

OUR BOOK SHELF.

A Primer of Statistics. By W. Palin Elderton and Ethel M. Elderton. Pp. viii+86. (London: A. and C. Black, 1909.) Price 1s. 6d. net.

In his Herbert Spencer lecture of 1907, Sir Francis Galton outlined a suggested course of "Object-lessons in the Methods of Biometry," adapted to persons with no mathematical knowledge. The course was to consist of five lessons, the first to introduce the learner to the idea of variability and the median, the second to deal with the scheme of distribution (the ogive curve), the third with deviations from the median, the fourth with frequency curves (including the arithmetic mean and the standard deviation), and the fifth with correlation.

The present little volume owes its genesis to this suggestion of Sir Francis Galton, who contributes a short preface, and it follows very much the lines he laid down, with the addition, however, of a chapter on probable errors. The style is for the most part very simple, and the volume should be of real service to biological students and others who desire to obtain a general idea as to the meaning of the terms used in modern statistical methods. A few statements seem, however, to be open to criticism. The student ought not to conclude that "shells possess a mid-length (or median) which is constant in different samples" (p. 6) when he has only examined *two* samples. It is hardly correct to state that "when the difference between two means exceeds three times the probable error, then it is considered to be certain that the difference is significant" (p. 79); it is merely moderately likely. Finally, while it is true that the theory of errors of sampling "depends on the assumption that the things dealt with have been taken at random" (a word which does not appear to be defined), we cannot agree with the unqualified statement that "the collection of statistics in any other way is sheer waste of time," nor that "it is far better . . . to take 5000 or 6000 cases at random . . . than to take 50,000 which are specially chosen" (pp. 82-3); the contrary, indeed, may often be the case.

In the first chapter, we also suggest, it would be better to use longer series as illustrations; Figs. 2, 3, and 5, especially, hardly suggest the true form of the "ogive" to anyone who is not prejudiced by a wider experience than the readers of this book are assumed to possess, and scarcely justify the statement made on p. 6 as to the form of the curve. A second edition of this little volume is sure to be called for, as it fills a distinct gap in statistical literature, and the points mentioned might receive consideration.

All About Ships and Shipping: a Handbook of Popular Nautical Information. By Commander R. Dowling, R.N.R. With a Preface by Commander W. F. Caborne, C.B., R.N.R. Third edition, revised. Pp. xvi+429. (London: Alexander Moring, Ltd., 1909.) Price 5s. net.

This is the third edition of a handbook of popular nautical information. It has been compiled by a seaman, and is intended largely, if not chiefly, for the use of general readers. At the same time, it contains much which will interest sea-going folks. It claims to be corrected up to date, but in some sections this can hardly be said to have been accomplished. This is particularly true of information given in regard to warships. For instance, the short chapter dealing with submarine boats does not go beyond the "A" class, whereas last year the "D" class had been reached. The latest developments in battleships are

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better dealt with, but the inevitable compression which has to be accepted in a book of very moderate size dealing with a great mass of miscellaneous information has resulted in meagre descriptions of types of ships both in war fleets and in mercantile marines. No pretence at originality is made by the author. His task has been one rather of collection and compression of information, and the attempt is, on the whole, fairly successful. The book would prove a pleasant companion to people taking long sea-voyages or short pleasure cruises who desired to identify vessels of different nationalities and different mercantile lines of steamships, or who wished to understand something of the *technique* and vocabulary of the seafaring profession.

In any future edition of the book Commander Dowling would confer a favour upon his readers if references were given which would enable anyone so desiring to turn to larger and authoritative works bearing on the very great number of subjects treated, many of which are necessarily described by him in barest outline. It must not be understood that Commander Caborne fails to acknowledge his indebtedness to others for facts and information; the only fault is that no systematic references are made to places from which information has been drawn. If he introduced another appendix dealing with the bibliography of ships and shipping, it would certainly be welcomed by those who take an interest in maritime affairs, and desire fuller information than can be expected to be found in a pocket book.

Van Nostrand's Chemical Annual, 1909. Second issue. Edited by Dr. J. C. Olsen. Pp. xii+580. (London: Constable and Co., Ltd.) Price 12s. 6d. net.

The first edition of this "Annual" was published in 1907, and was reviewed in NATURE of January 23, 1908. The second issue, which has recently come to hand, has been increased in size by some eighty pages, and contains a considerable amount of new matter, including a table of the physical constants of the alkaloids, by Dr. A. Seidell, and a similar table for the essential oils, by A. E. Secker, who has also revised the tables on fats and oils. Prof. Parr's recently calculated table of the densities of carbon dioxide has been inserted, and also a table showing the melting points and the composition for a number of fusible alloys.

The table of gravimetric factors and their logarithms has been entirely re-calculated on the basis of the international atomic weights for 1909, which involved an unusually large number of alterations. The review of chemical literature and the list of new books give the titles of all important publications which have appeared since the first issue.

The publishers have, we think, been well advised in abandoning the attempt to present a fresh issue every year. Although important alterations in the recognised constants are made from time to time, the majority hold good for long periods, and there cannot be many chemists who would care to purchase a fresh volume of tables every year for the sake of the limited number of alterations that may be made. It appears, indeed, to the writer that the interval between successive issues might with advantage be extended to four or five years, so as to avoid burdening the bookshelves of the purchaser with a number of volumes in which the same tables are of necessity repeated again and again. The attempt to combine tables of reference with reviews of current literature can only be expected to achieve success through a compromise of this character. L.