

met them. As a reference for experimenters who wish to have a handy collection of this sort, it might be acceptable, but it is hard to see it replacing the many excellent texts and review articles on quantum mechanics and elementary particles for those who wish to go deeper into the subject or even for those who wish to enter it. Its use for teaching is limited also by the complete absence of problems.

Far too much space would be needed to list the errors and omissions in the cosmic-ray section. A few examples will suffice to make the point. The electron energy spectrum from μ -meson decay (p. 396) is of unorthodox shape, with no indication as to whether these mesons were decaying at rest or in flight, in light or heavy elements. The Bethe-Bloch formula is stated, but not derived (p. 397) and contains a term in $1/v^3$ instead of the correct $1/v^2$. Figures 50 (p. 371) and 66 (p. 471) each contain several curves, without the slightest indication in the text or the captions to indicate what these curves refer to. The parameters p_{ij} (p. 496) are *not* probabilities, but expectation numbers; their total is never 1.00. References have been poorly checked: Professor Korff appears as C. Forff (p. 476 and index) and so on. The section on geomagnetic effects contains an antiquated discussion of motion of a charged particle in a dipole field, with absolutely no mention of the great amount of recent work, in which nondipole terms are considered. Nor is there any mention at all of the trapped radiation belts, not even to exclude them from further discussion. In fact, recent work, appearing during the past five years, is conspicuously absent.

Anyone who bases his knowledge of cosmic rays solely upon this section will be led astray and emerge with a quaint view of the subject, very far removed indeed from reality. This will not even serve as a satisfactory introduction to the theoretical aspects of the subject, since there are so many omissions. It would be better to stop reading this book after page 364.

One is then moved to ask why anyone should be expected to pay \$15 for this book. One third of it is, at best, misleading. As one has come to expect from Pergamon, the actual production is of the highest standard, but this cannot make up for what appears to be a terribly sloppy editorial effort with the general air of an ill-conceived paste-up job.

Underwater Acoustics. V. M. Albers, ed. Institute Proc. (Univ. of London, July-Aug. 1961). 354 pp. Plenum Press, New York, 1963. \$12.50. *Reviewed by* Walter G. Mayer, *Michigan State University.*

DURING the summer of 1961, the Pennsylvania State University conducted a NATO-sponsored institute on underwater acoustics at the Imperial College of Science and Technology in London. Eighteen lectures delivered during this meeting have been collected in this book to provide a review of present research trends in this branch of physical acoustics.

The papers deal with essentially four aspects of un-

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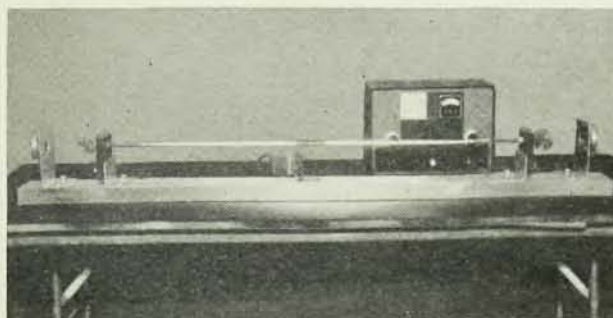
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derwater sound: the production of underwater signals, the nature of underwater sound, measurement and uses, and the reduction of underwater noise. The various chapters do not deal exclusively with one or the other of these four subjects—some of the lectures are primarily concerned with direct applications, giving descriptions of equipment currently in use and results of representative measurements, while other papers deal with basic theoretical concepts. Even the less advanced reader will be able to follow most of the papers without difficulty. The value of this compilation has been increased further by the addition of references and the inclusion of the discussions which followed the formal lectures.

Proceedings are not commonly expected to resemble coherent, well-organized, and unified textbooks; this book, however, comes rather close. It is a fine source of information for the physicist or engineer working in underwater sound and related branches of physical acoustics.

Fundamental Problems in Turbulence and Their Relation to Geophysics. Symp. Proc. (Univ. of Aix-Marseilles, Marseilles, Sept. 1961). F. N. Frenkiel, ed. 241 pp. American Geophysical Union, Washington, D. C., 1962. \$5.00. *Reviewed by E. J. Öpik, University of Maryland.*

WHEN man-invented hydrodynamic models of steady or laminar flow become impossible, nature solves the problem through turbulence. With different degrees of organization and randomness, whole packets of a fluid begin imitating the unpredictable gaseous motions of molecules, taking over from conduction and diffusion the vital functions of transport of heat, momentum, and substance.

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Meteorites. By Brian Mason. 274 pp. John Wiley & Sons, Inc., New York, 1962. \$7.95. *Reviewed by Edward Anders, University of Chicago.*

THIS is an excellent book. All important aspects of meteoritics are covered, with emphasis on modern work. The level will appeal not only to novices, graduate students, and kibitzers, but also to established workers in the field.

As stated in the preface, Mason wrote this book in order to provide "... a comprehensive account of our present knowledge of meteorites, with special reference