Accounting for Psychological Attributions: Theory or Simulation?

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In attributing psychological states, people make personal and interpersonal judgements about desires, beliefs and the like. If the attribution of a mental state, whether to oneself or another, requires characterizing a person’s mental condition as being of one type or another, then psychological attributions involve concepts. How do attributors ordinarily understand or conceptualize the contents of mental states like belief, desire or intention? Three general approaches have been influential among the philosophers of mind and cognitive scientists, who have tackled this question: (1) the theory-theory (TT), (2) the modularity theory (MT) and (3) simulation theory (ST). Before I sketch these approaches and examine how each characterizes the contents of mental state concepts, it is important to discuss two widespread assumptions concerning psychological attribution—the uniformity assumption and the asymmetry assumption.

In the course of explaining and anticipating thought and action, we characterize both ourselves and others in psychological or mental terms, e.g. as ‘believing the bus departs at ten’ or ‘wanting tiramisu for dessert’. The ability to characterize oneself and others by means of such predicates is a central feature of the psychological competence of normal adults. It underwrites the self-attribution of beliefs, desires, emotions and other conscious, occurrent ‘mental states’ and subsumes the attribution of mental states to others. This ability raises a number of well-known interdisciplinary questions concerning the processes of psychological or mental state attribution, the development or acquisition of such “mentalizing” skills and the contents of psychological concepts. In this talk I want to consider the last question against the background of two common assumptions concerning everyday psychological attributions.

The first assumption concerns the notion that the same mental concept is applied both to oneself and to others in mentalistic attributions. Call this the uniformity assumption. On this assumption the concepts expressed by mental predicates are unitary and the mental predicates employed in psychological attributions are not ambiguous between first-person and other-person uses; they are univocal. Everyday mental concepts are taken to be general concepts in that distinguishable individuals fall under them, i.e. they apply to a range of distinguishable individuals. P. F. Strawson points out that non-philosophers have no trouble with the thought that mental predicates mean the same in first-person and other-person uses; he writes, “[D]ictionaries don’t give two sets of meanings for every expression which describes a state of consciousness” (1959: 99). In everyday life the generality of mental concepts is unproblematic.

Thus, according to the uniformity assumption, we apply the same mental concepts to ourselves and to others. This assumption is supported by at least two considerations. First, a mental concept is the concept of a state type that can be instantiated in a number of people and in the same person at different times, i.e. it is general. Second, as Ernst
Tugendhat (1979/1989: IV) observes, first-person and third-person mental attributions are symmetric with respect to truth or falsity. That is to say, my self-attribution ‘I believe Kim will take the position’ and a third-person attribution, ‘She believes Kim will take the position’, attributed to me, are true or false in the same circumstances. They exhibit ‘veritative symmetry’. The philosophers, cognitive scientists and psychologists, who have considered the matter, accept the uniformity assumption as a central tenet of everyday psychological attribution.

The second assumption of everyday psychological attributions concerns whether there is a principled asymmetry between self- and other-attributions. Call this the asymmetry assumption. This point is familiar from the discussions of L. Wittgenstein (1964, 1958), P. F. Strawson (1959), E. Tugendhat (1979/1989), G. Evans (1982) and D. Davidson (1984) as well as from the debate between A. Gopnik (1993) and A. Goldman (1993). It has been argued that there is a principled asymmetry between self-attribution and other-attribution with respect to the criteria for mental attribution, e.g. the observation of behavior and speech and the role of inference (Strawson, 1959). C. Wright (1998) even construes the asymmetry as a primitive, constitutive feature of psychological concepts and their attribution. On the asymmetry assumption the grounds for the use of mental predicates in self- and other-attributions of mental states vary, even though the meanings of the mental state predicates employed are univocal. Other-attribution appears to proceed on the basis of inference, evidence and observation, while this is the exception, rather than the rule, in self-attribution. One need not subscribe to a strong privileged access thesis, entailing transparency or direct epistemological access in order to maintain that there is a principled asymmetry between self- and other-attributions of mental states. The notion that mental states are always indexed to a particular person’s point of view suffices to induce an asymmetry between mental state attributions to oneself and to others. Let’s call this the ‘indexicality’ intuition.

One place to start an examination of our ordinary understanding of mental concepts is with everyday attributions. In attributing a mental state, an attributor characterizes a mental state token as being of a particular type, e.g. ‘believing that it is raining’ or ‘wanting to try escargots’, in contradistinction to other mental state types. In the case of sensations and perceptions, the modality must be specified. In the case of beliefs, desires and other “propositional attitudes”, one must characterize both the mental state type $\psi$ and the content $p$. Plausibly, the phrases ‘hoping that it is raining’ and ‘believing that it is raining’ characterize different mental states and express different mental state concepts, because the mental state types are different. Whereas, ‘believing that it is raining’ and ‘believing that the sun is shining’ are different mental states, because their contents differ, even though the mental state type is the same. Let’s set the question of content to one side and concentrate on mental state concepts. If the attribution of a mental state, whether to oneself or another, consists in characterizing the state as being of one type or another, then attributing a mental state involves a conceptual act. On this view the notion of a mental state type like believing, hoping, wanting, etc. is the notion of a mental concept. Without taking a stand on what concepts in general are, i.e. whether
they are best construed as definitions, prototypes, exemplars, mini-theories or something else, let’s ask how everyday attributors conceptualize mental concepts like belief, hope or desire according to the Theory-Theory, Modularity Theory and Simulation Theory.

1. Theory-Theory

According to TT, the concepts of mental states employed in psychological attributions are theoretical concepts, which are postulated as a way of explaining and predicting thought and action. Here a theoretical concept is the concept of a state defined in terms of causal-inferential relationships to publicly observable events in the environment and overt behavior. On TT the attribution of mental states both to oneself and others is based on theory-mediated inference and the theory that mediates the inference is the same for oneself and for others. Mental states are attributed by inferring their occurrence from observation of behavior and environmental events, i.e. by recognizing their causal-explanatory role in accordance with the theoretical generalizations comprising the theory. Thus, in attributing mental states to ourselves and others, we inferentially apply a “theory of mind”. Depending on the particular version of TT, the theory involved is conceived as a set of generalizations or laws for the deployment of mental concepts (Lewis’ analytical functionalism, 1970, 1972), or as a theory like any other empirical scientific theory (Churchland, 1988; Gopnik, 1993; Perner, 1991 Gopnik & Wellmann 2000). Versions of TT differ as to whether the theory in question is acquired through learning or through a process of theory formation analogous to scientific theorizing (Gopnik 1993, 1996; Perner 1991). However, both versions require that ordinary attributors grasp the mental concepts as defined by the generalizations of the theory in order to make mental state attributions.

On TT understanding a mental concept involves mastering theoretical generalizations about causal or inferential relations and mental state representations. On one influential version, analytical functionalism, mental states such as beliefs and desires are defined functionally in terms of their (causal-inferential) relations to events in the environment, to other mental states and to bodily behavior. Hence, the concept of a mental state is the concept of a state apt to cause or be caused by certain events or certain types of behavior, e.g. the concept of a particular functional role. Specifying the nature or content of a mental state type on this account consequently involves generalizations that make reference to dispositions, causal interactions or subjunctive considerations, as Alvin Goldman has pointed out (1993). According to TT, it is these generalizations that determine the contents of mental concepts (D. Lewis, 1966, 1970, 1972; P. Churchland, 1970, 1988). An attributor must grasp the “theoretical” concepts of the theory in order to employ expressions for mental states. Even though the

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1 The TT Theory of Mind is supposed to be the final state of a developmental process in which different scientific theories about the world and its inhabitants are tested and eventually discarded in order to adopt new ones; this is the ‘child-as-scientist’ view, cf. Gopnik and Meltzoff (1997).
attributor’s grasp of the theory and its concepts may be “tacit” or “implicit”, it is incumbent on the TT to explain how attributors can acquire mastery of the mental state concepts as defined by the theory. In particular, analytical functionalist TT must explain how ordinary attributors acquire and deploy such concepts, because it claims that knowledge of the folk-psychological theory of mind grounds all mental state attributions. The developmental version of TT, on the other hand, must explain how different individual’s theories converge on more or less the same theory of mind on the basis of theory construction and evidence.

An important consequence of the TT construal of mental concepts is that they are defined from what is essentially a third-person or observer point of view; they are defined on the basis of inference and observation of external stimuli and behavior. The contents of mental concepts are specified in terms of logical and epistemological relations between external stimuli, mental states, and behavior. They are not essentially linked to a first-person point of view. In this respect mental concepts as defined by TT do not differ in kind from non-mental concepts in theories about the natural world. Clearly, the third-person approach of TT to psychological attribution accounts for the assumed uniformity in applying mental concepts, because the same theory is used in self- and other-attributions of mental states. But, by the same token, the TT entails that there is no principled asymmetry between attributions of mental states to oneself and to others, for we attribute mental states both to ourselves and to others by means of the same folk-psychological theory and theory-mediated inference. A. Gopnik (1993), for example, explicitly denies the asymmetry assumption. The impression that self-attributions of mental states are direct and non-inferential is attributed to expertise and theory-laden recognition, analogous to theory-laden perception of theoretical entities. Hence, TT can account for the uniformity assumption, but has difficulty accommodating the principled asymmetry assumption, when asymmetry is not denied altogether, e.g. as in Gopnik (1993). Moreover, the spirit of TT is inimical to the indexicality intuition. If the uniformity and asymmetry assumptions are important features of every psychological attribution, then TT does not offer an adequate account.

2. Modularity Theory

Although modularity theories (MT) are often construed as versions of TT, there are good reasons for treating the two separately. For modularity theorists the core process in psychological attribution is not theorizing. MT’s construe cognitive structures like the apparatus of mental state attribution as the result of innate modules, not as the product of learning or theorizing. According to MT, the mentalizing abilities involved in a Theory of Mind are the result of innately specified modules or innately specified developmental processes. They are created from pre-determined representations of input, triggered by experience from the environment. On this view the Theory of Mind is a domain specific ability, supported by an innate, encapsulated and domain-specific module, whose function
is segregated from the other intellectual capacities of the individual (Leslie 1997, 1999; Baron-Cohen 1995; Segal 1996; Fodor 1992, 1994).

Leading proponents of modularity, e.g. Noam Chomsky, Jerry Fodor, Baron-Cohen (1991, 1996) and Alan Leslie differ significantly in their respective positions and specific claims about innate modules. However, the central idea of MT is that the contents of everyday mental concepts in the Theory of Mind (ToM) are part of a special purpose body of knowledge in a mental module, which is innate and matures through a process of ontogenetic development (Fodor 1987, 1992; Leslie, 1987; Baron-Cohen, 1991, 1996). Although MT, like TT, construes mental state concepts as abstract theoretical postulates, embedded in causal laws, it claims that such concepts are part of our innate endowment as humans. Consequently, their development is genetically determined and not based on empirical theory construction. On MT mental state concepts or specialized mind-reading processors are merely triggered by experience and maturation. For example, A. Leslie (1987, and Roth 1993, 1994) postulates several different modules that come on line sequentially in children’s developing Theory of Mind. He hypothesizes that a mechanism or information processing device, the ToM Mechanism, computes certain data structures called meta-representations, which specify attitude, agent, an anchor (an aspect of the real situation) and a pretend or imagined state. Modularity theories, like Leslie’s ToMM hypothesis, account for the uniformity assumption by citing our innate endowment as members of the human species, but offer no further elaboration of mental state concepts as such. For example, Leslie does not explain how the concepts of belief or desire are represented in the postulated meta-representations or how specific mental concepts differ from each other, e.g. belief vs. desire. Thus, beyond MT’s claim that mental concepts are innate, the content of mental concepts remains unclear.

Taking stock, modularity theories account for the uniformity assumption in terms of innate endowment. But like theory-theories, they have difficulty accommodating the asymmetry assumption. There is no principled asymmetry, because innate ToM-processes operate over the internal structure of meta-representations in all humans. At the very least, more must be said about the processes of other-person attribution in order to accommodate the indexicality intuition.

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2 In (1992) Fodor supported modular systems, but emphasized innate concepts, while Baron-Cohen did the reverse. According to Fodor (1987), folk psychological concepts like other concepts are inborn, i.e. mental concepts are present at birth. Development is mainly an increase of information processing capacities, which allow children to better use what they already know (Fodor, 1992).

Modular innate processor theories like Baron-Cohen’s postulate pre-specified processors that arrive at a mentalistic understanding of others. These processors take human behavior or other-person information as input and then output explanations for that behavior, predictions of what the person will do, etc. Baron-Cohen (1995) posits four processors: an intentionality detector that determines agentive movement in terms of goals and desires, an eye direction detector, a shared-attention mechanism and a ToM Mechanism to link agents via mental attitudes to propositions. A. Leslie’s theory is similar but involves three modules: a ToM mechanism, a module to impute agency and a module to interpret physical motion.
3. Simulation Theory

The simulationists propose a competing account of psychological attribution which takes the attributor’s own cognitive and practical resources to generate psychological attributions without benefit of theory. According to ST one attributes mental states to another by adopting the target person’s perspective and then letting a simulation run its course. For example, to determine what another will do, the attributor might pretend to have the beliefs and desires that she takes the other to have and take these as input for her own system of practical or factual reasoning. She generates the psychological attribution by utilizing her own cognitive capacities and mechanisms on pretend or surrogate states, not by deploying a theory. The proponents of simulation deny that attributions of mental states rely on theoretical knowledge and inference alone. They take the first-person point of view to be essential to mental states and mental state concepts, despite quite different views on the nature of simulation, e.g. on whether it involves analogical inference (Goldman), employs “ascent routines” (Gordon) or involves “co-cognition” and rationality assumptions (Heal, 1996b, 1998). Simulationists also differ over whether simulation requires the prior possession of mental state concepts (Goldman, 1989; Heal, 1986, 1995 say it does) or not (Gordon, 1995). The central idea of ST is that one uses one’s own mental resources to attribute mental states by pretending or imagining oneself to be in the other’s position and then generating the thoughts or actions attributed to the other within a simulation of the other person without benefit of theory.

On Alvin Goldman’s introspection-based ST the attributor must recognize or detect her own psychological attitudes in order to other—attribute mental states. Other-attribution via introspectivist simulation involves an analogical inference from oneself to the other, which rests on the introspectively based attributions of mental states that the attributor attributes to herself. Goldman’s version of ST takes introspection or self-monitoring to be a basic component of mentality and thus basic to the simulation (1989, 1993, 2000b). On Goldman’s introspectivist or self-monitoring view, simulation involves prior possession of the concepts of the mental states attributed. Concepts of mental states are required because introspectively-based attributions of mental states to oneself form the starting point for simulation. In the case of representational states like propositional attitudes, the attributor must subsume contents under a concept at the end of a simulation.3

On Goldman’s ST, one attributes mental states to others by using one’s own cognitive and inferential mechanisms to match or replicate those of the other person (1989, 1993, 2000). Introspectionist or self-monitoring simulation terminates in an analogical inference from oneself to the other, in which the attributor infers the mental state of the

3 Goldman maintains that mental concepts such as desire, belief, etc. may be understood partly in terms of non-dispositional characteristics of conscious experience, e.g. qualitative or phenomenological characteristics, which can be introspected by the subject of the experience (1993, 2000b). He suggests that subjects can introspect or detect these characteristics and distinguish them from one another and hypothesizes that such internally detectable properties or characteristics underlie our grasp of mental concepts.
other from her recognition of the pretend state issuing from her simulation of the other. Hence, the end product of a simulation is a judgement, which involves classifying an (occurrent) mental state as a token of a particular mental state type and thus requires mental concepts.

Goldman has suggested that mental concepts such as desire, belief, etc. are understood partly in terms of intrinsic, non-dispositional characteristics of conscious experience—perhaps qualitative or phenomenological characteristics, which are introspectively accessible to the subject of the experience (1993, 2000a). He hypothesizes that subjects can detect these characteristics and distinguish them from one another, i.e. that they are epistemically identifiable, and suggests that such internally detectable characteristics underlie our grasp of mental concepts. Goldman claims that introspection, inner sense or higher order perception, is necessary for possessing mental concepts. However, he denies that it suffices for their possession. In his opinion introspection-based simulation must be augmented in order to provide a full account of concepts (by functional characteristics? cf. 1993).

More recently Goldman has advanced a “dual representation hypothesis” concerning mental concepts (1998, 2000a, 2000b), analogous to Biederman’s suggestion that in the case of visually observed objects we use representations that code object-types in more than one way. The idea is this: Identifying something visually as a violin or a chair utilizes a stored model or prototype of what violins or chairs look like. In addition, there are likely to be separate, modality-neutral codes that represent violins or chairs in terms of their functions. Analogously, Goldman proposes that people develop two or more sorts of mental representations for some mental states, e.g. desire. The idea is that children come to understand certain behavioral representations and representations of certain inner characteristics as representations of one and the same sort of state (2000b). Goldman cites research on resonance phenomena in the ventral pre-motor cortex—‘the mirror matching mechanism’—in support of this suggestion (Rizzolatti 2002).

This suggestion notwithstanding, Goldman’s claim (2000b) that fully grasping concepts of “mental representational states” like beliefs partly involves latching representations or conceptual structures onto introspectible characteristics of mental states raises a number of questions. First, if introspective detection of phenomenological or qualitative characteristics is necessary in order to possess mental state concepts, how does the boot-strapping get started? How does one initially identify a mental state token as having a certain, non-relational categorial property? Moreover, which properties qualify a state as a belief in contradistinction, say, to a hope? The answer to this question is important in order to distinguish different mental concepts. Secondly, how does a person re-identify an inner perhaps phenomenological property $p$ of a mental state type as $p$?

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4 Goldman now allows that the internal characteristics might be non-phenomenological in character (2000).

5 Goldman hypothesizes that we may recognize a particular mental state as a token of a mental state type much as we recognize a token object, say a chair, as an object of a certain type, by using current available information about the token to “match” it in non-cognitive fashion with a representation or pattern stored in memory.
The considerations in Wittgenstein’s private language argument are pertinent here. And, finally, how does one come to associate the expressions of a natural language with introspectively accessible features of mental states? Recall that on Goldman’s account introspectible properties are necessary, not sufficient for mental concepts. These “Wittgensteinian” worries are not new, but Goldman’s introspectionist solution to the problem of concepts does not have answers to them. The dual representation hypothesis introduces a much needed behavioral aspect into the equation, but the question remains as to how one can derive a mental concept which applies both to oneself and to others, i.e. a concept which is general, from one’s own introspectible experience. This is, of course, the conceptual problem of other minds. As Wittgenstein points out in the *Philosophical Investigations* § 302, it’s not easy to imagine someone else’s pain on the model of my own pain, for I have to imagine a pain which I do not feel on the model of the pain which I do feel.

According to Goldman’s account of mental concepts in terms of introspection or self-monitoring, we have a first-person, introspective understanding of mental state concepts which rests on direct, non-inferential access to our conscious mental states, on inner sense or higher-order perception. The *asymmetry* of self- and other-attributions and the indexicality assumption are therefore central tenets of Goldman’s introspective ST, because the contents of mental concepts are anchored in epistemically detectable, non-relational properties of mental states which are directly detectable. On this view the question of the uniformity of mental state concepts stands and falls with the viability of the analogical inference from oneself to the other. What reasons are there to assume that others have mental states similar to one’s own? On Goldman’s 1993 account the introspectively accessible properties of one’s mental states stand in no systematic relation to one’s environmental circumstances, perceptual situation or bodily behavior. If the contents of mental concepts are primarily determined by reference to intrinsic, categorial properties, as Goldman suggests, then behavior and changes in the environment would seem to play no crucial role. However, the latter seem to be one reason for assuming that mental concepts apply to others as well as to ourselves. For we take certain events in the environment and certain behaviors to indicate others’ mental states, as Wittgenstein emphasized with his idea of outward criteria. The dual representation hypothesis is a step in the right direction, but it still falls short of providing an adequate account of everyday psychological attributions.

Robert Gordon advances a non-introspectionist, non-analogical version of ST. He introduces the notion of an ascent routine to obviate the need for introspection and analogical inference in the attribution of mental states (1996, 2000). The ascent routine ostensibly allows self-attribution of mental states without introspection and without presupposing prior possession of the mental state concept. In an ascent routine one answers a question about a mental state, e.g. “Do you believe that Mickey Mouse has a tail?”, by asking oneself a question about the world, “Does Mickey Mouse have a tail?” and then “ascending” with the answer from the object-level (“Yes, Mickey Mouse has a tail”) to a “higher” level which concerns beliefs (“Yes, I believe that Mickey has a tail”).
(1996). Gordon claims that ascending from the lower level to the level concerning beliefs does not require possession of the concept of belief, for the “ascent” could rely on training. By the same token, the ascent may not qualify as “genuine, comprehending” self-attribution of belief, which requires—among other things—understanding that beliefs may be false (1995b). According to Gordon, what is required in order to achieve an understanding of mental states as mental is

the ability to reconceptualize such ‘objects’ as [a] pain in the foot—or the facts about Mickey Mouse—as having a mental location. When the relevant ascent routine is used within a simulation…
a logical space is opened that enables us to think of pains and facts as located in (or at) individual minds. Thus simulation and ascent routines fit hand-in-glove (1969: 19, original italics).

On Gordon’s view, we make other-attributions by simulating the other person. The attributor “recents her cognitive map” on the other so that the first-person pronoun ‘I’ refers “exclusively” to the individual on whom the attributor’s egocentric map has been recentered (1995: 60). Gordon describes this recentering as “imaginatively transforming ourselves into other ‘first persons’”, as “identifying with” an individual within simulation or as “becoming” the other. After the imaginative transformation into the other, a simulator directly attributes the belief or decision generated within the scope of simulation to the other via an ascent routine thus obviating the need for an analogical inference from herself to the other (1995: 63). After imaginative transform or recentering, other-attribution is, in essence, a case of mental “self”-attribution to oneself-as-the-other within the context of simulation. This is because embedding an ascent routine within a simulation of another allows one to attribute mental states to the other directly by ascent routine. For Gordon an egocentric shift on the part of the attributor lies at the core of simulation, not introspection coupled with analogical inference. On Gordon’s version of ST, the ascent routine is the key to other-attribution and self-attribution

In (1995) Gordon concedes that the ascent routine procedure by itself will not provide one with the concept of belief or, more generally, with the concept of a mental state. However, he claims that the procedure does indicate how one might acquire the concept of a mental state like belief as well as the capacity to make genuine, comprehending attributions of mental states, because it provides a way of reconceptualizing pains and beliefs as having a mental location (1996). He suggests that ascent routines provide the basis for an account of mental state concepts in terms of simulation and that they indicate how we go about mastering mental state concepts. However, this is not the case. The meanings of mental predicates and a grasp of mental concepts must be presupposed in order to get the routine started. For example, one has to understand that the initial question is about belief, not hope or desire. Thus, without further elaboration the ascent routine procedure does not supply the foundation for an account of mental state concepts or their mastery, as Gordon avers.

Gordon’s ascent routine ST accommodates the uniformity assumption by default, since self-attributions and other-attributions are essentially cases of self-attribution via ascent routines. It captures the indexicality intuition with the notion of a mental location.
However, the burden of the account rests on the notion of transformation or imaginative identification. In Gordon’s version of simulation the assumption that one can mentally “transform” oneself into the other, “recenter” one’s egocentric map or “become” the other is crucial. What does this metaphor amount to? At best, it ignores any possible asymmetry between self- and other-attribution of mental states. For after imaginative transformation other-attribution is a case of self-attribution to oneself-as-the-other. If transformation or re-centering works, there is no principled asymmetry. Clearly, as it stands, Gordon’s account cannot account for the uniformity and asymmetry assumptions.

In her co-cognition version of ST Jane Heal construes simulation as a process in which we “harness our cognitive apparatus and make it work in parallel with that of the other” (1998: 85). In her view the attribution of contentful mental states is based on rational relations, an idea which both Goldman and Gordon reject. Heal claims that we think about what someone else will decide, believe, etc., by thinking about the subject matter of the thoughts one is attributing to the person. She calls this ‘co-cognition’. In her view co-cognition is “an a priori truth that thinking about others’ thoughts requires us, in usual and central cases, to think about the states of affairs which are the subject matter of those thoughts, i.e. to co-cognize with the person whose thoughts we seek to grasp” (Heal 1998a: 484). Attributing thoughts to others requires the exercise of the attributor’s own conceptual skills and rational capacities, because one must think through the other person’s thoughts or co-reason (1995). According to Heal, simulation presupposes the ability to think about the subject matter of others’ thoughts as well as a grasp of mental concepts such as belief, desire, etc.

In the course of elaborating the co-cognition view, Heal suggests that mental concepts essentially involve a demonstrative element and expresses doubts about whether a non-demonstrative account of mental notions can be given (1995: 45; 1986). She takes mental concepts to be inextricably linked to the target subject’s point of view and, as a consequence, to have irreducible first-person character. This character is elaborated in terms of indexicality and demonstrative reference. When an attributor tries to simulate another’s thoughts, she attempts to recreate a point of view on the world both in a literal and metaphorical sense (1998b). This requires grasping the other’s thoughts “from the inside”, from the point of view of the subject. In order to attribute contentful mental states, the attributor must be able to instantiate, e.g. to simulate, the relevant reasoning abilities—to co-reason—as well as to focus on the subject matter—to “same-think”. When an attributor postulates a set of thoughts which represent the world from a point of view, she postulates,

an interlocking complex of items with indexical representational content concerning the world around the person, where content is outwardly directed towards the world. Such items include indexical thoughts like ‘I am in such and such a location’ or ‘These achievements are possible for me’, which concern a subject as the locus of thought and action. … Lack of conscious indexical referring thoughts would be lack of sense of oneself as a perceiving, acting and spatio-temporally located being” (1997: 636).
Heal argues that indexicality is not merely a feature of singular referring expressions like ‘I’, ‘here’ or ‘that’, but a feature of predicates, as well (1997). She proposes that indexical predication has a distinctive psychological role to play in representing one’s own thoughts and the thoughts of others, even though it is not as fundamental as indexical reference. Thus, Heal construes mental state concepts as indexical and essentially linked to the point of view of the subject. However, this raises the question of how she accommodates the uniformity assumption across the board. Her hybrid account is suggestive, but requires elaboration. Recently, she has conceded that her approach does not provide an account of mental state concepts (2003).

None of the ST approaches can account for both the uniformity and the asymmetry assumptions of everyday psychological attributions. Goldman’s attempt to ground mental state concepts in internally detectable non-relational, categorial properties of mental state tokens neglects connections between mental states, environmental circumstances and behavior, which might provide a basis for the uniformity assumption. Gordon’s account circumvents central questions about uniformity and asymmetry and the contents of mental concepts and their mastery by invoking the idea of imaginative transformation. In the end, it presupposes an account of the meanings of mental expressions and the contents of mental concepts, rather than providing one. Finally, Heal’s approach needs to be filled out.

The upshot of these considerations is that neither theory-theory, modularity theory nor simulation theory offers an adequate account of the way we understand everyday mental concepts, if the uniformity assumption and the asymmetry assumption are characteristic of our everyday understanding of mental concepts. Since neither the uniformity nor the asymmetry assumption can be dismissed out of hand, the answer to question of whether ordinary people understand everyday mental concepts according to theory-theory, modularity theory or simulation theory as they stand is ‘none of the above’. 

References


