

wants to provoke controversy and inquiry with regard to the grounds of his faith in the future of the North, and the vigour, resourcefulness, and good humour of his propaganda should make even his critics his friends, for every one likes a strong man in pursuit of a great idea.

HUGH ROBERT MILL.

### Our Bookshelf.

*Occultism and Modern Science.* By Prof. T. Konstantin Oesterreich. Translated from the second German edition. Pp. vii + 181. (London: Methuen and Co., Ltd., 1923.) 6s. net.

PROF. OESTERREICH'S book is intended to be a popular presentation to the German public of the evidences of "occult" phenomena, which are fairly well known to English-speaking people. He points out that this field of knowledge has been little cultivated in Germany, and, with great impartiality, places such facts as have been observed before his readers. He examines the cases of Helene Smith, Mrs. Piper, Palladino, and Eva C. in detail, and arranges his phenomena under the heads of states of impersonation, psychometry, cross-correspondence, telekinesis, and materialisation. His conclusions are adverse to spiritism; but, on the evidence, he seems to have no doubt of the occurrence of the phenomena in question, though there is no indication in the book of any first-hand acquaintance with the subject. Indeed, there is a lack of judicial balance in the admission of the evidence. Crawford—though the facts were clearly not known to Oesterreich when this work was written—is cited as an authority for telekinesis and materialisation. The introduction is remarkably good, as is the general plea for scientific examination without prejudice of the facts; but the chapter on theosophy has little connexion with the rest of the book, and rather mars it by the personal note with regard to Rudolf Steiner which it introduces.

*Department of Scientific and Industrial Research: Food Investigation Board. Special Report No. 15 by the Engineering Committee of the Board. Insulated and Refrigerator Barges for the Carriage of Perishable Foods.* Pp. iii + 21. (London: H.M. Stationery Office, 1923.) 1s. net.

WHILE in normal circumstances the barges thermally insulated with four inches of cork at present used in Great Britain for the conveyance of perishable food such as frozen meat from the importing ship to the quay or cold store are found to be adequate, conditions arise in practice under which they fail. This report will serve as a valuable guide to those who wish to provide something better. It is shown that the ordinary insulated barge is only satisfactory for 48 hours if the frozen cargo is well packed, so that its rise of temperature owing to its having to cool the barge may be as small as possible, and if the temperature of air and water do not exceed 50° F. If the barge can be pre-cooled to 20° F. it is adequate under the same temperature conditions for 96 hours. If the temperature of air and sea water rises above 70° F., the barge, even when pre-cooled to 20° F., will only prove effective for about 40 hours, and if it is to carry its cargo longer

it must be provided with refrigerating machinery. In one experiment with a barge so equipped a cargo of frozen meat was carried for seven days without its temperature rising more than 3° F.

*Electric Transients.* By Prof. C. E. Magnusson, A. Kalin, and J. R. Tolmie. Pp. viii + 193. (New York and London: McGraw-Hill Book Co. Inc., 1922.) 12s. 6d.

THIS book was primarily written for the electrical engineering students of the University of Washington. It discusses in detail many of the transient phenomena which ensue whenever any of the electric "constants" of a circuit suddenly alters in value. Excellent oscillograms are given, the study of some of which will be of value to advanced students. As a rule, the transient quiver induced in the current wave by a sudden disturbance of the circuit dies away rapidly. In some cases, however, it attains excessive values and does damage. In a few cases it is continually in evidence, as, for example, when an electric arc forms part of the circuit. The question of "transients" therefore needs to be studied carefully by electrical engineers. The introduction is rather too condensed. For example, we are told that the Ohm's law of the dielectric circuit is that the dielectric flux equals the voltage divided by the elastance of the circuit. The elastance is the reciprocal of the condensance. The former is measured in "darafs" and the latter in farads. It is not easy to picture what the authors mean, as apparently the cross-section of the dielectric circuit is constant.

*Surface Tension and Surface Energy and their Influence on Chemical Phenomena.* By Dr. R. S. Willows and E. Hatschek. (Text-books of Chemical Research and Engineering.) Third edition. Pp. viii + 136. (London: J. and A. Churchill, 1923.) 6s. 6d. net.

THE study of "Surface Tension" has been modified profoundly by the conception of oriented molecules which was introduced by Langmuir in 1917, and has since been developed on a rigid quantitative basis by the researches of N. K. Adam. These new developments are described and discussed in the new edition of this work. The fact that the subject is treated from the physical rather than the chemical point of view increases the value of the book as a contribution to physical chemistry, since it leads to the introduction of information which is not usually available in books written by chemists.

*Intelligence Tests and School Reorganization.* By Lewis M. Terman and others. Prepared as a Subcommittee Report to the Commission on Revision of Elementary Education, National Education Association. Pp. viii + 111. (London, Calcutta, and Sydney: G. G. Harrap and Co., Ltd., n.d.) 4s. 6d. net.

A USEFUL little set of monographs on the use of intelligence tests. Chapter 3—"Methods of Individual Instruction in the Adjustment Rooms of Los Angeles"—by A. H. Sutherland, is perhaps the most valuable, as indicating a means of securing the incentive of personal interest in acquiring information in the case of backward children.