The Uncanny Valley: Behavioral, Cognitive, and Neurological Evidence

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Abstract

The uncanny valley hypothesis suggests that human replicas, such as robots and animated characters, which closely (but do not completely) resemble humans create feelings of discomfort and eeriness in observers. Given the large volume of research that has sought to assess this hypothesis and explain why some replicas induce such feelings, I have conducted an integrative review of such research to explore the uncanny valley within behavioral science, neuroscience, and cognitive engineering. I believe the data suggest that uncanniness can be at least partially attributed to a mental conflict between the observers knowledge of the replicas artificiality and the observers emotional desire to form a connection with something that looks so human. Nevertheless, the literature has several limitations that must be addressed before definitive conclusions can be made. This poster will review and integrate this research on the uncanny valley hypothesis.