The Local and Global Factors of the Generalized Poggendorff Illusions

Bheemanathini, Trisha (School: Alabama School of Fine Arts)

Perceptual illusions are distortions that may inform us about the nature of human perceptual processing. I plan to achieve such predictions by looking at the Poggendorff Illusion. The Poggendorff effect is a visual illusion in which two collinear line segments terminated by parallel lines appear to not be collinear. This 200 year old illusion has many theories and hypotheses as to why the effect occurs but no concrete explanation has been found. Previous experiments involving moving the oblique either behind, in front, or in the plane of the central show that observers were most likely to report misalignment when the oblique line was in the plane of the object. My research involves adding a remote shadow to determine depth order to see whether a Poggendorff distortion is visible. 8 conditions were created, a left and right version of the regular Poggendorff, a left and right version of the naked Poggendorff, and 4 versions of the generalized figured Poggendorff with a triangle being the oblique line. Preliminary results neither refute nor verify conclusions but it shows that the ability the add a remote shadow to determine depth order and therefore, whether the Poggendorff distortion is visible, demonstrates that a local image processing theory is not sufficient enough to account for the Poggendorff effect, but does not rule out a role for local interactions in the representation of the junctions.

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