

The tonal range of the original nearly always exceeds the range of the reproduction. Therefore, a color proof limited to the tonal range of the reproduction is used to interpret the tones of the photograph to the printing scale. It is useful to have both the photographic original and the color proof available for comparison when evaluating tone reproduction. The original tonal values are determined by the lighting in the scene, the color response of the film, and any deliberate manipulations performed on the photograph.

Under some circumstances, the evaluator may prefer a tone reproduction that does not match the original faithfully but repositions certain tones. For example, it may be preferable to reproduce someone's face lighter than it is found on the original if that person was standing in shadows in the original scene.

Gray Balance

Is the gray balance good? Viewing the color reproduction under controlled viewing conditions together with a color standard such as the original, a proof, or an OK sheet is the final test of the success of the total effort of color reproduction. The last evaluation is necessarily subjective, since color perception is itself a cerebral function. The evaluation of gray balance relies on the human interpretation between reality (the color standard) and expectations (the memory colors). For some scenes, favoring the expected colors over the actual colors will improve the human response to the reproduction. Examples of this include brightening and saturating a blue sky more than in the original, or reproducing an element that the viewer would expect to be neutral, as neutral gray, in spite of the fact that it was off-neutral in the photograph.

To evaluate gray balance, two aspects are examined. Does the reproduction have the same gray balance as the original? Does the gray balance of the reproduction viewed alone look realistic, or is there a hue shift in one or more elements that seems off? The color distribution of the light source that illuminated a scene influences the hues in a photograph of that scene. For example, a photograph made outdoors late in the day will have a warm reddish cast from the setting sun. Two scenarios are possible. First, if the photograph contains substantial white elements, it may be desirable to eliminate the warm cast and maintain neutral balance. On the other hand, if the photograph contains people, the warm glow imparted by the light may be emphasized in the color reproduction. There are no absolute rules to determine which approach should be taken with a given original.