



Beyond Embodiment: John Dewey and the Integrated Mind

Author(s): Joshua August Skorburg

Source: *The Pluralist*, Vol. 8, No. 3 (Fall 2013), pp. 66-78

Published by: University of Illinois Press on behalf of the Society for the Advancement of American Philosophy

Stable URL: <http://www.jstor.org/stable/10.5406/pluralist.8.3.0066>

Accessed: 29-08-2016 16:41 UTC

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at

<http://about.jstor.org/terms>



Society for the Advancement of American Philosophy, University of Illinois Press are collaborating with JSTOR to digitize, preserve and extend access to *The Pluralist*

Beyond Embodiment: John Dewey and the Integrated Mind

JOSHUA AUGUST SKORBURG

University of Toledo

Introduction

In 1916 John Dewey expressed a worry that American philosophy would be relegated to “chewing a historic cud long since reduced to a woody fibre, or an apologetics for lost causes (lost to natural science).”¹ In this paper, I will attempt to contribute to a growing body of literature within the classical American philosophical tradition that seeks to avoid this fate by engaging Dewey’s thought with debates in contemporary philosophy of mind.² To date, the vast majority of this work has centered around Dewey’s notion of embodiment and its relation to the thesis of the embodied mind. In this paper I will evaluate the degree to which the embodied mind thesis (henceforth “EMT”) provides the proper framework for understanding Dewey’s notion of embodiment. In doing so, I will advance a three-stage argument: (1) I will argue that although Dewey did anticipate the positions of many embodied mind theorists—a fact that is now approaching the status of the proverbial woody fiber—a thoroughgoing treatment of the biological/ecological dimension of Dewey’s notion of embodiment entails a more radical position than is traditionally attributed to philosophers of mind working in a Deweyan vein. This more radical position is the extended mind thesis (henceforth “XMT”). After briefly elucidating this thesis, (2) I will argue that, while XMT is compatible with EMT, and while the former does capture more of Dewey’s notion of embodiment than the latter, both theses may still fail to capture the full scope of Dewey’s notion of embodiment. Finally, (3) I will argue that the best solution to the conceptual problems presented in (1) and (2) is offered by Richard Menary’s notion of *cognitive integration*—a notion that turns on a Deweyan understanding of the organism-environment dynamic emphasized in (1). Thus, the conclusion to be argued for in this paper is that while

Dewey certainly was a first-rate embodied mind theorist, a proper treatment of his notion of embodiment requires us to move beyond a conception of the mind as merely embodied and toward a conception of the mind as extended, and ultimately, integrated.

I. Dewey's Notion of Embodiment

I will first provide a brief overview of the Deweyan notion of embodiment. There are (at least) three distinct but interrelated dimensions: biological/ecological, physiological/psychological, and social/political. Each dimension is expounded in Dewey's work by way of an analysis of the traditional dualisms or dichotomies that correspond to each dimension: organism-environment, stimulus-response, and individual-society, respectively. In this paper, I will limit my focus to the biological/ecological and the physiological/psychological dimensions. I contend that Dewey's notion of embodiment is traditionally linked with the latter dimension, but that a thoroughgoing treatment of the former dimension is more amenable to contemporary philosophy of mind debates. To be more specific, I believe that if Dewey's thought is to have a place in contemporary philosophy of mind, the locus of his notion of embodiment should not *necessarily* be the "The Reflex Arc Concept in Psychology" essay of 1896, as the vast majority of the secondary literature has it. Rather than casting Dewey's notion of embodiment in terms of stimulus and response (the physiological/psychological dimension), I suggest that works such as the *Lectures on Ethics* and *Experience and Nature*, which explicitly embrace the language of organism-environment transactions (biological/ecological dimension), are more suitable for appropriation in twenty-first-century debates.³

Because there is no shortage of excellent secondary material that analyzes the notion of embodiment that emerges from the reflex arc essay, I will refrain from further chewing this cud and instead focus my attention on justifying the shift in emphasis from the physiological/psychological dimension to the biological/ecological.⁴ To begin, we need an emblematic formulation of the physiological/psychological dimension of embodiment. In a sentence, it might be reduced to Dewey's assertion that "both sensation and movement lie inside, not outside the act" (EW 5:98).⁵ This is to say that in explaining behavior, we must take the *act* as the fundamental unit of analysis; we must start from the standpoint of active engagement *with* and *through* the world, rather than the passive reception of sensations *from* the external world. In proposing that we shift our emphasis away from this physiological/psychological dimension and toward the biological/ecological, I do not mean to suggest that the latter

dimension contains something above or beyond the notion of embodiment found in the reflex arc essay. Indeed, in all of its determinations, Dewey's notion of embodiment turns on this notion of *active engagement with and through the world*. Given the ubiquity of an evolutionary view of the mind in mainstream philosophy of mind and cognitive science, though, I contend that the language of "organism and environment" is much more amenable to today's discussion than is the now pejorative "stimulus and response." This is the primary reason that the passages to be considered below will act as the reference point from which Dewey's thought is translated into a contemporary context.

We can now turn our attention to a few passages in Dewey's *Lectures on Ethics* that are emblematic of the biological/ecological dimension I wish to emphasize. In *Lectures on Ethics: 1900–1901*, Dewey says:

So it is not simply that we happen to have *an* organism drop down into *an* environment and then these two react upon each other. It is quite the opposite. Organism and environment are the two things which converge in the life process. We do not begin with the two things and have them react and produce the life process. (364)

The notion of the life process here is perfectly analogous to what Dewey calls the single, concrete whole, the larger co-ordination, or the organic unity in the reflex arc essay. In *Lectures on Psychological and Political Ethics: 1898*, Dewey further elucidates this larger, unified theoretical standpoint:

No matter how much one school may insist on the organism, no matter how much another school may insist on the environment, it is certainly true that both are parts of a common world. . . . From the larger standpoint we must have one thing, one reality, the world at large, *and the distinction between the organism and the environment and their adjustments to each other must be capable of definition and interpretation from the standpoint of this larger whole.* (272; emphasis added)

Dewey's insistence on always moving outward toward a larger, more unified organic whole is, as we will see below, the same philosophical move that cognitive integrationists make when they expand the scope of cognitive processes to include bodily and worldly structures and processes. Before entering into that discussion, though, it is important to close the present discussion with a precise, operative definition of the Deweyan notion of embodiment to which we can refer. The common thread among the various dimensions of Dewey's notion of embodiment is that we "*start with the idea of the organism already dynamically involved with the world and aiming toward unified activ-*

ity” (Alexander 129). We are always already engaged with our surroundings, feeling and poking our way about, constantly adjusting and re-adjusting to the novelties and uncertainties inherent in our world. These adjustments can be stated in terms of responses to stimuli, or organism-environment transactions. Thomas Alexander provides an eloquent account in terms of the latter:

The organism and its environment are mutually implicated at each moment; they are aspects of one situation fundamentally related through the act. The organism is just this ability to draw on a range of material in the world and transform the energy in that material into an organized pattern of activity. An environment is in turn that range of energy which is available to the organism and necessary for its survival. (135)

The salient point here is that the designations “organism” and “environment” are functional and arbitrary. An organism is anything that is able to draw on a range of energies to survive, and an environment is any such range of energies. Further, each of these designations are constantly implicated and intertwined with one another. The arbitrariness and inextricability of “organism” and “environment” importantly entail that there is *no absolute distinction* between the two. The relationship between organism and environment is fluid, permeable, and constantly inter-penetrating. In order to capture this dynamic, I offer the following formulation of Dewey’s notion of embodiment: *the human organism is as much a part of her environment as her environment is a part of her.*

2. The Embodied Mind

Above all else, then, the Deweyan notion of embodiment places the human organism fully within the environment—not apart or aloof from it. This essentially Darwinian insight continues to have tremendous consequences for the ways in which we understand the self, the mind, and cognition.⁶ In this section, I will point to a few ways in which Dewey’s notion of embodiment can be understood in the context of twenty-first-century philosophy of mind, and how Dewey has thus been construed as a philosopher of the embodied mind.

Before making these connections, though, we must first establish an operative definition of EMT. The most pressing problem in doing so lies in the fact that there is significant slippage between the terms “mind,” “cognition,” and “cognitive/mental processes” on the part of embodied mind theorists. To complicate things further, Dewey’s usage of the term “mind” is notoriously

variant, nebulous, and equivocal. And this is to say nothing of the obvious terminological differences between early twentieth-century psychology and twenty-first-century philosophy of mind. None of these difficulties is insurmountable, though, insofar as the reader is willing to grant room for some editorial judgments.⁷ First, we must address the equivocation between the “embodied mind” and “embodied cognition.” In order to resolve this issue, I propose, following Mark Rowlands’s lead in *The New Science of the Mind*, to subsume the latter into the former. “The thesis of the *embodied mind*,” writes Rowlands, “is more accurately rendered the thesis of *embodied mental processes*. . . . [I]t should be understood that it is a thesis concerning mental processes and not the mind as this is perhaps commonly understood” (*New Science* 53). This formulation sidesteps both the problem of having to resolve Dewey’s usage of “mind” with contemporary and/or “commonly understood” uses of the term, as well as the problem of differentiating between “mind” and “cognition.” Thus, again following Rowlands, we may define EMT as follows: “The idea that mental processes are *embodied* is, very roughly, the idea that they are partly constituted by, partly made up of, wider (i.e., extra-neural) bodily structures and processes” (*New Science* 3).⁸

Using Rowlands’s formulation, it is easy to see why Dewey has been said to anticipate this position. Consider the following passage from *Experience and Nature*:

The mystery that mind should use a body, or that a body should have a mind, is like the mystery that a man cultivating plants should use the soil; or that the soil which grows plants at all should grow those adapted to its own physico-chemical properties and relations. . . . Every ‘mind’ that we are empirically acquainted with is found in connection with some organized body. Every such body exists in a natural medium to which it sustains some adaptive connection: plants to air, water, sun, and animals to these things and also to plants. Without such connections, animals die; the ‘purest’ mind would not continue without them. (LW 1:211–12)

For Dewey, minds only exist in connection with an organized body. If we can take Dewey’s usage of “mind” here to consist (at least partly) of cognitive processes, then it follows that the mind is dependent upon, if not constituted by, some of the structures and processes of the organized body with which it is necessarily connected. In the same way we cannot understand a *living* plant apart from the soil, we cannot understand the human mind apart from the body. It is in these senses that Dewey is construed as a philosopher of the embodied mind. This formulation is not entirely unproblematic, though.

Does saying that the mind is dependent upon, if not constituted by, bodily structures fully encapsulate the idea of an organism being as much a part of her environment as her environment is a part of her? Insofar as my rendering of Dewey's notion of embodiment is accurate, and insofar as Rowlands's formulation of the embodied mind is also accurate, it seems that labeling Dewey as a philosopher of the embodied mind may not do justice to his notion of organism-environment transactions. That is, EMT moves outward to include the system of bodily structures and processes, but it may fall short of the wider system that is the life process—organism transacting with and through the *environment*.

3. The Extended Mind

In 1998 Andy Clark and David Chalmers published an essay entitled “The Extended Mind,” which sparked a debate that still continues today. Where does the mind stop and the rest of the world begin? Clark and Chalmers's answer to this question takes the form of an argument from functional parity:

If, as we confront some task, a part of the world functions as a process which, *were it done in the head*, we would have no hesitation in recognizing as part of the cognitive process, then that part of the world (so we claim) is part of the cognitive process. Cognitive processes ain't (all) in the head! (29)

In order to demonstrate this point, Clark and Chalmers construct a (now infamous) thought experiment involving two characters: Otto, who is afflicted with Alzheimer's, and Inga, whose biological memory is wholly intact. Both characters hear about an exhibit at the Museum of Modern Art that they wish to see. Because of his condition, Otto carries a notebook around with him everywhere he goes—writing down those things that he would, under normal circumstances, commit to memory. Thus, upon hearing about the exhibit, he consults his notebook to “remember” that MoMA is on 53rd St. Inga, on the other hand, “consults” her biological memory to remember that MoMA is on 53rd St. If both Otto and Inga end up at MoMA, then according to Clark and Chalmers:

In relevant aspects the cases are entirely analogous: the notebook plays for Otto the same role that memory plays for Inga. The information in the notebook functions just like the information constituting a non-occurrent belief; it just happens that this information lies beyond the skin. (33–34)

Thus, because we would not hesitate to call Inga's normal recall from biological memory cognitive, we ought not hesitate in calling Otto's notebook consultation cognitive as well, insofar as both produce the same behavioral output.

There is not space here to defend or attack XMT as it is presented in this thought experiment.⁹ Rather, we need to focus on the relationship between EMT and XMT. First, the claim that "cognitive processes ain't all in the head" is perfectly compatible with EMT. That is, the embodied mind theorist should assent to this claim, saying that indeed, some cognitive processes are dependent upon, or constituted by, wider bodily structures and processes that are not strictly inside the head. It is at this point, however, that the two theses seem to diverge. XMT turns on the notion that if a part of the *world* functions as a process that, if it were done in the head, we would recognize as part of the cognitive process, then that part of the *world* is part of the cognitive process. Clark and Chalmers here use the Deweyan tactic of moving outward—past the skull, and most importantly, past the body—toward the wider context of processes and structures in the *world*. Thus, it seems that the more Deweyan position might be XMT, especially if the latter is compatible with EMT.

To sum up: EMT holds that some cognitive processes are constituted by *bodily* structures and processes. XMT holds that cognitive processes can be constituted by *worldly* structures and processes. If Dewey's notion of embodiment is accurately rendered as the organism being as much a part of her environment as her environment is a part of her, then it follows that XMT, which recognizes the interpenetration between mind, body, and *world*—rather than merely the interpenetration of mind and body—is more true to Dewey's notion of embodiment.

In the last section of this paper, I will argue that while the conjunction of EMT and XMT seems to be in line with Dewey's notion of embodiment, there may still be room to uphold an organism-environment dichotomy. In order to respect a crucial aspect of Dewey's thought, then, our conception of the mind must be one that fully rejects the possibility of such a dichotomy.

4. The Integrated Mind

For present purposes, the fundamental problem with XMT is that it may not fully eliminate the possibility of retaining an organism-environment dichotomy. That is, XMT as it is presented in the case of Otto and Inga, might be understood as positing discrete, complete cognitive agents merely extending autonomous cognitive processes into the world.¹⁰ If we are to take

Dewey's notion of embodiment seriously, then we cannot leave open the possibility of completed organisms apart from the environment. Rather, an organism *becomes* what it is by virtue of the transactions with and through the environment. This emergent notion of the organism is the linchpin for the integrated mind thesis, and as I will argue below, the epitome of Dewey's notion of embodiment as it relates to contemporary philosophy of mind.

The reason that a consideration of XMT was necessary at all is because the integrated mind thesis (henceforth "IMT"), as formulated by its foremost advocate, Richard Menary, is dubbed a "second-wave" extended mind argument. In "Cognitive Integration and the Extended Mind," Menary writes:

[T]he payoff from extended mind-style arguments is the integration of the bodily 'internal' and 'external' aspects of cognition into a whole. This is to think of cognition as hybrid, straddling both brain and bodily manipulation of external vehicles. (228)¹¹

I take the last sentence of this passage to be emblematic of IMT. To think of the mind as *hybrid* in this sense is to say that we cannot understand the mind solely in terms of brains, nor solely in terms of the body, nor solely in terms of the world. The mind *emerges* as the result of the interactions among these dimensions. To be sure, there are distinctively neural characteristics and there are distinctively bodily characteristics, but following Dewey, we must understand these from the standpoint of the larger co-ordination of organism transacting with and through the environment. In a striking passage from *Cognitive Integration*, Menary echoes Dewey's notion of transaction:

It is through our bodies that we primarily engage with the world and through this engagement the body is constantly integrating with the environment. When body and environment co-ordinate, *the environment becomes part of the resources the organism has for acting, thinking or communicating.* (77–78; emphasis added)¹²

The constant integration of body and world described here allows Menary to eliminate the possibility of an organism distinct from the environment. This is not to say that XMT is *necessarily* guilty of upholding such a distinction, but rather, that the notion of *integration* closes off the possibility for such an interpretation in a way that the notion of *extension* may not be able.¹³ Thus, if it can be shown that IMT is compatible with EMT and XMT, then it should follow that an integrationist framework is the best context in which to understand Dewey's notion of embodiment.

In the first place, Menary's assertion that cognition is, in part, constituted by the "*bodily manipulations* of external vehicles" not only meets EMT's

requirement that some cognitive processes are constituted by *bodily* structures and processes, but it also captures the notion of *active engagement*, which is so central to Dewey's notion of embodiment. Secondly, the notion of "external vehicles" meets XMT's requirement that our conception of cognitive processes should extend to those structures and processes in the *world* that are functionally similar to internal processes and structures. Most importantly though, IMT captures the irreducibly transactional nature of the organism-environment relationship in a way that XMT, as presented in the case of Otto and Inga, may not be able. Thus, insofar as the hybrid or integrated conception of the mind successfully eliminates the possibility of a living organism conceived apart from the environment, it is IMT that most fully resonates with the claim that an organism is as much a part of her environment as her environment is a part of her.

Conclusion

While it is surely important to recognize Dewey's historical significance as one of the "greatest philosophers of the embodied mind," we risk overlooking important and definitive aspects of his thought by reducing his notion of embodiment to the embodied mind thesis, as the latter is understood by contemporary philosophers of mind. If my argument has gone through, then it follows that extended mind-style arguments in general, and the integrated mind thesis in particular, provide the proper framework for understanding Dewey's notion of embodiment, and his contribution to contemporary philosophy of mind. Properly situating Dewey's thought in this context, however, only represents a small step in our efforts to avoid the fate of the proverbial woody fiber.

There is a common thread that runs through Dewey's "The Reflex Arc Concept in Psychology," Clark and Chalmers's "The Extended Mind," and Menary's *Cognitive Integration*: If we want to understand humans *qua* humans, we cannot limit the scope of our inquiry to the brain, or the nervous system, or the body, or the world. Instead, we need an explanatory framework that is capable of taking the continuous, dynamic interactions among these systems as the basic unit of analysis. As we have seen, this was a position espoused by Dewey over a century ago, and one that has found a voice today in various formulations of the embodied, extended, and integrated conceptions of the mind. The upshot of this line of thinking is the recognition that there are important and definitive aspects of the mind that are only disclosed by situating the mind in its wider bodily and environmental context. Incorporating

this insight into a viable methodology that allows us to make useful generalizations, predictions, and descriptions of these wider aspects of the mind is perhaps *the* task for embodied, extended, and integrated mind theorists. No small task, to be sure, but a task that gives us plenty of new cud to chew.

NOTES

1. MW 10:47. Unless otherwise noted, all references to Dewey's work are to the 37-volume critical edition, edited by Jo Ann Boydston and published by the Southern Illinois University Press between 1969 and 1990. The critical edition is divided into *The Early Works* (EW), *The Middle Works* (MW), and *The Later Works* (LW). All references to this edition will indicate the series, followed by the volume number, colon, and page number (as cited above: MW 10:47).

2. The most promising areas of this growing body of literature, in my view, are exemplified in the work of Teed Rockwell, Roman Madzia, and Thomas Burke, among others. For example, see chaps. 8–10 of Rockwell; also see Madzia; and Burke.

3. I hasten to add that I am by no means attempting to downplay the tremendous historical import of the reflex arc essay, as it is without a doubt one of Dewey's most influential essays. Indeed, in the introduction to the second volume of *The Essential Dewey*, Larry Hickman and Thomas Alexander note: "The Reflex Arc Concept in Psychology" is one of Dewey's most famous essays. It signaled the end of introspectionist psychology and the beginning of a new functional, organic, social behaviorism. In 1942, a committee of seventy eminent psychologists polled by the editors of *The Psychological Review* voted this essay the most important contribution to the journal during its first 49 years of publication" (Dewey, *Essential Dewey*, Vol. 2, ix).

4. As specifically regards the analyses of the reflex arc essay, see the chapter entitled "Human Nature" in Campbell (25–65). Also see the chapter entitled "The Embodied Mind" in Alexander (119–82). For an analysis of the reflex arc essay outside of the classical American pragmatist tradition, see Chemero (18–20).

5. The traditional stimulus-response response model (epitomized by James Mark Baldwin's notion of a *reactive consciousness*—see Baldwin 60) criticized by Dewey in the reflex arc essay is essentially linear. That is, external stimuli are said to impinge upon a passive, receiving consciousness. The stimuli are then registered and processed internally, and are then translated into an external motor output. Thus, sensations are viewed as external to movements, and explaining the relation between the two results in a "patchwork of disjointed parts, a mechanical conjunction of unallied processes." What was needed, Dewey thought, was a theoretical standpoint whereby "sensory stimulus, central connections and motor responses shall be viewed, not as separate and complete entities in themselves, but as divisions of labor, functioning factors, within the single concrete whole" (EW 5:97).

6. One of the first philosophers to fully come to grips with Dewey's notion of embodiment and its consequences for understanding the self, the mind, and cognition was Mark Johnson. Indeed, most of the body of literature I referenced in the introductory paragraph of this paper was spearheaded by Johnson. In the introduction to his seminal work with George Lakoff, *Philosophy in the Flesh*, Lakoff and Johnson write:

We want to honor the two greatest philosophers of the embodied mind. Any book with the words 'philosophy' and 'flesh' in the title must express its obvious debt

to Maurice Merleau-Ponty. . . . John Dewey, no less than Merleau-Ponty, saw that our bodily experience is the primal basis for everything we can mean, think, know, and communicate. . . . For their day, Dewey and Merleau-Ponty were models of what we will refer to as 'empirically responsible philosophers.' They drew upon the best available empirical psychology, physiology, and neuroscience to shape their philosophical thinking. (xi)

7. Underlying all such judgments is the basic assumption that although Dewey never explicitly talked about cognitive extension or integration (i.e., the extra-bodily environment bearing the load of some cognitive-informational processing), this is a position with which he would be sympathetic. This assumption is warranted, I believe, because there are more than a few important similarities between the Baldwinian *reactive consciousness* that Dewey argued against, and the contemporary *mind as computer* metaphor that often stands in opposition to the best formulations of the embodied, extended, and integrated mind theses. That is, there is a profitable comparison to be made between the notions of stimulus, registering consciousness, and response in Baldwin's account, and the notions of input, brain, and output that are at work in the standard computational account of the mind. Insofar as these parallels exist, I think it is fair to translate the arguments Dewey makes against the stimulus-response model into the terms used in contemporary arguments against some internalist, computationalist account of the mind.

8. Importantly, Rowlands makes a distinction between embodiment theories of *dependence* and *constitution*. The former only asserts that cognitive processes *depend* on the body, the latter that cognitive processes are, in part, *constituted* by the body. To be sure, we cannot fault Dewey for not recognizing this fine-grained distinction, though it is important to recognize that the dependence claim may be reduced to the anodyne assertions that the "body affects the brain," or that "brains need bodies." The constitution claim, on the other hand, is much more radical in its assertion that some cognitive processes are literally made up of, or constituted by, bodily structures and processes. There is regrettably not space in the present paper to examine what, if any, textual support exists to determine Dewey's position on the dependence/constitution issue.

9. I refer the reader to Richard Menary's edited volume *The Extended Mind* for an excellent collection of essays (both critical and supportive) on the thesis of the extended mind in its various formulations.

10. It is not clear that this is an entirely accurate reading of Clark and Chalmers's position, but it is nonetheless still a criticism that has been levied against them. The problem is that Clark and Chalmers insist that the human organism must be "linked with an external entity in a *two-way* interaction, creating a *coupled system*" where "all the components of the system play an *active* causal role" (29; emphasis added). The charge is that Otto's notebook is a static, external artifact that cannot meet this condition of "continual reciprocal causation." Thus, Otto's internal cognitive processes can be viewed as complete in and of themselves—merely extended into the external medium of his notebook to sit passively until they are recalled at a later date.

11. We can understand "external vehicles" here to mean something like Otto's notebook, the grocery list we write down, the digits we manipulate on paper in doing longhand division, the Scrabble tiles we arrange and re-arrange in the rack, etc. It is also important to note that Menary's understanding of "manipulation" here is based on Mark Rowlands's notion of the *manipulation thesis*, outlined in the latter's 1999 book *The Body in the Mind*:

The notion of manipulation, here, should be understood very broadly and, in particular, should not be restricted to its usual manual sense. . . . [B]y moving my head, I transform the structure of light around me . . . and this makes available to myself information that would otherwise have remained hidden. . . . [M]anipulation need *not* be understood as a necessarily intrusive activity, that is, as an activity which seeks to change the environment, or that inevitably results in such a change. (23)

12. Menary also quotes the following passage from Ruth Millikan, which could easily have been attributed to Dewey: “For there is no clear line but only the most arbitrary demarcation between the organism considered as a process and its environment. The organismic process has no skin. It is constantly sucking in matter from its surroundings and spewing it out again” (Millikan 179; qtd. in Menary 106).

13. The reason for this is that the case of Otto and Inga turns on the argument from functional parity (though there may be reasons to suspect that this thought experiment is more of an “intuition pump” than an explicit argument for XMT). As pointed out above, this may leave room for a conception of the organism as complete and independent, apart from the environment. Menary’s argument for IMT deliberately rejects the argument from functional parity, replacing it with Rowlands’s manipulation thesis. This represents an improvement on XMT because the notion of manipulation necessarily requires the coupling of manipulator and manipulated, inner and outer, organism and environment. Again, this is not to say that XMT is incapable of incorporating this insight, but rather, that the case of Otto and Inga does not clearly imply this necessary coupling that is so central to Dewey’s thought.

REFERENCES

- Alexander, Thomas. *John Dewey’s Theory of Art, Experience, and Nature: The Horizons of Feeling*. Albany: State U of New York P, 1987.
- Baldwin, James Mark. *Handbook of Psychology: Feeling and Will*. New York: Holt, 1891.
- Burke, Thomas. “(Anti)Realist Implications of a Pragmatist Dual-Process Active-Externalist Theory of Experience.” *Philosophia Scientiae* 12.1 (2008): 187–211.
- Campbell, James. *Understanding John Dewey: Nature and Cooperative Intelligence*. Chicago: Open Court, 1995.
- Chemero, Anthony. *Radical Embodied Cognitive Science*. Cambridge: MIT P, 2009.
- Clark, Andy, and David Chalmers. “The Extended Mind.” *The Extended Mind*. Ed. Richard Menary. Cambridge: MIT P, 2010. 27–42.
- Dewey, John. *The Early Works, 1882–1898. The Collected Works of John Dewey, 1882–1953*. Ed. Jo Ann Boydston. Carbondale: Southern Illinois UP, 1969–1972. 5 vols.
- . *The Essential Dewey*. Ed. Larry Hickman and Thomas Alexander. Bloomington: Indiana UP, 1998. 2 vols.
- . *The Later Works, 1925–1953*. Ed. Boydston. Carbondale: Southern Illinois UP, 1981–1990. 17 vols.
- . *Lectures on Ethics: 1900–1901*. Ed. Donald F. Koch. Carbondale: Southern Illinois UP, 1991.
- . *Lectures on Psychological and Political Ethics: 1898*. Ed. Donald F. Koch. New York: Hafner Press, 1976.
- . *The Middle Works, 1899–1924*. Ed. Boydston. Carbondale: Southern Illinois UP, 1976–1983. 15 vols.

- Lakoff, George, and Mark Johnson. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books, 1999.
- Madzia, Roman. "Chicago Pragmatism and the Extended Mind Theory: Mead and Dewey on the Nature of Cognition." *European Journal of Pragmatism and American Philosophy* 5.1 (Forthcoming).
- Menary, Richard. "Cognitive Integration and the Extended Mind." *The Extended Mind*. Ed. Richard Menary. Cambridge: MIT P, 2010. 227–44.
- . *Cognitive Integration: Mind and Cognition Unbounded*. New York: Palgrave Macmillan, 2007.
- , ed. *The Extended Mind*. Cambridge: MIT P, 2010.
- Millikan, Ruth. *White Queen Psychology and Other Essays for Alice*. Cambridge: MIT P, 1993.
- Rockwell, Teed. *Neither Brain nor Ghost: A Non-Dualist Alternative to the Mind-Brain Identity Theory*. Cambridge: MIT P, 2005.
- Rowlands, Mark. *The Body in the Mind: Understanding Cognitive Processes*. Cambridge: Cambridge UP, 1999.
- . *The New Science of the Mind: From Extended Mind to Embodied Phenomenology*. Cambridge: MIT P, 2010.