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What Is Complementarity?

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Complementarity is Niels Bohr's most original contribution to the interpretation of quantum mechanics, but there is widespread confusion about complementarity in the popular literature and even in some of the serious scholarly literature on Bohr. This talk provides a historically grounded guide to Bohr's own understanding of the doctrine, emphasizing the manner in which complementarity is deeply rooted in the physics of the quantum world, in particular the physics of entanglement, and is, therefore, not just an idiosyncratic philosophical addition. Among the more specific points to be made are that complementarity is not to be confused with wave-particle duality, that it is importantly different from Heisenberg's idea of observer-induced limitations on measurability, and that it is in no way an expression of a positivist philosophical project.