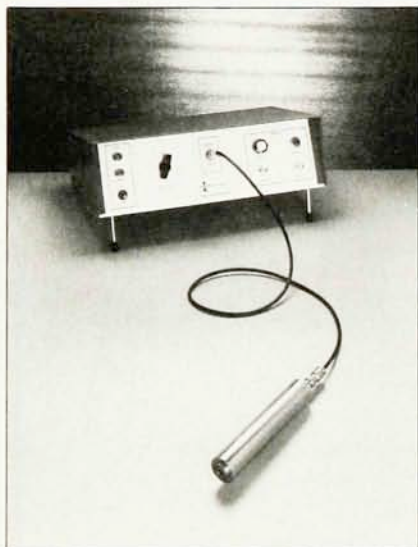


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handle them easily, while the reader without can stick to the clear exposition and historical sidelights; either will thoroughly enjoy this book. As is usually the case with Scientific American publications, the production values are high, the diagrams are clear and colorful and the photographs are numerous.

CLIFFORD M. WILL
Washington University

BOOK NOTES

Elementary Particles and the Laws of Physics: The 1986 Dirac Memorial Lectures

Richard P. Feynman and
Steven Weinberg
Cambridge U. P., New York,
1987. 110 pp. \$12.95 hc
ISBN 0-521-34000-4

Paul Adrien Maurice Dirac died in 1984. In honor of Dirac, St. John's College—Dirac's college at Cambridge—has endowed annual lectures at Cambridge University. The first two Dirac Lectures were Richard Feynman's "The Reason for Antiparticles" and Steven Weinberg's "Towards the Final Laws of Physics," both clearly inspired by Dirac's prediction of antimatter in 1930 and by his philosophy of physics: "Physical laws should have mathematical beauty." John C. Taylor has written a brief introduction.

—PER H. ANDERSEN

Letters to Solovine

Albert Einstein
Philosophical Library, New
York, 1987. 159 pp. \$9.95 pb
ISBN 0-8022-2526-8

Previously published in French translation, Albert Einstein's writings to Maurice Solovine over a 50-year period are now available in an English translation that includes facsimiles of handwritten and typed letters. From 1902 to 1906 Einstein, Solovine and Conrad Habicht met for wide-ranging informal intellectual discussions—what they dubbed the "Olympia Academy of Berne." Solovine writes in the introduction that "our meetings were sometimes highlighted by Einstein's playing some musical selection on his violin." They read and discussed physics, mathematics, literature and philosophy; Solovine notes that they found David Hume and John Stuart Mills especially stimulating. In later years Einstein looked

back with evident fondness at this period, which included 1905, Einstein's *annus mirabilis*. From Princeton in 1953 Einstein wrote to Solovine: "To the immortal Olympia academy. In your short active existence you took a childish delight in all that was clear and reasonable. Your members created you to amuse themselves at the expense of your big sisters who were older and puffed up with pride. . . . To you I swear fidelity and devotion until my last learned breath!"

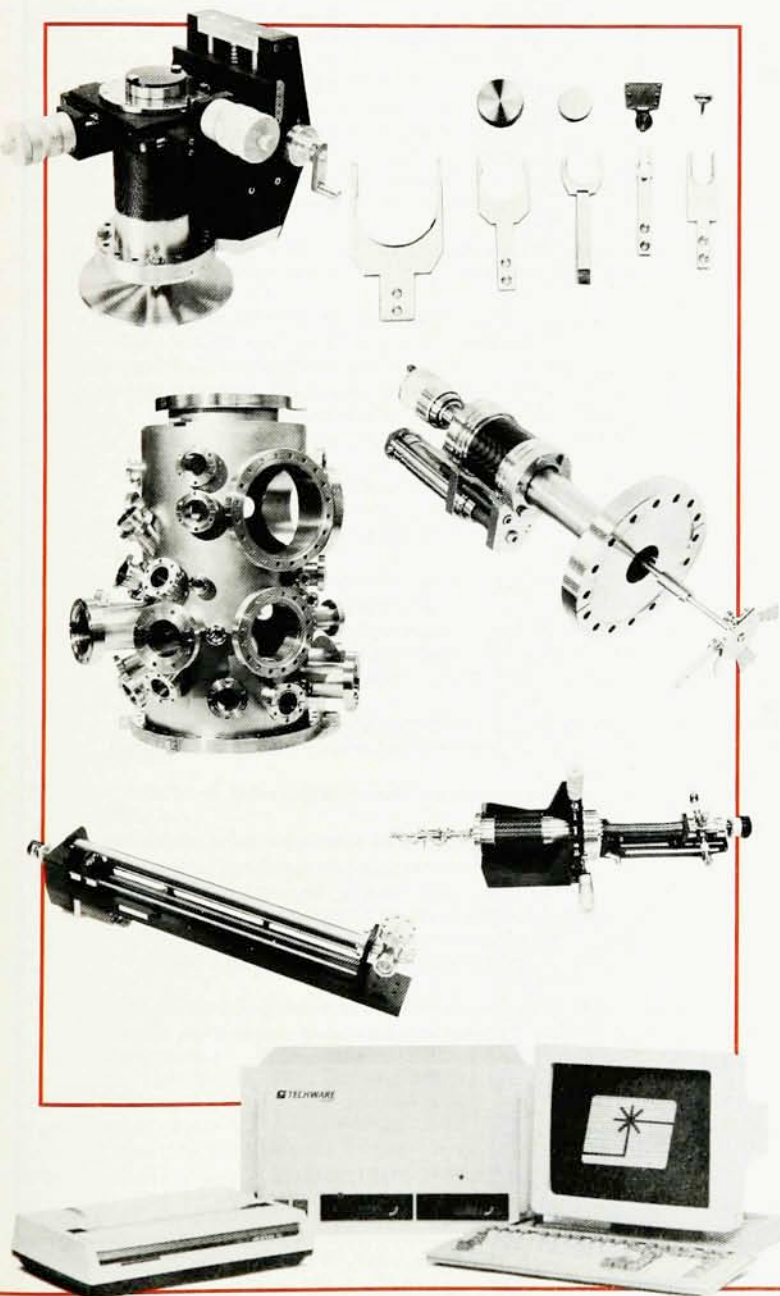
The letters touch on science, politics and matters of health; as one would expect, Einstein was always to the point in cutting through pomposity and cant. In a letter from 1946: "You write to me so politely—as if you had never herded pigs with me . . . when we were both still young." Several letters concern business details of the publication in French of Einstein's writings, which the Rumanian Solovine had translated. During the Korean War, Einstein wrote to Solovine about world government—and more mundane matters: "But if every effort fails and men end by destroying themselves, the universe will not shed a single tear for them. It would still be good, however, if the book could at least appear first and be placed on sale." In 1922, after his American lecture tour the previous year, Einstein wrote, "A firm approach is indispensable everywhere in America; otherwise one receives no pay and little esteem." From Florida in 1949 Einstein made light of his role as a living icon: "The exchange of letters with a South African school-girl which you refer to was a dismal failure. The main outcome was astonishment at the news that I had not been dead for 300 years (confusion with Newton)."

During his sister Maja's years-long lingering illness before her death in 1951, Einstein wrote: "Dear Solo, . . . Among the works that I have been reading to my sister in the evening are certain things from the philosophical writings of Aristotle. They were actually deceptive. If they had not been so obscure and so confusing, this kind of philosophy would not have held its own very long. But most men revere words that they cannot understand and consider a writer whom they can understand to be superficial." And in 1951: "Physicists have no understanding of logical and philosophical arguments." In a New Year's letter the same year Einstein wrote: "I have found no better expression than 'religious' for confidence in the rational nature of reality insofar as it is accessible to

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human reason. Wherever this feeling is absent, science degenerates into uninspired empiricism."

In a letter shortly after his 70th birthday, Einstein told Solovine: "You imagine that I regard my life's work with calm satisfaction. . . . I am uncertain as to whether I was even on the right track. In me my contemporaries see both a heretic and a reactionary who has, so to speak, survived himself." Einstein, who pursued his lonely quest of a grand unification of theories, would no doubt be amused to find how widely that solitary chord resonates in the present-day work on higher dimensionalities and the unraveling of the intricacies of superstring theory—with its slogan "the theory of everything."

—PER H. ANDERSEN

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