

Direct Social Perception

Joel Krueger

Introduction

Defenders of a Direct Perception approach to other minds—what I'll here refer to as Direct Social Perception (DSP)—argue that we directly perceive mental states.¹ I see my partner's sadness in her slumped shoulders, furrowed brow, and quiet speech; my niece's joy in her unrestrained laughter and sprightly gait; a friend's desire for a beer as he opens the refrigerator door and reaches for a bottle. In these and other cases, emotions and desires aren't hidden away *behind* behavior. They are concretely embodied *in* behavior. And when I see this behavior, I see these mental states directly, without inferential mediation. I see mind in action.

DSP challenges a dominant supposition about the hiddenness of mental states in philosophy of mind and cognitive science. Call this supposition the "unobservability principle" (UP). According to UP, we can't see mental states because, whatever their ontology, mental states are intracranial phenomena. As such, they are perceptually inaccessible to everyone but their owner. Accordingly, because we can't perceive other minds we need to use an indirect method based on inference or simulation to reach them.

We can see just how widely UP is assumed by looking at a few representative quotes. Consider the following:

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, p.139).

Mental states, and the minds that possess them, are necessarily unobservable constructs that must be inferred by observers rather than perceived directly (Johnson 2000, p.22).

People do not have direct information about others' mental states and must therefore base their inferences on whatever information about others' mental states they do have access to. This requires a leap from observable behavior to unobservable mental states that is so common and routine that people often seem unaware that they are making a leap (Epley and Waytz 2009, p.499).

Some even argue that the inaccessibility of other minds renders questions of whether a given entity is minded (e.g., a machine, animal, vegetative patient) unanswerable (Gray and Schein 2012, p.407).

¹ I have elsewhere referred to this idea as the "Direct Perception" account of other minds (Krueger 2012). Here, I'll follow Spaulding (2015) and instead speak of Direct *Social* Perception to specify that not just any object but rather other people—specifically, their mental states—are the objects of our direct perception.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

Within philosophy and cognitive science, UP generates at least two distinct questions. First, it generates the *epistemological* question of how, in the absence of perceptual verification, we can have knowledge of or justified belief in other minds. Second, it generates the *empirical* question of what sort of mechanisms enable us to attribute minds to others.² While the former question has a philosophical heritage within the western canon stretching back at least to Mill—although Indian Buddhist philosophers were concerned with this question significantly earlier than that (Inami 2001)—this latter question has, for the past several decades, shaped ongoing debates about social cognition and Theory of Mind in cognitive science.

In what follows, I have two main objectives: first, to develop a version of DSP that draws upon both phenomenological literature and empirical work in cognitive science; second, to consider whether DSP can stand up to a number of objections. Ultimately I suggest that it can. After providing some historical context for DSP, I consider some different ways of interpreting the idea. I argue for a particular reading of DSP—one which recognizes that some mental states are partially constituted by expressive behavior—and, after considering some supporting empirical evidence, conclude by responding to a number of possible objections.

DSP in its historical context

DSP is not a new thesis. Many phenomenologists defend some version of it (Gallagher 2008; Gallagher and Zahavi 2012, Ch. 9). Husserl, for example, tells us that we perceptually encounter another's "lived experiencing...completely without mediation and without consciousness of any impressional or imaginative picturing" (Husserl 2006, p.84).³

Scheler is more explicit. He argues that difficulties surrounding other minds are mostly self-created insofar as they are based on an unquestioned acceptance of UP (Scheler 1954, p.238). But Scheler rejects UP and develops an alternative "perceptual theory of other minds", as he terms it. He insists—in perhaps the canonical phenomenological statement of DSP—that

we certainly believe ourselves to be directly acquainted with another person's joy in his laughter, with his sorrow and pain in his tears, with his shame in his blushing, with his entreaty in his outstretched hands, with his love in his look of affection, with his rage in his gnashing of his teeth, with his threats in the clenching of his fist, and with the tenor of this thoughts in the sound of his words. If anyone tells me that this is not 'perception' [of the emotion itself], for it cannot be so, in view of the fact that a perception is simply a 'complex of physical sensations', and that there is certainly no sensation of another person's mind nor any stimulus from such a source, I would be him to turn aside from such questionable theories and address himself to the phenomenological facts (Scheler 1954, p.260).

² See Overgaard (2013) for a discussion of why it is important these two questions be kept distinct despite a persistent tendency in the literature to conflate them.

³ While it seems Husserl ultimately endorses DSP, there is some degree of uncertainty in his account. See Zahavi (2014, pp.125-132).

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

Merleau-Ponty defends this idea in a number of places. For example, he writes:

I perceive the grief or anger of the other in his conduct, in the face or his hands, without recourse to any 'inner' experience of suffering or anger, and because grief and anger are variations of belonging to the world, undivided between the body and consciousness, and equally applicable to the other's conduct, visible in his phenomenal body, as in my own conduct as it is presented to me (Merleau-Ponty 2002, p.415).

We find similar ideas in other phenomenologists as well, such as Levinas' characterization of our experiential encounter with the face of the other (Levinas 1999; cf. Krueger 2008; Overgaard 2006) and Stein's account of empathy (Stein 1989; cf. Jardine and Szanto forthcoming).

But DSP isn't just found in the phenomenological tradition. Nathalie Duddington argues that "our knowledge of other minds is as direct and immediate as our knowledge of physical things" (Duddington 1918, p.147). A consequence of Dewey's embodied view of cognition is that emotions can be proper objects of perception (Dewey 2008; cf. Krueger 2014). The Japanese philosopher Tetsurō Watsuji—working at roughly the same time as Merleau-Ponty and Sartre—draws upon both phenomenology and Zen Buddhism to develop a model of intersubjectivity consonant with DSP (Watsuji 1996; cf. Krueger 2013; McCarthy 2011). Wittgenstein tells us that:

"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 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 (Wittgenstein 1980, Section 570; cf. Overgaard 2006).

And DSP receives support from more recent analytic philosophers, too: Austin (1979), Dretske (1973), Green (2010), McDowell (1982), McNeill (2012), Newen et al (2015), Pickard (2003), Stout (2010), and Smith (2010) endorse some version of the thesis.

Before looking at DSP in more detail, we should briefly note a methodological distinction. Contemporary analytic defenders tend to focus on the *mechanisms* by which we come to be aware of others' mental states, such as the nature of visual perception or the various processes constitutive of our perceptual capacities. Framed thusly, the debate then concerns how best to understand these mechanisms (e.g., inference, simulation, etc.) and how they factor into an epistemic explanation of our knowledge of others' mental states. Defenders working from a phenomenological perspective, however, are more concerned with the question of what mental states must be like in order for DSP to be plausible. This *ontological* orientation leads them to focus on the relation between mental phenomena and embodiment. I turn to this ontological question now.

DSP and the embodied mind

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

In what follows, I focus on a phenomenological approach to DSP for two reasons: first, as we've seen, phenomenology has a long history of rejecting UP and offers ample theoretical resources for exploring this issue. Second, since contemporary phenomenological approaches to DSP focus on the relation between mental phenomena and embodiment, they regularly draw upon 4E approaches to mind in philosophy and cognitive science. Their interdisciplinary perspective is thus of particular relevance to this volume.

Phenomenologists claim that some mental phenomena are directly given within expressive behavior. As Scheler puts it, we see mental states because we perceptually encounter others as a psycho-physical "expressive unity" (*Ausdruckseinheit*) (Scheler 1954, pp. 281, 261). More recently, Gallagher and Zahavi—largely responsible for reinvigorating current interest in phenomenological approaches to other minds—argue that "[i]n seeing actions and expressive movements of other persons, one already sees their meaning. No inference to a hidden set of mental states is necessary. Expressive behavior is saturated with the meaning of the mind; it reveals the mind to us (Gallagher and Zahavi 2012, p.207). Similarly, Thompson tells us that "we experience the other directly as a person, that is, as an intentional and mental being whose bodily gestures and actions are expressive of his or her experiences and states of mind" (Thompson 2005, p.264; cf. Ratcliffe 2007).

But these formulations need refinement. There are several ways of understanding how behavior expresses mental phenomena, and not all of them are consistent with DSP (Krueger and Overgaard 2012).

DSP and the co-presence thesis

One way of characterizing the relation between mind and behavior is to characterize the former as perceptually *co-present* within the expressive dynamics of the latter. Joel Smith (2010) develops a nuanced defense of this view. Drawing upon a functionalist view of mental properties as well as Husserl's analysis of the anticipatory structure of perception, Smith begins by observing that often what we *experience* outstrips what we actually *see*. When we see an apple, for example, we only see, strictly speaking, the part of the apple facing us; its occluded sides remain hidden. But it's a fact about perceptual consciousness that we nevertheless *experience* the apple as a three-dimensional object. Phenomenologically, its hidden sides are perceptually co-present along with the side facing us.

This basic structural feature of our perceptual consciousness, Husserl argues, follows from the fact that we are necessarily embodied subjects situated in a specific place and time. He observes:

Of necessity a physical thing can be given only 'one-sidedly...A physical thing is necessarily given in mere 'modes of appearance' in which necessarily a core of 'what is actually presented' is apprehended as being surrounded by a horizon of 'co-giveness.' (Husserl 1998, p.94).

For Smith and Husserl, hidden sides of objects are co-present because perception is a temporally-extended process. Perception is structured by anticipatory presentations of what we *would* see if we were to crane our neck for a different view, move around the object, or pick it up. As Husserl puts the idea, in perceiving objects as three-dimensional, we "recognize that a hidden intentional "if-then"

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

relation is at work here: the exhibitings must occur in a systematic order; it is in this way that [the occluded sides] are indicated in advance, in expectation, in the course of a harmonious perception” (Husserl 1970, pp.161-162). These “if-then” relations or “sensorimotor contingencies” (Noë 2004) specify how movements will bring new sides of objects into view. They are part of the content of our experience, ensuring that occluded sides are perceptually co-present with visible sides.

How does this relate to other minds? Smith argues that, analogously, although we only ever *see* another’s behavior, we nevertheless *experience* associated mental phenomena as experientially co-present: “[j]ust as the rear aspect of the book is visually present without being visually presented, so another’s misery is visually present even though only their frown is visually presented” (Smith 2010, p.739). This is so, Smith continues, because my perception of another’s mentality can be fulfilled by “the co-presented and presented taking part in a harmonious experience” (Smith 2010, p.741). I can be said to experience another’s anger or happiness, say, by perceiving ongoing patterns of behavior that continually confirm this anger or happiness: scowling and fist-shaking, or smiles and laughter. In this way, co-presented mental properties are experientially confirmed in ongoing presentations of another’s “changing but incessantly *harmonious behavior*” the way that occluded sides of objects are co-present in my experience of the sides facing me (quoted in Smith 2010, p.739). For Smith, this view is a genuine perception-based account of other minds that simultaneously respects the intuition that aspects others’ thoughts, feelings, and intentions remain private and hidden from view.

While a compelling view, it’s not clear the co-presence thesis actually fits with DSP. This is because it still appears to tacitly confirm UP. For, what we see in others are not actually features of their mentality but rather features of their *behavior*. To be clear, Smith insists that we don’t see “*mere behavior*” devoid of social significance (Smith 2010, p.742)—we experience another’s behavior as meaningful, as articulating their beliefs, desires, intentions, and emotions—but our experience of this behavior nevertheless only grants *indirect* access to their mentality. Even if we anticipate that the functional profile of James’ anger will be “harmoniously” confirmed in the temporally-extended dynamics of his flushed cheeks, contorted facial expressions, shaking fists, and brisk movements, we still only make direct perceptual contact with these bits of behavior. The full functional profile of James’ anger remains beyond the scope of visual perception. According to the co-presence thesis, then, James’ mental properties are not actually rendered visible in his behavior—at least in the way DSP appears to require. The co-presence thesis thus appears to be a *weakly perceptual* account of other minds (McNeill 2012). Mental properties are experientially present without, strictly speaking, actually being *seen*.⁴

DSP and the constitution thesis

A second way of characterizing the relation between mental states and behavior is not in terms of *co-presence* but rather *constitution*. This strategy involves rejecting the supposition of an ontological gap between mind and behavior. Stated positively, the idea is that “mind can be equally and unambiguously instantiated in experience and behavior” (Pickard 2003, p. 89). Again, DSP claims that overt actions such as smiling, scowling, shaking one’s fists, gesturing while speaking, counting on one’s

⁴ For a longer discussion of this point, see Krueger (2012) and Gallagher (2016).

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

fingers, reaching for a beer, etc. grant direct perceptual access to other minds. Some mental states are concretely embodied within the expressive behavior we see. A “constitutive” sense of bodily expression is thus the idea that certain bodily actions are expressive of mind in that they actually constitute proper parts of some mental phenomena. To see these actions is thus to literally see part of another’s mind—the external public-facing part—and not simply the subsequent causal effect of some internal mental state. Put otherwise, this rendering of DSP argues that minds are *hybrid* entities: they consist of both internal (neural, physiological, and phenomenal) and external (behavioral, environmental) parts and processes, integrated into a unified whole. While we can’t see *all* of the constitutive parts of another’s hybrid mind, according to this view, we nevertheless do have direct perceptual access to the externally realized parts. Consequently, from a phenomenological perspective, there is no problem of other minds because the foundational supposition motivating the problem in the first place—UP—is denied.

Put this plainly, the constitution thesis might seem implausible—and probably rather philosophically unsophisticated. For one thing, it’s clear that there are all sorts of mental phenomena we *can’t* see. Additionally, one might worry that there is very little, if anything, in common between mind and behavior. So it’s implausible to say that seeing the latter is to see the former. However, such an assessment is too hasty. First, there are several empirical streams of research that appear to support this hybrid view of mind. Second, a version of DSP that make use of this hybrid account appears capable of withstanding a number of objections. The view thus warrants a more careful consideration.

Empirical support

For the sake of space, I will focus on work supporting the idea that emotions may have visible parts.⁵ It seems likely that, on one hand, emotions consist of various internal components: e.g., neurophysiological states and processes (Damasio 1999; LeDoux 1996; Prinz 2004), as well as cognitive components like evaluative judgements or appraisals of the objects and events toward which emotions are intentionally directed (Nussbaum 2001; Solomon 2004). On the other hand, however, there is evidence that emotions are not *exhausted* by these internal components. Some emotions may be partially composed of behavioral expressions—facial expressions, gestures, whole-body expressions, patterns of behavioral entrainment and sensorimotor coupling, etc.—that others can see. In other words, these bodily expressions, the emotion’s public-facing profile, may be a constitutive part of the emotion.

How this is so can be made clearer by looking at cases where an emotion’s visible bodily expression is compromised or altogether missing. People with Moebius Syndrome—a congenital form of bilateral facial paralysis—cannot facially express emotion; they also commonly exhibit other motor impairments which further hinder their expressive capacities (Briegel 2006; Cole & Spalding 2009; Krueger and Henriksen forthcoming). As a result, many describe phenomenologically diminished emotional lives. For example, one person with Moebius reports—“I sort of think happy or think sad, not

⁵ For a discussion of how other mental states like thoughts and intentions may similarly have visible parts, see Krueger (2012, pp. 157-162). For other arguments that we directly perceive intentions, see Pacherie (2005) and Proust (2003).

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

really saying or recognizing actually feeling happy or feeling sad”—and that the phenomenal qualities of his emotions “are there but they are probably reduced” (Cole 1999, p. 308). Another claims not to have had emotion as a child. She only learned to express and thus *feel* her emotions after consciously mimicking others’ expressions she observed while on holiday in Spain. In her own words, she started “using the whole body to express [her] feelings” (Cole & Spalding 2009, p. 154). People with Moebius Syndrome often adopt alternative forms of bodily expression—exaggerated prosody, gestures, vocalizations, painting, dancing, playing a musical instrument—that enable them to express, recalibrate, and share the phenomenal character of their emotional experience (Bogart & Matsumoto 2010). Without the ability to spontaneously express their emotions via various motor and behavioral channels, however, part of the emotion appears to be missing.

Not all facial paralysis is congenital.⁶ A similar effect is observed in individuals who’ve voluntarily received Botox injections, which inhibits facial expressions (Baumeister et al 2016; Davis et al 2010; Havas et al 2010). We also find this effect in cases of acquired facial paralysis, such as Bell’s Palsy. One individual suggestively describes entering into an “emotional limbo” while the paralysis was at its strongest; however, as he gradually regained facial animation over several months, the phenomenology of his emotions was gradually recalibrated back to its previous level (Cole 1998). There is also evidence that expressive components beyond the face are parts of certain emotions. For instance, individuals who’ve suffered severe spinal cord injuries and lack the ability to bodily express emotions using gesture, postural adjustments, or other whole-body movements report less intense feelings of high-arousal emotions like fear, anger, or sexual arousal (Chwalisz et al 1988; Hohmann 1966; cf. Laird 2007, p.74-76; Mack et al 2005). Many other studies suggest that manipulating facial expressions, postures, and gestures generates emotion-specific autonomic activity and produces a corresponding change in emotional phenomenology (e.g., Davis et al 2009; Laird 2007; Niedenthal 2007).

These studies appear to support the idea that mental states like emotions are partially constituted by expressive behavior. The bodily or facial expression of some emotions is part of the physical vehicle by which we realize that emotion. Removing an aspect of this vehicle thus removes part of the emotion itself—much like removing spark plugs from a car engine removes its capacity to realize locomotion—and the experience of the emotion is altered accordingly. But this evidence does not suggest that emotions are *identical* with their behavioral expression. There are still internal neural, physiological, and phenomenal parts of emotions not exhausted by their behavioral manifestation or the subpersonal “affect programs” that underwrite them (more on this below). When I am genuinely happy and smile broadly, for example, my happiness is not simply *in* the physical features of my publically-observable smile, or *in* the complex neural and physiological processes that enable me to perform such a smile. Both components are needed for the realization of my happiness. How these internal and external components integrate their respective functions in realizing emotional processes is an open empirical question that need not concern us here (see Laird 2007 and Niedenthal 2007 for overviews;

⁶ The following examples assist in responding to the objection that, since their facial paralysis is congenital, people with Moebius Syndrome have no benchmark against which to measure “proper” emotional phenomenology and thus aren’t in a position to make reliable judgments about its purported diminishment.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

see also Colombetti 2014 and Maiese 2011). The point is that they *do*. And the external parts of this process are publically available, ripe for seeing.

Objections

I now consider some common objections to this version of DSP. This list is not exhaustive; nor do I think that the discussion above is sufficient to establish the truth of DSP. Rather, my intention in what follows is simply to show that DSP has the resources to answer these objections.

The behaviorism objection

Pierre Jacob (2011) objects that DSP entails a kind of crude behaviorism. According to Jacob, another's bodily expressions either constitute their emotional states or they do not. If they do *not*, then we do not directly perceive another's mental states, only their behavior, and we've made no advance beyond inferentialist approaches to other minds that affirm UP. If they *do*, however, then DSP entails a crude reductive behaviorism that, among other faults, jettisons the first-person dimension phenomenologists claim to be most interested in.

This objection can be dealt with fairly easily since it rests on a mischaracterization of DSP. The relevant notion of "constitution" (i.e., in the claim that mental states are constituted by behavior) can be taken in a strong or weak sense. Taken in the strong sense, "constitutes" means "amounts to" or "equals". If phenomenologists mean to say that mental states amount to or equal behavior—e.g., John's anger simply *is* his frowning, fist-clenching, etc., and nothing more—this interpretation would commit them to a kind of crude behaviorism.

But phenomenologists don't endorse this strong sense of constitution. A second, weaker interpretation of "constitution" is available. On this interpretation, "constitutes" means "is a part of"—the way, for example, the tip of an iceberg constitutes a proper part of the iceberg (without, of course, constituting the *entire* iceberg). Tips are a constitutive part of icebergs, but icebergs are not wholly constituted by their tips. Analogously, we see others' emotions by seeing the external public-facing "tips", as it were. But this weaker sense of constitution doesn't entail crude behaviorism. Although certain expressive dynamics constitute an external "tip" of some emotional processes, the view doesn't thereby imply that we perceive *all* of the relevant mental phenomena. Once again, mental states such as emotions are structurally complex: they are *hybrid*, consisting of functionally integrated internal and external components.

So, saying that we perceive external components of some mental states is consistent with there being other aspects or components, such as their physiological signature or first-person dimension, that are not directly perceived by others. Something like this is what phenomenologists seem to have in mind when they speak of the irreducible *alterity* of the Other (e.g., Levinas 1999). In other words, phenomenologists are quite explicit about the fact that another's subjectivity is simultaneously both *immanent* (i.e., concretely embodied in their expressive behavior) as well as *transcendent* (i.e., partially

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

beyond the reach of my perceptual capacities) (Taipale 2015). This reading of DSP—informed by a hybrid account of embodied mentality—thus appears to offer a way through the Scylla of Cartesian internalism and Charybdis of behaviorism Jacob’s criticism rests on.⁷

The absent behavior objection

Ken Aizawa (forthcoming) offers a related objection. Following Jacob, he begins by observing that DSP claims cognition is a type of behavior. But Aizawa objects to this idea—the view, as he puts it, “that cognitive properties are properties of the brain-body complex, rather than properties of the brain” (Aizawa forthcoming, p.9). Aizawa appeals to two empirical cases that purport to show a distinction between cognition and behavior: experiments with neuromuscular blockade and locked-in syndrome. Aizawa argues that these cases are examples of cognitive processing continuing in the absence of behavior. Accordingly, they challenge any view identifying cognition with behavior insofar as the former can function without the latter.

A neuromuscular blockade operates by paralyzing patients while allowing them to retain conscious awareness. They can be useful for surgeons, for instance, who need to manipulate patients on the operating table without encountering muscular resistance. However, administering paralytics can potentially create scenarios where it’s difficult to tell if a patient has been properly anaesthetized. As a result, there have been occasions where patients have undergone surgery, fully aware and in great pain, but unable to report their suffering due to their induced paralysis (Osterman et al 2001). Similarly, patients suffering from Locked-in syndrome—a condition resulting from damage to the brain stem, which leads to a near-total paralysis except for vertical eye movement and blinking—appear to be fully conscious, with largely unaffected cognitive functioning (Schnakers et al 2009; León-Carrión et al 2002; see also Bauby 1997). Again, Aizawa argues that these cases challenge DSP since they appear to provide cases in which cognitive processing remains untouched in the absence of overt neuromuscular activity (Aizawa forthcoming, p.11).⁸

DSP can offer several points in response. First, Aizawa may be too quick in assuming that cognitive processing remains untouched in the absence of overt neuromuscular activity. For instance, some of the phenomenological descriptions we find in Jean-Dominique Bauby’s (1997) first-person account of living with locked in syndrome—conveyed to his nurse via coded eye blinks—suggest otherwise (e.g., his experiences take on an unstable, shifting, or dream-like quality). Additionally, there is evidence that individuals who spend extended periods of time in solitary confinement—with severe restrictions on movement and environmental interaction—experience hallucinations and alterations of consciousness (depersonalization, derealization) (Guenther 2013). It may be that the phenomenal

⁷ See Krueger and Overgaard (2012) for further discussion of this objection.

⁸ While I disagree with Aizawa’s objection, I very much agree with his observation that the question of whether cognition is a type of behavior is more than a mere terminological dispute. As these cases indicate, the question has significant practical implications and is therefore worthy of careful empirical consideration (Aizawa 2015, p.11).

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

character of consciousness is altered via the prolonged restriction or total absence of neuromuscular activity.⁹

More substantively, Aizawa—like Jacob—seems to attribute a strong sense of constitution to DSP. But as indicated previously, this is a crude behaviorism phenomenologically motivated defenders of DSP don't endorse. Again, the claim is not that cognition *amounts to* or *is* behavior—in the sense of being wholly reducible to it—but rather that behavior is an external part of some cognitive process involving dynamically integrated “brain-body complexes”, to use Aizawa's expression. Acknowledging the role that the latter plays in driving some cognitive processes does not entail rejecting or disregarding the crucial role of the former.

In fact, this weaker sense of constitution would actually predict that some cognitive processing continues in the absence of overt neuromuscular activity since internal components of various cognitive processes may retain some level of functioning even when decoupled from external behavioral components. For example, we can think all manner of thoughts without any behavioral indication of these thoughts; and we can have emotional experiences or become sexually aroused while asleep. Our inner life continues to hum along in the absence of overt neuromuscular activity each night (although there is often *some* overt behavior going on, such as periodic limb movements and postural adjustments, or eye movements during REM sleep). Likewise, we can—at least potentially—perform mathematical operations entirely in our head, without using a pencil and paper, gesturing, or counting on our fingers. But the salient point is that using a pencil and paper, or gesturing while working through a problem, *amplifies* our computational facility; these artifacts and actions grant access to modes of thought that would otherwise remain very difficult or perhaps impossible to achieve without their ongoing input (Goldin-Meadow 2001; Rumelhart and McClelland 1986).

Similarly, in the case of emotions, behavioral components may amplify the character or intensity of the emotion by contributing information and self-regulatory resources that open up new modes of affective experience. It seems that musculoskeletal feedback from grimacing, for instance, can amplify the felt intensity of pain (Kleck et al 1976). And the point, then, is that in some cases, we need these external resources to realize certain mental states, such as emotions, in their full capacity. Like Jacob's objection, Aizawa's objection only works if we attribute a crude behaviorism to DSP that isn't actually representative of the view.

The part-whole objection

⁹ Aizawa might respond that long-term changes in a situation—e.g., being locked up in solitary confinement, which leads to an impoverished perceptual environment and diminished sensorimotor feedback—may indicate important relearning conditions that causally impact the functioning of the cognitive system as a whole. But it doesn't thereby follow that these changes pick out *constitutive* relations between features of the environment and, e.g., phenomenal experience. This worry highlights a lack of clarity with respect to the role temporal dynamics play in establishing putative cases of extended cognitive systems. This is a complicated point; I cannot do it justice here. The reader is encouraged to look at Clark's (2008) treatment of this question from the perspective of Dynamic Systems theory (e.g., pp. 24-29). My thanks to Albert Newen for raising this point.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

Although W.E.S. McNeill (2012) is sympathetic to the idea that we can see mental states, he is critical of versions of DSP that rely on a hybrid notion of the embodied mind.¹⁰ McNeill argues that even if we grant some mental states are partially embodied in visible behavior, this fact alone is not sufficient for thinking we actually see the mental state. We might see some trees, for instance, and the trees we see might be part of a wood. But just because we see some of the trees comprising the wood, it doesn't thereby follow that we see the wood (McNeill 2012, p.583). Similarly, we might see cards without seeing the deck of which they are a part, or ships without seeing the whole fleet. McNeill argues that, analogously, we might see a part of John's anger in his frowning without actually seeing the anger of which it is a part. Seeing parts is not sufficient for seeing the whole.

As Overgaard (2014) observes, it's not clear this example works. There are different types of part-whole relations, each with their own logical structure, which McNeill's example overlooks. Specifically, McNeill's tree-wood example picks out a *member-collection* relation while DSP's behavioral state claim picks out a *component-integral object* relation (Winston et al 1987). So, it may be that seeing particular members (trees, playing cards, ships) is in some cases insufficient for seeing the collection of which they are a part (forest, deck, fleet). But the logic of the component-integral object relation works differently. In these cases, certain components of "integral objects"—i.e., objects exhibiting a patterned organization bearing specific structural and functional relations to their components—may be so essential, structurally and functionally, that seeing a component *is* in fact sufficient to see the object of which it is a part.

For instance, when I show a visitor significant parts of the University of Exeter campus (the Forum, Reed Hall, Peter Chalk Centre, Northcote House, and Amory Building), they can rightfully claim to have seen the University of Exeter—even though there are many other parts I did not show them. Of course, just showing them a pebble I picked up from outside my office building would not be sufficient for them to see the University of Exeter. That pebble is not a significant part of the university. However, this particular collection of buildings *is* an integral part of the University of Exeter's identity. To see this collection of buildings is thus to see the University of Exeter. Similarly, as the empirical evidence canvassed earlier suggests, certain behavioral components are so structurally and functionally integral to the emotion that, in their absence, the emotion is profoundly compromised or actually disappears altogether. Accordingly, it seems as if the embodied component is significant enough to the structural and functional integrity of the emotion that to see the component is sufficient to see the emotion.

The asymmetry of access objection

Another objection stems from the observation of a stark asymmetry between self-experience and other-experience. When I experience an emotion, say, I feel it immediately and know it directly *as mine*. However, I lack this sort of first-person access to the others' experiential lives. In other words, "we never have direct knowledge that other human beings are in whatever mental states they are in. It is this stark asymmetry that generates the epistemological problem of other minds" (Hyslop 2015; see also

¹⁰ McNeill (2012) offers a number of careful objections to DSP that go well beyond the scope of what I can discuss here. See Overgaard (2014) for in-depth responses to these objections.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

de Vignemont 2010). But in claiming we enjoy direct access to other minds, DSP appears to deny or overlook this asymmetry. And by overlooking the fact that we don't have the same kind of access to the minds of others that we have to our own, DSP rests on a highly implausible claim and is therefore probably false.

In response, we can first note DSP acknowledges—and actually insists on—the asymmetry between self-experience and other-experience. From a phenomenological perspective, it's clear this asymmetry exists and is an unavoidable feature of human experience; what's unclear is how one would go about challenging it. Husserl, for instance, argues this asymmetry is phenomenologically constitutional for intersubjectivity. Without it, I would be incapable of experiencing another's mind *as other* but would instead experience it as “merely a moment of my own essence, and ultimately he himself and I myself would be the same” (Husserl 1999, p. 109). Similarly, Merleau-Ponty observes “[t]he grief and anger of another have never quite the same significance for him as they have for me. For him these situations are lived through, for me they are displayed” (Merleau-Ponty 2002, p. 415).

The salient point is that while the asymmetry of self-experience and other-experience clearly entail different modes of access to minds, it doesn't follow that these different modes of access necessarily entail a difference in terms of *directness* (Overgaard 2012). On DSP, John's anger is visible, embodied within his expressive behavior. I know John's anger by seeing it directly. In my own case, I know my anger by feeling it directly. So, while my mode of access to these two instances of anger clearly differs—feeling vs. seeing—both nevertheless involve a direct awareness of the anger itself. Importantly, knowing John's anger by seeing it is only less direct than knowing my anger by feeling it if introspective access to one's mental state is taken to constitute the gold standard of what directness amounts to (Zahavi 2014, p.165). But why assume this? Why can't minds be experienced in more than one way—and with equal directness? As Zahavi notes, “arguably there is no more direct way of knowing that another is in pain than seeing him writhe in pain” (Zahavi 2014, p.165). As should be clear, DSP can thus still accommodate the basic asymmetry between self- and other-experience while still consistently denying that either is less direct than the other.

The irrelevance objection

I conclude with a final objection. Some critics (Hershbach 2008; Spaulding 2010) argue that DSP—in contrast to alternative theories of social cognition in cognitive science, such as Theory Theory (TT) or Simulation Theory (ST)—has such a limited explanatory scope that it's irrelevant for developing an empirically grounded account of how we understand other minds. Clearly there are many instances when social perception is limited: while interacting with someone in less than ideal conditions such as looking at them from far away or in poor lighting, or when trying to interpret ambiguous behavior or complex mental states like ulterior motives, irony, jealousy, or the like—states that don't necessarily have a discernible behavioral signature. In these cases, we clearly need extra-perceptual mechanisms (e.g., folk psychology, simulation, or some combination of the two). In short: direct social perception can only reach a very small part of the complex topography of our social life.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

DSP need not entirely disagree with the spirit of this objection. In the hands of even its most ardent contemporary defenders, DSP is not offered as a comprehensive theory of social cognition (Gallagher 2008; Zahavi 2011). Rather, DSP acknowledges that perception is one tool in our social toolkit. It may arguably be a very important tool—but arguing for this point is not inconsistent with conceding that we sometimes draw upon other tools to navigate the complexities of our social life.

Still, the critic (e.g., Spaulding 2010) might press the point and argue that DSP targets a different *explanandum* than do other approaches, and ultimately what it accounts for (our perceptual encounter with others' mental states) has limited explanatory scope. In contrast to DSP, approaches such as TT and ST offer characterizations of the *sub-personal* cognitive or neural mechanisms causally responsible for our understanding of other minds. But these mechanisms, like physiological mechanisms enabling digestion or respiration, lies beneath the reach of our awareness. We can investigate the structure and functioning of these various mechanisms without worrying about consciousness. Moreover, since personal-level experiences (which DSP is concerned with) ultimately emerge from causally antecedent sub-personal processes, the latter ought to be given explanatory precedence when it comes to developing a theory of other minds. In other words, it's at *this* level that our explanations of how we experience and know other minds should "bottom out".

DSP can say several things in response. First, it's true that DSP is not looking to offer characterizations of sub-personal mechanisms responsible for our ability to see others as minded, insofar as these mechanisms work outside of consciousness. Phenomenology is first and foremost concerned with *experience*. So Spaulding, a consistently helpful critic of DSP, is in this case simply wrong when she suggests that DSP defenders think the role of phenomenology "is to dictate the nature of operative sub-personal processes" (Spaulding 2010, p.131).

Yet the DSP defender can still grant Spaulding's point that, generally speaking, alternative approaches such as TT and ST are in fact working at a different level of explanation while still asserting DSP's relevance. For it seems odd to suggest that the phenomenology of certain cognitive processes *has no relevance whatsoever* when it comes to understanding the nature of those same processes (see Spaulding 2010, p.131). Social cognition theorists should not accept this sort of unquestioned reductionism. And phenomenologists likewise ought not to accept the implication that theirs is a purely descriptive project of taxonomy and classification devoid of causal-explanatory potency.

Consider phenomenological psychopathology. Phenomenological approaches have enabled us to get a clearer grip on the experiential dimension of the patient's disorder—how schizophrenia, for instance, is lived through from the first-person perspective—as well as the structures or modes of consciousness that allow the disorder to manifest the way that it does. These descriptions allow researchers to better understand the character of a given disorder and make important diagnostic distinctions based on this character. But they can also contribute to causal explanations, too.

For example, charting symptom progression in schizophrenia is not simply a matter of isolating subpersonal neurological abnormalities. This is because phenomenological features of the patient's subjective life exacerbate the experiential fragmentation distinctive of the schizophrenic illness; they

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

“provide both the motivation and the field of possibility for the progressive symptomatic developments” (Parnas and Sass 2008). Certain causal explanations require both neurobiological *and* phenomenological elements (McClamrock 1995). Even in cases where phenomenology need not be part of specific causal explanations, it can still provide helpful diagnostic clues about where to look for the relevant sub-personal mechanisms. Neuroscientific work on empathy and mirror neurons—under the broader rubric of ST—appeals centrally to individuals’ perceptual experience of others’ mental states and intentional actions. Both what they see and how they see it (i.e., their phenomenology) constrains the target explanandum at the sub-personal level (Gallese 2001).

Finally, Newen (forthcoming) and Marchi & Newen (2015) suggests another strategy for responding to this objection. They survey extensive evidence suggesting that our perceptual experiences of others’ emotional expressions are sensitive to, and modified by, sociocultural background knowledge (beliefs, values, images, etc.). This view—conjoined with a liberal-content view of perception, according to which we can develop the skills to perceive more than mere colors, shapes, and edges, but also rich content like causal relations, intentions, agency, natural and artificial kinds, and social phenomena—suggests that, contra the irrelevance objection, perception needs to remain a central part of our considerations of social cognition. This is because perception—including social perception—is a kind of practical expertise that can be developed, shaped and refined in various ways. And thus we can (at least potentially) develop the skills necessary to perceive much more of others’ mental life than this objection concedes. To jettison perception from our consideration of social cognition thus seems premature.

In sum, DSP has an important role to play in ongoing debates about our ability to perceive and engage with other minds. It is both philosophically defensible and empirically supported. To be clear, I have not considered whether DSP ought to be *the* primary approach to other minds or, rather, whether it might supplement alternative approaches (e.g., TT and ST). That is a discussion for another time.¹¹

¹¹ For a recent collection of articles devoted to this and related issues, see Michael and De Bruin (2015).

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

References

Aizawa, K. (forthcoming). Cognition and behavior. *Synthese*.

Austin, J. L. (1979). Other Minds. In J. O. Urmson & G. J. Warnock (Eds.), *Philosophical Papers* (pp. 76–116). Oxford: Oxford University Press.

Bauby, J.-D. (1997). *The Diving Bell and the Butterfly*. London: Harper Perennial.

Baumeister, J.-C., G. Papa, and F. Foroni. (2016). Deeper than Skin Deep – The Effect of Botulinum Toxin-A on Emotion Processing. *Toxicon* 118: 86–90.

Bogart, K., & Matsumoto, D. (2010). Living with Moebius Syndrome: Adjustment, social competence, and satisfaction with life. *The Cleft Palate-Craniofacial Journal*, 47(2), 134–142.

Briegel, W. (2006). Neuropsychiatric findings of Möbius sequence – a review. *Clinical Genetics*, 70(2), 91–97. Carter, J. A., Gordon, E. c., & Palermos, S. O. (2015). Extended Emotion. *Philosophical Psychology*.

Chwalisz, K., Diener, E., & Gallagher, D. (1988). Autonomic arousal feedback and emotional experience: evidence from the spinal cord injured. *Journal of Personality and Social Psychology*, 54(5), 820–828.

Clark, A., 2008. *Supersizing the mind: embodiment, action, and cognitive extension*. Oxford University Press, Oxford.

Cole, J. (1998). *About Face*. Cambridge: MIT Press.

Cole, J. (1999). On “Being Faceless”: Selfhood and Facial Embodiment. In S. Gallagher & J. Shear (Eds.), *Models of the Self* (pp. 301–318). Exeter: Imprint Academic.

Cole, J., & Spalding, H. (2009). *The invisible smile: living without facial expression*. Oxford: Oxford University Press.

Colombetti, G. (2014). *The Feeling Body: Affective Science Meets the Enactive Mind*. Cambridge, MA: MIT Press.

Damasio, A. (1999). *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. New York: Harcourt Brace.

Davis, J.I., Senghas, A., & Ochsner, K.N. (2009). How does facial feedback modulate emotional experience? *Journal of Research in Personality* 43(5), 822–829.

Davis, J. I., Senghas, A., Brandt, F., & Ochsner, K. N. (2010). The effects of BOTOX injections on emotional experience. *Emotion*, 10(3), 433–440.

De Vignemont, F. (2010). Knowing Other People’s Mental States as if They Were One’s Own. In D. Schmicking & S. Gallagher (Eds.), *Handbook of Phenomenology and Cognitive Science* (pp. 283–299). New York: Springer.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

Dewey, J. (2008). The Theory of Emotion. In J. A. Boydston (Ed.), *The Early Works, 1882-1898* (Vol. 4). Carbondale: Southern Illinois University Press.

Dretske, F. (1973). Perception and Other Minds. *Noûs*, 7(1), 34–44.

Duddington, N. A. (1918). Our Knowledge of Other Minds. *Proceedings of the Aristotelian Society*, 19, 147–178.

Epley, N., & Waytz, A. (2009). Mind Perception. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *The Handbook of Social Psychology* (5th ed., pp. 498–541). New York: Wiley.

Gallagher, S. (2008). Direct Perception in the Intersubjective Context. *Consciousness and Cognition* 17(2), 535-543.

Gallagher, S. (2016). The Minds of Others. In D. O. Dahlstrom, A. Elpidorou, & W. Hopp (Eds.), *Philosophy of Mind and Phenomenology: Conceptual and Empirical Issues*. New York: Routledge.

Gallagher, S., & Zahavi, D. (2008). *The Phenomenological Mind: An Introduction to Philosophy of Mind and Cognitive Science*. New York: Routledge.

Gallese, V. (2001). The “shared manifold” hypothesis: from mirror neurons to empathy. *Journal of Consciousness Studies*, 8(5-7), 33–50.

Goldin-Meadow, S., Nusbaum, H., Kelly, S. D., & Wagner, S. (2001). Explaining Math: Gesturing Lightens the Load. *Psychological Science*, 12(6), 516–522. Gray, K., & Schein, C. (2012). Two Minds Vs. Two Philosophies: Mind Perception Defines Morality and Dissolves the Debate Between Deontology and Utilitarianism. *Review of Philosophy and Psychology*, 3(3), 405–423.

Gray, K., & Schein, C., 2012. Two Minds Vs. Two Philosophies: Mind Perception Defines Morality and Dissolves the Debate Between Deontology and Utilitarianism. *Review of Philosophy and Psychology*, 3(3), 405–423.

Green, M. (2010). Perceiving Emotions. *Aristotelian Society Supplementary Volume*, 84(1), 45–61. Havas, D. A., Glenberg, A. M., Gutowski, K. A., Lucarelli, M. J., & Davidson, R. J. (2010). Cosmetic Use of Botulinum Toxin-A Affects Processing of Emotional Language. *Psychological Science*, 21(7), 895–900.

Guenther, L. (2013). *Solitary Confinement: Social Death and Its Afterlives* (1 edition). Minneapolis: University of Minnesota Press.

Havas, D.A., Glenberg, A.M., Gutowski, K.A., Lucarelli, M.J., & Davidson, R.J., 2010. Cosmetic Use of Botulinum Toxin-A Affects Processing of Emotional Language. *Psychological Science* (7)21, 895–900.

Herschbach, M. (2008). Folk psychological and phenomenological accounts of social perception. *Philosophical Explorations: An International Journal for the Philosophy of Mind and Action*, 11(3), 223–235.

- Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.
- Hohmann, G. W. (1966). Some effects of Spinal Cord Lesions on Experienced Emotional Feelings. *Psychophysiology*, 3(2), 143–156.
- Husserl, E. (1970). *The Crisis of European Sciences and Transcendental Philosophy: An Introduction to Phenomenological Philosophy*. (D. Carr, Trans.). Evanston: Northwestern University Press.
- Husserl, E. (1998). *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy--First Book: General Introduction to a Pure Phenomenology*. (F. Kersten, Trans.). Dordrecht: Kluwer Academic Publishers.
- Husserl, E. (1999). *Cartesian Meditations: An Introduction to Phenomenology*. (D. Cairns, Trans.). Boston: Kluwer Academic Publishers.
- Husserl, E. (2006). *The basic problems of phenomenology: From the lectures, winter semester, 1910-1911*. (I. Farin & J. G. Hart, Trans.). Dordrecht, The Netherlands: Springer.
- Hyslop, A. (2015). Other Minds. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2015). Retrieved from <http://plato.stanford.edu/archives/fall2015/entries/other-minds/>
- Inami, M. (2001). The Problem of Other Minds in the Buddhist Epistemological Tradition. *Journal of Indian Philosophy*, 29(4), 465–483. Jacob, P. (2011). The Direct-Perception Model of Empathy: a Critique. *Review of Philosophy and Psychology*, 2(3), 519–540.
- Jacob, P. (2011). The Direct-Perception Model of Empathy: a Critique. *Review of Philosophy and Psychology* 2(3), 519–540.
- Jardine, James, and Thomas Szanto. (forthcoming). Empathy in the Phenomenological Tradition. *Routledge Handbook of Philosophy of Empathy*. London, New York: Routledge.
- Johnson, S. C. (2000). The recognition of mentalistic agents in infancy. *Trends in Cognitive Sciences*, 4(1), 22–28.
- Kleck, R. E., Vaughan, R. C., Cartwright-Smith, J., Vaughan, K. B., Colby, C. Z., & Lanzetta, J. T. (1976). Effects of being observed on expressive, subjective, and physiological responses to painful stimuli. *Journal of Personality and Social Psychology*, 34(6), 1211–1218.
- Krueger, J. (2008). Levinasian Reflections on Somaticity and the Ethical Self. *Inquiry: An Interdisciplinary Journal of Philosophy*, 51(6), 603–626.
- Krueger, J. (2012). Seeing mind in action. *Phenomenology and the Cognitive Sciences*, 11(2), 149–173.
- Krueger, J. (2013). Watsuji's Phenomenology of Embodiment and Social Space. *Philosophy East and West*, 63(2), 127–152.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

Krueger, J. (2014). Dewey's Rejection of the Emotion/Expression Distinction. In T. Solymosi & J. R. Shook (Eds.), *Neuroscience, Neurophilosophy, and Pragmatism: Brains at Work in the World* (pp. 140–161). New York: Palgrave Macmillan.

Krueger, J., & Henriksen, M. G. (forthcoming). Embodiment and affectivity in Moebius Syndrome and Schizophrenia: A phenomenological analysis. In J. E. Hackett & J. A. Simmons (Eds.), *Phenomenology for the 21st Century*. Palgrave Macmillan.

Krueger, J., & Overgaard, S. (2012). Seeing subjectivity: Defending a perceptual account of other minds. *ProtoSociology: Consciousness and Subjectivity*, 47, 239–262.

Laird, J. D. (2007). *Feelings: The perception of self*. Oxford: Oxford University Press.

LeDoux, J. E. (1996). *The Emotional Brain*. New York: Simon and Shuster.

León-Carrión, J., Eeckhout, P. van, Domínguez-Morales, M. del R., & Pérez-Santamaría, F. J. (2002). Survey: The locked-in syndrome: a syndrome looking for a therapy. *Brain Injury*, 16(7), 571–582.

Leslie, A. M. (1987). Pretense and representation: the origins of "theory of mind." *Psychological Review*, 94, 412–426.

Levinas, E. (1999). *Alterity and Transcendence*. (M. B. Smith, Trans.). London: The Athlone Press.

Mack, H., Birbaumer, N., Kaps, H. P., Badke, A., & Kaiser, J. (2005). Motion and emotion: Emotion processing in quadriplegic patients and athletes. *Zeitschrift Für Medizinische Psychologie*, 14(4), 159–166.

Maiese, M. (2011). *Embodiment, Emotion, and Cognition*. New York: Palgrave Macmillan.

Marchi, F., & Newen, A. (2015). Cognitive penetrability and emotion recognition in human facial expressions. *Frontiers in Psychology* 6(828), 1–12.

Michael, J. & De Bruin, L. (2015). Social Perception [Special issue]. *Consciousness and Cognition*, 36.

McCarthy, E. (2011). *Ethics Embodied: Rethinking Selfhood through Continental, Japanese, and Feminist Philosophies*. Lanham, Md.: Lexington Books.

McClamrock, R. (1995). *Existential cognition: Computational minds in the world*. Chicago: Chicago University Press.

McDowell, J. (1982). Criteria, defeasability, and knowledge. *Proceedings of the British Academy*, 68, 455–479.

McNeill, W. E. S. (2012). Embodiment and the Perceptual Hypothesis. *The Philosophical Quarterly*, 62(248), 569–591.

Merleau-Ponty, M. (2002). *Phenomenology of Perception*. Routledge: New York.

Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.

Newen, A. (forthcoming). Defending the liberal-content view of perceptual experience: direct social perception of emotions and person impressions. *Synthese*.

Newen, Albert, Anna Welpinghus, and Georg Juckel. (2015). Emotion recognition as pattern recognition: The Relevance of Perception. *Mind & Language* 30(2), 187–208.

Niedenthal, P. M. (2007). Embodying emotion. *Science*, 316(5827), 1002–1005.

Noë, A. (2004). *Action in Perception*. Cambridge: MIT Press.

Nussbaum, M. (2001). *Upheavals of Thought: The Intelligence of Emotions*. Cambridge: Cambridge University Press.

Osterman, J. E., Hopper, J., Heran, W. J., Keane, T. M., & van der Kolk, B. A. (2001). Awareness under anesthesia and the development of posttraumatic stress disorder☆. *General Hospital Psychiatry*, 23(4), 198–204.

Overgaard, S. (2006). The Problem of Other Minds: Wittgenstein's Phenomenological Perspective. *Phenomenology and the Cognitive Sciences*, 5(1), 53–73. Overgaard, S. (2007). *Wittgenstein and other minds: Rethinking subjectivity and intersubjectivity with Wittgenstein, Levinas, and Husserl*. London: Routledge.

Overgaard, S. (2013). Other People. In D. Zahavi (Ed.), *The Oxford Handbook of Contemporary Phenomenology* (pp. 460–479). New York; Oxford: Oxford University Press.

Overgaard, S. (2014). McNeill on Embodied Perception Theory. *The Philosophical Quarterly*, 64(254), 135–143.

Pacherie, E. (2005). Perceiving Intentions. In J. Sàáguas (Ed.), *A Explicação Da Interpretação Humana*. Edições Colibri, Lisbon, pp. 401–414.

Parnas, J., & Sass, L. A. (2008). Varieties of “Phenomenology”: On Description, Understanding, and Explanation in Psychiatry. In K. S. Kendler & J. Parnas (Eds.), *Philosophical Issues in Psychiatry: Explanation, Phenomenology, and Nosology* (pp. 239–278). Baltimore, MD: The Johns Hopkins University Press.

Pickard, H. (2003). Emotions and the Problem of Other Minds. In A. Hatzimoysis (Ed.), *Philosophy and the Emotions* (pp. 87–104). Cambridge: Cambridge University Press.

Prinz, J. J. (2004). *Gut Reactions: A Perceptual Theory of Emotions*. Oxford: Oxford University Press.

Proust, J. (2003) “Perceiving Intentions.” In J. Roessler & N. Eilan (Eds.), *Agency and Self-Awareness: Issues in Philosophy and Psychology* (pp.296–320). Oxford: Oxford University Press.

Ratcliffe, M. (2007). *Rethinking Commonsense Psychology: A Critique of Folk Psychology, Theory of Mind, and Simulation*. New York: Palgrave Macmillan.

- Forthcoming in *Oxford Handbook of 4E Cognition*, eds. Newen, de Bruin, & Gallagher. Oxford University Press.
- Rumelhart, D. E., & McClelland, J. L. (Eds.). (1986). *Parallel distributed processing: Explorations in the Microstructure of Cognition*. Cambridge: MIT Press/Bradford Press.
- Scheler, M. (1954). *The nature of sympathy*. (P. Heath, Trans.). London: Routledge and Kegan Paul.
- Schnakers, C., Vanhauzenhuysse, A., Giacino, J., Ventura, M., Boly, M., Majerus, S., ... Laureys, S. (2009). Diagnostic accuracy of the vegetative and minimally conscious state: Clinical consensus versus standardized neurobehavioral assessment. *BMC Neurology*, 9, 35.
- Smith, J. (2010). Seeing Other People. *Philosophy and Phenomenological Research*, 81(3), 731–748.
- Solomon, R. (2004). Emotions, Thoughts, and Feelings: Emotions and Engagements with the World. In R. Solomon (Ed.), *Thinking About Feeling: Contemporary Philosophers on Emotions* (pp. 76–88). Oxford: Oxford University Press.
- Spaulding, S. (2010). Embodied Cognition and Mindreading. *Mind & Language*, 25(1), 119–140.
- Spaulding, S. (2015). On Direct Social Perception. *Consciousness and Cognition* 36, 472–482.
- Stein, E. (1989). *On the Problem of Empathy*. (W. Stein, Trans.). Washington, D.C.: ICS Publications.
- Stout, R. (2010). Seeing the Anger in Someone's Face. *Aristotelian Society Supplementary Volume*, 84(1), 29–43.
- Taipale, J. (2015). Empathy and the Melodic Unity of the Other. *Human Studies*.
- Thompson, E. (2005). Empathy and Human Experience. In J. Proctor (Ed.), *Science, Religion, and the Human Experience* (pp. 261–285). New York: Oxford University Press.
- Watsuji, T. (1996). *Watsuji Tetsuro's Rinrigaku: Ethics in Japan*. (Y. Seisaku & R. E. Carter, Trans.). Albany: SUNY Press.
- Winston, M. E., Chaffin, R., & Herrmann, D. (1987). A Taxonomy of Part-Whole Relations. *Cognitive Science*, 11(4), 417–444.
- Wittgenstein, L. (1980). *Remarks on the Philosophy of Psychology*. (G. H. von Wright & H. Nyman, Eds., C. G. Luckhardt & M. A. E. Aue, Trans.) (Vol. I). Oxford: Blackwell.
- Zahavi, D. (2011). Empathy and Direct Social Perception: A Phenomenological Proposal. *Review of Philosophy and Psychology* 2(3), 541–558.
- Zahavi, D. (2014). *Self and other. Exploring subjectivity, empathy, and shame*. Corby: Oxford University Press.