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Corresponding Author	Family Name	**Fiebich**
	Particle	
	Given Name	**Anika**
	Suffix	
	Division	Department of Philosophy, Centre for the Study of Social Action
	Organization	University of Milan
	Address	Via Festa del Perdono, 7, 20122, Milan, Italy
	Phone	
	Fax	
	Email	ani.fiebich@web.de
	URL	
	ORCID	http://orcid.org/0000-0002-4859-3779
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Abstract

In this article I defend pluralist theory against various objections. First, I argue that although traditional theories may also account for multiple ways to achieve social understanding, they still put some emphasis on one particular epistemic strategy (e.g., theory or simulation). Pluralist theory, in contrast, rejects the so-called 'default assumption' that there is any primary or default method in social understanding. Second, I illustrate that pluralist theory needs to be distinguished from integration theory. On one hand, integration theory faces the difficulty of trying to combine traditional theories of social understanding that have contradictory background assumptions. On the other hand, pluralist theory goes beyond integrating traditional theories by accounting for a variety of factors that may play a role in social understanding but have been (widely) neglected in such theories, including stereotype activation, social and personal relationships, contextual features, individual moods, perceptions, and so on. Third, I argue that if the default assumption is rejected, pluralist theorists need to provide another positive account of why particular cognitive processes are more likely to come into play in a specific instance of social understanding than others in order to provide a genuine alternative to traditional theories. I discuss three versions of pluralist theory that meet this challenge by pointing to normativity, fluency, and interaction.

Keywords (separated by '-')	Pluralist theory - Folk psychology - Social cognition - Theory of mind
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FOLK PSYCHOLOGY: PLURALISTIC APPROACHES

In defense of pluralist theory

Anika Fiebich[1]

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Abstract

In this article I defend pluralist theory against various objections. First, I argue that although traditional theories may also account for multiple ways to achieve social understanding, they still put some emphasis on one particular epistemic strategy (e.g., theory or simulation). Pluralist theory, in contrast, rejects the so-called 'default assumption' that there is any primary or default method in social understanding. Second, I illustrate that pluralist theory needs to be distinguished from integration theory. On one hand, integration theory faces the difficulty of trying to combine traditional theories of social understanding that have contradictory background assumptions. On the other hand, pluralist theory goes beyond integrating traditional theories by accounting for a variety of factors that may play a role in social understanding but have been (widely) neglected in such theories, including stereotype activation, social and personal relationships, contextual features, individual moods, perceptions, and so on. Third, I argue that if the default assumption is rejected, pluralist theorists need to provide another positive account of why particular cognitive processes are more likely to come into play in a specific instance of social understanding than others in order to provide a genuine alternative to traditional theories. I discuss three versions of pluralist theory that meet this challenge by pointing to normativity, fluency, and interaction.

Keywords Pluralist theory · Folk psychology · Social cognition · Theory of mind

1 Theories of social understanding: introduction to the debate

Navigating through the social environment requires an understanding of other people's mental states on a number of occasions. Which social cognitive processes underlie mental state attribution is controversial. Advocates of one main camp in the contemporary debate, so-called 'theory theory', argue that we employ folk

✉ Anika Fiebich
ani.fiebich@web.de

[1] Department of Philosophy, Centre for the Study of Social Action, University of Milan, Via Festa del Perdono, 7, 20122 Milan, Italy

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psychology understood as theory that is composed of folk psychological rules such as 'if A wants p and believes that doing q will bring about p, then *ceteris paribus*, A will do q' (Borg 2007). There is some disagreement among theory theorists. Nativist theorists argue that folk psychology is innate and rooted in a single brain module or system that develops along its own developmental timetable (e.g., Leslie et al. 2004; Carruthers 2016). According to empiricist theory theorists, in contrast, infants' development of folk psychology relies on the acquisition of mental state concepts and conceptual change through interacting with the social environment based upon probabilistic causal models and Bayesian learning mechanisms (e.g., Gopnik 1998; Gopnik and Wellman 2012). In his critique on theory theory, Hutto (2008) points to cross-cultural diversities in narrative practices that come along with culture-specific ontogenetic trajectories of the development of folk psychology and argues for folk psychology being better understood in terms of narrative practice than theory.

AQ1

The second main camp in the debate is called 'simulation theory'. According to simulation theorists, we put ourselves imaginatively 'into the shoes' of another person to simulate the thoughts and feelings we would experience in his or her situation. We create so-called 'pretend states' that are intended to match those of the target and feed our own decision making mechanism with these states in order to generate behavior predictions or explanations. Simulation theorists argue that children fail to pass the false belief task, because it requires them to 'quarantine' or 'inhibit' their own genuine belief to keep it from infecting the simulation process; a capacity that is not acquired until age 5. Simulation theorists differ in their view as to whether 'mental simulation' should be understood in terms of 'resemblance' (Heal 2003; Goldman 2006) or 'reuse' (Hurley 2008; Gallese and Sinigaglia 2011). Moreover, there are introspective (e.g., Goldman 2006) and non-introspective versions of simulation theory (e.g., Gordon 1986; see Barlassina and Gordon 2017for a discussion).

Insofar as Goldman's (2006) simulation theory allows for theory playing a supplementary role, it can be understood as a hybrid simulation theory/theory theory account. Others, in turn, have focused on theory playing the dominant role with simulation being supplementary, hence arguing for a hybrid theory theory/simulation theory account (e.g., Nichols and Stich 2003). In addition to these hybrids, model theories have been proposed that argue for folk psychological knowledge as knowledge of models in terms of theory (Maibom 2003; Spaulding 2018a), simulation (Newen and Schlicht 2009) or both (Godfrey-Smith 2005).

A genuine alternative to theory theory and simulation theory has been proposed by 'interaction theory' (e.g., Gallagher 2001). Drawing on Trevarthen (1979), interaction theorists argue that at the beginning of ontogeny, we understand other people's minds and behaviors by recognizing embodied intentions and emotions in primary intersubjective relations. When acquiring the capability of being engaged in joint attention around age 1, typically-developing infants may also engage in secondary intersubjective practices in pragmatic contexts. Once language capacities are acquired, both primary and secondary intersubjective practices may be shaped by narratives (Gallagher and Hutto 2008). According to interaction theorists, the dynamics of interaction do not only play an enabling or causal but even a constitutive role for social understanding (De Jaegher et al. 2010).

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More recently, 'pluralist theory' has entered into the debate (e.g., Andrews 2012; Fiebich 2015). Pluralist theory argues that social understanding relies on a variety of social cognitive processes (e.g., mental-state attribution via theorizing or simulating, recognizing other people's embodied intentions and emotions, associating character traits with specific persons, stereotype activation) as well as domain-general processes (e.g., pattern recognition, frequency learning). Which cognitive processes come into play in a specific situation depends on multiple factors, including the current mood and perceptions of the individual, personal and social relationships, cognitive effort, and so on. Pluralist theory is also in line with theories that argue for mental state attribution being modulated by associating character traits with the target (Westra 2018) or that point to social understanding having not only predictive and explanatory but also regulative functions in terms of normative (McGeer 2007), mind-shaping (Zawidzki 2013) or relationship-shaping practices (Bohl 2015a).

As we will see below, pluralist theory needs to be distinguished from pure and hybrid versions of traditional theories (Sect. 2.1) as well as integration theories that aim at integrating traditional theories into a broader theoretical framework (Sect. 2.2). Finally, for the defense of pluralist theory as a genuine alternative, a positive account needs to be provided that explains why particular cognitive processes are more likely than others to play a role in a given instance of social understanding (see Sect. 2.3 for a discussion).

2 What is special about pluralist theory? Reply to the critics

Pluralist theory defends the view that social understanding may be achieved in various ways. But this may not be denied by advocates of other theories. Thus, the question arises: what is special about pluralist theory? In this section I will reply to three objections and discuss different versions of pluralist theory that provide a genuine alternative to traditional theories of social understanding.

2.1 Objection 1: varieties of social understanding in traditional theories

The first objection that may be raised against pluralist theory concerns the defense of pluralism in other theories of social understanding:

> Proponents of simulation theory, theory theory, and interaction theory also allow for various ways to understand other people's minds and behaviors. In which way does the assumption of there being varieties of social understanding defended by pluralist theory differ from the assumption about varieties of social understanding shared among traditional theories?

To address this question, I will elucidate the general background assumptions of (a) theory theory and simulation theory, (b) interaction theory, and (c) pluralist theory. The reply to objection 1 will show that although 'pure' traditional theories of social understanding may differ with respect to their views on social cognition, these theories defend the view that there is one social cognitive process that functions as a

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default (e.g., theory theorists assume that we typically rely on folk psychological theories in our social understanding with occasionally simulation coming into play). Hybrids are stronger in their assumption that one social cognitive process is always involved in our social understanding occasionally being supplemented by other processes (e.g., a hybrid ST/TT account claims that simulation is always involved in social understanding with simulation routines being occasionally supplemented by theorizing processes). Pluralist theory, in contrast, rejects the assumption that any social cognitive process plays a default or necessary role in social understanding. Moreover, pluralist theory is neutral with respect to its view on cognition, and either pluralist theory can remain neutral or be defended in the framework of cognitivism or enactivism.

2.1.1 Traditional theories and alternatives: background assumptions

As illustrated in the introduction above, theory theorists may differ in their view as to whether or not folk psychological theory is innate. Despite that controversy, theory theorists share a number of background assumptions, including

(ai) everyday social understanding is a matter of attributing 'hidden', i.e. not directly perceivable, mental states via theory (or simulation, respectively) from an observational perspective; and
(aii) the functions of social understanding are predictive, explanatory and interpretive.

The very same assumptions are shared by advocates of the second main camp in the debate, so-called 'simulation theorists'. However, in contrast to theory theorists, simulation theorists refer in (ai) to running simulation routines rather than employing folk psychological theories as the inferential process that underlies mental state attribution. Simulation theorists may differ in their view as to whether or not running simulation routines is an introspective enterprise.

Both theory theory and simulation theory defend cognitivism insofar as they argue for cognition in general (and social cognition in particular) as happening primarily in the brain of a single individual that computes mental representations. Some simulation theorists defend an embodied view of cognition, arguing that mental representations are computed in an interplay of brain and bodily processes (e.g., Gallese and Sinigaglia 2011).

Interaction theorists, in turn, have background assumptions that are different from those shared by theory theorists and simulation theorists, including

(bi) everyday social understanding relies on recognizing embodied emotions and intentions that are directly perceivable in social interactions; and
(bii) the function of social understanding is regulative.

Interaction theorists are devoted to enactivism according to which cognition is constituted by mind–body-environment relations (Froese and di Paolo 2011; Stapelton and Ward 2012) and the dynamics of social interaction constitute the social cognitive processes of the interacting agents (De Jaegher et al. 2010). Some cognitivists

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have also emphasized the role of social interaction (e.g., Carpendale and Lewis 2004; Butterfill 2012) in social understanding, focusing though on social interaction playing a contextual or enabling rather than constitutive role. Others (e.g., Heal 2013) have even argued for a constitutive role of social interaction for social understanding but still stick to a cognitivist take on cognition in the framework of a 'co-cognitive' version of simulation theory.

Objection 1 points out that, despite these divergences in the background assumptions of traditional theories, hardly any traditional theorist would disagree that there are other strategies for social understanding that come into play in everyday life. For example, Goldman (2006) argues that folk psychological theory matters occasionally in social understanding via mental state attribution, and Gallagher (2001) points to folk psychological theory or simulation coming into play in situations of social understanding where the individual is puzzled and embodied emotion or intention recognition do not work out. So, what is the disagreement then when accounting for varieties of social understanding? Traditional theorists share the 'default assumption' that a particular social cognitive process should be regarded as primary epistemic strategy that, ceteris paribus, plays a default role to achieve social understanding in everyday life but disagree with respect to which social cognitive process that should be. As the name of their theory goes, "theory–theorist[s] … believe that our understanding of mentalistic notions—of belief, desire, intention, and the rest—is largely given by the positions those notions occupy within a folk psychological theory of the structure and functioning of the mind" (Carruthers 1996, p. 22). Simulation theorists, in contrast, argue that "simulation is the default method of mentalization" (Goldman 2002, pp. 7–8). Interaction theorists, in turn, argue for primary intersubjective practices like recognizing other persons' embodied emotions and intentions in social interactions as "our primary and pervasive means of understanding other persons" (Gallagher 2001, p. 103). A closer look into Goldman's (2006) account reveals that his claims are even stronger by arguing for simulation playing a necessary (and not only default) role in mentalizing, potentially being supplemented with theorizing processes. In this respect, his account should better be understood as a hybrid ST/TT than a pure simulation theory.

2.1.2 Reply to objection 1: pluralist theory and rejecting the 'default assumption'

In the last few years, pluralist theory (e.g., Andrews 2012; Fiebich 2015) has entered into the debate, which draws on the background assumptions that

> (ci) everyday social understanding relies on a variety of cognitive processes to access other people's mental life in observational as well as interactive settings that are determined by multiple factors (e.g., the current moods or perceptions of the agents, personal or socialrelationships, contextual features, etc.); and
> (cii) the functions of social understanding are multifarious, including predictive, explanatory and regulative ones.

Pluralist theory differs from traditional theories by rejecting the 'default assumption'. That is, pluralist theory denies that there is one particular social cognitive process that typically, all things being equal, comes into play whenever attempts are

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being made to understand other people's minds and behaviors. In that respect, pluralist theory also differs from hybrid theories (e.g., Nichols and Stich's 2003 hybrid TT/ST account) that argue for one particular process playing a necessary role (e.g., theory) in social understanding with being supplemented by others (e.g., simulation). Rather, pluralist theory argues that a variety of factors determine which cognitive processes a particular instance of social understanding requires, including personal or social relationships, the socio-situational context, moods and perceptions of the agents, the dynamics of interaction, and so on. Dependent on which (interactive or observational) setting social understanding takes place, it has predictive, explanatory, regulative or other functions.

As such, pluralist theory is neutral with respect to its view on cognition, and either it may remain neutral or be defended in a cognitivist or enactivist framework. Recently, Gallagher (2015, 2017) has adopted a pluralist stance to social cognition in interaction theory whilst still sticking to an enactivist view of cognition. In earlier articles, he argued against theory and simulation to be a default method of social understanding and highlighted that primary intersubjective practices are "the primary and pervasive means" of social understanding (e.g. Gallagher 2001). In his more recent articles on an interaction version of pluralist theory (Gallagher 2015; Fiebich et al. 2017; Gallagher 2017a, b), he explicitly rejects the assumption that there is any default method. This is an important move that needs to be acknowledged as such. Rejecting the default assumption means that he no longer argues for primary intersubjective practices as default processes. Primary intersubjective practices are still particularly significant in his pluralist approach, though, because they are the basic social cognitive processes that come into play in social interaction and he argues for the dynamics of social interaction being the determining criterion for which cognitive processes come into play in a given instance of social understanding (see Sect. 2.3 for a discussion).[1]

2.2 Objection 2: varieties of Social understanding in integration theory

The second objection that may be raised against pluralist theory concerns the difference between pluralist theory and integration theory:

> Integration theory has also argued for various ways to understand other people's minds and behaviors. Why does pluralist theory need to be distinguished from an account that integrates traditional theories of social understanding?

In general, integration theory (like pluralist theory) does *not* defend the default assumption as traditional theories do and thus avoids methodolocial difficulties like

[1] Since pluralist theory is not devoted to any particular view of cognition per se, it is perfectly possible that philosophers who endorse different but not contradictory views of cognition team up to explore the varieties of social understanding from a pluralist viewpoint. For example, Fiebich et al. (2017) agree with respect to pluralism in social cognition but differ in their views of whether cognition is enactive (Hutto and Myin 2017; Gallagher 2017a) or whether to remain neutral with respect to endorsing neither enactivism nor cognitivism, though sympathizing with dynamic embodied views of cognition (e.g., de Bruin and Kaestner 2012) when it comes to social understanding in interactive settings (Fiebich 2015, chapt. 4).

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accounting for theory or simulation as the primary strategy used in mental state attribution (see Apperly 2008 for a discussion). That is, it does not emphasize the role of simulation, theory or any other social cognitive process in social understanding. Rather, integration theory either (1) attempts to integrate the traditional theories (i.e., theory theory, simulation theory, and interaction theory) into a broader theoretical framework (e.g., Bohl and van den Bos 2012), or (2) attempts to integrate different cognitive processes as part of the broader mindreading system (e.g., Westra 2018).

Analysis will show that pluralist theory may be compatible with the latter but not with the former version of integration theory. First, the former version faces the general problem that the traditional theories, which shall be integrated into a broader theory, have different theoretical background assumptions with respect to both their views on social cognition in particular as well as cognition in general. On one hand, advocates of theory theory, simulation theory and interaction theory have contradictory assumptions in the realm of social cognition with respect to which social cognitive process they regard as default. On the other hand, advocates of theory theory and simulation theory share a cognitivist view of cognition whereas advocates of interaction theory are enactivists. Because of their contradictory background assumptions, traditional theories are incompatible with each other and cannot be integrated into a broader theoretical framework.

Second, pluralist theory does not aim at integrating traditional theories but cognitive processes—and not only those processes that are proposed by traditional theories but also other processes that are investigated in social psychology. Thus, insofar as the integration of different social cognitive processes is not construed in the realm of any traditional theory, the second version of integration theory is compatible with pluralist theory. However, it is not identical with pluralist theory, understood as a genuine alternative to traditional theories of social understanding, because an account of determining criteria for why one particular (set of) cognitive processes is more likely to come into play in a specific instance of social understanding is missing. Hence pluralist theory needs to be distinguished from integration theory.

2.2.1 Different versions of integration theory

A number of advocates of integration theory aim to integrate traditional theories of social understanding into a broader theoretical account. Bohl and van den Bos (2012), for example, "argue that ToM and interactionism ought not be considered as mutually exclusive opponents. Instead, they should be integrated into a single comprehensive framework for understanding social cognition" (p. 1). The authors argue that the standard theory of mind (ToM) account (encompassing theory theory, simulation theory, as well as their hybrids) and the interactionist alternative (proposed by interaction theory) are not mutually exclusive, because they address different aspects of social cognition and focus on different phenomena. Theory theorists and simulation theorists focus on the epistemic dimension of understanding other people's minds and behaviors on the basis of mental-state attribution via inferential theorizing or simulating processes, respectively. Interaction theorists, in contrast, focus on engagement and the affective dimension of social understanding via directly

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perceiving other people's embodied emotions and intentions. Methodologically, Bohl and van den Bos distinguish between different types of cognitive processes, claiming that "there is a course-grained mapping between the Type 1 processes and interactionism on the one hand, and the Type 2 processes and ToM on the other" (p. 8). Whereas Type 1 processes are typically fast, efficient, stimulus-driven and inflexible, Type 2 processes are relatively slow and cognitively laborious but flexible. On their integration theory, social interactions in everyday contexts are rarely based on solely Type 1 or Type 2 processes but an interrelated combination of these two.[2] In a similar vein, Michael et al. (2014) "think that the most fruitful way to [… take embodied interaction seriously] is to integrate interactionists' insights with a cognitivist account of mindreading" (p. 818). Inspired by findings from social psychology on expertise, they propose a hierarchical framework of how attention and working memory build upon embodied social responses in general. In particular, higher-level cognitive processes like social understanding via mental-state attribution that coordinate action with strategic features of the situation may be informed by lower-level embodied cognitive responses.

Westra (2018), in turn, widens the scope of integrating not only those social cognitive processes that are postulated in traditional theories of social understanding. He provides an integrative approach to character-trait attribution and theory of mind. Westra highlights that character traits are distinct from beliefs and desires insofar as they may not figure into practical reasoning and are temporally stable rather than fluid mental properties. Whereas traditional theories of social understanding, like simulation theory and theory theory, have focused primarily on understanding other people's minds and behaviors in terms of beliefs and desires, the dedicated role that character trait-attribution may play herein was widely ignored. On his hierarchical Bayesian action–prediction approach, character trait attribution forms the upper level of an action–prediction hierarchy and may inform the attribution of beliefs and desires at lower levels. Feedback from observable behaviors in social interaction, in turn, may lead to revising hypotheses about either character traits or belief–desire pairs. Westra uses the cautious formulation that his approach "could be construed as a version of theory theory" (p. 1224). Insofar as it is not construed as such, however, this version of integration theory seems to be compatible with pluralist theory but still needs to be distinguished from it.

2.2.2 Reply to objection 2: difficulties with integrating traditional theories and broadening the scope of the debate

Pluralist theory needs to be distinguished from the first version of integration theory that attempts to integrate traditional theories and their alternatives into a unified theoretical framwork for two reasons. First, integrating traditional theories of social understanding into a coherent theoretical framework is problematic

[2] Note that the distinction between Type 1 and Type 2 processes resembles the 2-System approach defended by Fiebich and Coltheart (2015), but it is neither essential for integration theory nor pluralist theory to advocate a 2-System view of cognition.

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because of the contradictory background assumptions that advocates of these theories have. As pointed out by Fiebich et al. (2017, p. 210):

> In rejecting the standard mindreading proposals, the kind of pluralism we endorse differs importantly from integrationist accounts (e.g., Bohl and van den Bos 2012). Integrationist accounts want to reconcile TT, ST, and non-mindreading alternatives in a way that we think is problematic. The competing core assumptions of pure TT and ST, and the way these have to be accommodated in hybrid theories, make it difficult to understand how TT and ST could be combined in a truly integrated way in acts of social cognition. In contrast, theory and simulation might play different roles in social understanding as long as they are not understood under the auspices of TT or ST, which assume the existence of quite different mindreading mechanisms. A softer reading of 'theory' or 'simulation' that makes no such assumption is, by contrast, clearly compatible with a genuinely pluralist perspective.

Remember that traditional theories share the assumption that there is a primary or default method to achieve social understanding but differ with respect to their view as to which process should be regarded as default. They do not only differ in focusing on different social cognitive processes (as acknowledged by Bohl and van den Bos 2012) but also consider different processes as default. That is, traditional theories of social understanding have contradictory background assumptions (e.g., theory theorists appeal to theory as a default way to understand other people's minds and behaviors, whereas simulation theorists call for simulation) and as such, they cannot be integrated into a coherent unified theoretical framework. This does not mean to withdraw the notions of 'theory' or 'simulation'. Indeed, in a softer reading (i.e. with leaving out the property of a specific strategy to play a default role in social understanding), these notions may refer to a particular (set of) social cognitive process(es) that may be called 'theory' or 'simulation', respectively. Gopnik (1998), for example, provides a conception that may be useful for pluralist theory of what 'theory' comes to in general with respect to its structural features such as abstractness, coherence, causality, and ontological commitment. Thus, to avoid the difficulties that this version of integration theory faces, pluralist theorists use the notions 'theory' and 'simulation' in a 'softer reading', i.e. without referring to the (contradictory) background assumptions that theory theorists, simulation theorists, and interaction theorists share concerning social cognition and cognition. This reading is not open to integration theories that precisely aim to integrate traditional theories into a broader theoretical framework.

Second, pluralist theory does not aim at integrating traditional theories but cognitive processes into a broader theoretical framework. Moreover, pluralist theory (e.g., Andrews 2012; Fiebich 2015) does not only account for those social cognitive processes empathized by proponents of traditional theories of social understanding (including theory, simulation, embodied emotion and intention recognition etc.) but also other social cognitive processes e.g., stereotype activation or associations with character traits as well as domain-general processes e.g., pattern recognition or frequency learning. Moreover, pluralist theory accounts for different (pragmatic,

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social, cultural/normative) contexts in which social understanding takes place (see Gallagher and Fiebich 2019, for a discussion).

In general, pluralist theory argues that in a particular instance of social understanding, different social cognitive and domain-general cognitive processes come into play, potentially being interrelated with each other. In this respect, pluralist theory is in line with findings from social psychology, which illustrate that social understanding via mental state attribution may be shaped by social differences and goals (see Spaulding 2018b for a discussion). For example, individuals tend to aim for efficiency and rely on stereotype activation in their social judgments when the other person is an out-group member (e.g., with respect to gender or race categories). These findings show that social information that serves as input for mindreading may get narrowed down by social categorization and that such information will get processed to different degrees dependent on the individual's goal (e.g., aiming for accuracy in an effort-full and deliberate fashion yields deeper processing than aiming for efficiency).

Moreover, even if not spelled out explicitly (enough), pluralist theory is perfectly compatible with the second version of integration theory provided by Westra (2018) that points to an empirical relation between trait attribution and mental state attribution. Westra highlights that character-trait attribution has also been discussed by advocates of pluralist theory but argues that they do not explain its relationship to mindreading adequately, because they treat character-trait attribution as an alternative to social understanding via belief–desire attribution and hence fail to account for the empirical relation between trait attribution and mental state attribution. His argument is problematic for the following reasons. First and foremost, no pluralist theorist (at least to my knowledge) denies that attributing (or associating) character traits may inform mental state attributions. Indeed it is one of the aims of pluralist theorists to argue that attributing (or associating) character traits does not presuppose belief–desire attributions and hence may (though does not need to) function as an alternative—but this does not rule out their appreciation of other instances of social understanding, in which the attribution of character traits and mental states like beliefs and desires unidirectionally or reciprocally influence each other.

Second, Andrews (2008) proposes a double dissociation between trait attribution and belief attribution. On one hand, she appeals to developmental findings (e.g., Cogsdill et al. 2014) that children predict other people's behavior on the basis of belief–desire attributions earlier in ontogeny than on the basis of trait attributions (and hence independently from the latter). On the other hand, Andrews points to findings from Social Stories Therapy (Gray 2000) that show that people with autism, who are typically impaired in mental state reasoning, may still learn how to infer a character trait (e.g., 'happy') from a specific behavior (e.g., smiling) and then make behavior predictions on the basis of such attribution (e.g., laughing). Westra objects that even if Andrews's argument is valid in its entirety, all it would show is that character reasoning and belief–desire reasoning are not identical, and that neither is necessary for the other. On his account, these two kinds of reasoning are typically systematically integrated with one another and subserved by the same functional system. This does not seem to contradict Andrews's view, however, as all she is arguing for is that "*at least some* personality traits cannot be understood as an

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oblique reference to beliefs, desires, and any other propositional attitude" (p. 14, italics added).

2.3 Objection 3: varieties of social understanding in pluralist theory

The third objection that may be raised against pluralist theory concerns its status as a genuine alternative theory of social understanding:

> Pluralist theory argues for varieties of social understanding in a way other than traditional theories and integration theory. But what is the criterion to account for pluralist theory as a genuine alternative?

A number of philosophers committed to pluralist theory in the contemporary debate of social understanding (e.g., Andrews 2012; Fiebich 2015; Gallagher 2015; Newen 2015a). All of them reject the assumption that there is any particular social cognitive process that plays a necessary or default role in social understanding. Moreover, pluralist theorists appeal to a variety of social cognitive and domain-general cognitive processes that may come into play dependent on multiple factors, including social and personal relationships, cognitive effort, contexts, and others. However, in order to provide a genuine alternative to traditional theories of social understanding, it is not sufficient to point to such diversity. If there is neither a particular social cognitive process that has the characteristic feature to be necessarily (as proposed by hybrids) involved in any instance of social understanding (potentially supplemented by other processes), nor to function as a default (as proposed by pure traditional theories) whenever attempts are being made to achieve social understanding, then the question emerges: what does make particular cognitive processes more likely than others to come into play in a specific instance of social understanding? In order to provide a genuine alternative to traditional theories, pluralist theorists need to provide a positive account that answers this question. I will discuss three versions of pluralist theory that meet this challenge by accounting for normativity, fluency, or interaction as determining criteria for why particular cognitive processes are more likely than others to play a role in a given instance of social understanding.

2.3.1 Reply to objection 3: pluralist theory as a genuine alternative

In the last decade, different versions of pluralist theory entered into the contemporary debate on social understanding.[3] Pluralist theory has been proposed in the debate firstly by Andrews (2008) and elaborated in her book 'How apes read minds' (Andrews 2012). Then pluralist theory has been defended by Fiebich (2015) in her

[3] Anika Fiebich (2015) developed a pluralist approach to social understanding in framework of her doctoral thesis independently from Kristin Andrew's work and inspired by scientific discussions with Maxoltheart (Fiebich and Coltheart 2015). Unfortunately, she only heard about Andrew's approach when the book 'How apes read minds' appeared in 2012 shortly before submitting her thesis at the Ruhr-University Bochum, Germany, so that a substantial discussion of Andrew's approach in the thesis (published three years later in roughly its original version according to German law) was not possible anymore.

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doctoral thesis 'Varieties of social understanding', who inspired the works of both of her supervisors (Newen 2015a; Gallagher 2015).

In her earlier work on pluralist theory, Andrews (2008) emphasizes that everyday social understanding is not limited to understanding other people's minds and behaviors in terms of mental states such as beliefs and desires but that individuals also appeal to personality traits in their behavior predictions and that at least some of these traits can be understood without any reference to beliefs or desires. Andrews (2012) distinguishes between four alternative methods of behavior prediction via mental-state attribution, which arise from social psychology, i.e. predicting from (1) the situation, (2) the self, (3) trait attribution and (4) stereotype. On her account such predictions typically occur automatically and at the subpersonal level. The personal/subpersonal distinction is useful indeed with respect to distinguishing different kinds of psychological explanations (see Drayson 2012 for a discussion). In general, Andrews (2012) reviews very well a wide range of findings from social psychology that point to a variety of factors that may figure into everyday social understanding. However, as highlighted by Fiebich and Coltheart (2015), she fails to provide a positive account of why particular cognitive processes are more likely than others to play a role in a particular instance of social understanding.

Appealing to *normativity* as key component of pluralist theory in her recent articles (Andrews 2015a, b, 2017), Andrews meets that challenge. She provides a genuine alternative approach to traditional theories, arguing that a folk psychologist does not only need to be able to distinguish between inanimate and animate agents on one hand, and to be able to build models of individuals that include a variety of properties (including mental states, personality traits, group memberships, etc.) on the other, but that such models are normative, i.e., largely prescriptive rather than descriptive. It seems to be plausible to conclude from this approach that the normative strength of those models may function as a determining criterion for their relevance in a specific situation. Although Andrews does not exemplify this point, findings from social psychology suggest that the normative strength of models may be determined by the salience of the socio-situational or pragmatic context. For example, perceiving an Asian woman applying cosmetics, or eating with chopsticks, is sufficient to activate either the gender or the race stereotype (Macrae et al. 1995). Andrews (2015a) exemplifies the regulative function of social cognition and the role of normative reasoning in what she calls the 'folk psychological spiral'. This spiral shows that an individual's behavior creates expectations in other people about how she will act in the future, which facilitates behavior coordination among the agents. If an individual violates the expectations of others, in turn, she needs to explain herself for the sake of the relationship and the coherence of the person model that other people have of her. Notably, "seeing that the folk psychological spiral can be had without language suggests a fundamental role for naive normativity" (p. 65). Andrews (2015b) also analyses different types of understanding the other and understanding the self. Finally, Andrews (2017) discusses a number of studies that suggest naive normativity is also present in non-human apes like chimpanzees (e.g., acting according to dominance) and compares the (non)presence of varieties of social understanding among species (see also Andrews 2012). For example, some studies suggest that chimpanzees are able to recognize basic emotions of faces, or

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to attribute character-traits as they prefer to beg from a generous human donor over a selfish one. Although this analysis is undoubtedly important to elucidate the phylogenetic roots of varieties of social understanding, it touches several controversies; for example, whether chimpanzees represent their conspecifics' mental states (e.g., 'seeing') or only the observable evidence of such states (e.g., line-of-gaze). This controversially discussed question may be a semantic rather than a methodological problem in the end, coining "the difficulty of distinguishing a representation of proximal evidence from a representation of a distal semantic content" (Buckner 2014, p. 567). Moreover, it concerns the question whether ape gestures are ostensive and whether apes are engaged in meaningful communication; which seems to be plausible on the basis of both behavioral and psychological criteria (see Moore 2016 for a discussion).

Newen (2015a) emphasizes the role that person models of individuals and groups play in everyday social understanding. According to him, "a person model is a unity of properties or features that we represent in memory as belonging to one person or group (resp. type) of persons" (p. 12). Newen distinguishes between 'person schemas' and 'person images'. Person schemas are unities of implicit (and hence not easily accessible) information of a person's sensori-motor abilities and mental phenomena. Such schemas are typically automatically activated when seeing or interacting with another person. Gradually, person schemas may develop into person images, i.e. unities of explicitly represented (and hence typically consciously available) information about a person's mental and physical phenomena. Whereas person schemas are built via both bottom-up and top-down processes, the development of person images depends essentially on story-telling activities. Newen exemplifies the dissociation between person schemas and person images using the example of patients suffering from Capgras Syndrome, who have an intact person image of e.g., their wives (how they look etc.) but an impaired person schema and hence fail to recognize their wives as such because the feeling of familiarity is missing when seeing them. Finally, Newen argues that in addition to person models, social understanding relies on situation models and whether person models or situation models are more important depends on culture.

At a first glance, Newen's account looks like an integration theory rather than a pluralist theory. Although Newen explicitly rejects the assumption that there is any default process of social understanding, he argues that individuals may use the different social cognitive processes that have been proposed by traditional theories of social understanding dependent on context. As an integration theory, his account would run the risk of trying to combine contradictory background assumptions of what social cognition comes to in such theories (see Sect. 2.2). Moreover, as pointed out by Quadt (2015), it would run the risk of trying to combine contradictory background assumptions of cognition since simulation theorists and theory theorists opt for cognitivism whereas interaction theory is devoted to enactivism. In a pluralist vein, Newen (2015b) replies that he refers to 'theory' or 'simulation' as epistemic strategies without committing to their background assumptions: "the philosophers who are famous for holding ST or TT combine their view with a metaphysical background, but it does not follow that the epistemic strategy they describe *must be combined* with the metaphysical background they offer" (p. 3). As such, his approach

counts as pluralist theory. But since he refers neither to normativity (like Andrews) nor accounts for any other criterion to determine the relevance of one (set of information within a) model over another in a particular instance of social understanding, it fails to provide a genuine alternative.

Fiebich (2015) and Fiebich and Coltheart (2015) accounts for *fluency* as a useful criterion to account for those cognitive processes that are most likely to come into play in a particular instance of social understanding. 'Fluency' is defined as "the subjective experience of ease or difficulty associated with completing a mental task" (Oppenheimer 2008, p. 237). The approach is inspired by Kahneman's (2011) 2-system approach to cognition according to which cognitive processes can be broadly distinguished into (1) System 1 processes that are fast and relatively effort-less but inflexible routines that may occur without any awareness, and (2) System 2 processes that are slow and relatively effort-full but flexible routines, which are subject to deliberative control and consciousness. Reviewing a number of findings from social psychology, Kahneman has shown that in other domains like economic games fluency matters with respect to which reasoning strategy individuals use to solve a mental task; whereas they are prone to go for that strategy that is least effort-full to them in situations where they experience cognitive ease, they refer to more complex and cognitively demanding strategies when the task appears difficult to them to solve, i.e., when they experience cognitive strain. Fiebich (2015) Fiebich and Coltheart (2015) proposes that the same holds true in the domain of social cognition and argue that, as a rule of thumb, people typically rely on cognitively cheap and fast domain-general or social cognitive processes (unlike individuals with autism; see Fiebich 2017 for a discussion). In general, cognitive ease depends on various variables, including e.g., repeated experience or a good mood and is characterized by feelings of familiarity (see Kahneman 2011, p. 61 ff. for a discussion). In social cognition, such variables may figure in the experience of cognitive ease when individuals are familiar with a person or group, whose behavior they attempt to understand, leading cognitively 'cheap' processes to come into play, like stereotype activation. When they face difficulties meeting the challenge of a particular instance of social understanding, in turn, individuals may draw on more effort-full strategies like belief reasoning via theorizing or simulating processes. Moreover, individuals may aim for accuracy via effort-full reasoning strategies rather than efficiency via heuristics intentionally, for example in situations where it is particularly important to them to get the other person's intention right, like in a job interview.

Finally, fluency and cognitive effort come in degrees among different strategies but also within a particular epistemic strategy. Fiebich (2014) exemplified this using the example of fluency and theory use in 4- to 5-year-old children when solving different versions of belief tasks. Referring to recent findings from verbal versions of the true belief task that suggest that 4- to 5-year-old children pass such tasks not via belief reasoning but simpler heuristics that draw on perceptual access (Fabricius et al. 2010), Fiebich argues that 4- to 5-year-olds are still engaged in cognitively demanding belief reasoning when passing verbal versions of the false belief task. She hypothesizes that this discrepancy in theory use may be explained by fluency as the children are likely to experience cognitive strain in false belief tasks but not true belief tasks, induced by feelings of cognitive dissonance (i.e. holding

simultaneously contradictory cognitions like beliefs in mind). In general, Fiebich's (2015) approach does not only account for the 'criterion of cognitive variation' that appeals to the role of fluency in social understanding but also the 'criterion of acquisition' (that refers to the ontogenetic development of various social cognitive processes throughout ontogeny, which may differ among cultures and in psychopathological populations), the 'criterion of perspective' (that refers to the differences of social understanding in interactive versus observational settings) and the 'criterion of explanation' (that refers to the role of various social cognitive processes in different kinds of behavior expectations, predictions and explanations).

Drawing on insights from enactivism and phenomenology, Gallagher elaborates on interaction theory from a pluralist perspective by arguing that it depends essentially on *interaction* which cognitive processes come into play in a particular instance of social understanding. On this account, the dynamics of social interaction constitute significance in social understanding (Gallagher 2017b) with respect to salience and solitude (personal communication), and such dynamics may be shaped significantly by the context in which social understanding takes place (Gallagher and Fiebich 2019). Gallagher (2017b) makes an analogy to hermeneutics and Hirsch's (1965) distinction between 'meaning' and 'significance'. In this distinction, a reader may, on one hand, attempt to access the meaning of a text, which remains unchanged and conveys the original intention of the author. On the other, the significance of what the text means to the reader changes with the readership in a way that any reader has her own individual cultural and historical background as well as her own interests that contribute to the interpretation of a text as much as the text does itself. Gallagher highlights that in social understanding both meaning and significance matter but that in most everyday contexts significance suffices which is constituted in the interaction itself within primary or secondary intersubjective relations; "understanding the action of the other is understanding its significance for me (or us), and my potential future actions with you" (p. 224). Gallagher argues that individuals may attempt to access meaning, i.e. the other agent's original intention, in cases where interaction breaks down by means of theory or simulation but that communicative and narrative practices are often the better route (i.e. asking the other agent what her intention was rather than theorizing about it). Notably, the dynamics of social interaction may be shaped by pragmatic, social, cultural/normative contexts but such dynamics may also shape the meaning of context in which the social understanding takes place, e.g., when being engaged in communicative acts in simple game contexts such as hopscotch (Gallagher and Fiebich 2019; see Malafouris 2013 for a general discussion of 'material engagement theory' according to which material things and environments shape the movement dynamics that contribute to understanding).

In previous works, Gallagher (2001, 2008) has argued for the dedicated role that direct social perception plays in social understanding, rejecting the assumption that Krueger (2012) has called "the 'unobservability principle' (UP): the idea that minds are composed exclusively of intracranical phenomena, perceptually inaccessible and thus unobservable to everyone but their owner" (p. 149). Notably, as pointed out by Overgaard (2017), UP needs to be understood as concerning the permissible content of perceptual experience in order to be relevant for the debate (e.g., "that it is not

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possible to observe *that* Jack is angry", p. 758). Indeed, a number of theory theorists and simulation theorists have argued that other people's mental states are unobservable (e.g., Leslie 1987; Goldman 2012) but it remains controversial whether such unobservability also amounts to the sub-personal level. Contrary to Gallagher (2008), Herschbach (2008) and Lavelle (2012) have argued that sub-personal theorizing or simulating processes are compatible with the direct perception of (at least some) mental states. Gallagher (2015) argues that a pluralist theory is better suited than a hybrid theory to account for the varieties of social understanding that may come into play in direct social perception but that such pluralist theory should consider not individual (brain) processes but also the coupling processes between body and environment. Hybrids emphasize one particular epistemic strategy not only as playing a default but necessary role in social understanding, potentially supplemented with other processes. "That is, for a hybrid of TT plus simulation it's not the case that theoretical inference is the default that sometimes gives way to simulation; rather, social cognition is always a matter of theoretical inference, and may or may not be helped along with simulation" (p. 461). Thus, hybrids are even stronger in their claims than pure traditional theories that defend the default assumption. Bohl (2015b) objects that it is not entirely clear how the varieties of social understanding figure into the notion of smart social perception in a pluralist vein. Indeed, a detailed analysis that addresses this point is missing in Gallagher's (2015) article.

3 Summary and discussion

To sum up, in this article I defended pluralist theory against various objections. First, I argued that although traditional theories may also account for various ways to achieve social understanding, they still put some emphasis on one particular epistemic strategy (e.g., theory or simulation) and defend the assumption that this strategy functions as a default method to achieve social understanding in everyday life. Pluralist theory, in contrast, rejects the assumption that there is any default method in social understanding. Second, I illustrated that pluralist theory needs to be distinguished from integration theory that aims at integrating traditional theories into a broader theoretical framework. On one hand, integration theory faces the difficulty of trying to combine traditional theories of social understanding that have contradictory background assumptions. On the other hand, pluralist theory goes beyond accounting for only those epistemic strategies emphasized by traditional theories by referring to a variety of factors that may play a role in social understanding, which have been (widely) neglected in such theories, including stereotype activation, social and personal relationships, contextual features, individual moods and perceptions, and so on. Third, I argued that if the default assumption is rejected, pluralist theorists need to provide a positive account of what else may matter as a determining criterion for why particular cognitive processes are more likely to come into play in a specific instance of social understanding than others in order to provide a genuine alternative to traditional theories. I discussed three versions of pluralist theory that meet this challenge by pointing to normativity, fluency, and interaction.

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These versions of pluralist theory seem to be compatible in a relevant way but also bear a number of differences; for example, with respect to their relation to other theories, or with respect to their view on cognition. McGeer's (2007) regulative approach to mindreading, for example, is more central to Andrews's normative version of pluralist theory because of its normative connotation and also to Gallagher's interactive version of pluralist theory because of its emphasis on interactional dynamics (and more indirect for Fiebich's account insofar as fluency is often determined by norms and interaction). Notably, any of these versions of pluralist theory allow for different functions of social cognition. Both Andrews and Gallagher empathize, however, that the predictive and explanatory function comes less frequently into play in everyday social understanding than the regulative one. Moreover, Andrews (2017) refers to different model theories. Whereas she clearly does not accept any theoretical background (e.g. Maibom's 2003 commitment to TT) of the model theories she refers to, Andrews agrees with Maibom and other model theorists that the models of persons and groups that we use in social understanding are essentially normative. Unlike Fiebich (2015), Fiebich and Coltheart (2015) and Fiebich et al. (2017) does not discuss the attribution of character traits to individuals or group members in terms of models but rather associations with person identity or social identity, respectively. That is, models play a role in a normative version of pluralist theory but not a fluency version of pluralist theory (thus far at least). Finally, whereas Andrews and Fiebich remain neutral with respect to their view on cognition, Gallagher endorses enactivism. Thus co-authored articles like Gallagher and Fiebich (2019) need to be understood as original articles that defend pluralist theory in an enactive framework according to the view of the first author.

Notably, normativity, fluency and interaction play a role in any of the versions of pluralist theory that I have discussed above; it is rather that the focus on one or another criterion differs in such accounts. Moreover, these criteria are not only compatible with each other but may also be interrelated. For example, the familiarity of a particular situation of social understanding that induces cognitive ease may be essentially tied to social group membership and normativity (Fiebich 2015). Interaction plays a central role in building models of individuals and groups; "building these models isn't a lonely task, carried out in an isolated space without input from the target or others in the social context. Rather, these models are built through interaction with their targets. When interacting with another person, your model of her will be affected by her model of you" (Andrews 2017, p. 124). The dynamics of interaction, in turn, may be guided by norms and conventions (Gallagher and Fiebich 2019) and happen on different levels of intersubjectivity (Gallagher and Hutto 2008). Analysing the ontogenetic development of various social cognitive processes in different intersubjective relations reveals that primary intersubjective practices that occur at the beginning of ontogeny are typically also those that come along with the least cognitive effort (Fiebich et al. 2017), pointing to the role of fluency in interaction theory from a pluralist perspective. Other criteria may be added that matter as well. This is open for future research.

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