

Our Bookshelf.

Condensing Plant: a Complete Treatise on the Principles and Details of Construction of Modern Steam Condensing Apparatus; for Designers, Users, and Students. By R. J. Kaula and I. V. Robinson. (The Specialists' Series.) Pp. xiii + 400. (London: Sir Isaac Pitman and Sons, Ltd., 1926.) 30s. net.

A MODERN steam power plant can be divided into three main sections: the boilers and their accessories, the turbines, and the condensing plant. Most text-books on steam machinery deal partially with the three sections, but the multiplication of types of machinery in power houses and the increasing complexity of the systems tend to make specialisation desirable. Many engineers therefore will welcome this book, which is devoted entirely to the condensers, air pumps, feed pumps, and feed systems. All the earliest steam engines were condensing engines, and the patent of Savery introduced the practice of surface condensation. Newcomen led the injection water into the steam cylinder, and Watt made the capital improvement of a separate condenser. Of other inventors, one of the least known is Samuel Hall, whose patent for surface condensers for steam vessels, taken out in 1836, is a most interesting one. With the introduction of high-pressure steam the jet condensers gave place to surface condensers, and with the coming of the steam turbine a new chapter in the history of the condenser opened. An immense amount of investigation has been carried out on the design of condensers, the corrosion of the tubes, new forms of air pumps, and improved systems of feeding the boilers, and all these matters are admirably treated by Messrs. Kaula and Robinson in the work under notice.

Industry and the State: A Conservative View. By Robert Boothby, John de V. Loder, Harold Macmillan, Hon. Oliver Stanley. Pp. viii + 269. (London: Macmillan and Co., Ltd., 1927.) 6s. net.

THIS book is an interesting expression of the views held by what may be termed the left wing of the British Conservative Party. Opposed on one hand to *laissez-faire* as on the other to socialism, it seeks a *via media* between these conflicting extremes. The authors are convinced that an advance in the economic status of the wage-earning classes is the necessary corollary of their advance in political status, and they seek the means whereby the improvement may be effected. Their suggestions do not partake of novelty, but they are urged with some force and ardent conviction. For the planning of economic policy they would have an Economic General Staff. Industrial Councils and Wage Boards would be created with increased powers; and co-partnership would be made an essential part of industrial organisation. The writers have read widely, and there is throughout an air of attractive goodwill about their proposals. How far they are likely to attract attention is another matter. Much, for example, of the recent

legislation they quote in support of their views is open to a different interpretation from what they place upon it. Their account of the characteristics of industrial ownership follows that of an American, Mr. Robert Brookings; but if they had considered the arguments of Prof. Henry Clay, they would have seen that most of the inferences they draw are quite misleading. Their insistence that there is an incompatibility between socialism and private property is contradicted by the work of Mr. and Mrs. Webb and Mr. R. H. Tawney; they do not seem to grasp the distinction made by most socialists of authority between property as use and property as control. But their book is doubtless meant to be no more than a tentative sketch; and as such it is an interesting expression of a significant tendency which is not unlikely to grow.

Engineering Metallurgy: a Textbook for Users of Metals. By Prof. Bradley Stoughton and Prof. Allison Butts. (Metallurgical Texts.) Pp. xi + 441. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1926.) 20s. net.

As the range of steels and non-ferrous alloys is extended it becomes more and more necessary for the engineer to have some metallurgical knowledge, at least sufficient to enable him to make use of metallurgical literature. It is becoming common to include some training in metallurgy in the university and technical college courses for engineering students, and the need for suitable text-books has arisen. The manual compiled with this object by Profs. Stoughton and Butts is not quite successful in approaching the subject from the point of view of the engineer, which is distinctly different from that of the student of metallurgy. It is rather a condensed text-book of metallurgy, in which each section is treated in brief outline, without undue detail. Short sections on fuel questions, on heat losses, and on pyrometry are included, and the reader can obtain from it a general survey of metallurgical practice, from the treatment of ores to that of castings and forgings.

It is on the physical and metallographic side that the book is weakest, and there are inaccuracies on certain points, whilst the discussion of a subject of such importance to the engineer as the heat treatment of steel is very sketchy. Surely, also, since photo-micrographs are freely introduced, some short account should have been given of the use of the microscope in the engineering works. It is quite possible to make the young engineer familiar with the processes of preparing sections for micro- and macro-examination, and with the general characteristics of such materials as he may have occasion to use, although years of experience may be needed before he can interpret unusual appearances in a critical manner. The authors have had to bear in mind the curriculum in American colleges, and this has no doubt restricted them in their treatment, but a different method of approach is needed in an engineering course on scientific principles.