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Entanglement, Complementarity, and Decoherence: Bohr on the Classical and the Macroscopic

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Does decoherence validate or invalidate Bohr's complementarity interpretation of quantum mechanics? Both positions have been asserted in recent literature. This paper argues that Bohr's understanding of the relationship between quantum and classical descriptions is strongly reinforced by decoherence, but only if complementarity is rightly understood as (a) not asserting wave-packet collapse, (b) not requiring a classical description of the measurement apparatus in its entirety, and (c) taking entanglement as the essence of a quantum-mechanical description.