

Alaska and the Aleutians, Central America and the Caribbean Sea, in Hawaii, the Philippines, and other Pacific Ocean islands, the United States has extended its political possessions, and this has been accompanied by a still greater expansion of its commerce and prestige in South America and the Far East. Britain, France, Japan, and other nations differ from the United States not in kind, but merely in degree. The consequence is that world development is being accompanied by conflicting interests over wider areas than the mere frontier zones of individual states. Countries nominally independent, as China, and states under the administration of European powers, as those of Africa, are feeling the effects of world development. Moreover, the change in the regional life is not measured merely by the change in economic values. There is a profound change in the people themselves. The old order changes, giving place to new. A new orientation and a new outlook are rapidly being developed. The population, under the external stimulus from Europe or America, is adjusting its life and labour anew to the physiographic conditions and possibilities of the region. The African, the Egyptian, the Chinese, and a thousand other "questions" arising with world development have a regional basis, and demand the urgent and careful investigation of the new science of geography.

Some Sponges of the Southern Seas.

British Museum (Natural History), British Antarctic ("Terra Nova") Expedition, 1910. Natural History Report. Zoology. Vol. 6, No. 3: Porifera. Part 1: Non-Antarctic Sponges. By Prof. Arthur Dendy. Pp. 269 + 392 + 15 plates. (London: British Museum (Natural History), 1924.) 17s. 6d.

PROF. DENDY has produced a very beautiful and elaborate memoir on the sponges collected by the *Terra Nova* expedition in the southern seas. It is possible that such a highly technical piece of work may appeal only to a few readers at the present moment, but it can nevertheless be recognised as a permanent and important contribution to zoological science.

The modern developments of biology in the directions of embryology, the problems of heredity, experimental zoology, and comparative physiology have proved to be especially attractive to the younger generation of biologists, and no one can deny the value and importance of the scientific results of their work in the new fields of research that are being opened. It must be remembered, however, that the accurate and detailed description of new and old species, especially when it is accompanied by sound judgment in systematics, and careful consideration of the possibilities of natural variation and powers of adaptation to environment,

is an important and indeed fundamental branch of the science of zoology. There is indeed a pressing need, at the present time, for more work of this description if we are to keep pace with the receipt of specimens that collectors are sending to Great Britain from all parts of the sea and land. To workers in this line, Prof. Dendy's account of the sponges may well serve as a model of what such monographs should be, and it is a great satisfaction to realise that some of our ablest zoologists are still willing to devote their time and expert knowledge to the production of systematic treatises of a high standard of merit.

All the sponges, except three, described in this memoir were obtained by five hauls of the dredge in water extending from the shallows to a depth of 100 fathoms off the north of New Zealand. The cruise revealed a very remarkable and, at the same time, a very rich fauna of sponges in these seas, such as has not yet been equalled in any region of the world. In these five hauls no less than 90 species were discovered, and of these 62 appear to be new to science. If it were to occur to any one on reading this statement in the introduction that in such a restricted area some of these species must be variations or mutations of relatively a few species, such a criticism would be dispelled by the careful description of the form and particularly of the spicules of the sponges the author describes.

The problems associated with the occurrence of such a remarkable assembly of organisms of the same group competing fiercely with one another for the advantages of the situation are not ready for solution, but the record of this wonderful sponge fauna is of importance in the science of the distribution of animals, and should not be lost sight of or forgotten because it is buried in a systematic treatise.

It is difficult to select from the many detailed descriptions of species the points of special interest for the general zoologist. The extraordinary range in form and structure of sponge spicules and the numerous technical terms that have been invented for them may be bewildering to those who are not well acquainted with the literature of the group, but there seems to be no doubt that in the Porifera the spicules are more constant in character for each species, and therefore more valuable for systematic purposes, than they are in the Alcyonaria. Accurate description and careful illustration of the spicules is an essential feature of a good monograph on sponges.

The discovery of two fine new species of the interesting group of hexactinellid sponges is a welcome and noteworthy point in this work.

The monograph is well illustrated by fifteen quarto plates, and we have to thank Prof. Dendy also for a good index.