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Direct social perception, mindreading and Bayesian predictive coding



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ABSTRACT

Mindreading accounts of social cognition typically claim that we cannot directly perceive the mental states of other agents and therefore have to exercise certain cognitive capacities in order to infer them. In recent years this view has been challenged by proponents of the direct social perception (DSP) thesis, who argue that the mental states of other agents can be directly perceived. In this paper we show, first, that the main disagreement between proponents of DSP and mindreading accounts has to do with the so-called 'sandwich model' of social cognition. Although proponents of DSP are critical of this model, we argue that they still seem to accept the distinction between perception, cognition and action that underlies it. Second, we contrast the sandwich model of social cognition with an alternative theoretical framework that is becoming increasingly popular in the cognitive neurosciences: Bayesian Predictive Coding (BPC). We show that the BPC framework renders a principled distinction between perception, cognition and action obsolete, and can accommodate elements of both DSP and mindreading accounts.

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1. Introduction

For a long time the study of social cognition has been shaped by the assumption that we cannot perceive the mental states of others, and therefore have to exercise certain cognitive capacities in order to infer them. Much mainstream research has been devoted to investigating the cognitive architecture of 'mindreading', i.e. our ability to read others' mental states. In recent years, however, this view has been challenged by the 'direct social perception' thesis. Proponents of this thesis argue that it is possible to directly perceive (at least some of) the mental states of other people (Gallagher, 2004, 2008; Gallagher & Zahavi, 2012; Hutto, 2009; Ratcliffe, 2007; Reddy, 2008; Zahavi, 2011; Zahavi & Gallagher, 2008).

The first aim of this paper is to investigate how the direct social perception (DSP) thesis should be interpreted. In the next section, we discuss Bohl and Gangopadhyay (2013), who give an analysis of DSP as the claim that the neural processes underlying social interaction are perceptual rather than cognitive in nature. We argue that this analysis is insightful but incomplete – it fails to address the main issue in the debate between proponents of DSP and proponents of mindreading. This issue pertains to a particular model of social cognition: the so-called 'sandwich model' (Hurley, 2008). In Section 3 we show that, even though proponents of DSP are critical of this model, they still seem to accept the distinction between perception, cognition and action upon which it is based.

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The second aim of this paper is to contrast the sandwich model of social cognition with an alternative theoretical framework that is becoming increasingly popular in the cognitive neurosciences: Bayesian Predictive Coding (BPC). Section 4 explains the basic principles of this framework and explores whether and to what extent it offers a promising alternative to the sandwich model. We argue that the BPC framework renders a principled distinction between perception, cognition and action obsolete, and can accommodate elements of both mindreading accounts and DSP accounts. The BPC framework is still at a relatively early stage of development, however. In Section 5 we close by pointing out some importance challenges to a BPC approach to social cognition.

2. What is direct social perception?

In “Theory of Mind and the Unobservability Assumption” Bohl and Gangopadhyay (2013) offer a thorough and detailed analysis of the DSP thesis. They present DSP primarily as a criticism of the ‘unobservability assumption’, i.e. the assumption that the mental states of other agents are unobservable, which plays an important role in theory theory and simulation accounts of mindreading.¹ Bohl and Gangopadhyay discuss four possible interpretations of the unobservability assumption, three of which we will briefly summarize here.²

First of all, the unobservability assumption can be conceptualized as a *metaphysical* claim. On this interpretation, the DSP thesis is first and foremost a criticism of the Cartesian mind–body dualism that inspires the theory theory and the simulation theory (e.g., Zahavi & Gallagher, 2008, p. 242). However, Bohl and Gangopadhyay claim that this criticism is misplaced because both theories merely try to explain how people attribute mental states to other people, regardless of the (metaphysical) nature of mental states.

Alternatively, the unobservability assumption can be interpreted as the *phenomenological* thesis that we do not have perceptual experience of the mental states of others. Bohl and Gangopadhyay argue that this interpretation is problematic because mindreading approaches are happy to leave open the phenomenology of ‘what it is like’ to experience other minds. For example, Herschbach (2008), Michael (2011) and Lavelle (2012) have all argued against DSP that mindreading approaches offer accounts of the *unconscious* processes that underlie mental state attributions.

This brings us to the third interpretation of the unobservability assumption, namely, as a *psychological* thesis. On this interpretation, the unconscious processes by which we come to understand the mental states of others are cognitive and not perceptual. Bohl and Gangopadhyay argue that, unlike the metaphysical and phenomenological interpretation, the psychological interpretation of the unobservability assumption is actually correct. That is, they claim that proponents of mindreading indeed do assume that the processes underpinning the attribution of mental states are cognitive processes. At the same time, however, most mindreading proponents acknowledge that perceptual processes play an important role – either in identifying the target of mental state attribution (Baron-Cohen, 1995), or in directly perceiving some of the others’ mental states (Gomez, 1996). More importantly, these proponents also recognize that mental states are not observable in the same way as the sensory properties of physical objects. This is why they postulate cognitive (non-perceptual) mechanisms for theorizing and/or simulation. According to Bohl and Gangopadhyay, the problem with DSP is precisely that its proponents do not have the resources to account for the difference between perceiving mental states and perceiving physical objects (2013, p. 216). Therefore they conclude that the interpretation of the unobservability assumption as a psychological thesis poses a problem for proponents of DSP rather than proponents of mindreading. In the next section, we will take a closer look at this analysis.

3. Direct social perception versus mindreading

An important first question is how Bohl and Gangopadhyay arrive at the conclusion that proponents of DSP do not provide an account of the difference between perceiving mental states and perceiving physical objects. For most (if not all) proponents of DSP do claim that there is a crucial difference between the perception of persons and the perception of objects. For example, Gallagher (2008), whom Bohl and Gangopadhyay criticize, writes:

“in early perceptual experience we [...] find distinctions that correspond to distinct entities encountered in the world. Faces are different from other things; agents are different from non-agents [...] the environment is experienced as immediately parsed into entities that manifest expressiveness and others that do not”.

[2008, p. 539]

This shows that proponents of DSP do acknowledge that there is something special about our perceptual access to the mental states of other people. Now Bohl and Gangopadhyay claim that this falls short of actually *explaining* the difference between the perception of persons and the perception of objects. According to proponents of DSP, however, the difference

¹ According to the theory theory, our capacity for mindreading depends on a folk psychological whose laws (or generalizations) connect mental states to other mental states, to perceptions, and to actions. The simulation theory, by contrast, claims that mindreading involves ‘putting ourselves in the shoes of others’ by simulating the mental states we would have in their situation.

² We leave out the epistemological interpretation of DSP, because: (a) we agree with Bohl and Gangopadhyay that this is not the right interpretation of DSP, and (b) it is not directly relevant to the purpose of this article.

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