Meeting Abstract | October 2003

Global cues affect the apparent misalignment in the Poggendorff Illusion

Arno R Koning; Rob J Lier
Author Affiliations
- Arno R Koning

NICI, University of Nijmegen, The Netherlands

Journal of Vision October 2003, Vol.3, 665. doi:10.1167/3.9.665

Abstract

The Poggendorff illusion is a geometrical illusion in which two collinear oblique lines (the lateral elements), separated by two verticals (the central element), appear to be misaligned. It has been suggested that perspective cues in the display will lead to smaller misalignments (Daniels & Gordon, 1993). To examine the influence of perspective cues on the degree of misalignment, a judgment task was used in which it was the participant's task to align the lateral elements by adjusting one of them. The stimuli consisted of the original Poggendorff display, and a perspective 3-D version of it. Additionally, a 2-D version was used with exactly the same local appearances at the intersections with the central elements. The lateral elements consisted of either the oblique lines of the original display, a 3-D bar, or a 2-D bar (for which only the extremities of the 3-D bar were modified). The central elements consisted of either the verticals of the original display, a 3-D elongated box, or a 2-D mosaic. The results showed that the greatest misalignments were found for the displays containing the original verticals as the central element. The results on the 2-D and 3-D central elements showed better alignments but did not differ from each other. With respect to the lateral elements a significant better alignment was found for the 2-D bar compared to both the oblique lines and the 3-D bar. We conclude that global aspects, but not necessarily 3-D cues, may improve performance on the Poggendorff illusion.

Koning, A. R., van Lier, R. J.(2003). Global cues affect the apparent misalignment in the Poggendorff Illusion [Abstract]. *Journal of Vision*, 3(9): 665, 665a, http://journalofvision.org/3/9/665/, doi:10.1167/3.9.665. [CrossRef]