

BOOK REVIEWS

Architectural Acoustics. V. O. KNUDSEN. *John Wiley and Sons*, New York, N. Y., 1932, viii + 617 pp., \$6.50. This book is a comprehensive treatise on the subject of architectural acoustics. It contains not only the results of the author's own researches but also brings into one volume a general summary of the latest developments in the field. It is so arranged that it should fulfill a long-felt need for a text for university students, and at the same time serve as an invaluable reference for the acoustical engineer.

The book contains three main parts. Part one, on physical and physiological acoustics, is so presented that even though the reader is not trained in the theory of sound he should obtain a fair acquaintance with the fundamental principles necessary for an adequate comprehension and appreciation of the fundamentals of architectural acoustics. The second part of the book contains a thorough discussion of problems of reverberation, sound absorption, transmission, and insulation of sound. Included in this part are tables giving the acoustical and physical properties of a large number of materials. These tables, which are arranged according to the general characteristics of the materials, are probably the most complete and extensive of any so far published. The third part of the book is a discussion of the application of the theory and principles of architectural acoustics to practically all types of buildings. A list of problems is included at the end, which should increase the value of the book as a text.

Dr. Knudsen has in the publication of this book made a contribution to the field of architectural acoustics that will be of value both to the student and to the engineer.

R. L. HANSON

Acoustics and Architecture. P. E. SABINE. *McGraw-Hill Book Company, Inc.*, New York, N. Y., 1932, vii + 321 pp., \$3.50. The phases of acoustics that are directly applicable to architectural problems make up the subject matter of this book. It has been prepared especially for architects and others interested in the practical aspects of the subject. The author, who has had many years of experience in the subject, both inside and outside the laboratory, has chosen to present the material in a way useful to a non-mathematical reader.

Acoustics is one of the oldest branches of physics, and relatively tremendous advances in the subject have been made during the last fifteen years. But in spite of this, it is still in some respects an inexact science. Theoretical investigations and the collection of practical data along many lines are desirable. In pointing out the necessity for more accurate information on the one hand, however, the author emphasizes on the other hand that from a practical point of view it is no longer necessary to be doubtful that the acoustical properties of a projected auditorium will be tolerable.

Two-thirds of the book deal largely with the acoustics of auditoriums, and treat of the properties of sound, reverberation, and sound absorption. The latter third is devoted to noise in buildings and sound transmission through and in build-

ing structures. Throughout the book emphasis is placed on experimental data, in a large part obtained by the author at the Riverbank Laboratories. It might be suggested that in the preface is to be found excellent advice to one attempting to gain insight into the present state of practical acoustics. W. A. MACNAIR

Radio Engineering Handbook. Edited by K. HENNEY; written by a corps of twenty-two engineers specialized in the various branches. *McGraw-Hill Book Co.*, New York, N. Y., 1933, 583 pp., \$5.00. Although one might wonder at first thought why the review of a *radio* engineering handbook should appear in a journal devoted primarily to motion picture engineering, the identity of many subjects in both branches of engineering justifies its appearance. Motion picture engineering is an integration of a number of arts: excepting the mechanics and the chemistry of motion picture engineering, the subjects of electrical transmission, electroacoustical recording and reproducing, photoelectricity, electrical measurements, *etc.*, are common to radio and motion pictures. A topical résumé of the sections of the handbook in which motion picture engineers would be interested will illustrate: Electric and Magnetic Circuits; Resistance; Inductance; Capacity; Complex Electrical Circuit Theory; Measuring Instruments; Vacuum Tubes; Modulation; Audio Frequency Amplifiers; Rectifiers and Power-Supply Systems; Loud Speakers and Acoustics; Television; Facsimile Transmission; Photoelectric Cells; and finally, a section on Sound Motion Pictures, written by F. S. Irby.

The style of the work is typical of handbooks, the material being arranged primarily for reference through the fairly extensive index provided. The handbook undoubtedly fills a long-felt need of engineers for a reference source in the subjects listed above. S. HARRIS