

An integral portrait of Einstein

**Albert Einstein:
Creator and Rebel**

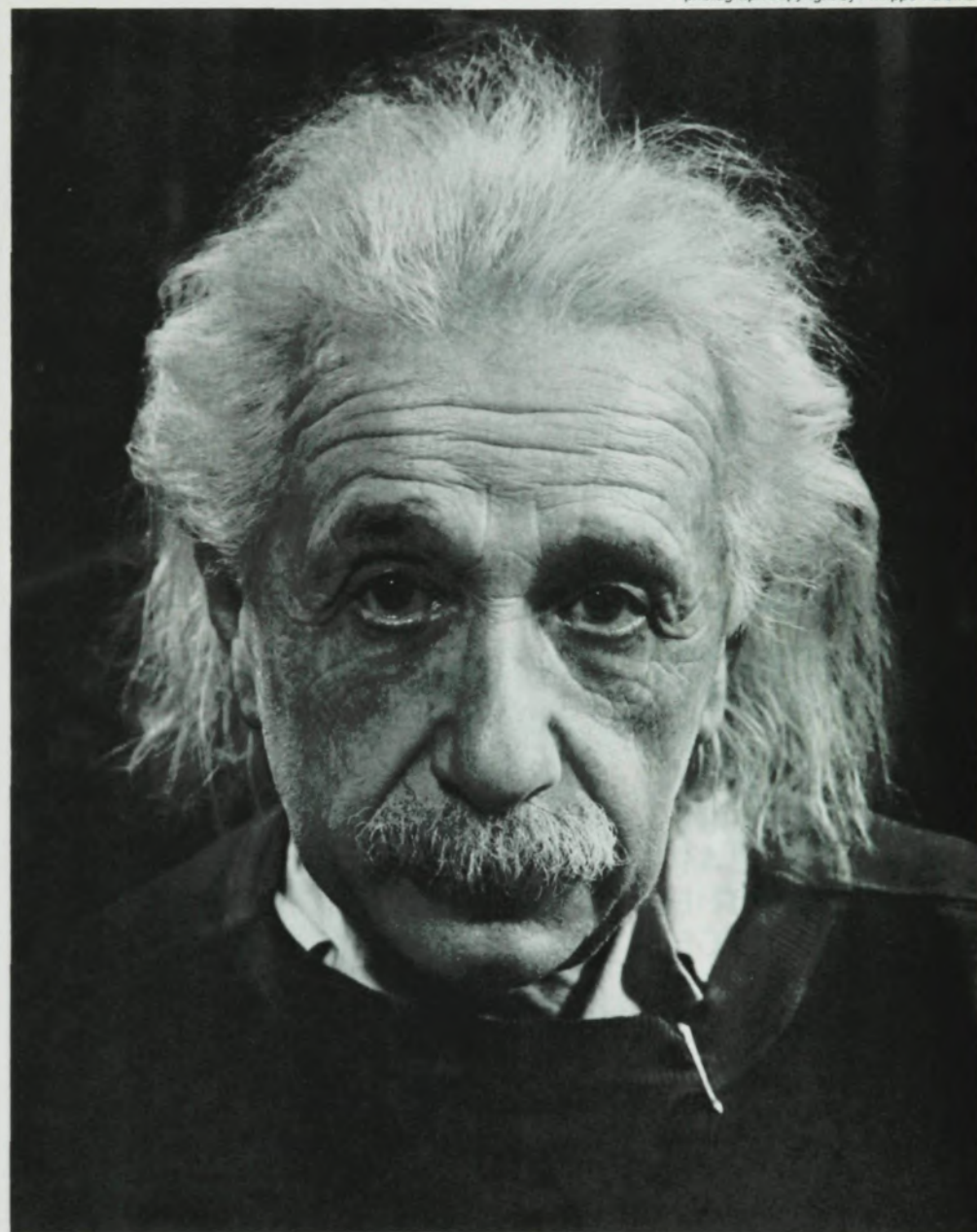
Banesh Hoffmann and Helen Dukas
272 pp. Viking, New York, 1972. \$8.95

Reviewed by Peter G. Bergmann

To one who has had the privilege of knowing Albert Einstein personally, this book fills a void, that is to say, it succeeds in catching some of Einstein's wholeness, the genius and the human being, the scientist and the responsible citizen. *Albert Einstein, Creator and Rebel*, the result of a collaboration between a former scientific coworker of Einstein and his former secretary (now administrator of his papers) profits from Banesh Hoffmann's well known felicity of expression and his ability to explain complex scientific matters to laymen. The authors expressly disclaim any attempt at a definitive biography, but what Hoffmann and Dukas have aimed at, they have achieved to perfection.

In broad outline, the work traces Einstein's life history from early childhood to his death in 1955. Quite properly, and in the spirit of Einstein's own "autobiographical notes" (*Albert Einstein: Philosopher-Scientist*, P. A. Schilpp, ed, Library of Living Philosophers, Evanston, Ill. 1949), the authors devote most of their space to Einstein's evolving scientific thought and his philosophical and social views. All these form an inseparable whole. An Einstein who would have combined scientific innovation with political reaction is unthinkable. In all areas of his activities Einstein was guided by a deep sense of intellectual and social responsibility, which did not reduce his equally strong sense of personal and intellectual individuality.

The whole book, not quite 300 pages, is divided into 12 chapters. The first five are devoted to Einstein's development up to the paper "On the Electrodynamics of Moving Bodies." Aside from providing a vignette of German and Swiss life in the late 19th century, these 60 pages vividly show the matu-



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ration of a scientific genius during the period in which international renown and academic prestige were notably absent, a period in which Einstein underwent the anguish of a young scientist who has no assurance that he will find a position that will permit him to continue any kind of scientific work, even after hours.

The "Electrodynamics" paper appeared in 1905. Eight years later,

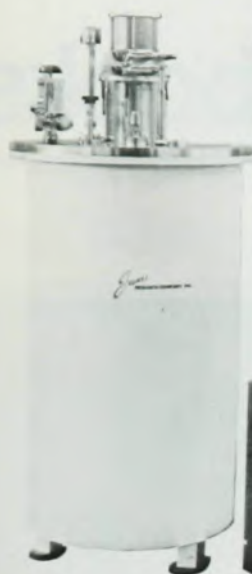
after a number of academic appointments in Switzerland and in Prague (which was then Austrian), Einstein moved to Berlin, to one of the most senior academic positions then in existence throughout the world. Rather strikingly, once Einstein had been "discovered," the Europe of the early 20th century managed to provide ample academic opportunities to one who had in no way belonged to the es-

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tablishment, who had no immediate backing from his academic teachers, and who, moreover, was a Jew. One wonders whether our academic establishment would do as well today, although, to be sure, Einsteins do not grow on trees either.

Einstein remained at his position in Berlin for 20 years (three chapters). His opposition to German policies during the First World War had not seriously endangered him there, but the advent of the Nazis in 1933 led to his immediate resignation, rendering his subsequent firing faintly ridiculous. For the remaining 22 years of his life, Einstein remained at the Princeton Institute for Advanced Study, continuing his quest for a physical theory to replace the general theory of relativity, continuing his critique of the quantum theory as the definitive theory of physical processes at the atomic and subatomic scales, and helping to start the age of nuclear technology (four chapters). His last political act was a call, together with Bertrand Russell, for international action by intellectuals and others of good will to prevent a nuclear holocaust, which then appeared as the most imminent danger to the survival of mankind.

In a biographical work on a person relatively recently deceased the authors are called on to use their judgment and their good taste to present a true and convincing picture of their subject without infringing on the legitimate claims to privacy by all those who have played a role in his life. And the subject himself does not lose his own rights merely because of the fact of his death. In my opinion Hoffmann and Dukas have solved this perplexing and delicate problem admirably.

Last but not least, the book is graced by perhaps a hundred illustrations, very few of which I have seen before. Most are pictures of Einstein and his associates, spanning his whole life. Even if the book were not such a pleasure to read, the illustrations alone would make its publication well worth while. I hope that this work will give pleasure and illumination to many readers, physicists and non-physicists alike.

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Peter G. Bergman was born and raised in Europe and received his PhD in Prague in 1936. He came to the United States in that year to work with Einstein at the Institute for Advanced Study in Princeton. He stayed at the Institute working with Einstein for five years. He is presently professor of physics at Syracuse University and visiting professor of physics at Yeshiva University.