

When articulation does not enhance lightness contrast

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Abstract

Simultaneous lightness contrast (SLC) is the condition whereby two equal greys look different when they are placed one against a dark background and the other against a bright background. Adelson (1993) noticed that the SLC magnitude increases when the homogeneous backgrounds are replaced with more articulated ones. In Adelson's display, all darker patches are on one side of the stimuli whilst the brighter are on the other. The aim of this research is to test whether this regularity causes the SLC magnitude to increase. On a paper-based experiment, participants were requested to match on a Munsell scale two greys placed against a dark and a white background while the luminance of additional elements was manipulated: dark and bright elements could have been added to either side. Results show that when bright elements were added to the darker background and dark elements were added to the brighter background the SLC magnitude reduced. Vice-versa, when bright elements were added to the bright background, and dark elements were added to the dark background, the SLC magnitude increased. It is concluded that the photometric relationships in the stimuli determine the SLC magnitude, not the level of articulation per se.