Everettian Rationality: defending Deutsch's approach to probability in the Everett interpretation

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Abstract

An analysis is made of Deutsch's recent claim to have derived the Born rule from decision-theoretic assumptions. It is argued that Deutsch's proof must be understood in the explicit context of the Everett interpretation, and that in this context, it essentially succeeds. Some comments are made about the criticism of Deutsch's proof by Barnum, Caves, Finkelstein, Fuchs, and Schank; it is argued that the flaw which they point out in the proof does not apply if the Everett interpretation is assumed.

A longer version of this paper, entitled "Quantum Probability and Decision Theory, Revisted", is available online. The present paper will appear in Studies in the History and Philosophy of Modern Physics; confusingly, when it does it will also bear the title "Quantum Probability and Decision Theory, Revisited".

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