

While back I went on a quest to find the Holy Grail of portraiture – The Perfect Skin-tone. In addition to this I was also determined to discover the easiest way to manipulate less-than-perfect flesh, in post. A short way into my quest, I was struck awake one night with this question, 'Is there such thing as the perfect skin-tone in photography?' Thinking to myself that there must be, I went to the oracle of color, the Macbeth Gretag colour checker card, and there it was at the top left corner of the original, 24 patch card, two absolutely perfect looking flesh-tones (see Image 001) – a Caucasian flesh-tone called 'Light Skin Tone' and a dark flesh-tone called 'Dark Skin Tone'. I thought to myself, 'This is it, I've found it!' thinking that Macbeth would of course only use the perfect skin-tone, but then I remembered their newer Digital CC SG checker card which has many more skin-tone patches which lead to the question, 'Which one is the perfect skin-tone?' That was it, the self doubt set in as it invariably does on any great quest, I mooned around the house for several days eating nothing but Hob Nobs and ice cream, barely sleeping.

Eventually I did rally my remaining self-worth and looked into the matter. As it turns out, contrary to what one might think, these tones are not intended as perfect skin-tones, but rather as average skin-tones. So the question remained, 'What is the perfect skin-tone and how do I get it?' For the most part, if I white balance correctly, use Adobe's DNG Profile editor software or Macbeth Gretag's ColorChecker Passport software to tweak my DSLR's profile which is created for and used by both Lightroom or Adobe Camera Raw, I generally get pretty decent skin-tones. However, often enough I look to change these tones, especially during wintertime when pale sun-starved skin could use a little fake golden glow, and so I need to edit them to push them towards the 'perfect' skin-tone. There it is again, 'The Perfect Skin-tone.' If you ask different people what a perfect skin-tone looks like, you will get many different answers; different cultures have different ideas of what a perfect skin-tone might be. Caucasian North Americans and Europeans generally like what they call a healthy golden glow (a bit of a tan from outdoor activities such as skiing, sailing, tennis, and golf signifying a well-off creature of leisure), whereas some Asian cultures equate tanning of the skin with lower classes (outdoor labourers), and within these cultures there are subcultures like the Caucasian Goth culture where the perfect skin-tone is more corpse-like. Within Caucasian flesh there is a fairly wide spread of 'correct' skin-tones ranging from babies and fair skinned Celts to swarthy southerners as well as outside factors that alter flesh-tone. These factors include, sun, suntan booths, windburn, and over use of various libations. Also our perception of skin-tones is affected by: a) context ie an image of a Caucasian dragging themselves through a desert won't seem right if the flesh were pale white, yet that same pale white might be the perfect skin-tone for vampire portrait. b) Chromatic Adaptation ie a photograph of a person against an intense blue backdrop will look to have yellow flesh relative to the same image shot against an intense yellow backdrop – our eyes adapt to find a mean between the range of colours in view. So it would seem that the perfect skin-tone is subjective, but I think it is safe to say that there is a range of tone that most would agree is acceptable for any given person. The real question is how do we control and measure skin-tones in our images to ensure they turn out the way we or our clients want to see them?



Lighting offers some control, we can alter how dark the flesh looks using exposure either by altering light source intensity and/or with camera exposure settings, and we can 'warm-up' or 'cool-down' skin-tone colour using gels over lights and/or filters over lenses. Back in the days before digital capture, my choice of film offered some additional control (some films did a better job of rendering flesh than others), but for the most part I had to rely on a good make-up artist for really fine control over flesh, especially if we were striving for something other than reality like a summer tan in winter time. (Nowadays I rely on make-up less since I have incredible retouching capabilities in post). At any rate, once captured on film, part of that responsibility for the 'perfect' flesh-tone was passed on to a lab technician to process and print, and if for press, then it was the service bureau or prepress house and press operator who shared that responsibility with the photographer. Beyond make-up and lighting, we have some really powerful tools in post-production applications like Lightroom (LR), Adobe Camera Raw (ACR), and Photoshop, for tweaking and altering skin-tones in our digital files. That extra control comes at a price, you need to understand colour much better than you did as a film photographer – you are solely responsible for image colour and skin-tones in the digital file and at least partially responsible in the final output. If you find this prospect of being responsible for something scary, fear not, I can give you the confidence in skin-tones you crave with a very simply technique that I use for tweaking flesh that doesn't require you to become a mathematician or a colour scientist.

In ACR and in LR we have the HSL sliders which are really powerful for tweaking or correcting skin-tones or any other colour/tone for that matter, such as blue skies, or green foliage. The beauty of this HSL system is selectivity, it breaks colour down into three components, Hue, Saturation, and Luminance and it allows you to affect these three on just one separate range of colour such as Red for flesh. For instance, dragging the Red slider with Hue selected (see Image 002) will push the colour of only the selected image's predominant red tones, like skin-tones, around the colour wheel. The system works like this:

- Hue selected: dragging the Red slider to your right pushes flesh towards yellowish red, dragging to your left moves flesh towards blueish red.
 - Saturation selected: dragging the Red slider to your right will intensify the predominant red tones, dragging to your left will desaturate.
 - Luminance selected: dragging the Red slider to your right will lighten the predominant red tones and to your left will darken.
- Obviously selecting and dragging the other colour range sliders like yellow or green will do the same to those colours as did the red slider.

2



When tweaking skin-tones I find the HSL system is much easier to work with than Curves and Levels in Photoshop which affect hue, saturation, luminance, and all colour ranges simultaneously. The only problem with ACR and LR is that I can only fix skin-tones visually, unless you have the brain for figuring out flesh in RGB values. Fixing skin visually can get you in trouble because our minds have an uncanny skill at acclimatizing to colour shifts it sees on screen, if a flesh-tone looks a little off it will soon look okay. Also not all computer screens are suitable for colour work, my calibrated profiled workstation monitor in my office's controlled environment may be as good as it gets, but a laptop monitor is not and I have to use a laptop most of the time because nowadays I shoot mostly on location and so for portability have to rely on its profiled but still inadequate LED/LCD screen. For the above reasons, I believe you need to back up visual assessments with numeric readings. When colour correcting in ACR and LR you currently only get RGB values to work with, for my small brain I find understanding skin-tones by the numbers is not very easy in an RGB colour space, but, what if we had some numbers that represented decent skin-tone ranges for different skin types and what if we also had HSL readouts in ACR and LR? That would make things really easy, now we would be able to look up our favourite recipes for skin-tone ranges and then take readings and slide HSL sliders to tweak said skin-tones and only have to consider one number at a time, one for Hue, one for Saturation, and one for Luminance. Well, unfortunately ACR and LR, for the time being, only give RGB readouts, but Photoshop offers us some interesting alternatives. If you go to the Window menu in Photoshop and select Info, the Info Palette will appear, within this palette near the top left corner is an eyedropper with a tiny arrowhead next to it, click on this arrowhead and from the pop-out menu choose HSB. The HSB colour mode is a near cousin of HSL, and like HSL the H and S stand for Hue and Saturation, the third channel, the B channel, stands

for Brightness instead of Luminance – Brightness is similar to Luminance. Switching the Info palette's readout from RGB to HSB does not change the colour mode of the image, you are still in RGB. It does however convert the Info palette readouts from RGB to HSB on the fly. With this set up you can now see how the hue, saturation, and brightness are individually affected as you tweak your skin-tones. To alter colour in each of the separate HSB readouts I like to use a Hue/Saturation adjustment layer, which can be invoked by going to the 'Layer' menu in Photoshop, choosing 'New Adjustment Layer' and then 'Hue/Saturation...' Hue/Saturation like HSB, works on a three channel colour model, however Hue/Saturation is slightly different to HSB, Hue/Saturation calls the third channel Lightness rather than Brightness. Same difference really since both are luminance channels, however Hue/Saturation uses different math and so when you alter any of the three sliders of this adjustment layer, it can slightly affect one or both of the other HSB Info palette readouts. No big deal, a quick readjustment of them sets things straight.

Well that all sounds pretty easy, but manipulating skin-tones in Photoshop by the numbers is useless if you don't know what the numbers should be. To aid you in this I have posted the numbers I am currently using in the call out box entitled 'Skin-tone Ranges in HSB'. As established earlier, there are no magic numbers, just different generally accepted ranges for different races, so use these skin-tone numeric ranges as I do as a starting point and then based on context as well as a visual assessment decide whether any change needs to take place. In Part 2 of this article, we'll actually apply the above to a real image.

Dave's Skin-tone Ranges in HSB

Caucasians '...with that healthy glow'
Hue: 16–26° Sat: 26–32% Brightness: 75–85%

Afro-Caribbean
Hue: 22–26° Sat: 26–28% Brightness: 60–70%

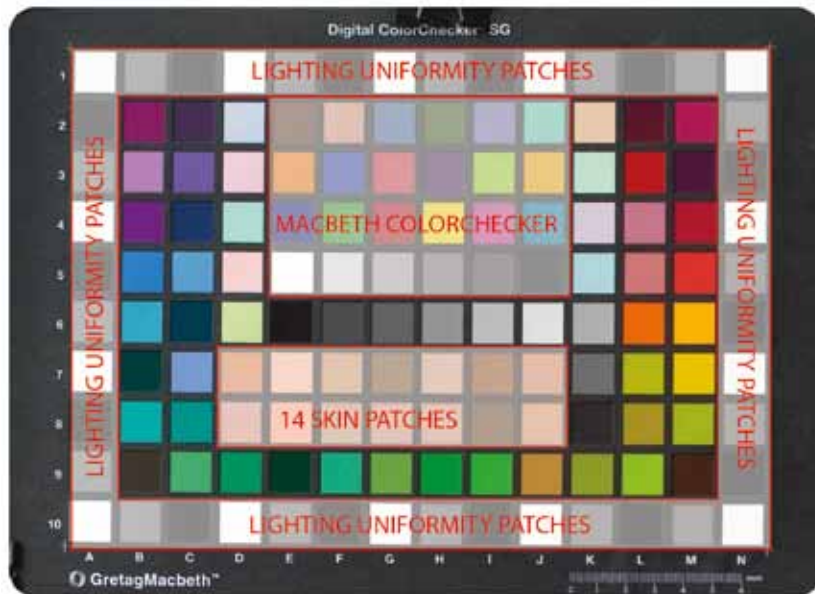
Asian
Hue: 22–33° Sat: 46–52% Brightness: 60–80%

Chinese
Hue: 32–37° Sat: 24–33% Brightness: 75–85%

MONTIZAMBERT

Creating With Light





The Chart Toppers

The larger ColorChecker SG Chart has a greater gamut range within the patches, a greater number of them, an external border set for checking light consistency across the field of view and an extended set of skin tones. It also contains the Macbeth ColorChecker patch set. Above is the new kid on the block, The ColorChecker Passport, which comes complete with lanyard, a plastic case and software for camera profiling. There are yet further variations, a macro sized target and now one with holes in it so you can 'eyeball' your printed result.

Left:

The effect of camera calibration using the SG chart and the Rags Gardner calibration routines.

MONTIZAMBERT

Creating With Light

