

Physics for Medical Students: a Supplementary Text Book. By J. S. Rogers. Edited by Prof. T. H. Laby. Pp. x+205. (Melbourne: Melbourne University Press; London: Oxford University Press, 1933.) 11s. 6d. net.

It is very desirable that the attention of teachers of physics and medical students, including qualified medical men, should be directed to this book, for it represents the first attempt, so far as the reviewer is aware, to supplement the ordinary textbooks of physics which are given to medical students. It is a very successful attempt to show that physics is a science which really does have an intimate connexion with the theory and practise of the art of healing, as well as with the necessities of everyday life. Such a book has long been wanted and the author well deserves our congratulations on his achievement.

The opening chapters give a brief but very good outline of the history of physics. Incidentally, the author follows tradition in ascribing to Davy an experiment with blocks of ice which he never performed, for Davy did not rub pieces of ice together *in vacuo*; he rubbed them together in air, and he recorded an impossible result. Later chapters give excellent accounts of osmosis, the colloidal state of matter, ultra-violet light, the microscope, hydrogen ion concentration, high frequency currents and X-rays. In all these chapters the importance of physical facts and theories to medicine is stressed, whilst the chapters on blood pressure and its measurement, body temperature, gains and losses of energy in the human body, the resonance theory of hearing, the human eye and the therapeutic uses of radiations also testify to the industry and diligence which the author has so successfully employed in showing that physics can be made interesting to medical students.

The book is well printed and illustrated. It is very pleasant to read and the manner in which the author has everywhere tabulated and arranged the most striking and important points in each section makes it a handy book of reference. There are obvious ways in which the author may expand this work in future editions, and it is to be hoped that it will find an extensive sale in Great Britain.

L. F. B.

Bulletin of the National Research Council. No. 90: *Physics of the Earth. 6: Seismology.* Pp. viii+223. (Washington, D.C.: National Academy of Sciences, 1933.) Paper, 2 dollars; cloth, 2.50 dollars.

THIS new "Bulletin" is comprehensive and inexpensive. The authors are J. B. Macelwane, H. O. Wood, H. F. Reid, J. A. Anderson and P. Byerly, all of whom have made distinguished contributions to seismology. They discuss the various theories of the origin of earthquakes, field data, the design of seismographs, the theory of wave propagation, and the interpretation of the

results. References are abundant up to 1931, and there are a few for 1932; and the authors have evidently read and understood what they quote. Two omissions are perhaps worthy of notice. The work of Stoneley and Tillotson on surface waves is mentioned without statement of the results they derive for the thicknesses of the layers; and attention might have been paid to the theoretical solution for a sudden disturbance spreading in three dimensions from a small region.

The book is not made needlessly long by the inclusion of out-of-date material; but the reviewer is left in doubt as to whether Uller's theory of wave propagation needed exposition. Is this very complicated work really able to give any results that cannot be obtained quite easily otherwise? So far as the reviewer can see, it has all the defects of the method of normal modes and none of its virtues. But on the whole the book is the most convenient guide to seismology that has yet appeared.

H. J.

Physical Constants: Selected for Students. By Dr. W. H. J. Childs. (Methuen's Monographs on Physical Subjects.) Pp. viii+77. (London: Methuen and Co., Ltd., 1934.) 2s. 6d. net.

THIS little volume of physical constants is well designed in many ways to suit the student's pocket. It is most convenient in form and size, and its price is so modest that few students will be unable to purchase the book. It is sufficiently complete to satisfy practically all the requirements of the ordinary teaching laboratory and most of the normal requirements of a research laboratory.

Psychology

Mental Defect. By Dr. Lionel S. Penrose. (Text-Books of Social Biology.) Pp. xi+183+4 plates. (London: Sidgwick and Jackson, Ltd., 1933.) 8s. 6d. net.

MENTAL defect or, more technically, oligophrenia, is such a serious problem that no apology need be made for stressing the extreme importance of educating public opinion. So much inaccurate and prejudiced opinion finds its way into print, particularly in the more sensational daily Press, that an effort should be made to combat it. Dr. Penrose's book is meant for medical or educated lay readers and is therefore not suitable for "the man in the street". He gives an interesting and accurate account of the physical conditions met with in defectives of all classes, and discusses the psychological examination, the taking of family and personal histories, and the classification. In discussing mongolism, the writer expresses the opinion that Crookshank's view that the condition is a regression to earlier ancestral types cannot be upheld. He does not express an opinion on Clark's view that the condition represents a condition of fetal hyperthyroidism.

It is very gratifying to read a sane account of