

# *The Extended Mind and Religious Thought*

with Leslie Marsh, "Mindscales and Landscapes: Exploring the Extended Mind"; Mark Rowlands, "The Extended Mind"; Lynne Rudder Baker, "Persons and the Extended-Mind Thesis"; Teed Rockwell, "Minds, Intrinsic Properties, and Madhyamaka Buddhism"; Joel W. Krueger, "Empathy and the Extended Mind"; Leonard Angel, "Quintuple Extension: Mind, Body, Humanism, Religion, Secularism"; and Matthew Day, "Constructing Religion without The Social: Durkheim, Latour, and Extended Cognition"

## EMPATHY AND THE EXTENDED MIND

by Joel W. Krueger

*Abstract.* I draw upon the conceptual resources of the extended mind thesis (EM) to analyze empathy and interpersonal understanding. Against the dominant mentalistic paradigm, I argue that empathy is fundamentally an extended bodily activity and that much of our social understanding happens outside of the head. First, I look at how the two dominant models of interpersonal understanding, theory theory and simulation theory, portray the cognitive link between folk psychology and empathy. Next, I challenge their internalist orthodoxy and offer an alternative "extended" characterization of empathy. In support of this characterization, I analyze some narratives of individuals with Moebius syndrome, a kind of expressive deficit resulting from bilateral facial paralysis. I conclude by discussing how a Zen Buddhist ethics of responsiveness is helpful for articulating the practical significance of an extended, body-based account of empathy.

*Keywords:* empathy; extended mind; intersubjectivity; Moebius syndrome; phenomenology; simulation theory; social cognition; theory theory; Zen Buddhism

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Often, I tell a joke and the people around me laugh. (Sometimes this laughter even appears to be sincere.) I usually take this reaction to mean that they find my comment amusing. I like to smile at babies whenever possible and relish the bright-eyed facial animation and gestures they offer in

Joel Krueger is a postdoctoral research fellow at the Danish National Research Foundation, Center for Subjectivity Research, University of Copenhagen, Njalsgade 140-142, 5th Floor, DK-2300 Copenhagen S, Denmark; email joelk@hum.ku.dk.

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response. When I see a young girl crying quietly on the train, discreetly turned toward the window in order to avoid detection, I respond to her grief with my own pangs of sadness. Before heading out for a night on the town, I perceive my wife's single arched eyebrow to mean that my favorable judgment about the aesthetic harmony I thought obtained between my brown sport coat and favorite orange shirt has been radically mistaken—and that a return trip to the closet is in order. When a stranger on the streets of Copenhagen begins speaking to me, I interpret this as an attempt to convey some sort of thought or desire. I cannot understand the specific content of what he is saying because I do not speak Danish. Nevertheless, I recognize his expressive behavior as that of an agent with a mind like my own, a mind that at that moment wishes to tell or ask me something.

These kinds of interpersonal encounters make up the social fabric of our everyday lives. They happen so frequently as to appear largely unremarkable. Yet despite their taken-for-granted nature, they house important questions about our fundamental nature as social creatures. How is this common interpersonal sensitivity possible in the first place? How am I able to engage with another person as an expressive being and to understand and interpret their cognitive, affective, and motivational states and behavior? In short, how does empathy happen?

In what follows I consider these questions. My focus is on the mechanisms of empathy: the events, processes, and, most crucially, bodily structures that enable the interpersonal sensitivity we so easily take for granted. I use the word *empathy* in an enlarged phenomenological sense to refer to our ability to perceive both *that* as well as *what* another is thinking and feeling and to develop a felt response *to* these perceived thoughts and feelings.<sup>1</sup> Empathy, I suggest, is our primary mode of access to another person as a thinking, feeling, and expressive agent. Moreover, it is fundamentally, though not exclusively, a bodily practice. Our capacity for empathic engagement connects with the fact of our embodied agency—our ability to perceive and act within the dynamic flow of a continually changing world, including the human social world.<sup>2</sup> This means that a discussion of the mechanisms of empathy ought to include the intentional and expressive body as its protagonist. However, dominant stories about empathy in current philosophy of mind and cognitive science tend to feature rather different characters: inner knowledge structures and other intracranial items (such as theories, imaginative projections, and subpersonal simulation routines) that purportedly take us out of our own head and, indirectly, into that of another. Against these stories, I challenge the internalist orthodoxy of standard accounts of empathy and argue that, to the contrary, empathy is a kind of extended bodily-perceptual process. In other words, it is a bodily activity, and it largely happens outside of the head.

This way of putting the essay's thesis resonates with ongoing discussions in philosophy of mind and cognitive science of what is commonly referred

to as the extended mind thesis (EM). According to EM, some mental states are (potentially) composed of neural, bodily, and, most controversially, worldly, properties—such as tools, artifacts, and technologies; language and other symbolic representations; environmental affordances; sociocultural institutions; and other minds. In short, mind has an extended ontology. It is a dynamically hybrid entity that is quite literally constituted (again, at certain times and in certain contexts) by both biological and nonbiological parts, processes, and particulars both inside and outside of the head.<sup>3</sup> Some cognitive states thus extend beyond the skin and skull of the cognizer. This seemingly counterintuitive thesis has been the subject of much discussion and debate. In what follows, I try to enlarge the EM discussion by coming at it in a slightly different way: namely, by considering EM in the context of social cognition and moral relatedness. My peripheral aim is to broaden the EM dialogue by showing how the notion can potentially enrich our understanding of human sociality and interpersonal sensitivity. I also want to inject a phenomenologically informed discussion of the lived social body into the EM dialogue, an angle that so far has received little consideration.<sup>4</sup>

The article proceeds in this way. First, I discuss the idea of interpersonal understanding and the notion of folk psychology. I look at how the two dominant models of interpersonal understanding in philosophy of mind and cognitive science, theory theory and simulation theory, portray the overtly cognitive link between folk psychology and empathy. Next, I challenge their internalist orthodoxy and explanatory reliance on folk psychology and offer an alternative “extended” characterization of empathy. In support of this characterization I analyze the narratives of individuals suffering from Moebius syndrome, a kind of expressive deficit resulting from bilateral facial paralysis. I then shift gears somewhat and, in the third section, conclude by discussing how a Zen Buddhist “ethics of responsiveness” is helpful for articulating the practical significance of an extended, body-based account of empathy and moral relatedness.

#### THEORY THEORY AND SIMULATION THEORY: PRESUPPOSING THE PRIMACY OF FOLK PSYCHOLOGY

For the last several decades it has been widely assumed that our social interactions are the product of a highly refined form of mindreading or mentalizing that enables us to understand and predict the beliefs, desires, intentions, and emotions of others. This mindreading capacity emerges from our having a primitive theory of mind—that is, a knowledge of other minds and how they work that, loosely speaking, takes the form of a structured and sufficiently complex body of knowledge.<sup>5</sup> This primitive theory of mind allows us to enjoy a folk-psychological understanding of others as minded agents.<sup>6</sup> Although a comprehensive investigation of the idea of

folk psychology exceeds my aims here, it is important to have clarity about several of its basic features. The term *folk psychology* refers to our generalized understanding of how (putatively) inner mental episodes causally influence observable behavior. Put differently, folk psychology is the largely tacit body of knowledge that enables us to understand, predict, explain, and anticipate the thoughts and actions of others. It is “the prescientific, commonsense conceptual framework that all normally socialized human beings deploy” in negotiating the human world (Churchland 1998, 3). This “commonsense conceptual framework” consists of core mental state concepts such as *belief* and *desire* that we affix to episodes of observed behavior. In affixing these mental state concepts, we implicitly attribute their correlate mental states (or propositional attitudes) to the person whose behavior it is that we observe. In other words, we attribute to them a causally efficacious inner mental life—a mind full of action-driving propositional attitudes. As Jay Garfield, Candida Peterson, and Tricia Perry put it, folk psychology is “the *cognitive achievement* that enables us to report our propositional attitudes, to attribute such attitudes to others, and to use such postulated and observed mental states in the prediction and explanation of behavior” (Garfield, Peterson and Perry 2001, 494; emphasis added). Similarly, Gregory Currie and Kim Sterelny urge, “our basic grip on the social world depends on our being able to see our fellows as motivated by beliefs and desires we sometimes share and sometimes do not . . . *social understanding is deeply and almost exclusively mentalistic*” (Currie and Sterelny 2000, 145–46; emphasis added). Construed in this way, folk psychology becomes the basic cognitive mechanism through which we relate to and understand others. It is what renders the actions of others intelligible. More strongly, as the latter quote suggests, it provides the conditions of possibility for interpersonal sensitivity in the first place. Without the mediation of a folk-psychological mechanism, we are in the dark as to the thoughts, intentions, and experiences of others.

Folk psychology’s nature—what it consists in, exactly—remains a matter of much debate. Currently, the two dominant accounts are theory theory (TT) and simulation theory (ST). TT and ST differ over the question of what sort of mechanisms actually enable our folk psychological understanding of others. The theory theorist claims that our having a systematically organized body of knowledge—a theory about the structure and functioning of the human mind, which can be either innate or acquired through observation and hypothesis formation—is what allows us to attribute minded agency to another person. Peter Carruthers summarizes the view this way: “Now how, on the theory-theoretic account, does one set about attributing beliefs, desires, and intentions to others? Partly, and most fundamentally, through deploying one’s theoretical knowledge [of human psychology]” (1996, 24). According to Carruthers and other theory theorists, this “theoretical knowledge” entails having a grasp of how other

agents reason: “One’s grasp of the immediate inferential connections entered into by someone’s beliefs and desires will sometimes be crucial in the attempt to provide predictions and explanations of either their mental states or their behavior” (1996, 24). This high-level theoretical understanding is crucial for discerning the motives guiding another person’s actions.

Carruthers’s is but one version of TT. In fact, there probably are as many versions of TT as there are theory theorists (Almäng 2007, 46). For the sake of brevity, we can note that they all are united by the following core claim: Folk-psychological understanding—empathy—is possible because we all possess an implicit theory about how minds work, and we use this theory to “read” other people’s minds in order to understand what they think, feel, and do. More simply, we implicitly adopt a detached theoretical stance and rely on an inner knowledge structure to interpret another’s behavior. Bertram Malle summarizes: “Theory of mind refers to the ability to represent, conceptualize, and reason about mental states. . . . [It] arguably underlies all conscious and unconscious cognition of human behavior, thus resembling a system of Kantian categories of social perception—i.e., the concepts by which people grasp social reality” (2002, 267). This theory making is a kind of inference to the best explanation. Because we have no direct access to another’s mental life—mental states are, it is assumed, in principle the sorts of things that only one subject has direct access to, namely, the subject who has them—the mental life of another is at best a theoretical postulate. TT postulates the existence of unobservable entities (mental states) from observable entities (patterns of behavior) and relies on these (mental) unobservables to predict and explain future (behavioral) observables. In this sense, our folk-psychological theories share some methodological features with scientific theories and are quasi-scientific in nature and function (Gopnik and Meltzoff 1998).<sup>7</sup>

In contrast, ST identifies a different folk-psychological mechanism: simulation routines. Simulation routines are distinct from theories in that they purportedly enable us to replicate, not just theorize about, the point of view of another, including the other’s cognitive, motivational, and affective states. Drawing upon the motivational and emotional resources of our own psychology, we use these resources to mirror the interiority of another. Vittorio Gallese and Alvin Goldman write: “The core difference between TT and ST, in our view, is that TT depicts mind-reading as a thoroughly ‘detached’ theoretical activity, whereas ST depicts mind-reading as incorporating an attempt to replicate, mimic, or impersonate the mental life of the target agent” (1998, 497). Empathy therefore “consists of a sort of ‘mimicking’ of one person’s affective state by that of another” (Goldman 1995, 198). I try to simulate how I would think and feel if I found myself in their situation. Sometimes this process is conscious and explicit: “When a mindreader tries to predict or retrodict someone else’s mental state by simulation, she uses pretense or imagination to put herself

in the target's 'shoes' and generate the target state" (Goldman 2005b). In these cases, my simulation routines are intentionally generated, systematic attempts to wear another's "mental shoes." I am conscious of both the presence and the purpose of the simulation routine. Alvin Goldman portrays this simulating process as involving a number of clearly discernible stages: "First, the attributor creates in herself pretend states intended to match those of the target. In other words, the attributor attempts to put herself in the target's 'mental shoes.' The second step is to feed these initial pretend states into some mechanism of the attributor's own psychology . . . so as to generate one or more new states. Third, the attributor assigns the output state to the target" (Goldman 2005a, 80–81). According to Goldman, then, our simulation routines are personal-level phenomena operative at the level of phenomenal awareness. They invoke our imaginative and affective capacities and are relatively sophisticated cognitive operations.<sup>8</sup>

According to other versions of ST, the simulation process is implicit, running "offline" in the background or activated in subpersonal resonance systems (that is, not accessible to phenomenal consciousness) such as mirror neurons (Rizzolatti et al. 1996).<sup>9</sup> Mirror neurons are a class of neurons found in Broca's area (the part of the brain responsible for speech production and language processing, among other things) and the premotor cortex (responsible for the selection of context-sensitive movement). Mirror neurons become active both when an agent performs an intentional action and when an agent observes the performance of an intentional action that is part of the agent's motor repertoire (that is, they fail to discharge when the agent cannot perform the observed action) (Gallese 2001). They also discharge when an agent imagines herself or another person performing an intentional action (Grèzes and Decety 2001). Many researchers have seen this neural activity as an implicit mirroring or simulation of another agent's intentions and, as such, the biological locus of empathy (Gallese 2001).

We are not aware of the presence of these sorts of simulation routines. Again, they are active at a subpersonal neural level, and they run whether or not we intend them to. However, this offline operation explains why we are able to spontaneously navigate and negotiate the various social contexts we enter into throughout our everyday wanderings as skillfully as we generally do. We spontaneously feel an affective connection with others as intentional agents. Gallese notes: "Whenever we face situations in which exposure to others' behavior requires a response by us, be it active or simply attentive, we seldom engage ourselves in an explicit, deliberate interpretive act [such as theorizing or imaginative projection]. Our understanding of a situation most of the time is immediate, automatic, and almost reflex like" (2005, 102).

In foregrounding the importance of emotion and affect within social understanding, ST seems to offer a potentially richer model of interpersonal sensitivity than is found in the detached observational stance of TT.

Additionally, in its subpersonal formulation ST has the benefit of empirical support from cutting-edge cognitive neuroscience. However, in both its personal level and subpersonal formulation, relevant for present concerns is the fact that ST adheres to the same internalist orthodoxy guiding TT. This is the idea that interpersonal relatedness is necessarily mediated by inner knowledge structures (in this case, a conscious-level imaginative projection or subpersonal simulation routine). Because we are in principle closed off from the minds of others, our own interiority serves as the necessary template for understanding and responding to the interiority of others. Social understanding is thus always a matter of bridging the distance established in virtue of mental entities' being necessarily locked away inside the skulls of their subjects.

Other independent criticisms of TT and ST are found elsewhere, and I do not survey them here.<sup>10</sup> I therefore conclude this section by noting once more that both TT and ST work from the “primacy of folk psychology” supposition. Looking carefully at this supposition reveals that it emerges from a staunchly internalist orthodoxy—the idea that the relevant mechanisms enabling interpersonal sensitivity are, and in fact must be, inner knowledge structures located inside the head of the subject. The strong grip of this internalist orthodoxy creates a kind of Cartesian myopia, leading Steven Stich and Ian Ravenscroft to conclude that “the only serious alternatives to the offline simulation story are various versions of the ‘theory theory’ . . . The theory-theory is not the only game in town, but it is the only *other* game in town” (Stich 1998, 145).

#### FOLK PSYCHOLOGY OUTSIDE THE HEAD

I now offer some phenomenological criticisms of the internalist orthodoxy of TT and ST and of the model of empathy that comes out of it. These criticisms are phenomenological in that they flow out of a concern to remain faithful to empathy as enacted within our everyday encounters with others as well as within the encompassing biological and cultural environments contextualizing these encounters. I dispute the model of empathy as an overtly cognitive process constituted entirely by mental items or inner knowledge structures (an inner folk psychology, in other words). I offer reasons for rethinking the central role played by expressive—indeed, extended—bodily dynamics within our interpersonal encounters.

To begin, I question the general assumption that interpersonal understanding is necessarily indirect. Both TT and ST assert the primacy of folk psychology because they accept, generally without argument, that we have no means of directly accessing the mental states of others. The only mental states I can know with any immediacy or certainty are my own. Therefore, interpersonal understanding must be mediated by some sort of inner knowledge structure—again, a folk psychology taking the form of a theory or

simulation routine—that we use to infer or replicate what is going on inside another person’s privileged “mental space.” Our route to interpersonal understanding is always in this way roundabout. It involves getting out of our heads and, to the extent that this is possible, getting into or at least close to the privileged mental space of another person. Alan Leslie confirms this internalist assumption when he writes: “One of the most important powers of the human mind is to conceive of and think about itself and other minds. Because the mental states of others (and indeed ourselves) are completely hidden from the senses, they can only ever be inferred” (Leslie 1987, 164).

This supposition, at least at first blush, seems intuitive. Indeed, I am quite capable of entertaining all sorts of thoughts that remain ultimately hidden from the perceptual capacities of those around me. However, the possibility of private thoughts and experiences is not what is under dispute. Rather, it is the claim that the contents of another’s mental space are exclusively available only to the subject who has these contents.

Why should we automatically assume without argument, as do most of those engaged in the TT-versus-ST debate, that we do not have direct access to at least some features of others’ mental states or, more broadly, the structure of their mental space? Why grant the supposition that others’ mental states are in principle hidden from us and that their existence must therefore always be inferred? Admittedly, if we grant the internalist supposition that this mental space is spatially located inside the skin and skull of the agent—more precisely, somewhere within the physical structure of the brain—it is easy to accept the Cartesian conclusion that we are closed off from the minds of others. Additionally, this view assumes what we might term an object model of mental entities. TT and ST conceive of mental entities as inner objects with a determinate spatiotemporal location. That is, they are objects both located in and constituted by in-the-head particulars. If thoughts and experiences are inner objects locked away in private, intracranial mental spaces, inaccessible to the senses of either subject or observer, as Leslie and others in the grip of internalist orthodoxy assume, overcoming this mind-to-mind distance becomes an extraordinarily difficult if not downright impossible task. Why grant this supposition that interpersonal understanding is always a matter of getting beyond the confines of my own head and trying to find an indirect avenue of access to yours? Everyday experience tells a different and indeed much less complicated story.

As Ludwig Wittgenstein—certainly no phenomenologist, but a careful observer of experience nonetheless—notes, if we pay careful attention to how we actually apprehend other minds *in action*—if we stop to “look and see,” as he puts it—it is not at all clear that mental phenomena are intrinsic properties of the brain, hidden behind layers of skin and skull. Rather, much of our mental life is lived on the outside of the body; it unfolds

processually, within the dynamically extended interrelations that couple expressive bodies and shared social spaces.

We see emotion—As opposed to what?—We do not see facial contortions and make the inference that he is feeling joy, grief, boredom. We describe a face immediately as sad, radiant, bored, even when we are unable to give any other description of the features. Grief, one would like to say, is personified in the face. This is essential to what we call ‘emotion’. . . . The content of an emotion—here one imagines something like a picture. The human face might be called such a picture. . . . (Wittgenstein 1980b, Sec. 570)

Consciousness in another’s face. Look into someone else’s face, and see the consciousness in it, and a particular *shade* of consciousness. You see on it, in it, indifference, interest, excitement, torpor, and so on. The light in other people’s faces. Do you look into *yourself* in order to recognize the fury in *his* face? It is there as clearly as it is in your own breast. (Wittgenstein 1980a, Sec. 220)

Very often, the animate body itself is the “mental space” across which mental phenomena are enacted. The acting body is the mind *in its mind-ing*. Thus, I very literally see, in a direct and noninferential way, various emotions and moods as they ripple and flow across the terrain of the body’s movement and gesture.<sup>11</sup> Many mental occurrences drape themselves around the expressive body. Another way of putting this idea is that facial expressions, and the physical structure of the body more generally, become the vehicles (or “pictures,” to use Wittgenstein’s potentially misleading term) that bear—indeed, very often *are*—mental processes. Intentional bodily gestures are constitutive parts, not just causal effects, of mentality. Some mental phenomena thus have an extended, processual structure that recruits aspects of the expressive body as well as its surrounding context. This extended, processual structure is what enables social understanding between human beings to unfold immediately and noninferentially within our situated social interactions and without always having to appeal to an internal folk-psychological mechanism. As they are externalized via the expressive dynamics of the social body, certain aspects of the mind (such as emotions and affect) are present within the second-personal spaces of our social encounters. This phenomenological model moves intersubjectivity out of the head and into the interactive encounters of embodied social agents.

With this way of putting things, we have returned to EM. The idea that the animate brain-body nexus, working in concert with various structures of its environment, serves as the extended vehicle for at least some mental processes is of course the central characteristic of EM. One finds various mind-extending candidates in the EM literature: environmental affordances (Gibson 1979; Hurley 1998; Wilson 2004) and sensorimotor contingencies (Noë 2004) subserving phenomenal consciousness, preintentional actions or deeds (Rowlands 2006), different technologies (Clark and Chalmers 1998; Clark 2003), language (Clark 2006; Dewey 1958), and cultural artifacts and institutions (Hutchins 1995), to name but a few. These candidates purport to show how the brain-body nexus, when coupled<sup>12</sup> with the

relevant environmentally situated “extender,” comes to play a crucial role in constituting different cognitive processes that ultimately flow beyond the boundary of the head. Andy Clark, perhaps the most prolific defender of EM, summarizes its core by arguing that in virtue of the essentially world-involving nature of some cognitive processes (remembering a date by looking at a calendar, negotiating an unfamiliar environment with the help of signs, solving a math problem with pen and paper), these processes “can spread across brain, body, and certain aspects of the environment itself” (Clark 2005, 1). Elsewhere, he suggests that we think of EM as arguing for “a kind of equal-partners dance between brain, body, and world, with the nature of the mind fixed by the overall balance thus achieved” (Clark 2008b, 57). Mind is where the action is. And the action “ain’t (all) in the head!” (Clark and Chalmers 1998, 8).

To put things in a less slogany way, *mind* for EM is a hybrid entity. Some cognitive processes are constituted by both in-the-head and outside-of-the-head processes and particulars. The embodied and embedded mind is not some fixed thing or cluster of processes localized in the head. Rather, it is an opportunistic collection of native capacities and world-involving skills unconcerned with respecting the prefigured strictures of any sort of epidermal or biological boundary. Given the (potentially) extended ontology of mind, then, EM offers up a thesis about both the nature and the location of (some) mental states and processes. In what follows I explore this idea further. I take a slightly different focus than the examples just referenced, however, and look at cases relating more directly to our discussion of empathy and affectivity. I am concerned with showing how these processes—central to our everyday social understanding—potentially also have a kind of extended ontology.

Consider the reports of those born with Moebius syndrome, a congenital disorder of the sixth and seventh cranial nerves rendering subjects unable to move facial muscles, blink, and engage in lateral eye movement. As one might expect, subjects afflicted with this sort of facial paralysis often experience a deep feeling of alienation and disconnectedness from other people and social situations in general. This perceived disconnectedness springs from the facial difference prohibiting Moebius sufferers from entering into the bodily-affective interplay that structures the basis of our social transactions. Without the ability to articulate thoughts and emotions via both bodily gestures and facial expressions, Moebius sufferers often report an “empathic distance” between what they think and feel and the depth to which others understand their thoughts and feelings. Their facial paralysis leads to difficulties with mindreading. This expressive deficit has a double impact. It both heightens the Moebius sufferer’s feeling of social isolation and forces other persons to assume an artificially indirect stance when interpreting their thoughts and feelings (which only reinforces their felt isolation) because the sensorimotor architecture that normally

externalizes these states fails to fulfill this role. In short, many of their emotional states are artificially internalized and thus not directly accessible to others. A crucial component of the bodily affective dialectic drops out of their intersubjective transactions, resulting in a self/other imbalance.

Jonathan Cole has written elegantly of the relationship between facial expressiveness and sense of self (1998; 2001) and has chronicled the narratives of several Moebius sufferers. He writes of one subject's loss of social identity: "Without the ability to relate to people through, and with, the face, she was reduced in their and her eyes as a person, as a being, as a *her* . . . without the feedback and reinforcement between people that facial gestures provide, there was little relatedness and engagement. Her loss of facial responsiveness made her feel somehow invalidated at her very core" (1998, 10). Later he quotes James, a man in his fifties with the syndrome: "I have sometimes thought that, when I have felt low, if only other people knew what I am thinking. Other people may not want to have thoughts that they're feeling portrayed to others. I know that none of my thoughts will ever be seen by others on my face" (Cole 2001, 58). Our everyday, face-to-face transactions depend on the "extending" functions of facial expressions and bodily gestures and movements to help us smoothly negotiate the dynamic exchanges that are at the heart of our social encounters. In cases where these expressions and gestures are not operative, the identity of the subject as a social being is compromised—often in a very profound and socially crippling way.

More provocatively, however—and more pertinent to this essay's central claim—is the fact that some Moebius subjects report that without bodily gestures as a constitutive factor of the mental state, the emotional quality of the state itself is diluted. Not externally articulated or refined, it reduces to an artificially cognitive (that is, internal) gesture. Lacking the supporting sensorimotor architecture, the emotional state remains somehow unfinished—phenomenally impoverished.

James addresses this impoverished internalization:

I have a notion which has stayed with me over much of my life—that it is possible to live in your head, entirely in my head. I think I get trapped in my mind or my head. I sort of *think* happy or I *think* sad, not really saying or recognizing actually feeling happy or feeling sad . . . maybe I have to intellectualize mood . . . I'm *thinking* [a mood] rather than *feeling* it.

Of course, since I have never been able to move my face, I've never associated movements of the face with the feeling of an emotion. If I have expressed any emotion I must have spoken it or I might put my arm around someone, of course. Coming back to my job [as a priest], however, I am not required to feel what I am trying to express. (Cole 2001, 62)

Even with the experience of being in love, James reports that "I was probably thinking [being in love] initially. It was some time later when I realized that I really felt in love" (Cole 1998, 122). This disconnectedness from the bodily dialectic modulating our social encounters leads James to

summarize his experience this way: “I’ve often thought of myself as a spectator rather than as a participant” (Cole 1998, 128).

Oliver, an architecture student in his early twenties, recounts a similar experience. Oliver developed Bell’s palsy while at university and then recovered slowly after a period of six months. Bell’s palsy is a temporary condition that causes facial muscles to weaken or become paralyzed. It results from trauma to one of the two facial nerves. The paralysis normally is confined to one side of the face, though bilateral Bell’s palsy (which is what Oliver had) does occur infrequently. Over the course of several weeks Oliver lost the ability to move the muscles of his face save for some slight movement around the eyes and eyebrows. Because his situation was progressive and not congenital, he could track the transformation, indeed reduction, of his ability to externally articulate and experience emotional states in a way that most suffering from facial immobility cannot. Oliver describes the onset of his excessively internalized mental life:

I suppose I didn’t feel constantly happy, but then I didn’t feel sad. . . . I felt almost as if in a limbo between feelings—just non-emotional . . . it was within myself, an emotion limbo. I still felt happy to see or hear something I liked, but I didn’t think that I felt it as much because I was not actually smiling. I started to write a diary. . . . writing it helped a lot. Such and such has happened and I feel this. Writing allowed me to express. (Cole 1999, 310)

In Oliver’s case, the act of writing became a kind of surrogate scaffolding by which he was able to externalize and thus in a sense “complete” his inner emotional states and, in doing so, give them a more robust phenomenal articulation. Oliver observes: “The face talks of feelings. If you cannot show, then you have to express them somehow, and a diary would seem a good way. I can imagine that with one side moving that may help the other side know what is needed, but with both sides of the face gone, you may find it difficult to know exactly how to move it” (Cole 2001, 150). Oliver’s diary was not simply a record of information or tool for storing data. Beyond this, the physical act of using the diary became a means for recapturing some felt features of the experiences he had lost because of facial paralysis.

This practice is not an uncommon one. Moebius syndrome (MS) subjects often adopt various kinds of surrogate scaffoldings that serve the dual function of (1) making features of certain emotional states publicly accessible and (2) phenomenologically filling in the affective qualities of the state compromised by their facial paralysis. One MS patient notes that she essentially taught herself to feel the phenomenal qualities of certain emotional states by mirroring bodily expressive gestures she observed during a trip to Spain:

I do not think I had emotion when I was a child but now I have it. How did I get it? It was Spain. I learnt Spanish in two months but—more—they are very graphic in their emotional expression. The body language I had learnt and used at university could be exaggerated in Spain, using the whole body to express one’s feel-

ings. . . . I am not sure how I mapped gesture and feeling onto my body, but I was starting to feel then. I could feel really ecstatic, happy, for the first time ever. . . . When you live and share emotion together then you all experience it together. (Cole forthcoming)

Because MS subjects cannot move their facial muscles, it is not uncommon to see them, both individually and in group settings, underwrite bouts of laughter with exaggerated, rapid sequences of shoulder shrugs. Other examples of surrogate scaffolding in MS narratives include playing the piano and dancing.

The reports of those with MS suggest that at least in some cases loss of facial expressivity brings with it a reduction of emotional feeling. There are ways of compensating for this reduction, as the notion of adopting what I have termed surrogate scaffoldings indicates. However, the broader lesson is that external architecture—in this case, a dynamically expressive face—plays a constitutive role in shaping the “inner” subjective experience of emotional states. If the gestural accompaniment is compromised or removed, the quality of the state is altered accordingly. Of course, simply mimicking a gesture (a smile, for example) is not in itself sufficient to induce a full-blown episode of cosmic happiness. However, there are other reasons to think that external bodily expressions are not mere aftereffects, or causal antecedents, of the “real” inner emotion. Paula Niedenthal (2007) has surveyed a substantial amount of recent empirical research indicating a reciprocal relation between the bodily expression of emotion and the way that emotional information is both experienced by the subject of the emotion and socially perceived by others. Description of particular experiments is beyond the scope of the present discussion, but Niedenthal’s conclusion is relevant:

(i) when individuals adopt emotion-specific postures, they report experiencing the associated emotions; (ii) when individuals adopt facial expressions or make emotional gestures, their preferences and attitudes are influenced; and (iii) when individuals’ motor movements are inhibited, interference in the experience of emotion and processing of emotional information is observed. (Niedenthal 2007, 1002)

The point is that the dynamics of our bodily expressions, gestures, and movement are part of the extended ontology of some mental states, such as emotions. When the expressive architecture of these states is compromised, so, too, are these states’ experiential natures as well as how these states are experienced and processed by our social partners.

At this juncture, the following objection may arise: Moebius patients suffer from a congenital *neurological* disorder, so perhaps it is the case that the sixth and seventh cranial nerves actually embody the emotion, and the loss of function within these nerves is what leads to the loss of both emotional expressiveness and feeling.<sup>13</sup> Could it be that emotion has an intracranial basis and not, as I have suggested, an extended ontology?

This objection, however, fails to respect a point made earlier: that the embodied brain continues to be a crucial part of the EM story because, according to the thesis, the mind is a *hybrid* entity constituted (at times, not always) by processes and particulars both inside and outside the head. EM does not overlook the critical contributions of the brain. To the contrary, it is clear that there is always a neural contribution to the constitution of any token mental process or state. Very often, this neural component is part of a wider body- and environment-involving process that invokes various nonneural resources (bodily gestures, environmental structures, and so forth). So the fact that MS involves an intracranial neuronal deficit is surely not surprising. Nor does it necessarily threaten an externalist reading of this condition. The important point is that this neurological deficit is accompanied by a deficit of bodily expressivity, and these two deficits *together*—not just the loss of neuronal function—are what contribute to the loss of emotional feeling described so vividly in Moebius narratives.

That the loss of emotionality can be partially overcome by employing surrogate scaffoldings seems to affirm the constitutive role that externalizing gestures play in constituting the phenomenology of at least some of our emotional states. To insist that the intracranial side of this deficit is the *real* locus of emotional feeling is to artificially cut in half what is in fact a hybrid process composed of neural activity on one side and bodily expressive dynamics on the other. In a recent article Clark refers to “continuous reciprocal causation,” which occurs when “some system S is both continuously affecting and simultaneously being affected by activity in some other system O” (Clark 2008a, 24). Moebius narratives, and the research discussed by Niedenthal, indicate that bodily gestures and some emotional states exhibit this sort of relation. The neural states associated with different emotions affect and are affected by their gestural expression, and vice-versa. This constant interaction and reciprocity unites neural and gestural components within an extended state.

The constitutive relation between bodily expressiveness and the phenomenology of emotional states has been explored in a number of other experimental studies. Pamela Adelman and Robert Zajonc (1989) offer a helpful survey and summary of this research. Most relevant for present concerns are the conclusions that Adelman and Zajonc draw from their summary, which seem to confirm MS subjects’ narratives. They write that a number of studies “clearly indicates a positive association between facial efferece and emotion experience within subjects, particularly for the subjective component of emotion . . . intensity of facial efferece of a specific emotion corresponds with increasing subjective experience of the same emotion” (1989, 276). Moreover, they continue, the relevant experimental literature “tends to support the notion that facial efferece plays not only a modulating function but an initiating function in the experience of emotion, particularly for subjective experience. Some initial evidence sug-

gests that facial efference may causally differentiate not only positive from negative subjective experience, but may produce emotion-specific effects” (1989, 276).

The point of my discussing MS cases and Adelman and Zajonc’s conclusions is not to suggest that a deficit of facial or bodily movement entirely closes off one’s capacity for feeling. As the narratives here and elsewhere indicate, this is not the case. Rather, the point is that in removing the gestural component that underwrites emotional expression, compressing it into an exclusively inner mental item, the experiential state is not allowed full articulation. Such internalization results in a deadening of its affective resonance for the subject. Once more, James: “These feelings are there but they’re probably reduced. I’ve often thought of myself as a spectator rather than a participant” (Cole 1999, 308). Also, because their facial deficit prohibits MS subjects’ bodies from expressively “speaking” their emotional states in a more conventional (extended) manner, the people they interact with must adopt an artificially detached observational stance while engaging with them, theoretically inferring their mental states indirectly instead of immediately interacting with them. This results in an awkward, artificial form of social exchange. An empathic breakdown occurs on both ends of the encounter. The immediate, noninferential bodily affective nature of this breakdown speaks to the hybrid (inner and outer) nature and spontaneous give-and-take dialectic that is at the heart of embodied social sensitivity.

An important lesson from MS cases is that the socially expressive body, by extending certain mental states beyond the skin and skull, ensures that aspects of these states are present out in the world, directly available to be perceived by other subjects. Empathy is a bodily skill that emerges from within the situated dynamics of our concrete encounters. Employing a folk-psychological mechanism such as theorizing or simulating is necessary only when the normal immediacy of social understanding is somehow compromised (such as with facial paralysis). Even then, the notion of surrogate scaffolding shows that alternative body-based strategies that do not rely on folk-psychological practices but that summon our body in creative and creatively expressive ways remain viable alternatives. Affirming the embodied nature of social understanding, Maurice Merleau-Ponty insists that

We must reject this prejudice which makes “inner realities” out of love, hate, or anger, leaving them accessible to one single witness: the person who feels them. Anger, shame, hate and love are not psychic facts hidden at the bottom of another’s consciousness: they are types of behavior or styles of conduct which are visible from the outside. They exist *on* this face or *in* those gestures, not hidden behind them (1962, 52–53)

For Merleau-Ponty, the expressive body is a social vehicle externalizing and constituting (some) features of our mental life. Now, I want to situate this

idea in the context of a Zen Buddhist ethics of responsiveness. In doing so I hope to demonstrate the practical significance of an extended, body-based account of empathy and interpersonal sensitivity.

#### EXTENDED EMPATHY AND A ZEN BUDDHIST ETHICS OF RESPONSIVENESS

A central claim of Buddhism is that the self is not an ontologically bounded thing, wholly autonomous and distinct from the world and from other worldly things.<sup>14</sup> Rather, the self “dependently arises” within its constitutive relationships with the world, the things in it, and other people. These relationships are the source of whatever provisional identity it enjoys as a self. The self’s identity is neither inherent (that is, fixed by any property or substance internal to the self) nor stable; it is “no-self” (Sanskrit *anatman*), lacking inherent self-existence. It exhibits a relational (extrinsic) and impermanent identity. As dynamic and provisional process-selves, we are all thus part of the continually evolving matrix of interdependent situations, processes, and causes that make up the whole of reality.<sup>15</sup> Offering this notion of “dependent co-arising” (Sanskrit *pratitya-samutpada*), the Buddha stresses the interdependent nature of all phenomena, including the self, in one of his earliest sermons: “That being, this comes to be; from the arising of that, this arises. That being absent, this is not; from the cessation of that, this ceases” (*Samyutta-nikaya II*, 28). The point is simply that the ontology of the self, like all phenomena, is essentially constituted by its explicating contexts and defining relationships. The self is open-ended and fluid, continually in the making, and thus transforming from one moment to the next.

As we have seen, EM similarly argues that the ontology of the minded self is open-ended and fluid. We are temporally contoured hybrid selves, structured such that inner and outer meld seamlessly into one another during the performance of many basic cognitive tasks. This is perhaps the core idea of EM. However, my concern in this final section is not specifically with the metaphysics of mind and selfhood but with the ethical significance of thinking about empathy as an extended phenomenon coupled to the structures of our bodily agency. The relevant questions are: What is the “cash value,” as William James might put it, of taking this idea seriously? What sort of concrete changes might it affect in both our self-understanding and our everyday relationships with others?

Zen Buddhism can assist the discussion at this point. As Peter Herschok notes, “Buddhism is irreducibly *responsive* . . . in all its forms, an improvised expression of emptiness” (1996, xi). The Buddha insisted that his teachings are to be judged by how effective they are when enacted within individual praxis. Zen distinguishes itself from other forms of Buddhism with its strong emphasis on the body and agency and, more specifically, on

the ethical and soteriological significance of routine forms of embodied action. Dōgen, the thirteenth-century founder of Sōtō Zen, writes, “Enlightened vision does not only occur in an instant, but is constantly active at all times” (quoted in Zelinski 2000, 2).<sup>16</sup> Everyday activities, not rarified moments of mystical transcendence, are what disclose to us the deep continuity between the people and things of the world. They open up for us our extended and hybrid nature as “empty” process-selves. These activities also disclose possibilities for richer, more compassionate forms of interpersonal sensitivity and engagement. For Zen, embodiment is not a prefigured fact but a progressive *achievement*—involving the cultivation and transformation of perceptual and behavioral skills—developed over the course of a lifetime.

Empathy training is one of the ways that we develop and transform our embodiment, according to Zen. It begins the same way that one learns any new practical activity: by cultivating the relevant skill set. Neuroscientist and Zen practitioner James Austin expresses this idea when he writes that for Zen “ethics begins at home. *First get your own personal house in order. At the outset, develop a sense of composure. Learn how to relate courteously and effectively to others, and be kind to yourself as well. Do these things first, in all those nitty-gritty matters that come up in life. After that, you’ll be able to attend to far more complex imponderables that beset the rest of the needy world*” (Austin 1998, 647). An integral part of empathy training involves sharpening and refining our perceptual attunement to self, other, and world. Zen (and indeed, Buddhism more generally) insists that we can train ourselves to notice things in others that because of excessive and abiding self-focus we normally overlook. Empathy training begins by training ourselves to be more sensitive to and aware of what is happening both in and around us—living in the present, in other words. Hershock remarks that Zen “represents a reframing of moral clarity that emphasizes meaningful improvisation and not simple adherence to rules and precepts” (2005, 69). Because certain aspects of another’s mental life are externally realized, played out across the topography of the body, as I have argued above, it follows that we can become more interpersonally sensitive, and thus more morally skillful and improvisational, by paying careful attention to and responding to the bodily dynamics that underwrite our lived encounters with other people.<sup>17</sup> Heightened perceptual attunement breeds deeper forms of responsive empathy.

The claim that embodied experience, including other-directed perception and affective responsiveness, is malleable and transformable is an idea presupposed by nearly all of the world’s contemplative traditions. It receives perhaps its most careful elaboration in the Buddhist tradition, where empathic skillfulness (*upāya*) in both perceiving the presence of and working to alleviate another’s suffering is the core feature of authentic moral practice.<sup>18</sup> In Dōgen’s formulation of Zen practice, this is said to occur by

“casting off of the [dualistically conceived] body and mind” (Japanese *shinjin totsuraaku*) and by cultivating (via *zazen*, “seated meditation”) the enlightened, psychosomatically integrated *zenshin*, “total body.”<sup>19</sup> Empathy is in this way portrayed as a flexible bodily skill. Several lines of recent empirical research speak to the possibility of this sort of attentional and perceptual cultivation. In what follows, I briefly touch on several of them before showing how this is directly relevant to the extended conception of empathy presented earlier.

Roger Walsh (2005) has conducted studies indicating that advanced Buddhist contemplatives can cultivate, control, and sustain synaesthetic (cross-modal) experiences. That is, they can deepen and enrich the form of their perceptual encounter with the world by intentionally forging supra-modal connections between normally modality-specific content. Objects of experience in this way manifest with an exceptional vividness, immediacy, and phenomenal depth not present in our normal (non-synaesthetic) experiences of them. To offer a Buddhist gloss, we might say that their phenomenal qualities disclose as interdependent phenomena, empty of inherent or fixed self-existence, so that a musical note is not exclusively something that is “heard” but can also be simultaneously “seen” as red or “tasted” as bitter. The possibility of synaesthetic cultivation and its transformative role in our experience of the world is a recurring theme in Buddhist literature, highlighting the centrality of perceptual skillfulness within Buddhist practice. Walsh cites a verse from the *Mahayana-sutra-alamkara* (“The Adornment of Mahayana Sutras”) in which it is said that, for the expert meditator, “In the transformation of the five senses highest mastery is acquired, in the operation of all (five senses) upon all (five) objects” (quoted in Walsh 2005, 14). Cultivating a highly refined perceptual sensitivity to the world around us (even if we fail to become full-blown synaesthetes) is a necessary step in coming to see and experience the fundamentally integrated, interrelational nature of all of reality. This perceptual sensitivity inaugurates, in the words of Kūkai (774–835), the founder of Shingon Buddhism, a “return to the oneness of the seer and the seen” (quoted in Shaner 1985, 108).

Less exotic examples testify to the developmental plasticity of perception and affect and its role in Buddhist meditation and moral practice. Antoine Lutz and collaborators (2004) have collected EEG data indicating that long-term Buddhist practitioners of “unconditional loving-kindness and compassion meditation,” an exercise in cultivating universal compassion for all sentient creatures, exhibit greater levels of high-amplitude gamma activity (brain activity associated with attention, perception, learning, and working memory, among other things) than do unskilled novices. In fact, Lutz and his collaborators note that the extraordinarily robust gamma activity found in some of the practitioners they studied is the highest recorded in the literature in a nonpathological context (Lutz et al. 2004,

16372). They conclude that their findings are consistent “with the idea that attention and affective processes . . . are flexible skills that can be trained” (p. 16373). Heleen Slagter and colleagues found that even nonexpert practitioners of “contemplative insight meditation,” the cultivation of highly focused, nonjudgmental concentration on the qualitative content of moment-to-moment experiences, were able to bring about significant changes in attentional processing after participating in a three-month meditation retreat. Following this relatively short period of intense training, practitioners were able to control the allocation of limited brain resources—as tested by their performance in attentional-blink tasks and scalp-recorded brain potentials—that ultimately resulted in an ability to process and attend to subtle environmental stimuli that eludes nonpractitioners (Slagter et al. 2007). Meditative practice sharpens the practitioners’ attentional balance—their perceptual and affective sensitivity to their lived environment. Meditation as mental training thus not only transforms the moment-to-moment phenomenology of our conscious lives; additionally, it shapes long-term brain activity and mental processing, resulting in the development of new and enduring mental abilities (Hankey 2006), such as heightened perceptual sensitivity, and also bringing about lasting changes in the brain’s physical structure (Lazar et al. 2005). This research—and much more like it—affirms the simple core message of Buddhist practice passed down through the centuries: that “the human brain can be shaped, etched and transformed by years of practice (Austin 1998, 3).<sup>20</sup>

These studies highlight the plasticity and trainability of perception, attention, and affect. How these topics relate more concretely to empathy and the self/other relation is apparent in Paul Ekman’s work on emotion and facial expression (Ekman and Friesen 1975; Ekman and Davidson 1994; Ekman and Rosenberg 1994; Ekman 2003). In a series of related experiments, Ekman found that the Buddhist contemplatives he tested were perceptually attuned to fleeting “microexpressions” to a significantly greater extent than were other groups of people he had previously studied. “Microexpressions” are rapid facial expressions that seem to be common to all cultures. They last “less than one-fifth of a second [and] are one important source of *leakage*, revealing an emotion a person is trying to conceal” (Ekman 2003, 15). Because they happen so quickly, they normally operate beneath the attentional threshold of both the person who has them and the person who observes them. Uncensored and spontaneous, they provide a “unique window on another person’s emotional reality” (Goleman 2003, 14), offering external cues indicating what that person is thinking and feeling. The Buddhist contemplatives in Ekman’s study scored significantly higher than any of the other five thousand people Ekman had previously tested—two standard deviations above the norm—in their ability to detect microexpressions. They did better than police officers, lawyers, psychiatrists, customs officials, judges, and even Secret Service agents

(Goleman 2003, 14). A plausible interpretation of Ekman's findings, I suggest, is that the Buddhist's meditative expertise, which includes a heightened ability to perceive morally salient information, rendered them profoundly skilled empathizers with an advanced degree of interpersonal sensitivity. They are mindful of the sensorimotor dynamics at the ground of our social relatedness in a way most of us are not. This bodily skill is the first step in developing a true ethics of responsiveness. If the expressive body is the vehicle externalizing some features of our mental life (such as emotions), developing the skills needed to become attuned to the body's expressive dynamics, such as occurs in meditative practice, becomes (or can become) an important kind of moral practice.

In conclusion, I offer these observations to emphasize the practical relevance of taking seriously an extended, bodily skills-based view of empathy and intersubjectivity. The examples I have discussed lend credence to the ideas that I have been arguing for throughout the course of this essay, namely, that interpersonal sensitivity is fundamentally a kind of extended somatic and perceptual skill rooted not in intracranial knowledge structures but rather within the sensorimotor dynamics of our bodily engagements. The expressive social body is the vehicle for the different forms of human sociality. The excursion into a Zen Buddhist ethics of responsiveness further highlights how this extended way of thinking about empathy might serve as the foundation for programs designed to deepen our empathic engagements.

In a recent discussion of moral phenomenology, Terry Horgan and Mark Timmons write that

one should allow (in addition to conscious moral beliefs, both deliberative and spontaneous) cases in which one responds in a morally appropriate way without consciously forming a moral belief at all—call this kind of experience “ethical comportment.” The idea is that in persons having a high degree of moral expertise, the phenomenology of their habitual responses to morally significant situations may not include making (or coming to have) moral judgments as part of the experience. This strikes us as an important possibility that deserves further phenomenological investigation. . . . (Horgan and Timmons 2005, 63)

I suggest that an extended view of empathy, when joined with a Zen Buddhist ethics of responsiveness, offers fruitful resources for thinking through the nature of what Horgan and Timmons call ethical comportment.

I end with a deceptively simple lesson taken from Zen. It is this: Remaining mindful to the relatedness of living bodies has significance not only for understanding the extended nature of mind and intersubjectivity; more important, it opens up possibilities for richer moral development. Much of our life is lived outside the body, enacted within spontaneous moment-to-moment encounters. It is within these shared empathic spaces that the real work of compassionate living begins.

## NOTES

1. The term *empathy* was introduced into English by Edward Titchener's (1909) translation of the German term *Einfühlung*, a technical term in German aesthetics at the end of the nineteenth century. It soon gained wider philosophical currency through Theodore Lipps's work on aesthetics and intersubjectivity. For a history of the concept of empathy, see Wispe 1987. For a discussion of phenomenological approaches to empathy in line with my use of the term, see Zahavi 2001.

2. For a discussion of the connection between empathy and human agency in a slightly different context, see Gallese 2001.

3. As Mark Rowlands notes in his essay in this issue of *Zygon*, it is important to be clear about the strength of EM's basic claim (Rowlands 2009). No EM proponent would argue that *all* mental states or processes are *entirely* extended (wholly outside of the head). Rather, the idea is that some mental processes are hybrid, straddling both in-the-head and outside-of-the-head operations. And some mental processes are therefore composed of both in-the-head and outside-of-the-head particulars. For all of the hyperbolic talk of getting cognition out of the head, the embodied brain very much remains a necessary part of the EM story.

4. An exception is the article by Evan Selinger and Timothy Engström (2007).

5. This way of thinking about social understanding can be traced to an influential article by David Premack and Guy Woodruff (1978) in which they argue that because chimpanzees seem capable of understanding human intentions, they possess (an admittedly simple) theory of mind.

6. Stephen Stich (1998, chap. 3) offers a clear discussion of the idea of folk psychology, including both its historical development and the different forms the idea assumes within contemporary debates.

7. Theory theorists often appeal to false-belief experiments for empirical support of their thesis. False-belief tests are thought to establish the presence of a metarepresentational capacity—an ability to hold beliefs about another's beliefs, for instance—as a necessary condition for interpersonal understanding. See Baron-Cohen, Leslie, and Frith 1985. For criticism, see Hobson 1993. For criticisms of the overly liberal use of "theory" in this context, see Blackburn's "promiscuity objection" (1995).

8. An immediate objection to this version of ST is that it is circular—that is, it presupposes precisely what it intends to explain. In order to engage in imaginative modeling of another's mental life, I must already possess a relatively robust understanding of what his or her mental life is like; I can't get my imaginative modeling off the ground without this preunderstanding. But if this is so, ST (at least in this explicit version) must be preceded by *another* process by which we gain the familiarity with others that enables us to *then* engage in imaginative modeling.

9. The mirror-neuron literature is vast, and growing. See Rizzolatti and Sinigaglia 2008 for an overview.

10. For an overview of phenomenologically minded criticisms of TT and ST, see Gallagher and Zahavi 2008. For a focused critical analysis of ST in both its explicit and implicit versions, see Gallagher 2007.

11. Summing up Wittgenstein's view here, Søren Overgaard writes, "That other people are minded . . . is something that we can have direct access to; it is something we can directly *see*" (2006, 65).

12. Lynne Rudder Baker writes in her essay in this issue of *Zygon*, "The heart of the extended-mind thesis is that we biological creatures can 'couple' with nonbiological entities or features of our environment and thereby expand the entities that we are" (2009, 643).

13. I am grateful to an anonymous reviewer for raising this point.

14. For a general introduction to Buddhism, see Mitchell 2002. For a philosophical consideration of various Buddhist teachings, including the notions of no-self and dependent arising, see Gowans 2003. Hershock 2005 is a lucid introduction to the fundamentals of Chan (Zen) Buddhism.

15. One way of grasping the Buddhist claim here is to conceive of the self not as a simple *thing* but as a continually evolving *narrative*, a social process constituted by the cultural practices, concrete situations, interpersonal encounters, and, more broadly, forms of life that collectively shape our self-image as well as the image others have of us. The self "dependently arises" from within the coming together of these different factors, but, because it is "empty" of inherent self-existence, it is not ultimately reducible to any one of them or to anything else. See

Hershock 1996 for an extended elaboration of this idea within a Zen Buddhist context. For a more metaphysical reading of the no-self doctrine, see Gowans 2003.

16. Zen insists that meditative practice is a particularly acute form of action and not, as is sometimes thought, an inner retreat into passivity and quietism.

17. For more on the idea of a Zen “ethics of responsiveness” see Hershock 1996; Kasulis 2006.

18. Thomas Kasulis notes that “In early Indian Buddhism the morally functional terms *kusala* and *akusala* meant not ‘good’ and ‘evil,’ but rather ‘skillful’ and ‘unskillful’” (2006, 10). Later forms of Buddhism, including Zen, retain this emphasis on moral excellence as a skillful form of embodied practice.

19. For more on the ideas of *zazen* and *zenshin*, see the fascicles “A Needle for Zazen” and “The Whole Body of the Tathāgata” in Dōgen’s *Shobogenzo* (Dōgen 1997). For a phenomenological analysis of Dōgen’s conception of the body, see Nagatomo 1992.

20. In recent years there has been a significant increase in neuroscientific research on meditation. Antoine Lutz, John Dunne, and Richard Davidson (2007) offer an overview of some of this research and the issues at stake.

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