

# How We Think and Act Together

Shannon Spaulding

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## 1. Introduction

Every morning when I wake up, I walk into the kitchen and make myself a cup of coffee. The typical folk psychological explanation of this behavior will make reference to my beliefs, desires, and intentions. For instance, I believe that there is coffee in the kitchen, I desire to drink coffee, and I intend to go to the kitchen to make coffee for myself. The typical scientific explanation of this behavior will involve neuroscientific facts about how my brain operates. For example, information is sent from frontal lobe to the premotor cortex and then to various muscles, which generate and control my movements. Both the folk psychological and scientific explanations of my thinking and behavior focus on facts about me. These are *individualistic* explanations. Most mainstream explanations of cognition and action tend to be individualistic in this way.<sup>1</sup>

This pattern of individualistic explanations holds even for *social* cognition and *social* behavior. Mainstream accounts of how we think and act with other people tend to focus on individuals' mental states and cognitive mechanisms.<sup>2</sup> Suppose we are making coffee together. An individualistic explanation of this social interaction will focus on each individual's mental states (e.g., my intentions, my beliefs about your intentions, and perhaps even my beliefs about what you think my intentions are) and individual's cognitive mechanisms (e.g., how in my brain information is sent from the frontal lobe and the left temporal parietal junction to the premotor cortex and then to my muscles).

Individualistic explanations of social cognition and behavior are natural, especially when seen as an extension of how most philosophers and cognitive scientists typically explain cognition and behavior in general. However, they are not the only game in town. Some philosophers and cognitive scientists argue for what I call *socially extended* explanations of cognition and behavior. Whereas individualist explanations tend to focus on individuals' mental states, socially extended

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<sup>1</sup> Individualism has been so dominant that it was not really recognized as a view until challenges from embodied, embedded, and enactive cognition came along. I will discuss these views in more detail below.

<sup>2</sup> See, for example, Shaun Nichols and Stephen Stich's book *Mindreading* (2003) and Alvin Goldman's *Simulating Minds* (2006), both of which focus heavily on mental states and mental mechanisms.

explanations primarily focus on relational facts, i.e., facts about the relations between an individual and her environment rather than just facts about individuals. Socially extended explanations are in a sense wider than individualist explanations of cognition and behavior. These explanations shift the unit of analysis from the individual to relations between the individual and the world.

Various views fall into the socially extended category, e.g., embedded cognition (Aydede & Robbins, 2009), embodied cognition (Gallagher, 2005), extended cognition (Clark, 2008; Gallagher, 2013), and enactive cognition (De Jaegher, Di Paolo, & Gallagher, 2010). These views aim to supplement or overthrow (depending on the radicalness of the argument) individualistic explanations of cognition and behavior. Socially extended accounts of cognition and behavior focus on the ways in which our environment influences how we think and act, how our bodies shape our cognition and behavior, the coupling between our own minds and external things and events, and complex interactions across individuals, objects, and events. In their application to social cognition and behavior, socially extended views emphasize the importance of individuals' environments, bodies, and other individuals in our social interactions.

My interest in this paper is social cognition, so I will focus primarily on individualistic and socially extended explanations of how we think and act together. In the following sections I shall examine the challenges these accounts of socially extended mind pose for individualism. I shall argue that individualistic explanations neglect phenomena important to social cognition that are properly emphasized by socially extended mind. Although I do not think the evidence or arguments warrant *replacing* individualistic explanations of social cognition with socially extended explanations, I shall argue that we have good reason to supplement our individualistic accounts so as to include the ways in which situational context affect social interactions. The result, I hope, is a more sophisticated individualism that offers a more comprehensive account of how we think and act together.

## **2. Individualistic and Socially extended Accounts of Social Cognition**

Social cognition is our capacity to understand and interact with other agents. Theorizing about social cognition tends to start with the question, How does one understand what others are thinking, feeling, and doing and anticipate what they will think, feel, and do next? Given this framing, accounts of social cognition tend to focus on the cognitive processes of an individual subject. In particular, the debates about how we understand others often focus on the type and content of a subject's mental representations in a social interaction.

Consider, for example, the debate between the Theory Theory (TT) and the Simulation Theory (ST). The TT holds that we explain and predict behavior by employing a tacit folk psychological theory about how mental states inform behavior (Carruthers & Smith, 1996; Davies & Stone, 1995a; Nichols & Stich, 2003).

This folk psychological theory is a rich body of information about how mental states relate to other mental states and to behavior. According to this view, with our folk psychological theory, we infer from a target's behavior what his or her mental states probably are, and thereby explain the behavior. From these inferences, plus the psychological principles in the theory connecting mental states to behavior, we predict the target's behavior.

The ST, in contrast, holds that we explain and predict a target's behavior by using our own minds as a simulation of the other person's mind (Currie & Ravenscroft, 2002; Davies & Stone, 1995b; Gordon, 1992; Heal, 1998). To explain a target's behavior, we put ourselves in another's shoes, so to speak, and imagine what our mental states would be and how we would behave if we were the target in that particular situation. To predict a target's behavior, we take the attributed mental states as input and simulate the target's decision about what to do next.<sup>3</sup>

Although TT and ST disagree about many important aspects of social cognition, they share the individualistic starting point. Their investigations are framed by questions about an individual subject's mental states. The simulation theorist holds that understanding others begins with the subject's beliefs about what he or she would do in a target's situation, whereas the theory theorist argues that the subject relies on his or her beliefs about folk psychology to understand what the target is doing. Both TT and ST appeal to an individual subject's mental states to explain how we think and act together.

The TT/ST debate is just one illustration of the individualistic theme in social cognition research. Other examples include debates about how children develop mental state concepts (Apperly & Butterfill, 2009; Onishi & Baillargeon, 2005; Perner & Ruffman, 2005; Rakoczy, 2012), whether understanding others' thoughts and behaviors requires introspection (Goldman, 2006, p. 187; Gordon, 1995), and the mental states required to engage in and recognize in others pretense, sarcasm, irony, and deception, (Nichols & Stich, 2003, pp. 16-59). Each of these discussions aims to explain the mental states – especially beliefs – of an individual subject as a way of explaining how we think and act together.

Though the individualistic theme is common, it is not universal. Accounts of socially extended mind reject the individualist starting point for social cognition research. As I mentioned in the introduction, various views fall under the category of socially extended mind. These include embedded cognition, which focuses on how the environments we inhabit shape our cognition (Aydede & Robbins, 2009), embodied

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<sup>3</sup> In addition to what we might call *pure TT* and *pure ST* are hybrid accounts that incorporate elements of both TT and ST. Hybrid accounts aim to capture the theoretical advantages of ST and TT while avoiding the problems with both theories. For example, Shaun Nichols and Stephen Stich (2003) have developed a TT-centric hybrid account, and Alvin Goldman (2006) has developed a ST-centric hybrid account.

cognition, which focuses the way in which our bodies and environments influence and perhaps constitute cognition (Shapiro, 2010), extended cognition, which focuses on how dynamic interactions amongst agents and things can constitute cognition that extends beyond the brain and body (Menary, 2010), and enactive cognition, which focuses on how the dynamic interaction between an agent and her environment constitutes cognition (Stewart, Gapenne, & Di Paolo, 2010). This is not the place for an extended review of these accounts of cognition.<sup>4</sup> Instead, I shall describe one central example to illustrate the difference between individualism and socially extended mind.

Embodied cognition represents one kind of challenge to individualism. Embodied cognition objects to cognitivism, the standard view in cognitive psychology. Cognitivism holds that our cognitive capacities should be understood in terms of computational procedures operating on symbolic, internal mental states, and thus cognitive science should be focused on studying these internal states and processes. Embodied cognition holds that cognitivism makes the mistake of emphasizing the mind as something to be studied independently of the body and its environment. According to embodied cognition, the emphasis in cognitive science should be on how the body and the environment shape the mind.

With respect to social cognition, embodied cognition proponents reject both TT and ST accounts of how we understand and interact with others. They argue against the idea that social cognition is based on an individual ascribing mental states to other agents. On the embodied cognition account, the capacity for more basic, non-mentalistic, interactive embodied practices underlies our ability to understand and interact with others. These embodied practices are constituted by “primary intersubjectivity” and “secondary intersubjectivity.”

Primary intersubjectivity is “the innate or early developing capacity to interact with others manifested at the level of perceptual experience – we see or more generally perceive in the other person’s bodily movements, facial gestures, eye direction, and so on, what they intend and what they feel” (Gallagher, 2005, p. 204). Unlike the TT and ST, which focus on the beliefs of the subject, this account emphasizes the importance of informational sensitivity and appropriate responsiveness to specific features of one’s environment and others’ bodily cues. On this view, social cognition is underwritten by a subtle interactive dance of physical cues that we each exhibit and detect.

Secondary intersubjectivity comes online around age 1, and it is marked by a move from one-on-one, immediate intersubjectivity to contexts of shared attention. “The defining feature of secondary intersubjectivity is that an object or event can become a focus *between* people. Objects and events can be communicated about... the infant’s interactions with another person begin to have reference to the things that

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<sup>4</sup> See Shapiro (2014) for a nice collection of papers on the strengths, weaknesses, and applications of 4-E cognition.

surround them” (Gallagher, 2005, p. 207). At this stage, the child learns to follow gazes, point, and communicate with others about objects of shared attention. Just as primary intersubjectivity concerns sensitivity to others’ bodily cues as opposed to a subject’s beliefs, secondary intersubjectivity focuses on the dynamic interaction between subjects about an object of shared attention rather than an individual’s internal mental representations.

Embodied cognition theorists hold that even as adults, primary and secondary intersubjectivity underwrite most of our social interactions. As adults we can, of course, form beliefs about others’ mental states and use these beliefs to infer what others are thinking, but they argue it is a rare, specialized skill that we employ only when basic, more common interactive skills break down. Thus, according to this view, an accurate depiction of our ordinary social interactions focuses less on an individual subject’s beliefs about others and more on these interactive embodied practices.

Proponents of embedded, embodied, extended, and enactive cognition offer a wide range of arguments with more or less revolutionary conclusions. Some theorists seem to be offering a helpful corrective to cognitivism (Clark, 2008), whereas others advocate tossing out cognitivism altogether (De Jaegher et al., 2010). I do not think that the arguments or evidence warrant repealing and replacing the mainstream views in social cognition. I have argued extensively against the most radical embodied cognition challenges to cognitivist approaches to social cognition (Spaulding, 2010, 2011, 2013, 2015). I will not rehash those arguments here.<sup>5</sup> Rather I shall simply note that I find embodied cognition’s arguments for a social cognition revolution unpersuasive, and these arguments are relatively moderate in comparison to arguments stemming from extended cognition and enactivism. The latter views maintain that dynamic interactions (between an agent and her environment, an agent and another agent, things in the environment) somehow *constitute* a cognitive process. I do not think that proponents of these views have sufficiently rebutted the basic objection that they conflate causal coupling with constitution, nor have they provided good reasons to think that cognitive science would be better off with socially extended accounts replacing individualistic accounts. Thus, I do not find the revolutionary conclusions at all persuasive.

Nevertheless, there is something important to be gleaned from the challenges posed by socially extended mind. Theorists in the socially extended mind camp are right that individualistic accounts of social cognition focus too much on subjects’ beliefs about others’ mental states. An individual subject’s beliefs are an important, essential part of the explanation of how we think and act together, of course. But individualistic accounts tend to neglect other aspects of social cognition, e.g., the role of situational context in our social interactions. In the next section, I shall describe how the situational context influences in-group/out-group dynamics, the

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<sup>5</sup> Other contributions to this special issue critically analyze many of the arguments for socially extended mind. See those articles for more on these arguments.

interpretations that are salient to us, and our own emotions, thoughts, and behaviors. These effects, though not emphasized by socially extended accounts of social cognition, are socially extended in spirit. I discuss them as friendly amendments to individualistic accounts of social cognition.

### 3. Situational Context

Imagine that you are at your university's library on a weekday during the semester. The place is abuzz with muted activity. Students are reading, listening to music through headphones, working on their computers, and chatting in hushed tones. Some clearly are studying, while others clearly are not. In this context, certain behaviors are expectable, e.g., reading library books, writing a paper, and doing math homework. Other behaviors would be surprising in this context, e.g., shouting, playing beer pong, and loudly singing the university's fight song.

Now imagine that you are at a football game on your university's campus. Thousands of people, both young and old, are milling about inside and outside the stadium. People are playing catch, drinking beer, socializing, and watching the football game. In this context, shouting, playing beer pong, and loudly singing the university's fight song are completely unsurprising. These are just the sorts of behaviors you would expect at a football game. In contrast, you would be very surprised to see someone reading a library book, writing a paper, or doing math homework at a football game. The situational context guides your expectations for a social interaction. What is normal and expectable in the library is surprising, perhaps even bizarre, at the football game, and vice versa.

The influence of the situation on social cognition usually is opaque to subjects in the situation. Instead of forming beliefs about the fact that you are at the library or football game and the ways in which these contexts influence your interpretation of others' behavior, you tend to simply act, interpret, and respond to others according to scripts and norms that you assume to be appropriate in these situations. The individual subject typically does not represent, either explicitly or implicitly, how the situational context influences her interpretations and interactions.<sup>6</sup> Given individualistic accounts' tendency to focus on a subject's beliefs about targets' mental states, these accounts tend to overlook aspects of the social interaction about which we do not form beliefs, like the effect of the situational context on our social interpretations. This is unfortunate in this case because the situational

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<sup>6</sup> Certainly elements of the situational context are processed by sub-personal sociocognitive systems, however the point I am making in the main text is that in social interactions we typically do not mentally represent *how* elements of the situational context influence us. *A fortiori*, we do not form implicit or explicit beliefs about how elements of the situational context influence us. Given individualism's focus on a subject's beliefs, these effects are overlooked in individualistic accounts of social cognition.

context turns out to be hugely influential in how we understand and interact with other people. I describe some of these influences in this section.<sup>7</sup>

### 3.1 In-group and Out-group Dynamics

Social interactions are deeply influenced by in-group and out-group dynamics. We habitually and rapidly identify people either as part of our in-group or as part of an out-group (Tajfel, 1974). In-grouping and out-grouping appear to be a function of perceived similarity (Ames, 2004a, 2004b). That is, those who we perceive to be like us in some relevant respect are categorized as part of our in-group, and those who we perceive to be unlike us in the relevant respect are categorized as part of an out-group.

In heterogeneous groups, age, race, and gender often are salient features of people, and thus one tends to identify people who share one's age, race, or gender as part of one's in-group. Although in many heterogeneous societies these are reliable dimensions of in-grouping, social categorization extends beyond these classifications. People have multiple, overlapping identities, and perceived similarity is relative to a context. Who counts as part of one's in-group varies depending on the situational context.

Consider again the library and the football game. In the context of the library, certain features may be salient to you, e.g., class affiliation, sorority or fraternity affiliation. In that case, you consider as part of your in-group people who are enrolled in your class and perhaps can help you study, and everyone else is considered the out-group. Now contrast this to the context of the football game. At the game, people associated with the home-team are part of your in-group, and the people associated with the visiting team are part of the out-group. In this situation, the salient criterion of similarity is team allegiance – often marked by clothing color – and so you regard all of the people wearing certain colors, cheering for the home team as part of your in-group.

The important point to grasp is that in-groups and out-groups are not fixed. Rather, they are contextually relative. You may perceive people to be similar to you in one situational context but not another. Thus, someone you regard as part of the out-group in the library you may regard as part of the in-group at the football game. The situational context determines what is salient and therefore the dimensions along which you classify people as part of your in-group or part of an out-group.

These findings are important in this discussion about how we think and act together because we treat in-group members quite differently from out-group members. We usually have more favorable attitudes toward and empathize more with in-group members, *especially* people who share our gender, race, age, religion, or nationality

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<sup>7</sup> For a more detailed examination of the empirical data discussed in Section 3, see Spaulding (2016, in progress).

than toward people do not share these features (Rudman, Greenwald, Mellott, & Schwartz, 1999). These social categories reliably generate in-group favoritism, as do more explicit social groups, such as teams, universities, and professions. Indeed, experimenters can elicit in-group favoritism even for very minimal, arbitrary groups (Ashburn-Nardo, Voils, & Monteith, 2001). By making idiosyncratic features artificially salient, e.g., eye color, first letter of one's surname, or even randomly assigned groups, subjects will prefer individuals who happen to share the arbitrary, idiosyncratic feature.

We like and therefore more charitably interpret in-group members simply in virtue of the fact that we perceive them to be like us in some salient respect. The effects of in-group favoritism are especially strong in a context of competition or threat (Cikara, Bruneau, Van Bavel, & Saxe, 2014). In those contexts, we will like and be even more charitable toward in-group members and dislike and be even less charitable toward members of out-groups. Moreover, in categorizing individuals into in-groups and out-groups, we gloss over differences within the groups and exaggerate differences between the groups (Linville, Fischer, & Salovey, 1989; Mullen & Hu, 1989). Thus, in the context of the football game, you will tend to exaggerate the differences between the visiting team and the home team, like and more charitably interpret the behavior of the home team, and dislike and uncharitably interpret the behavior of the visiting team.<sup>8</sup> The same patterns apply to your reasoning about home team fans and visiting team fans, as well.

In the context of sports, these patterns seem innocuous enough. But in interactions where more is at stake than just a sporting event victory, the effects can be quite serious. Think of political debates about same-sex marriage, welfare benefits, the refugee crisis, etc. In these cases, perceived similarity to people on one side of the debate, especially in a context of threat or competition for resources, generates in-group favoritism with very serious consequences. In such cases, we regard in-group members as more human, in a sense, than out-group members (Hackel, Looser, & Van Bavel, 2014). We regard in-group members as more capable of experiencing secondary emotions (such as pride and guilt) and as having richer, more complex mental experiences than out-group members (Haslam, 2006). We tend to attribute more simplistic, caricatured mental states to those we perceive to be unlike us. At the extreme, people tend to dehumanize those individuals who are perceived to be least like them, e.g., the homeless and drug addicts (L. T. Harris & Fiske, 2006). In

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<sup>8</sup> In a foundational study on this topic, Hastorf and Cantril (1954) found that students from rival universities interpreted a video of a football game between the rivals dramatically differently. Disagreements emerged over whether the game was played fairly, which team played dirty, whether particular penalties were justified, whether a non-call was justified, the proportion of infractions made by the other team, etc. As any sports fan knows, one's allegiance to a team colors one's interpretation of what happens in the game. This is one reason why media outlets now offer "team stream" programming, curated and narrated by fans of your team.



these cases, we tend not to attribute mental states to such people at all, treating them more like animals or even objects than fellow humans.

In-group/out-group identification also affects how we interpret others' behavior and mental states. For example, when we perceive an individual to be *similar* to us in some salient respect, we often simply project our own mental states to that individual (Ames, 2004a, 2004b). We also use our mental states as an anchor and adjust the interpretation based on how similar the individual is to us. These egocentric heuristics make interactions between in-group members easier and smoother than interactions with out-group members, perhaps in virtue of similar socialization of in-group members.<sup>9</sup> In these cases, we find it easier to think and act *with* other people.

When we perceive an individual to be *different* from us, we tend to take a different approach. Often we use stereotypes about the individual's salient in-group (Ames, 2004a; Krueger, 1998; Vorauer, Hunter, Main, & Roy, 2000). Stereotypes may be positive, negative, or neutral beliefs about some group. Reliance on stereotypes is a shortcut that reduces cognitive load, and once the stereotype is activated, processing stereotype-consistent information is less cognitively demanding than processing stereotype-inconsistent information. Thus, especially when subjects are under cognitive load, they will employ a stereotype and attend to stereotype-inconsistent information only if it is highly salient (Gilbert & Hixon, 1991).

Putting all of this together, the situational context frames our social interactions, e.g., as one of competition or collaboration. The situational context makes certain features salient to us, e.g., team allegiance or class affiliation. On the basis of these salient features, we perceive others as part of an in-group or an out-group. In-group/out-group status significantly affects how much we like and charitably interpret others, and thus how smoothly the interaction proceeds. It affects the strategies we use to interpret others behavior, e.g., projection or stereotyping. And it even affects whether we attribute mental states to someone perceived to be very unlike us.

Individualistic accounts of social cognition focus on the front-end product – a subject's beliefs about others' mental states. But unless you consider the ways in which the situational context influences in-group/out-group dynamics, you cannot fully understand how a subject comes to have these particular beliefs. Thus, a more complete account of social cognition must recognize the role of situational context in social cognition and interaction in producing the beliefs about others we end up having.

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<sup>9</sup> When these egocentric heuristics go awry, they generate the "curse of knowledge," a phenomenon wherein we falsely assume that others know what we know, and the "false consensus effect," which occurs when we falsely assume that others share our opinion on some matter (Clement & Krueger, 2002; Epley & Waytz, 2010, p. 512).

### 3.2 Expectations and Interpretations

As adults, we rarely are completely clueless about what to expect in a social interaction. In most cases, we have *some* expectations about how the interaction will go, even if those expectations turn out to be violated. The situational context and our past experiences are the source of our expectations about what will happen in social interactions. As we saw in our university themed examples above, at the library we expect to see students reading, writing, and doing homework, and at the football game we expect to see people cheering, playing games, etc. We have these expectations based on the context and our knowledge about such environments.

This banal fact about our expectations in social interactions is related to a more interesting fact about our *interpretations* of social interactions. Our interpretations of what happens in a social interaction are shaped of course by what we see, but also by what we *expect* to see. When you are at the library you tend to interpret social interactions to be in line with what you know about university libraries, e.g., the kind of people who go to libraries and the social norms of libraries. So long as behavior does not overtly thwart the norms of the library, you will interpret observed behavior in terms of what you expect to see in that context.

These facts imply that the very same behavior in one situational context may be interpreted radically differently in another situational context (Gilbert & Hixon, 1991; Trope, 1986). For example, keeping one's distance and limiting eye contact on public transportation is normal behavior, but doing this at a party would be rude and anti-social. The situational context influences spontaneous personality trait inferences, as well. We may infer that the eye-contact-avoiding partygoer is awkward or rude, but in a different context the very same behavior would lead us to a different inference.

In general, the situational context makes certain interpretations more accessible, i.e., our attention is primed for these interpretations (Wittenbrink, Judd, & Park, 2001). These interpretations will be more salient to us than otherwise plausible but unconsidered interpretations. As particular situations become more familiar to us, the interpretation of those situations will become more accessible and more difficult to override (Higgins, King, & Mavin, 1982). The tendency to habitually code situations and others' behavior in a particular way can become proceduralized. Well-practiced judgments make social interpretation easier, more efficient, and more predictable, but they preempt equally reasonable but less practiced judgments (Smith, 1990).

The examples used to illustrate the foregoing discussion are innocuous enough, but it is not hard to see how the situational context's influence on our expectations and interpretations can have pernicious effects. Think about the Trayvon Martin case, where a self-appointed neighborhood watchman shot and killed Martin, a black

teenage boy who was wearing a hoodie and eating Skittles while walking through his neighborhood at night. Or consider the case of Tamir Rice, a 12-year-old black boy who was playing with a toy gun in a park in broad daylight and was shot and killed by police within seconds of their arrival at the scene. In these and many other cases, it is not hard to see how the shooters' past experiences and situational context shaped their expectations and interpretations of the situations, to tragic consequences. In both cases, reasonable, benign, *true* interpretations of Martin and Rice's behavior were possible. It is hard to know the psychology of the shooters, but a plausible hypothesis is that they so frequently interpreted young black men (and children, apparently) as dangerous that this tendency became proceduralized, and they did not even consider plausible alternative interpretations. Again, this is speculation about the psychology of individual people, but it is one that seems eminently plausible in light of what cognitive and social psychology tell us about how situational context and habits influence our expectations and interpretations of social interactions.

Returning to the issue of individualism and socially extended mind, recall that individualistic accounts of social cognition focus on a subject's beliefs in social interactions. From the first person perspective, it is opaque to us how the situational context and our habits shape our expectations and interpretations of social interactions. In the process of interpreting a social interaction, it seems to us that certain expectations and interpretations just occur to us unbidden. Of course we can and sometimes *should* deliberate carefully in search of alternative interpretations, but the relevant point here is that we as interpreters do not mentally represent how the situation influences our expectations and interpretations. As a result, individualistic accounts focused on the subject's beliefs neglect the important role of the situational context in generating the beliefs the subject ends up having.

### **3.3 Priming Effects**

As I discussed in Sections 3.1 and 3.2, the situational context influences in-group/out-group dynamics and our expectations and interpretations in social interactions. In addition to these dramatic effects on social cognition, the situational context also includes subtle cues in the environment that can affect our interpretation of the social interaction. These are priming effects, and they influence our emotional, cognitive, and possibly behavioral responses in social situations (Bargh, Chen, & Burrows, 1996; DeCoster & Claypool, 2004; Fiske & Taylor, 2013, pp. 32-37). Subliminal priming occurs when a stimulus is presented to subjects too quickly to be consciously processed. Conscious priming occurs when the subject consciously perceives the prime but has no awareness of its effects on subsequent reactions.

There is robust evidence for affective priming. When negative stimuli, e.g., angry faces or emotionally arousing words, are presented either subliminally or consciously, this influences subjects' facial expressions, mood, and affective responses to stimuli that are unrelated to the primed stimuli. In other words, if

primed with negative stimuli (e.g., frowning faces), one's responses to neutral stimuli (e.g., Chinese ideographs) will be more negative than if one were not primed with negative stimuli (Murphy, Monahan, & Zajonc, 1995). Affective priming also works when subjects are primed with positive stimuli (Monahan, Murphy, & Zajonc, 2000). These data suggest that subtle affective cues in the environment influence one's own affective state. Furthermore, one's affective state influences one's social interpretations. Our judgments about other people tend to correlate with our own mood. For example, when we are in a positive mood, we form more favorable impressions than when we are in a negative mood (Forgas & Bower, 1987). Thus, processing subtle negative or positive stimuli in the environment alters our own affective states, which biases our social interpretations and interactions with others.

In addition to affective priming, many studies also find evidence of cognitive priming, which occurs when subtle cues in the environment activate concepts and influence subjects' judgments. For example, Kawakami, Dovidio, and Dijksterhuis (2003) found that subjects primed either subliminally or consciously with words related to the elderly expressed more conservative attitudes than those not primed with elderly-related words, and subjects primed with the skinhead category expressed more prejudicial attitudes. With respect to social cognition, Graham and Lowery (2004) found that police officers and juvenile probation officers subliminally primed with words related to the racial category black were more likely to interpret a hypothetical adolescent (whose race is unspecified) as having a worse personality, being more blameworthy, more likely to reoffend, and they recommended harsher punishments. In this case, activating the racial category black (in subjects who seem to have underlying racial biases) affected their judgments about a hypothetical offender whose race is unspecified. In general, the situational context can activate subjects' concepts, which makes certain judgments and interpretations more salient to subjects.

Finally, there is evidence that primed stimuli can influence not just how we feel and think but also how we behave. The data for behavioral priming are mixed and complicated, but some studies suggest that primed stimuli can influence our behavior. For example, in a set of now famous studies, Bargh et al. (1996) found that after subliminal exposure to African American faces, subjects reacted to an annoying task request with increased irritability, hostility, anger, and uncooperativeness (as rated by the experimenter). In the same article, Bargh and colleagues report that priming subjects with words associated with the elderly influenced how slowly they walked, and priming subjects with rude words influenced how quickly and frequently they interrupted the experimenters.

Though many studies – far too many to review here – have found evidence of priming effects, we should be cautious. There has been significant controversy over the failure to replicate behavioral priming studies, such as the ones described above (C. R. Harris, Coburn, Rohrer, & Pashler, 2013; Yong, 2012). The difficulty in replicating priming effects does not imply that behavioral priming never occurs.

After all, priming effects depend on subtle factors that may be difficult to replicate.<sup>10</sup> But we should be careful about what we conclude from these studies. On the one hand, these considerations suggest that it is not so problematic that some behavioral priming studies have not been replicated. On the other hand, given how sensitive to context such effects are, we may not be able to generalize from these behavioral priming studies to predictions about how individuals will behave in different situations.<sup>11</sup>

Summing up, although there may be reason to withhold judgment on the robustness and generalizability of studies on behavioral priming effects, there is substantial evidence for affective and cognitive priming. Even if subtle cues in the environment do not reliably *directly* influence behavior, these cues will indirectly affect behavior by influencing our emotions and cognition. How we feel and think about others in social interactions certainly has an effect on how we interact with others.

Though priming effects may be less dramatic than the effects of situational context on in-group/out-group dynamics and our expectations and interpretations, they are nonetheless important. Priming effects demonstrate that we do not observe and interpret others' behavior in a vacuum. How we think and act with other people is shaped by subtle cues in the environment. Mainstream individualistic views in the social cognition literature tend not to focus much on priming effects.<sup>12</sup> Given that priming effects are by their very nature opaque to subjects, subjects typically do not form beliefs about how subtle cues in the environment may be shaping their beliefs about a social interaction. As a result, these accounts overlook another important way in which the situational context influences the beliefs we end up having about others' mental states and behavior.

Accounts of socially extended mind criticize mainstream individualistic accounts of social cognition for focusing too much on an individual subject's beliefs in a social

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<sup>10</sup> Replication studies may be direct or conceptual. Direct replications try to reproduce exactly the same result using exactly the same methods as the original study. Direct replications are difficult, especially when the effects depend on subtle factors. Even when researchers are fully forthcoming about the methods of the original study, it may be difficult to replicate exactly the same methods. In contrast, conceptual replications try to test the experiment's underlying hypothesis by using different methods. The trouble with conceptual replication of priming studies is that priming effects are highly sensitive to variations in the features of the experiment and the pool of subjects. Thus, it may be difficult to get the same results with different methodology and different subjects. Failure to conceptually replicate priming studies does not imply that there is no priming effect.

<sup>11</sup> See De Houwer, Teige-Mocigemba, Spruyt, and Moors (2009) for an analysis and review of the literature on implicit measures and priming effects.

<sup>12</sup> One exception here is Goldman. Though he does not *focus* on these effects, he briefly suggests that priming effects may be the result of covert mental simulation involving primed stimuli (Goldman, 2006, pp. 161-162).

interaction. These critics argue that there is so much more to social interaction than just an individual's beliefs about other subjects. Though socially extended mind makes claims much more radical than this, this claim at least is exactly right. Broadening our focus beyond an individual's beliefs and thinking of social cognition and interaction more like a socially extended mind theorists opens our eyes to the effects of the environment on how we think and act together.

#### **4. Conclusion**

Individualistic accounts of social cognition primarily focus on individual subjects' beliefs about other people. These accounts implicitly sterilize the environments in which we think and act with other people. They tend to ignore situational contexts, tacitly assuming that they are neutral and do not significantly influence social cognition and interaction. In contrast, socially extended mind accounts focus on these environments, sometimes to the exclusion of an individual subject's beliefs and other mental states. Although I reject the most radical socially extended claims, individualistic accounts can benefit from considering some phenomena that are more socially extended in spirit.

In this paper, I examined how our environments shape how we interpret and interaction in social situations. In particular, I argued that the situational context makes certain features of individuals salient to us. We use these features to demarcate in-groups and out-groups, and in-grouping and out-grouping significantly affect how we interpret others' behavior. The situational context also influences our expectations and interpretations in particular environments. The effects of this can be quite dramatic in some situations, as I explored in discussing the cases of Trayvon Martin and Tamir Rice. Finally, I argued that the situational context includes subtle cues that prime our own emotions, concepts, and behavior. Stimuli in the environment seem to affect how we feel, think, and act in ways that tend to be opaque to us.

In all three of these cases, the situational context shapes the beliefs we have in social interactions. Focusing only on the end product – the beliefs we happen to have – neglects a crucial part of story of how we think and act together. In particular, it leaves unexplained *why* we have these particular mental representations. The phenomena I have discussed here shed light on how the situational context shapes the beliefs we have in various situations. Thus, these phenomena are important for individualistic accounts that aim to give a comprehensive analysis of social cognition and interaction.

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