Deutsch on quantum decision theory

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Abstract

A major problem facing no-collapse interpretations of quantum mechanics in the tradition of Everett is how to understand the probabilistic axiom of quantum mechanics (the Born rule) in the context of a deterministic theory in which every outcome of a measurement occurs. Deutsch claims to derive a decision-theoretic analogue of the Born rule from the non-probabilistic part of quantum mechanics and some non-probabilistic axioms of classical decision theory, and hence concludes that no probabilistic axiom is needed. I argue that Deutsch′s derivation begs the question.

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