

From: U. Goswami (Ed.), *Blackwell Handbook of Childhood Cognitive Development*. (pp. 6-25), Oxford: Blackwell Publishers, 2002.

CHAPTER ONE

Imitation as a Mechanism of Social Cognition: Origins of Empathy, Theory of Mind, and the Representation of Action

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There is a kinship between the philosophical problem of “other minds” and the psychological problem of imitation. Philosophers are struck by the fact that people experience their own mental states differently than they register mental states in others. We experience our own internal thoughts, plans, and feelings but do not see ourselves from the outside. We perceive visual and auditory signals emanating from others, but do not directly experience their feelings. “Only connect!” (E. M. Forster), but how can we connect when we know each other in such incommensurate ways?

For developmental scientists and neuroscientists, imitation poses the other minds’ problem in action. Infants can see an adult’s face, but cannot see their own faces. They can feel their own face move, but have no access to the feeling of movement in others. How can infants connect the seen movements of others with acts of their own they only feel themselves make?

For the newborn, “only connect” is a matter of life and death. Which entities out there are conspecifics and what is the lingua franca of connectivity? What is the common code between self and other?

Classical theories of human development from Freud and Piaget to Skinner all agree on one axiom. Newborn infants have no inkling of the similarity between self and other.

I thank Keith Moore, Alison Gopnik, Patricia Kuhl, Jean Decety, and Rechele Brooks for insightful discussions on the topics raised here. I owe a special gratitude to Rechele for turning my attention to infant gaze-following. Preparation of this chapter was supported by a grant from NIH (HD-22514) and by funding from the Talaris Research Institute to the Center for Mind, Brain, and Learning.

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A primary task of cognitive development is to build a connection to others, causing the child to realize they are “one of us” and share desires, intentions, and emotions with other humans. The progression is from social isolate to social partner.

New empirical work has shaken this view to its foundations. It suggests that evolution provides the newborn with a grasp that others are “like me” and an innate propensity to imitate them. This innate foundation in turn provides an engine and mechanism for the growth of social cognition. It has bidirectional developmental effects. As infants’ knowledge of themselves expands, they use this new psychological structure as a framework for interpreting others. Reciprocally, novel acts of others change the infant’s mind and brain because the self is modeled on others right from birth. The result is a child who discovers facets of other minds through analogy with their own mind and who simultaneously discovers powers and possibilities of the self through observing others.

This chapter will link the imitative nature of the newborn and the developing theory of mind of the toddler. *The developmental hypothesis is that Nature’s solution to the imitation problem gives babies the tools they need to crack the problem of other minds.* Imitative experience with other people serves as a “discovery mechanism” for social cognition, engendering interpersonal understanding that outstrips the innate givens and leads to empathy, perspective-taking, and theory of mind. Moreover, there are intriguing parallels between young children’s growing cognition about people and their understanding about inanimate things. The focus of this chapter is social cognition, but as we shall see, the lessons apply much more broadly to general theories of developmental psychology (see also Gopnik, Meltzoff, & Kuhl, 1999b; Meltzoff & Moore, 1998b).

Classical Views of Newborns

On classical views of human development, the newborn is cut off from others. Freud and his followers proposed a distinction between a physical and psychological birth. When the baby is born there is a physical birth but not yet a birth of the mind (Freud, 1911; Mahler, Pine, & Bergman, 1975). The baby is like an unhatched chick within an eggshell, incapable of interacting as a social being because a “barrier” leaves the newborn cut off from external reality. Freud’s powerful metaphor for the newborn – which influenced generations of psychoanalysts – is as follows:

A neat example of a psychical system shut off from the stimuli of the external world. . . . is afforded by a bird’s egg with its food supply enclosed in its shell; for it, the care provided by its mother is limited to the provision of warmth. (Freud, 1911, p. 220)

Piaget’s newborn is similar, although Piaget reaches for a philosophical rather than ornithological metaphor. Piaget (1952c, 1954) claimed the baby is “solipsistic.” The neonate has only a few reflexes to work with (e.g. sucking, grasping), and other people are registered only to the extent that they can be assimilated to these action schemes. The baby only knows his or her own actions. The child battles its way out of solipsism by 18 months. This is a very long road to understanding other people:

