



LIGHT. YEARS AHEAD.

MOLY-CUP SEALS FAR SURPASS OTHERS IN EXTREME ENVIRONMENTS.

Bomco Moly-Cup seals and assemblies are the most reliable and durable connections available for quartz to metal transitions.

For lasers, high-wattage lamps, sight windows, and more.

For: Unlimited power into the envelope. Temperature cycling from liquid helium to 1000° C. Operating temperatures to 1000° C. They're compact and rugged. They extend lamp and laser life dramatically.

Who else but Bomco could bring you the seals that go the distance like this? Call or write for some very enlightening information.

bomco Inc.

Rt. 128/Blackburn Circle
Gloucester, MA 01930-2294 U.S.A.
Tel. 617/283-9000

success of a theory has led one closer to the master design of the universe is not merely a historical fallacy that goes back to Ptolemy and beyond, it is a dangerous philosophical and political fallacy. It is dangerous because of the herd instinct of humanity—physicists included. It leads to believing in a “right” approach to problems and to the deliberate blocking of funding (and worse) for “heretics.” It encourages a self-righteous priesthood and a self-perpetuating establishment.

And so we come to the end of the 20th century with the same smug overconfidence that characterized the end of the 19th, and we are sure to receive the same comeuppance. Recently, in the journey from the macroscopic domain to the atomic scale, all hell broke loose. It is a much longer journey by far from the subnuclear scale to the Planck length. To assume that nothing new will happen along the way seems to me to be the height of arrogance. (I suspect that with the Hubble Space Telescope going up, after 10 years our present ideas about cosmology will seem hopelessly naive.) It is amazing, considering all the truly wondrous things we have learned about the world from careful experiments, how little we have learned about ourselves from our previous mistakes.

DANIEL M. GREENBERGER
*City College of the
City University of New York*

A Life in Science

Nevill Mott

Taylor and Francis,

Philadelphia, 1986. 198 pp.

\$30.00 hc ISBN 0-85066-333-4

Nevill Mott's *A Life in Science* is the sort of autobiography that provokes nostalgia in those who were reasonably close to his times and experiences, whose “earliest memories are of the Pennine hills, green slopes and stone walls . . . alone with my bicycle,” and whose friends, whether a Christian at Cambridge or a Jew at Oxford, were often deeply religious, but strongly divided between religion by prayer and religion as a basis of ethics. Mott himself was born to a life in science, his parents having met as students of J. J. Thomson in the Cavendish Laboratory. Mott did not enjoy his “public” school, though it also produced his own successor in the Cavendish Professorship, Brian Pippard. Theoretical physics in England was concentrated in Cambridge University, and Mott soon made his mark there. At the age of 22 he paid “the penalty of working out one's own bright ideas,

instead of doing the dull things [Ralph] Fowler suggests.” He showed his results to Fowler. Paul A. M. Dirac was at Cambridge, and when “Fowler called him . . . Dirac said timidly that it was all nonsense.” Then in Copenhagen under Niels Bohr, Mott “learned what physics was all about, how it was a social activity and how a teacher should be with students and how beautiful physics could be.” He came back to Cambridge to make his first major discovery—why the scattering of alpha particles in helium was different from their scattering in any other gas. Even Ernest Rutherford, who had little use for theory, said, “If you think of anything else like this, come and tell me.”

In 1933 Mott moved to Bristol and totally changed his approach to physics. He decided to show how physics could explain the specific properties of real materials: ionic crystals, metals and alloys, amorphous solids. He built up the embryonic solid-state theory group in Bristol to a position of world leadership. In course of time he moved to the Cavendish Professorship in Cambridge, mastership of his college, a knighthood and a Nobel Prize. He has been the champion in England of the view that as much good physics lies in the old unexplained problems (Why is nickel oxide an insulator? Why is glass transparent? Why are alloys strong?) as in the new frontiers. In retirement in his eighties he continues active research, but finds more time for social philosophy and religion.

I have only one regret about this autobiography. Mott is “a man of whom stories were told, whether true or not.” I wish he had recorded more of them.

FRANK R. N. NABARRO
*University of the Witwatersrand
Johannesburg, South Africa*

Reminiscences About a Great Physicist: Paul Adrien Maurice Dirac

Edited by Behram N.

Kursunoglu and

Eugene P. Wigner

Cambridge U. P., New York,

1987. 297 pp. \$49.50 hc

ISBN 0-521-34013-6

Tributes to Paul Dirac

Edited by John G. Taylor

Adam Hilger, Bristol, UK

(US dist. Taylor and Francis,

Philadelphia), 1987. 123 pp.

\$22.00 hc ISBN 0-85274-480-3

P. A. M. Dirac was born in Bristol, England, on 8 August 1902, and died