



## Rethinking the ontogeny of mindreading

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### Abstract

We propose a mentalistic and nativist view of human early mental and social life and of the ontogeny of mindreading. We define the mental state of sharedness as the primitive, one-sided capability to take one's own mental states as mutually known to an interactant. We argue that this capability is an innate feature of the human mind, which the child uses to make a subjective sense of the world and of her actions. We argue that the child takes all of her mental states as shared with her caregivers. This allows her to interact with her caregivers in a mentalistic way from the very beginning and provides the grounds on which the later maturation of mindreading will build. As the latter process occurs, the child begins to understand the mental world in terms of differences between the mental states of different agents; subjectively, this also corresponds to the birth of privateness.

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### 1. Introduction

Our ability to represent ourselves and other entities as intelligent agents endowed with beliefs, intentions, emotions, desires, and other mental states has been a major focus of interest for 25

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years. The function of this ability, which is usually referred to as *theory of mind* (ToM) or *mind-reading*, is held to be the comprehension, explanation, and prediction of behavior and, in general, the management of our social interactions.

Several recent studies agree on the idea of a two-stage development of this faculty. The first stage is considered to be the early-developing mentalistic reasoning that takes place before or during the second year of life (Baron-Cohen, 1995; Barresi & Moore, 1996). In particular, some researchers have addressed the infants' ability to interact with others in terms of perception, emotion, and intention, but not in terms of belief (Tomasello, Carpenter, Call, Behne, & Moll, in press; Tomasello & Rakoczy, 2003). The second stage of development of the theory of mind occurs when 3- or 4-year-old children become capable of attributing representational epistemic states like belief and knowledge; this capability allows them to pass the classical theory of mind tasks like those based on the False Belief paradigm (Wimmer & Perner, 1983).

Our theoretical proposal is that mindreading be conceived as an innate faculty whose acquisition begins with the innate ability of sharing mental states with the partners in interaction. This ability is present at birth, or immediately after birth (Bosco & Tirassa, 1998), and builds on the child's innate recognition of agency. We will give a suitable definition of sharedness as a primitive and innate mental state type: roughly, to be able to entertain the mental state of sharedness<sup>1</sup> is to be able to consider one's mental states as mutually and overtly known to a partner (see also Airenti, Bara, & Colombetti, 1993; Colombetti, 1993). The ability to entertain proper *theories* of the mind, which appears later in infancy, builds on the maturation of the ability to differentiate between those mental states, which are shared and those which are private, as well as on other acquisitions like language and culture.

We take the ontogeny of mindreading to be the maturation of a biological faculty. Our approach is fully compatible with the existing empirical literature, which we, however, integrate in an articulated theoretical interpretation. This interpretation also accounts for early social interactions in a novel way.

## 2. Theories of the theory of mind

Mindreading, or Theory of Mind, is an agent's capability of representing another individual's mental states, so as to be able to understand, predict, and explain his behavior (Premack & Woodruff, 1978).

This is a crucial pillar of human social life; to be able to understand events in a mind-based framework is a huge evolutionary change, allowing for an array of features and activities that range from mentalistic communication (Grice, 1989) to culture, history, and pedagogy (Premack & James Premack, 1994).

In this section, we will review the main explanations that have been devised concerning the nature and the ontogeny of mindreading.

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<sup>1</sup> Different communities give different meanings to the same words. Other researchers would probably refer to this situation as one of *common knowledge* instead of one of *shared belief*, and keep the latter term for different usages. We hope that the peculiar definition we will provide of *sharedness* as a subjective mental state (which is identical neither to the definitions found of *common knowledge* nor to those found of *shared knowledge*) will avoid any possible ambiguity.

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