

Our Bookshelf.

The Calculation and Measurement of Inductance and Capacity. By W. H. Nottage. Second edition. Pp. viii+224. (London: The Wireless Press, Ltd.; New York: Wireless Press, Inc., 1924.) 7s. 6d.

MANY problems in connexion with obtaining formulæ for the inductance and capacity of various conductors and systems of conductors have recently been solved.

As these solutions have usually been given in papers contributed to learned societies in various countries, it is a convenience to have them collected together in a single volume. As a rule the formulæ are very lengthy and laborious to calculate, and hence we think that more references should have been given, as in some cases the limitations of the formulæ have not been stated. We were surprised that no formula is given for the inductance of a concentric main. It is true that in most cases with low frequency it can be neglected, but in radio work it is often of importance. On p. 65 a formula is given for the *average* potential of a single straight wire. We quite fail to understand what this means, as, being a conductor, it is presumably at the same potential throughout.

We were interested to see how rough calculations and empirical formulæ gave results which agree closely with the measured values. As in the measured values the resistivity of the earth has to be taken into account, it looks as if—at least on dry days—this resistivity can be taken as constant. Numerous methods of measuring capacity and inductance are given, but it would be a help if it were pointed out which are the most suitable for special cases. Descriptions are also given of the numerous appliances that are used for making these measurements. It is surprising that in a second edition Kirchhoff's name is persistently spelt with one *h*.

Trattato di chimica generale ed applicata all' industria. Per Prof. Dott. Ettore Molinari. Vol. I. *Chimica inorganica.* Parte prima. Quinta edizione riveduta ed ampliata. Pp. xv+680. (Milano: Ulrico Hoepli 1924.) 40 lire.

THE number of books dealing with the whole range of industries to which the description chemical is applicable is very small, and among these Molinari's work, fashioned on a new and original plan, has come to occupy a very definite and important place. The measure of its success may be gauged from the appearance, within the space of less than twenty years, of four editions in Italian, each in turn rapidly exhausted, two in English, two in Spanish, and one in French. The present volume, which begins the fifth Italian edition, contains more than 200 pages devoted to the elementary exposition of general principles, this section having undergone considerable expansion at the hands of the author's son, Vittorio. It treats likewise of hydrogen, the halogens, the elements of the oxygen group (also air and its rare constituents), nitrogen and phosphorus, etc. The very full trade statistics and other special features of the work are retained, but various subjects, such as hydrogen, sulphuric acid, and the utilisation of atmospheric nitrogen for the manufacture of synthetic ammonia, etc., are treated at greater length than formerly. The footnotes, possibly too copious in some cases, remain, and diagrams

and figures are interspersed even more lavishly than in the preceding edition; the printer's work is all that could be desired. The second part of the volume on inorganic chemistry is promised before the end of the current year, and will be followed by a new issue of the companion volume on organic chemistry.

The Mongol in our Midst: a Study of Man and his Three Faces. By Dr. F. G. Crookshank. Pp. 128+29 plates. (London: Kegan Paul and Co., Ltd.; New York: E. P. Dutton and Co., 1924.) 2s. 6d. net.

DR. CROOKSHANK argues with much skill in favour of his view that in the not uncommon occurrence of Mongoloid characters in Western Europeans, of which the extreme example is the so-called Mongoloid imbecile, there is something more than a fortuitous resemblance to the racial Mongol. He adduces a large number of homologies between these abnormal cases and the Mongol races, emphasising in particular the peculiar method of sitting with the legs in the horizontal position familiar in the statues of Buddha, which seems natural to the Mongoloid imbecile, and maintains that they point to the atavistic character of this peculiarity. Mr. H. Peake has argued in favour of the introduction of a Mongoloid strain in Northern Europe in prehistoric times, and it is by no means impossible that some infiltration of Mongol blood may have followed from the racial invasions of Eastern Europe. Dr. Crookshank, however, presses his theory further and seeks to connect the Mongols with the orang, setting them against the group in which he places other races—with dementia præcox as the corresponding form of mental disease—and the chimpanzee and gorilla. It is this part of his theory which has been most strongly criticised, for, as he shows, it involved the adoption of Klaatsch's theory of two distinct parent types, one for orang and Mongols on one hand, and one for gorilla and negro on the other—a theory which has not found favour among anthropologists generally.

Transactions of the Institution of Chemical Engineers. Vol. I, 1923. Pp. xv+120. (London: Institution of Chemical Engineers, Abbey House, Westminster, 1924.) n.p.

THE Institution of Chemical Engineers is to be congratulated on its first volume of Transactions, which reaches a high standard both in form and in contents. The volume opens with a brief history of the steps taken to found the Institution, and contains papers read before it. The first paper is a long monograph by T. C. Finlayson on industrial oxygen. In this the various known methods for the manufacture of oxygen are described and analysed both from the technical and economic aspects, and an account of original experiments is given. The results obtained were not capable of industrial application, but the paper was described as valuable in the discussion. A short contribution on absorption towers by M. B. Donald and C. W. Tyson, a study of the conditions of constant rate of flow in filter presses by M. B. Donald and R. D. Hunnemann, an outline of the present knowledge of corrosion by M. B. Donald, and a bibliography of chemical engineering literature (1900-1923) form the rest of the volume. It is evident that these contributions have been