

Peer Review

Review of: "A Phenomenological Approach to Quantum Mechanics"

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I think this is nice work and that it goes in the right direction. I always feel, too, that a comprehensive view between cosmopsychism and quantum field theory (QFT) is still under evaluated and deserves more attention.

However, what I feel is missing is especially the lack of references that place the manuscript into the context of modern philosophy of mind. Lots of citations are needed to those who have worked on similar topics.

Then, while technically there are no major objections to make, when it comes to quantum physics/quantum mechanics (QP/QM), a more rigorous technical nomenclature is felt necessary. I suggest the author resorts to a physicist who might help out with a more rigorous language.

In more detail, here are my comments...

„...matter underlying the subatomic particles of the quantum domain.”

QM is quite relevant in the atomic and molecular domains, as well.

“By concrete nature, I mean stuff we encounter in the physical world that cannot be characterized by formal or mathematical descriptions.”

Such as? Isn't the scientific (or scientistic?) assumption that every stuff we encounter in the physical world we experience could ultimately be characterized by formal or mathematical descriptions? I would make an example to clarify.

“I'll follow Heisenberg, who has argued that the quantum formalism points us toward something like an Aristotelian notion of potentia or potential matter underlying the subatomic particles of the quantum domain.”

I would place Heisenberg's reference here.

“Some, such as advocates of ontic structural realism, will argue against characterizations that involve anything beyond relational or structural descriptions (Ladyman et al., 2007). “

I would make a short reference to C. Rovelli’s relational quantum mechanics (RQM) here.

References in section 3: Relevant references are missing. I would at least add I. Shany since he is one of the main proponents and initiators of cosmopsychism in modern Western metaphysics, and would not shrug under the carpet idealism in a footnote. What about B. Kastrup and A. Huxley’s idea of a Mind at large? Then, what about good old Spinoza? I would at least point out in a sidenote the strong analogy (if not identity) of cosmopsychism with some similar (if not even identical) understanding of reality (e.g., Vedanta.)

“What happens to the world’s concrete aspect as we enter the quantum domain? We have some sense of the concrete with entities such as metal gears, electromagnetic waves, or planets, described in the mathematical equations of classical physics. What does the formalism of quantum mechanics describe? It describes the behavior of a web of entangled possible states of various properties such as spin or position of subatomic particles.”

I would rephrase this differently because it sounds as if QM would not describe electromagnetism, but this is also quantized in QFT. Then, it is a bit simplistic account of what QM describes. Of course, that can’t be exhausted in a sentence, but if one would highlight the ‘weird’ aspects of QM, I would add something about the superposition principle and Heisenberg’s uncertainty principle.

“... perhaps we might sidestep some notions such as quantum superposition or wave function collapse, generally associated with the orthodox interpretation that Heisenberg preferred.”

Sidestepping the wavefunction collapse in this context makes sense, but much less so quantum superposition? Isn’t q-superposition one of the main properties of QP that allows us to talk about ‘potentias’? I would not only not sidestep it but even develop it in this context.

“Thus, the structure and relations used to describe the physical world must ultimately have some relata that provides the basis for the relations. Perhaps the intrinsic nature of the world is the missing concrete element of quantum mechanics.”

Again, why no mention of QRM?

“ Russellian monism has led many who study the mind-body problem to consider the possibility that even subatomic particles, such as electrons, possess some rudimentary degree of consciousness (Goff, 2017; Seager, 2006; Strawson, 2009).”

Here I would utter the word “panpsychism.”

“Here, the key problem is explaining how diverse conscious experiences arise from a more fundamental conscious ground via some process of decombination. I submit that biological structure plays an important role; however, space limitations prevent me from tackling this question in more depth.”

The combination and decombination problems, and their possible solutions, have been widely discussed in the philosophical literature. I would add some references (e.g., Kastrup has developed a quite articulate theory of ‘alters’ in terms of ‘Markov blankets’).

“In addition, its nonseparable nature entails that it is the ground for the universe as a whole; thus, we are led to consider a mind-like field at the base of the universe.”

Why not mention the fact that QFT indeed relies on such a vision, namely, that it posits a universal quantum field where every particle is a particular excitation of that field? For example, every electron is an excitation (harmonic oscillator) of a universal quantum electron field, etc.

By the way, I would also cite somewhere the work of J. Kepler, who developed a QFT for consciousness and brain processes that has analogies with what is being said here (see: <https://philpeople.org/profiles/joachim-kepler>)

“The approach I’ve been developing can be classified under dual aspect monism. According to Mørch (2024), this framework claims that “reality consists of one fundamental kind of stuff, but that this stuff has two different aspects throughout, a physical aspect and a mental or protomental aspect” (p.48). Mørch includes as an example pansychism (panprotopsychism), which holds that the fundamental building blocks of our world are sentient (protosentient). However, Atmanspacher & Rickles (2022) present the view that the fundamental stuff within dual aspect monism is psychophysical neutral between the physical and the mental, and they give special weight to Spinoza as an original contributor to this approach. The position I advocate is that the most fundamental stuff is a ground of aware potentiality, which provides the basis for both the mental and physical aspects of the world.” – Note 5: “What I propose could arguably also be filed as a version of idealism, as the fundamental stuff of the world is conscious. But given that it is also a field of potentiality, the basis for the particles which constitute the physical world, the nomenclature dual aspect monism is justified.”

I know that (unfortunately) Spinoza is mentioned as a dual aspect monist. However, this is a diminished and amputated interpretation. It would be interesting to relate the real worldview of Spinoza, which was a sort of 'multi-modal monism,' to the present theory, which, ultimately, is multimodal as well. For Spinoza, the ground of all being is the "substance," and all phenomena, properties, and objects in nature, including mental phenomenality, are the many different modes of that substance. It is not a dual conception. Matter ('res extensa') and the mind ('res cogitans') are seen only as two possible modes of the same substance. Worth mentioning is also that while substance dualism is affected by inconsistencies (e.g., the mental causation problem), dual-aspect monism, and even more so Spinoza's view, resolve them naturally. Moreover, Spinoza's concept of "conatus" ("effort," "will," "inclination") could fit well in the present theory of quantum potentia.

"Also, Atmanspacher and Rickles noted that Jung was influenced by Kant, who famously held that our knowledge of the world cannot go beyond surface phenomena."

I would add "transcendental idealism" here.

"This reasoning, borrowed from Russellian monism, suggests that the most basic stuff of reality is awareness itself."

What is the difference, for you, between "awareness," "mind," "consciousness," "intentionality"? Perhaps dedicating a paragraph to semantic clarity could help avoid misunderstandings.

"Conventional scientific theories generally suggest that the world's behavior is based ultimately on mathematical laws or randomness and therefore not hospitable to genuine choice."

I suggest placing a reference to this conventionally held belief. You can find an extensive discussion about this aspect in my paper here: <https://doi.org/10.53765/20512201.30.5.032>

"However, I prefer the more neutral term 'probabilities' to 'randomness,' as the latter term arguably puts its thumb on the scale, ruling out 'choice.' If the fundamental ground is aware potentiality endowed with choice, then perhaps its influence consists in choosing in some sense the experimental outcomes."

It is called the "randomness objection," and one wonders what your take is. I believe you must argue convincingly against it; otherwise, one could simply object that any theory connecting QT to an "underlying field of aware potentiality endowed with choice, volition, and selective intentions " with a "quantum ground as a source of agency" is self-defeating because, even if so, it is bound to the random (or 'probabilistic,' if you prefer) events of QM and, thereby, does not allow for any free choice,

free will, controlled intention, volition, or agency. At least not without changing the probability functions ruling QM, in clear violation of the laws of physics. Again, you might gain some insight into this aspect from my paper, which offers a solution to this problem.

First, you write: “It is of course important to acknowledge the incredulous stare. For many, a framework invoking a cosmic mind supporting the world’s regularities through its intentions will likely stretch things past the breaking point.”

Then you add: “It [the interpretation] manages to avoid extravagant ontologies that have no correspondence with our experience. And as I’ve discussed, it addresses the question of concrete nature, as well as the problems of consciousness and real volition.”

In what sense aren’t you contradicting yourself here? I would be careful not to overemphasize too much the concreteness of this model. After all, apart from mystics and metaphysicians, for the average human in the ordinary state of consciousness, invoking cosmic minds does not inspire an interpretation that favors a ‘natural concreteness.’

Declarations

Potential competing interests: No potential competing interests to declare.