

Conversion to Chromatic Greyscale: Guidelines & Techniques

Vartkes Peltekoglu
St Catharines Photo Club

References for further study

- Image Preparation
 - “From OZ to Kansas” – book – Vincent Versace
 - John Paul Caponigro – at his website – Ps Master Class
 - B&W Photography – book – Michael Freeman
 - Professional Photoshop – book – Dan Margulis 1992
 - B&W Photography – book – Harold Davis
 - YouTube tutorials – too numerous to list
- Printing
 - B&W Printing – book – George DeWolfe
 - The Digital Print – book – Jeff Schewe

The Film Space

- In the film medium best Greyscale (B&W) images are produced from silver chemistry on film substrate and matching chemical processing in the wet darkroom.
 - No 'color' information is necessary from the film negative or subsequent chemistry – print toning excepted.

The Digital Space

- In digital capture best B&W images come from the RGB Space – a colour space
- Tonal Value correlates to Colour
 - *Colour is defined as (Hue + Saturation + Luminosity)*
- All Colours have Tonal Value. Adjusting Colours modify their Tonal Values
 - Colour adjustments define the digital 'B&W' image
 - Hence *Chromatic Greyscale* is a representative phrase to describe digital 'B&W'

Nature of Chromatic Greyscale

- Lightness, Luminosity is the dominant influencer on the conversion
 - Simply adjusting Hue while holding Saturation and Lightness will not change the tonal value
 - Simply adjusting Saturation while holding Hue and Lightness constant will not change the tonal value
 - Just adjusting Lightness(or Brightness) *will* change the tonal value
- *Adjusting Colour will adjust Chromatic Greyscale*
 - This is the fundamental paradigm change from film to digital medium in the 'B&W' realm

Conversion Guidelines

- Edit colour image for tone, color and any effects desired
 - your best effort
- Stay in RGB Space
 - Conversion into a Grey or LAB space (L* Channel) sheds all of the colour information in the file – loss of flexibility for further tonal refinement
- Use several tools to experiment with conversions
 - Use tools from 'Satisfactory' and 'Full Controls' sections below
 - Avoid deploying the 'Limiting Methods' below
- Tone last -optional
- Maintain RGB Space for print or digital media output

Many Methods for Conversion

- Limiting methods
 - in-camera setting (will produce JPEG) allows camera to decide what you intended to present. Colour emphasis, tonal scale are baked into the file
 - *Ps Image > Greyscale* – or *Convert Color Space to LAB or Grey*, surrenders control to Ps. Ps conversion from RGB to Grey applies the constant formula of $(3_R + 6_G + 1_B)$, removing the colour information in the image
 - *Ps > Hue/Saturation Adjustment - Sat. slider to -100%* in Normal Mode defaults to formulaic conversion as above

Methods of Conversion

- Satisfactory methods
 - Plugins: I use NIK Silver Efex (Vincent Versace was an early designer)
 - On1 RAW 2018
 - Both work in RGB Space
 - Both allow global and local adjustments
 - Note – Google will not support NIK for future versions of Windows and IOS operating systems – pity
 - Other plug-ins and standalone applications also fall into this 'satisfactory' or even better, the 'full-control' category below

Methods of Conversion

- Satisfactory methods (cont.)
 - Ps One-step methods: Camera RAW Smart Filter and B&W Adjustment layer
 - Support 8-color and 6-color range adjustments – good
 - Main drawback: single- Ps defines Tonal range of colours – not good
 - Ps Channel Blending methods: Apply Image and Calculations functions (as a Smart Filter)
 - Non intuitive
 - Global conversion only
 - Both modify pixel values directly
 - Lee Varis on YouTube uses Apply Image – elegant and versatile

Methods of Conversion

- Full Control Methods
- Examples > Ps and On1 RAW 2018 provide:
 - Layer-ed workflow
 - Control of Tonal range definition
 - Adjustments with color channels with H, S, L controls
 - local tone and colour adjustments via colour range, masking and brushing
- Control of more artistic effects
 - global tone and colour adjustments
 - 'Filters', gradient maps, textures, split toning and many, many more...

Summary

- Colour controls Tonal Value
 - Thus stay in RGB Space
- Edit the best colour image first; this is the starting point of your B&W conversion
- Edit best B&W master you can using full control or satisfactory methods
- Add artistic effects last
- Publish in RGB or sRGB Space as needed.

My Preferred workflow

1. Prepare a 'flat' RAW file in Lr; no extreme contrast, leave room at White and Black ends of the histogram for future Local Adjustments
2. Take it to Ps for Tone, Color and artistic effect adjustments – best effort colour image
3. Convert to chromatic greyscale using Gradient Map adjustment layer in Normal mode (use Black to White gradient)
4. Insert a Hue/Saturation layer(s) under the Gradient Map layer. Make local, colour range based adjustments while looking at the image at the Gradient Map layer
5. Further Tone., colour and other adjustments above the Gradient Map layer
6. Size image, Sharpen Image
7. Print

My Preferred Workflow – cont.

- Alternative at step #3 is to convert a Merged Visible layer of work done so far into a Smart Object then head to NIK or On1 for Chromatic Greyscale conversion and adding other artistic effects.
- Return to Ps at step #6
- Alternative at Step #3 Ps Channel Blending path can be adopted using Apply Image or Calculation Methods (supports Smart Object layer)
- Return to Step #5