

cabulary additions: ряд: a large number; лето (*in the singular*): summer, not year; картина: situation; при этом: moreover, at the same time, in this connection; наблюдаться: to occur.

This is an excellent guide for initiates in or outside of a class. Moreover, science students with a background in general Russian should find this a useful review grammar and builder of basic scientific vocabulary, well worth covering before essaying genuine texts.

NORMAN HENLEY

*Johns Hopkins University and
Goucher College*

Mathematical Thinking in the Measurement of Behavior. Herbert Solomon, Ed. Free Press, Glencoe, Ill., 1960. 314 pp. \$7.50.

Within this volume are three distinct monographs, each representing a survey of mathematical approaches to selected problems in social science. The first and longest is "The Mathematical Study of Small Groups," by James S. Coleman (150 pages). Ernest W. Adams has contributed "Survey of Bernoullian Utility Theory" (118 pages), followed by "A Survey of Mathematical Models in Factor Analysis" (46 pages) contributed by the editor. All were prepared as part of the program of the Bureau of Applied Social Research of Columbia University and were initiated during the period 1952-56.

Coleman begins by considering explanations for the relative paucity of mathematical models for behavior of small groups, then examines in detail several models which have been proposed, systematically discussing the purpose and the advantages and shortcomings of each. The 21 pages that constitute the evaluation of approaches toward model-building in the social sciences should be recommended reading for all students of mathematical social science. Indeed, it is this critical assessment of model-building strategies which serves to motivate the entire monograph. Models are separated into two types, those based upon empirically verified postulates, in which case theorems have predictive status, and models based upon verified theorems, in which case empirical confirmation of the postulates becomes of interest. When a proposed model can be characterized by neither form of correspondence with

empirical observation, one can wonder, with Coleman, concerning its role in science.

The second monograph, by Ernest Adams, includes critical examination of the assumptions of Bernoullian utility theory, notes some suggested modifications of the theory (for example, incorporation of subjective probability), presents an introduction to decision theory, and finally discusses attempts to verify empirically certain aspects of utility theory. The monograph serves as a useful introduction to these topics, which have become a focus of increasing attention from social scientists in recent years.

In the final paper, Solomon presents a chronological history of factor analysis, considering each major theory as a mathematical model for observed data.

This volume may not completely fulfill the expectations of some readers, misled by the implied breadth of its title. Such readers, however, are not likely to be permanently disappointed. The decision to present detailed analysis of a few representative topics rather than superficial coverage of many was a wise one. The three contributions are of high quality and equip the reader, whether graduate student or research worker, with considerable understanding of the criteria for useful formalization of theory in social science.

LYLE V. JONES

*Psychometric Laboratory, University of
North Carolina, Chapel Hill*

New Books

Biological and Medical Sciences

Biological Problems Arising from the Control of Pests and Diseases. R. K. S. Wood. Inst. of Biology, London, 1960. 128 pp. 25s.

The Cell Nucleus. J. S. Mitchell, Chairman. Academic Press, New York, 1960. 282 pp. Illus. \$11. Proceedings of an informal meeting held at the Department of Radiotherapeutics, University of Cambridge, 31 August-1 September 1959 by the Faraday Society.

Cell Physiology of Neoplasia. Published for the M. D. Anderson Hospital and Tumor Institute. Univ. of Texas Press, Austin, 1960. 661 pp. Illus. \$10.50. Papers presented at the 14th annual symposium on fundamental cancer research, 1960.

The Infectious Diseases of Domestic Animals. With special reference to etiology, diagnosis, and biologic therapy. William Arthur Hagan and Dorsey William Bruner. Cornell Univ. Press, Ithaca, N.Y., 1961. 1051 pp. Illus. \$11.50.

International Review of Cytology. vol.

10. G. H. Bourne and J. F. Danielli. Academic Press, New York, 1960. 423 pp. Illus. \$13.

An Introduction to the Mathematics of Medicine and Biology. J. G. Defares and I. N. Sneddon. Yearbook, Chicago, Ill., 1960. 675 pp. Illus. \$14.

Introduction to Parasitology. With special reference to the parasites of man. Asa C. Chandler and Clark P. Read. Wiley, New York, ed. 10, 1961. 834 pp. \$9.75.

Introductory Botany. Arthur Cronquist. Harper, New York, 1961. 903 pp. Illus. \$9.25

A Laboratory Manual of Analytical Methods of Protein Chemistry (Including Polypeptides). vol. 2, *The Composition, Structure, and Reactivity of Proteins.* P. Alexander and R. J. Block, Eds. Pergamon, New York, 1960. 528 pp. Illus. \$14.

Laennec, His Life and Times. Roger Kervran. Translated from the French by C. D. C. Abrahams-Curiel. Pergamon, New York, 1960. 223 pp. \$3.50.

Medicine Makers of Kalamazoo. Leonard Engel. McGraw-Hill, New York, 1961. 269 pp. \$4.50.

The Nervous System. G. M. Wyburn. Academic Press, New York, 1960. 191 pp. Illus. \$5.

New Approaches in Cell Biology. P. M. B. Walker, Ed. Academic Press, New York, 1960. 216 pp. Illus. \$6. Proceedings of a symposium held at Imperial College, London, July 1958.

Pêches Continentales. Biologie et aménagement. R. Vibert and K. F. Lagler. Dunod, Paris, 1961. 744 pp. Illus. NF. 88.

Physical Chemistry for Students of Pharmacy and Biology. S. C. Wallwork. Longmans, Green, New York, ed. 2, 1961. 369 pp. Illus. Paper, \$3.75.

The Physiological Basis of Medical Practice. A text in applied physiology. Charles Herbert Best and Norman Burke Taylor, Eds. Williams and Wilkins, Baltimore, Md., ed. 7, 1961. 1570 pp. Illus. \$16.

The Physiology of Crustacea. vol. 2, *Sense Organs, Integration, and Behavior.* Talbot H. Waterman, Ed. Academic Press, New York, 1961. 695 pp. Illus. \$23.

The Practical Application of Medical and Dental Hypnosis. Milton E. Erickson, Seymour Hershman, and Irving I. Selter. Julian Press, New York, 1961. 480 pp. Illus. \$12. Publication of the Seminar on Hypnosis Foundation.

Progress in Endocrinology. pt. 1, *Neuroendocrinology and Endocrinology of the Thyroid and Parathyroid Glands.* K. Fotherby, J. A. Loraine, J. A. Strong, and P. Eckstein. Cambridge Univ. Press, New York, 1960. 176 pp. \$8.50.

Radiation Protection and Recovery. Alexander Hollaender, Ed. Pergamon, New York, 1960. 392 pp. Illus. \$10.

Recent Advances in Renal Disease. M. D. Milne, Ed. Lippincott, Philadelphia, Pa., 1961. 263 pp. Illus. \$5. Proceedings of a conference held at the Royal College of Physicians, London, July 1960.

Remington's Practice of Pharmacy. Eric W. Martin *et al.*, Eds. Mack, Easton, Pa., ed. 12, 1961, 1886 pp.

Vergleichende Physiologie. vol. 5, *Physiologie der Erfolgsorgane.* W. von Buddenbrock. Birkhauser, Basel, Switzerland, 1961. 390 pp. Illus. F. 54.