

Revaluing the behaviorist ghost in enactivism and embodied cognition

Authors: Nikolai Alksnis and Jack Reynolds

Keywords: Behaviorism; enactivism; Phenomenology; Embodied Mind

This is a pre-print version of a paper forthcoming in:
Synthese. DOI 10.1007/s11229-019-02432-1
Please cite that version of the paper

Introduction

Despite its short historical moment in the sun, behaviorism has become something akin to a *theoria non grata*, a position that dare not be explicitly endorsed¹. The reasons for this are complex, of course, and they include sociological factors which we cannot consider here, but to put it briefly: many have doubted the ambition to establish law-like relationships between mental states and behavior that dispense with any sort of mentalistic or intentional idiom, judging that explanations of intelligent behavior require reference to qualia and/or mental events². Today, when behaviorism is discussed at all, it is usually in a negative manner, either as an attempt to discredit an opponent's view via a *reductio*, or by enabling a position to distinguish its identity and positive claims by reference to what it is (allegedly) not.

In this paper, however, we argue that the ghost of behaviorism is present in influential, contemporary work in the field of embodied and enactive cognition, and

than take this to be a problem for these views as some have (e.g. Block 2005; Jacob 2011; O'Brien and Opie 2015), we argue that once the behaviorist dimensions are clarified and distinguished from the straw-man version of the view, it is in fact an

¹ That said, Quine and Dennett are two very influential philosophers who acknowledge that their work has neo-behaviorist dimensions, as does Sellars via Edward Tolman (see Olen 2018).

² In philosophy, concerns related to the multiple realizability of mental events (i.e. pain) across different species, and perhaps computationally, have also been influential. We discuss pain below, but for a good response to this concern see Myin and Zahnoun 2018.

asset, one which will help with task of setting forth a scientifically reputable version of enactivism and/or philosophical behaviorism that is nonetheless not brain-centric but behavior-centric. While this is a bit like “the enemy of my enemy is my friend” strategy, as Shaun Gallagher notes (2019), with the shared enemy of behaviorism and enactivism being classical Cartesian views and/or orthodox cognitivism in its various guises, the task of this paper is to render this alliance philosophically plausible.

To do so, we begin by drawing on Gilbert Ryle and John Haugeland to set out a holistic version of behaviorism that is not obviously vulnerable to some of the received criticisms of the view, but which also has enough specificity to be distinguished from neo-pragmatism and other allied positions. In the second section of the paper, we deploy these insights to re-read B. F. Skinner’s work and look at the initial literature on the question of the relationship between his radical behaviorism and phenomenology, showing how this approach is favorable compared to other readings (e.g. Stout 2006; Tanney 2005) and also complements some other recent revisionist work on this question (e.g. Barrett 2019). In the third section, we arrive at perhaps the central claim of the paper: showing that various key behaviorist moves and insights are also apparent in contemporary enactivist work, focusing on a recent paper of Gallagher’s (with Somogy Varga) on direct social perception, which is charged with behaviorism by Pierre Jacob (2011). Although an obvious rejoinder is that Gallagher and many of the other key theorists of embodied cognition and enactivism are significantly indebted to phenomenology, and therefore are *not* behaviorists, in the fourth section of the paper we show that a significant behaviorist element is also present in the work of some classically recognized phenomenological figures (e.g. Merleau-Ponty), as counter-intuitive as this may seem.³

1. Behaviorism revisited: A Rylean take

At its heart, behaviorism is the theory that mental or intentional states can be explained in terms of behavior. Weaker versions of the view hold that mental or

³ **Acknowledgements:** We would like to acknowledge the seminar audiences at Deakin, Melbourne, and Monash universities, for their helpful feedback on this paper. In addition, we are appreciative of some insightful suggestions for improvement from the reviewers.

intentional states are best thus explained, stronger versions contend that they can *only* be explained in this way, or that they are thereby exhaustively explained, which could mean we dispense with such notions (Feyerabend 1963, 1965), or that we reduce mental or intentional idioms to the physical (Churchland 1986). However, the motivation behind the theory is less specific than this, particularly if we start from the roots of J.B. Watson's early conception: we can learn all there is to know about *Homo sapiens* just as we would with any species of animal; we monitor their behavior and piece together what we can from observations of the interaction between the organism and its milieu.

For many, this leaves out some of the most important aspects of human intelligence, including our inner lives, without which we are reduced to *mere* animals and left with no way to explain what makes us unique (language, love, flexible problem-solving, etc.). But the continuity thesis with respect to animality and basic cognition that behaviorism endorses is less counter-intuitive if we do not conceive of the animal mechanistically, that is, in terms of any rote stimulus and response, but rather also in terms of habits, skills, and learning⁴. This is all part of a strong behaviorist tradition, which includes all of the key figures and, at least in the work of George Herbert Mead (1934, 38), Edward Tolman (1932, 1951), and Gilbert Ryle, this is *not* given a mechanistic or reductive inflexion. Indeed, Peter Olen summarizes this well, noting that:

What matters is that the initial approach to studying language and inner episodes is either to see them as 'habit' or 'a form of behavior', or as simply reducible to physiological characterization (Olen 2018)

In short, the behaviorist wants to explain the nature of inner episodes and language through habit formation (including culture and history) and other physical factors that shape the body and brain. This is a very broad notion that can be explored in many different ways. This broad conception has traditionally been parceled into three categories: methodological behaviorism (psychology should be approached from a

⁴ We are not arguing that early behaviorism wholly succeeded in understanding animals and that the only problem left for it was explaining distinctively human skills and abilities. On the contrary, it is arguable that contemporary enactivist work delivers better on the behaviorist promise regarding understanding the continuity between human and animal behavior, showing that both cases require a major role being given to perspectival indexicality. In addition, enactivism can enrich behaviorism's understanding of the reciprocal causal relations between an organism and its milieu, but making that case is another paper.

behaviorist perspective), psychological behaviorism (the research project of behaviorism in psychology), and analytical or logical behaviorism (a behaviorist theory of semantics within philosophy) (Tanney 2009b). However, we believe this is exclusionary of an under-examined holistic and non-reductive approach to behaviorism, which has made (and continues to make) significant contributions to the overall goal of explaining human intelligence while avoiding the traditional problems. In short, we want to retain some of the core values of behaviorism but also cast aside some of the baggage that has wrongly been portrayed as a necessary component of it.

The work of Gilbert Ryle best exemplifies this variant, while other holistic versions of behaviorism can also be gleaned in psychology, for example in Mead's social behaviorism, in Tolman's "molar" behaviorism where there is an orientation to a given object as "goal" and not just a proximate stimulus that alone mechanistically causes behavior (Tolman 1932, cf. also Baum 2005), and even in some aspects of Skinner's radical behaviorism as we see in Section 2. But to commence with Ryle, his work aims to exorcise the *ghost in the machine*, which can be understood in two ways. Firstly, the refutation of Cartesian substance dualism (Ryle 2009, 21), and secondly to reveal the "category mistake" that mental processes are distinct from the actions they enable. Ryle writes that: "To talk of a person's mind [...] is to talk of the person's abilities, liabilities and inclinations to do and undergo certain sorts of things, and of the doing and undergoing of these things in the ordinary world" (ibid., 22). In other words, to understand a person's beliefs, thoughts, etc., we need to understand their behavioral dispositions, but dispositions are not the sort of thing that can be articulated as a mental state or property that obtains inside an agent, or even that should be strictly identified with its neurological conditions in that instant (and hence the issues that crop up for the identity theory of the mind and physicalism more generally). If behavioral kinds define mental kinds, and behavioral kinds can be explained by physical states, then by law of transitivity we seem able to conclude that mental kinds are defined by physical states. However, if a larger scale approach is taken with Ryle, including his reference to action in the ordinary world, then this collapse into the physical does not necessarily happen, and he can avoid any idea of nomological reduction and one-to-one correspondences between mental state/property and a particular behavior.

Consider one of Ryle's examples, that of a habitual smoker:

My being an habitual smoker does not entail that I am at this or that moment smoking; it is my permanent proneness to smoke when I am not eating, sleeping, lecturing or attending funerals, and have not quite recently been smoking (Ryle 2009, 31).

Here we see the dependence of habits and dispositions on a social context. The *mere* behavior of being a smoker already has context, one does not smoke when lecturing or attending funerals or hospitals, or any other situations that the agent learns it is inappropriate to smoke at. On such an account, an agent should never be understood as being stagnant, trotting out a handful of behaviors on command. Instead, an agent develops, adapts, and expresses new behavior over time. The defining claim for behaviorists is that previous interactions will be indispensable (if not exhaustive) to explaining future ones, albeit in often dynamic and therefore unique ways. To understand the smoker we must include such things as the physical effects of nicotine and the consequences of withdrawal, but we should also know whether that person is in a movie theatre or a hospital. This non-reductionist approach puts aside physical particulars, focusing instead on behavior in an overall larger context. It attempts to give legitimacy to the idea that the object of study is patterns of behavior over time in relation to an environment, which is always socio-historical but in a way that is also continuous with the behavior of animals, in particular those species that are also social. This can be read as something like the "goal objects," which help describe a complex set of behaviors, following Tolman's analysis of the rat in the maze, rather than simply passively responding to a direct external stimuli in mechanistic and passive fashion (Tolman 1932; cf. Merleau-Ponty 2010). While there are objections that Tolman's view assumes or smuggles in an intentional vocabulary (goals, purposes, etc.), his basic point resonates with Ryle's: behavior cannot be understood without the socio-historical context, wherein there is a complex intertwining of direct and indirect (proximal and distal) stimuli. Holistic behaviorism hence contends that talk of mental states and events are best understood as behavioral habits, actions, and tendencies. Such a theory aims to understand intentionality in a holistic, socio-environmental way that is compatible with scientific investigation, but it need not involve any commitment to reducibility.

As we will argue in more detail in Section 3, this account of intentionality resembles many enactivist theories. To anticipate, they share a commitment to explanatory holism, and in some cases also explicitly via understanding belief as a disposition (e.g. Gallagher 2005, 214), with the role of embodied habits being pivotal. Both are committed to some form of externalism in which the ego is in the world and consciousness is adverbial, fundamentally a doing (cf. Rowlands 2010), about being engaged in the world and projects: even, we might say, to an enaction. Ryle also has an adverbial take on cognition, in which behavior is intelligent, or not, based on the character of the action (so a clown is characterized as falling over *cleverly* as part of their skit, while an author of this paper falls over clumsily when walking their dog). This adverbial approach is meant to offer a middle way between the merely mental and the reductively physical (see Jackson 2011, 68-70). Because of such views, there is a shared deflationary response to the traditional conceptual and epistemological problem(s) concerning the existence of other minds (or particular attitudes or mental states of other people), since there is a loose allegiance to the idea that mental and intentional matters are best understood through behavior patterns. Like Watson, Ryle also emphasizes what is observable, but he has a more nuanced and sophisticated sense of this. The observable is not just muscular movement without context, but we see patterns of behavior that reveal more than meets the eye (construed in terms of retinal stimulation at a particular instant), and often more than any given agent might be consciously aware of (e.g. gestures, ways of inhabiting space, etc.), anticipating aspects of contemporary enactivist theses concerning direct (social) perception.

Nonetheless, a lingering question might be why these views are behaviorist in nature, rather than, say, a version of pragmatism where social context is also emphasized. This is a difficult question to parse, once we have given up an understanding of behavior as *mere* behavior with behaviorist philosophers like Mead, Tolman and Ryle, but it is useful to consider John Haugeland's (1990) influential division between neo-Cartesians, neo-Behaviorism and neo-Pragmatists (see also Hutto and Satne 2015). The neo-Cartesians are best characterized by Jerry Fodor and his computational theory of mind (Fodor 1975, 1994); intentionality is defined by computation, or representational mental states. However, this traditional theory of mind is precisely what enactivist and other 4e accounts of cognition are trying to move away from, mostly fueled by anti-internalist arguments. This opens the door to

neo-Behaviorism, which explains intentionality via ascription, with the main representative being Daniel Dennett (1978, 1987). However, that we define what is and isn't intentional by ascribing that trait to certain acts/individuals is generally seen as problematic. For example, we can state that the vending machine didn't want to give me the bottle of soft drink I paid for, and that it is plotting against me, as it always gives my friend his drink but often fails to give me mine. It seems important to be able to state independently of choice or non-scientific observation when intentionality is being correctly ascribed (see Alksnis 2015).

For many enactivists and other 4e supporters, this leaves neo-pragmatism as the preferred option (Hutto and Myin 2013; Gallagher 2017; Rosenthal and Bourgeois 1991; Jackson 2014), and they therefore draw on philosophers like Robert Brandom (1994), who claims that intentionality emerges from cultural practice. The goal of many of these thinkers is to show how a holistic, cultural understanding of intentionality is possible, and enactivists often appear to endorse Haugeland's idea that the socio-cultural context is what differentiates the neo-pragmatist position from the neo-behaviorist. But the socio-cultural context *is* available to the behaviorist. As Ryle has well indicated, gestures and the like have a social meaning and significance (as they do with various species of animal too, whose behavior is also more complex than mere mechanistic responses), but the question is how are we best to understand how they work and from where they derive their power. Do they primarily derive from language and discursive intentionality? Or are habits and social norms on a continuum, some of which obtains with animals too? The latter would be the beginnings of a more behaviorist position.

Nonetheless, the separation between the two is not as clear as is sometimes thought. In psychology, radical behaviorism is often seen as closely related to pragmatism (see Baum 2005, 30-4; c.f. also Rachlin and Frankel 2009). In philosophy, as Haugeland himself notes:

we might imagine a neo-behaviorist and a neo-pragmatist agreeing that animals and people share a certain primitive sort of intentionality [...] and yet also that a qualitatively 'higher' intentionality is possible only for conformists with a culture and language [...] Questions could be raised, of course, about what the two sorts of intentionality have to do with one another – why, in

particular, both are sorts of intentionality – but perhaps there would be enough similarities to justify the common term. (Haugeland 1998, 160-1)

A primitive account of intentionality could be a general directedness towards, without an understanding *about* something. For example, an animal can be directed towards food, without a concept of a meal, or that the food keeps the animal alive. The behaviorist and enactivist claim that we endorse is, with Carl Sachs, that “somatic intentionality precedes discursive intentionality both phylogenetically (in evolutionary history) and ontogenetically (in psychological development), and a complete account of both kinds of intentionality would have to not only acknowledge this fact but explain the causal relation between the two” (Sachs 2014, 152). Our view is that behaviorism is more helpful in this latter regard, and that neo-pragmatism by contrast confronts difficulties regarding animals, and indeed human animality, that behaviorism does not. Briefly put, neo-pragmatism often looks less naturalist, since humans alone are part of the game of giving and asking for reasons *a la* Brandom. It appears that those outside of the human linguistic practices are defined as being “poor-in-world”, to invoke some famous remarks from Heidegger in his *Fundamental Concepts of Metaphysics*. From this perspective, explaining how an individual, or humans as a species, ascend to be rich-in-world is unclear, at best (cf. Carman 2003; Danón 2018). By contrast, however, behaviorism is better placed to offer an adequate understanding of intelligent action that accommodates gradualist theses in philosophy of biology, as Watson, Tolman, and others, have emphasized⁵.

2. *Holistic behaviorism: Skinner and beyond*

To align the work of enactivism with behaviorism we will first examine some notable, but perhaps forgotten, responses to Skinner’s work. Our goal here is to reveal the depth of one of behaviorism’s more maligned theories, while also showing just how compatible such approaches are with enactivism and some aspects of contemporary naturalized phenomenology. Through this investigation we also hope to dispel the idea that holism should be taken as a cure for, or a proof against, behaviorism.

⁵ Fully explicating this is beyond us here, but see Reynolds 2019 for an account of how phenomena like mind, mentality, and morality might be understood in relation to animal behavior.

While not a common approach, there have been a handful of attempts to link behaviorism and phenomenology since both theories came into prominence, particularly as translations of French and German texts become readily available in English in the middle of the 20th Century. The most common approach to bring these two differing theories together is to select a leading phenomenologist and contrast it with the radical ideas of Skinner (Corriveau 1972; Faulconer and Williams 1985; Kvale and Grenness 1967; Packer 1985)⁶, or, less commonly, to pick a milder version of behaviorism like Mead and use that for the juxtaposition (Rosenthal and Bourgeois 1991). Such an analysis is effective at bringing out what commonalities there are beyond the most obvious listed above, and so provides a resource for our own endeavors.

While not especially well-versed in phenomenology, Willard F. Day is known for his advocacy of behaviorism, not least through his work in founding and running the journal *Behaviorism* (later entitled *Behavior and Philosophy*, see Knapp 1989). His work draws primarily on Wittgenstein, rather than a phenomenologist (Day 1969). Wittgenstein's relationship to both phenomenology and behaviorism have been much debated and we cannot resolve some of the difficult interpretive issues here. It is useful, however, to consider Day's discussion of anti-reductionism, an idea that is generally not attributed to Skinner (Day 1969, 492). In philosophy of mind Skinner's radical ideas are normally associated with a severe empiricism (Kim 2006; Dennett 1978), perhaps even the ontological poverty of Quine (1969) rather than anti-reductionism. Yet, as Day brings to our attention, Skinner must operate on the level of behaviors, which are invariably complex and multifaceted interactions. Furthermore, Skinner is anti-abstraction, for he wants all human events to be observable. This means he cannot appeal to something like a functionalist explanation that is overlaid on a physical structure such as the brain. Operating on the level of a behavioral description, then, ensures that the theory is (or at least should be) anti-reductionist in nature.

⁶ A book seemingly dedicated to the topic, entitled *Behaviorism and Phenomenology* (ed. Wann, 1964), refers to phenomenology as being related to the psychological investigation of the *phenomenal*, rather than the more accepted interpretation of phenomenology we are using in this paper.

Day also brings to our attention other similarities between Wittgenstein and Skinner, notably their anti-dualism and anti-mentalism, where the latter is defined as being Cartesian style mental states, something Skinner vehemently rejects. Labeling these two thinkers as anti-Cartesian is hardly controversial, but for Judith Scharff (1999), Skinner was not enough of an anti-Cartesian. Scharff claims that it is Skinner's commitment (or stance as one reviewer suggests) to determinism that leads him to this Cartesian theory of mind, as he wrestled with the difficulties in his own work. Such concerns around inconsistent, or non-lawlike behavior, was something that Skinner often struggled with. Consider a much discussed example from the philosophical literature, that of Putnam's super-Spartans (1963). In the case of pain, we expect someone who is feeling pain, that is, having a pain stimulus, would naturally respond with a certain behavior, like wincing in pain. However, in the super-Spartan case, due to the society's warrior attitude, all soldiers have been trained not to react to pain stimuli at all, breaking any claim that pain is defined by a certain physical response to the stimuli, as behaviorism seems to require.

One behaviorist defense against this has been to distinguish between something like the connotation and denotation of behaviors (Hocutt 1985, 1986), or that "mental and behavioral terms express different concepts (have different meanings), they, nonetheless, refer to the same properties" (Rowlands 1991, 97). For our super-Spartans, they may have different reactions to the stimulus, even though they share the painful properties with those of us that do wince. However, Putnam (1963) was aware of such a reply, coming up with super-super-Spartans, those that would even deny they experienced pain, or simply had no language to express it. If we extend this lack of similarities to everything but the experience of pain itself, this seems to remove any possibility that mental states are reducible to behavior.

That behaviorism cannot account for such an example has been the dominant conclusion since Putnam put the critique forward, but if we follow on from Scharff and Day's observations, we should reassess this critique. Rather than looking only to the experience of the agent, if we want to understand the behavior of the Spartan we also need to look at her enculturation. The reason we act differently compared to the Spartans is due to our different upbringing as individuals and the different ways our societies have developed. As Rowland Stout notes:

The point about the super-spartans is that they have a reason to repress their pain behavior. If that reason were reversed, then presumably they would express their feelings of pain. That is all that is required for the behaviorist. (Stout 2006, 9)

We will touch on what a “reason” is in a case like this below, but the basic point is that we can account for the super-Spartan’s pain response when we go beyond the scope of an individual, specifically, the response behavior the Spartan is taught, combined with the plasticity of the brain (Ward 2001). To know whether a Spartan is in pain is not just to look for a wince in her face when she is struck, it is instead to recognize that the behavior is part of (or differs from) a larger pattern, and perhaps notice the lack of full extension of her arm in her strikes or the comparative lack of vigor when running to meet the enemy. Consider a trainee soldier not being able to control her reactions, even after years of operant conditioning (i.e. further pain inflicted if she winces in pain). Her subsequent expulsion from the ranks again helps us explain why the Spartans act as they do compared to those whose pain behaviors are more easily observable⁷. Furthermore, it may well be that the operant conditioning works in a way that pervades *both* mind and body, and hence that in a certain sense the Spartan does not experience pain (e.g. an identical mental state) in the same way as those of us not so enculturated might, if we were confronted with what may appear to be the same stimuli on a strictly nerve-muscular construal.

Returning to the work of Scharff, she notes that Skinner found it hard to break out of an individualistic account of behavior. To support her claim Scharff points to Skinner’s difficulties with the nomological aspect of his theory (Scharff 1999, 4-6), and his attempts to modify his account of reflexes, something he struggled with and adapted throughout the length of his career (Skinner 1932, 1935, 1937, 1953, 1974). While Scharff singles out Skinner’s determinism as being the driving factor in these struggles, we question this and instead think it was his attempt to find regularity in

⁷ We acknowledge that this account lacks an explanation for the phenomenal character of pain, but this is not different from other naturalist accounts such as functionalist ones (see F. Jackson and Petit 1988, for a critique see Block 1978). Along similar lines it could be argued that the super-super-Spartans case once again dismisses the behaviorist moves we are making. However, this would lead to a genuine worry that the notion of pain has been bracketed away to the realm of the purely mental. If there is no trace of pain beyond the pure sensation, that is, no trace would be detectable in an agent’s physiology or within a larger historical context, the concept of pain seems to operate in a mind/body dichotomy in which the mind leaves no trace on the body.

what, from a more holistic perspective were often different situations (as in the case of the super-Spartans). Where we do align with Scharff is to endorse the claim that the work of Skinner can be expanded upon by adapting the notion of behavior to a non-reductive holistic one. Scharff attempted to combine Heidegger with Skinner (see Morf 1989 for a Sartrean version of this move), looking to ease Skinner's extreme determinism with less rigid language (Scharff 1999, 8).

For us, however, it is in Ryle's work that we better see what Skinner's is lacking. Ryle's account of intelligence is inherently more holistic and actually takes some inspiration from the phenomenologists (especially Heidegger and Husserl, see Thomasson 2002; Chase and Reynolds 2017) while also working within a materialist, if not naturalist framework. However, not all see Ryle as an advocate for behaviorism. Julia Tanney (2005, 2009a) argues against the label of behaviorism being applied to Ryle, pointing out that his view does not align with philosophical behaviorism as associated with the logical positivists. In fact, Ryle can be said to argue against empiricism of this kind (Tanney 2009b). We would agree with this, but emphasize that our account distances Ryle from the caricature of behaviorism. What Tanney primarily sees as distinguishing Ryle from behaviorism is his anti-reductionism, a trait we have just argued fits well with a more holistic approach to behaviorism, rather than being a counter to it.

Similarly, Gabrielle Jackson takes the proximity of Ryle to phenomenological figures such as Merleau-Ponty as a clear sign that he is not a behaviorist, yet we will soon see that being a phenomenologist does not exclude one from also having behaviorist commitments regarding perception, action, and cognition. Furthermore, the import placed on the body in her applications of Merleau-Ponty and Ryle to empirical work is in no way oppositional to the approach we suggest (Jackson 2014, 2018). Rather, it fits well with the idea that psychology plus historical context are both needed to explain human behavior. In the next section we will continue our argument for why what is often labeled an enactive approach is often very difficult to distinguish from a holistic behaviorism.

Stout, however, agrees with our assessment of Ryle's behaviorism, and uses it to further his own account (Stout 2006). Labeled *non-reductive behaviorism*, Stout

emphasizes what we have identified as an essential feature to advance behaviorism beyond its normal, over simplified characterization. His work introduces the idea of *practical rationality* to help define intelligent behavior from other kinds. He uses this notion to define mental states as those dispositions that compel an agent to act rationally (ibid., chapter 6). To return to Stout's quote above, this would make the reason for the Spartan's action tied to a notion of rationality, for example, to stay in their current job they need not flinch when in pain.

This demand of rationality may be better taken up by Merleau-Ponty's conception of the "intentional arc" (see section 4), or the idea of large projects as suggest by Ryle. This is in part due to Stout's conception of practical rationality being grounded in something like projects, for as he acknowledges what is rational in one situation may not be in another (ibid., 100). Instead, it is the context of a given situation that helps illuminate what is, or isn't, the more compelling action to take. There is also a worry that Stout justifies the actions of the Spartan by saying she *wants* to stay a Spartan and therefore does not flinch at pain. This would be bringing in mental language to describe behavior, something the classical behaviorist does not have the luxury to do (Hempel 1966). Counter to this, we prioritize the context around the agent as being key to understanding her intelligent behavior. We acknowledge that Stout's work may in fact be compatible with our own, as it is simply not clear what are the bounds he places on the *practical* and this needs to be further clarified before the idea of "rationality" can be applied.

3. *Enactivist behaviorism: direct social perception*

To introduce some of the connections between behaviorism (holistic) and enactivism, it is helpful to offer a short historical reminder. Following the eclipse of behaviorism in both psychology and philosophy in the 1970s and 1980s, there was a *turn towards* functionalist-computationalist models of the mind and cognition. This was accompanied by a *turn away* from any holistic concern with bodies and any conception of intelligence as grounded in overt action and performance. This involved a rejection not just of positions that understood intelligence through embodied action, but also the theories that adopted and relied (to greater or lesser extents) on this kind of approach, which included behaviorism, pragmatism, and also, as we will see,

phenomenology. For these views the meaning of actions are not in the head of an agent, but rather in the world in which the agent moves through. The behaviorist version of this position is best captured by the Rylean dictum that “overt intelligent performances are not clues to the working of minds, that rather they are those workings” (Finn 1971, 432). Although this does not entail a commitment to the reducibility of mind to any narrow conception of the physical, there remains a strong claim of identity in Finn’s formulation that is important for our purposes here. Intelligent performances *are* the workings of the mind, and as such cognition and intelligence must be understood in the doing, in their embodied enaction.

This is also the view propounded by Tolman’s “molar” behaviorism, wherein he is prepared to refer to the purposiveness of the rat in the maze, rather than eschew the idea all together as with the more reductive “molecular” version of behaviorism. Tolman contrasts his behaviorist approach with his ‘mentalist’ opponent in ways that resonate with Finn’s remark. He says that the mentalist “merely *infers* purpose from these aspects of behavior; whereas we, being behaviorists, *identify* purpose with such aspects” (Tolman 1951, 33, cf. also Rachlin and Frankel 2009 for a different version of the view).

To make clearer what is at stake in these kinds of identification processes, consider what Ryle’s behaviorist position was replaced with in philosophy, following the work of Hilary Putnam and others. Jack Smart summarized the general consensus when he held that: “I would prefer to say, for example, that fear is the state of a person which is the causal condition of the characteristic behavior pattern, rather than as with Ryle that it is the behavior pattern” (Smart 1963, 89). Related transformations were also happening in psychology, where it is said that cognitive science killed behaviorism (Chase and Watson 2004). In short, a cognitivist turn took place in both philosophy and psychology, often accompanied by a form of belief-desire psychology in which mental states are envisaged to cause behavior, “top-down” accounts which bestow a central role to the computer/cognizing agent, with embodiment (and sometimes biology) rendered inessential (Wheeler 2005). Action and performance became a product of intelligence, whether in terms of mental states or causally/neurologically construed (representations, simulations, etc.).

Challenges to this orthodoxy come from a variety of areas, but perhaps most notably from 4e cognition. Many of these positions emphasize their return to philosophy of the body. As such, they tend to understand perception, action, and cognition in an embodied and enactive manner that is more bottom-up in orientation, explicating a basic operative intentionality that is the condition for more complex forms of intentionality and cognition. Like Ryle, they focus on behavior patterns in a holistic manner, rather than a mental representation as cause of the behavior pattern characteristic of fear, as in the cognitivist strategy found in Fodor and others. And the point is not to deny that there is something it feels like to be fearful, but to acknowledge that behavior is never simply “thrashing about” (including in animal ethology), and to explain it through contextual patterns, as we sought to do in our behaviorist response to Putnam’s super-Spartans scenario. As a reviewer has pointed out, there is agreement in the various versions of enactivism regarding a “mind-behavior identity theory”, where behavior is understood as intelligent action in the world, which is a property of a whole organism-environment system (Myin 2016; Hutto & Myin 2013; Fuchs 2018). Myin and Zahnoun (2018) calls this “wide” identity, rather than the “narrow” identity of the sort that was characteristic of the Identity theory of mind (e.g. U.T. Place, and others). Going wide may come with its own issues, of course, but there is a clear proximity between such theories and sophisticated versions of behaviorism⁸.

Still, it is appropriate to consider a more specific case study to test the general argument: the perception of other people (and their intentions). On what we might call the standard view of our access to other minds, which is indebted to Descartes but also has an ongoing life in cognitive science and philosophy (cf. Wheeler 2005), we

⁸ Two quotes from Shaun Gallagher’s recent book, *Enactivist Interventions*, are also suggestive of behaviorist commitments:

mental skills such as reflection, problem solving, decision making, and so on, (are) enactive non-representational forms of embodied coping that are emergent from a pre-predicative perceptual ordering of differentiations and similarities (Gallagher 2017, 202).

and

with respect to PC models, enactivist views that emphasise a more holistic system of brain-body-environment would clearly favor a move away from internalist and intellectualist vocabularies (and conceptions of) ‘hypotheses’, ‘inference’ and ‘representation’ in favor of more embodied terms like ‘adjustment’, ‘attunement’ and ‘affordance’ (Gallagher 2017, 21).

These terms are not only more embodied, but they also have a behaviorist dimension that is apparent even by attending to the words alone: the organism *adjusts*, *attunes*, and finds this or that *affordance* available. And the appeal to holism that characterizes Gallagher’s work is also part of a certain behaviorist tradition, rather than antithetical to it, as we have seen.

have direct and immediate knowledge of ourselves, at least in regard to some of our mental states. By contrast, we have only indirect or inferential knowledge of other people, because their mental states are hidden or imperceptible, and something more than perception is needed (theories, simulations, models, etc.). As is well-known, behaviorism of all types seeks to complicate, if not outright deny, this standard asymmetry thesis regarding knowledge of self and others. Proponents of embodied cognition and enactivism also challenge this picture, instead endorsing views in which we (sometimes) directly perceive other people's intentions and emotional states, not just signs or expressions of them. This view, often called direct social perception (DSP), has come in for criticism for its apparent behaviorism (Jacob 2011), with critics essentially reprising the often told quip regarding two behaviorist zombies love-making and then one of them saying "I know it was good for you, but was it good for me?" (c.f. Ramachandran and Hirstein 2000, 124)⁹. This old joke about behaviorism, intended as a *reductio ad absurdum*, has to be confronted, even if it depends on a certain conception of the physical and behavior that neither enactivism nor the proponents of behaviorism we have drawn on here endorse.

To do so, we examine a paper by Gallagher and Varga, which argues for direct social perception (DSP) of emotions and some forms of intentional action. Their article also briefly replies to Jacob's objections¹⁰. Jacob (2011) poses a dilemma to enactivist philosophers like Gallagher, Varga, and others, arguing that either their thesis of direct social perception of others (emotions, intentions, etc.) is committed to behaviorism (and thus is wrong, although no argument is really given for that), or their account of embodied and "smart" perception does not bring anything new to the table that might not be accommodated by other accounts of social cognition of a more inferential or theoretical focus, in which we "mind-read" rather than "body-read" (e.g.

⁹ There is something paradoxical about the idea of a behaviorist zombie, whatever bracketing of the mental, the intentional, etc., might be attempted by some versions of behaviorism. The very idea of zombies derives from functionalist *criticisms* of behaviorism (e.g. in Chalmers), rather than from behaviorism itself. They depend on the idea of "mere" or meaningless physical behavior, but neither behaviorism, nor phenomenology, nor enactivist biology, give these thought experiments and their insights into possibility much credence.

¹⁰ We might also have chosen to look at the enactivist view of perception and cognition, which has been criticized by Block for its behaviorism (2005). Block criticizes Noë's (2004) enactive account of action in perception, complaining that the view is behaviorist due to having no account of internal processes mediating between sensory inputs and outputs, but we agree with the enactivist-cum-behaviorist insight that it is not clear that explanatory priority should be accorded to the internal processes.

Theory Theory, Simulation Theory, and hybrid views). In a subsequent paper, Gallagher and Varga respond, rhetorically ask of their own view:

Is this a form of behaviorism? No. The idea of “thick” behavior involves rejecting the view that takes “behavior to be just bodily movement and so strips it of intentionality, relocating all that is alive and intelligent in the hidden mind” (Gallagher and Varga 2014, 190).

This remark, however, is doubly ironic. It is Ryle who famously introduced the talk of “thick” behavior, and yet here Gallagher and Varga draw on this idea. In addition, they appear to associate behaviorism with theory of mind (via Leudar and Costall 2004) in which the minds of others and particular mental states are treated as necessarily hidden and thus are ascribed through some complex process. This connection between behaviorism and theory of mind is also made in Gallagher’s recent book (2017, 71), but this involves a curious amalgam of anti-cognitivist behaviorism with the psychological cognitivism of Theory Theory (in philosophy) and Theory of Mind (in psychology). Behaviorism as we understand it is not attached to the “hidden minds” thesis at all, wherein other’s mental states are strictly imperceptible. Approaches that endorse such views (like Theory Theory or Theory of Mind) are actually associated with the cognitivist break with behaviorism in philosophy and psychology that we sketched earlier, wherein it was not intelligent performance in a situation that was the focus but the neural or psychological processes causing the relevant performance (with the holistic being-in-the-world connection broken). It appears to us that Gallagher and Varga have a reading of behaviorism that derives from Dennett’s work, but Dennett’s overall position is a hybrid view that incorporates functionalism (e.g. Dennett 1987). Indeed, Dennett’s view is at least partly based on his own critique of Skinner for “explaining away” intelligence rather than explaining it (Dennett 1978). His critique ignores that Skinner’s focus is on learnt behavior, not on the SpheX wasp’s instincts and reflexes. Dennett’s hybrid behaviorism, if it warrants the name, is quite different from that of his teacher, Ryle, as well as others in the behaviorist canon whom we have re-introduced here (e.g. Mead, Tolman, Skinner, Baum, etc.).

That said, Gallagher and Varga are right to point out that Jacob and others often invoke a reductive or “thin” understanding of behavior, involving mere movement, mere physicality. But they also go along with the terms of Jacob’s critique, which

disallows the behaviorist the chance to include the situation in which the action is performed, or any of the history of the agent, all elements which would grant a thicker behaviorist account, as we have seen in earlier sections. By neglecting this possibility, Jacob presents Gallagher and Varga with a dilemma, the first horn of which is that they really are committed to behaviorism:

if the direct perception hypothesis argues that bodily expressions are constitutive of emotional or cognitive states, if they can be identified with patterns of observable behavior then direct perception advocates must embrace an unattractive behaviorist position. (Jacob 2011; Gallagher and Varga 2014, 191)

Such a behaviorist position, Jacob argues, precludes any interesting access to the first-person perspective that is indeed part of enactivism, especially those versions of enactivism inspired by the phenomenology of Merleau-Ponty and others. We consider this point below, since there is something to this idea that the phenomenological inheritance complicates our comparison of enactivism and behaviorism, but for now it is important to see that Jacob's "dilemma" trades on the idea that phenomenology is a kind of introspection, as well as the idea that behaviorism is an objectivism, neither of which stands up to scrutiny.

Nonetheless, the other horn of Jacob's dilemma is that if the behaviorist dimension of the DSP thesis is watered down, and it is held that bodily expressions do not constitute their emotional states, then "we do not directly perceive another's mental states... we've made no advance beyond inferentialist approaches to other minds" (Krueger 2018, 309).

Gallagher and Varga (and Joel Krueger in subsequent work) all respond by having a notion of constitution that is slightly weaker than that which Jacob ascribes to them. In Gallagher and Varga's words:

It is possible to maintain that some bodily actions are expressive of and *partly constitute* mental phenomena (in the sense that they actually make up their proper parts), without reducing psychological states to expressive behavior (Krueger and Overgaard 2012). The claim is simply that embodied mental states are only *partly constituted* by perceptible behaviors (italics added, Gallagher and Varga 2014, 191).

It is fair to say that a lot hangs on the “partly constituted” here, given objections concerning the so-called “causal-constitution fallacy” proffered by Aizawa (see below) and others against enactivism¹¹, but Krueger also elaborates on the idea of constitution in useful ways, holding that:

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. (Krueger 2018, 309)

Krueger here connects both enactivist *and* phenomenological theses on direct social perception with a broader understanding of constitution. We think this is correct but maintain that this position is not significantly distinct from plausible rather than straw-man versions of behaviorism. The idea of perceiving another’s intentions in patterns of visible motor behavior does not refer to some mentality in the agent that is separate from (and causing) their action and behavior. It is thus not vulnerable to standard behaviorist concerns about imputing mental causation in lieu of an explanation. On this holistic story, the intentions are literally *in* rather than behind or causing the behaviour (see also Scharff 1999).

If that is so, we need to think again about whether the unattractiveness of behaviorism, on which Jacob’s argument depends, is (mis)perceived or real. Perhaps what Gallagher and Varga actually present, contrary to their own self-understanding, is a holistic behaviorism that is not vulnerable to some of the *reductios* concerning mere behavior, zombies and the like, and which complicates the widespread

¹¹ Kirchhoff (2015) shows that the objection depends on a particular metaphysical picture for its coherence (e.g. a picture of synchronic rather than diachronic emergence).

philosophical disjunctions between reasons and causes and directions of fit. In essence, then, we think they (incorrectly) accept the straw-man version of behaviorism, but protest (correctly) that the straw-man does not adequately capture their view, while also drawing on non-reductive behaviorism in their own work to prosecute many of their arguments¹². By contrast, we want to endorse their arguments, but show they are compatible with the holistic behaviorist tradition we have outlined.

Of course, there are various other objections that might be marshalled against Gallagher, Varga, Krueger, and other proponents of DSP (and notice that they are objections raised against behaviorism too). Aizawa (2017) and others contend that the rare but debilitating condition called “locked in” syndrome is an objection to any constitutive direct perception view of the relation between mind and behavior. We might also think about the skilled liar who is repeatedly able to deceive us. There are things to be said about both cases, notably that there is experimental evidence that “locked in” syndrome does directly transform the emotional lives of those suffering it (see Krueger 2018), and there is experimental evidence that we are often better at picking out the lie and duplicity than we think, even if we can rarely identify in any clear way why we may be suspicious and our post hoc rationalizations are often problematic (see Gallagher and Varga 2014)¹³. We agree with both of these responses, but they are broadly behaviorist in orientation. Emotions have facial manifestations, behavioral expressions, “action tendencies” or what the philosophical behaviorist will call dispositions. While there are questions to be explored concerning the idiosyncratic and singular nature of our emotional responses that appear to differ in the face of congruent stimuli (see Morag 2016), it remains the case that when one is in pain there are expressions of it, even if we might not all grimace, say “ouch”, and even if any given individual may not always express the pain in any one particular way. While there is likely no one-to-one relationship being the feeling and any particular form of pain behavior, no direct entailment between emotion and any one

¹² Perhaps Varga effectively admits something like this in other work when he comes to embrace “embodied situationism” (see Varga 2017).

¹³ A reviewer of this paper has noted that although it is often maintained that psychopaths are highly intelligent and expert manipulators, if we look at specific cases they are often quite crude in their machinations and may well betray themselves behaviorally, their colleagues and community often allow them to get away with it because they stick to certain conventions and norms. In other words, the deceived play as much of a role in the deception as the deceiver.

manifestation, there are more or less tight connections (probabilistic, as Rowlands 1991 contends) in each case. Furthermore, what seems clear to us is that such connections have a solid base to be studied behavioristically in terms of physiological and environmental factors in a non-reductive way, even if it remains an open question what else is needed here (e.g. phenomenological treatments of experience, Gibsonian affordances, etc.).

4. *Behaviorism in phenomenology?*

It might be protested that enactivist behaviorism is an implausible conjunction, not least because of the enactivist indebtedness to phenomenology, the latter of which involves some differing methodological commitments. Phenomenology also explicitly opposed some forms of behaviorism, notably the work of Watson (but this is *not* the radical, molar, or logical behaviorism outlined in this paper). And we cannot deny that contemporary enactivism is significantly indebted to phenomenology, with philosophers like Dan Hutto and Erik Myin 2013 being an exception to the rule. To deal with this potential objection, then, one move available to us is to reassert that our focus is on Rylean holistic behaviorism, which itself drew heavily on Heidegger and Husserl. Another is to say that enactivism, having an engagement with science and a default naturalism of at least a weak, “liberal”, or “relaxed” sort, must engage questions that classical transcendental phenomenology does not. In the process, it also transforms that tradition in ways that are significant enough to make our juxtaposition convincing. Indeed, none of the theories we are grappling with here – behaviorism, phenomenology and enactivism – are committed to strong or scientific naturalism, nor positivism. And while behaviorism is much more pro-scientific than the classical phenomenological tradition, of course, it is more pragmatist than positivist in its approach (see Baum 2005).

That said, it is also worth tackling the objection more directly, by tracing some behaviorist aspects present in classical phenomenology, as surprising as this might seem, given that phenomenologically-inspired philosophers like Gallagher and Thompson (and others) rarely draw on behaviorist thinkers and often disavow any

link¹⁴. We have seen, already, that phenomenology and behaviorism both turn to skillful behavior as an antidote to our inheritance of Cartesianism and materialism respectively. They often endorse something like the direct social perception view of the intentions and emotions of others. There is also a priority or “primacy of perception” view in common, in which so-called higher forms of cognition are situated in that context, and such approaches fit better with bottom-up rather than top-down approaches, regarding say the priority of online cognition over the offline, wherein one is not directly engaging with or manipulating the environment (Wheeler 2005). Finally, habit and knowing-how are key to both traditions, rather than knowledge of a propositional sort, which might be given a cognitivist rendering. So while they are not giving a behaviorist ontology of consciousness and cognition, and certainly not a reductive or thin one, there are a variety of overlapping views that are congenial to the kind of behaviorism we have outlined, elaborating views of human motivation and behavior that avoid the dualism between reasons and causes on which contemporary philosophy has bifurcated.

But we promised an engagement with a classical phenomenologist, and it is appropriate to consider Merleau-Ponty. Are mental and intentional states best explained through behavior, for phenomenologists like Merleau-Ponty? Establishing that would require detailed discussions of sexual intentionality, for example, which is addressed at some length in his *Phenomenology of Perception*, which we cannot undertake here. Nonetheless, there are some important concepts in Merleau-Ponty’s work, emphasized and developed to good effect by Hubert Dreyfus, which are worth reflecting on in this context.

Famously, of course, Merleau-Ponty emphasizes the importance of embodied intentionality, including the manner in which our body develops skills and capacities that enable us to engage with the world, a practical know-how rather than knowledge-that (Merleau-Ponty 2008). This “motor-intentionality” is often not something that we

¹⁴ Indeed, while many contemporary phenomenologists (or enactivists drawing on phenomenology) have insisted that they are not advocating behaviorism (e.g. Romano 2016, 340; Gallagher 2017, 69-70; Morris 2010; Thompson 2007, 50; Noë 2004, 32-33), they clearly perceive sufficient proximity to behaviorism such that they are motivated to (attempt to) establish the distance. In addition, we think the contrast they draw with behaviorism often depends on a straw-man version of the view. The precise behaviorist target is often difficult to identify, and it rarely countenances the sort of holistic position we have traced from Ryle, and both radical and molar behaviorism.

are directly aware of but involves a pre-reflective bodily orientation or comportment towards the world that enables us to attend particular objects, say, in our visual field. These bodily habits are not random, and nor do they appear to be mere mechanism, or mere reaction. They are drawn from our past and from our culture, comprehensible in terms of this or that intentional project, even if not conceptualized as such by the agent. Moreover, as we develop particular habits we also acquire skills wherein the cultural and normative dimension is more apparent (cf. Sachs 2014). On this model, there is certainly a holism, and perhaps even something akin to a “belief-desire-perception circle”. The latter has been identified as a problem with behaviorism since Putnam (see Rowlands 1991). In short, the idea is that this “circle” in human behavior is sufficiently dynamic and complex that we cannot identify any nomological relationship between a particular mental state (pain) and behavior, since behavior depends not just on the feeling of pain but also an array of beliefs about how pain should or should not be expressed, implicit norms of this or that society (which are instantiated in the world in practices), and a given individual’s history. We agree that this cannot be escaped but, again, the lesson is that reductive behaviorism is wrong (reduction to discrete mental states, for example), not behaviorism tout court, as we argued in our above discussion of the super-Spartans.

And philosophers like Merleau-Ponty can help us to re-think this “belief-desire-perception” circle, including by drawing on and expanding some behaviorist ideas. For example, on his embodied account of perception objects are never given to us as neutral, but always informed by our context: in perceiving objects (say the rocky crag) we are given at a pre-reflective level a solicitation in terms of our own *possible* behaviors, which reflects our projects in the world over a period of time (rather than in an instant), and our physical capacities qua trained and fit (or not). Perception is tightly connected to motility and action in a manner that Alva Noë’s *Action and Perception* also emphasizes (2004), and with training and skills also has a normative and cultural aspect. We are presented with what Claude Romano calls “a manifold of possible behaviors that instill within things ends, practical vectors, attractions, repulsions, lines of force, dumb or tacit meanings obscurely deciphered by our bodies” (Romano 2016, 339).

To understand this view, and how it relates to the sort of holistic behaviorism outlined above, we also need to consider what Merleau-Ponty calls an “intentional arc”. For Merleau-Ponty, this arc is meant to be more than *mere* behavior because it is tied to: “our past, our future, our human milieu, our physical situation, our ideological situation, and our moral situation” (Merleau-Ponty 2012, 137). However, how this intentional arc gets built up can be explicated in holistic behaviorist terms. Indeed, this is essentially what Hubert Dreyfus does in his influential account of coping and skill-acquisition. Behind Dreyfus’ use of Merleau-Ponty’s idea of an intentional arc (Dreyfus 2002a, 2007) is a simple idea that intelligence emerges through “finer and finer discriminations of situations paired with the appropriate response to each” (Dreyfus 2002b, 367). Such fine-grained distinctions are working towards an “optimal gestalt”, or a “maximum grip”, which both guide behavior and make it meaningful. While Merleau-Ponty got the idea of the intentional arc from the German psychopathologist Franz Fischer, the overall picture of intelligence has resonances with behaviorism that are emphasised in Dreyfus’ interpretation.

It is useful to recall that it is the structure/form/Gestalt of behavior, for both animals and humans, that is the focus of Merleau-Ponty’s first book, *The Structure of Behavior*. While Merleau-Ponty criticizes Watson’s (1913) behaviorism for its atomistic account of reflexes that gives up any sort of holistic understanding of the organism and its milieu, behavior is nonetheless identified as a pivotal concept, being neither mental nor physical or, alternatively, both mental and physical¹⁵. Likewise, Ryle’s various analyses in *The Concept of Mind* or *Dilemmas*, for example, are typically not reducible to mental or physical facts. Does the intentionality of consciousness and lived-experience (mental states or not) cause behavior, or might the former be reduced without remainder to behavior? Merleau-Ponty and Ryle both challenge this dilemma. For Merleau-Ponty, there is reciprocal causation here, between these levels, much as Gibson’s notions of solicitations and affordances also trouble this dilemma and opposition. As such, non-reductive behaviorism and non-Cartesian phenomenology both explore a view that does not neatly fit the standard

¹⁵ Others have recognized that the work of Mead (Rosenthal and Bougeois 1991) and Ryle (Jackson 2011; Evans 1983) is aligned with Merleau-Ponty. They have done so by downplaying Mead and Ryle’s respective commitments to behaviorism. We agree with the connections they have forged, but think that they should embrace non-reductive behaviorism. Edward Tolman’s work is also important here, as Merleau-Ponty himself recognizes.

dichotomy between reasons and causes, or between so-called “directions of fit”, conceived of as either mind-to-world or world-to-mind. In later work, like *Child Psychology and Pedagogy: The Sorbonne Lectures 1949-52*, Merleau-Ponty continues to have positive things to say about behaviorism, particularly Tolman’s “molar” version of it, which Merleau-Ponty contends grasps behavior in its totality, including economic and historical environment, and provides the resources to “fulfill the initial project proposed by Watsonian behaviorism” (Merleau-Ponty 2010, 343).

Although we cannot focus on Heidegger’s philosophy in any detail here, it is worth noting that Dreyfus’s influential reading of Heidegger also emphasizes skills and absorbed coping in a non-representational manner. On his view, skills and absorbed coping are a “disposition to respond to situations in appropriate ways” (Dreyfus 1990, 117). It is important to recognize that Dreyfus’ material on “equipmentality”, which we can gloss as the ready-to-hand use of tools (i.e. a hammer) in a social context, is thoroughly holistic. We cannot explain a tool in non-intentional and non-normative ways, as reductive behaviorism might seek. As such, it is not narrow behaviorism at stake, but Dreyfus still explicitly reads Heidegger as advocating “a sort of behaviorism” (Dreyfus 1990, 147), and draws on dispositions to respond in doing so. Whether this is a satisfactory reading of Heidegger *tout court* might be questioned, but it characterizes an important part of *Being and Time*¹⁶.

Evan Thompson’s autopoietic version of enactivism draws on Merleau-Ponty’s work in quite different ways from Dreyfus, but Thompson still holds that skillful activity is not the cause of experience but “*is* the experience” (Thompson 2007, 256). In such formulations we are returned to the idea of enactivism endorsing a “mind-behavior identity theory”, which has clear links to forms of behaviorism that adhere to the Rylean dictum that overt intelligent performances are not clues to the working of minds, that rather they are those workings. Like Gallagher and others, however, Thompson denies the link. He says that contrary to behaviorism, perceptual experience is mediated by skillful mastery, which is between sensory stimulus and

¹⁶ Ryle sometimes himself recognized this, both early in his career when he drew on Heidegger’s treatment of the ready-to-hand/present-at-hand distinction in his own accounts of know-how and knowledge-that, and later in his career when two pages of his 15 page autobiographical essay are devoted to phenomenology (cf. Thomasson 2002, Chase and Reynolds 2017).

motor response (2007, 256). Of course, Ryle made the same point, but took this recognition to be congenial to behaviorism rather than opposed to it. Indeed, that perception is influenced by one's relationship to one's environment would appear to be grist for the behaviorist mill. While skills might be thought to be developments of brute dispositions or habits, this is a difference in degree rather than kind.

For us, this view renews the prospect of an expanded behaviorism. Cognitivist approaches contest reductive (or molecular) behaviorism, often by pointing to the poverty of the stimulus, which seems insufficient to explain the complexity of the behavior. On the cognitivist view, the stimulus (i.e. perceptual and/or environment information) is poor and so something more – language, representations, simulations, imaginations, implicit or explicit inferences, and reflective problem-solving – are required to explain intelligence. But, what we see in both contemporary enactivism and the behaviorist traditions we have drawn on here (logical, molar, and radical) is that the stimulus is not “poor”; rather, through streams of interactions, the data is rich and complex. In addition, the response or action needs to be comprehended as a response from an organism in a situated context, involving the history of the organism, ontogenetically and phylogenetically, and a complex relationship between the distal and proximal causes that includes the socio-cultural. While this general position obviously stands in need of further behavioral analyses, and the sorts of scientific experiments conducted in the name of embodied cognition and enactivism, there are important overlaps between these approaches.

Conclusion

Many of the critiques of behaviorism aim at a crude version that few actually defended, both when it was initially displaced by cognitivism and also today as a caricatured version of the theory is disparaged, even by those who might be at least friends of behaviorism. But enactivists and theorists of embodied cognition should not concede this, which is to buy into the world view of their cognitivist opponents. If our argument is a good one, both in descriptively characterizing an holistic account of behaviorism and in beginning to defend some aspects of them, then perhaps the renaissance in behaviorism might be explicitly proclaimed and recognized as such. Is enactivism and embodied cognition a version of behaviorism? We are not claiming

anything quite so strong here, but if the alleged “difference maker” between contemporary enactivism and philosophical behaviorism is just to draw on social and historical factors and the “body in situation” to explain intentional action, then there is clearly an important overlap. In addition, both classical and contemporary more empirically oriented versions of phenomenology put forward views that look like behaviorism and which can be enhanced by behavioristic analyses. Contrary to common acceptance, they are strange but complementary bedfellows. In addition, we have shown that many contemporary positions appear to draw on sophisticated versions of behaviorism, contrary to their own protestations, and that any development in these fields also contributes to what we have labeled holistic behaviorism and vice versa. We say this not as an intended *reductio* of the position, but to show how it might not be vulnerable to some of the major critiques (which trade on the behaviorist bogeyman) as well as to indicate where work might be done to strengthen the position. Furthermore, this approach would be mutually beneficial in developing a critique against cognitivism and neuro-centrism, while avoiding a lapse into non-naturalism.

Bibliography

- Aizawa, K. (2017). Cognition and behavior. *Synthese*, 194 (11), 4269-4288
- Alksnis, N. (2015). A dilemma or a challenge? Assessing the all-star team in a wider context. *Philosophia*, 43(3), 669–685.
- Baum, W. (2005) *Understanding Behaviorism: Behavior, Culture and Evolution*. Second Edition. Malden, MA: Blackwell.
- Barrett, L. (2019) Enactivism, Pragmatism... Behaviorism? *Phil Studies*. Forthcoming
- Block, N. (1978). Troubles with functionalism. In W. Savage (Ed.), *Perception and Cognition* (pp. 9-261). Minneapolis: University of Minnesota Press.
- Block, N. (2005). Review of Noë, Action in Perception. *Journal of Philosophy* 102:259-272.
- Block, N., & Fodor, J. A. (1972). What psychological states are not. *Philosophical Review*, 81(April), 159-181.
- Brandom, R. (1994). *Making it Explicit: Reasoning, Representing, and Discursive Commitment*. Cambridge, MA: Harvard University Press.
- Carman, T. (2003). *Heidegger's Analytic: Interpretation, Discourse, and Authenticity in Being and Time*. Cambridge: Cambridge University Press.
- Chase, J., & Reynolds, J. (2017). Russell, Ryle, and Phenomenology: An Alternative Parsing of the Way. In A. Preston (ed.), *Analytic Philosophy: An Interpretive History* (pp. 52-69). London: Routledge.
- Chase, P., & Watson A. C. (2004). Unconscious Cognition and Behaviorism. *The Journal of Mind and Behavior*, 25(2),145-159.
- Churchland, P.S. (1986). *Neurophilosophy: Toward a Unified Science of the Mind/Brain*. Cambridge, MA: MIT Press.
- Corriveau, M. (1972). Phenomenology, psychology, and radical behaviorism: Skinner and Merleau-Ponty on behavior. *Journal of Phenomenological Psychology*, 3(1), 7-34.
- Covarrubias, P., Cabrera, F., & Jimenez, A. (2017). Invariants and Information Pickup in The Senses Considered as Perceptual Systems: Implications for the Experimental Analysis of Behavior. *Ecological Psychology*, 29(3), 231–242.
- Danón, L. (2018). Neo-Pragmatism, Primitive Intentionality and Animal Minds. *Philosophia*, doi:10.1007/s11406-018-9963-z
- Day, W. F. (1969). On certain similarities between the Philosophical Investigations of Ludwig Wittgenstein and the operationism of B. F. Skinner. *Journal of Experimental Analysis of Behavior*, 12, 489-506.
- Dennett, D. (1978). *Brainstorms: Philosophical Essays on Mind and Psychology*. New York, Bradford Books.
- Dennett, D. (1987). *The Intentional Stance*. Cambridge, MA, MIT Press.
- Dennett, D. (1991). *Consciousness Explained*. Boston, Little, Brown and Co.

- Dreyfus, H. (1990). *Being in the Word*. Cambridge, MA: MIT Press.
- Dreyfus, H. L. (1992). *What Computers Still Can't Do: A critique of Artificial Reason*. Cambridge, MA: MIT Press.
- Dreyfus, H. (2002). Intelligence without representation – Merleau-Ponty's critique of mental representation the relevance of phenomenology to scientific explanation. *Phenomenology and the Cognitive Sciences*, 1(4), 367-383.
- Dreyfus, H. (2002). Refocusing the question: Can there be skillful coping without propositional representations or brain representations? *Phenomenology and the Cognitive Sciences*, 1(4), 413-425.
- Evans, C. S. (1983) Behaviorism as Existentialism? Ryle and Merleau-Ponty on the Mind. *Journal of the British Society for Phenomenology* 14 (1):65-78.
- Faulconer, J. E., & Williams, R. N. (1985). Temporality in human action: An alternative to positivism and historicism. *American Psychologist*, 50, 1179-1188.
- Finn, D. R. (1971). Putnam and logical behaviourism. *Mind*, 80, 432-436.
- Feyerabend, P. K. (1963), 'Materialism and the mind-body problem', *Review of Metaphysics*, 17, 49-67.
- Feyerabend, P. K. (1965), 'On the "meaning" of scientific terms', *Journal of Philosophy*, 62 (10), 266-274.
- Fodor, J. A. (1975). *The Language of Thought*. New York: Crowell.
- Fodor, J. A. (1987). *Psychosemantics: The Problem of Meaning in the Philosophy of Mind*. Cambridge, MA: MIT Press.
- Fodor, J. A. (1994). *The Elm and the Expert: Mentalese and its Semantics*. Cambridge, MA, MIT Press.
- Fodor, J. A., & Pylyshyn, Z. W. (1981). How direct is visual perception? Some reflections on Gibson's 'ecological approach'. *Cognition*, 9(2), 139-196.
- Fuchs, T. (2018). *Ecology of the Brain: The Phenomenology and Biology of the Embodied Mind*. Oxford: Oxford University Press.
- Gallagher, S. (2005). *How the Body Shapes the Mind*. Oxford: Oxford University Press.
- Gallagher, S. (2017). *Enactivist Interventions*. Oxford: Oxford University Press.
- Gallagher, S., & Varga, S. (2014). Social constraints on the direct perception of emotions and intentions. *Topoi* 33, 185–199.
- Gallagher, S., & Zahavi, D. (2012). *The Phenomenological Mind*. 2nd Edition. New York: Routledge.
- Gallagher, S. (2019). Replies to Barrett, Corris and Chemero, and Hutto. *Phil Studies*. Forthcoming.
- Haugeland, J. (1990). Intentionality all-stars. *Philosophical Perspectives*, 4, 45.
- Haugeland, J. (1998). Mind embodied and embedded. In J. Haugeland (Ed.), *Having Thought: Essays in the Metaphysics of Mind* (pp. 207-239). Cambridge, MA: Harvard University Press.
- Hempel, C. G. (1966). *Philosophy of Natural Science*. Englewood Cliffs, N.J., Prentice-Hall.
- Hocutt, M. (1985). Spartans, Strawmen, and Symptoms. *Behaviorism*, 13(2), 87-98.

- Hocutt, M. (1986). Witches and behaviorists: A reply to Robinson and Boyer. *Behaviorism*, 14(1), 97-101.
- Hutto, D. D. and Myin, E. (2013). *Radicalizing Enactivism: Basic Minds Without Content*. Cambridge, MA: MIT Press
- Hutto, D. D., & Satne, G. (2015). The Natural Origins of Content. *Philosophia*, 43(3), 521-536.
- Jacob, P. (2011). The direct-perception model of empathy: A critique. *Review of Philosophy and Psychology*, 2(3), 519-40.
- Jackson, G. B. (2011). Skill in Ryle and Merleau-Ponty. *Merleau-Ponty at the Limits of Art, Religion*. Eds. Kascha Semonovitch and Neal DeRoo. London: Bloomsbury.
- Jackson, G. B. (2014). Skillful action in peripersonal space. *Phenomenology and the Cognitive Sciences*, 13(2), 313-334.
- Jackson, G. B. (2018). Seeing what is not seen. *Phenomenology and the Cognitive Sciences*, 17(3), 503-519.
- Jackson, F., & Pettit, P. (1988). Functionalism and broad content. *Mind*, 97(387), 381-400.
- Kim, J. (2006). *Philosophy of Mind*. Boulder, Westview Press.
- Kirchhoff, M. D. (2015). Extended Cognition & the Causal-Constitutive Fallacy: In Search for a Diachronic and Dynamical Conception of Constitution. *Philosophy and Phenomenological Research* 90 (2):320-360.
- Knapp, T. (1989). Willard F. Day, Jr. (1926-1989). *Behaviorism*, 17(1), 1-4.
- Krueger, J. (2018). Direct Social Perception. In A. Newen, L. de Bruin and S. Gallagher (Eds.), *The Oxford Handbook of Cognition: Embodied, Enactive, Extended*. Oxford: Oxford University Press, 301-320.
- Kvale, S., & Grenness, C. E. (1967). Skinner and Sartre: Towards a radical phenomenology of behavior? *Review of Existential Psychology and Psychiatry*, 7, 128-150.
- Leudar, I., & Costall, A. (2004). On the Persistence of the 'Problem of Other Minds' in Psychology: Chomsky, Grice and Theory of Mind. *Theory & Psychology*, 14(5), 601-621
- Mead, G. H. (1934). *Mind, self and society*. Chicago: University of Chicago Press.
- Mead, G. H. (1938). *The philosophy of the act* (Ed. C. W. Morris). Chicago: University of Chicago Press.
- Merleau-Ponty, M. (2012). *Phenomenology of Perception*. Trans. D. Landes. London: Routledge.
- Merleau-Ponty, M. (2010) *Child Psychology and Pedagogy: The Sorbonne Lectures 1949-52*. Trans. T. Welsh. Evanston, IL: Northwestern UP.
- Morag, T. (2016). *Emotion, Imagination and the Limits of Reason*. London: Routledge.
- Morf, M. E. (1998). Sartre, Skinner, and the compatibilist freedom to be authentically. *Behavior and Philosophy* 26: 29-43.
- Morris, D. (2010). Empirical and Phenomenological Studies of Embodied Cognition. In D. Schick and S. Gallagher (Eds). *Handbook of Embodied Cognition*. Dordrecht: Springer.
- Myin, E. (2016). Perception as something we do. *Journal of Consciousness Studies*, 23(5-6), 80-104.

- Myin, E., & Zahnoun, F. (2018). Reincarnating the identity theory. *Frontiers in Psychology*, 9(2044).
- Noë, A. (2004). *Action in Perception*. Cambridge, MA: MIT Press.
- O'Brien, G. and J. Opie (2015). Intentionality lite or analog content? *Philosophia*. 43:723–729. doi:10.1007/s11406-015-9623-5.
- Olen, Peter. “The Varieties and Origins of Wilfrid Sellars’ Behaviorism” in *Sellars and the History of Modern Philosophy*, edited by Antonio Nunziante and Luca Corti. New York: Routledge, 2018.
- Packer, M. J. (1985). Hermeneutic inquiry in the study of human conduct. *American Psychologist*, 50, 1081-1093.
- Putnam, H. (1960). Minds and machines. In S. Hook (Ed.), *Dimensions of Mind* (pp. 57-80). New York: New York University Press.
- Putnam, H. (1963). Brains and behavior. In R. J. Butler (Ed.), *Analytical Philosophy: Second Series*. Oxford: Blackwell.
- Putnam, H. (1967). The nature of mental states. In W. H. Capitan & D. D. Merrill (Eds.), *Art, Mind, and Religion* (pp. 1--223). Pittsburgh: Pittsburgh University Press.
- Quine, W. v. O. (1969). *Ontological Relativity and Other Essays*. New York: Columbia University Press.
- Rachlin, H., and Frankel, M. 2009. Taking Pragmatism Seriously. *J Exp Anal Behav*. 2009;92(1):131–137. doi:10.1901/jeab.2009.92-131
- Ramachandran, V. S. and W. Hirstein 2000. Three Laws of Qualia. *Models of the Self*. Ed. S. Gallagher and J. Shear. New York: Imprint Academic.
- Reynolds, J. (2019). Temporal naturalism: reconciling the “4Ms” and points of view within a robust liberal naturalism”. *Phenomenology and Cognitive Sciences*. Forthcoming, DOI: 10.1007/s11097-019-09613-w
- Ricœur, P., (1986/1975) *The Rule of Metaphor: Multi-Disciplinary Studies of the Creation of Meaning in Language*, trans. R. Czerny., K. McLaughlin, & J. Costello. London: Routledge and Kegan Paul.
- Romano, C. (2016). *At the Heart of Reason*. Evanston, IL.: Northwestern UP.
- Rosenthal, S. and Bourgeois. P. (1991). *Mead and Merleau-Ponty: toward a common vision*. Albany: SUNY.
- Rowlands, M. (1991). A defense of behaviorism. *Behavior and Philosophy*, 19(1), 93-100.
- Rowlands, M. (2010). *The New Science of the Mind: From Extended Mind to Embodied Phenomenology*. Cambridge, MA: MIT Press.
- Ryle, G. (2009). *The Concept of Mind*. London: Routledge.
- Ryle, G. (2015). *Dilemmas: The Tarnier Lectures 1953*. Cambridge: Cambridge University Press.
- Sachs, C. B. (2014). *Intentionality and the Myths of the Given*: London: Pickering & Chatto.
- Scharff, J. L. (1999). Skinner's reinforcement theory: A Heideggerian assessment of its empirical success and its philosophical failure. *Behavior and Philosophy*, 27(1), 1-17.
- Skinner, B. F. (1932). Drives and Drive Strength. *Journal of General Psychology*, 6, 23-36.
- Skinner, B. F. (1935). Two types of conditioned reflex and a pseudo-type. *Journal of General*

Psychology, 12, 66-77.

Skinner, B. F. (1937). Two types of conditioned reflex: A reply to Konorsky and Miller. *Journal of General Psychology*, 16, 272-279.

Skinner, B. F. (1953). *Science and Human Behavior*. New York: Macmillan.

Skinner, B. F. (1974). *About Behaviorism*. New York: Vintage.

Smith, L. (1986). *Behaviorism and Logical Positivism: A Reassessment of the Alliance*. Stanford: Stanford University Press.

Smart, J. (1963). *Philosophy and Scientific Realism*. New York: Humanities Press.

Stout, R. (2006). *The Inner Life of a Rational Agent: In Defence of Philosophical Behaviourism*. Edinburgh: Edinburgh University Press.

Tanney, J. (2005). Une cartographie des concepts mentaux. In G. Ryle (ed.), *The Concept of Mind*; Paris: Payot, 7-70.

Tanney, J. (2008). Gilbert Ryle. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Spring 2008 Edition). Retrieved from <http://plato.stanford.edu/archives/spr2008/entries/ryle/>.

Tanney, J. (2009). In Sandis, C *New Essays on the Explanation of Action* (Eds). Palgrave Macmillan.

Tanney, J. (2009). Gilbert Ryle. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2009 Edition). Retrieved from <http://plato.stanford.edu/archives/win2009/entries/ryle/>.

Thomasson, A. (2002). "Phenomenology and the Development of Analytic Philosophy", *Southern Journal of Philosophy* vol. XL: 115-142.

Thompson, E. (2007). *Mind in Life*. Cambridge, MA: MIT Press.

Tolman, E. C. (1932). *Purposive Behavior in Animals and Men*. New York: Appleton-Century-Crofts.

Tolman, E. C. (1951). *Behavior and Psychological Man*. Berkeley and Los Angeles, CA: University of California Press.

Varga, S. (2018). Embodied Situationism. *Australasian Journal of Philosophy*. 96 (2), 271-86.

Varela, F. J., Thompson, E., & Rosch, E. (1991). *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: MIT Press.

Wann, T. W. (Ed.) (1964). *Behaviorism and phenomenology: Contrasting bases for modern psychology*. Chicago: University of Chicago Press.

Ward, L. M. (2001). Human neural plasticity. *Trends in Cognitive Sciences*, 5(8), 325-327.

Watson, J. B. (1913). Psychology as the behaviorist views it. *Psychological Review*, 20(2), 158-177.

Wheeler, M. (2005). *Reconstructing the Cognitive World*. Cambridge, MA: MIT Press.

Wittgenstein, L. (1953). *Philosophical Investigations*. Oxford: Wiley-Blackwell.