
Redefining Dance: Human Perception and the Emergence of AI-Generated Movement

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Abstract

This paper explores the challenges of defining and understanding dance without its traditional execution by the human body, specifically through the lens of AI-generated movement. Traditionally, dance has been deeply rooted in human expressivity and body locomotion, making the notion of an artificial intelligence (AI) that dances appear problematic. Despite learning from human behavior, AI relies on computational mechanisms to generate movement. This research employs a dual approach to analyzing dance phenomena: examining the generative mechanisms of movement and its perceptual interpretation by human observers. The generative mechanisms include kinetic actions and machine learning processes, while perceptual interpretation draws on multimodal human perception involving visual, auditory, and kinesthetic inputs, as well as emotional and cognitive responses.

Drawing on posthumanist thinking, this paper approaches to AI-generated dance as a human construct, despite the involvement of artificial agents in its creation and execution. AI dance transcends simple mimicry by transforming human movement data through algorithmic processes, generating new, non-human choreographies. This study highlights the uniqueness of AI dance as a kinetic phenomenon created and executed by non-sentient entities, while asserting that its meaning and artistic value are ultimately assigned by human observers.

The project *Dancing Embryo: Human-AI Co-Creation of Dance* serves as a case study, emphasizing the importance of analyzing dance as a kinetic-perceptual phenomenon. This paper aims to expand the understanding of dance, questioning its existence as a pre-existing event beyond human perception and consciousness through embodied cognition. The research also emphasizes the limitations of expecting AI to perform conscious acts of artistic expressivity comparable to human art.

Keywords: AI dance, Posthuman art, human, computer interaction, co, creativity, dance.

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