

Cognitive Empathy

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Abstract: We have various strategies available to us for understanding another person's state of mind. Cognitive empathy may be achieved by mental simulation, i.e. by imagining yourself in another's situation and figuring out what you would think and feel in that situation. Alternatively, you could consider all the relevant information about the person's situation and folk psychology and draw a sophisticated inference to the best explanation of that person's perspective. In this chapter, I examine the conditions under which we are likely to use these two familiar strategies for cognitive empathy and when they are likely to be effective. In addition, I discuss a third underexplored pattern of reasoning in understanding others. Self-serving goals, such as anxiety reduction, self-esteem, and confirmation of one's worldview, distort cognitive empathy. I consider these different strategies in light of hybrid theories of cognitive empathy.

Keywords: Theory of Mind; Simulation; Imagination; Egocentric Bias

1. Introduction

Cognitive empathy is the capacity to understand another person's state of mind from her perspective. Consider the following real life example, which I will return to throughout this chapter. Edward Snowden is a former subcontractor for the National Security Agency (NSA), the United States' intelligence agency responsible for global monitoring of data for foreign intelligence and counterintelligence. Snowden began subcontracting for the NSA in March 2013. Two months later, Snowden flew to Hong Kong where he subsequently released many thousands of classified documents to journalists. These documents included information on

global and domestic spying programs, military capabilities, operations, and tactics. In June of 2013, the US Department of Justice charged Snowden with violating the Espionage Act and stealing government property, and the US Department of State revoked his passport. Shortly thereafter, Snowden flew to Russia where he is now a resident.

Many people, including most in the US Government, have condemned Snowden's behavior as treasonous. His release of classified documents about military capabilities, operations, and tactics compromises military missions and endangers military personnel. Moreover, the journalists who received these classified documents often lack the capacity to protect the documents so that they do not end up in the hands of enemies of the US. For example, on January 27, 2014 the *New York Times* published one of these leaked documents but failed to properly redact classified information in the released PDF. As a result, the newspaper exposed the name of the NSA agent and the group that was the target of the operation. See <http://nyti.ms/MluMBk>. Though Snowden professes to have acted out of patriotism, many accuse Snowden of being a traitor.

Others, however, praise him as a courageous whistleblower. Snowden has said that his goal in releasing classified documents to journalists was to expose the NSA's spying programs so that Americans understand the extent to which their government monitors its own citizens and therefore can make an informed choice about whether they want their government doing these things. It is widely acknowledged that the American public would not have known that the NSA is

collecting data on ordinary citizens' communications if not for Snowden's actions. Many regard Snowden as a hero for shedding light on these spying programs.

Understanding why Snowden judged that it was best for him to release thousands of classified documents to journalists is a difficult, real-world challenge of cognitive empathy. There are two main accounts of how we understand another person's perspective. One is based on theorizing and the other is based on mental simulation. In the next section, I will use the Snowden example to illustrate how these two accounts are meant to work. I shall argue in section 3 that we use both theorizing and mental simulation, but these strategies are not equally effective in all cases. I shall discuss a third underexplored pattern of reasoning in cognitive empathy. Self-serving goals, such as anxiety reduction, self-esteem, and confirmation of one's worldview, distort cognitive empathy. Finally, in section 4, I offer some concluding remarks on how to improve hybrid theories of cognitive empathy.

2. Theory Theory and Simulation Theory

The two main accounts of how we understand others' perspectives are the Theory Theory (TT) and the Simulation Theory (ST). Theory theorists argue that we understand others' perspectives by employing a folk psychological theory about other minds. For an overview of the TT, see the following collected volumes: Carruthers and Smith (1996); Davies and Stone (1995a). According to this view, we explain and predict behavior by theorizing about how mental states inform

behavior. With our folk psychological theory, we infer from another person's behavior what his or her mental states probably are. And from these inferences, plus the psychological laws in the theory connecting mental states to behavior, we predict the next behavior of the other person.

When the TT was first proposed, proponents of the view argued that we understand others by employing a literal theory of mind, which involves folk psychological *laws* that connect mental states, unobservable theoretical entities, to behavior. Understanding others' perspectives, it was argued, consists in employing these folk psychological laws, along with auxiliary assumptions about the relevant circumstances, to *deduce* explanations and predictions of behavior. Theory theorists argued that we use our theory of mind just like, for example, physicists use the theory of gravity to explain and predict the behavior of physical objects. Jerry Fodor, for example, argues that theory of mind explanations "are frequently seen to exhibit the 'deductive structure' that is so characteristic of explanation in real science. There are two parts to this: the theory's underlying generalizations are defined over unobservables, and they lead to its predictions by iterating and interacting rather than by being directly instantiated" (Fodor, 1987, p. 7).

Contemporary theory theorists reject the idea that understanding others' perspectives literally involves applying folk psychological *laws* and *deriving* explanations and predictions from these laws. Instead, they characterize our capacity to understand others as underwritten by information rich, interpretive processes (Nichols & Stich, 2003). More loosely conceived, theories may include models, heuristics, and a body of assumptions. A more general and modern way of

characterizing the TT is in terms of an *information-rich* inference to the best explanation.

An example of a modern version of the TT is the Model Theory Theory, an account proposed by Heidi Maibom (2007, 2009) and Peter Godfrey-Smith (2005). Scientific theorizing, some argue, is best understood as a practice of constructing and applying scientific models (Giere, 1999). These models consist in a general structure or schematic pattern that can have many specific instantiations, and they can be elaborated in various ways to generate specific hypothetical systems to deal with particular empirical cases (Godfrey-Smith, 2005, pp. 2-4). According to Model TT, understanding another agent is analogous to this kind of scientific theorizing. There is a single, core folk psychological model, which consists in a distinction between beliefs and desires, the idea of sensory input and behavioral output, and characteristic dependence of action on perceptions, memories, goals, and temptations. This core folk psychological model can be elaborated in various ways with particular knowledge of social structures, institutions, and social roles, knowledge about a particular person's history and personality, etc. On this account, cognitive empathy is best described as facility with folk psychological models.

According to the TT, understanding Edward Snowden's perspective requires knowledge of the NSA, current laws relating to domestic spying, protections for whistleblowers, and the political environment. It also requires understanding the moral tension between liberty and safety. Crucially, understanding his perspective involves understanding the psychology of those who put their own safety (and to some extent others' safety) at risk for what they take to be a greater cause. On this

view, understanding Snowden's perspective consists in sophisticated inference to the best explanation. Basically one must understand all the main factors that influenced his moral calculus.

In contrast to the TT, simulation theorists argue that we do not need to employ a *theory* about folk psychology to understand others. To understand a target's perspective, all we need to do is imagine what *we* would think, feel, and do in the target's situation, and on that basis we come to understand what the target thinks, feels, and will do. For an overview of this theory, see Davies and Stone's (1995b) collected volume on the ST. According to the ST, we use our own minds as a simulation of the other person's mind, putting ourselves in another's shoes, so to speak, and imagining what our mental states would be and how we would behave if we were that agent in that particular situation.

The basic idea of the ST is straightforward and intuitive, but the details of how this happen are quite nuanced (Spaulding, 2012, 2015). First, we retrodictively simulate to figure out what the target's mental states could have been to cause the observed behavior. Then we take the target's mental states in the form of pretend beliefs and pretend desires as input, run them through our own cognitive mechanisms, take the resulting conclusion and attribute it to the target in order to explain and predict the target's behavior.

In contrast to the TT, ST is sometimes characterized as an *information-poor* cognitive empathy process. It does not require access to large bodies of information about folk psychology. Simulation requires an ability to mentally put oneself in a target's position and figure out what one would feel, think, and do. One simply

redeploys one's own cognitive mechanisms for the purpose of understanding the other person's perspective.

Despite the overall consensus that we understand others through mental simulation, there is considerable disagreement amongst simulation theorists about the nature of simulational mindreading. These disagreements concern whether we use high-level practical reasoning to figure out what it would be reasonable for us to think, feel, and do in the target's situation (Heal, 1996), whether the simulation heuristic requires introspective awareness (Gordon, 1995), and the extent to which simulation can be explained in simple reenactment or resonance terms (Goldman, 2006).

According to the ST, in order to understand Edward Snowden's perspective you need to imagine yourself in his position. Imagine that you have discovered at your new job that the government employs top secret programs that, unbeknownst to American citizens, allow the monitoring of ordinary Americans' phone calls, emails, texts, internet searches, etc. Imagine that you face the following dilemma: stay silent and let these secret programs continue illegally monitoring Americans' personal communications or give information to journalists that proves the extent of this monitoring and let them publicize these programs. Imagining facing this dilemma, you understand the difficult choice Snowden faced. According to ST, to understand Snowden's perspective you do not need to understand every significant factor that influenced his decision. Rather, you just need to mentally simulate being in his situation.

The TT and the ST offer different accounts of how we understand another's perspective. With respect to the Snowden example, the central difference is that the TT relies on consolidating a broad range of information about spying, whistleblowing, morality, and psychology whereas the ST relies on imagining oneself in Snowden's position facing the dilemma he faced. These are very different strategies for understanding another's perspective. I shall argue in the next section that we successfully use both the theorizing and simulational strategies, but we do so under different conditions.

3. A Pluralist Picture

The TT and the ST propose different strategies for cognitive empathy. As is well known in this field, both accounts are inadequate on their own. The TT – at least in its traditional formulation – faces a serious computational worry. Theoretical explanation requires categorizing observable behavior, applying general principles that link observable behavior to mental states, and mental states to other mental states, and mental states to behavior. One must figure out which of many principles could apply, whether appropriate background conditions hold, whether there are countervailing factors and, for predictive purposes, the implications of the principle one chooses to apply. Combine this with the fact that many of our social interactions involve a range of people whose behaviors and mental states are interdependent, and you have an extremely computationally demanding and extended process of

deriving a stable set of beliefs which will allow one to successfully take part in social interactions (Bermúdez, 2003, pp. 31-33).

A theoretical limitation of the ST is what is known as the “threat of collapse”(Davies & Stone, 2001; Heal, 1998). Theory theorists hold that we understand others via a *tacit* theory of other minds. Simulation theorists reject the idea that we understand others via a *theory* of other minds, tacit or not. They argue instead that we simply have to imagine ourselves in the other person’s situation and figure out what we would think, feel, and do in that situation. This kind of simulation is successful to the extent the simulator’s mental processes mirror the target’s mental processes. The difficulty is that given a certain plausible account of tacit knowledge, the simulation process described above is indistinguishable from the employment of a tacit theory of other minds. But if that is right, then there would be no predictive differences between the ST and the TT, and the ST would simply collapse into the TT.

A related objection which precedes the threat of collapse is offered by Dennett (1987). To retrodictively simulate a person, I observe her behavior, imagine myself in her situation, generate hypothetical beliefs and desires that would explain why I would behave as she did if I were in that situation, and then attribute those mental states to her. A problem related to the threat of collapse is that there are indefinitely many mental state combinations that would explain the observed behavior. If we were to try to figure out with simulation resources only, what our mental states could have been to cause us to behave like the target, our retrodictive simulation would have no way to decide between radically different belief-desire

combinations that would explain the behavior. Moreover, there would be no stopping point for the retrodictive simulation. The simulation itself provides no way to determine when we have landed on a good-enough explanation of the observed behavior and can stop simulating. Retrodictive simulation reveals some of the possible mental states that a target may have, but it cannot, all by itself, provide knowledge of other minds. Theoretical information is required to move from identifying possible mental states to knowing a target's mental states. See (Spaulding, 2015) for more on this objection to ST.

Most contemporary theory theorists and simulation theorists recognize the inadequacy of *pure* TT and *pure* ST. Most theorists in this debate endorse a hybrid account that involves both theoretical and simulational elements (Davies & Stone, 1995b; Goldman, 2006; Heal, 1998; Nichols & Stich, 2003). The consensus is that sometimes we theorize to understand another person's perspective, while other times we mentally simulate. The current debate concerns under what conditions we use each of these strategies.

Consider first when the simulation strategy likely will be successful. You imagine yourself in another person's situation, figure out what you would think and feel in that situation, and attribute that perspective to the other person. This process will generate an accurate attribution only if you and the target are relatively similar. If the target evaluates information differently from you, if she has different values or ranks shared values differently from you, or if one of you has idiosyncratic beliefs and desires, your mental simulation will be inaccurate. In that case, you will fail to understand the target's perspective. For example, simulating Edward Snowden's

perspective is likely to be successful only if the simulator shares Snowden's values (e.g., freedom from government intrusion), ranks those values the same way (e.g., privacy over safety), and evaluates risk and reward in the same way (e.g., the risk of being accused of treason vs. the reward of shedding light on domestic spying). If the simulator is different from Snowden in these ways, he will likely misrepresent Snowden's perspective and thus fail to understand his decisions.

Mental simulation is likely to be successful only when the simulator and the target are relatively similar. There is empirical evidence for this claim. Social psychologists have discovered that we automatically identify people as part of our in-group or as part of an out-group (Tajfel, 1974). This categorization appears to be a function of perceived similarity (Ames, 2004a, 2004b; Ames, Weber, & Zou, 2012). That is, those who we perceive to be like us are categorized as part of in our in-group, and those who we perceive to be unlike us are categorized as part of an out-group. Age, race, and gender are salient features of people, thus one tends to identify people who share one's age, race, and gender as part of one's in-group. However, social categorization extends beyond these classifications. People have multiple, overlapping identities, and perceived similarity is relative to a context. For example, if hobbies are salient then only runners will count as part of my in-group. In that context, all non-runners are part the out-group. However, if political ideology is salient, my in-group consists of liberal progressives, some of who are runners and some of who are not runners. Thus, I may consider someone as part of my in-group in one context but not in another.

As it turns out, the cognitive empathy strategies that we use depend on whether we perceive the target to be part of our in-group. When we perceive a target to be part of our relevant in-group, we use simulational heuristics to figure out the target's perspective (Ames, 2004a, 2004b). For example we often project our own mental states onto those we perceive to be similar to us in some salient respect. That is, we figure out what we would think and feel in a particular situation and attribute that to the target. We also use our mental states as an anchor and adjust the interpretation based on how similar the individual is to us.

These simulational heuristics are likely to lead us to error when we *overestimate* the similarity between the target and ourselves and thus engage in more projection than is warranted. The resulting errors are called the Curse of Knowledge, a phenomenon where we falsely assume that others know what we know, and the False Consensus Effect, when we falsely assume that others share our opinion on some matter (Clement & Krueger, 2002; Epley & Waytz, 2010, p. 512). For both kinds of errors, we inappropriately project our own mental states onto others because we assume that we are more similar than we in fact are. The specific details on how this happens will differ from case to case, but in general inappropriate projection occurs when we attend to superficial similarities between others and ourselves and fail to notice or appreciate dissimilarities, e.g., in terms of situational context, personal background, knowledge, attitudes, values, and emotions.

The preceding paragraphs argue that simulation is an appropriate strategy for figuring out a target's perspective only when the simulator is relatively similar to

the target. The other strategy for cognitive empathy is theorizing. Theorizing may be appropriate regardless of whether one is similar to the target. Theorizing involves considering a broad range of general, domain specific, and folk psychological information, and this information will be relevant regardless of how similar the theorizer is to the target. Thus, when one is similar to a target, one may use either simulation or theorizing to figure out his perspective. However, simulation is more efficient when one is similar to the target. One need not consider all of the relevant evidence about the situation, target, and folk psychology in order to figure out the target's perspective because one can simply figure out what she would think and feel in that situation and project it to the target. Thus, though theorizing is an adequate strategy when the subject and target are similar, simulation has the advantage of being less cognitively demanding.

Theorizing is appropriate regardless of the target, however it is a distinctively superior strategy when one differs from the target in the relevant respects. In that case, it is better to infer the target's perspective on the basis of all of the relevant information rather than project one's own perspective onto the target. In addition, theorizing is a superior strategy when we want to ensure that we understand the target's perspective and that our own perspective does not skew our evaluation.

Empirical evidence supports this idea, as well. In cases where something important depends on getting a target's perspective right, when we will be held responsible for our interpretation, or when the situation is unusual and unexpected, we tend to search for information about that person's perspective in a controlled

and deliberative fashion (Fiske & Neuberg, 1990; Kelley, 1973; Tetlock, 1992). For example, when members of a job search committee make judgments about the candidates (e.g., whether a candidate will accept a job offer) the stakes are high. Thoughtful members of the committee will want to ensure that their judgments are accurate, consider all the relevant evidence, and make sure their decision is not based on mere superficial cues. This kind of reasoning is effortful, cognitively taxing, and difficult if one is under cognitive load or not well practiced in this kind of reflective reasoning (Gilbert, Krull, & Pelham, 1988).

To summarize, the consensus opinion in this literature is that we use both simulation and theorizing in order to understand others' perspectives. Theoretical and empirical considerations support the idea that we most effectively use simulation to understand a target's perspective when we are similar to the target. Simulation is ineffective and inappropriate when we are dissimilar to the target and therefore engage in more projection than is warranted. Theorizing about another's perspective is most effective when we are dissimilar to a target and when it is important that our attribution is correct. Theorizing is inefficient when we are similar enough to the target to project our own perspective onto the target and when getting the target's perspective *exactly* right is not the primary concern.

Sometimes accuracy is paramount in cognitive empathy. However, in other cases we just need a good-enough approximation of someone's perspective. In these cases, accuracy is only a secondary goal and efficiency is the primary goal. The interaction between accuracy and efficiency is familiar territory for the debate between the TT and the ST. However, accuracy and efficiency do not exhaust our

goals in cognitive empathy. Before moving on to concluding remarks, I will discuss one final aspect of cognitive empathy that often is not considered by theory theorists or simulation theorists.

Another cluster of goals within social interaction includes anxiety reduction, self-esteem, and confirmation of one's worldview (Dunning, 1999; Kunda, 1990). The strategies we use when we have these self-serving goals may be effortful or efficient. Consider first the pattern of reasoning called Naïve Realism, which describes our tendency to regard others as more susceptible to bias and misperception than oneself (Pronin, Lin, & Ross, 2002). We think we simply see things as they are, but others suffer from bias. This tendency is prevalent in interactions in which people disagree. For example, one may regard those of a different political party as misguided and biased by their personal motivations, whereas one regards oneself (and to some extent other members of one's political party) simply as correct. This self-serving strategy influences the perspectives we attribute to others especially when the other person disagrees with us.

A second reasoning pattern that emerges when we have self-serving goals is called Confirmation Bias, which is a tendency to seek only information that confirms one's preconceived ideas and interpret ambiguous information in light of these preconceived ideas. Confirmation Bias is very common in all areas of cognition. With respect to cognitive empathy, we have preconceived ideas about other individuals and groups, and we tend to interpret events in terms of those preconceived ideas. For example, racists notice when individuals behave in ways that confirm their racist beliefs, but they often do not attend to the many cases where individuals act in

ways that disconfirm their racist beliefs. As everyone with a racist relative can attest, pointing out this disconfirming evidence usually is ineffective. Confirmation bias affects both deliberative, controlled processes like theorizing and efficient processes like simulation. It occurs regardless of how the preconceived idea originated, how likely it is to be true, and whether accuracy is incentivized (Skov & Sherman, 1986; Slowiaczek, Klayman, Sherman, & Skov, 1992; Snyder, Campbell, & Preston, 1982).

We do not seek information in a systematic or unbiased way when we have self-serving goals. Instead, we seek information that validates our self-worth and confirms our pre-existing opinions. The processing of information is different in this context than the contexts in which accuracy or efficiency is the primary goal. The strategies employed for self-serving goals are compatible with deliberative, effortful cognitive empathy and efficient, simulation-based cognitive empathy. In either case, the cognitive empathy process is distorted by the subject's pre-existing opinions. Although both the TT and the ST are compatible with such distortions, neither view predicts the influence of self-serving goals on cognitive empathy. This is an important and neglected aspect of how we understand others' perspectives.

4. Conclusion

The goals we have in cognitive empathy determine the strategies we use to understand other people. Sometimes we have the motivation and ability to exhaustively review the available information and attribute mental states to others

in that way. This is likely to be an effective strategy when it is important that we get the other person's perspective correct and when the other person is too dissimilar from us to simulate. For those who really want to understand Edward Snowden's perspective or for those who find his reasoning bafflingly different from their own reasoning, theorizing is the best strategy for understanding his point of view.

Sometimes, however, we lack the motivation or ability to do an exhaustive search for relevant information. In these cases, when efficiency is the primary goal we may use the simulation heuristic. This is likely to be an effective strategy when the target is similar to us in the relevant respect. For example, if, like Snowden, one values privacy over safety and one is wary of government overreach, then simulation may be an efficient and effective way to understand Snowden's perspective on releasing classified documents to journalists. There is little concern about egocentric bias in the simulation because one is sufficiently similar to the target.

Finally, our social interpretations sometimes are guided primarily not by accuracy or efficiency goals but by self-interest. In these cases, we search for information and interpret others' perspectives in light of what we antecedently believe. Both Naïve Realism and Confirmation Bias skew our understanding of others' perspectives. For example, if one disagrees with Snowden's decisions, one is likely to regard him as biased (e.g., by desire for fame or money) or misguided (e.g., in his belief that his actions will change the government's behavior or that the American public cares deeply about privacy). One will look for information that confirms these biases and misperceptions and ignore or downplay disconfirming

evidence. The opposite pattern of reasoning applies if one regards Snowden's actions as, all things considered, good. In this case, Naïve Realism and Confirmation Bias skew our reasoning to confirm the belief that Snowden's behavior is virtuous. One is likely to seek information that Snowden is promoting the values we all hold dear and interpret those who disagree with his decisions as being biased and misguided. Whatever one's opinion, when we are motivated by self-serving goals such as anxiety reduction, self-esteem, and confirmation of one's worldview, these biases distort the cognitive empathy process.

Some of the results considered in this chapter support the TT, others support the ST, and others are not predicted by either view. Hybrid theories have the advantage of explaining more phenomena than either the TT or the ST alone, and they avoid the problems with pure TT and pure ST. For this reason, hybrids generally are the rule rather than the exception in this debate. I think hybrid theories are the most promising theories available. However, if a hybrid account is to offer a unified and informative explanation of how we understand others' perspectives, it has to do more than simply posit a conjunction of processes. Contemporary hybrid accounts gesture at the heterogeneity of cognitive empathy strategies. For a pluralistic account of social cognition that takes into account stereotypes, trait attribution, simulation, and theorizing, see Andrews (2008). But we need an explanation of how and when we shift between these strategies, which we use more often, and how accurate any of them are. For more on the conditions under which we use various strategies, see Spaulding (in progress). For more on the accuracy conditions of these strategies, see (Spaulding, forthcoming). Though in

some ways this chapter is critical of the current theories of how we understand others, I intend these arguments to be constructive. I hope they help improve hybrid theories so that they are more explanatorily adequate, predictively accurate, unified, and fruitful.

In this chapter I have sketched some of the components for an adequate hybrid theory of cognitive empathy. Specifically, I have described the various cognitive empathy strategies available to us, the conditions under which we are likely to use these strategies, when these strategies will be effective, and when they will lead us to error. There is more work to be done here in order to construct a unified and informative account of how we understand others' perspectives. However, I hope this chapter will serve as a roadmap for future development of hybrid theories of cognitive empathy.

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