

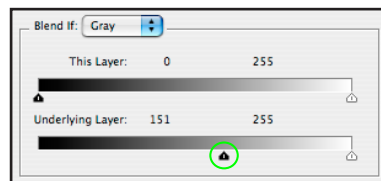
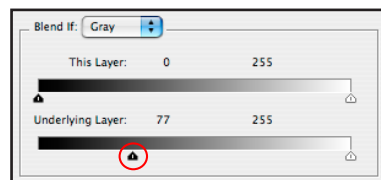
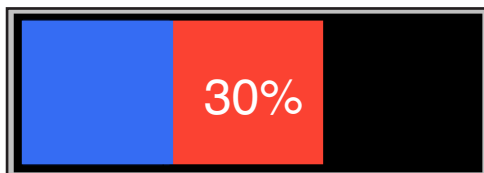
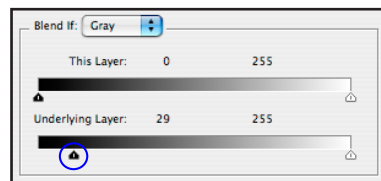
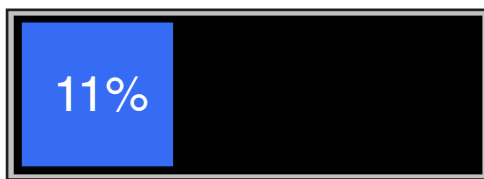
The Digital B&W Fine Print Workshop

Creating a Fine Print

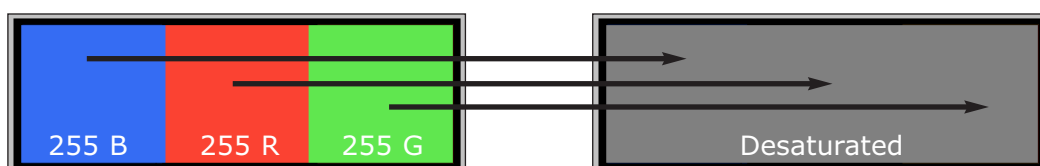
Luminosity Mapping

Converting RGB colour images to B&W combines the three 256 level colour channels into one 256 level luminance (Greyscale) channel. This conversion is often based on a Luminosity formula that combines 11% of the Blue Channel with 30% of the Red Channel and 59% of the Green Channel.

To test this, create three squares on a black background filled respectively with 0R 0G 255B, 255 R 0G 0B and 0R 255G 0B. Add a new layer and fill with black to hide the RGB squares. Open the Layers Styles palette (double click on the top layer), select the 'Blend If Grey' setting with Normal Blending mode and drag the underlying layer's shadow slider until each colour is just revealed. Note the number of levels at which this happens which indicates the relative luminosity of each colour component in the luminosity formula.



Desaturation is a popular method of converting a colour image to BW. However it only averages the brightest and darkest channels, therefore perceived luminosity variations between colours are reduced or even eliminated. For example:



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Black and White Conversion Options

While the 'Luminosity formula' defines Photoshop's RGB Curve response, Blend if Gray options and all other grey components, Photoshop's Mode>Grayscale conversion doesn't; instead it effectively desaturates the a* & b* channels while maintaining the L* value.



Original RGB Image



Photoshop Creyscale



Desaturate



Luminosity (30%R + 59%G + 11%B)



Lab Lightness Channel



Custom Monochrome Channel Mixer

An alternative solution is to custom mix the colour channels with Photoshop's Channel Mixer in monochrome mode. Keeping the combined total to 100% will help preserve the overall image density while modifying local luminosity to produce a unique greyscale rendering. This is equivalent to using BW panchromatic film with colour contrast filters.

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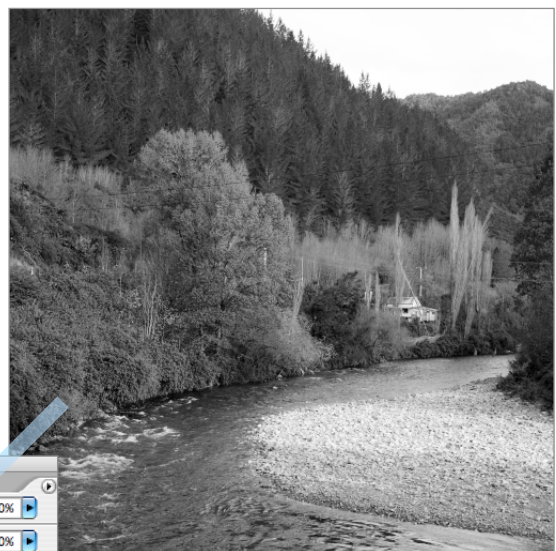
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Black and White Conversion via Hue Remapping

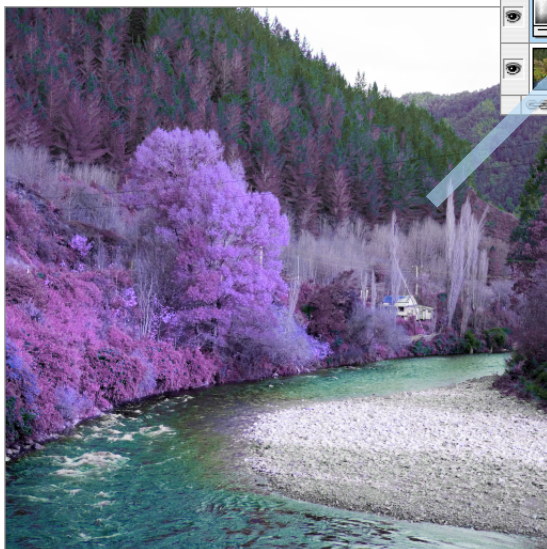
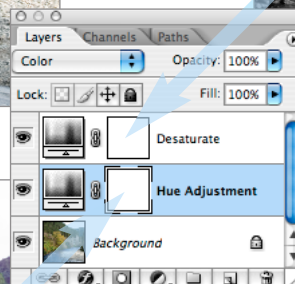
This method relies on different colours having different brightness values. The image is initially desaturated with a HSL Adjustment Layer blended on Normal. A second HSL Adjustment Layer blended on Color is inserted between the original RGB image and the HSL desaturation layer, and its Master and/or individual channel Hue angles are adjusted. This remaps the underlying colour composition, which when desaturated equates to different brightness in the B&W image. The main advantage of this method is the individual control and conversion of different colour ranges into different brightness ranges.



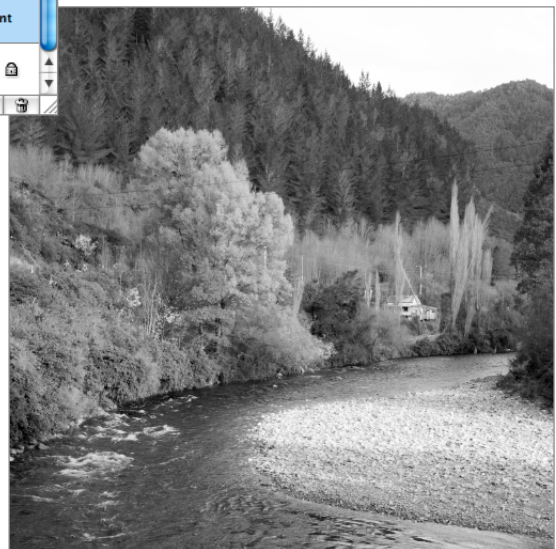
Original RGB Image



Desaturated Image



Colorized Image



Resulting B&W Conversion

This method provides greater local control of the conversion of individual colours into B&W compared to the global effects of Photoshop's Channel Mixer in Monochrome mode.