

learned only by a judicious mixture of theory and practice. This does not mean that the theory is to be neglected or subordinated, for the student "must return at occasion permits and study over and over and thoroughly digest" the theoretical foundation on which the work stands. To do otherwise would be to miss the entire spirit of the book.

The book does excellently so many things the reviewer has long wanted to see done that he would like to recommend it unreservedly. If he cannot do so, it is because the author has aimed too high. The book will delight the mathematician; it will dismay the teacher of the calculus. For a second course it would be excellent, but for the beginner for whom it is intended it is too heavy a dose. There are rare occasions when the mathematician, against his will, is forced to yield to the professor of pedagogy; this, the reviewer feels, is one of them.

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Proceedings of the Society for Experimental Stress Analysis. (Vol. IV, No. 2.) C. Lipson and W. M. Murray. (Eds.) Cambridge, Mass.: Addison-Wesley Press, 1947. Pp. xxv + 121. (Illustrated.) \$6.00.

This eighth volume of the series is a collection of 12 papers presented before the Society on subjects in the fields of static and dynamic testing of models and full-scale components, with emphasis on the electrical gaging methods and developments in the attendant circuit and telemetering techniques. All of the authors have been exceptionally careful in describing equipment and methods clearly.

Full-scale dynamic or fatigue testing is treated in six of the papers, "Fatigue Tests of Major Aircraft Structural Components," W. G. Pierpont; "A Method of Detecting Incipient Fatigue Failure," H. W. Foster; "A Machine for Fatigue Testing Full-Size Parts," A. F. Underwood and C. B. Griffin; "Some Repeated Load Investigations on Aircraft Components," S. A. Gordon; "Stress Analysis Utilization in Dynamic Testing," R. W. Brown; and "Device for Maintaining Continuous Electrical Connections With Reciprocating Engine Parts," W. A. Wallace and W. A. Casler. All of the above authors mention the inadequacy of static testing and of small model testing when the prototype is subjected to dynamic loads, and emphasize the desirability of full-scale dynamic tests.

Two of the papers, "Reluctance Gages for Telemetering Strain Data," by W. H. Pickering, and "Aircraft Instruments for Radio-Telemetering and Television-Telemetering," by C. L. Frederick, deal with problems and methods arising from the need for transmitting test data over some distance.

The remaining four papers are best described by their titles: "Precision Determination of Stress-Strain Curves in the Plastic Range," J. R. Low, Jr., and F. Garofalo; "Evaluation of Various Methods of Rotor-Blade Analysis by Means of a Structural Model," R. Mayne; "The Linear Variable Differential Transformer," H. Schaevitz; and "Design and Application of accelerometers," D. E. Weiss.

All 12 articles are worth careful study by workers in the field. The volume as a whole maintains the high quality record of the Experimental Stress Analysis series, with excellent editing and reproduction of illustrations.

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Case Institute of Technology

Scientific Book Register

BALLENGER, WILLIAM LINCOLN, and BALLENGER, HOWARD CHARLES. *Diseases of the nose, throat and ear.* (9th ed.) Philadelphia: Lea & Febiger, 1947. Pp. 993. (Illustrated.) \$12.50.

BENTLEY, JOHN EDWARD. *General psychology: principles and practice.* Philadelphia-London-Montreal: J. B. Lippincott, 1947. Pp. xvi + 389. (Illustrated.) \$3.50.

DAVIS, HALLOWELL. (Ed.) *Hearing and deafness: a guide for laymen.* New York-Toronto: Murray Hill, 1947. Pp. xv + 496. (Illustrated.) \$5.00.

GOLDBERGER, EMANUEL. *Unipolar lead electrocardiography.* Philadelphia: Lea & Febiger, 1947. Pp. 182. (Illustrated.) \$4.00.

HALDANE, J. B. S. *What is life?* New York: Boni and Gaer, 1947. Pp. x + 241. \$3.00.

HALL, JAMES D. *Industrial applications of infrared.* New York-London: McGraw-Hill, 1947. Pp. x + 201. (Illustrated.) \$3.50.

HALL, JOHN S. (Ed.) *Radar aids to navigation.* (Massachusetts Institute of Technology, Radiation Laboratory Series.) New York-London: McGraw-Hill, 1947. Pp. xiii + 389. (Illustrated.) \$5.00.

HARVARD UNIVERSITY COMMISSION REPORT. *The place of psychology in an ideal university.* Cambridge: Harvard Univ. Press, 1947. Pp. x + 42. \$1.50.

MCDONALD, ELLICE. (Director.) *Neutron effects on animals.* Baltimore: Williams & Wilkins, 1947. Pp. vii + 198. (Illustrated.)

MATHEMATICAL TABLES PROJECT, NATIONAL BUREAU OF STANDARDS. *Tables of spherical Bessel functions.* (Vol. II.) New York: Columbia Univ. Press, 1947. Pp. xx + 328. \$7.50.

SANBORN, COLIN CAMPBELL. *Catalogue of type specimens of mammals in Chicago Natural History Museum.* (Fieldiana: Zoology, Vol. 32, No. 4.) Chicago: Natural History Museum, 1947. Pp. 209-293. \$1.00.

SAUL, LEON J. *Emotional maturity: the development and dynamics of personality.* Philadelphia-London-Montreal: J. B. Lippincott, 1947. Pp. xii + 338. \$5.00.

SEELYE, ELWYN E. *Field practice: data book for civil engineers.* (Vol. III.) New York: John Wiley; London: Chapman & Hall, 1947. Pp. xiv + 306. (Illustrated.) \$4.50.

SHRYOCK, RICHARD H. *American medical research, past and present.* (Studies of the New York Academy of Medicine Committee on Medicine and the Changing Order.) New York: Commonwealth Fund, 1947. Pp. xiv + 350. \$2.50.

SPENCELEY, G. W. and R. M. *Smithsonian elliptic functions tables.* (Miscellaneous Collections, Vol. 109, Publ. 3863.) Washington, D. C.: Smithsonian Institution, 1947. Pp. iv + 366. \$4.50.

WARTH, ALBIN H. *The chemistry and technology of waxes.* New York: Reinhold, 1947. Pp. viii + 519. (Illustrated.) \$10.00.

WASIUTYNSKI, JEREMI. *Studies in hydrodynamics and structure of stars and planets.* (Astrophysica Norvegica, Vol. 4.) Oslo, Norway: A. W. Brøgggers Boktrykkeri A/S, 1946. Pp. xvi + 497. (Illustrated.) Kr. 50.00.