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OBJECT MANIPULATION AS A WINDOW ON THE PRIMATE MIND

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This symposium discusses the latest findings on object-manipulation skills in primates and the contribution of this comparative inquiry to understand human cognition. Unlike language, object manipulation can serve as a comprehensive comparative scale of cognitive function across primates as all primates have dexterous hands. The symposium opens with five presentations discussing object-manipulation skills and related cognitive activities such as plan or imagination generated through object-manipulation. Hayashi presents a series of studies with chimpanzees and humans examining block manipulation as an index of cognitive development. Both species show similar ability to stack blocks following physical rules but chimpanzees had lesser ability to learn arbitrary rules. Stone analyzed manipulative behavior of capuchins as they learned to stack cubic blocks, and then irregularly-shaped blocks. The capuchins stacked both kinds of blocks proficiently, indicating that attention to affordances of objects for manipulative goals is shared among primates. Saito presents experimental studies in which chimpanzees can manually control their drawings but fail to draw representations, whereas human children show representational drawing by filling missing parts on a line-drawing of a face. Stout considers how object manipulation in nonhuman primates can inform our understanding of the neural correlates and behavioral components of skilled technology in humans. Byrne compares nettle processing in two populations of gorillas, examining the evidence for 'program-level' imitation of behavioral organization. Discussant Lockman considers how the skilled object-manipulation in nonhuman species parallels the development of similar skills in human children, and how these differences may be understood from cognitive, social, and perception-action perspectives.

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