Book Reviews

The falling sickness: a history of epilepsy from the Greeks to the beginnings of modern neurology. **Owsei Temkin. Baltimore: Johns Hopkins Press, 1945. Pp. xv + 380. (Illustrated.) $4.00.**

This monograph, which is Number IV in the publications of the Institute of the History of Medicine, Johns Hopkins University, traces the history of epilepsy, or the falling sickness, from the ancient Greeks to the point where historical perspective ends and the present debate begins. This latter point is considered to be about 1880, when the impact of Charcot's and Hughlings Jackson's work made itself felt. The author felt that, since he was not a neurologist, he was not qualified to pass judgment on the works of recent decades. His aim is to present the past with a view of helping the reader to understand the setting of the present problem. The evolution of the various ideas concerning epilepsy is traced from the sacred disease in antiquity, the falling sickness in the Middle Ages, to that of more recent times when psychological concepts were discarded and the epileptic phenomena were explained on basis of physiological disturbances in the brain.

Treatment of the disease at the various stages in the evolution of the concepts regarding it is discussed fully from the magic of ancient times to the introduction of the use of bromides by Locock and Wilks in the latter half of the Nineteenth Century.

The book is well documented by over 700 references and there is a good index. Students of the history of medicine and physicians who are interested in the treatment of this important disease, which afflicts nearly one million people in this country, are greatly indebted to Dr. Temkin for his excellent presentation of its background.

H. Houston Merritt

Montefiore Hospital, New York City

Engineering preview: an introduction to engineering including the necessary review of science and mathematics. **L. E. Grinter, Harry N. Holmes, H. C. Spencer, Rufus Oldenburger, Charles Harris, R. G. Kloeffler, and V. M. Faires. New York: Macmillan, 1945. Pp. x + 581. $4.50. Home Study Edition: Pp. x + 619. $6.00.**

Intended for junior or senior high school students or college freshmen, this well-written and well-printed work aims to give the reader an insight into engineering, primarily for the purpose of enabling him to decide whether or not to take up engineering as a life work.

Although one may differ with the authors on details of engineering evolution, the first chapter gives the reader a perspective that should be very helpful and is too often lacking. The chapter includes a "parlor test" to determine engineering aptitudes. The logic of including this material in the book rather than in a separate pamphlet may be questioned. If the "home study" reader "flunks" this test and takes the result seriously, he would have no need for the remainder of the book. Likewise, for classroom work, it would seem more logical to take this test before enrolling in the course instead of as a part of it. The reader who passes the test will find much of value in the remainder of the book, including a good refresher course in essential mathematics.

Chemistry is treated in the second chapter of about one hundred pages, and the treatment appears excellent for its intended purpose. After dealing with the nature and importance of chemistry, the chapter deals in a limited way with many phases of its various branches and includes some material that usually is considered as atomic physics.

Although physics is emphasized in the introductory chapter, the work does not include a chapter on that subject. The sixth, seventh, and eighth chapters, however, deal with four of the subdivisions of physics, viz., Light, Electricity, Mechanics, and Thermodynamics, and with the engineering applications of these sciences. Missing are treatments of the nature of light and of sound and hydraulics.

Following the chapter on Chemistry, there is a well-illustrated, hundred-page chapter on Technical Drawing which should be a valuable part of a book which is to serve the intended purpose.

An extensive chapter on Mathematics provides a good introductory course up to, but not including, the calculus. The chapter concludes with work on curve fitting, and nomographs. Over fifty pages of good mathematical tables are placed at the end of the "classroom" edition, but ahead of the two extra chapters in the "home study" edition.

A thorough treatment of the slide rules commonly used by engineers is given in a chapter which follows the one on Mathematics.

The only difference between the "home study" edition and the "classroom" edition of this book is that the former includes, at the end, a chapter on Writing a Technical Report, and one comprising a Comprehensive Examination. This includes a key so that the reader may grade his own accomplishment. The material on technical report writing is very well done and should prove very valuable to the "home study" student.

The reader may be somewhat confused by a statement in the first paragraph of the chapter on Mathematics, which seems to conflict with some carefully drawn distinctions between an engineer and a scientist, given in the early pages of the first chapter. The former statement indicates that a scientist is an engineer who uses mathematics. The distinction drawn in the first paragraph is much better. Also confusing is a statement in the chapter on Technical Drawing which implies that the usual, black-lead drawing pencils produce *colored* lines.

The chapter on Mathematics includes an explanation of the process of finding the lowest common denominator which does not explain. Also, the discussion of "per

cent'' includes the confusing statement: ''The number 1 is 100%.'' As used, this statement is correct *before* the decimal point is shifted, but not *afterward.*

The discussion of slide-rule errors in the chapter on that subject could be improved to bring out more fully the limitations of the commonly used slide rule. The statement that ''slide-rule answers are accurate but not exact'' is hardly sufficient. In fact, the authors would have done well if they had included a brief chapter, written in their interesting style, on the usually dry subject of measurement, tolerances, precision, accuracy, and limits-of-error. Such terms as ''exact'' and ''accurate'' mean little in engineering unless carefully defined. No mention is made of calculating machines as used for mathematical work in which slide-rule errors would be too large to tolerate.

The abbreviations of terms do not in some cases follow the recommended practice of the American Institute of Electrical Engineers—for example, a-c should be used instead of a.c.

The errors and inconsistencies appear to be few indeed for a first edition, and both books are likely to be popular with many eager students.

I. MELVILLE STEIN
Leeds & Northrup Company, Philadelphia

Infrared and Raman spectra of polyatomic molecules. Gerhard Herzberg. New York: D. Van Nostrand, 1945. Pp. xiii + 632. (Illustrated.) $9.50.

This comprehensive treatise constitutes the second of a series on molecular spectra by a competent writer and will be cordially welcomed by all who have a serious interest in this field. It is, however, primarily a book for the specialist, and for its enjoyment a reasonable previous knowledge of the subject is a prerequisite. The extent of the material covered and the adequacy with which it has been treated may be judged by the 978 literature references and the complete subject index of 65 pages, which greatly enhance the value of the book as a reference.

The organization of the book is very logical, though possibly at the expense of introducing certain pedagogical difficulties, since the phenomena to be explained and their interest and relation to other knowledge do not become fully evident until the later chapters. In the Introduction a discussion of the symmetry properties of molecules is immediately presented, greatly facilitating the later discussion. Chapters I and II, which deal with Rotation and Rotation Spectra, and Vibrations and Vibrational Energy Levels, respectively, are primarily a theoretical discussion of the arrangement of the energy levels of molecules, of their degeneracy, and of their symmetry properties. The treatment is very complete, and, as in other sections of the book, alternative approaches to a given subject are often presented. In many cases proofs are not given, which occasionally seems unfortunate. For the reader who is not interested in theory for its own sake it may appear that undue