

Movement, Gesture, and Meaning: A Sensorimotor Model for Audience Engagement with Dance
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Philosophers of art draw a distinction between two broad sets of concerns: questions about *aesthetic responses* to artworks and questions about *interpretation*, including questions about the formal strategies artists use to express emotions and ideas. Recent research in philosophy and neuroscience addresses the nature of aesthetic responses to dance, suggesting that they are embodied, grounded in the human mirror system and action observation network, and involve either some form of tacit motor simulation (Calvo-Merino et al 2008) or proprioceptive sensibility (Montero, 2006). Recent literature does not address interpretative responses to dance. However, a model for the way that dance is used to express emotions and ideas can be derived from the literature on aesthetic response. Langer (1953) and Beardsley (1982) argued that dance is a gestural language in which ordinary movements are used as “virtual gestures” to express the intentions of choreographers and dancers (e.g., the ideas and emotions constitutive of the content of a dance). Recent discussions suggest that areas of the premotor and parietal cortices associated with the action observation network play a significant role in our capacity to recognize and understand the intentions (Gallese & Goldman, 1998; Hamilton & Grafton, 2006) and emotional states (Carr et al, 2003; Iacoboni & Dapretto, 2006) of others. In this paper I propose a sensorimotor model for interpretive responses to dance which integrates Langer and Beardsley’s intuitions about the role of gesture in dance with discussions of the role played by the action observation network in social cognition.

I have argued elsewhere (Carroll, Moore, and Seeley, 2010): a) that visual artworks are artifacts intentionally designed to direct viewers’ attention to features responsible for their artistically salient aesthetic and semantic effects; b) that visual artists’ formal strategies are fine tuned to the operations of the visual system; and c), given that there is no ideal way to render the subject of visual artwork (e.g. differences in style among and within different schools of landscape painting), artists must choose the formal features of particular works relative to sets of aesthetic conventions that define artworks in their medium. This entails that, the particular formal strategies used to construct a work carry the aesthetic and semantic intentions of the artist. In this paper I argue that dance employs choreographed movements to the same effect, directing attention to aesthetically salient gestural features of particular performances that carry information about the intentions of choreographers and performers. I argue further that these gestural features play the role that they do in dance because they are sufficient to engage the human mirror system and action observation network. This is not to say that choreographers do not use other formal devices to express the content of their works (e.g., narrative devices and shared conventions that define different styles of dance). However, dance is a medium that uses movement to express ideas and emotions. The human mirror system and action observation network are involved in all aspects of action understanding in ordinary contexts. Therefore I argue that these neural systems are fundamental to our capacity to understand sets of choreographed movements as meaningfully structured dances, and that the range of formal devices choreographers and performers employ in their productive practices depends upon them.

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