

Coast Erosion and Protection. By the late Prof. E. R. Matthews. Third edition revised, with an additional chapter and an appendix, by Dr. Brysson Cunningham. Pp. xviii+228+36 plates. (London: Charles Griffin and Co., Ltd., 1934.) 12s. 6d. net.

THIS work, which is the third edition of the late Prof. Matthews's book on coast erosion and protection, consists very largely of a record of the long experience of the author in dealing with these problems. It deals with the erosion and accretion that is taking place around the coasts of Great Britain and with the various types of sea defences, the merits and defects of each type being discussed in detail. There is some discussion of the action of sea water on concrete, while the effect of harbour projections on the travel of sand and shingle is briefly referred to. The present edition also contains a chapter on recent practice, by Dr. Brysson Cunningham, and an appendix giving the conclusions on coast protection drawn up for the International Association of Navigation Engineers in 1931.

The book is based mainly on papers read by Prof. Matthews before various learned societies, and articles contributed by him to technical journals at different times. These have been collated, and are presented in a somewhat disjointed form. The illustrations are lavish. There are many useful detailed sketches of existing sea walls, groyne and breakwaters, and a very large number of photographs, excellent in their way but of no particular technical value, illustrating the breaking of waves on sea walls and breakwaters, cases of cliff erosion, and the like. As a record of the personal experience of Prof. Matthews, the book should be of use to the engineer engaged in similar work.

Biologie der Tiere Deutschlands. Herausgegeben von Prof. Dr. Paul Schulze. Lieferung 36: Teil 26, *Orthopteroidea* I. Von Max Beier. Pp. 231. (Berlin: Gebrüder Borntraeger, 1933.) 16 gold marks.

THE present part of this work contains three chapters respectively on the Blattoids (cockroaches), the Dermaptera (earwigs), both by M. Beier, and on the Mantids (praying insects) by M. Beier and J. Jaus. The longest of these is the first (116 pp.) which forms an admirable account of the external features, internal anatomy, life-history and physiology of the cockroach, based chiefly on *Phyllodromia germanica*. Particular attention is given to the structure and physiology of the nervous system and the alimentary tract. The account forms an excellent source of reference for information, brought well up to date, on this much-used laboratory type.

The description of the earwig (63 pp.) based chiefly on *Forficula auricularia*, which will also be useful to British students, follows similar lines with the addition of a short section on the chromosome

numbers $-22+2x$ in female and $22+xy$ in the male and on the variation in size in the cerci.

The chapter on the Mantids, largely on *Mantis religiosa*, directs attention to several special features of interest, for example, the pigment change in the compound eyes in the evening, the chromosome constitution of male and female, neoteny and regeneration.

The illustrations of all the chapters are well chosen and admirably reproduced, and to each chapter a useful bibliography is appended.

The Statesman's Year-Book: Statistical and Historical Annual of the States of the World for the Year 1934. Edited by Dr. M. Epstein. Seventy-first Annual Publication: Revised after Official Returns. Pp. xxxiv+1478. (London: Macmillan and Co., Ltd., 1934.) 20s. net.

AGAIN this invaluable work of reference provides not merely a statistical guide to the countries of the world, their area, population, production, trade and finance, but also an epitome of almost every aspect of public life. The arrangement follows the usual plan, the British Empire with nearly a third of the book, followed by the United States dealt with as a whole and then by each State in turn, and finally other countries arranged alphabetically with the overseas possessions belonging to each. All the figures have been revised by the latest returns available. A year that has seen turmoil in several States has not witnessed any material changes of boundary. The adjustment between Iraq and Syria is shown on one of the two maps, the other of which illustrates the progress of French civil administration into the interior of Morocco during recent years. The introductory tables, which might well be increased in number if space allowed, give the world's production of petroleum, iron and steel, cocoa, gold and cotton, and the world's fleets and mercantile marines. There is a summary of the work of the League of Nations.

The Kinetics of Reactions in Solution. By Dr. E. A. Moelwyn-Hughes. Pp. vii+313. (Oxford: Clarendon Press; London: Oxford University Press, 1933.) 15s. net.

A GENERATION back the application of the kinetic theory to chemistry was restricted to the reactions which occur in gases. Progress has enabled reactions in solutions to be examined in the light of the same theory with satisfactory results. The author has selected certain representative examples for his purpose and has produced a treatise which will undoubtedly be of value to the advanced student and worker in physical chemistry. The scope is best illustrated by the table of contents; the respective chapters deal with the collision theory, the Arrhenius equation, a comparison of the kinetics of reactions in the gaseous phase and in solution, and then pass on to bimolecular and unimolecular reactions, equilibria, ionic, catalysed and heterogeneous reactions.