

make it easy, especially for those who dislike the effort of reading German, to obtain a first-hand knowledge of the early work of the group of actors who for so many years occupied the centre of the stage on which the newly labelled cult of physical chemistry was displayed. Modern workers have thrown grave doubts on the validity of the deductions which were then made with so much confidence, and have used as evidence of discrepancy the same data which were formerly cited as evidence of concordance between theory and experiment; but for this very reason it is all the more important that the original texts should be accessible. The reprint would have been of even greater value if it had included the critical but constructive work of Debye and Hückel, but it seems likely that the rules of the Alembic Club prohibit the payment of such a compliment to contemporary workers. T. M. L.

Industrial Carbon. By Dr. C. L. Mantell. (Industrial Chemical Monographs.) Pp. ix + 410. (London: Chapman and Hall, Ltd., 1928.) 21s. net.

THE author remarks that, although the industrial applications of carbon are numerous and very specialised, the literature on the subject is scattered and often contradictory. He has therefore performed a very useful service in presenting the information on the technological uses of elementary carbon, apart from fuels, in a compact and critical form. The subjects dealt with include diamonds, natural and artificial graphites, carbon black and lampblack, adsorbent charcoal, electrodes and brushes, arc carbons, refractories and minor uses. The treatment is good, although the information on active carbons is rather sketchy and not easily followed. The treatment of electrodes is full, and here, as in other parts of the book, there are useful tables and curves.

The book is one which should be found of great service to the many users of carbon in one or other of its forms, and includes much information not easily obtainable elsewhere. It is well printed and illustrated and provided with an index. The references to the literature are not very numerous, and in a future edition the bibliography might with advantage be extended. This would most usefully take the form of a selection of works and papers which themselves include bibliographies rather than a mass of references (generally inaccurate), which is too often what is found in technical literature.

Inorganic Chemical Technology. By Prof. W. L. Badger and Prof. E. M. Baker. (Chemical Engineering Series.) Pp. viii + 228. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1928.) 12s. 6d. net.

ALTHOUGH the authors limit themselves to American practice, their method of dealing with industrial processes from the engineering point of view rather than from that of the industrial chemist is generally applicable, and their choice of material is good. The amount of detail is carefully chosen to correspond with the limits of the work, and although quantitative data are given throughout, no attempt has been made to produce a book of

reference. Numerical problems are given at the ends of sections, and there is a limited but useful bibliography. This book is one which should prove valuable to students proposing to enter industry, and the average chemical student will find it convenient in supplementing the information given in the usual text-books. The most modern developments in processes are described, and the illustrations are very good.

A General Discussion on Homogeneous Catalysis held in the Physical Chemistry Laboratory of the University of Cambridge, on Friday and Saturday, 28th and 29th September 1928. Pp. iii + 545-740. (London: The Faraday Society, 1929.) 12s. 6d.

THIS volume contains the papers presented at the fiftieth discussion arranged by the Faraday Society, and, like the preceding ones, it serves a useful purpose in bringing together many lines of development of a subject. It is divided into three parts, dealing with general relations, intermediate addition compounds and chain reactions, and neutral salt and activity effects. There are about six papers in each section, and these are followed by a general discussion of all the sections. Prof. Lowry contributes a conclusion, in which the main points raised are summarised. The volume exhibits a diversity of opinion rather greater than usual in these discussions, and some space is taken up with claims for priority which are out of place in such a publication. The volume is one which will be found most useful by research workers and students. An account of the main issues raised was given in NATURE of Oct. 13, 1928, p. 589.

Engineering.

(1) *The Ventilation of Mines: Generation of the Air Current.* By Prof. Henry Briggs. (Methuen's Monographs on Coal-Mining.) Pp. xiv + 136. (London: Methuen and Co., Ltd., 1929.) 7s. 6d. net.

(2) *Mining Subsidence.* By Prof. Henry Briggs. Pp. vii + 215. (London: Edward Arnold and Co., 1929.) 14s. net.

(1) PROF. HENRY BRIGGS, Hood professor of mining in the University of Edinburgh, is the general editor of Messrs. Methuen's monographs on coal-mining, of which the volume on "The Ventilation of Mines" is one. Based on lectures given in the Royal School of Mines in 1927 and afterwards amplified in *Colliery Engineering* during the following year, the book treats of the flow of air in galleries, control of ventilation, various types of fans, measurement of pressures, and fan testing. Efficiency in ventilation is an important economic problem, and in some collieries the actual weight of the air put through per day is stated to be as much as ten or twelve times the tonnage of coal extracted. In a certain Prussian mine the fan is nearly 30 feet in diameter: it is rated to deliver 710,000 cubic feet per minute against a 14½-in. water gauge and is driven by a steam engine of 2140 h.p.

(2) In the second volume under notice, Prof. Briggs gives examples of the damage to buildings, bridges, tunnels, roads, railways and water, gas,