

the manufacture of modern explosives. The treatment, therefore, is only of the slightest, and consequently the work is of little practical value to the technologist, except as regards its bibliography and patent-lists. At the same time, it is of interest to the general reader or the student who wishes to gain an acquaintance with the characteristic features of some of the latest triumphs of applied chemistry, such as the utilisation of atmospheric nitrogen and the synthesis of ammonia and nitric acid—new industries which are said to have rendered Germany independent of external supplies of nitrates as raw materials for the manufacture of explosives, and which, whatever be their present position, are ultimately destined to effect a revolution in chemical industry.

The work, therefore, from its very incompleteness, is necessarily only of passing interest, but as an essay *pour servir* it may be commended to those who, for any reason, are satisfied with a superficial knowledge of the vast and enormously important subject of which it treats. T.

ALLIGATORS.

The Alligator and its Allies. By Dr. A. M. Reese. Pp. xi + 358. (New York and London: G. P. Putnam's Sons, 1915.) Price 10s. 6d. net.

PROF. REESE, of West Virginia University, is best known as an embryologist, and the author of a memoir on the development of *Alligator mississippiensis*, published a few years ago in the Smithsonian Miscellaneous Collections, a reprint of which, with slight additions, forms about one-fourth of this book. When hunting for embryological material in the swamps of Florida the author has had many opportunities of studying the habits of the alligator, and his interesting observations are embodied in the chapter entitled "Biology of the Crocodilia." The chapters on the skeleton and on the nervous system are partly, those on the digestive, urogenital, respiratory, and vascular systems mainly, by the author. The description of the muscular system is a translation from the account in Bronn's "Thierreich," which is here and there quoted as the work of Bronn himself, the fact being apparently overlooked that Prof. H. G. Bronn, the founder of the well-known zoological encyclopædia, "Die Klassen und Ordnungen des Thierreichs," was a palæontologist who never busied himself with reptiles, and died fully ten years before the reptilian section was taken in hand by Prof. C. K. Hoffmann, whose name is not even quoted in the very carelessly compiled bibliography at the end of the book under review.

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A treatise of this kind must naturally be to a certain extent a compilation, but it is regrettable that more care should not have been exercised in selecting matter, and that the author should not have drawn directly from the best sources instead of taking so much at second hand. As an example, we would point out that the map of the present distribution of crocodilia, copied from the "Cambridge Natural History" is inaccurate in one respect of first importance from the American point of view, viz., in the omission of crocodiles from Florida, where they are well known to exist in addition to alligators, as the author himself admits on the very same page. Further, the book might have been made far more useful to the wide circle for which it appears to be intended by comments on the bearing of the facts recorded on various zoological problems, such as phylogeny, ethology, zoogeography, etc. Why, for instance, is the question "ancestry" skipped over in a few meaningless words, when quotations from Huxley's classical memoir, only mentioned in the bibliography, and from the numerous recent publications on Triassic reptiles, could have been interwoven to make an interesting and instructive chapter? The fact that the egg of the alligator is laid containing an embryo, often of considerable size, surely might have been the opportunity for a brief allusion to the question of viviparous and ovoviviparous reptiles and to the intermediate degrees known to connect the latter with the normal state in various lizards and snakes.

There was no necessity, in a book like this, to enter into details on the various species of crocodilians, but, as the subject has been included, there is no excuse for leaving out four of the most interesting types, viz., the Malay False-gharial, *Tomistoma schlegelii*, the gharial-like crocodiles, *Crocodylus cataphractus* and *johnstonii*, and the alligator-like *Osteolaemus tetraspis*.

G. A. B.

PLANE SURVEYING.

Surveying and Field Work: A Practical Text-Book on Surveying, Levelling, and Setting-out. By J. Williamson. Pp. xxii + 363. (London: Constable and Co., Ltd., 1915.) Price 7s. 6d. net.

IN a very practical work the author gives a comprehensive account of the methods employed in the measurement of the earth's surface when comparatively small areas are concerned, so that the portion dealt with may be considered as being a horizontal plane.

Chain-surveying is fully described, and is conveniently used to introduce the beginner to the