

philosophy of just accepting the world as one finds it and not trying to force it to match one's preconceptions, which I think most physicists would feel at home with, although I think it would appall Einstein, as it involves not asking questions that should be meaningful, independently of quantum theory.

Fine points out that Einstein's views of realism did not include "hidden variable theories," which were concocted by realists well after EPR, and which Einstein thought presented too simple a solution to a difficult problem. The author has his own explanation of EPR, based on what he calls "prism models," but I think Einstein would be equally dissatisfied here. Actually, Fine seems to imply that if Einstein were alive, he would support most of Fine's views, while to me the opposite seems to be the case. I think Fine has much too formal a view of things to please Einstein, but alas, we'll never know.

An example is the author's judgment of the EPR paper itself, which he calls "tangled and flawed," because it isn't presented as a perfectly organized Aristotelian syllogism. I would call the paper breathtakingly beautiful, striking right at the Achilles' heel of quantum philosophy. It's hardly an accident that after all this time, the paper just won't go away. Every physicist should read the paper for himself anyway, and he can decide for himself who is right. Fine points out an interesting tidbit: Einstein did not write the paper; Boris Podolsky wrote it after consultation with Einstein. (Einstein was apparently mainly worried about even simpler problems with measurement theory, but history has shown that only the later spin version of EPR, due to David Bohm, has experimental significance for hidden variables.)

All in all, the book has some interesting quotes from Einstein on quantum theory and causality, and follows the development of Einstein's ideas on the subject, which were always somewhat vague. This by itself makes the book worth reading for Einstein buffs. Fine has an interesting way of looking at EPR, but makes no attempt to put it into context with other, more physically transparent work on the subject, so the book's pedagogic value is not too high. His explanations are not very clear and I often disagree with his judgments. I think the nonhistorical part of the book will be of limited interest to most physicists.

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The Life It Brings: One Physicist's Beginnings

Jeremy Bernstein

Ticknor and Fields, New York,
1987. 171 pp. \$16.95 hc
ISBN 0-89919-470-2

Jeremy Bernstein's autobiography of his first 30 years describes a common and unremarkable pattern for the upbringing of a theoretical physicist: A bright Jewish youngster goes off to Harvard, where he studies mathematics and physics, following which he pursues postdoctoral positions at Princeton, Brookhaven and abroad and begins a successful academic career. Despite this apparently ordinary material, Bernstein's book is an entertaining and fascinating work.

Bernstein's insight into what it means to be a theoretical physicist is especially interesting because he did not expect to pursue a career in science. In high school he was not absorbed in mastering calculus or quantum mechanics, but worked on the school newspaper and formed friendships with jazz greats like Duke Ellington. As an undergraduate at Harvard he eventually found that he had an aptitude for mathematics and a naive fascination with relativity. After beginning Harvard graduate school in mathematics, he ultimately finished with a degree in physics.

The title of the book comes from a quotation in a letter J. Robert Oppenheimer wrote to his brother Frank. "I take it that Cambridge has been right for you, and that physics has gotten now very much under your skin, physics and the obvious excellences of the life it brings." These "excellences" are implicit in Bernstein's book: the opportunity to use one's intelligence to understand nature at a fundamental level, to meet and work with talented and fascinating people, and to travel all over the world. Bernstein's descriptions of the great physicists with whom he worked, such as Julian Schwinger, T. D. Lee, C. N. Yang, Murray Gell-Mann and Robert Oppenheimer, are wonderfully drawn, as is his encounter with French civilization.

The book is a success very simply because Bernstein, a member of the staff of the *New Yorker*, writes so marvelously. In a tone that is both graceful and conversational, he succinctly evokes Cambridge and Paris of three decades ago. He allows us to relive what we each felt when first learning physics and mathematics, and the thrill of participating in exciting work like that engendered by the discovery of parity violation. *The*

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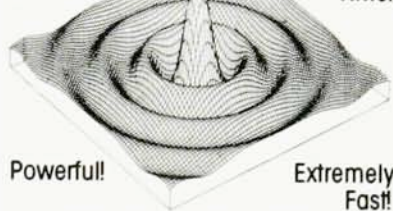
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