Introduction to Cognitive Science - Term Paper 2

Examining evidence against the Action vs Perception Hypothesis proposed by Goodale & Milner (1992), with experiments on visual illusions

Zubair Abid (20171076)

Abstract

Ungerleide (1982) proposed based on lesion studies on monkeys that in primate brains, visual information was processed in two streams – dorsal and ventral. Goodale & Milner (1992) reinterpreted this theory, making a species jump to humans and suggesting that the dorsal stream had the purpose of guiding the manipulation of objects (action) and the ventral stream did the computations necessary for object recognition (perception). I have picked two papers that disagree with this, one via experimentation (V. H. Franz et al., 2000), and the other by an analysis of existing work at the time (Volker H. Franz, 2001). In this term paper, I will be explaining the phenomenon being considered in the first place, the cognitive processes involved, a quick summary of the experiments and arguments, noted gaps in the treatment, potential extensions to the study, and my own suggestions on future experimentation.

What is the Action vs Perception Hypothesis?

Original Hypothesis

Responses

The Cognitive Processes involved

The Experiments and Arguments

Gaps and Future work

References

Franz, Volker H. (2001). Action does not resist visual illusions. *Trends in Cognitive Sciences*, *5*(11), 457–459. https://doi.org/10.1016/S1364-6613(00)01772-1

Franz, V. H., Gegenfurtner, K. R., Bülthoff, H. H., & Fahle, M. (2000). Grasping Visual Illusions: No Evidence for a Dissociation Between Perception and Action. *Psychological Science*, *11*(1), 20–25. https://doi.org/10.1111/1467-9280.00209

Goodale, M. A., & Milner, A. D. (1992). *Separate visual pathways for perception and action.*

Ungerleide, L. G. (1982). Two cortical visual systems. *Analysis of Visual Behavior*, 549–586.