wattmeter) is given. A valuable table showing the torque exerted and the power consumed by induction supply meters is included, and a considerable section of the chapter deals with the "shaded pole" type of instrument. The simplicity of the induction type supply meter has encouraged its use, but, as the authors point out, these meters require the most careful design if they are to give accurate records of the energy used in a supply circuit. This chapter is characterised by the same care and thoroughness of treatment as the preceding parts of the book.

The chapter on recording instruments is also very complete. Not only are the more usual types of recording instruments mentioned, in which the record is made by a moving pen, but also those giving intermittent records by the puncturing of paper by a spark.

A chapter is given to the various forms of frequency and phase meters. The types of frequency meters described include those with vibrating reeds as well as the electro-magnetic type; power factor meters are discussed and the chief types described. Devices for increasing the range of alternating current instruments occupy another chapter, which is concerned mainly with the various forms of potentiometer, and with potential and current transformers. The literature of this subject is very meagre, and the information included will be of value to those who have to deal with the design of these instruments.

A very important chapter deals with devices for mechanical testing, that is, with tachometers, stroboscopic instruments, brakes (including the well-known eddy current brake), and torque recorders. Later, a description is given of synchronising devices and synchronoscopes, and leakage indicators, ohmmeters, and the well-known "megger" are described.

The final chapter deals with test-room equipment, and includes a description of the apparatus necessary for the calibration of indicating instruments, the most important of which is the A.C. potentiometer. Methods of checking the accuracy of meters and a description of some standard forms of wattmeter are given. The last few pages give a short account of some of the bridge methods now used so extensively in connexion with telephone work for measuring capacity, self-induction and mutual induction, as well as apparatus for testing the magnetic quality of iron.

Although the two volumes cover a wide field, the work is still incomplete. If the authors could see their way to publish a third volume, such as is suggested in the preface, which would deal with laboratory instruments, the value of the book would be much increased. The two volumes that have been published already, however, are a mine of information on electrical measuring devices.

Our Bookshelf.

Psychology and the Sciences. Edited by Dr. William Brown; with Contributions by Dr. J. S. Haldane, Dr. R. R. Marett, Dr. F. C. S. Schiller, Dr. L. P. Jacks, Rev. A. E. J. Rawlinson, Dr. M. W. Keatinge, Dr. William Brown, Dr. T. W. Mitchell. Pp. vii + 184. (London: A. and C. Black, Ltd., 1924.) 7*s.* 6*d.* net.

IT was a happy inspiration of the Wylde reader of mental philosophy at Oxford to gather together the views of representative thinkers in various branches of science with regard to the relations of psychology to the kindred sciences which they represent, either on the philosophical or biological side, as well as to certain applications of psychology to education and medicine. Though written on popular lines, the volume is an interesting one; for the authors of the essays, which were originally delivered as lectures at Oxford, have taken their several tasks seriously; and, writing from quite different points of view, have emphasised several important conclusions. One of these is that psychology must be regarded as a legitimate science, following its own scientific methods by using interpretative categories peculiar to itself; and another, that it provides a viewpoint necessary as a completion to those of the other sciences represented by the writers of the essays.

Dr. Haldane's contribution is noteworthy, as stressing the necessity of psychological categories of interpretation as well as biological ones, and denying the possibility of expressing the facts of either science in physical terms. Dr. Mitchell's paper is a guarded statement of the relation of psychology to the facts and conclusions of psychical research. The editor's own essay is a reasoned justification of the claims of applied psychology, in one of its principal departments, to an unprejudiced hearing. The sciences with which psychology is compared in the volume are biology, anthropology, logic, ethics, theology, education, medicine, and, if it may be called a science, psychical research. As a symposium on these relations "Psychology and the Sciences" is worth attention; though, of course, it is not the last word on the subject.

Handbook of the Geology of Ireland. By Dr. Grenville A. J. Cole and T. Hallissy. Pp. viii + 82. (London: Thomas Murby and Co., 1925.) 8*s.* 6*d.* net.

THE work is based on the late Prof. Cole's contributions to the "Handbook of Regional Geology," published some years ago in Heidelberg, and revised and brought up-to-date by him in collaboration with Mr. T. Hallissy. It is an authoritative and concise statement of the broad features of the geological structure and history of Ireland, and though the size of the volume does not allow of much detail, lists of the various papers dealing with the subject-matter are given at the end of each section.

The general morphology of the island is dealt with, and then follow a number of chapters each dealing with the stratigraphy, distribution, and lithology of a system. Tables giving the correlation of the Devonian rocks of Ireland with those of Britain and the Continent of Europe are included.

Under the heading "Quarternary" is given a

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