

Nuova Navigazione Astronomica: Le Rette di Posizione. Teoria—Applicazioni—Tavole. By Prof. G. Pes. Seconda edizione. Pp. lxxxiii+127. (Genova: Regio Istituto Sordomuti, 1921.)

THE position-line method in navigation was first introduced by Capt. Sumner; it has greatly grown in favour, since it exhibits in a convenient manner all the information that a single observation of altitude is capable of affording. There have been a large number of nautical tables published with the idea of simplifying the application of the method to determine the position-line of the ship. The "Altitude Tables" of the Rev. F. Ball give the altitude for every degree of latitude, declination, and hour-angle. Other tables by Aquino are in wide use in America. Mr. Herbert Bell proposed some useful modifications of the plan of the latter in a paper in *M.N.R.A.S.*, vol. lxxx., p. 72.

The tables of Prof. Pes are of a different form; the principal table is one of haversines (*i.e.* half versed sines), both the natural and logarithmic values being given to five decimals. The author assumes a point on the earth's surface near the estimated position of the ship, and calculates the hour-angle P , and the meridian zenith distance z_m of the observed body, the declination of which is δ . He finds an auxiliary angle θ from the formula (ϕ is the latitude of the assumed point)

$$\text{hav } \theta = \cos \phi \cos \delta \text{ hav } P.$$

Then

$$\text{hav zen. dist.} = \text{hav } \theta + \text{hav } z_m.$$

A set of four small tables with easily derived arguments enables the direction of the position-line to be determined.

The ship lies on a parallel line separated from the former by the difference between the observed and computed zenith distances.

Opinions will differ as to the relative merits of these rival methods of reduction, but at least it may be said that the method given in this volume is sound and fairly short. A. C. D. C.

A Textbook of Botany for Medical and Pharmaceutical Students. By Prof. J. Small. Pp. x+681. (London: J. and A. Churchill, 1921.) 25s. net.

THERE has been little attempt at selection in this book, with the result that a great deal of material has been brought together, some of which the beginner will scarcely be able to use. Nevertheless the book is written with independent views, and will doubtless be of service to many. The illustrations are a prominent feature, but some of them are on too small a scale to be satisfactory; *e.g.* Fig. 67, the legend of which also contains inaccuracies, as well as the figure itself. Such figures as 330 and 913 leave much to be desired. The work touches on every phase of botany, with frequent reference to economic applications. The advisability of including in an elementary text-book such a highly speculative subject as the author's theory of geotropism is very questionable, especially since the statolith theory has received

strong experimental confirmation from the work of Bose. In the chapter on heredity it is a mixing of conceptions to apply the term reduplication to the crossing-over of chromosomes. This book will probably find its greatest use as a work of reference for pharmaceutical students and as an accessory text for others. Notwithstanding the above criticisms, it is a welcome addition to botanical text-books.

Stella Maitland; or, Love and the Stars. By H. P. Hawkins. Pp. viii+249. (London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd., n.d.) 6s. net.

In a foreword the writer intimates that her object is "to create a deeper interest in the fascinating subject of astronomy, under the conviction that, if once aroused, it can never fail to yield one of the greatest delights which it is possible for the human soul to experience." The aim is commendable enough, but whether it will be promoted by this rather crude mixture of science and romance must be a matter of opinion. There is no subtlety in the characterisation, and the powder is administered baldly in the form of star-lessons. M. Camille Flammarion's "Stella" appears far more successful, considered as a work of art. But it is a *genre* in which success is scarcely to be expected. It suffers from all the handicap of the novel with a purpose in its most acute form, and it can make an appeal only to minds of an unsophisticated type.

Vocational Chemistry: For Students of Agriculture and Home Economics. By Prof. J. J. Willaman. (Farm Life Text Series.) Pp. ix+294. (Philadelphia and London: J. B. Lippincott Co., 1921.) 8s. 6d. net.

Boys and girls in American agricultural high schools are the readers for whom this book is intended. The first part is devoted to the fundamental facts and principles of chemistry, whilst the second deals with the main chemical facts concerning plant and animal growth, cooking and cleaning, and with milk and its products. The early portion of the book is superficial, and not free from inaccuracies and ambiguities. There are many illustrations, some of which are rather trivial—*e.g.* "an open fire-place," "a herd of beef cattle"—and some are on pages far removed from the description in the text, no references being given.

The Moral and Social Significance of the Conception of Personality. By the late A. G. Heath. Pp. viii+159. (Oxford: At the Clarendon Press, 1921.) 7s. 6d. net.

THIS essay was awarded the Green moral philosophy prize in 1914. The author fell in the war. The book is now published by his friends with the desire, we can well understand, to raise to a comrade a *monumentum aere perennius*. It shows wide reading and clear thinking, if it possesses no striking originality.