

SOCIAL COGNITION

Is Social Cognition an Oxymoron? Comments on Astington and Edward, Miller, Moore and Sommerville

Philippe Rochat, PhD Emory University, USA November 2010

Introduction

Navigating the complexities of the social world is more than mind-reading based on theory building, cold calculations and logical inferences. It also entails the experience of a relative sense of comfort and connectedness with others. We tend to forget that this feeling experience is the main content and driving force behind so-called social cognition: "thoughts and beliefs about the social world."¹

Here, I want to stress that theorizing about others' minds might not be as essential or foundational of social cognition as typically presented and often implicitly assumed by child development researchers like Miller, Astington, Moore and Sommerville.^{1,2,3,4} In fact, I would like to argue that to talk of social cognition in a "cold" Cartesian or "rationalistic" sense is incomplete and might even be oxymoronic: a contradiction in terms.

Research and Conclusions

As recently suggested by Gallagher,⁵ the validity of the "theories of mind" frame adopted by mainstream developmental researchers interested in documenting the origins of social knowledge might be ill-founded, or at least potentially lacking validity.⁶ Current mainstream framing of social cognition, as represented (broadly speaking) by Miller,¹ Astington,² Moore³ and Sommerville⁴ in the chapter on social cognition, posit (implicitly or explicitly) that the problem of social cognition is the problem of other minds' "inaccessibility."

Accordingly, within such conceptual framework, for these authors – as for many others – the ultimate task of children in their development, and in particular in the social realm, would be to rationally figure out what is going on in people's heads: figure out their intentions, wants or beliefs. Such rational figuration would allow them to accurately predict their behaviours, hence get access to others' minds.

Within such an inaccessibility problem construal, two main schools of thought have been guiding research and have been at the heart of major theoretical debates for the last quarter of a century.

One school posits that the rational figuration of others' mind (i.e., folk psychology) is based on theory building and inferences derived from such theories.^{7,8} The other school posits that folk psychology rests on an ability to take, as well as to embody the perspective of others.^{9,10,11}

What is striking and what readers should be reminded of is the fact that both schools conceptualize social cognition not only in relation to a fundamental inaccessibility problem, but also by focusing exclusively on the child's individual and rational mind. Here, too briefly, I want to point out that the validity and degree of generalization of such theoretical framing is partial and therefore questionable in its validity. I would argue that it allows dealing with what amounts to a relatively narrow aspect of folk psychology in development (i.e., the rational figuration or explicit representation of what's on the minds of others). But folk psychology entails much more than the explicit mental figuration of others' minds, more than a rational stance on the part of the developing child.

For one, it is not clear that infants manifest an "inaccessibility" problem, at least at an implicit level. Within weeks infants manifest selective attachment to caretakers on which their life depends. This is fundamental, considering humans' particularly prolonged state of immaturity following birth, and their protracted dependence on others to survive outside of the womb: a major trademark of our species compared to other primates.^{12,13}

There is an abundant experimental research literature documenting young infants' attunement as well as social intuitions, expectations and practices in face-to-face exchanges (primary intersubjectivity^{14,15}). Newborns tend to imitate, and very early on infants react to a sudden still face or become attuned to ritualized games with others (e.g., peek-a-boo games¹⁶). From 6 months of age, they expect animated entities with human-like features (e.g., googly eyes) to behave in some pro-social ways (act in a helping way) and not others (act in a hindering way¹⁷).

Such sophistications indicate that implicit social understandings exist long before children acquire language, and long before they are capable of theorizing that others might have different wants and false beliefs about the state of the world.³

This point is not trivial. What infants seem to acquire from birth (social intuitions, communicative practices, affective attunement around shared values) is arguably most of what folk psychology is about all through the lifespan. As adults, we continue to navigate the social world mainly in terms of relative experience of intimacy and trust, of social comfort, and what amounts more often than not to the immediate sense of inclusion and recognition in our interactions with others. The immediacy aspect of such intuitions toward others (e.g., whether someone is more or less well disposed toward us) is a cornerstone of social cognition. This intuitive and affective aspect is neglected and tends not to be captured when framed within the inaccessibility problem and its corollary: the individualistic ("Cartesian") approach of mind reading.

What such approach is missing is no less than the question of what drives children to understand and feel for others. What drives their irresistible need to affiliate and create resourceful (selective) dependencies, the ability to construct "trust" and a consensual sense of shared values with other persons.

The mechanisms that lead children toward such feats (i.e., their construction of a folk psychology) are much more than explicit theory building, logical inferences, and rational perspective taking. It is the development of a sense of social comfort and feelings toward others, the sense of being recognized and cared for by selected individuals, and the ability to control the projection of a reputable public self-image.^{18,19}

In this context, social cognition can be viewed as an oxymoron (contradictory in terms), to the extent that the folk psychology developed by children is primarily the development of implicit

feelings and the ability to read the particular affective inclinations others have toward the self in communication and social transactions with others (first- and second-person perspective), as well as toward one-another when looking at third parties' communication and social exchanges (thirdperson perspective). It is indeed much more than theory building or embodying (simulating) the perspective of others. Social cognition is primarily rooted in implicit exchange practices, communicative styles and varieties of social atmosphere that deserve much more research scrutiny.

Detecting how one relates to others at an implicit affective level has precedence over explicit theories of mind. This appears to be true both in development and in our daily adult existence. In navigating the social world, like infants, we rely primarily on our "instincts." We are first social feelers rather than theorizers or simulators of others. We tend to experience others as ethical, affective, and judging entities with immediacy and without much rationalization. I would argue that what seems to be primary in social cognition are not theories of mind, but rather sets of shared values and practices that can be subconsciously primed in infants and adults alike.

Little is known and much more research is needed on the implicit (atmospheric) feelings one acquires in relation to others, and how such feelings impact on our explicit folk psychology (i.e., theories of mind and other simulation stances). For example, Over and Carpenter's²⁰ recent findings on social priming by 18-month-olds provide a remarkable demonstration. These children appear to be more inclined to help a stranger when they have been briefly and inconspicuously primed beforehand with the photograph of two small puppets facing toward each other rather than facing away from each other. These findings show the importance of immediate, subconscious processing and incidental learning in the determination of higher order and explicit social actions such as empathic (feeling for) and cooperative (helping) behaviours. Note that such behaviours tend to be described as correlated with slow developing higher cognition and executive functions.

We now know that such higher order pro-social acts do not simply depend on language and the construction of explicit theories of mind. Something much more implicit and subliminal is going on.

Research on social priming is promising as it re-casts the development of folk psychology in a more interactive and inter-subjective ("implicit") construction context, away from the individualistic and rational framing ("the others' mind inaccessibility problem") that continues to

dominate mainstream child development research.1,2,3,4

References

- Miller SA. Social-cognitive development in early childhood. In: Tremblay RE, Barr RG, Peters RDeV, Boivin M, eds. Encyclopedia on Early Childhood Development [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2010:1-5. Available at: http://www.child-encyclopedia.com/documents/MillerANGxp.pdf. Accessed September 2010.
- Astington JW, Edward MJ. The development of theory of mind in early childhood. In: Tremblay RE, Barr RG, Peters RDeV, Boivin M, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2010:1-6. Available at: http://www.child-encyclopedia.com/documents/Astington-EdwardANGxp.pdf. Accessed September 2010.
- 3. Moore C. Social cognition in infancy. In: Tremblay RE, Barr RG, Peters RDeV, Boivin M, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2010:1-4. Available at: http://www.child-encyclopedia.com/documents/MooreANGxp.pdf. Accessed September 2010.
- Sommerville JA. Infants' social cognitive knowledge. In: Tremblay RE, Barr RG, Peters RDeV, Boivin M, eds. Encyclopedia on Early Childhood Development [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2010:1-6. Available at: http://www.child-encyclopedia.com/documents/SommervilleANGxp.pdf. Accessed September 2010.
- 5. Gallagher S. When the problem of intersubjectivity becomes the solution. In: Legerstee M, Haley D, Bornstein M, eds. *The developing infant mind: Integrating biology and experience*. Toronto, ON: Guildford Press. In press.
- 6. De Jaegher H, Di Paolo E, Gallagher S. Can social interaction constitute social cognition? *Trends in Cognitive Sciences* 2010;14(10):441-447.
- 7. Gopnik A. How we know our minds: The illusion of first-person knowledge of intentionality. *Behavioral & Brain Sciences* 1993;16(1):29-113.
- 8. Gopnik A, Wellman HM. The theory theory. In: Hirschfield L, Gelman S, eds. *Mapping the mind: Domain specificity in cognition and culture*. New York, NY: Cambridge University Press; 1994: 257-293.
- 9. Gordon R. Folk psychology as simulation. *Mind and Language* 1986;1:158–171.
- 10. Heal J. Replication and functionalism. In: Butterfield J, ed. *Language, mind, and logic*. Cambridge, MA: Cambridge University Press; 1986: 135-150.
- 11. Gallese V, Goldman A. Mirror neurons and the simulation theory of mind-reading. *Trends in Cognitive Sciences* 1998;12:493-501.
- 12. Montagu A. Neonatal and infant immaturity in man. Journal of the American Medical Association 1961;178(23):56-57.
- 13. Konner M. The evolution of childhood. Cambridge, MA: Harvard University Press; 2010.
- 14. Trevarthen C. Communication and cooperation in early infancy: A description of primary intersubjectivity. In: Bullowa MM, ed. *Before speech: The beginning of interpersonal communication*. New York: Cambridge University Press; 1979: 321-347.
- 15. Rochat P. The infant's world. Cambridge, MA: Harvard University Press; 2001.
- 16. Rochat P, Querido J, Striano T. Emerging sensitivity to the timing and structure of protoconversation in early infancy. *Developmental Psychology* 1999;35(4):950-957.
- 17. Hamlin JK, Wynn K, Bloom P. Social evaluation by preverbal infants. Nature 1997;450:557-560.
- 18. Rochat P. Mutual recognition as foundation of sociality and social comfort. In: Striano T, Reid V, eds. *Social cognition: development, neuroscience and autism.* Oxford, UK: Blackwell Publishing; 2008.

- 19. Rochat P. Others in mind: Social origins of self-consciousness. New York, NY: Cambridge University Press; 2009.
- 20. Over H, Carpenter M. Eighteen-month-old infants show increased helping following priming with affiliation. *Psychological Science* 2009;20(10):1189-1194.