

# Review of: ""Brainets" Shaping The Embodied Activities"

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**Potential competing interests:** No potential competing interests to declare.

This is a very interesting and thought-provoking essay. It does a generally good job of countering the current fashion that favors an enactive and embodied form of phenomenology that discounts representationalism and invokes a greater contribution of the extended body and environment. There is merit in the arguments presented here.

The stronger parts of the essay include the following: In Section 1, the anecdote about the Brazilian pianist, Martins, nicely illustrates the weakness of the argument for inseparability of the mind and knowledge from bodily function. The ‘brainet’ experiments described in Section 2 that brain function can extend beyond the limits set by the biological body are impressive in their implications, assuming their interpretation is accurate as described. Section 3 correctly argues and supports the view favored by most neuroscientists of the physical instantiation of consciousness in the brain.

While conceding all the above, I would caution against what Gallagher [(2014) *The Philosopher's Magazine* 68: 96] referred to as “body snatching” — the tendency to “devise a version of embodied cognition that leaves the body out of it.” While the authors of this essay are criticizing enactivism rather than devising an alternative version of embodied cognition, they *are* advocating for a version of cognition that deflates the involvement of the body.

I agree with their criticism of those versions of embodiment and enactivism that claim that the body and environment cohere with the contents of phenomenology. Yet it doesn’t follow that the reach of phenomenal experience does not encompass the world outside the brain.

The version of enactivism that strikes me as credible is one in which phenomenal experience necessarily is instantiated by neural activity generated within the brain, as opposed to merely reacting to sensorimotor input and feedback — brain action “from inside out” as described by Buzsáki [(2019) *The Brain from Inside Out*]. It further is a phenomenon that is *experienced* outside the brain, while nonetheless deriving from activity within the brain. In that interpretation, Merleau-Ponty [(1964) *The Visible and the Invisible*], makes sense when he writes that “Perception is an engagement of the body with the world,” as does Noë [(2010) *Out of Our Heads*] with the assertion that consciousness “is something we do or make. Better: it is something we achieve. Consciousness is more like dancing than it is like digestion. . . .”

Another sense in which the environment should not be discounted as a contributor to phenomenological experience is the role of place and motion. Consciousness is a dimension of living forms that move; thus, motion is the condition for a living body to interact with its environment in a meaningful way [Irwin LN, Irwin BA (2020) *J Cogn Neurosci* 32:1837]. In like vein, Merleau-Ponty [(1945) *Phenomenology of Perception*] wrote, “A sense of space emerges through movement within a milieu.”

I would draw the authors' attention to the following technical issues that should be addressed in any revised version:

1. Merleau-Ponty is misspelled in the 3<sup>d</sup> line of the introduction.
2. "Going Wide!" is not defined for those who have not read the source and meaning of the expression.
3. Composition is sometimes obscure, as in the following examples:

"Would the REC include a theory of consciousness, or would the REC take the form of phenomenal internalism? If not, the following problem arises. If it is at least conceivable that experiences do not instantiate representational properties, it seems nonsensical to deny that experiences are not essentially conscious." Too many negatives make it difficult to follow the logic.

Last sentence of 9<sup>th</sup> paragraph in Introduction ("Neither commitment nor deserve to be discussed here.")

In the first Noë quote under Section 1 on Know-How, ". . . you don't have to think about which one. way turn your head . . ."

4. In the 5<sup>th</sup> paragraph after the 1<sup>st</sup> quote in the Introduction, the 2<sup>nd</sup> ("Enactivists agree that . . .") and 4<sup>th</sup> ("Moreover, all enactivists claim. . .") sentences are redundant.
5. Section 3 ("The Whereabouts of Consciousness") is not numbered like the first two sections.
6. The essay overall is more substantive than the truncated version of it depicted in the Abstract. A fuller summary of the authors' arguments, while demoting the prominence of 'brainets' would be an improvement.
7. Likewise, the prevalence afforded to 'brainets' in the title seems an exaggeration relative to their actual contribution to the essay as a whole.