

system, then rearranged by country of origin, and finally indexed alphabetically by titles.

A weak point in the past in all international ventures has been the inadequate central control. Here M. Godet deserves our commiseration rather than our censure. In his preface he shows that he has striven to infuse into his contributors his spirit of enthusiasm for international service. Nevertheless, he has failed—notably, we regret to say, in the case of the British contingent. Omissions we expected to find, but not omissions of the principal national sources of reference. Indeed, in many broad highways of literature, *e.g.* history, theology, education, law, geology, etc., we have failed to find a single British publication recorded. The following list of omissions will be sufficient to justify our criticism: as will be seen, it includes a few foreign entries. Bodleian Quarterly Record, Bulletin of the John Rylands Library, Special Libraries, *New Statesman* (Digest of Parliamentary Papers), *English Historical Review*, *Geographical Review*, *International Journal of Psycho-Analysis*, *Eugenics Review*, *Lancet*, *Hermes*, Architectural Association's Journal (Analytical Digest), Geological Society's Geological Literature, Royal Horticultural Society (Analytical Digest), *Jahrbuch der Radioaktivität*, *Science Progress*, *The Analyst*, *Zeitschrift für analytische Chemie*, *Zeitschrift für anorganische Chemie*, and the Zoological Society's Record. The list could be extended if space allowed. An exception to our remarks, however, should be made in the case of the British contributor to the Useful Arts. This section is fairly well covered.

*North Star Navigation*. By L. M. Berkeley. Pp. 86. (New York: The White Book and Supply Co., 1924.) 3.75 dollars.

It may be taken as an axiom in practical navigation that, so far at least as the northern hemisphere is concerned, no pair of observations can be depended upon to furnish with greater readiness and simplicity the true position of a ship than an altitude of Polaris—the Pole-star—in combination with that of some other star, observed about the same time on a reasonably large azimuth, and preferably in the neighbourhood of the prime vertical.

This is the problem dealt with in Mr. Berkeley's volume upon somewhat novel lines. The general practice is to reduce the altitude of Polaris to meridian by one or other of the numerous tables supplied for that purpose in the almanacs and collections of nautical tables, thus obtaining the latitude at once by simple inspection; while the zenith distance of the second star, that is, the complement of the altitude, forms the third side of a triangle in which the polar distance of the star, and the co-latitude, obtained as above, represent the other two sides. From these three sides the hour angle of the star can be calculated by the ordinary formulæ of spherical trigonometry, whence ship mean time and longitude easily follow.

The author of "North Star Navigation" employs methods of his own which, as compared with the procedure described above, can scarcely be said to gain anything in brevity or simplicity. Moreover, several special tables are required in the process proposed, two of which would appear to need recalculation year by year. The mathematical basis of the methods, however, is stated in the volume in minute detail, and will

perhaps arouse interest amongst astronomers and mathematicians, but it is scarcely likely that any great number of practical navigators will be tempted to exchange their old lamps for the new ones here set before them.

*Fundamentals of Bio-chemistry in relation to Human Physiology*. By T. R. Parsons. Second edition. Pp. xii+295. (Cambridge: W. Heffer and Sons, Ltd.; London: Simpkin, Marshall and Co., Ltd., 1924.) 10s. 6d. net.

THE appearance of a second edition of this little work eighteen months after the first is itself a good recommendation, and this favourable impression is confirmed on closer acquaintance. It fills a definite gap in biochemical literature as a short, readable, and up-to-date account of the theoretical aspect of the subject as distinct from the practical. The chief additions made to this edition are a short account of the preparation and properties of insulin and a section on Werner's views of the constitution of urea. No criticism can be levelled at the subject matter or its presentation, which is admirable as a short introduction to the subject of biochemistry. Apart from a few typographical errors, there are one or two other lapses to be noted: thus the phrase "the excitation passes from muscle to nerve" is not particularly happy, whilst insulin is *not* administered "in the form of repeated *intravenous* injections" (the italics are ours), nor is the method of standardising insulin mentioned likely to prove satisfactory. These faults detract but little from the general high level of the book. The subject matter includes chapters on the chemistry, digestion, and metabolism of the foodstuffs, on physical chemistry, including the activity of enzymes, and on the respiratory gases.

*Mélanges de mathématiques et de physique*. Par Émile Picard. Pp. v+366. (Paris: Gauthier-Villars et Cie, 1924.) 25 francs.

THIS is a very miscellaneous volume. There are some obituary notices and discourses on anniversaries; an essay or two from reviews and reports; a chapter of a book; and two original papers. Everything that M. Picard writes is worth reading, but here he is usually reproducing arguments and views familiar to all who know his work. The personal articles are more distinctive; M. Picard excels in a form in which so many of his countrymen are eminent; the account of Abel's life and work is a model of concise scientific biography.

As the title indicates, the relations between mathematics and physics form the thread connecting all this very varied matter. This is not the place to discuss M. Picard's views; but so much has now been written round this theme that we wish that some acute but painstaking person would endeavour to reduce it all to order, and explain to us what is common to all writers and what is still in dispute. Perhaps the task is impossible; the question is really that of the relations between two types of mind, and may be eternally inexplicable; it may be that the views of M. Picard, or of any other, if reflected in any other mind, would cease to be his views. But unless some such co-ordination is possible, the deep learning and keen insight displayed in these discussions must be largely wasted.