

persion methods of refractive index determinations with immersion oils. The former are now in almost universal use on the Continent, and have been found to be invaluable in the discrimination of plagioclase feldspars. The various adjustments of the universal stage are explained, and the author gives full instructions for the location and plotting of symmetry planes and other symmetry elements, bringing out in a very clear manner the extreme simplicity of the method.

Dispersion methods are essentially an improvement on the ordinary immersion methods of refractive index determinations, the refinements not only increasing the accuracy but also decreasing the number of oils necessary. With the double dispersion methods, only thirteen oils are necessary to cover the whole range of refractive indices, ordinarily requiring about sixty oils. The theory depends on the fact that increase of temperature decreases the refractive index of a liquid, whereas that of a solid remains practically constant, and decrease of wave-length of light increases the refractive index of a liquid to a much greater degree than that of a solid. The single-dispersion method employs only the first, while the double-dispersion method employs both. The measurements for the case of quartz are given as an example of the latter, and, in addition, dispersion curves for thirteen liquids are supplied.

*The American Indian Frontier.* By Prof. W. C. Macleod. (The History of Civilisation Series.) Pp. xxiii + 598. (London: Kegan Paul and Co., Ltd.; New York: Alfred A. Knopf, 1928.) 25s. net.

In the classification of the subject matter of "The History of Civilisation" Series, Prof. Macleod's book on the Indian frontier falls into the section entitled "Historical Ethnology," being the fourth to be so included. That such a section should prove of great utility there is no question, though this is perhaps not the occasion to discuss whether the three volumes previously included conform strictly to its requirements; but there can be no two opinions as to the suitability for inclusion of Prof. Macleod's book. He surveys frontier relations between European and Indian from the Indian side of that border line, stressing the institutional changes from precedent conditions which have been brought about by contact and ending with an analysis of conditions as they are to-day.

Prof. Macleod has had a highly complex question to consider, which has involved the examination of a vast mass of detailed evidence. The Colonial policies, for example, of the different European nations involved, whether in war or in peace, are alone an enormous labour to disentangle, while trade relations, if not so extended or complex, entail a most difficult and tedious research. Prof. Macleod's book is a valuable contribution to ethnological and historical literature, but it is more than that. It is a document which should serve as a guide and a warning in our relations with peoples of non-European culture to-day.

*Bibliography of Sponges, 1551-1913.* By the late Prof. G. C. J. Vosmaer. Edited by Dr. G. P. Bidder and C. S. Vosmaer-Röell. Pp. xii + 234. (Cambridge: At the University Press, 1928.) 15s. net.

WHEN G. C. J. Vosmaer died in 1916, he left, all but completed, a monograph on the sponges of the Bay of Naples, on which he had been at work for more than thirty years. Those familiar with the fine quality of his work anticipated great things from this monograph, and it is to be hoped that it may yet be found possible to publish it. Meanwhile the piety of his widow, Madame Vosmaer-Röell, and of his friend Dr. G. P. Bidder, has led them to edit and publish as a separate volume the exhaustive "Bibliography of Sponges, 1551-1913," which he had prepared for the monograph.

Lacking the final touches of the compiler, whom no editor, however painstaking, can perfectly replace, the bibliography, as Dr. Bidder points out, has some imperfections, but they are not of a kind or magnitude likely to impair seriously its usefulness. Like most Continental bibliographers, Vosmaer does not seem to have been aware of the rich store of bibliographical information contained in Mr. B. B. Woodward's "Catalogue of the Library of the Natural History Museum." No one, however, will in the future attempt the serious study of sponges without this volume at his elbow, unless he be one of those younger biologists to whom Dr. Bidder feelingly alludes, who "incline to cut themselves loose from the lengthening chain of literature, and to read nothing that has appeared more than twenty years ago." To these, a consideration of the concluding paragraphs of Dr. Bidder's preface may be strongly recommended.

*A Textbook of Biochemistry: for Students of Medicine and Science.* By Prof. A. T. Cameron. Pp. x + 462. (London: J. and A. Churchill, 1928.) 15s. net.

PROF. CAMERON'S book appears to be a useful addition to bio-chemical literature; it provides an up-to-date and broad outlook on a subject which is advancing so rapidly that a chapter may become out-of-date even before it is printed. The author feels that bio-chemistry has its applications in other sciences besides physiology, and to break down some of the water-tight compartments which so often exist between them, has included chapters on the chemistry of immunology, on the utilisation of bio-chemical processes in industry, and on the relationship of bio-chemistry and pharmacology; in addition, chapters are devoted to comparative digestion, and to chemical actions brought about by moulds and bacteria. In a future edition it might be advisable to amplify somewhat the sections on internal secretions and the vitamins, substances of immense importance to the animal economy.

Although more suitable perhaps for the student of bio-chemistry, the work could be read with profit by the medical student, and also by those who wish to be in touch with the latest developments of the subject. Each chapter has a few references appended, chiefly to monographs or reviews, in which those interested can obtain the fuller information they may desire.