

pears. Even in this volume it has proved impossible to find details of the place of birth and parentage of one of the Fellows.

The physicists appearing in this volume are J. Evershed, L. V. King, H. R. Robinson, H. N. Russell, F. Soddy, Sir John Townsend, and H. Weyl.

Practical Astronomy. By W. Schroeder. 206 pp. Philosophical Library, Inc., New York, 1957. \$6.00. *Reviewed by Cecilia Payne-Gaposchkin, Harvard College Observatory.*

Mr. Schroeder has written an excellent little book, which can be recommended to anyone who has an interest in the heavens. In an unpretentious manner and with the simplest mathematical concepts (it calls only for arithmetic and the geometry of the triangle, circle, and ellipse) it makes the motions of stars and planets both clear and interesting.

Excellent maps of the best-known constellations lead simply into astronomical coordinates and time. The construction of nocturnals, quadrants, sundials, and other simple instruments is described with the aid of diagrams and templates. Projection and the astronomical triangle are described and illustrated so that anyone can execute them with ruler and compass.

The motions of the planets are illustrated with equal clarity; sections on the moon and eclipses follow. There are directions for mounting binoculars for astronomical observation and for the construction and mounting of a simple telescope. The book ends with suggestions for interesting observations that can be made by simple means. There is a brief, but good, bibliography for those interested in further reading.

An amateur astronomer will read the book with delight and with profit. It will also be of great use to the teacher who wishes to make the elementary ideas of astronomy clear and who needs to find simple and inexpensive ways of illustrating his lectures.

Statistische Mechanik. Vol. 5 of Einführung in die Theoretische Physik. By Werner Döring. 114 pp. Walter de Gruyter & Co., Berlin, Germany, 1957. Paperbound DM 2.40. *Reviewed by William Fuller Brown, Jr., University of Minnesota.*

In the four previous volumes, the author has treated mechanics, electromagnetism, optics, and thermodynamics. The new volume, like its predecessors, has the following characteristics. It is of pocket size: each page contains about 36 lines, and each line is about 1.6 times as long as the word *Schwerpunktsgeschwindigkeitsvektors*. In this and in other respects the book is well suited for use during waits between trains (or during TV commercials). It shows the results of careful selection, organization, and presentation of material. It includes critical discussion of basic problems.

There are three parts. In Part 1, Kinetic Theory of Gases, the topics covered include the usual elementary ones, the Maxwell velocity distribution, and gas vis-

cosity. The calculations of mean free path and the like are carried out only for simple cases that avoid intricate integrations, but the complexities of the more general case are mentioned. In Part 2, Boltzmann's Principle, both the classical and the quantum treatments are based essentially on the canonical ensemble. Its properties are developed by a quasi derivation for a system in equilibrium with a thermostat; to avoid the complexities of Fowler's method, Döring uses one that I, alas, find unconvincing. Topics covered in this part include the Einstein and Debye specific heat theories and the Planck radiation formula. In Part 3, Statistics and Thermodynamics, the author develops the statistical interpretation of entropy and then uses it to discuss such further topics as the entropy of ideal gases and the theory of degenerate gases. He severely criticizes the common use of "most probable" values with its reckless handling of factorials. The book ends with a warning against cosmic generalizations, and it contains no mention of Maxwellian demons or information theory.

This is a very readable book; it will give beginners a good introduction to the subject and others a helpful review.

Annual Review of Nuclear Science, Vol. 7. Edited by James G. Beckerley, Robert Hofstadter, Leonard I. Schiff. 496 pp. Annual Reviews, Inc., Palo Alto, Calif., 1957. \$7.00 in US; \$7.50 elsewhere. *Reviewed by S. D. Warshaw, Argonne National Laboratory.*

This seventh in a series of yearly review articles in what is evidently a rather vaguely defined field of knowledge consists of twelve separate articles. Of these, six are physics (three of these "nuclear physics" in the classical sense and three particle physics), four are biophysics (or more properly radiation biology) and two are chemistry. All of the senior authors are among the leaders in their respective fields. The level of sophistication varies from a statement that "the cost per unit weight of shielding material increases rapidly with density" to an assertion that "roughly speaking the operation CPT for a conventional field theory Hamiltonian is equivalent to Hermitian conjugation". The connection that ties these together appears to be that they deal somehow with problems that arose, historically, from the discovery of ionizing radiation. Your reviewer is as opposed to narrow specialization as he is to other forms of sin. Still it would seem that even a modern da Vinci would have trouble maintaining a continuously high level of interest in all of the disparate titles in this volume.

In more detail, the articles are (not in the order of printing): "Mu-meson physics" (Rainwater); "Collision of < 1 Bev particles (excluding electrons and photons) with nuclei" (Lindenbaum); "Hyperons and heavy mesons (systematic and decay)" (Gell-Mann and Rosenfeld); "The collective model of nuclei" (Villar); "Nuclear and nucleon scattering of high-energy electrons" (Hofstadter); "Measurement of nuclear spins and static moments of radioactive isotopes" (Nierenberg);