

## Reviewer 3

Review of “Intersubjective Mental Behaviorism: Using the Tree of Knowledge System to Develop a Holistic Philosophy” submitted to *Behavior and Philosophy*.

I reviewed this manuscript as a stand-alone piece, without reading other related ones, especially Henriques’ work on the Tree of Knowledge (ToK). No reader of this manuscript should be expected to have to read other publications to understand and evaluate the manuscript. The manuscript should stand on its own, independently of previously published papers. I also focused on what the author calls “Intersubjective Mental Behaviorism” (ISMB), which, judging by the title and its relatively extensive treatment throughout the manuscript, seems to be central to it.

Unfortunately, I did not understand exactly what is behaviorist in ISMB. Sure, ISMB includes a behavioral aspect (action, talking), but also a nonbehavioral aspect, feelings conceived as internal and causal. I did not see anything in the way the author conceives feelings that was *fundamentally* different from the way mentalists do. It seems to me that ISMB is behaviorist only in taking behavior into account as crucial (i.e., viewing it as “a key scientific construct”; see pp. 18-21), but this is not what behaviorists, especially radical behaviorists, mean when they express their position. Not only does the author use the term “behavior” in a much broader sense than behaviorists (as the author acknowledges: “In contrast to how the term is used by behaviorists in psychology”, p. 18), to include, well, everything, which strikes me as way too vast. The behaviorists’ proposal is much stronger and restricted: A mind-behavior *identity* theory, such as that propounded by radical behaviorists such as Skinner and Rachlin, according to which all mental properties (and events, states, and processes) *are* literally behavioral properties (and events, states, and processes), where “behavioral” refers specifically to the behavior of *animals* (even “organisms” is too broad for what behaviorists refer to by “behavior”).

To be sure, it is entirely legitimate and quite common to speak of the behavior of quarks, electrons, atoms, molecules, cells, organs, computers, cars, clouds, plants, and so on. However, “behavior” here is just another term for the noun “functioning,” and takes quite different *specific* senses in all these entities. Such senses are sufficiently different to be treated separately. Calling them collectively “behavior” does not make them *essentially* similar or comparable in any meaningful way. An action potential is part of a neuron’s behavior, and barpressing is part of a rat’s behavior in a Skinner box. However, this does not imply a deep similarity between the two that warrants a single unified account of both. Unification can be good, but there is such a thing as too much unification.

Nor did I understand how ToK leads to ISMB, or how ISMB derives from ToK. Part of my problem here is that I honestly do not understand ToK itself, at least not as formulated in this manuscript. Perhaps formulations in other publications are more intelligible, but then again, I resisted the temptation to go to other publications, because it should not be necessary: ToK should be understandable as formulated in this manuscript. To begin with, what is the need to include the Big Bang in all this? Yes, everything presumably originated with the Big Bang, but how does this make ToK or even psychology any better? The same goes for all the contents about physics and chemistry: What’s the benefit? If it is an effort to include psychology in a wider picture, there is no need to do any of this. It suffices to say that whatever psychologists study is part of the same reality, as much as whatever physicists, chemists, and biologists study is.

Yes, there is a hierarchy, and this is an important notion: Animals are made of systems, systems of organs, organs of tissues, tissues of cells, cells of molecules, molecules of atoms, atoms of subatomic particles, and so on. Different levels of organization are tightly related to one another, as are the entities that within any level. But this is not a new notion. It has been around for a long time (see Stanley N. Salthe’s 1985 *Evolving hierarchical systems*), well before the initial

proposal of ToK (referenced in the reviewed manuscript as having been published in 2003). The author's strongly emergentist account of how entities in one level or organization relate to entities in lower levels is not new either (the author uses the term "emergence" and cognates quite often throughout the manuscript).

Emergentism was initially proposed by J. S. Mill in his 1843 *System of logic*, Samuel Alexander in his 1920 *Space, Time, and Deity*, and C.D. Broad in his 1925 *Mind and its place in nature*. I did not see any of these works cited in the reviewed manuscript. Nor did I find any reference to later developments of these initial ideas in the topic of *supervenience*, widely discussed in the philosophy of science and philosophy of mind. There also is a notable absence of references to any work in contemporary complexity (a term the author also uses quite frequently in this manuscript) theory (the Santa Fe Institute, SFI, <https://santafe.edu/>, devoted to the study of complexity, was established in 1984 by George Cowan). Complexity theory (more recently called "complexity science") is a strongly interdisciplinary study of complex systems that relates mathematical logic, neuroscience, connectionism, chaos theory, fractal geometry, computational complexity, game theory, information theory (and thermodynamics), biology, artificial life, and psychology, where the nature of emergent properties in complex hierarchical systems remains a central (and still unresolved) issue. Almost a decade before the SFI was established, Peter Belohlavek founded the Unicist Research Institute (<https://www.unicist.org/>), also dedicated to the study of complexity (his unicist theory sounds sufficiently similar to the present author's proposal as to warrant comparison). The absence of all this from the reviewed manuscript suggests a lack of awareness on the author's part about a very extensive, rich research field that bears directly on his ideas but makes them pale in scope, rigor, technical detail, and erudition. The vastness of this field makes this manuscript look too superficial and naive. For all these reasons, I cannot recommend publication in *Behavior and Philosophy*.