

Department of Scientific and Industrial Research.
Bulletin No. 6. *On the Electro-Deposition of Iron:*
With an Appendix containing a bibliography of the
subject. By W. E. Hughes. Pp. iv + 50. (London:
H.M. Stationery Office, 1922.) 6s. 6d. net.

THE Department of Scientific and Industrial Research has rendered electrometallurgists signal service by the recent publication of this monograph, written by and containing the results of work by Mr. W. E. Hughes, formerly Chief Research Chemist to the Electrometallurgical Committee of the Ministry of Munitions, and already favourably known for his publications in this particular field. The present brochure contains, within the compass of fifty pages, a systematic study of the effect of current density, temperature, and mechanical movement on the nature of the cathodic deposit of iron formed from ferrous chloride solutions. The deposits were photomicrographed in every case, and the resulting numerous illustrations, excellently reproduced, are of considerable interest.

The view upheld by the author is that the effects of these different factors can all be satisfactorily explained if the formation of a crystalline cathodic metal deposit can be regarded as being governed by conditions similar to those which regulate the nature of a crystalline deposit formed from, say, a molten mass of metal, a fused rock magma, or an aqueous solution. It cannot be said that the view is quite novel. It has certainly been "in the air" for some little time. The striking work of von Weimarn, for example, if considered in connexion with the effect of colloidal additions to an electrolyte on the nature of the cathodic deposit, could not but suggest a close similarity between the nature of the phenomena of electrolytic deposition and precipitation from aqueous solutions. But to Mr. Hughes belongs the credit of stating the analogy in unequivocal language, and of bringing to it a very large measure of experimental support. The variations in crystal structure observed by him are correlated very satisfactorily with changes in the experimental conditions mentioned above, changes which bring about quite similar variations in the nature of crystallisation from other types of systems.

It should be added that an excellent bibliography of the subject is given in the form of an appendix.

Catalogue of the Fossil Bryozoa (Polyzoa) in the Department of Geology, British Museum (Natural History).
The Cretaceous Bryozoa (Polyzoa). Vol. 4: *The Cribrimorphs.* Part 2. By Dr. W. D. Lang. Pp. 12 + 404 + 8 plates. (London: British Museum (Natural History), 1922.) 1l. 12s. 6d.

THOSE who use this volume will bear in mind the illuminating morphological introduction provided by the author in its predecessor (see NATURE, vol. 108, p. 39). The numerous lithographs are from the artistic drawings of Miss G. M. Woodward, and the author again furnishes vigorous text-illustrations showing the specific orthocæcia (normal zoecia) and the accompanying aviculæcia, which are the skeletons of the modified polypides that defend the colony. The variety of form, position, and number in the aviculæcia will surprise those who are not specialists. The general

account of the genus *Pelmatopora* (pp. 241-253) is a good example of Dr. Lang's attractive method of dealing with Nature's species-making, here styled "evolutionary activity." In this case the whole of the thirty-eight species are derived from zones in the Senonian.
G. A. J. C.

Pope's Manual of Nursing Procedure. By Amy E. Pope. Pp. xi + 596. (New York and London: G. P. Putnam's Sons, 1919.) Price 15s.

THIS book has been prepared more especially to facilitate practical instruction in the work usually included in the probationer's first year of training. In each section a consideration of the principles underlying the various nursing procedures is followed by a description of demonstrations of the methods involved. In this way, and with frequent reference to physiology, the author associates theory with practice.

There are a few errors and omissions; in the description of Fowler's position, a right angle is represented diagrammatically and in the text as 100°; and in the list of prescription abbreviations and symbols no mention is made of the commonest in use, that for "thrice daily." The use of more illustrations would enable a reduction to be made in the length of descriptions of technique. The book is more suitable for the guidance of the instructor than as a manual for the probationer.

Précis d'Arithmétique. Par J. Poirée. Pp. x + 63. (Paris: Gauthier-Villars et Cie, 1921.) 7.50 francs.

M. POIRÉE has not written a book on arithmetic in the sense of a school text-book: it can be more accurately described as an introduction to the theory of arithmetic. Although the author sets out with care and precision the main ideas underlying arithmetical processes—"the why and the mechanism of each operation"—yet there is no attempt made to teach the subject. The book is very interesting—is there a French book on mathematics that does not make pleasant reading? A quarter of the space is devoted to the fundamental theorems of the theory of numbers, and in fact all through the book there is an evident suggestion that the author is aiming at the theory of numbers. Numerical illustrations of the processes are given, but there are no exercises for the student to work out himself.
S. B.

Practical Physics. By W. R. Bower and Prof. J. Satterly. Eighth impression (second edition). Pp. xi + 422. (London: University Tutorial Press, Ltd., 1922.) 7s.

A DISTINCTIVE feature of this text-book of practical physics is the inclusion of a considerable number of experiments which may be performed by the student at home, using very simple apparatus. In the second edition a supplement has been added containing a number of additional experiments. These are concerned with Fletcher's trolley apparatus, coefficients of friction, Mariotte's bottle, surface tension, expansion of solids, thermal conductivity, photometers, and critical angles. The importance of avoiding eye-strain has not been sufficiently considered in the mathematical tables at the end of the volume.