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Movement and Perception

Movement and perception are two of the most fundamental concepts we start to form from an early stage of life. Which one has the phenomenal primacy has long been debated by philosophers like Maurice Merleau-Ponty in *The Primacy of Perception* (Taylor et al., 1967) and Algis Mickunas in *The primacy of Movement* (1974). Inspired by Edmund Husserl, Maxine Sheets-Johnstone argued that "creaturely movement is the very condition of all forms of creaturely perception; and creaturely movement, being itself a creature-perceived phenomenon, is in and of itself a source of knowledge" (1999, 132). To show the primacy of movement over perception argued by Sheets-Johnstone, we need to prove that the very first source of cognition lies in movement and that one of the key factors of perception is movement.

"Clearly, our first consciousness is a tactile-kinesthetic consciousness that arises on the ground of movement that comes to us spontaneously, indeed, on the ground of movement fundamental and invariant species-specific kinetic acts that we simply "do" in coming into the world … Such acts happen to us before we make them happen" (Sheets-Johnstone 1999, 137). Based on our early memory and observation of neonates, this description of spontaneous movement is to a great extent plausible. Newborns move in an ad-hoc and explorative manner without consciously thinking about movement. "Reliable kinesthetic expectations, like the kinesthetic regularities on which they are based, are foundational to our sense of agency, to our building a repertoire of "I cans,", to our ability to move in consistently meaningful ways" (Sheets-Johnstone 1999, 145). Essentially no movement is wasted or meaningless, for all is regarded as material of learning, especially for self-discovery and refined movement patterns. Another aspect of movements' significance is that they enable each individual to acquire his or her distinct quality, namely "style" as an important foundation for identities in social interaction.

The connection between movement and perception is also found after early stage of rapid development. Recent neuroscience studies have demonstrated that movement can in many ways alter perception. Volz et al. discovered that "the observation of movements of the left hand significantly reduces the perception of pain in this hand, an effect that was associated with decreased intracortical inhibition in the primary motor cortex" (2015). Matsumoto et al. concluded that "aberrant eye movements lead to deficits in

biological motion perception and finally link to social cognitive impairments" with the observation that the schizophrenia patients who altered gaze patterns so that top-down attention compensates for impaired bottom-up attention (2015). These findings all point to movement's critical role in modifying and reorganizing perceptive experience. This association holds for both movements of our own bodies and those of others. The former is relevant to proprioception and the construction of "self-image", for which the parietal lobe may be responsible. The latter is linked to the mirror neurons which respond to the behavior of others in the same manner as the observer itself is acting.

There are enough reasons to believe that perception would not form or update without the movements out of spontaneity after birth or those with complicated intentions and multifaceted qualities later in life. As French philosopher René Descartes famously proposed, "Cogito, ergo sum" ("I think, therefore I am"), we would argue that "we move, therefore we think". We never stops moving; therefore, we keep thinking through movement.

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