

Michael Arbib

Mirror Systems: Evolving imitation and the bridge from praxis to language

Monkeys have a mirror system for grasping and so do humans – but the human system has its left frontal outpost in Broca's area. This observation forms the basis for a theory of language evolution that gives a larger role to gesture than vocalization in its early stages. The Mirror System Hypothesis stresses that mirror systems are embedded in larger systems which provide little or no support for imitation in monkeys, while supporting simple imitation in apes and complex imitation in humans. This comparative primatology is consistent with an evolutionary scenario that sees complex imitation in praxis as intimately linked to hierarchical structure in language. Implications for neurolinguistics follow.