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Quantum Drama: From the Bohr-Einstein Debate to the Riddle of Entanglement

Jim Baggott
John L. Heilbron
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Jim Baggott and John L. Heilbron explore the combative history of quantum mechanics in their science book *Quantum Drama*.

Albert Einstein and Niels Bohr are among the most famous men in physics, yet they employed very different approaches to science. Their professional clashes over the hows and whys of quantum mechanics, a field notorious for its opacity and apparent contradictions, pushed their respective adherents toward a greater understanding of how the microworld works and what science can and cannot do with it.

The narrative revolves around Bohr and Einstein: brilliant scientists who, for all their disagreements and all the squabbling among their followers, retained the highest respect for each other throughout their lives. They are joined by a supporting cast of legendary names—Heisenberg, Schrödinger, Planck, and Oppenheimer, among others—who take sides in the quantum debate or forge their own paths to understanding.

The crux of the conflict between Bohr and Einstein is the baffling world of quantum theory. In addition to the difficulties presented by the science itself, political situations, including World War II to the Cold War, both impeded and provided new opportunities for their collaboration and experimentation. And even after their deaths—Einstein in 1955, Bohr in 1962—the foundation they laid provided ample, fertile ground for their disciples and successors to continue their lively debate over quantum mechanics and to apply it to practical purposes, such as internet security and communications.

Moving from the dawn of quantum theory to its most recent iterations, *Quantum Drama* is the story of how quantum theory reached its present state—with visions of where it may go in the future.

EILEEN GONZALEZ (July / August 2024)

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