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Pragmatism: A Natural Home for Information-Theoretic Interpretations of Quantum Theory?¹

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Interpretations of quantum theory are often divided into realist and instrumentalist camps. Dominant realist interpretations include the Everett (many worlds) interpretation, the de Broglie-Bohm interpretation and the GRW theory. The tradition of classical American pragmatism, with origins in the work of Peirce, Dewey and James, provides the philosophical basis for a ‘third way’ which is neither instrumentalist nor realist in the traditional sense. Some recent interpretations of quantum theory may be seen as attempts to occupy the kind of philosophical position that the pragmatists opened up. These include the information theoretic interpretation presented by Jeff Bub in *Bananaworld* and the QBist interpretation due to Chris Fuchs, Rüdiger Schack and others. In the case of QBism, there are clear lines of historical influence from the pragmatist philosophers. Both interpretations are also closely connected to ongoing developments in physics. They draw on the resources of the burgeoning field of quantum information theory and on ongoing efforts in the foundations of quantum theory to reaxiomatise the theory in operationalist or information-theoretic terms.

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