



## Inconstancy and Inconsistency of Visual Illusory Phenomena? The Case of the Poggendorff Figure

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### ABSTRACT

Since its conception, the Poggendorff Figure has always been studied by considering the absolute role of the variables involved in determining the illusion (e.g. the angle or the distance between the inducer and the test stimuli). By contrast, we suggest that the role of such variables is relative to the specific conditions in which the illusory configuration is presented; in particular, we propose that multiple variables enter the computation leading to the Poggendorff Illusion, but that their relative weight varies as a function of the specific experimental conditions adopted. Here, we measured the point of subjective collinearity between the oblique lines of the Poggendorff Figure as a function of the orientation of the inducer (a square), the orientation of the test stimuli (changing the linear distance between them) and the size of the whole configuration. We found that when the inducer square was upright the illusory effect varied according to the distance between the test segments, while when the square was tilted the effect was determined only by its orientation. Critically, the latter condition led to a reversal of the "classic" illusory effect. Leveling the playing field in terms of the information available to the observer, the results indicate that the illusory effect is determined by different types of processing in different conditions of stimulus presentation.

### KEYWORDS

Visual Illusion; Perception; Psychophysics; Behavioral

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