

recent work, however, the statements with respect to anti-enzymes might well have been more critical. Some of us might demur to the statement on p. 83 that margarine-makers have learned to make this fat palatable.

W. M. B.

Physics: Theoretical and Practical.

(1) *A Handbook of Physics Measurements*. By Ervin S. Ferry, in collaboration with O. W. Silvey, G. W. Sherman, jun., and D. C. Duncan. Vol. i. *Fundamental Measurements, Properties of Matter and Optics*. Pp. ix+251. Vol. ii. *Vibratory Motion, Sound, Heat, Electricity and Magnetism*. Pp. x+233. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1918). Price 9s. 6d. net each vol.

(2) *Notes on Magnetism: For the Use of Students of Electrical Engineering*. By C. G. Lamb. Pp. viii+94. (Cambridge: At the University Press, 1919.) Price 5s. net.

(1) IN the two volumes forming "A Handbook of Physics Measurements" are given the theory and manipulation of those experiments which experience has shown to be most important in pure and applied science. The work is designed for college and industrial laboratories, and forms a self-contained manual. Each chapter consists of two parts; the first includes definitions, a description of the apparatus, and the general theory of the methods, while in the second each determination is described in detail, the more important sources of error are pointed out, and means are indicated by which these errors may be minimised or accounted for. Most of the experiments require no mathematics beyond trigonometry and algebra, but the authors have rightly decided to employ the calculus methods wherever these would result in economy of time and mental effort.

No student except one specialising in physics would perform all 108 experiments included in the two volumes. Other students, after performing the necessary experiments on the properties of matter, would limit themselves to the groups bearing directly upon their principal study. Thus the chemist would do the work on indices of refraction, using various forms of refractometer, such as the Pulfrich, the Zeiss, the Abbe, the Féry, or the more recent instrument designed by Dawes. He would also make use of spectroscopes and spectrophotometers, and learn that "spectrocolorimetry"—the estimation of the concentration of solutions by means of the intensity of the absorption bands of their spectra—is a method

which may be both more speedy and more precise than chemical analysis. The electrical engineer would do the work on damped vibration and harmonic analysis, in addition to the usual experiments on the determination of resistances, capacities, or inductances. The mechanical engineer will be interested in the methods for the determination of the economy effected by steam-pipe coverings and of the thermal value of both coal and gas. The work as a whole is to be recommended as giving a thoroughly up-to-date account of most of the important physical instruments and experimental methods.

(2) For the use of students in the engineering laboratory, Cambridge, Mr. Lamb has drawn up a convenient set of notes dealing with the essential parts of the subject of magnetism. Starting with fundamental facts and principles, such portions of magnetic theory are outlined as are required in order to read the ordinary technical text-books with intelligence. The work has been well done, and the latter part of the book, dealing with magnetic hysteresis and alternating-current tests, will be of special service to both students and teachers, who will welcome the admirable diagrams and the lucid descriptions.

H. S. A.

Minerals and Metals.

(1) *Zinc and its Alloys*. By Dr. T. E. Lones. (Pitman's Common Commodities and Industries. Pp. ix+127. (London: Sir Isaac Pitman and Sons, Ltd., n.d.) Price 2s. 6d. net.

(2) *Asbestos and the Asbestos Industry: The World's Most Wonderful Mineral and other Fireproof Materials*. By A. Leonard Summers. (Pitman's Common Commodities and Industries.) Pp. ix+107. (London: Sir Isaac Pitman and Sons, Ltd., n.d.) Price 2s. 6d. net.

(3) *Tin Ores*. By G. M. Davies. Pp. x+111.

(4) *Manganese Ores*. By A. H. Curtis. Pp. x+118. (Imperial Institute: Monographs on Mineral Resources, with Special Reference to the British Empire.) (London: John Murray, 1919.) Price 3s. 6d. net each.

THE first two of these little books are two of the volumes in a series issued with the object of giving general readers an account, in language as untechnical as possible, of the origin, mode of production, and uses of a number of the essential articles employed in industries. The object is an excellent one, for it is knowledge of a kind that the user and even the merchant of these materials rarely possess, though the advan-