

**Historical Foundations of the Quantum Theory**

Don Howard, Instructor

***Recommended Readings:***

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Sunny Y. Auyang. *How is Quantum Field Theory Possible?* New York: Oxford University Press, 1995.

Jeffrey Barrett. *The Quantum Mechanics of Minds and Worlds*. Oxford: Oxford University Press, 1999.

Mara Beller. *Quantum Dialogue: The Making of a Revolution*. Chicago: University of Chicago Press, 1999.

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David Bohm. *Causality and Chance in Modern Physics*. London: Routledge and Kegan Paul, 1957.

David Bohm. *Wholeness and the Implicate Order*. London: Routledge and Kegan Paul, 1980.

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Laurie Brown, Abraham Pais, and Sir Brian Pippard, eds. *Twentieth Century Physics*, 3 vols. New York: American Institute of Physics Press, 1995.

Jeffrey Bub. *Interpreting the Quantum World*. Cambridge: Cambridge University Press, 1997.

Cao Tian Yu. *Conceptual Developments of 20<sup>th</sup> Century Field Theories*. Cambridge: Cambridge University Press, 1997.

David C. Cassidy. *Uncertainty: The Life and Science of Werner Heisenberg*. New York: W. H. Freeman, 1992.

Catherine Chevalley. "Introduction: Le dessin et la couleur." In Niels Bohr. *Physique atomique et connaissance humaine*. Edmond Bauer and Roland Omnès, trans. Catherine Chevalley, ed. Paris: Gallimard, 1991, pp. 17-140.

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- Olivier Darrigol. *Electrodynamics from Ampère to Einstein*. Oxford: Oxford University Press, 2000.
- Bernard d'Espagnat. *Conceptual Foundations of Quantum Mechanics*, 2<sup>nd</sup> ed. Reading, MA: W. A. Benjamin, 1976.
- Charles P. Enz. *No Time to Be Brief: A Scientific Biography of Wolfgang Pauli*. Oxford: Oxford University Press, 2002.
- David Favrholt. *Niels Bohr's Philosophical Background*. Det Kongelige Danske Videnskabernes Selskab. Historisk-filosofiske Meddelelser, no. 63. Copenhagen: Munksgaard, 1992.
- Jan Faye. *Niels Bohr: His Heritage and Legacy. An Anti-Realist View of Quantum Mechanics*. Dordrecht: Kluwer, 1991.
- Jan Faye and Henry Folse, ed. *Niels Bohr and Contemporary Philosophy*. Dordrecht: Kluwer, 1993.
- Markus Fierz and Viktor F. Weisskopf, eds. *Theoretical Physics in the Twentieth Century: A Memorial Volume to Wolfgang Pauli*. New York: Interscience, 1960.
- Henry Folse. *The Philosophy of Niels Bohr: The Framework of Complementarity*. Amsterdam: North-Holland, 1985.
- Paul Forman, "Weimar Culture, Causality, and Quantum Theory, 1918-1927: Adaption by German Physicists and Mathematicians to a Hostile Intellectual Environment." *Historical Studies in the Physical Sciences* 3 (1971), 1-114.
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