The Functions of Folk Psychology

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Abstract

The debates about the form of folk psychology and the potential eliminability of folk psychology rest on a particular view about how humans understand other minds. That is, though folk psychology is described as "our commonsense conception of psychological phenomena" (Churchland 1981, p. 67), there have been implicit assumptions regarding the nature of that commonsense conception. It has been assumed that folk psychology involves two practices, the prediction and explanation of behavior. And it has been assumed that one cognitive mechanism subsumes both these practices.

I argue for a new conception of folk psychology, one which challenges these assumptions. There is reason to think that folk psychology is more diverse than is typically thought, both insofar as there are a heterogeneous collection of heuristics that are used, and as our folk psychological practices include more than prediction and explanation. While these practices remain central in the philosophical discussions and the related studies coming from developmental psychology, other practices have also been suggested as being part of folk psychology, such as coordinating behavior (Morton 2003) and justifying behavior (Andrews 2004). These points lead me to accept a pluralistic account of folk psychology which describes the ways humans understand other humans, as well as the sub-personal mechanisms and the functions of such understanding. I will argue that folk psychology needs to be thickened in two dimensions; it should be plural with regard to folk psychological practices and plural with regard to the mechanisms subsuming those practices. Evidence for this view come from social psychology, which suggests that humans human folk psychology utilizes a number of different heuristics, such as the attribution of traits and inductive generalizations.

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Sometimes we know exactly what another person is about to do, and sometimes we know exactly why she does it; that is, sometimes we are good at making predictions. The prediction might be made to manipulate behavior or to coordinate your own behavior with another: I think that Scheherazade will stay up until dawn, so we won't wake her if we stop by late tonight. Other times our predictions are born of curiosity—we just want to know what the character will do next. Underlying these acts of prediction is the assumption that we are fairly good at predicting human behavior. Such optimism about our ability to anticipate other people's actions is a part of our commonsense knowledge about behavior.

However, all too often our predictions are wrong, at which point we often seek an explanation for the unexpected behavior. Aziz's parents expected him to be home by his midnight curfew, and when he doesn't show they evaluate possible reasons--perhaps he was in trouble, he forgot, he was having too much fun, he is starting to rebel, etc. This too is a part of our understanding of human behavior- people act for reasons, so we think there must be some account for even the most unexpected behaviors. And sometimes when we seek an explanation for some behavior, we do so in order to determine whether the act was justifiable. If Aziz is rebelling, he is in big trouble, but if he is the victim of a car accident his tardiness is excusable.

These sorts of interactions with others are very much a part of our daily lives, but despite their familiarity, we know little about how we achieve them. Philosophical reflection has offered some suggestions, as has psychological research. Though philosophers refer to the ability of minds to understand minds as “folk psychology”, “theory of mind”, or “mindreading”, there is no wide consensus on what any of these terms actually mean (Lycan 1997, p. 116). To put it vaguely, what we’re all talking about when we talk about folk psychology is, as Churchland puts it, “our commonsense conception of psychological phenomena” (Churchland 1981, p. 67). It is accepted that there is a lay understanding of minds that ordinary people use in their everyday life, and the term “folk psychology” refers to this understanding, whatever it may be. In this wide sense, folk psychology would be analogous to folk physics, the commonsense understanding of the physical world. Given that we have a folk physics, we can predict the action of physical objects without having an understanding of the relevant physical laws. When we begin to learn about scientific physics, we come to see that our prior understanding about physical forces such as gravity is at least partially false. The same kind of considerations may hold for folk psychology. Though we have ways of conceptualizing minds and behaviors that allow us to interact with others, to achieve joint goals, to judge others, to provide explanations, etc., this folk understanding of other minds may, like our folk physics, be partially inaccurate.

The confusions regarding the definition of folk psychology become glaringly evident in areas of debate such as eliminative materialism and the theory of mind. For example, the theory of mind literature rests on a particular view of folk psychology. This debate is about the mechanisms that subsume our ability to engage in folk psychological practices such as prediction of behavior, and there have been until recently two main candidates, the theory theory and the simulation theory. The theory-theory takes folk psychology to consist of a body of common-sense platitudes that describe regularities between mental states and behaviors, whereas the simulation theory says we lack information but can run simulations using our own practical reasoning machinery. Despite the differences between the two theories, they share much in common. Namely, both views rest on an assumption that the mechanisms behind our folk psychological practices are homogenous. For example, they both take folk psychology as having the function of generating both explanations and predictions of behaviors, where explanation is backwards prediction (Andrews 2003). Both parties to this debate accept the existence of a single mechanism that is fundamental to the ability to predict and explain, and they ignore the possibility of pluralism with regard to the sub-personal mechanisms of folk psychology. This mistake has led some to see the debate as an exclusive disjunction (Stich and Nichols 1996).

I suggest that our current philosophical investigations of folk psychology suffer from a number of erroneous assumptions. One such assumption is that humans rely on the attribution of mental states as the fundamental means of predicting behavior. Another is that prediction is the paradigmatic folk psychological practice, and explanation, the other practice, is backwards explanation. While the literature has focused on models of folk psychological prediction, I will argue that there are other folk psychological practices which are more closely associated with mental state attribution, such as explanation and justification. To begin I will sketch out distinctions between different notions of folk psychology presented in the literature, and different functions that folk psychology is thought to have. I will look first at the origins of the term, and point to the two main roles attributed to folk psychology: prediction and explanation. While these practices remain central in the philosophical discussions and the related studies coming from developmental psychology, other practices have also been suggested as being part of folk psychology, such as coordinating behavior (Morton 2003) and justifying behavior (Andrews 2004). These points lead me to accept a pluralistic account of folk psychology which describes the ways humans understand other humans, as well as the sub-personal mechanisms and the functions of such understanding. I will argue that folk psychology needs to be thickened in two dimensions; it should be plural with regard to folk psychological practices and plural with regard to the mechanisms subsuming those practices. The story as of late has been far too simplistic—folk psychology has been thought to involve two or three practices that are accounted for by one mechanism. I will be arguing that there is clear evidence that this assumption is false. But we should not be too quick to accept as an alternative an account that identifies one unique mechanism for each folk psychological practice, for the story is more complex than that as well. There are overlapping mechanisms for different practices, I will argue, so we will not find any one answer that will satisfy all our questions. Any account of the sub-personal mechanisms subsuming our abilities to predict and explain, to justify and coordinate, must be much more specific than most recent accounts have been.

Background

While the term "folk psychology" is a translation of the German term *Volkerpsychologie*, defined by Wilhelm Wundt (1916/1983) as the study of the development of humanity, in its myths, language, and other cultural artifacts, more recently the term has become associated with a specific understanding of the form of our commonsense knowledge of other minds. Within the tradition of analytic philosophy, folk psychology is seen as a folk scientific theory, that is, something that has the form of a scientific theory, but which was not developed through the methods of experimental science. Instead, it is something each individual comes to learn through normal development. This idea has led some developmental psychologists to describe children as little scientists (Gopnik and Wellman 1992).

The idea that we understand other minds through appeal to a folk theory of psychology is often attributed to Wilfred Sellars' Myth of our Rylean Ancestors, which he intends as a criticism of epistemic foundationalism (Sellars 1956). In Sellars' myth, he provides a just so story about the origins of our use of mental state terms like "belief" and "desire". The positing of mental states is presented as a pragmatic achievement which allowed our ancestors the ability to interpret one another's behavior, to make sense of, e.g., why a person would take the steep path when everyone else always takes the gentle one. According to Sellars' myth, in the days before mental state terms there lived a genius named Jones, who was a sort of early psychologist. Jones, like other members of his community, would become confused when people did things he didn't expect. For example, the first time Smith chose the steep path to the waterfall the members of his community may have been surprised. Jones, being a genius, realized that he could ask Smith why he was taking the steep path, and Smith would respond by citing reasons. This led Jones to realize that even when people don't provide reasons for their actions, there exist such reasons that are like unspoken utterances, and these came to be known as mental states. Unobservable entities called beliefs and desires were postulated, and became useful for making sense of behavior in the social realm.

Sellars' myth has had great impact in the philosophy of mind, where some decided to take literally the idea that humans have a theoretical knowledge of other minds, and this theory, like typical scientific theories, allows us to both predict and explain behavior. The emphasis on prediction and explanation is seen in the logical positivist's view of scientific explanation and the deductive-nomological model of scientific explanation (Hempel and Oppenheim 1948). According to this view, prediction and explanation are symmetrical, and any example of an explanation can also be used to make a prediction, just as predictions can also serve as explanations:

Covering law	(x) (Px -> Qx)
Initial conditions	Pa
Explanandum	Qa

The explanandum is both explained by the covering law plus initial conditions, and can be predicted given them, due to the deductive nature of this model. The theoretical approach to folk psychology followed this positivist model, and can be seen in the accounts given later by identity theorists such as David Lewis (1972). According to this view, we attribute propositional attitudes (initial conditions) to people which we use in conjunction with a theory (that contains the appropriate covering law) in order to both predict and explain people's behavior.

However, for Sellars, the purpose of mental state terms is to explain behavior—that's what Jones created them for. In his description of the myth, Sellars says almost nothing about how such a theoretical model would help to develop our predictive abilities. Rather, he thinks that with the introduction of mental state vocabulary into human society, our Rylean ancestors acquired a new language which "contains an *explanation of*, not just a *code for*, such facts as that *there looks to me to be a red and triangular physical object over there*" (Sellars 1956, p. 116). Our ancient ancestors came to posit mental states as an explanation for human behavior much as they came to posit gods as an explanation for natural phenomenon. That is, we became able to account for behaviors both anomalous and common by talking about the actors' beliefs and desires.

The predictive power of folk psychology is emphasized by another and quite different just so story about the introduction of mental state terms into our vocabulary. This story comes from the psychologist Nicholas Humphrey, and has been widely referenced by philosophers working within the domain of folk psychology. Humphrey says that nature, through the processes of evolution, came up with a trick to help social animals such as humans deal with the pressures that come with a social environment: "The trick which Nature came up with was *introspection*; it proved possible for an individual to develop a model of the behaviour of others by reasoning by analogy from his own case, the facts of his own case being revealed to him through 'examination of the contents of consciousness'" (Humphrey 1978). It is interesting to note that Humphrey's story contains an implicit endorsement of the epistemic foundationalism that Sellars was trying to debunk. Whereas Sellars sees our understanding of mentality arising from our observations of the other, Humphrey takes the traditional Millian position that we understand the mentality of others because we have direct and private access to our own mentality, and from that indubitable piece of knowledge we make an inference to the case of the other. Thus we are able to attribute beliefs and desires to others based on our knowledge of what beliefs and desires we might have in similar situations.

Humphrey's account of folk psychology associates it with the problem of other minds. The problem of other minds is essentially an epistemic problem, but the attempted solutions to the problem lead to an emphasis on the prediction of behavior.

When we see that others act as we do, we can defend the view that there are other minds either with an argument from analogy or though inference to the best explanation. Both of these approaches rely on observations of behavior and attempt to account for our ability to predict what others are going to do next. We come to perceive minds only for those individuals whose behavior is predictable. Confronted with some kind of system that behaved unpredictably, we would not be inclined to even ask if it were minded.

While Sellars emphasizes explanation, Humphrey's focus is on prediction, and perhaps we can trace the current focus on these two functions (and the relative neglect of other practices) back to the two creation myths. However, both models share the view that folk psychology at its core involves the attribution of beliefs and desires. If we look at what we're teaching our students, we see that this commitment remains. For example, in William Lyons's recent philosophy of mind textbook, he describes folk psychology using the following example:

> I might predict Mary's future behavior by saying, "We cannot count on Mary's vote because she will almost certainly not turn up to the Faculty meeting, because she believes that Fred will be there and she just cannot stand Fred" (Lyons 2001, p. 118).

As the story goes, we attribute beliefs and desires to Mary (the belief that Fred will come to the meeting, the desire to avoid Fred) and conclude that she will not attend the meeting. Lyons's account is standard; we attribute specific mental states to the target, and then use a folk psychological theory, a mental simulation, or some combination of the two in order to generate the prediction. The attribution of propositional attitudes to others is the paradigmatic account of predicting human behavior these days. While this is commonly referred to as belief/desire psychology, additional mental states make their way into this story.

This story is consistent with the general views associated with both the simulation theory and the theory theory account of the form of folk psychology. (However, Robert Gordon's view of radical simulation, which involves attending only to the environment rather than the agent, would be excluded by this definition.) It is clear that theory theory advocates the view that we predict and explain behavior by attributing mental states, but it may be less apparent that simulation theory also makes use of it. Nonetheless, the attribution of mental states is necessary to get a simulation started, according to such simulation theorists such as Alvin Goldman. When beginning a mental simulation, he suggests we assume that the agent is like us, that we share relevant psychological features. This assumption makes us accept explanations that seem natural to us, and reject those that are less natural (Goldman 1989). Goldman even suggests that the simulator should assume shared basic likings and desires, unless there is reason to think otherwise. In order to make these assumptions, we must attribute propositional attitudes (Bill wants to stay alive, Bill doesn't want to be injured, Bill believes that being injured causes pain, etc.)

Though new students are taught that folk psychology *merely is* belief/desire psychology, definitions of folk psychology in reference books are not so straightforward. As Lynne Rudder Baker writes in her *MIT Encyclopedia of Philosophy* entry on folk psychology, there is folk psychology(1) as "commonsense psychology that explains human behavior in terms of beliefs, desires, intentions expectations, preferences, hopes, fears, and so on" and folk psychology(2) as the "interpretation of such everyday explanations as part of a folk theory, comprising a network of generalizations employing concepts like *belief*, *desire*, and so on" (Baker 2001, p.319). (The second version of folk psychology is what is at stake in debates about the cognitive architecture underlying our folk psychological practices, or folk psychology's form—it assumes the truth of the theory-theory.)

Baker's definition of psychology(1), however, seems to be both more specific and less complete than others. Compare Baker's definition with one from the *Blackwell Companion to the Philosophy of Mind*. Barbara Von Eckardt sees minimal folk psychology as consisting of "(a) a set of attributive, explanatory, and predictive practices, and (b) a set of notions or concepts used in these practices" (Von Eckardt 1995, p. 300). Von Eckardt's definition is intended to be consistent with either the simulation or theory-theory account of cognitive architecture. She adds predictions to the definition, but leaves the definition open as to the kinds of concepts used in folk psychology, as well as the kinds of practices. Baker's list of concepts (beliefs, desires, intentions, expectations, preferences, hopes, fears, etc.) are standard in many descriptions of folk psychology, but Von Eckardt wants us to accept a thick conception which includes "any concept of generalization ordinary people use in their FP practices" (Von Eckardt 1995, p. 305). I am sympathetic to Von Eckardt's desire to widen our conception of folk psychology. But the details beg to be filled in.

Prediction and derivatively explanation remain the standard examples and most often they are accounted for using an account very much like Baker's. Though Baker doesn't refer to prediction in her definition, nor does she discuss prediction at all in her encyclopedia entry, it is clear from her definition that prediction is a key folk psychological practice. The theory of mind literature, which includes philosophers, developmental psychologists, and primatologists, has put prediction at the forefront; it is what developmental psychologists such as Josef Perner and Alison Gopnik are interested in, and it is the focus of David Premack's research on chimpanzee social psychology. Premack coined the term 'theory of mind' which he defines as the ability to "attribute states of mind to [others], and use these states to predict and explain the behavior of [others]" (Premack 1988, p. 160). Understood as such, Baker's definition is consistent with the example given above from Lyons' textbook.

As I see it, the main problem with the standard thin definition of folk psychology is the assumption that the same sub-personal mechanisms are responsible for all our folk psychological practices. While the debate between simulation and theory theory seems to have been largely resolved in favor of a variety of hybrid views, the current accounts of the psychological architecture underlying our folk psychology suffers from the old debate's assumption of homogeneity. Take for example Nichols and Stich's recent theory from their book *Mindreading*, where they present a complex boxology of our folk psychological abilities. Their account, though incorporating both theoretical and simulation elements, continues to rest on the assumption that the attribution of beliefs and desires is *the* method of predicting behavior. For example, they think that one of the major problems with past theories of mindreading is in their insufficient explanation of discrepant belief attribution, and they devote much space to developing a model to account for it (Nichols and Stich 2003). And, while Nichols and Stich are interested in how people understand other minds, their focus is on prediction of behavior and mental states, and detecting mental states. They don't elaborate on how the model could be used for explanation (or even if they think it should be) nor do they test their model against the other roles of folk psychology, such as coordination or justification.

Despite my concerns, I am very sympathetic with Nichols and Stich's motivation for constructing their theory. They too criticize the current discussion of folk psychology, including debates regarding the form of folk psychology and the potential elimination of folk psychology, as being too vague to be useful. They argue that we need to construct more specific theories of folk psychology, even at the cost of being mistaken. Though it is more risky to say something specific than to say something vague and general, false theories that are debated and ultimately debunked at least get us somewhere, whereas vague theories only fool us into thinking that we've made progress.

So, we must examine different folk psychological practices in some detail. In addition to prediction and explanation, other possible functions of folk psychology include understanding (if this is somehow different from being able to explain someone's behavior), justification (Andrews 2004), and coordination of behaviors (Morton 2003). It is likely there are other roles for folk psychology as well, such as the construction of a narrative self, providing social cohesion, and checking to see whether one's behavior is acceptable. However many different kinds of folk psychological practices there may be, the idea is that without folk psychology, we would be unable to engage in these practices.

Next I will turn to an examination of three different functions of folk psychology: prediction, explanation, and justification. While prediction and explanation are standard, I aim to make the case that justification should also be seen as a core aspect of human folk psychology. For each of these three folk psychological practices, I will examine the plausibility of the current assumption that our commonsense conceptual framework of human psychology is one that involves the attribution of propositional attitudes. This assumption, widely held, is a descriptive claim about human psychology, and there is empirical evidence relevant to this claim. If it is not the case that commonsense psychological explanations presuppose laws, or if it is not the case that we attribute propositional attitudes, then the foundation on which decades of philosophical research rests is shaky indeed.

Prediction

The paradigmatic role of folk psychology is today seen as prediction. It prediction that Paul Churchland pointed to as one of the successes of folk psychology, and it is prediction that many developmental psychologists use in their litmus tests of theory of mind

According to the traditional view of folk psychology, we make predictions by attributing beliefs and desires to an agent, and then appeal to a generalization about what people do when they have such-and-such beliefs and desires. From this we can deduce the behavior to be predicted: Kelly believes there is Zima in the fridge; she desires a Zima; *ceteris paribus* people act to fulfill their desires; thus Kelly will go to the fridge and get a Zima.

But often the situation isn't nearly so simple. Let's return to Lyons's example, that I predict that Mary won't show up to the meeting because she believes Fred will be there, and she doesn't want to see Fred. Notice that though these facts about Mary could help to explain why Mary didn't come to the meeting, they shouldn't on their own serve as sufficient evidence for the prediction. These two pieces of information are consistent with Mary's attendance, given other factors that may be in play. Mary may also believe that she shouldn't let her feelings about Fred affect her work, for example. Unless Mary told you that she will not attend the meeting, in which case your prediction would rely on the 'people generally do what they say' heuristic, or unless Mary has a history of never attending meetings when Fred is there, in which case your prediction would rest on the inductive generalization heuristic, there is insufficient evidence to conclude that she will not show up.

If Mary's absence would guarantee that the vote would go my way, I wouldn't rest easy after hearing this story about why Mary won't show up to the meeting. It isn't good enough information for making a real-world prediction. My response to hearing this story would be to ask, "Yes, but did she *tell* you that she won't come to the meeting?" A verbal promise to act is much more reliable than a just so story constructed out of a person's possible beliefs and desires (Gauker 2003). In this case belief/desire psychology doesn't seem to be enough to make a good prediction.

My point here is that the question "Are we good predictors?" is a naïve one. It inaccurately assumes homogeneity across situations. To ask such a question is like asking "Are houses expensive?" or "Are trees tall?" These questions don't make sense to us because we know that there are different kinds of houses and different kinds of trees, and how expensive or tall they are depends on the context of the question. Tall for a front yard, or tall for a thousand year old forest? A proper question would be specified, and the context delimited, e.g. "Are people good at predicting the behavior of their close friends in family in unfamiliar situations?" If we begin to develop models of folk psychology that recognizes differences across cases, we will avoid the problem of inferring from the specific to the general.

Nonetheless, the assumption that humans are good predictors of behavior looms large in the philosophical literature. Dan Dennett is another advocate of belief/desire psychology, which makes up part of his intentional stance account of belief. For example, Dennett offers us an example of what may seem to be a rather complex prediction. He claims that the human ability to predict that your spouse will arrive home in one hour, with the boss and a bottle of wine, would "look like magic" to the Laplacean-Martian, who had to scrupulously calculate the placement of subatomic particles in order to arrive at the same prediction (Dennett 1987, p. 27). According to Dennett, you predict successfully because you attribut the correct beliefs and desires to spouse.

However, it doesn't seem that this case actually does require the attribution of propositional attitudes to make correct predictions. Your success will be seen as less than amazing when the Martians discover that humans make many such predictions by following a simple inductive rule: People generally do what they say they are going to do. If we are to appeal to this simple rule, then no belief or desire attribution is required to make this prediction, and no simulation needs to be run. We operate according to the people-do-what-they-say rule, which is quite reliable. Here Dennett gives us an example of a prediction that could be made by appeal to a simple, nonmentalistic heuristic. The promise of folk psychology was to offer more than that.

Unsurprising, in some cases belief/desire psychology is unreliable, and in some cases it need not be used to predict behavior. However, such dents in the traditional view of folk psychology are by themselves harmless. In order to challenge the assumption that, paradigmatically, predictions are made through the attribution of beliefs and desires, we need to move beyond the armchair methods of the philosophy of mind and our intuitive account of commonsense psychology. Other tales are told by social psychologists whose research focuses on uncovering the mechanisms we use when interacting with other people, and many of the discoveries made in this area have been quite surprising. Not only does the evidence undermine the assumptions about the *method* used to make predictions, it also undermines our assumptions as to the *accuracy* of our predictions. Given that even a foe of folk psychology like Paul Churchland says that we are excellent predictors of behavior, such findings have significant consequences for the philosophy of mind.

According to social psychology research humans make predictions of behaviors based on a number of biases, stereotypes, trait attributions, and other generalizations, and these heuristics do not result in predictions as successful as we might expect. One area in which our lay understanding of the mind is thought to be faulty is in the attribution of character traits as a means of predicting behavior. According to situationists, when making predictions or other judgments we often commit the fundamental attribution error, which is the underestimation of the power situations have over our behavior. (However, there is now evidence that may be to some extent a cultural artifact of western culture, and Chinese, Koreans, or Japanese may be less likely to commit the fundamental attribution error (Nisbett 2003)). The fundamental attribution error causes us to base our predictions more on internal characteristics of a person, such as moods or traits, than on external factors of the situation. While we often rely on character traits in order to figure out what someone will do next, there is growing evidence that human behavior is caused primarily by the individual's environment and history, rather than their character traits.

Research such as Milgram's infamous obedience experiments, where subjects were told to give ever-increasing levels of shocks to a confederate, demonstrates the important role the situation has on a person's behavior. Milgram showed that small pressures in the environment could affect people's behaviors in ways they couldn't anticipate (Milgram 1963). Some situationists even argue that there are no such things as character traits (Doris 2003).

Attributing traits to people causes us to be overly optimistic about people's consistency across situations and over time (Ross and Nisbett 1991). That is, once we have pegged someone with a particular trait, we use that information when making predictions about that person's behavior. However, cross-situational consistency of behavior is low. For example, an outgoing lecturer who eagerly engages with a room full of hundreds may be shy and awkward in a more intimate setting. And those who perform well in a job interview may be terrible at the front of a lecture hall.

Another error we make when predicting behavior is to expect that other people are more like us than they are (Ross, Greene et al. 1977), and when making predictions we take our own behaviors to be relatively common. Thus a liberal who marches in huge anti-war rallies may be surprised when the hawk wins the election, because she expected most people to vote the same way she did.

It's not only other people whose behavior we have trouble predicting, but we're rather poor when it comes to predicting our own future behavior when we think that we'll act differently from the norm. A group of college students were asked at the beginning of a semester to make a number of predictions about whether they would engage in certain activities, such as dropping a class, becoming friends with a new roommate, returning home for the summer, etc. It was found that when predictions were consistent with base rates, they were fairly accurate. However, when the predictions diverged from base rates for the average college student, the accuracy of the prediction was 50% or less (Vallone, Griffin et al. 1990). The authors suggest that we would be more accurate about our own future behavior if we were to attend to base rates and simply predict that we will do what people in our situation usually do.

Though we can predict with some accuracy what others will do in the same situation after having observed their behavior in that situation, we have more difficulty predicting with any accuracy what people will do in other situations, given these sorts of errors in reasoning. Why, then, do we think that we are such good predictors of behavior?

Social psychologists have an answer to this question as well. An expectation can cause us to interpret behavior so that it is consistent with that very expectation. Hence, we think we are more accurate then we really are. (Olson, Roese et al. 1996). In addition, we tend to notice things that correspond to our beliefs and expectations, and especially to remember successful predictions (Kunda 2002). Thus, even though we may be poor predictors of behavior in some situations, it is possible that we won't notice it because we either interpret the situation so that it corresponds to our expectation, or we forget about making the faulty prediction.

Our impoverished ability to make accurate predictions corresponds to an alternate account of our ability to make predictions. Because we are better able to judge frequency of attitudes and traits of those with whom we are familiar than those with whom we are less familiar (Judd, Ryan et al. 1991), many social psychologists argue that our predictions derive not only from the attribution of beliefs and desires to others, but also from the attribution of traits. We tend to describe others in terms of their traits (Ross and Nisbett 1991). In one study where students were asked to provide confidential descriptions of their classmate, 65% of the terms used were trait terms (Park 1986). For example, classmates were described more often as kind, smart, etc. than they were described as e.g. having pink hair. We use traits to make sense of people's behavior (Miller 1984; Winter and Uleman 1984). A trait is stable--a constant disposition of an individual. Attribution of traits is shorthand for the prediction of behavior, because we expect people to be consistent over time, and consistent across related domains. For example, if someone leaves a small tip, we may consider her to be cheap, and then use that attribution to predict that she will also buy inexpensive gifts when birthdays come around (Kunda 2002).

The social psychology literature discussed above is familiar to many philosophers working on folk psychology. Adam Morton, for example, writes that "people possess a conception of human action as caused by intentions to produce changes in the world …concerned both with dispositional traits such as those of character and mood and with the intentions that produce action" (Morton 1980, p. 13). Though Morton says that these findings from social psychology are very similar to the philosophical accounts of folk psychology, the standard views of folk psychology remain focused on the attribution of propositional attitudes. Folk psychology is not standardly described as also involving trait or mood attribution, generalization from past experience, etc..

In contrast to the rather common assumption that one view of folk psychology can account for all folk psychological processes, the evidence points to a multiplicity of methods for predicting behavior. Recall that Von Eckhardt's account of folk psychology includes a number of different methods, such as the attribution of propositional attitudes, trait attribution, and reference to the situation. Inductive generalization is another means we use to predict intentional behavior, and they may in fact be the most successful method of prediction. Given Vallone and colleagues' finding that people are more likely to make accurate predictions of their own behavior by looking at the base rates for people in their situation, when you can use an inductive generalization to predict, maybe you should. And very often we do make predictions using this method. These are the sorts of quotidian predictions we make without even thinking about it—we predict that (at least some) of our students will show up to class, that the driver in front of me will stop at the stop sign, that the waiter will bring me a double espresso. It is clear that we make these predictions, because we are puzzled (and irritated) when they don't come true. Why doesn't the waiter come with our coffee? Is it because he is too busy, or did he forget to place our order?

Inductive generalization is also pointed to in studies of detecting deception. These studies suggest that while we are not very good at determining whether a stranger is deceiving us, as we get to know a person our ability to recognize deception increases. We are much more accurate in judging the honesty of a close friend's behavior than we are a stranger's. It is thought that the reason for this effect is that people, like poker players, often have a tell that indicates they are being deceptive. Though exposure we come to associate the distinctive behavior with an act of deception, and then we can use that behavior to predict future acts of deception (Anderson, DePaulo et al. 2002). This is part of a general trend of evidence that we are better at predicting familiar people and people from familiar groups than we are in predicting people who are not familiar to us (Kunda 2002).

Given that the majority of our accurate predictions are in domains with which we are familiar, and involve situations and actors who we are familiar with in some way or other, it seems plausible that these successful acts of prediction are not dependent on belief/desire psychology or a mental simulation, but can be inferred the same way we infer the future behavior of non-intentional entities. I predict that my car will start when I turn the key, not because I understand the mechanical structure of the car, but because my car has always started when I turn the key. This is a far cry from the model of prediction discussed at the beginning of the section. The philosopher's emphasis on mental state attribution as an account of how we predict behavior is quite different from the social psychologist's claim that we use trait attribution, induction, and other such heuristics. To use such heuristics, one need not have any information about the target's current mental states. One could make predictions using these methods without having any understanding of the other person's mental states.

As a side note, this suggests that animals could use induction and trait attribution for making predictions as well. Across species animals need to predict the behavior of potential prey, predators, and mates, and in social species even more complex predictive behaviors are observed. Since it is unlikely that most non-human animals have the ability to attribute propositional attitudes to others (indeed, some argue that they are ignorant of other minds), the methods animals use to make predictions likely utilize a non-mentalistic heuristic, or a mentalistic method simpler than full-blown belief/desire psychology. The research into chimpanzee theory of mind, which is looking for evidence that the animals use belief/desire psychology to predict behavior, may be hoping to find a greater reliance on mental state attribution in animals than we find in humans.

If we are to lean more about the ways humans predict behaviors, we first need to accept that we may use different methods for different instances of prediction. Psychological research can tell us where we are successful at making predictions, and where we aren't. It can also enlighten us as to how we go about making different kinds of predictions. Plausibly, I don't use belief desire psychology when I predict the waiter will bring the coffee I ordered, and plausibly I do use it when I am trying to figure out where my foe will strike next in a complex game of cat and mouse. Just as plausibly, my predictions of the waiter's behavior will be more accurate than my predictions of the foe. Whereas the waiter is following a very familiar script, the foe is doing his best to avoid predictability, which will lead to complex and perhaps recursive lines of thought in an attempt to predict his behavior. But it is also likely that we use a number of methods to predict behavior in a single case, as is demonstrated in this dialogue from *The Princess Bride*. Vizzini has accepted a challenge to partake in a game of wits. He is to determine which glass of wine contains the poison iocaine, the one in front of him or the one in front of his foe:

> **Vizzini:** But it's so simple. All I have to do is divine it from what I know of you. Are you the sort of man who would put the poison into his own goblet or his enemy's? Now, a clever man would put the poison into his own goblet because he would know that only a great fool would reach for what he was given. I am not a great fool so I can clearly not choose the wine in front of you. But you must have known I was not a great fool; you would have counted on it, so I can clearly not choose the wine in front of me.
> **Man in black:** You've made your decision then?
> **Vizzini:** [*happily*] Not remotely! Because iocaine comes from Australia. As everyone knows, Australia is entirely peopled with criminals. And criminals are used to having people not trust them, as you are not trusted by me. So, I can clearly not choose the wine in front of you…And you must have suspected I

> would have known the powder's origin, so I can clearly not choose the wine in front of me… You've beaten my giant, which means you're exceptionally strong. So you could have put the poison into your own goblet, trusting on your strength to save you, so I can clearly not choose the wine in front of you. But, you've also bested my Spaniard, which means you must have studied. And in studying, you must have learned that Man is mortal so you would have put the poison as far from yourself as possible, so I can clearly not choose the wine in front of me!

First note that though Vizzini clearly makes use of folk psychology, he is not clearly engaged in an act of prediction. He is trying to figure something out, but he's not seeking an explanation. We might say that he's retrodicting—making a prediction about something that happened in the past—giving us another possible role for folk psychology. Whatever we want to call it, we can analyze the passage as a piece of folk psychology reasoning. Despite his use of belief attribution (B believes that Man is mortal; B knows V is not a great fool), trait attribution (B is used to not being trusted; B is clever), knowledge about the situation (B is strong, B is from Australia), and inductive generalization (B has won a previous battle of the wits, so B must be knowledgeable) , Vizzini guesses wrong and falls to the ground, dead.

To avoid an analogous fate, philosophers who hope to build theories on top of descriptive claims regarding how humans predict behavior are well advised to recognize the complexity of behavior prediction. Social psychology has given us a start in cataloging the different methods we use to predict behavior, and in constructing our models of folk psychological mechanisms, philosophers need to take seriously what is already known. Vague as that knowledge may be, it suggests a radically different perspective than the one taught in philosophy classes today.

Explanation

In philosophy, folk psychological explanation has been thought to be nothing more than backwards prediction, and it has been largely assumed that if we have a good account of how we predict others' behavior, we will also have a good account of how we explain others' behavior. Because folk psychology is concerned with how we do go about making such explanations and predictions, the philosophical work in action theory isn't related to question of folk psychological explanation. The action theorist is interested in the actual causal explanation for behavior, but the folk psychologist is concerned with what we *think* serves as an explanation for behavior. That is, we're doing folk action theory in our conversations and gossip, and folk action theory may or may not relate to the mechanisms that really do cause us to act.

The typical account of folk psychological explanation is that we cite a belief and desire which are sufficient for the person's to action. Among the problems with this account is the fact that any number of belief desire sets would be sufficient for motivating someone's behavior—e.g. Kelly may be believed there was a Zima in the refrigerator and desired to drink a Zima, or she may have desired to disgust her friends and she believed that drinking a Zima would do so. Or perhaps she desired to drink a beer but when she got to the refrigerator there was no beer there, etc.. How do we limit the possibilities?

A more unsophisticated criticism can come from gauging the traditional view against our personal experience. Rarely will we hear someone give an explanation in terms of belief and desire attribution. It sounds very unnatural to say something like, "She went to the store because she believed there was butter there and she desires more butter." Rather, it sounds much more natural to say, "She ran out of butter for the cake."

Rather than rehearsing familiar criticisms of the account of folk psychological explanations offered by the theory theory and the simulation theory, I would like to draw your attention to empirical research on the issue of how we go about crafting explanations for behavior. The description of how we explain behavior that is given to us by social psychologists is quite different from the philosopher's description. Whereas philosophers think people explain behaviors in terms of mental states alone, the textbook view from social psychology is that explanation, like prediction, utilizes a variety of different techniques. Like prediction, these include the attribution of beliefs, desires, etc. to an individual, but also take account of external factors of the situation, the individual's perceived character traits, past behavior, and even one's own response to the situation (Franzoi 2003). Thus, social psychology takes both prediction and explanation to be heterogeneous.

It has been suggested by social psychologists that we offer explanations of behavior in order to fulfill two needs: to form a coherent view of the world, and to control the environment (Heider 1958). Whereas the tradition from the philosophy of science literature emphasizes the deductive nature of explanation, with beliefs and desires as the explanans, the social psychology literature suggests a coherence model of explanation. The theory of explanatory coherence developed by Paul Thagard (1989) is a more recent development of Heider's insight that we incorporate a number of different methods when explaining behavior. Thagard and Kunda apply this model to folk psychological explanation in order to describe how we "make sense" of other people, which they think involves three different methods: categorization in terms of traits, behaviors, social groups, etc., causal attribution, and analogy. They argue that while we rely on these different methods, they alone are not enough, for we also need a coherence-maximizing system to oversee these different mechanism and organize them into explanations that make sense (Thagard and Kunda 1997).

Research in social psychology confirms the ideas of Heider, Thagard, and others that we are pluralistic when it comes to developing explanations for behavior, and that coherence of some variety is important in constructing them. Evidence suggests that we rely on coherent narrative when offering explanations of behavior. In one study of juror decision making, it was found that lawyers who present their arguments in narrative form are more successful than lawyers who present arguments in some other non-chronological order (Pennington and Hastie 1992). Studies such as this one suggest that we construct imaginary scenarios in order to make sense of a person's behavior, scenarios that are coherent with all we know about the actors. So for example, when a person's past behaviors (e.g. she always brings wine to the party) and her traits (she is very generous) cohere with current behavior, we understand that behavior; it makes sense to us. These explanations may or may not be accurate, but they often suffice to satisfy us.

The psychological phenomenon of cognitive dissonance also suggests that we expect a consistent picture of ourselves and others. Cognitive dissonance refers to the feeling of discomfort that arises when we are acting in a way we take to be inconsistent with our self-image. Humans have a tendency to confabulate explanations for behaviors that may be caused by effects such as the fundamental attribution error, especially when those actions are contrary to our self-image. Thus, subjects in Milgram's obedience experiments might make up a story about why they had administered dangerous shocks rather than admit that they are capable of harming others. And while we tend to take credit for our successes, attributing them to aspects of our character or our behavior, when we fail we tend to explain those actions by reference to external causes (Campbell and Sedikides 1999).

The mechanisms underlying our ability to explain behavior are very important to us, given that discussing people's behavior is one of the primary occupations of a human being. The psychologist Robin Dunbar suggests that we spend two-thirds of our conversational time talking about what people are doing and why they are doing it (Dunbar 1996). This trend is evident among humans at a very young age; according to one study, as early as 4 years children are spending 77% of their conversations talking about people (O'Neill 2004). Though the statistics may be surprising, the general point shouldn't be: humans are social creatures, and we are very interested in other people.

While it is clear that we may use belief/desire psychology when providing psychological explanations of behavior, given the coherence model of explanation it alone is not sufficient for the construction of a satisfactory explanation. Consider for example this belief/desire explanation: "He believed that the towers would fall if they were hit by a plane, and he desired that the towers fall." As an explanation for a terrorist attack, this claim is useless, because a request for an explanation of a terrorist attack is a request for further information about why someone could engage in such behavior. The belief/desire attribution given above doesn't tell us why the terrorist would have that desire. To provide that explanation, one will to go beyond belief/desire psychology, and talk about traits (he's a monster) or social conditions (he was poor), biology (he was responding to a perceived attack), the geo-political scene (the US has troops in Saudi Arabia), the terrorist's personal history (his sister was killed by Israeli soldiers), etc..

That is, the coherence model of explanation is correct. A satisfying explanation of behavior will take advantage of a number of different available methods, and those methods will depend on what we already know about the person whose behavior we're explaining, and what we don't know. For example, while an inductive explanation may satisfy us when given to explain someone we don't know well ("Why is he drinking champagne? Is he celebrating something? No, he just has it day with lunch."), such responses are often not very satisfying when we want to know the deeper motivation. Indeed, we will often provide an inductive explanation only because we don't have any further information. If I explain the champagne-drinker's behavior inductively, my verbal explanation will be almost certainly accompanied by a shrug of the shoulders.

Trait attribution plays a more significant role in explaining behavior, and even though it does not constitute a description of the reasons or the goal motivating the actor's behavior, it is often the best that we can do. Flanagan has criticized explanations that refer to traits because they do not include the causal story leading to the behavior being explained, but only place the act in a category of other acts (Flanagan 1984). He argues that explaining why Jack stole the candy by saying that he is a juvenile delinquent either describes the behavior (i.e. to steal candy is to become a juvenile delinquent) or it amounts to an inductive explanation (e.g. Jack always does stuff like that). It is part of our folk psychology that people act for reasons, and even though the trait might help us to understand why a person took a particular action over another, it doesn't illuminate the goals that may have motivated the behavior in the first place.

However, it seems that sometimes explanations in terms of trait attribution are satisfactory; if you know about something common to all juvenile delinquents, that trait attribution might help you to understand why the child behaved as he did. Trait attribution can explain behavior to someone when she can fill in the details of the category herself. Take another example. If Sue snaps at a student during office hours, and the student comes to me asking what he did wrong, I might explain Sue's actions by saying that she's testy. That trait attribution can make sense of her behavior, if the student knows that testy people snap for reasons unrelated to the actions of the snap-ee. That's not to say that trait attributions will provide the whole story; for someone who wanted a fuller explanation, the question might then become "why is she so testy", or "how did he become a juvenile delinquent?" and the answer to those questions would take the form of a more robust narrative. Like inductive explanations, we will sometimes offer trait explanations when we can do no better. Other times it's clear that we don't want any more in the way of an explanation—for example, when one explains a hated politician's speech by saying "He's either an idiot, or evil, or both."

Explanations that make sense are those in which the details are either filled in for us, or those where we can fill in the blanks. Attribution of mental states, traits, and generalizations about someone's past actions, along with the causal story of events, provides us with a coherent and satisfactory explanation. Sometimes we can generate the narrative on our own, and other times we require more information in order to feel that we understand. In both cases our explanations are stories, and this shows that what is more important to explanation than knowing the actor's belief and desire is to have a coherent narrative. We have an explanation for behavior when we understand it, and what counts as understanding for an individual will depend on that person's background knowledge and her reasons for asking the why-question. Explanations of intentional behavior, like predictions of behavior, involve more (or less) than the attribution of propositional attitudes. Once again, the traditional view of folk psychology as belief/desire psychology is off the mark.

Justification

This section will be shorter than the other two, for whereas explanation and prediction are thought to be the paradigmatic examples of folk psychology, justification of behavior has been largely ignored. However, given the relationship between explanation and justification, I here aim to prove that if explanation is a part of folk psychology, then justification is as well.

Before I present my argument, let me explain what I mean by justification. Folk psychological justification is distinct from epistemic justification, and it is broader than moral justification. Thus, I am interested in its sense as used by laypeople rather than professional philosophers. When we ask for a justification in ordinary language, we are asking for reasons why a behavior or belief is morally, socially, or aesthetically acceptable. The question of a mother to her daughter "How could you go out looking like that?" is a demand not only for an explanation, but also a reason that will convince the mother that the daughter's appearance is, at least in some sense, acceptable. We ask for justifications on behalf of those actions we believe might be immoral, rude, irritating, inefficient, or otherwise disagreeable. ("Why did you lie to your mother?" "Because if I hadn't we'd be there every Sunday for dinner!")

We will also justify some actions through appeal to a rule of law or moral theory. For example, a utilitarian might answer a why question by saying, "Because it maximizes happiness," thereby explaining both his behavior and offering a reason for others with utilitarian leanings to accept his behavior as an ethical one. But for the folk the response is more likely to be, “Because it was the right thing to do.” Of course, if you are asked for a justification and this is your response, it is far from obvious that you will have provided a justification in terms of reasons that will convince the asker.

What we see here is that justifications are a subset of explanations, since a justification has both an explanatory aspect and an evaluative aspect. Not all justificatory statements will make both parts explicit, but many of our ordinary language arguments are enthymematic. Some justifications will only offer the normative claim, while others will only offer an explanation, but if the comment serves as a justification it is because the other part of the justification is implicitly understood.

While all justifications are explanations, not all explanations are justifications, despite the common tendency of people to conflate the two (Andrews 2004). Though I might say “Wait, I can explain…” as the police office drags me away, what I intend to communicate is that I have a justification for my behavior, one that if he would attend to, might make him let me go free. This use of language is unfortunate, because it does encourage confusion between these two concepts. Still, there are plenty of examples of explanations that are not intended as justifications. Any book exploring the motivations of a serial killer, such as Truman Capote’s *In Cold Blood*, will provide a kind of explanation for why the person acted as he did, but it is not intended to promote the action as morally acceptable. We need to seek explanations for behavior we condemn if we hope to stop it, for if we can identify root causes we may be able to prevent the condemned behavior in the future.

If justifications of behavior are a subset of folk psychological explanations, and all folk psychological explanations of behavior are part of folk psychology, then justifications of behavior are also part of our folk psychology. Though we don't typically include justifications as a paradigmatic function of folk psychology, I think this is a mistake. If folk psychology broadly construed is "our commonsense conception of psychological phenomenon", then it is not much of a stretch to include ethical and aesthetic and pragmatic judgments within that conception. We don't see behavior as value neutral. Rather, as Adam Morton argues, all folk psychology involves microethics, reasoning through everyday situations with low moral stakes but nonetheless potential conflicts of interest (Morton 2003).

Justification, then, should be added to the list of folk psychology's functions. The account of folk psychology commonly accepted is both too narrow in its notion of folk psychological mechanisms and in its notion of folk psychological practices.

Conclusion

There is more work to be done to understand the actual folk psychological practices we engage in, such as our justifying, coordinating, and checking practices, and philosophers are well advised to share that task with the social psychologists. And there is more work to be done to uncover the actual mechanism we use when engaging in any of these practices. What we've learned so far is that the introspective descriptive accounts of folk psychological predictions and explanations given by philosophers are partially accurate, and also partially false. The adherence to belief/desire psychology among those working on folk psychology is misguided insofar as belief/desire attribution is not the exclusive method we use to make predictions of behavior, nor is it sufficient for the explanation of behavior.

Those who are hoping for vindication of folk psychology should take heart in these observations, because if the eliminativist arguments are based on a faulty conception of the content of the folk psychological theory, then those arguments necessarily fail. As scientific psychology learns more about the actual mechanisms behind our actions, and can advise us on how to better make predictions and more accurate explanations, it gives us reason to be optimistic about the future of folk psychology. Perhaps Churchland's claim that folk psychology hasn't progressed as a theory in 2000 years will be shown to be false, as the robustness of our folk psychology may grow alongside the popularization of developments in social psychology.

As it stands, the problems with folk psychology have had more to do with the philosophers then with the folk. If we revise our definition of folk psychology to be more inclusive and to more accurately describe the methods used in our social interactions, we will increase our chances of discovering the cognitive architecture that makes social interaction possible. Given the arguments in favor of the view that people use a variety of techniques when predicting and explaining behavior, we must reject the narrow definition of folk psychology as the attribution of belief and desire. Rather, we should accept a broad definition along the line of the one put forth by Von Eckardt, and give up on putting forth monolithic theories of that which subsumes our prediction of behavior. In addition, we should accept that folk psychological practices extend beyond the familiar ones of predicting and explaining behavior. Our folk psychology is an essential tool for ethics, and we appeal to it when determining the acceptability of an action.

While there is no denying that having an understanding of mind provides one with an advantage, the extent of that advantage has been overemphasized by those who assumed that our folk psychology consists wholly of mental state attribution. If the accounts of prediction and explanation that I have offered here are correct, the consequence is that not only the mature human has access to folk psychology. Rather, those aspects of folk psychology that rely on inductive generalizations and trait attribution are open to those you haven't yet discovered that others have minds. We may share aspects of our folk psychology with our non-human relatives, even though they lack the theoretical knowledge Sellars was interested in.

References

Anderson, D. E., B. M. DePaulo, et al. (2002). "The development of deception detection skills: A longitudinal study of same-sex friends." Personality and Social Psychology Bulletin **28**: 536-545.

Andrews, K. (2003). Knowing Mental States: The Asymmetry of Psychological Prediction and Explanation. Consciousness: New Philosophical Perspectives. Q. Smith and A. Jokic. Oxford, UK, Oxford University Press.

Andrews, K. (2004). "How to learn from our mistakes: Explanation and moral justification." Philosophical Explorations.

Baker, L. R. (2001). Folk Psychology. MIT Encyclopedia of the Cognitive Sciences. R. A. Wilson and F. C. Keil. Cambridge, MA, MIT Press.

Campbell, W. K. and C. Sedikides (1999). "Self-threat magnifies the self-serving bias: A meta-analytic integration." Review of General Psychology **3**: 23-43.

Churchland, P. (1981). "Eliminative materialism and the propositional attitudes." Journal of philosophy **78**: 67-90.

Dennett, D. (1987). The Intentional Stance. Cambridge, MA, MIT Press.

Doris, J. M. (2003). Lack of Character: Personality and Moral Behavior. Cambridge, U.K., Cambridge University Press.

Dunbar, R. (1996). Grooming, Gossip, and the Evolution of Language. Cambridge, MA, Harvard Univeristy Press.

Flanagan, O. (1984). Science of the Mind. Cambridge, MA, MIT Press.

Franzoi, S. L. (2003). Social Psychology, McGraw Hill.

Gauker, C. (2003). Words Without Meaning. Cambridge, MA, MIT Press.

Goldman, A. (1989). "Interpretation psychologized." Mind and Language **7**(1-2): 161-185.

Gopnik, A. and H. Wellman (1992). "Why the Child's Theory of Mind Really is a Theory." Mind and Language **7**: 145-171.

Heider, F. (1958). The Psychology of Interpersonal Relations. New York, Wiley.

Hempel, C. G. and P. Oppenheim (1948). "Studies in the logic of explanation." Philosophy of Science **15**: 135-75.

Humphrey, N. (1978). "Nature's Psychologists." New Scientist: 900-904.

Judd, C. M., C. S. Ryan, et al. (1991). "Accuracy in the judgment of in-group and out-group variability." Journal of Personality and Social Psychology **61**: 366-379.

Kunda, Z. (2002). Social Cognition: Making Sense of People. Cambridge, MA, MIT Press.

Lewis, D. (1972). "Psychophysical and theoretical identifications." Australasian Journal of Philosophy **50**: 249-258.

Lycan, W. G. (1997). Folk psychology and its liabilities. Mindscapes: Philosophy, Science, and the Mind. M. Carrier and P. K. Machamer. Pittsburgh, PA, University of Pittsburg Press: 1-21.

Lyons, W. (2001). Matters of the Mind. London, Routledge.

Milgram, S. (1963). "Behavioral study of obedience." Journal of Abnormal and Social Psychology **67**: 371-378.

Miller, J. G. (1984). "Culture and the development of everyday social explanation." Journal of Personality and Social Psychology **46**: 961-978.

Morton, A. (1980). Frames of Mind: Constraints on the Common Sense Conception of the Mental. Oxford, UK, Oxford University Press.

Morton, A. (2003). The Importance of Being Understood: Folk Psychology as Ethics. London, Routledge.

Nichols, S. and S. Stich (2003). Mindreading: An Integrated Account of Pretence, Self-Awareness, and Understanding Other Minds. Oxford, UK, Oxford University Press.

Nisbett, R. E. (2003). The Geography of Thought: How Asians and Westerners Think Differently...And Why. New York, NY, The Free Press.

Olson, J. M., N. J. Roese, et al. (1996). Expectancies. Social Psychology: Handbook of Basic Principles. E. T. Higins and A. W. Kruglanski. New York, NY, Guilford Press.

O'Neill, D. (2004). "Small talk and stories: Children's developing models of the self and others". Cultural Biology: Evolution, Development, and Mind. Waterloo, ON, University of Waterloo.

Park, B. (1986). "A method for studying the development of impressions of real people." Journal of Personality and Social Psychology **51**: 907-917.

Pennington, N. and R. Hastie (1992). "Explaining the evidence: Tests of the story model for juror decision making." Personality and Social Psychology Bulletin **16**: 90-105.

Premack, D. (1988). 'Does the chimpanzee have a theory of mind?' revisited. Machiavellian Intelligence: Social Expertise and the Evolution of Intellect in Monkeys, Apes, and Humans. R. Byrne and A. Whiten. Oxford, Oxford Univeristy Press.

Ross, L., D. Greene, et al. (1977). "The "false consensus effect:" An egocentric bias in social perception and attribution processes." Journal of Experimental Social Psychology **13**: 279-301.

Ross, L. and R. E. Nisbett (1991). The Person and the Situation: Perspectives of Social Psychology, Temple Univ Press.

Sellars, W. (1956). Empiricism and the Philosophy of Mind. Cambridge, MA, Harvard Univeristy Press.

Stich, S. and S. Nichols (1996). How do minds understand minds? Mental stimulation versus tacit theory. Deconstructing the Mind. S. Stich. Oxford, UK, Oxford University Press.

Thagard, P. (1989). "Explanatory coherence." Behavioral and Brian Sciences **12**: 435-467.

Thagard, P. and Z. Kunda (1997). Making sense of people: Coherence mechanisms. Connectionist models of social reasoning and social behavior. S. Read and L. C. Miller. Hillsdale, NJ, Erlbaum.

Vallone, R. P., D. W. Griffin, et al. (1990). "Overconfident prediction of future actions and outcomes by the self and others." Journal of Personality and Social Psychology **58**: 582-592.

Winter, L. and J. Uleman (1984). "When are social judgments made? Evidence for the spontaneousness of trait inferences." Journal of Personality and Social Psychology **47**: 237-252.

Wundt, W. (1916/1983). Elements of Folk Psychology. Frederick, MD, University Publications of America.