

## Kinesthetic-visual matching and consciousness of self and other: How social minds are possible

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In 1925, the developmental psychologist Paul Guillaume argued that young children were able to recognize themselves in mirrors and to imitate another's actions because they were able to match between their kinesthetic experiences of their own body and their visual experiences of another body: either their own (in the mirror) or another's (in imitation). Through this kinesthetic-visual matching, the young child knows how it looks even without a mirror, in that it can imagine, from its kinesthetic experiences, a visual appearance of itself. And from a visual experience of a body, it can imagine how that body feels kinesthetically. Guillaume's solution to the problems of explaining self-recognition and imitation also solved another problem: how it is that we ever develop the notion that there are subjects of experience. According to the argument by analogy, any given person knows that others have conscious experiences by extrapolation from his or her own experience. Yet this argument is clearly inaccurate because, as the philosopher P. F. Strawson argued, unless one can apply generally the idea of a subject of experience (what Strawson calls the concept of a "person"), one would be unaware that one is a subject of experience. Kinesthetic-visual matching provides a person with the ability to recognize itself as a subject of experience, as well as to recognize that others have subjective experiences like itself: the visual experience of a body, whether one's own or another's, is perceived as endowed with kinesthetic experience. It is kinesthetic-visual matching that allows individuals a foothold on the notion that oneself and others are persons. Surprisingly, the ability for kinesthetic-visual matching appears to be localized in the brain's parietal region. In this presentation I examine the implications of kinesthetic-visual matching for self-understanding and understanding of other minds in adult humans, young children, great apes, and dolphins who are capable of both self-recognition and imitation.