clear to all the real nature of the subject under consideration.

W. F. GANONG.

THE EUROPEAN POND-SNAIL.

TO THE EDITOR OF SCIENCE: It may prove of interest to some of your readers, interested in geographical distribution and its problems, to learn that there is a well established colony of the European pond-snail *Limnæa auricularia* Linnæus in Flatbush (Brooklyn). So far as I am informed this is the only occurrence in America of the well-known 'wide-mouthed mud shell' as it is called in England. The colony is well established, a number of individuals having been collected that were over an inch in length and correspondingly broad. They feed on pond-lily leaves, destroying the epidermis on the under side almost completely. They were no doubt introduced through accident on water plants, since the pond contains several well-known European hydrophytes. Inasmuch as the visits of water birds to this pond may lead to the young shells being carried away to stock other ponds, the occurrence of this species should be recorded.

B. ELLSWORTH CALL.

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TEXT-BOOKS.

THE evolution of educational methods in this country is interestingly set forth by President Harper in 'The Trend of University and College Education in the United States' (*North American Review*, April, 1902) and the university of the future is portrayed as centering about the library. Professor Harper names two centers for the university —the library and the laboratory; but for present purposes the laboratory may be regarded as the workshop in which are tested the 'receipts' of the text-books, so that the laboratory may in a broad sense be taken as an annex to the library.

In a university library to-day the books are so numerous as to require special training or assistance to find and use their information to best advantage. Books of course are written from many standpoints and for many purposes, from scholastic erudition to the mere passing of an idle hour, and wide is the range between the needs of the specialist and those of 'that delightfully vague person, the intelligent reader,' as Mr. Haddon puts it in his introduction to 'The Study of Man.'

As text-books have been the outgrowth of the needs of schools and colleges they reflect in extent and method the needs and limitations set by the requirements of each case. And since these requirements differed widely in different institutions, the number of text-books in each subject is large and their treatment varied.

The chief peculiarity of a text-book is brought about by the fact that it has been prepared for use, not in imparting knowledge, but in the training of the student mind. Its method of presentation is therefore frequently such as to require rather the maximum than the minimum of mental effort to master its contents.

The second limitation to an ordinary text-book, as felt by one who wants only to learn facts, is that set by the length of time given that study in some particular school or college or grade of schools. Hence the ground is covered sometimes quite incompletely, and quite often a limited view is presented in a way most valuable for use in mind-training, but with important topics omitted wholly rather than a less detailed but more complete outline of the subject.

A third limitation is set by the omission of much detailed 'elementary' information imperative to a full understanding of the subject, and assumed either as already known or that it will be (but too often is not) imparted by the intelligent teacher. This criticism of the teacher is fortunately becoming less pointed as the science of teaching is being learned and put into practice.

There exists however to-day a large class of would-be pupils who by force of circumstances must be self-instructed. They are mostly tied down by the necessity of earning a living for themselves and usually for others. Their minds may or may not be trained but they want to learn the known facts and their

theoretical grouping so far as is established to date, and they want this information in the most easily assimilable form. They care not a rap for the mind-training value of a text-book. For their use it is a positive detriment and hindrance. They require first a complete if only a bare outline of the subject so that they may know the extent of the ground covered to date. Secondly, they want the subject classified and carried as far in detail as may be in one volume of convenient size. Thirdly, they want full bibliographical notes and a good index so that they may know where to look for fuller details if needed for their particular purposes.

Such is the 'fact-book' needed by two large classes in the community; the business man who if 'successful' has very little time (and if unsuccessful still less), yet must keep as far as possible abreast of scientific and other progress, and, secondly, the working artisan who aims to improve his present condition by learning facts, the knowledge of which will enable him at once to command better pay through added ability to more intelligently apply the hand-skill for which his wages are paid.

A demand for this class of book is entirely aside from and in addition to the school or college text. Neither does the demand for it cast any reflection on the need and value of mind-training. Both the business man and the artisan need and would benefit by it if they could secure it. The business man to-day, more generally than ever before, has had a collegiate training, but that fact does not lessen his need of books from which to keep up to date as to facts and discoveries with the minimum of mental effort. So too the workman would benefit vastly more if he could have the mental training so that he might have 'mind-skill' to sell, but as he cannot secure the latter he has all the more need of information of the kind he can use and that presented in the simplest form.

The college of to-day makes no pretense to teach in the sense of imparting working information in any branch of study. In fact, while professing to train the mind it sometimes almost boasts that it does not furnish the detailed information needed for money winning. And widely as this fact is proclaimed, yet many, particularly poor boys, fail to appreciate existing conditions, and while their point of view may be wrong and utterly unjust to their alma mater, they sometimes, after graduation, feel that they have not received what they thought they were paying for.

A step in the evolution of education soon to be taken, if not already begun in our technical schools, will be that of presenting the known facts to the pupil with the minimum of mental effort, and then training his mind by a drill in applying the information to practical problems in the shape these are presented in commercial life. When this course shall be pursued in our colleges the graduate will have, in addition to a trained mind, a fund of information of money-value to him immediately on graduation.

An attempt to supply the existing demand for what we have called 'fact-books,' as opposed to 'text-books,' is illustrated by the series of books published by the International Correspondence School of Scranton, Pa., which, starting as a purely commercial venture, now has an enrollment of half a million scholars—mostly poor boys and working men. Its books may not be the ideal along the line suggested, neither are they as yet for sale except to their own students, but the enormous success of the school and the books which it has had prepared seem to indicate a 'want' and one attempt to meet it.

Another attempt might be considered as that made by certain publishing houses, as in Appleton's 'International Scientific Series' and Putnam's 'The Science Series'; yet valuable as are these books, they have not been prepared to meet the exact requirements to which attention has just been drawn.

J. Stanford Brown.

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