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Extended Cognition and the Extended Mind: Introduction

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The hypothesis that cognition, and the mind more generally, might extend beyond the margins of the body came to prominence in the 1990s. The most oft-cited source is Andy Clark and David Chalmers’ celebrated 1998 article ‘The Extended Mind’. The six papers in this issue of *Essays in Philosophy* explore various aspects of the extended mind thesis and related ideas. While all but one of them discuss Clark and Chalmers’ article, and all are sympathetic to the extended mind movement, the later papers in the issue are increasingly of the opinion that it is time for the movement to abandon that early framework.

**MIND AND COGNITION: EXTENDED OR EMBEDDED?**

The pivotal example in Clark and Chalmers’ article is now one of the most well-known thought experiments in
philosophy: Otto, the Alzheimer’s patient who uses his notebook to help him navigate the world—and in particular, to navigate his way to the Museum of Modern Art. The notebook itself, Clark and Chalmers argued, contains some of Otto’s beliefs. One suspects that the popularity of the example was buoyed by the commercial introduction of smartphones (the first iPhone was released in 2007). Many people now find it increasingly easy to consider the electronic device in their pocket as an extension of their mind.

However, there has also been plenty of resistance (to Clark and Chalmers’ claim; less so to smartphones, which are now found in the pockets of more than half of the US population). One prominent challenge, from Robert Rupert, says that there is no reason to prefer the thesis that the mind extends into the organism’s environment over the weaker thesis that it is merely embedded within the environment. The latter thesis accepts the deep dependence of cognition on external resources, but denies that such resources partly constitute that cognition. Our first two papers both defend the extended mind thesis against this challenge.

Andrew Winters addresses the particular objection that the extended mind thesis, unlike the embedded alternative, cannot explain an apparent asymmetry between the organism and its external resources. For example, if we separate Otto from his notebook, only one of the two resulting entities is minded. Otto remains a cognitive system (albeit a debilitated one), and thus will still engage in many of the activities typical of such systems; whereas the notebook will be inert. (Even a smartphone is not so smart if abandoned in a taxicab.) The external props depend on the brain for their cognitive status, but not the reverse. For Rupert, this asymmetry favors the embedded thesis. In “Cognitive Processes and Asymmetrical Dependencies, or How
Thinking Is Like Swimming”, Winters counters that the extended thesis can explain the asymmetry in the context of a process ontology. He uses the analogy of swimming. If Otto goes swimming, his activity depends on a body of water to such an extent that the water is part of the swimming. But of course the water does not continue to be part of an act of swimming once Otto leaves the pool. Since swimming is a process, it is temporally delimited; and hence so are its parts. For this reason, swimming is asymmetrically dependent on the medium in which it occurs. Similarly, Winters argues, if cognition is a process, then Otto’s notebook can be part of his cognitive activity of navigating to MoMA and yet not be a cognitive system on its own.

Caroline King’s “Learning Disability and the Extended Mind” takes a different approach to the debate between the extended mind thesis and the embedded mind thesis, but also defends the former. She adopts a normative perspective, by connecting the debate to questions about the cognitive abilities of learning-disabled people. It is often noted that such individuals can be brought to a neurotypical level of cognitive performance if they are supplied with appropriate assistive technologies or environmental scaffolding. The question then occurs: are we to regard the individual’s cognitive abilities as being only those abilities that they can exhibit when unassisted? Or should we also include the further abilities that they can exhibit with assistance? This is no small matter, for what abilities a person is held to possess may determine what opportunities they are given, what responsibilities they are allowed to take on, and indeed their entire living situation. The choice between conceiving of the mind as extended or as embedded, King claims, is thus extremely consequential in this context. For, she argues, the extended thesis allows us to judge that an individual’s cognitive abilities can be enhanced by the integration of external tools, whereas the embedded thesis entails that such
tools serve merely to pick up the slack for abilities which the individual themselves lacks. King argues that insofar as we think that the former judgment is the normatively correct one, we have reason to favor the extended thesis over the embedded thesis.

BACK TO THE FUTURE WITH MERLEAU-PONTY

Despite their view’s novelty at the time, Clark and Chalmers were located firmly within the standard framework of analytic philosophy of mind, especially in assuming a representationalist and functionalist approach to cognition. They argued that the contents of Otto’s notebook function like the contents of certain of his brain states. Our remaining four papers reject that approach in one way or another, by emphasizing either the role of the body and the world in cognition, or the sociality of cognition.

Our third and fourth contributions examine the work of French phenomenologist Maurice Merleau-Ponty. They argue that he was far ahead of the curve in recognizing the deep flaws in the traditional Cartesian picture of the body as a mere tool of the mind.

In “Merleau-Ponty on Embodied Cognition: A Phenomenological Interpretation of Spinal Cord Epidural Stimulation and Paralysis”, Brock Bahler reviews some startling recent clinical research by neuroscientist Susan Harkema. Working with four patients who had been paralyzed from the chest down, Harkema has used spinal cord epidural stimulation to restore voluntary control of hips, legs, and toes. The four men became able not only to stand, but to walk, and even to regain bladder control and sexual function. These results suggest that the spinal cord is no mere conduit for the brain to communicate with the extremities, but that it can control and execute complex
movements on its own, without input from the brain, by drawing directly on its embedding in the body and the environment. Bahler argues that Merleau-Ponty effectively laid a theoretical groundwork which would predict such findings, for he held that thinking is not an activity that occurs in some isolated mental realm, but rather in the body and the world. In an analogy used by Bahler and by Merleau-Ponty himself, as I type these words my brain does not retain a centralized and representationally-mediated control over my actions. The control exists in my fingers, indeed in my entire body, and even in the keyboard itself. Harkema’s results suggest that Merleau-Ponty was 70 years ahead of his time, and that we may only now be beginning to catch up with him.

Gina Zavota’s “Expanding the Extended Mind: Merleau-Ponty’s Late Ontology as Radical Enactive Cognition” focuses on one of Merleau-Ponty’s last works, The Visible and the Invisible, left as an incomplete manuscript at his death in 1961. Echoing Bahler’s claim that Merleau-Ponty effectively anticipated recent findings in clinical neurology, Zavota argues that by the end of his life he had adopted a view of the constitution of the self which is more radical than even some of today’s most avowedly radical views. She takes as an example Daniel Hutto and Erik Myin’s Radicalizing Enactivism: Basic Minds Without Content. Hutto and Myin argue that representation, rather than being a universal feature of mentality, is merely an outgrowth of the linguistic abilities of cognitively sophisticated creatures, such as ourselves. Mentality in its basic form consists in an organism’s interactions with its environment; and moreover, the environment is not secondary to the brain, but rather contributes in an equal partnership with it. Zavota suggests that Merleau-Ponty came to occupy an even more radical position: that the brain and the environment are not equal partners, but form a fundamental unity in which the
contributions of the one and the other cannot be distinguished. This unity Merleau-Ponty called “flesh”, and in *The Visible and the Invisible* he was setting out an “ontology of the flesh” in which perceiver and perceived are so deeply interconnected as to be reversible.

**MENTAL WALLS COME TUMBLING DOWN!**

In a paper which has notable resonances with Zavota’s, Makoto Kureha explores John Dewey’s theory of cognition as an alternative to the extended mind thesis. While proponents of that thesis often cite Dewey as a forerunner, in “The Unbounded and Social Mind: Dewey on the Locus of Mind” Kureha argues that they have misunderstood him. The extended mind thesis says that the mind, although centered on individual organisms, extends some distance outward from those organisms into the environment. According to Kureha, Dewey would reject two key assumptions of this thesis: that the mind belongs to individuals, and (relatedly) that it has a boundary. Kureha suggests that extended mind theorists share these assumptions with their avowed opponents, internalists—and that they therefore cannot offer an explanatorily superior alternative to internalism. Dewey, by contrast, urges us not to think of mind as an *entity* with a spatial location, but as an *activity* which is united with matter and life in a continuous process. (It is here, especially, that I think one might see a resonance between Dewey’s view and Merleau-Ponty’s, as outlined by Zavota.) In particular, Kureha points out the similarity between Dewey’s view and the more recent *socially distributed cognition theory* associated with Edwin Hutchins and Ronald Giere, which recommends shifting the focus of cognitive science onto symbol manipulation in socio-cultural systems.
This is a neat segue into the issue’s final contribution, in which J. M. Fritzman and Kristin Thornburg describe the fourth wave of the extended mind movement as being something very similar to, and perhaps identical with, socially distributed cognition theory. Where Kureha saw that theory as having been anticipated by Dewey, in their “‘I Is Someone Else’: Constituting the Extended Mind’s Fourth Wave, with Hegel”, Fritzman and Thornburg see the fourth wave as having been anticipated by Hegel. They draw also on the recent work of Joseph Henrich and colleagues, who argued that Western, Educated, Industrialized, Rich, and Democratic (WEIRD) people are highly unrepresentative of humanity at large. Fritzman and Thornburg point out in particular that WEIRD people are notably individualistic, holding that the mind is sequestered within the boundary of the skin. And WEIRD philosophers are no exception (indeed I would add, in all seriousness, that in them the WEIRDness is exacerbated). For this reason, the trajectory of the extended mind movement has been a procedure of gradually and fitfully releasing the mind from the spatial strictures of the brain. Fritzman and Thornburg urge that we must abandon this laborious procedure and begin with the premise of group cognition. For one thing, they observe, Hegel taught us that individuals and groups are mutually co-determining. And for another, this is the only way to counteract our WEIRD presuppositions.