

ence? Why say that precise trajectories do not exist at the quantum level when, in fact, they do not exist at any level? After 43 years of quantum mechanics, do we *really* believe in it?

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Reviews for magnetism men

MAGNETISM AND MAGNETIC MATERIALS 1967 DIGEST: A SURVEY OF THE TECHNICAL LITERATURE OF THE PRECEDING YEAR. W. D. Doyle, A. B. Harris, eds. 280 pp. Academic Press, New York, 1967. \$11.00

by James B. Kelley

With the great interest in both solid-state physics and solid-state electronics, there is a resurgence of concern about magnetism and magnetic materials. As the editors point out in the preface, this volume is really aimed to a great extent at service to the solid-state community.

More than 1800 papers have been reviewed—to be sure in thumbnail fashion—by the authors the editors have selected. The areas selected for review have wide interest. They include thin films, in which Richard Coren reviewed the staggering number of 218 papers in 12 different categories; nuclear magnetism; optical phenomena; general theoretical problems; and so forth. Actually what we have here is a world-wide survey of the literature. Whether all aspects have been covered in the depth required, only the expert in a special area can say. But the breadth of the

coverage, both with regard to topics and with regard to authors and experience, leaves very little to be desired. The major research-oriented nations are all represented.

The serious researcher in magnetism, as well as in many related fields, could scarcely be without this book. Not only is this a bibliography, but it is by virtue of its digest approach, a bibliography which gives the researcher the opportunity to evaluate the papers in which he might have an interest.

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James B. Kelley is a professor at Marquette University.

Theory made intelligible

PHYSICS AND MAN: AN INVITATION TO MODERN PHYSICS. By Tor Ragnar Gerholm. 362 pp. Bedminster Press, Totowa, N. J., 1967. \$10.00

by Thomas H. Osgood

Here is a book that will hold the attention of professional physicists, especially those with an experimental bent, whose graduate courses in the exploratory realms of theoretical physics are many years behind them. It will also have some appeal to a layman who is intelligent and well enough informed to take the course of events in the world seriously, although he will probably have to digest it in small doses taken at moderate intervals.

The author, associate professor of physics at the University of Stockholm, appears to be as much at home in the US as in Sweden. His preface contains a gracious compliment to American physicists who have received foreign colleagues for long or short visits and have made them feel welcome.

The theme of the book may be summarized (without, I hope, doing violence to the author's intent) as the interpretation of physical theory (primarily 20th-century theoretical physics) and its impact on the developments that have gradually led to current fashions of thought concerning matter, space, radiation and their mutual interactions. The word "fashions" is not used here in any frivolous sense; rather it indicates the present aspect of a continuously changing point of view dictated by the results of new experiments.

An experimental physicist himself,

Tor Gerholm's recognition that theoretical physics is perpetually in a state of flux prompts him to stress the importance of asking the right questions of nature by means of experiment, whether or not it is initially obvious that any positive answer will emerge.

The author's lucid and imaginative writing, as well as his flair for inventing penetrating and illuminating analogies, will make many a lecturer say "Why didn't I think of that?" His accounts of the dramatic intrusion of the neutrino and of antiparticles into physics could be taken as models well worth copying.

As might be expected, the emphasis upon different topics and the space devoted to them are not exactly what another writer might have chosen, but this is a matter of opinion. To a critical reader, the writer's economy of words leads in two or three cases to some slight ambiguity. The reviewer detected no error of scientific fact, and only one that may, by a stretch of the imagination, be called literary. Gerholm ascribes the well known limerick about the young lady who travelled much faster than light to Edward Teller. The *Concise Oxford Dictionary of Quotations* attributes it to Arthur Buller, and records that it was printed in *Punch* on 19 Dec., 1923.

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The reviewer is professor of physics and director of the Abrams Planetarium at Michigan State University.

Beyond celestial mechanics

THEORY OF ORBITS: THE RESTRICTED PROBLEMS OF THREE BODIES. By Victor Szebehely. 668 pp. Academic Press, New York, 1967. \$25.00

by S. Fred Singer

The subtitle describes the content of the book: It is the first comprehensive discussion of this famous classical problem of theoretical astronomy; a problem that has occupied the attention of Euler, Lagrange, Jacobi, Poincaré, as well as Birkhoff, Strömberg and Wintner in this century. The author, who is a professor at Yale, was formerly an astrodynamist at a leading aerospace company. He brings to this book a refreshingly balanced and up-to-date point of view, including qualitative, quantitative and formalistic approaches.

Although the subject matter is spe-



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