

# CENTER FOR COGNITIVE SCIENCE

University at Buffalo, State University of New York

**Wednesday, March 21, 2001**

280 Park Hall  
North Campus  
2:00 pm –3:30 pm

## “How Infants Make Sense of Intentional Action”

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The ability to make sense of the actions of other people is critical to human functioning, and the origins of this ability have inspired much speculation and debate. Until recently, there has been little empirical evidence available to inform our understandings this ability in infants. My collaborators and I have begun to address this gap by asking whether infants make sense of human behavior in ways that are continuous with later concepts of intentional action. Adults have a strong propensity to construe behavior as goal-directed. Mature reasoners represent action sequences in terms of the actor's probable goals, weighting goal-related information more heavily in memory than aspects of the events that were not relevant to the actor's goals. With this in mind, we began by assessing infants' encoding of a simple goal-directed action. Babies saw a person reach through a distinctive path in order to grasp one of two toys. This event was repeated until infants had habituated to it. Then, the positions of the toys were reversed, and infant saw test events in which either the path of motion or the goal object of the actor's reach had changed. Six- and 9-month-old infants showed a greater novelty response to the latter events than to the former. Infants at both ages who saw an inanimate object reach toward and grasp or touch the toy did not show this pattern. That is, infants selectively encoded the relation between a human actor and the object she grasped, and do not do this for inanimate graspers. Thus, there is one way in which infant reasoning is continuous with mature reasoning.

Subsequent findings revealed an interesting set of limitations to infants' ability to interpret actions as goal-directed: (1) Infants do not encode all events in which a person touches an object as goal-directed; (2) Infants' encoding of action changes as their knowledge about specific actions changes; and, (3) Infants' encoding of other people's actions is related to their own experience as actors. These findings indicate that infants' initial conceptions of goal-directed action are grounded in their knowledge about specific acts, rather than being the product of innate abstract conceptions of intentional action. In a final study, we explored one route for infants' moving beyond these early, specific notions of goal-directed action. Mature reasoners are not limited to seeing a canonical set of actions as goal-directed. Rather, we can freely interpret action in context, drawing on our knowledge about actors and situations. We found that in one very simple context, 12-month-old infants were similarly able to use the behavioral and physical context of a novel action to interpret it as goal-directed.

**Refreshments will be available  
Everyone is welcome to attend!**

For information please call the Cognitive Science Office at (716) 645-3794 or check  
<http://wings.buffalo.edu/cogsci>