

barometric pressure, and acceleration—the first is not even mentioned, in spite of the fact that it has always been a major concern of aviation physiologists. Night vision, pilot training, and sanitation are mentioned in the preface as important omitted topics. To this list might have been added: numerous other vision problems, human sizing problems in the design of aircraft, controls, and clothing, medical problems caused by noise and vibrations, and the whole broad field of the psychology of flight.

There are few errors for a first edition. On page 61, there is an obvious confusion of absolute and gauge pressures, and on page 123, centripetal and centrifugal forces are respectively correlated, erroneously, with footward and headward forces. On page 124, the starting acceleration of the German V-2 rocket is given as 20 to 40 *G*. Actually, the acceleration is maximum when the fuel is nearly exhausted and does not exceed 8 *G*.

Carefully selected references add to the value of the book, but even here certain omissions are obvious. There is, for example, not one reference, on the subject of acceleration, to the important work of the Aero Medical Laboratory group.

With due regard for the fact that, as the author points out in the preface, the book is an account mainly of his own fields of interest and experience, it may be highly recommended to aeromedical specialists because of its historical perspective, and to the layman as an authoritative and easily read introduction to certain parts of the subject.

VICTOR GUILLEMIN, JR.

*Aeromedical and Physical Environment Laboratory
University of Illinois*

Syphilis: its course and management. Evan W. Thomas. New York: Macmillan, 1949. Pp. xix + 317. (Illustrated.) \$5.50.

In both theory and application, the treatment of syphilis has undergone revolutionary change in the past fifteen years, leaving the subject in great need of adequate summarization—a service that is well done in this book by Thomas, who is eminently qualified by virtue of sustained interest and exceptional clinical experience in syphilis. In a field where few fixed judgments are yet justified, Thomas has freely expressed personal opinions, distinguishing clearly between those based on demonstrable facts and those derived from clinical impressions. While therapy is emphasized, the author also discusses the disease's course and clinical features, clearly but briefly—especially in the case of cutaneous and mucosal changes, where he merely points out the adequacy of previous descriptions and the obvious change in type of clinical material seen today in contrast with a few years ago. In spite of its brevity, the book should be adequate for the nonphysician interested in syphilis and for the medical student who has opportunity to learn from observation of clinical material. It will be particularly helpful to general practitioners, and to specialists in training or in practice in the many communities where the incidence of syphilis has decreased so much that it is difficult to arrive at definite conclusions regarding the

newer therapeutic modalities. A chapter by Theo. J. Bauer reviews the public health aspects of syphilis.

All phases of syphilis are given consideration, but there is particular value in the discussion of interpreting serologic reactions, with emphasis on quantitative studies, and of neurosyphilis, with emphasis on the Dattner-Thomas concept and the need for repeated examinations of the spinal fluid. With reference to therapy, there is almost complete dependence on penicillin and the author attempts to provide the best available schedules for various clinical and serologic stages of the disease.

Minor criticism might be directed toward the too-brief discussion of the treatment of persons having what are presumably infectious contacts and of congenitally syphilitic women who are pregnant. The relation and association of cancer and syphilis are also treated too briefly, and the use of the term "syphilitic virus" is questionable. In view of Dr. Thomas' attempt at brevity, the space given to reports of individual patients seems unwarranted. The number of radiographic reproductions is greater than is justified by their inferior quality.

FRANCIS W. LYNCH

University of Minnesota

Physics: principles and applications. Henry Margenau, William W. Watson, and Carol G. Montgomery. New York: McGraw-Hill, 1949. Pp. x + 760. (Illustrated.) \$5.00.

This book has been written to serve as a textbook in a general physics course for sophomore engineering students and natural science majors. A rigorous treatment is presented, with the aim of giving the student a sound basic knowledge of physics that will be adequate for further work in pure or applied physics. The authors assume that the student has a good working knowledge of algebra, trigonometry, and analytic geometry and some idea of the principles of calculus and that he is carrying on further study of calculus concurrently with the physics course.

The rigorous, mature, and stimulating approach to general physics encountered in this text makes it highly suitable for student groups having adequate mathematical preparation and a professional interest in physics. The text is extensive; the authors estimate that they have included enough material for a three-semester course of four or five credit hours per semester. To assist the instructor in choosing material for the usual two-semester course of four or five credit hours per semester, certain sections are starred, to indicate that they may be omitted without interrupting the logical development of the subject or omitting concepts necessary for understanding later sections.

Each chapter contains solutions of well-chosen illustrative examples and is followed by a group of problems for the student to solve. Very few problems can be solved by "substitution in formula"; they demand an understanding of principles and many problems are sufficiently difficult to demand effort from good students.

The text material is organized into sections on mechanics, heat, electricity, sound and light, and modern

physics. All frequently used systems of units are introduced with careful explanations, in the hope that the student will be able to work with British and metric gravitational units and British, cgs, and mks absolute units.

VIVIAN A. JOHNSON

Purdue University

Historical geology. Carl O. Dunbar. New York: John Wiley; London: Chapman & Hall, 1949. Pp. xii + 567. (Illustrated.) \$5.00.

This book is the successor to the authoritative and successful *Historical geology*, first published by Charles Schuchert in 1915, revised by Schuchert in 1924, and authored jointly by Schuchert and Dunbar in 1933 and 1941. Each edition has been considered the authoritative text on the stratigraphy and paleontology of North America, and was preeminent in the paleogeography of North America, in which subject Charles Schuchert was the world's foremost authority for over thirty years. Invaluable as the paleogeographic maps were, it is rather odd that their importance in size and precision declined through the four editions.

Dunbar's *Historical geology* follows the plan, the substance, and most of the illustrations of the previous

editions. An attempt has been made to popularize the text by more general treatment of stratigraphic and biologic facts, by omitting all but one of the stratigraphic correlation tables, and by including many large illustrations which cover from a quarter to half a page. The paleogeographic maps, which in previous editions were the authors' main original contribution to historical geology, have been reduced in effectiveness by purposely obscuring the boundaries of the continent and the limits of the seas by cloud effects, in order to emphasize the lack of knowledge about ancient seas and lands. The chapter on the origin of the earth might well have been reduced in length, for all of the hypotheses discussed are confusing and lack conviction, and are skipped as worthless by many instructors.

Whereas the book has been made more attractive by the emphasis on illustrations, and more readable by being less technical, it has lost a good deal of value as a text and a book of reference by omission of correlation tables, and by the obscuring of the paleogeographic maps. Nevertheless, it is likely to continue to be one of the leading textbooks in historical geology.

J. J. GALLOWAY

Indiana University

Scientific Book Register

ANDERSON, EDGAR. *Introgressive hybridization*. (Wiley Biological Research Series.) New York: John Wiley, 1949. Pp. ix + 109. (Illustrated.) \$3.00.

BACHOFEN-ECHE, ADOLF. *Der Bernstein und seine Einschlüsse*. Vienna, Austria: Springer-Verlag, 1949. Pp. 204. (Illustrated.) \$4.80.

BLOM, A. V. *Organic coatings in theory and practice*. New York: Elsevier, 1949. Pp. xi + 298. \$6.00.

CANNON, DOROTHY F. *Explorer of the human brain: the life of Santiago Ramón y Cajal*. New York: Henry Schuman, 1949. Pp. xv + 303. (Illustrated.) \$4.00.

CANNON, WALTER B. and ROSENBLUTH, ARTURO. *The supersensitivity of denervated structures: a law of denervation*. (Experimental Biology Monographs.) New York: Macmillan, 1949. Pp. x + 245. (Illustrated.) \$5.50.

CORLISS, JOHN J., FEINSTEIN, IRWIN K., and LEVIN, HOWARD S. *Analytic geometry*. New York: Harper, 1949. Pp. xi + 370. (Illustrated.) \$3.25.

DANTCHAKOFF, VERA. *Le Sexe: Rôle de l'hérédité et des hormones dans sa réalisation*. Paris: Presses Universitaires de France, 1949. Pp. 210. (Illustrated.) 480 fr.

EMMONS, WILLIAM H. et al. *Geology: principles and processes*. (3rd ed.) New York: McGraw-Hill, 1949. Pp. x + 502. (Illustrated.) \$4.50.

FAIRHALL, LAWRENCE T. *Industrial toxicology*. Baltimore: Williams & Wilkins, 1949. Pp. xi + 483. \$6.00.

GREEN, HENRY. *Industrial rheology and rheological structures*. New York: John Wiley, 1949. Pp. xii + 311. (Illustrated.) \$5.50.

LEROY, L. W., and CRAIN, HARRY M. (Eds.) *Subsurface geologic methods: a symposium*. Golden, Colo.: Dept.

of Publ., Colorado School of Mines, 1949. Pp. 826. (Illustrated.) \$6.00 paper; \$7.00 cloth binding.

LICHTENSTEIN, BEN W. *A textbook of neuropathology: with clinical, anatomical and technical supplements*. Philadelphia: W. B. Saunders, 1949. Pp. xviii + 474. (Illustrated.) \$9.50.

MOLDENKE, HAROLD N. *American wild flowers*. New York: D. Van Nostrand, 1949. Pp. xxv + 453. (Illustrated.) \$6.95.

OLIPHANT, M. L. et al. *The atomic age*. (Sir Halley Stewart Lectures, 1948). New York: Macmillan; London: Allen and Unwin, 1949. Pp. 149. \$2.50.

REDDICK, HARRY W. *Differential equations*. (2nd ed.) New York: John Wiley, 1949. Pp. x + 288. \$3.00.

ROTHMANN, S. C. (Ed.) *Construction uses of atomic energy*. New York: Harper, 1949. Pp. vi + 258. (Illustrated.) \$3.00.

SCHWEITZER, GEO. K., and WHITNEY, IRA B. *Radioactive tracer techniques*. New York: D. Van Nostrand, 1949. Pp. vi + 241. (Illustrated.) \$3.25.

TAYLOR, LEWIS W. (Ed.) *Fertility and hatchability of chicken and turkey eggs*. New York: John Wiley, 1949. Pp. x + 423. (Illustrated.) \$5.00.

TITUS, HARRY W. *The scientific feeding of chickens*. (2nd ed., rev.) Danville, Ill.: Interstate, 1949. Pp. 253.

TOBIN, CHARLES E. (Ed.) *Shearer's manual of human dissection*. (2nd ed.) Philadelphia: Blakiston, 1949. Pp. xv + 286. (Illustrated.) \$4.50.

TUTIN, JOHN. (Ed.) *Atomic energy yearbook*. New York: Prentice-Hall, 1949. Pp. xvii + 237. (Illustrated.) \$3.85.

UNDERWOOD, BENTON J. (Ed.) *Experimental psychology: an introduction*. New York: Appleton-Century-Crofts, 1949. Pp. vii + 638. (Illustrated.) \$4.50.