative of sun light in silver halide film. This is, however, different and becomes blur in digital world, causing confusion in color temperature.

Also, there is no unified rule for temperature color scale in softwares. As a result, 3000K shows yellowish in a software but reddish in other. I hope there should be unified concept for color temperature even in softwares.

5-3 Gradation and profile

In converting profile, color by pixel is converted in favor of color in color space. At this point, gradation characteristic may be lost. Gradation is beautiful only it is formed in continuous change in tone. If this is broken, photo loses beauty of tone.

5-4 Photographing and color space

Even with boarder color space, we cannot reproduce original color due to a lack of functionality of camera to pick up color of the object in a high-fidelity fashion.

Some makers fail to maintain proper color management. The same photo among Adobe RGB and sRGB could be different in color when it is printed out. This is mainly because of difference in color space.

Being poor in color capture in shooting and different nuance in color according to different color space, both are serious problems for photographer.