elementary understanding is not so great nor so difficult to grasp. The teachings of these truths of geology are illustrated on every hand, and in fact some of them are already familiar to the pupil before he enters upon the study. They deal with phenomena in the midst of which we dwell, and hence should become a part of the mental possessions of every high school pupil." The second reason for putting forth the book is to furnish a companion and adjunct to the 'Elementary Physical Geography,' by the same author.

There is much to be said for the view that in teaching geology a beginning can best be made with the study of the materials of the earth and the forces which modify it. Such a method transforms the study by substituting observation of our environment for book learning of past conditions. As the tendency of modern geologic interpretation is to seek in the records of the past for the effects of causes now operative, such a method is scientifically sound. Those who have found the author's work on 'Physical Geography' helpful will, no doubt, discover in this 'Elementary Geology' an aid to further studies.

To prepare an adequate elementary textbook is a task involving the successful reduction of three difficulties: the selection of material; the analysis of the subject-matter chosen, and the choice of language.

In the selection of material from the enormous mass of available facts the author determines the essential character of the book. This is his peculiar privilege, and detailed comment would only serve to illustrate another point of view. The choice for this volume is controlled by the emphasis given to the dynamic phase of the subject, and by the appropriate preference for American instances of world-wide phenomena.

With reference to the analysis of the subjects chosen and the precision of expression, more definite standards have been set by the masters of scientific exposition. Their example might well check too fluent thought and too facile pen. The present work is weak in analysis and statement. The writing is in a descriptive style, which is pleasant to read, but which lacks emphasis of leading ideas. Examples chosen to illustrate processes appear to have controlled the order of presentation rather than to have been controlled by a logical train of thought.

About one-hundred and fifty pages of the four hundred and eighty-seven are given to illustrations. The illustrations are, as a rule, well chosen, judging by those whose originals are familiar, but in reduction to a scale adequate for this work they have suffered very materially, and their value is in many instances doubtful Half-tone reductions printed as text figures rarely retain sufficient character to justify their use in works of this kind. The photograph should either be redrawn as line work or it should be printed upon a separate plate in a proper press. Either of these alternatives would limit the number of illustrations available for a book of moderate cost, but it would be better to have a few good ones than many which fail of their purpose.

The responsibility which rests upon the scientific author in attempting to promote the study of his subject can scarcely be too seriously considered. It is only in recognition of this responsibility that this review has been prepared.

Bailey Willis.

NEW BOOKS.

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Life Histories of American Insects. Clarence M. Weed. New York and London, The Macmillan Co. 1897. Pp. xii+272. $1.50.

Comparative Zoology. J. S. Kingsley. New York, Henry Holt & Co. 1897. Pp. vii+357.

Darwin and after Darwin. George John Romanes. Chicago, The Open Court Publishing Co. 1897. Vol. III. Pp. viii+181.

Laboratory Directions in General Biology. Harriet Randolf. New York, Henry Holt & Co. 1897. Pp. vi+163.

Quantitative Chemical Analysis. Percy Norton Evans. Boston and London, Ginn & Co. 1897. Pp. iv+80.

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