Scutibranchs at all, in our opinion. Excluding these, which refer only to the Docoglossa, it will be observed that the only difference (according to the definitions) between the two orders is, that the latter has a holostomate shell. Everybody knows that a large proportion of the pectinibranchs of Tryon are holostomate, that is, have an entire aperture without a canal: for instance, Scalaria, Cyclostoma, Litorina, etc. What, then, becomes of the two orders? As a rule, the definitions are deficient in not giving essential characters, even when the groups defined are perfectly valid, and redundant in giving characters belonging to groups of different rank from the one defined, or of no particular value.

Of small errors we have noted not a few; but it is probable that a book of this kind must be expected to have a certain number, and completeness can hardly be looked for. However, the author has brought together an immense number of genera; and the work, when the index appears, will be very useful to conchologists on this account, though it would have been more so, had each genus been given a date, since, in general, there are no references. The coloration of the plates, also, is better than in the previous volume, and the figures for their kind are fairly good. The work is well bound and on good paper, but suffers from inferior printer's ink, which 'overlays' on nearly every page.

In conclusion we may say, that, for use as a text-book for fresh students, this work would be decidedly inadvisable; but those who have already gained some knowledge of modern classification, and of the anatomy and physiology of mollusks, will find it to a certain extent useful, though by no means to a degree commensurate with the labor which has evidently been spent upon it.

ADAMS'S LECTURE ON EVOLUTION.

Evolution: a summary of evidence. A lecture delivered in Montreal, March, 1883, by ROBERT C. ADAMS. New York, *G. P. Putnam's Sons*, 1883. 44 p. 12°.

MR. ADAMS has attempted to summarize in a single lecture the various kinds of evidence that have been adduced in favor of the evolution of plants and animals, and the earth itself. The author claims to be nothing further than a compiler, and aims to present 'an abstract of many books' in 'plain language.' As he has not limited himself to any particular class of evidence, nor confined his attention to any single object, or group of objects, it is obvious that any attempt to treat in a single lecture the wide range of subjects embraced under evolution must prove a failure. It is simply a jumble of facts, collected, for the most part, from popular books and essays, with a considerable admixture of error and misconception. A little familiarity with the more recent discussions on the subject of the origin of the vertebrates (for example, those of Dohrn and Lankester) would have led our author to very different views concerning 'the connecting links' between vertebrates and invertebrates, and saved him the trouble of rehearsing exploded ideas respecting Amphioxus and the ascidians. Any respectable text-book in systematic zoölogy would have told Mr. Adams that an ascidian is not a mollusk, that Balanoglossus is not regarded as an 'intermediate form' between mollusks and such 'jointed animals' as crustaceans and insects, and that corals are not protozoa.

The author's reference to intermediate forms and 'connecting links' shows that he has not grasped the ideas now generally received concerning the genealogical relationship of animals. One or two passages will illustrate this point. "If in twenty-one days the chick passes through the forms common to sponges, shell-fish, fish, and reptiles, does it not suggest that its race may have developed through these lower races during vast ages? If in forty weeks a single man now develops through forms common to all the lower races of animals, may not the race of man have slowly arisen through all the ranks of life below him, each great division leaving its record in the unfolding germ of the latest individual? . . . Through the sponges we find the radiates connected with the protozoans, or first forms of life, such as corals and sea-animalcules."

Under the head of 'Unity of substance' we are told that "the germs which produce men, dogs, sheep, or any of the highest class of animals, cannot be discovered to differ by any test of microscope or chemistry. . . . Each individual begins life in the lowest form of matter, and develops through forms common to all the species below it. A man has by turns the forms of the germs of plant, protozoan, mollusk, articulate, and vertebrate — fish, reptile, and mammal."

The lecture abounds in such loose and inaccurate statements as the above, and must therefore be pronounced an unsafe guide to 'the uninitiated,' to whom the lecture is especially addressed.