Book Reviews

An Autobiography

Memoirs of a Physicist in the Atomic Age. WALTER M. ELSASSER. Science History Publications (Neale Watson), New York, and Adam Hilger, Bristol, England, 1978. xii, 268 pp. + plates. $15.

Walter Elsasser, who was born in Germany in 1904, belongs to the generation of physicists who formulated quantum mechanics in the '20's, the generation of Heisenberg, Pauli, and Dirac. Although he has lived in this country since 1936 working on problems of atmospheric physics, geophysics, and theoretical biology—he is best known for his theory of the earth's magnetism—Elsasser has chosen to devote most of his *Memoirs* to his early years in Europe as an atomic and nuclear physicist. It was then that he came in contact with "an unusual number of the great and famous" as his studies took him from Heidelberg and Munich to Goettingen, where he worked with both James Franck and Max Born and received his doctorate in 1927. The next few years saw him in Leyden, Kharkov, Berlin, and Frankfurt. When the Nazis seized power in 1933 Elsasser, whose grandparents were all Jews, promptly left for Switzerland, and then was fortunate enough to find a position in Joliot's group in Paris, where he worked until he left for the United States.

The years Elsasser spent as student and beginning physicist before his move to France were neither very happy nor very successful, as he makes clear in his book. He had written a remarkable first paper in 1925, a short note showing that the matter waves recently proposed for different reasons by Einstein and Louis de Broglie could be used to explain some anomalous results in the electron scattering experiments of C. J. Davisson and C. H. Kunsman. Elsasser's note in *Die Naturwissenschaften* is the first work relating de Broglie's ideas to experiment. Unfortunately Elsasser was not in a position to follow up this brilliant start, and neither Franck nor Born offered any help in this direction.

Although Elsasser was at Goettingen from 1925 to 1927 he conveys no sense of excitement there as quantum mechanics was coming into being. It may well be that as a student he was not close enough to the principal figures to sense what was happening, or that Born chose not to share the drama of the time with his students, but surely that is itself worth Elsasser's comments in these *Memoirs* written 50 years later. At this point as at many others one misses both the details that might enliven and give immediacy to Elsasser's account of what happened then and also his reflections on what these experiences mean to him now. Despite his resolution "to record just what I succeeded in recalling and not to yield to a desire for elaboration," much of what we are told about the people he met is what could be found elsewhere. Of Erwin Schroedinger, who meant a great deal to Elsasser, he writes "I felt like a Boswell to this remarkable genius"; but he reports none of the characteristic conversation or actions of his Dr. Johnson.

Despite all its actual interest I have a sense of opportunities missed in this book. Elsasser's career was not just a passage from success to success. He won his way to academic security, scientific recognition, and personal peace more slowly than some and at greater expense to himself. For these reasons, and because of his own awareness of human complexity, one wishes he could have shared more of his real life with his readers. On those occasions when he does the result is rewarding. He describes a day in the fall of 1922 when Professor Philipp Lenard entered the large lecture room at Heidelberg to begin his course on general physics. Lenard was wearing a large silver swastika pinned to the breast of his "impeccably tailored suit," and was greeted by the tumultuous approval of the students who filled the hall. Elsasser's moving description of the devastating effect this incident had on him is an indication of what he might have given us in this book.

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Medical Mores

A Social History of Medicine. FREDERICK F. CARTWRIGHT. Longman, New York, 1977. viii, 210 pp. Cloth, $12.95; paper, $7.50. Themes in British Social History.

Health Care and Popular Medicine in Nineteenth Century England. Essays in the Social History of Medicine. JOHN WOODWARD and DAVID RICHARDS, Eds. Holmes and Meier, New York, 1977. 196 pp. $18.

These two small books provide valuable historical perspective on the relationship of medicine and society in England. Cartwright's well-written study is designed for the general reader. It is therefore not documented with the footnote apparatus of the professional historian, but it is authoritatively written, makes excellent use of contemporary sources to brighten the narrative, and includes reading lists giving some of the major secondary sources.

Cartwright opens with a very brief survey of changing ideas in the philosophy of medicine from the earliest times to the mid-19th century. This is followed by a short review of the care of the sick before 1800 and a section on the history of medical licensing. Separate chapters explore diseases that resulted in widespread mortality—bubonic plague, smallpox, and cholera. Cartwright believes that the end of the 300 years of plague in Europe in the mid-17th century was due to some natural process and cannot be attributed to any medical or scientific discovery, advance in social hygiene, or improved standard of life. Plague was replaced as the most dreaded disease in late-17th- and early-18th-century England by smallpox, in its lethal, variola major form.

In a composite chapter on alcohol, syphilis, and tuberculosis, Cartwright observes that these damaged the people of industrial Britain to an extent even greater than smallpox and cholera. He sees alcohol as becoming a major social problem in Britain only after the 17th century, with the development and popularization of distilled spirits. Noting that, despite widespread reform efforts, the first Licensing Act did not pass until 1904, Cartwright quotes the sentiments of the Bishop of Peterborough in an 1872 speech to the House of Lords: "If I must take my choice whether England should be free or sober, I declare, strange as such a declaration may sound coming from one of my profession, that I should say it would be better that England should be free than that England should be compulsorily sober." A final chapter