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Fay Dowker* (f.dowker@imperial.ac.uk), Blackett Lab, Imperial College, Prince Consort Road, London, SW7 2AZ, England. *Typicality, Preclusion and Quantum Measure Theory*.

Viewing quantum mechanics as a generalisation of a classical stochastic process (rather than of a classical deterministic Hamiltonian system) affords a different perspective on foundational questions. It fits more naturally with a fully spacetime approach and deals fundamentally with “events which can happen” (rather than “events which can be measured”). It will be argued that if the related concepts of “preclusion” and “typicality” are sufficient to exhaust the meaning of probability in classical stochastic processes, the preclusion “axiom” can formally be extended to a quantum theory in which a quantum measure takes the place of a classical probability measure. An interpretation of quantum measure theory, based on preclusion, will be presented. In this interpretation, logical “rules of inference” are impelled to be dynamical rather than fixed and immutable. (Received August 03, 2007)