

The role of high-level representations and conscious awareness in biological motion perception

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The purpose of this research is to address the nature of high-level processing within visual perception. In particular, results from the visual processing of biological motion will be used to discuss the role of attention in high-level vision and visual consciousness. Original results from 3 priming experiments indicate “automatic” high-level semantic activation in biological motion perception. The view presented here is discussed in the context of Prinz’s (2000, 2003) AIR-theory. AIR stands for Attended Intermediate-level Representations and claims that visual consciousness resides at the level of intermediate-level representations. In contrast, the view presented here is that results from behavioral and neuroscientific studies of biological motion suggest that visual consciousness occurs at high cortical levels. Moreover, the Reverse Hierarchy Theory of Hochstein and Ahissar (2002) asserts that spread attention in high cortical areas is indicative of what they term “vision at a glance.” The gist of their theory is that explicit high-level visual processing involves initial feedforward mechanisms that implicitly follow a bottom-up hierarchical pathway. The end product of the processing, and the beginning of explicit visual perception, is conscious access to perceptual content in high-level cortical areas. Finally, I discuss the specific claims in AIR and present objections to Prinz’s arguments for why high-level visual processors are not good candidates for the locale of consciousness. In conclusion, the central claim of AIR with an emphasis on the connection between intermediate level representations and perceptual awareness seems to be too strong, and the arguments against high-level perceptual awareness are not convincing.