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Why I am not a QBist

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The epistemic view of the quantum state vector, according to which the state vector or wave function represents knowledge about a quantum system, rather than the true state of the system, goes back at least to Heisenberg. It has been revived and further developed in the past two decades, in the wake of the emergence of quantum information theory. Its sharpest formulation is Quantum Bayesianism, or QBism. For QBists, “quantum mechanics is a tool anyone can use to evaluate, on the basis of one’s past experience, one’s probabilistic expectations for one’s subsequent experience” [arXiv:1311.5253]. QBism explicitly adopts the subjective view of probability, wherein probability assignments express an agent’s personal degrees of belief about an event. QBists claim that most if not all conceptual problems of quantum mechanics vanish if we simply take a proper epistemic and probabilistic perspective. Although this judgement is largely subjective and logically consistent, I give a number of reasons why I do not share it and, more generally, why I believe that the epistemic view of quantum states is unsatisfactory.

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