A response to “Epistemological Limits and Quantum Realities: A Kantian Analysis of QBism and Relationalism” by Arianna Laura Savelli

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Arianna Laura Savelli raises some interesting points in the article “Epistemological Limits and Quantum Realities: A Kantian Analysis of QBism and Relationalism”. She addresses a criticism of QBism in my book on quantum theory (Rovelli (2020)) and offers a neo-Kantian response to it. I find her Kantian reading of QBism interesting and I agree with her that reading QBism's observer as a universal human subject, not a single determinate agent, and taking intersubjective agreement into account, ensures objectivity without collapsing into solipsism. I find this to be the correct response to the charges of solipsism raised both against QBism and the Relational Interpretation (Rovelli (2025)), and also a good response to the charge of sliding towards idealism.

I also appreciate the general value of the import of the Kantian lesson, as reinterpreted by neo-Kantians, namely the recognition that our access to reality is always mediated, and I agree that the Kantian perspective provides appropriate tools to understand the QBism account of quantum phenomena.

Yet, the historical development of science has often benefited by searching for a more naturalistic position than a strict Kantianism (or neo-Kantianism), where the subject is transcendental. By “more naturalistic”, I mean here two different ideas. The first is the conviction that the subject is itself part of nature, sharing the physical properties with any other part of nature. This is not incompatible with Kant, or QBism, of course, but Kant and QBism, fall short of analyzing the subject as a physical system and searching for an account of the nature of its knowledge in physical, rather than transcendental, terms. In a naturalistic framework, the transcendental perspective on the subject is not obtained by adding something to nature, but rather by ignoring physical aspects of the subject that are not relevant for its being a subject of knowledge. Filling these in is what the relational perspective on quantum theory adds to QBism. The information with which the subject of QBism deals is interpreted as (a specific form of) relative information, a purely physical notion. The Relational Interpretation brings onboard the recognition of the critical philosophy that our

access to reality is always mediated, and also that there is an objectivity that emerges from the intersubjective sharing of probabilistic rules. But the intersubjective world that our understanding brings about can also account for the transcendental perspective of the subject of knowledge itself. This is not accessing a noumen: it is simply a more complete picture to account for the phenomena.

The second aspect in which naturalism suggests that we may add something to the QBism account of quantum theory is the possibility of making sense of the world in the absence of a subject of knowledge. If the circle between epistemology and ontology can be closed, we gain in understanding. We describe the world as it appears to us, who are subjects of knowledge. But we can also understand ourselves, including our activity as collectors and utilizers of knowledge, as normal parts of the world, subject to the same general regularities that the rest of nature, as far as we can see, follows. My stance with respect to QBism is not that it leads to solipsism or is incoherent. It does not. It is that it may be completed, in terms of a more naturalistic account of quantum phenomena, where no special role is played by the complex conceptual structure needed by an agent betting on the future.

In other words, why do we want subjectivity to be only understood as a universal Kantian subjectivity? Why not also make sense of it by describing it in terms of the way the subject may appear as a mere phenomenal object to another subject? The metaphysical assumption that this is impossible a priori is what I do not find convincing. It sounds to be a residual of dualism. We can get rid of it, maintaining the insights of critical philosophy. The transcendental perspective of a given subject can be understood as a simplified language obtained by ignoring aspects of a full description of that subject given by another subject, rather than by "adding it" to the phenomenological reality. Relational quantum mechanics does the job by distinguishing quantum contextually from Kantian transcendental analysis. The second is not the reason for the first. The first is there also without the second. The two are compatible, but the second is a very special case of the first.

References

Rovelli, Carlo. (2020). *Helgoland.* Milano: Adelphi.

Rovelli, Carlo (2025). Relational quantum mechanics. In *The Stanford Encyclopedia of Philosophy* (Spring 2025 Edition), Edward N. Zalta (ed.), URL = https://plato.stanford.edu/archives/spr2025/entries/qm-relational/

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