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Beyond rationality: We infer other people's goals by learning agent-variable expectations of efficient action

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Abstract

Our ability to make sense of goal-directed behavior is central to social reasoning. From infancy, this capacity is structured around an assumption that agents act efficiently. But agents are often inefficient and how we move is affected by our emotional states and personal idiosyncrasies. How, then, does an assumption of efficiency allow us to accurately interpret people's actions? We hypothesized that people expect agents to move efficiently relative to an agent-specific baseline rather than to an objective notion of efficiency. Consistent with this, we found that people can quickly learn and subtract agent-idiosyncratic movements when interpreting goal-directed action (Experiment 1). Moreover, in a free-response task, people's propensity to explain superfluous movement in terms of goals depended on the agent's relative efficiency rather than on the path's objective efficiency (Experiment 2). Our results show that people flexibly adjust their expectations of efficiency by attending to how agents typically move.