lematic as to the precise processes of its distribution, propagation and life history. But among the present material numerous female specimens occur, a feature not previously described. Hydroid phases of the organism have been but vaguely suggested.[1]

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October 11, 1919

SCIENTIFIC BOOKS

Observations on Living Lamellibranchs of New England. By EDWARD S. MORSE. Proc. Boston Soc. Nat. Hist., Vol. 35, no. 5, July, 1919, p. 139–196, Figs. 1–48.

The state of New York once published an imposing quarto report on its mollusca of which the only feature remaining in the memory of the present reviewer (except the minus value of that part supposed to cover the nudibranchs) is an exquisite hand-colored engraving, nearly life size, of a common "horse-mussel" shell showing every accidental scratch, every adhering bit of alga or barnacle, every growth line, each abraded spot, a piece of dried mud and a chipped place on the margin, with more than photographic minute accuracy. It was impressive. It was costly. It was uninspired, It was valueless.

Professor Morse's little paper is in every respect the opposite. Its 57 octavo pages and 48 rough outline text figures probably cost all together a small fraction of what that gorgeous portrait of a mussel shell alone cost the state of New York. But those pages add more to our knowledge of American molluscs than the entire imposing quarto and each simple drawing is a work of true art. Of some it is not too much to say that, while drawn for the sake of the soft parts alone, and practically confined to outline, they constitute the most characteristic extant representations of the shells. It must have been his years of intensive study of Japanese pottery that gave Professor Morse full appreciation of the value of subtly correct outlines and the importance of omitting non-essentials, for although his work shows he was already an artist when he first published figures of molluscs fifty-five years ago, and his drawings of living brachiopods have been famous for their vital accuracy, it seems to have been reserved for his return to biology after his Japanese interlude, and for the riper age of eighty-one years, for him to attain the acme of the art of telling with his pencil the most, and the most truly, about an animal in the most simple way.

Although American malacology has, if anything rather more fully than European, recognized theoretically that the "soft parts" are, after all, the animal that is being studied, and the shell (except as a paleontological marker) of little value except for what it can tell us about that animal, yet in practise it has fallen woefully behind Europe in study of the animal as distinguished from its shell. This is particularly true of the marine Pelecypods. Pilsbry and others, successors of Binney, have elucidated our land snails, while Baker and Walker have thrown a flood of light on our fresh-water Gasteropoda, and Ortman, Sterki and others under the stimulus of Simpson's work on the Naiades have dealt fruitfully with the fresh water Pelecypoda. The marine Gasteropoda have had more scattered attention but on the whole their bolder habits and more varied and striking anatomy have attracted a considerable mass of observation, while the shy and rather monotonous animals of the marine Pelecypoda have been neglected. There have been a few intensive studies of single forms by Drew and others; but Dall and Verrill, whose work on this group outbulks many times over that of all others combined, have handled chiefly fossil or deep-sea or preserved material or else "just shells" as usually sent in by the amateur collector. Thus a large proportion of the present paper consists of novel observations while the graphic records of those observations are almost wholly novel.

One could wish that Professor Morse had

[1] Since the foregoing notes were written I have received later statements from Dr. Payne that he has made several trips to the lake and has undertaken fuller investigations than are at present possible to me, and will doubtless issue them in due time.

gone on to make comparison with allied European forms as beautifully figured in Meyer and Möbius' "Fauna der Kielerbucht" and elsewhere, but he has stopped with a bare record of facts from which he leaves others to extract the conclusions.

The feature of the paper which will excite the most comment, though the least worthy of it, is the savage onslaught on present-day nomenclatorial methods, backed up by the deliberate retention of the nomenclature of fifty years ago as seen in the classic "Binney's Gould." Since the author expressly states that he follows this particular work consistently, and since that work is so important that its names are included in the synonymy of almost every modern list, no actual doubts can arise from this course. It will be easier for any student hereafter to ascertain the correct name of any of Morse's forms that it would have been if, for instance, he had used the 1915 nomenclature when he ought to have followed the fashion of 1919. Particularly is this true as to the generic names, but it does seem a pity not to use a certain discrimination as to specific names. For instance, to call Gould's "*Modiolaria discors*" a "*Modiolaria*" can cause no doubt or confusion even though "*Modiolaria*" has suffered a recent dislocation very likely temporary. But to call it "*discors*" when it is really *substriata* Gray and widely distinct from the strictly European *discors* for which Gould mistook it, is to perpetuate a demonstrated error of fact.

As for the slashing attack on modern nomenclatorial vagaries it probably will have small effect; first because it covers a field already well debated and second because the criticism is almost entirely destructive. It may fairly be said that Professor Morse is as much at fault for failing to recognize that the old system had become nearly intolerable as the perpetrators of the new system are for failing to recognize that it is equally nearly intolerable if not more so. It may serve a useful purpose if it helps awaken the conscientious and learned but timid and unimaginative men who have made a mess of modern nomenclature to the fact that while they are repelling young students and driving them to other fields on the one hand, they are disgusting and irritating old masters to the point of open rebellion on the other.

The paper contains altogether too many typographical errors; and a few slips on the author's part—as where he says (p. 167) that besides *Glycimeris siliqua* the only other form he is acquainted with having the anal siphon larger than the branchial is *Anatina papyracea* and then (p. 190) both figures and describes *Ceronia arctata* as showing the same condition.

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SPECIAL ARTICLES

RESEMBLANCES BETWEEN THE PROPERTIES OF SURFACE-FILMS IN PASSIVE METALS AND IN LIVING PROTOPLASM, II.

ACTION OF SALT SOLUTIONS AND ORGANIC COMPOUNDS. ANTAGONISMS

Pure solutions of the majority of neutral salts activate passive iron, at a rate which varies with the nature and concentration of the salt. Both classes of ions are concerned in the effect.

In general the stability of the surface-film in any solution—and hence the preservation of the passive state—is intimately dependent upon the oxidizing properties of the dissolved substances. Many solutions whose oxidizing power is insufficient to impart passivity to active iron retard or prevent the spontaneous return of the passive metal to the active state; this is true, *e. g.*, of weak solutions of nitric acid or bichromate ($m/10$ to $m/50$). Obviously when a solution imparts passivity it also preserves it, but the reverse is not always true. In media with no definite oxidizing action, *e. g.*, distilled water, passivity soon disappears; continued oxidation seems necessary for its preservation.

The following experiments have aimed at a more precise determination of the conditions under which the passive state is preserved or destroyed in different solutions; evidently such conditions correspond to the conditions of stability of the surface-film. Iron wires