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# Are There Any Good Arguments For The Categorical Explanation Of Perceptual Constancy?

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We experience the world as a remarkably stable place. Plants do not change their colors dramatically when they are moved from sunlight to shade, from outdoors to indoors or from florescent to incandescent lighting conditions. Coins do not appear to change their shapes when viewed from different angles. And people do not appear to grow shorter as they walk away. There are two competing explanations for this phenomenon, which we will call 'perceptual constancy': first, the world appears to be stable because it is stable--our cognitive (in this case, perceptual) systems recover stable properties of objects through the seemingly chaotic and noisy information by which they are bombarded. Second, the world appears to be stable because we expect it to be so--our cognitive systems (in this case, expectations or categorical interpretations) impose order on a world that is, in mind-independent reality, chaotic and noisy. In this poster, I argue that arguments purporting to establish the categorical view are weak and ineffective. There are, remarkably, very few (and, hence, will fit on such a poster):

In Psychology, both Helmholtz's theory of 'unconscious inference' and Hering's 'memory color' count as categorical explanations. Both of these were convincingly dismissed by David Katz in 1935. Indeed, the phenomenal explanation became one of the founding theses of Gestalt psychology. Thouless went so far as to rename perceptual constancy 'regression to the real object'. Contemporary work in psychophysics—specifically, the work of Arend and Reeves in support of the categorical view and Brainard and colleagues in support of the phenomenal—has come the closest to addressing the conflict between these two theories directly, but I know of no crucial experiment designed to settle the issue.

In the Philosophical literature, C.L. Hardin and Gary Hatfield both endorse the categorical view, but do not offer positive arguments of their own. Contemporary researchers in the Gibsonian tradition, like Evan Thompson, tend to cite the work of Arend and Reeves in support of the categorical interpretation, but also offer no positive arguments of their own. In the Continental tradition, Merleau-Ponty seems to endorse the categorical view by citing the work of Gestalt Psychologists, which appears at odds with Katz's original intent. Russell and Moore's sense-data theory is motivated primarily by the denial of perceptual constancy, (although they leave the analysis of the relation between the sense-datum and the real object to psychology), and hence cannot be used to support either explanation of the very

phenomenon it denies. Kant appears to have noticed the problem (A191/B236) but does not distinguish it from the problems of the perception of causality and the diachronic identity of objects. His solutions to both problems are categorical. Finally, the British Empiricists either deny constancy entirely (e.g. Berkeley), or seem blissfully unaware (e.g. Locke).

That leaves us with arguments in the 'Kantian' model, which seek to apply Kant's general categorical theory of consciousness to the specific case of perceptual constancy. These arguments contend that the *only* explanation of perceptual constancy is in terms of pre-existing conceptual categories. There are three things wrong with arguments of this form: first, they are open to falsification with the advent of new explanations; but, more importantly, history is rife with failed metaphysical pronouncements whose basis was solely ignorance of alternative explanations (Descartes and Ptolemy jump to mind). Second, the Kantian framework has unfortunate consequences for a theory of perception--specifically, it requires a robust sense of self prior to the possession of any perceptual states. And, third, these arguments confuse the conditions under which perception is possible with the necessary conditions of any possible perception.

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