



Looking beyond the brain: Social neuroscience meets narrative practice

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Abstract

Folk psychological practices are arguably the basis for our articulate ability to understand why people act as they do. This paper considers how social neuroscience could contribute to an explanation of the neural basis of folk psychology by understanding its relevant neural firing and wiring as a product of enculturation. Such a view is motivated by the hypothesis that folk psychological competence is established through engagement with narrative practices that form a familiar part of the human niche. Our major aim is to establish that conceiving of social neuroscience in this wider context is a tenable and promising alternative to characterizing its job as understanding mentalizing as a wholly brain-based form of ‘theory of mind’ activity. To promote this change of view, it is shown that understanding folk psychology as a narrative practice can accommodate the known evidence from social neuroscience, developmental and cross-cultural psychology, and cognitive archaeology at least as adequately, if not better than its main rivals, modularist accounts of theory of mind. © 2015 Elsevier B.V. All rights reserved.

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“Gradually, we are discovering that we are social creatures with brains and minds that are part of larger organisms called families, communities and cultures... to understand a person, we need to look beyond the individual”.

[Cozolino, 2014, p. xiii]

0. Introduction

It is beyond question that typically developing older human children and adults enjoy what might be neutrally called folk psychological (or FP) capacities. That is to say, there is clear and ample evidence that, at a certain point in development, *ceteris paribus*, human beings develop the capacity to make sense of actions done for

reasons – whether the person in question is another or oneself. This is a structured capacity that involves making competent reference to a range of mental attitudes or predicates (e.g. belief, desire, hope, fear) respecting how such attitudes can inter-relate in complex ways.

Social neuroscience aims to contribute to our understanding of the neural bases of these capacities. Specifically, under the auspices of what might be called the ‘what’ strategy, social neuroscience seeks to characterize the function of a specific brain region. This goes significantly beyond the more basic ‘where’ strategy of identifying regions that are active during certain cognitive tasks (Anderson, 2014, pp. xvii–xviii). A number of obstacles block progress in delivering the relevant empirical answers in pursuing these strategies. Koster-Hale and Saxe (2013) acknowledge, for example, that neuroimaging techniques are limited in important respects: “they cannot decipher what is the input of a region, how that input is transformed, or where the output from that region is sent, during a ToM [theory of mind] task” (p. 156).

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More concerning is the fact, as [Koster-Hale and Saxe \(2013\)](#) also admit, that, as things stand, social neuroscience is not even close to being able to answer fundamental questions about the ways we understand minds, including: “When and why do we (spontaneously) seek to understand another’s thoughts?”; “How do we figure out the actual content of someone else’s thoughts (i.e. what they are thinking) from specific cues?”; “How do we choose whether or not to incorporate others’ thoughts into our own decisions and actions?”; and “Why do we care emotionally about others’ thoughts and feelings?” (p. 156).

Some hold out hope that technical developments in social neuroscience will, one day, put us in a position to address these issues: someday we may discover more precisely what the brain is doing in making sense of minds, how it accomplishes this and “*where* in the brain mentalizing resides” ([Mahy, Moses, & Pfeifer, 2014, p. 69](#), emphasis original). But there are philosophical reasons to doubt such a day will ever come. This will be so if understanding minds is not a matter of deploying a theory of mind. If we leave the theory of mind framework behind, the way forward for social neuroscience must be re-thought. Conceiving of the nature of folk psychological competence and how it is acquired through enculturation in narrative practices gives social neuroscience a different role in helping us to explain how we understand minds.

1. Theory of mind in the brain

A staple assumption of much analytic philosophy of mind is that FP abilities just are theory of mind (or ToM) abilities. In using FP terms to understand minds we call on a set of rules or laws or principles that define how mental attitudes can inter-relate ([Lewis, 1970, 1978; Jackson, 1998](#)). Converting this basic idea into an explanatory proposal in cognitive science, a popular view is that ToM laws or principles are instantiated or contained in a species universal, biologically inherited module (which is variously characterized as a cognitive device, system, mechanism or computer). The common denominator in all ToM modularist accounts is that ToM abilities are best explained by a cognitive architecture with a particular design and a dedicated, domain-specific function ([Baron-Cohen, 1995; Fodor, 1983, 1995; Segal, 1996; Scholl & Leslie, 1999; Leslie, Friedman, & German, 2004](#)).

The most important feature of modules, which separates them from other humdrum psychological mechanisms, is that they are cognitive through and through. They are: “symbol-manipulating devices which receive representations as inputs and manipulate them according to formally specifiable rules in order to generate representations (or actions) as outputs” ([Samuels, 2000, p. 18](#)).

How seriously should we take the idea that modules literally embed a theory of mind? [Carruthers \(2011\)](#) complains that, “Gallagher and Hutto are mistaken in construing [modules] as purely third-personal, or observer based ... [that Gallagher and Hutto] take the talk of

‘theory theory’ too strictly” (p. 231). Still, even if this is correct, to deny that ToM modules are driven by rules and representations and do their work by manipulating concepts would be to make the idea of modules too weak to be of theoretical interest. Otherwise they will reduce to biologically inherited capacities that set us up for dealing with specific domains. The claim that modules are robustly cognitive is what puts the ‘theory’ in theory of mind modules.¹

Fodor supplied the original formulation of how to understand other defining features of mental modules in his now classic, *The Modularity of Mind* (see [Fodor, 1983, part III](#)). On his conception, modules: are informationally encapsulated (in that they are only receptive to certain kinds of inputs thus isolated from central cognitive processes); respond in mandatory, high speed ways; have low-level inputs and shallow outputs; instantiated in a fixed neural architecture; are prone to particular types of malfunction; and have a characteristic ontogenetic pace and sequencing.

Subsequent accounts of modules deviate from Fodor’s specification of their basic features. For example, defenders of the massive modularity thesis – most prominently [Carruthers \(2011\)](#) – abandon the idea that modules require information encapsulation.² Even in their most stripped down form, modules are sometimes understood as nothing more than neurally realized, task-specific processing systems. Nevertheless, those proposing that ToM abilities are best explained by ToM modules also typically assume that such mindreading mechanisms are “an evolutionary adaption designed for the mental domain which is significantly innately channelled and early to emerge in development” ([Carruthers, 2011, p. 227](#)).

This way of understanding the neural basis of ToM is alive and well in social neuroscience. For example, [Samson and Michel \(2013\)](#) tell us: “Making sense of other people’s minds requires not only a set of processes that allow us to infer other people’s mental states, but also long-term semantic knowledge about mental states that can be used to guide the inferential processes” (p. 171).³ That there might be ToM modules provides social neuroscience with a hard target and a clear agenda (see also [Koster-Hale and Saxe’s \(2013\)](#) discussion of the

¹ This is precisely why in first introducing the idea of modules, Fodor objects to Chomsky’s talk of mental ‘organs’. He holds that such a description fails to capture the fact that mental modules presuppose the existence of “innately cognized propositional contents” ([Fodor, 1983, p. 5](#)) and “innate concepts” ([Fodor, 2001, p. 110](#)).

² This is necessary since FP involves isotropic, open-ended forms of reasoning in which potentially any and “every fact we know is in principle relevant to success ... [hence such forms of reasoning] rely on emergent characteristics of our entire system of knowledge” ([Rockwell, 2005, p. 24](#)).

³ [Samson and Michel \(2013\)](#) hold that the dominant view in social neuroscience is still that ToM knowledge is based in general rules or laws about the mind – a kind of folk theory. Thus, although they note that the tendency to construe FP as a theory has been questioned it nevertheless remains, as compared to alternatives, “more widely accepted” (p. 171).

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