

Ecological theory and group improvisation

p. 54, 55

Cognition, creativity and distribution

Intuition might suggest that creativity and cognition must originate in the mind of an individual (after all, our thoughts, insights and new discoveries set occur in our own heads), but in what follows we argue that creativity in collaborative improvisation is more complex than what this basic intuition permits. In this section, we reframe creativity in ways that run counter to traditional head-bound accounts, in favour of a more fundamentally distributed perspective. By focusing on the interface between the perceptual, motor and cognitive skills of individual performers, the possibilities and constraints of the human body and the instruments with which it interacts, and the socially constructed musical materials and performance practices within which it is embedded (Clarke 2012a), we point out some of the ways in which the ecological perspective on improvisation developed below relates to more general theories of perception, cognition and action.

An individual performer's cognitive, perceptual and motor skills are manifest as distributed interactions between the central nervous system and other bodily subsystems, including musculoskeletal, respiratory and sensory components, which in various combinations make possible audition, touch, movement and sight. This sense of distribution corresponds to what is viewed as embodiment in the cognitive literature. We can think of this embodied distribution as undermining the simple dividing line between the brain (or brain-bound mind) and the rest of the body, such that it is no longer tenable to regard the brain as the sole site of cognition and creativity. [1st distribution] Similarly, the possibilities and constraints of the human body and the objects with which it interacts suggest a second sense of distribution: between organism and environment. In this respect, the tools at our disposal (such as musical instruments) are part of a distributed or extended sense of creative and cognitive activity, adding the environment to the distribution between brain and body (see Clark 1997, 20086; Clark and Chalmers 1998). [2nd distribution; similar to Marchand]

A third distribution is suggested by the socially constructed nature of musical materials and performance practices, since what appears to an individual as an immediate, local environment includes practices developed over generations and shared across social groups. The social environment in this context comprises all those individuals, social groups and institutions with whom and with which we interact, that have shaped our world and by which we are progressively socialized. This kind of distribution corresponds to the concepts of embeddedness and situatedness that have played a major role in ecological and other post-cognitive approaches.⁴

To recognize this third distribution is to acknowledge that our practices, conceptual categories, sensibilities and languages are socially constructed and acquired: an individual's knowledge is fundamentally interconnected with the knowledge of others. In this historicized context creativity arises out of the conjunction of individual and collective exploration, experimentation and discovery with more slowly evolving norms and traditions. To make a creative contribution, whether in the arts, mathematics, natural sciences or other disciplines, individuals must enter into a field that is collectively constituted by those who are engaged in that field⁵ – past and present – as expressed in the sentiment made famous by Newton that he had seen further by standing on the shoulders of giants' (Newton to Hooke, 5 February 1676, in Newton et al. 1959: 416) [extendable to dance]. For musical improvisation, the same point could be made about the musical traditions in relation to which individual or group contributions are defined (see e.g. Bailey 1993; Berliner 1994).