

satisfy ourselves about our own weaknesses. The responsibility is nicely divided; it is just as much the duty of the students to learn as of the lecturer to teach, and neither student nor teacher has the material for a considered judgment upon the matter. That is why the "hobby" system, with occasional rewards for exceptional success, is so popular. It can be worked best by letting things go their own way.

The present state of things, which all agree in deploring, can be altered by drawing a clear distinction between a society's hobbies and the nation's purposes, and entrusting them to separate administrative management. Mr. Carnegie has made it clear that the financial detachment of a voluntary society is not essential to the successful organization of scientific research.—F. R. S. in *Nature*.

SCIENTIFIC BOOKS

Studies in Edrioasteroidea. I.-IX. By F. A. BATHER. Published by author at "Tabo," Marryat Road, Wimbledon, England, October, 1915. Pp. 136, 13 plates. Price 10s.

This book by the well-known authority on echinoderms contains a series of articles that were published from 1898 to date in the *Geological Magazine*, but of which no separata were distributed because the plates were lost while in store. In consequence of this unfortunate circumstance several authors, the present writer among them, have become guilty of ignoring important results of Dr. Bather's studies.

The earlier papers contain elaborate descriptions of all known Edrioasteroidea based on so careful preparation of specimens that months were spent in several cases in cleaning a single specimen. By this method the finest details, notably in our North American *Edrioaster bigsbyi*, were brought out, such as the hydropore and the small plates of the periproct. Three new genera are distinguished, but most important are the three concluding articles, published in 1915, which contain the morphology and bionomics of the Edrioasteroidea, a comparison of their structure with that of the Asterozoa, and a discussion of the genetic rela-

tions to other Echinoderms. In these chapters Dr. Bather not only succeeds in demonstrating much closer resemblances between these early pelmatozoans and the Asteroidea than were hitherto suspected, but also in tracing the probable course of derivation of the Asteroids from the Edrioasteroidea. These conclusions give the work a distinctive value for all students of phylogeny.

The book is finely illustrated with diagrams and a dozen plates of good photographs and very lucid drawings. RUDOLF RUEDEMANN
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SPECIAL ARTICLES

ADAPTABILITY OF A SEA GRASS

WHILE dredging during July, 1915, in the Gulf of Mexico near the Dry Tortugas on the Carnegie Institution's yacht, *Anton Dohrn*, the writer's attention was attracted to two comparatively rare plants. These plants, which are species found only in the western hemisphere, were remarkable not only for their curious and interesting morphology, but rather for the unusual conditions under which they were found growing. Although spermatophytes, these plants came up in the dredges with marine algæ from a depth of sixteen to eighteen fathoms, *i. e.*, ninety-six to a hundred and eight feet. The algæ associated with them were the usual species found in those waters, *viz.*, *Caulerpa*, *Halimeda*, *Penicillus*, *Codium*, *Udotea*, *Acetabularia*, etc. Bottom samples taken with a clasper on the sounding instrument showed the Gulf floor here to consist of a fine white mud composed of calcareous debris such as broken corals, molluscan shells and echinoderm tests.

All the plants were carefully picked out of the miscellaneous material which came up in the dredges and preserved. These on being later brought north were identified by the writer as two species of *Halophila* du Petit Thouars, and the only members of the genus, as remarked above, to be found in North or South America, and belonging in the order Hydrocharitales. A brief description of these two species is given as they have a limited range in the tropical waters of the western