

tion of pions from nucleons"; "Nucleon-nucleus scattering"; "Nucleon-nucleon elastic scattering"; and "Pion production in nucleon-nucleon collisions." No consideration is given to muons, strange particles, cosmic ray phenomena, electron scattering, or detailed theoretical models. The discussion of such specific topics as phase shift analysis, dispersion relation applications, and various phenomenological theories is adequate for graduate students, who will be able to understand their significance in the over-all concepts of meson and nucleon physics. Although some of the data are already a little out of date, this inexpensive book is, nevertheless, a detailed, well-rounded, and inviting account that deserves to be a part of every physicist's home library, whether he requires an introductory or a refresher course in high-energy nuclear physics.

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Théorie Relativiste des Fluides à Spin.
Francis Halbwachs. Gauthier-Villars,
Paris, 1960. x + 294 pp.

This book gives an admirable account of researches on the properties and possible types of relativistic fluids possessing intrinsic angular momentum. The study of such fluids goes back to the early days of wave mechanics, when attempts were made to obtain a hydrodynamical interpretation of the then new quantum equations and, in particular, of the intrinsic spin of the electron. The recent revival of interest in the possibility of a causal interpretation of quantum phenomena has led to a deeper study of the hydrodynamical possibilities inherent in the theory of relativity.

After discussing the earlier relativistic hydrodynamical models proposed by Frenkel, Mathisson, and Weyssenhoff, the author turns to the recent advances made by Takabayasi and by Bohm and Vigier, and to the important developments due to Halbwachs himself.

Some people may feel inclined to liken these researches to the old attempts to construct gyroscopic models of the ether, but the work may not be dismissed so easily. The investigation of the full resources of relativistic hydrodynamics is of considerable interest in its own right, and contains many surprises; moreover, Bohm and Vigier, by relaxing a restriction imposed by Weyssenhoff, have already shown that two reasonable types of mass center exist which do not necessarily coincide, and that the resulting additional degrees of freedom give a possibility of new insight into the significance of the recent classification of elementary particles by means of strangeness and isotopic spin quantum numbers.

Though the book makes only passing reference to such quantized aspects of the work, it stresses the quantum motivation for the study of the often unexpected properties of these relativistic fluids. To those people who seek an authoritative, up-to-date, and unusually clear account of the whole field, the book is warmly recommended.

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New Books

Biological Sciences

Asexual Propagation and Regeneration. M. A. Vorontsova and L. D. Liosner. Translated from the Russian by P. M. Allen. F. Billett, Ed. Pergamon, New York, 1960. 511 pp. Illus. \$12.

Biology and Comparative Physiology of Birds. vol. 1. A. J. Marshall, Ed. Academic Press, New York, 1960. 530 pp. Illus. 100s.

Discussions on Child Development. A consideration of the biological, psychological, and cultural approaches to the understanding of human development and behavior. J. M. Tanner and Barbel Inhelder, Eds. International Universities Press, New York, 1960. 199 pp. \$5. Proceedings of the fourth meeting of the World Health Organization study group on the psychobiological development of the child, Geneva 1956.

Elementary Biochemistry. Edwin T. Mertz. Burgess, Minneapolis, Minn., ed. 2, 1960. 300 pp. Illus. \$6.50.

Encyclopedia of Plant Physiology. vol. 5, pts. 1 and 2, *The Assimilation of Carbon Dioxide*. W. Ruhland, Ed. Springer, Berlin, 1960. 1053 pp.; 894 pp. Illus. DM. 530.

Handbook of Physiology. A critical, comprehensive presentation of physiological knowledge and concepts. Section 1, *Neurophysiology*, vol. 3, John Field, Editor-in-Chief. H. W. Magoun, Section Ed. American Physiological Soc., Washington, D.C., 1960 (order from Williams and Wilkins, Baltimore, Md.). 578 pp. Illus. \$20.

The Metabolic Basis of Inherited Disease. John B. Stanbury, James B. Wyngaarden, and Donald S. Fredrickson, Eds. McGraw-Hill, New York, 1960. 1490 pp. Illus. \$30. This book is intended to give a critical and comprehensive account of those heritable disorders of metabolism for which an appreciable body of knowledge exists; "the editors enlisted the collaboration of investigators [47] actively

engaged in the . . . study of specific heritable diseases."

Phenolics in Plants in Health and Disease. Proceedings of a plant phenolics group symposium held at Bristol, April 1959. J. B. Pridham, Ed. Pergamon, New York, 1960. 141 pp. \$7.50.

The Problem of Acute Hypothermia. P. M. Starkov. Translated from the Russian by R. E. Hammond. E. Neil, Ed. Pergamon, New York, 1960. 327 pp. \$12.

Radioactive Isotopes in Biochemistry. Engelbert Broda. Elsevier, Amsterdam; Van Nostrand, Princeton, N.J., 1960. 386 pp. Illus. \$11.50.

Reproduction in the Dog. A. E. Harrop. Williams and Wilkins, Baltimore, Md., 1960. 215 pp. \$7.

Steric Aspects of the Chemistry and Biochemistry of Natural Products. J. K. Grant and W. Klyne. Cambridge Univ. Press, New York, 1960. 144 pp. Illus. \$5.50. Biochemical Society Symposia No. 19.

Structure and Function of the Cerebral Cortex. D. B. Tower and J. P. Schade, Eds. Elsevier, Amsterdam; Van Nostrand, Princeton, N.J., 1960. 460 pp. Illus. \$17. Proceedings of the Second International Meeting of Neurobiologists, Amsterdam, 1959.

Toxicology. Mechanisms and analytical methods. vol. 1. C. P. Stewart and A. Stolman, Eds. Academic Press, New York, 1960. 791 pp. Illus. \$22.

Treatise on Invertebrate Paleontology. pt. 1, *Mollusca I*. Raymond C. Moore, Ed. Geological Soc. of America and Univ. of Kansas Press, Lawrence, 1960. 1374 pp. \$7.50.

Unity and Diversity in Biochemistry. An introduction to chemical biology. Marcel Florkin. Translated by T. Wood. Pergamon, New York, 1960. 410 pp. Illus. \$10.

Economics and the Social Sciences

Administration of Teaching in Social Sciences in the U.S.S.R. Syllabi for three required courses. Univ. of Michigan, Ann Arbor, 1960. 146 pp. The courses covered—dialectical and historical materialism, political economy, and history of the C.P.S.U.—are required of every Soviet college-level student, whatever his program of study.

The American Supreme Court. Robert G. McCloskey. Univ. of Chicago Press, Chicago, Ill., 1960. 272 pp. \$5.

Behaviour Therapy and the Neuroses. Readings in modern methods of treatment derived from learning theory. H. J. Eysenck, Ed. Permamon, New York, 1960. 490 pp. Illus. \$10.

Delinquency and Opportunity. A theory of delinquent gangs. Richard A. Cloward and Lloyd E. Ohlin. Free Press, Glencoe, Ill., 1960. 231 pp. \$4.

Doctoral Research on Russia and the Soviet Union. Jesse J. Dossick. New York Univ. Press, New York, 1960. 248 pp. \$6. The examination of 150,000 titles culled from several scores of sources resulted in a master list of 960 American, British, and Canadian doctoral dissertations on Russia and the Soviet Union. They are classified into sections, such as agriculture, anthro-