"understanding" will satisfy his curiosity. The engineer who is interested in "using" (and who has access to more detailed information) will find this book a good introduction to the reading of technical papers.

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The Theory of Atomic Collisions. 2nd ed. N. F. Mott and H. S. W. Massey. New York: Oxford Univ. Press, 1949. 388 pp. $8.75.

The publication of a new edition of *The Theory of Atomic Collisions* would seem to call not so much for the customary critical review as for a formal expression of appreciation in behalf of the many whom it will doubtless serve so well. The first edition, invaluable in the education and activities of physicists since its appearance in 1933, has distinguished itself by its usefulness to theoretician and experimentalist alike; it is *the* reference on the subject in classroom, laboratory, and library. The book is a systematic exposition of the applications of quantum mechanics to collision problems—problems ranging from the scattering of ultrahigh-energy mesons, which provides information on the nature of elementary particles, to collisions between atoms at thermal energy, the treatment of which leads to the quantum theory of viscosity and diffusion. The scope is exhaustive, the development authoritative, the style lucid and incisive; moreover, the volume is singularly rich in its evocation of experimental results. Although the first edition is in no sense obsolete, the new version is greatly augmented in value, for it encompasses almost the whole of the old and a wealth of new material—later applications and new techniques of the theory as well as some advances in the theory itself; and this without unduly increasing the size of the book.

The most important addition is certainly that of extensive material on nuclear collisions. Specific major changes are: amplification of the treatment of scattering by a potential well and barrier; inclusion of the "dispersion" method and a variety of its applications; addition of much new material on the nuclear scattering of electrons and positrons; discussion of new methods for treating scattering by a central force and a more detailed analysis of the conditions for validity of the older methods; greatly extended consideration of "slow" collisions; addition of material on multiple scattering of electrons; a new chapter on nuclear collisions—neutron and charged particle transmutations, fission, and scattering, with an ample section on the scattering of slow neutrons (including scattering by bound atoms and magnetic scattering); extension of the final chapter, which deals with relativistic problems—largely by consideration of positron and meson processes. The chapter on collisions of electrons with molecules is deleted, but in compensation we are promised a new book, *Electronic and Ionic Impact Phenomena*, by Massey and Burhop, which is now in preparation and will deal in much greater detail with this and related topics.

It may be reassuring to many that this volume, coming as it does at a time when much of our basic theory is in a state of bewildering—not to say disillusioning—difficulty, reaffirms our confidence in the quantum mechanics by its account of that theory's long succession of triumphs in dealing with a great and remarkably diverse set of phenomena.

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Scientific Book Register

Advances in Colloid Science, Vol. III. H. Mark and E. J. W. Verwey, eds. New York-London: Interscience, 1950. 384 pp. $7.50.

A Geography of Europe. Jean Gottmann. New York: Henry Holt, 1950. 688 pp. $5.00.

College Chemistry: An Introductory Textbook of General Chemistry. Linus Pauling. 705 pp. $4.50. ***College Chemistry in the Laboratory: A Manual Designed to Accompany Pauling's College Chemistry.*** Lloyd E. Malm and Harper W. Frantz. 331 pp. $3.00. San Francisco, Calif.: W. H. Freeman, 1950.

A Histology of the Body Tissues with a Consideration of Their Functions. Margaret Gillison. Baltimore, Maryland: Williams and Wilkins, 1950. 220 pp. $3.50.

History of the Primates: An Introduction to the Study of Fossil Man. 2nd ed. W. E. Le Gros Clark. London: British Museum (Natural History), 1950. 117 pp. 2/6.

General Chemistry. 4th ed. H. I. Schlesinger. New York: Longmans, Green, 1950. 811 pp. $5.50.

Primary Batteries. George Wood Vinal. New York: John Wiley; London: Chapman & Hall, 1950. 336 pp. $5.00.

Vorstufe zur Theoretischen Physik. Richard Becker. West Berlin, Germany: Springer-Verlag, 1950. 172 pp. DM 7.50.

Tissue Culture Technique. Rev. 2nd ed. Gladys Cameron. New York: Academic Press, 1950. 191 pp. $4.20.

Marriage and Family Relationships. Rev. ed. Robert Geib Foster. New York: Macmillan, 1950. 316 pp. $2.75.

The Laboratory Guide in Chemistry. 2nd ed. Joseph H. Roe. St. Louis, Mo.: C. V. Mosby, 1950. 216 pp. $2.25.

The James River Basin: Past, Present and Future. Compiled by the James River Project Committee, Virginia Academy of Science, 1950. 843 pp. Order through Foley F. Smith, Box 1395, Richmond 11, Virginia. $6.00 postpaid.

Principles of Chemistry: An Introductory Textbook of Inorganic, Organic, and Physiological Chemistry for Nurses and Students of Home Economics and Applied Chemistry. 7th ed. Joseph H. Roe. St. Louis, Mo.: C. V. Mosby, 1950. 427 pp. $3.50.

An Introduction to Experimental Stress Analysis. George Hamor Lee. New York: John Wiley; London: Chapman & Hall, 1950. 319 pp. $5.50.