Book Reviews

Human Behavior: Psychology as a Bio-Social Science. Lawrence E. Cole. Yonkers-on-the-Hudson, N. Y.: World Book, 1953. 884 pp. Illus. $5.50.

This is an important book—if an outsider may presume to pass judgment—in the history of American academic psychology. For here is a general psychology textbook whose subject matter is the person in all his complexity, rather than a series of abstract processes. Instead of surveying the traditional topics of psychology: learning, motivation, perception, cognition, memory, etc., and permitting the reader to construct, if he can, the total person from a description of these parts, Professor Cole focuses his attention on the functioning individual and attempts to explain his behavior. In this attempt he draws upon both the laboratory studies of experimental psychology as well as the field studies of sociology and anthropology. By insisting that the individual must be understood in his sociocultural context and by continuously documenting this theoretical premise, he has convincingly demonstrated (although I do not know if that was his intention) that all psychology is really social psychology.

The fact that the focus of this book is functioning person, rather than selected psychological processes, does not mean that these topics are slighted. The first six section headings, "The Nature of the Psychological Problem," "Growth and Development," "Motivation and Affective Processes," "The Modification of Behavior," "Attending and Perceiving," and "The Reasoner," indicate that the major topics of general psychology are covered. Moreover the important experimental findings are presented and their implications are discussed. But, since this book is problem-oriented, rather than topic-oriented, the individual chapters within these sections bring together relevant data from a number of separate topics as they relate to the problem under discussion. Hence, even in reading about discrete processes, one never loses the feeling for the whole.

This book, of course, is not without its faults. Specialists in the many different areas which are discussed will probably take issue with many of its details, and partisans will most certainly disagree with some of its general conclusions. This is inevitable in a book whose purpose is "to steer a middle course" (p. 24) between conflicting points of view. In the opinion of this reviewer, to take but two examples, the author's evaluation of certain psychodynamic interpretations, including his treatment of projective techniques, is somewhat less than generous; and some of his generalizations concerning the behavior of primitive peoples are much too sweeping. But the sharpest criticism of *Human Behavior* concerns its last section which is called "The Structure and Dynamics of the Self System." Almost all 200 pages of this section comprise a discussion of psychoanalysis. Such a lengthy discussion can be justified in a book that wishes to avoid the shortcomings of the usual eclectic approach to personality by presenting one systematic theory. Such was not the intention, however, in this instance. Cole is strongly opposed to psychoanalytic theory, and he discusses it in order to criticize it. Although readers will not agree about the cogency of his criticisms, they will probably agree with the reviewer that a general textbook is not the place in which to engage in a major theoretical disputation, at least not to the extent of some 150 pages.

Despite this defect this book is to be seriously recommended to anyone who is interested in the contributions of psychology to the rapidly developing behavioral sciences.

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Praktische Arbeitsphysiologie (Applied Physiology of Human Work). Gunther Lehmann. Stuttgart: Georg Thieme, 1953. (U.S. distrib.: Grune and Stratton, New York.) 355 pp. DM 33.

In contrast with psychology, the field of industrial physiology has chronically suffered from a dearth of textbooks. For a young science this has been an unfortunate state of affairs, resulting in a vicious circle "no textbooks—no courses—no trained personnel—no systematic research—no textbooks." Even in Great Britain, where research facilities and output in this field were more ample than in the U.S., no comprehensive treatment of industrial physiology has been attempted. The field and its many specific problems cannot be covered adequately in a chapter of treatises on the physiology of exercise.

In a large measure, the present volume is a fruition of 40-odd years of research carried on at the Institut für Arbeitsphysiologie founded by Max Rubner in 1913 and directed for many years by Erich Atzler. The author is the present director of the Institute, which is now located at Dortmund. However, the book is directed not only to the research specialist but also to the graduate student and to a variety of individuals, such as industrial physicians, production engineers, and other members of the scientific management team, who are concerned, in one way or another, with the physiological aspects of human work in industry. Inclusion of some elementary considerations in the text and the addition of a brief dictionary of technical terms is an expression of the author's concern for making the textbook accessible to the nonphysiologist.

The book is centered in the chapters on energy expenditure and the effects of environmental factors (especially high temperature). A chapter is devoted to the composition and pressure of air. A large section deals with the physiological evaluation of equipment (such as shovels, scythes, and wheelbarrows) and of machines; this application of physiological principles

and methods of measurement is referred to as "physiologische Rationalisierung." Its aim is a more effective adaptation of the work place and the work conditions to the structural and functional characteristics of man. In the section on special senses the author is satisfied with a general statement on the relationship between illumination intensity and performance, without direct reference to experimental evidence. Lehmann brings up the point that over the years the level of required illumination has steadily increased, paralleling man's ability to produce artificial light. Strangely enough, he does not stress the need for the differentiation between physiological needs and the practical, i.e., technological and economic possibilities.

There are several short chapters in which the practical importance of the subject matter is out of step with the available data or with the scientist's ability to solve the problems with present-day methods. One chapter deals with job evaluation. There is an interesting discussion of the problem of fatigue allowances, without providing a satisfactory solution for the overwhelming majority of jobs in modern industry. The problem of fatigue and recovery after work was discussed at some length in an earlier chapter, together with training, measurement of performance capacity, age and sex differences, and posture. The relationships between nutrition and industrial work were examined briefly. Of special interest is a graph (p. 126) indicating the reduction of performance associated with a restriction of caloric intake. It is unfortunate that empirical data are not provided, as both theoretical considerations and some experimental data would lead one to expect a smaller decrement in the light and a larger decrement in heavy work than is suggested by the author.

The book is a welcome addition to applied physiology but it does not answer the need for a comprehensive treatment of the physiological (and psychophysiological) problems in industry. The fact that the literature cited is principally German constitutes an obvious limitation.

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Scientific Book Register

Algal Culture: From Laboratory to Pilot Plant. John S. Burlew, Ed. Washington, D. C.: Carnegie Inst. of Washington, 1953. 357 pp. Illus. $1.25.

Introduction to Electron Microscopy. Cecil E. Hall. New York–London: McGraw-Hill, 1953. 451 pp. Illus. $9.00.

Present Problems in Nutrition Research. (In German, English, and French.) Symposium held in Basel, Switz., October 1–4, 1952. F. Verzár, Ed. Basel–Stuttgart: Verlag Birkhäuser, 1953. 312 pp. Illus. Sw. fr. 32.

A Laboratory Manual of Experiments in Physics. 6th ed. Leonard R. Ingersoll, Miles J. Martin, and Theodore A. Rouse. New York–London: McGraw-Hill, 1953. 286 pp. Illus. $4.00.

Stedman's Medical Dictionary. 18th ed. Norman Burke Taylor in collab. with Allen Ellsworth Taylor, Eds. Baltimore: Williams & Wilkins, 1953. 1561 pp. Illus. + plates. $11.50.

Substance and Function and ***Einstein's Theory of Relativity.*** Repr. Ernst Cassirer. Trans. by W. C. Swabey and M. C. Swabey. New York: Dover, 1953. 465 pp. $1.95; cloth, $3.95.

Organic Analysis, Vol. I. John Mitchell, Jr., *et al.*, Eds. New York–London: Interscience, 1953. 473 pp. Illus. $8.50.

Practical Taxidermy: A Working Guide. John W. Moyer. New York: Ronald Press, 1953. 126 pp. Illus. $3.00.

Atomic Medicine. 2nd ed. Charles F. Behrens, Ed. Baltimore: Williams and Wilkins, 1953. 632 pp. Illus. $11.00.

Teamwork in Research. George P. Bush and Lowell H. Hattery, Eds. Washington, D. C.: American Univ. Press, 1953. 191 pp. Illus. $4.00.

Sexual Behavior in the Human Female. Alfred C. Kinsey, Wardell B. Pomeroy, Clyde E. Martin, and Paul H. Gebhard. Philadelphia–London: Saunders, 1953. 842 pp. Illus. $8.00.

Synthetic Methods of Organic Chemistry, Vol. 7. W. Theilheimer. Basel: S. Karger; New York–London: Interscience, 1953. 450 pp. $14.90.

Advances in Veterinary Science, Vol. I. C. A. Brandly and E. L. Jungherr, Eds. New York: Academic Press, 1953. 431 pp. Illus. $9.00.

Culture Change. An analysis and bibliography of anthropological sources to 1952. Stanford Anthropological Series No. 1. Felix M. Keesing. Stanford: Stanford Univ. Press, 1953. 242 pp. $4.00.

Plant Growth Substances. L. J. Audus. London: Leonard Hill, 1953. 465 pp. Illus. + plates. 42s.

Bacterial Genetics. Werner Braun. Philadelphia–London: Saunders, 1953. 238 pp. Illus. $6.50.

Medical Research: Medical History of the Second World War. F. H. K. Green and Gordon Covell, Eds. London: H. M. Stationery Office, 1953. 387 pp. 40s.

Algebraic Geometry. Solomon Lefschetz. Princeton: Princeton Univ. Press, 1953. 233 pp. $5.00.

Conversation with the Earth. Hans Cloos. Trans. of *Gespräch mit der Erde* by E. B. Garside; ed. by Ernst Cloos and Curt Dietz. New York: Knopf, 1953. 409 pp. Illus. + plates + index. $5.75.

Twenty Years of Psychoanalysis. A symposium in celebration of the 20th anniversary of the Chicago Institute for Psychoanalysis. Franz Alexander and Helen Ross, Eds. New York: Norton, 1953. 309 pp. $3.75.

Your Trip into Space. Lynn Poole. New York–London: Whittlesey House, McGraw-Hill, 1953. 224 pp. Illus. $2.75.

A Manual for the Organic Chemistry Laboratory. Leigh C. Anderson and Werner E. Bachmann. New York: Wiley; London: Chapman & Hall, 1953. 164 pp. Illus. $2.75.

Fatigue of Metals. R. Cazaud; trans. by A. J. Fenner. New York: Philosophical Library, 1953. 334 pp. Illus. + plates. $12.50.