

are recorded among the phanerogams, but there are a considerable number of new cryptogams, especially algae.

The second treatise is devoted to the ethnobotany of the Samoans, and provides a record of the economic uses to which plants have been put. It is becoming more and more difficult, as civilisation transforms the habits of native races, to obtain such information, and any such records are to be welcomed.

An index of Samoan plant names is given in addition to the botanical index and greatly enhances the value of the work. There are thirty-six photographic reproductions in addition to text figures.

*The Ethnography of South America seen from Mojos in Bolivia.* By Erland Nordenskiöld. (Comparative Ethnographical Studies, 3.) Pp. vi + 254 + 30 maps. (London: Oxford University Press, 1924.) 18s. 6d. net.

THE third part of Baron Nordenskiöld's comparative ethnographical studies of South America is in some respects the most interesting of the series. It is an illuminating example of the use to which, in skilful hands, distribution maps can be put in elucidating the cultural history of an obscure ethnographical area. In north-east Bolivia there is a large number of tribes, some belonging to recognised linguistic groups, others speaking isolated languages. The explanation of the considerable differences in culture among these is to be sought in their history rather than in the influence of geographical conditions which, broadly speaking, are identical throughout. The country consists for the most part of plains, which at one time in parts were subject to inundation. Hence mounds were erected for purposes of cultivation. The Seriono, who represent the most primitive stage among the tribes, alone raised no crops and subsisted by hunting. The tribes now have iron; the stone which they formerly used was all imported as there is none in the country. It is interesting to note that a stone-grinding industry still exists.

In his valuable analysis of their culture the author has plotted the distribution of such elements as dwellings, cultivation, hunting implements, weaving, fishing weapons, appliances connected with fire and the like. The result is a mass of valuable information relating to each. In addition a number of general conclusions emerge; thus while there are evidences of a cultural influence from the west and especially the north-west, only a few of the numerous elements of western culture which are found in the Chaco occur in N.E. Bolivia. As might be expected, the small tribes speaking isolated languages represent a very old stratum from which elements have been adopted by Arawak and Guarani. On the other hand, many of the tribes show signs of having been influenced considerably by the Guarani.

*Lighting in Relation to Public Health.* By Prof. Janet Howell Clark. Pp. 185. (Baltimore, Md.: Williams and Wilkins Co., 1924.) 4 dollars.

THIS book is intended to suit the needs of the public health worker, and is a recapitulation of the course of lectures delivered to students studying for the degree of doctor of public health at the Johns Hopkins University. The first four chapters deal with the technical side of illumination, and succeed in conveying a very good

account of the methods to be adopted in light measurement, and also of the advantages and disadvantages of the various illuminating systems, and one which easily can be followed without any special technical knowledge. The next three chapters deal with the questions of glare, sufficient illumination, and the best conditions for visual efficiency, the last including a brief account of the important work of Ferree and Rand on the measurement of ocular fatigue. Other chapters describe the best methods of illumination for schools, factories, and other interior and exterior purposes.

As regards intensity of illumination the author points out that though visual acuity, as tested by letter charts, increases with illumination and reaches a maximum at about 5 foot-candles, speed of discrimination increases rapidly up to 2 foot-candles and after that more slowly, but is still increasing at 18 foot-candles. Thus, in occupations where speed of discrimination is required, light up to 20 foot-candles may be employed with advantage. The remainder of the book gives a brief but good account of eye diseases attributable to light conditions, such recent work as that of Healy, Cridland, and St. Clair Roberts on cataract in tinsmiths, iron-smelters, and chain-makers receiving mention. Some recent experimental work by the author on the coagulation of egg albumin by ultra-violet light is quoted as lending some support to Burge's theory on the causation of lens opacity.

We can cordially recommend the book as an adequate handbook to a subject that has only recently begun to obtain the attention it deserves. The publishers are to be congratulated on the excellence of both illustrations and type.

*Timbers: their Structure and Identification.* By W. S. Jones. Pp. xi + 148. (Oxford: Clarendon Press; London: Oxford University Press, 1924.) 15s. net.

THIS handbook is intended for forestry students who are engaged in a course of microscopical work on a selected group of timbers, comprising 24 European, 26 Indian, and 7 American broad-leaved trees, and 14 genera of conifers. The methods of preparing sections and microphotographs for the elucidation of structural details are carefully explained, as well as illustrated by 165 figures in the text. The lack of a comprehensive key to the whole of the genera is regrettable. The genera *Salix* and *Populus*, for example, are not distinguished in p. 73. It was scarcely worth while reprinting on p. 35 Hartig's inadequate key of forty years ago. An effort should be made in the next book that is published on the identification of timbers, to combine in one table the various keys that have been published of late years, notably Kawai's diagnosis of 200 species of Japanese broad-leaved woods and Kanehira's elaborate tables of 386 species of Formosan woods and 100 species of the more important Indian woods. Koehler's identification of North American woods, which appeared at Washington in 1917, might also be consulted. Without some such general view of the distinguishing characters of numerous species of woods, the palæobotanist, the archæologist, the timber merchant and the furniture dealer are put to great inconvenience in determining with accuracy unknown specimens of woods. This handbook, nevertheless, may be recommended to students who are interested in the structure of timbers.