given, but in some instances the names of the characteristic species are also mentioned. This portion of the work would, we think, bear amplification in a new edition. We note that *Eozoon* is abandoned as a fossil. The Archæan system is regarded as Eozoic, as the bands of limestone and graphite which it contains are probably of organic origin, while among the Longmynd rocks "obscure traces referred to worm-tracks and trilobites have been found."

Concluding chapters deal with the origin of landscape, with escarpments, base-levels, &c., and there is a brief outline of economic geology. Too little attention is perhaps, as a rule, given to this last professional aspect of geology; but in his introduction the author rightly observes:

"Pursuing these studies we are brought into contact with constituents of the earth's crust which are of value in the arts and manufactures, and it is our business to learn about them, where they are found, and how they were formed, and if possible to point out where similar things may be found elsewhere."

Applied geology must of course be based on the firm footing of science—on a foundation the main features of which are so ably delineated in the present little volume.

OUR BOOK SHELF.

Plant Life, considered with special reference to Form and Function. By Charles Reid Barnes, Professor of Plant Physiology in the University of Chicago. Pp. vii + 428. (New York: Henry Holt and Co., 1898.)

IT is rather difficult to speak with justice about Prof. Barnes' little book. The idea, set forth in his preface, of attempting to give a general and somewhat philosophical account of plant life such as shall be useful to young readers, is an ambitious one, and the author has, here and there, almost realised parts of it. But we must confess that, taken as a whole, the book is not satisfactory—it is more provocative of yawning and somnolence than keen interest. At times, too, it is amazingly behind the times. The discredited figures of centrosomes are reproduced with a fidelity worthy of a better cause, and the account given of the ascent of sap is worse than misleading. Some of the figures, too, are very bad, and it is difficult to see the use of a delineation of a *Fucus* egg, such as presented in Fig. 42.

The physiological part is in some respects, perhaps, less open to objection than much of the rest of the volume; but here also there is a deal of useless talking round points, giving wordy definitions instead of definite ideas. What is the good of telling young students that irritability is the power of responding to a stimulus, without giving them some idea of what a stimulus itself consists? Quite enough knowledge of chemistry is presupposed in the earlier chapters to have warranted a more precise explanation of the nature of a stimulus than "the external change which brings about the reaction"; and the metaphor of the trigger and loaded gun ought to be carefully explained, if it is to be put before young readers.

These are a few of the defects which mar the execution of a task perhaps almost impossible of fulfilment within the compass of a small book; but if the author has not, at least in our judgment, succeeded in writing a book pre-eminently useful for students, it may, as a kind of note-book, prove of service to young teachers. The volume ends with tolerably good appendices containing directions for laboratory work and the collecting of suitable material for study.

Stories of Starland. By Mary Proctor. Pp. 186. (New York: Potter and Putnam Co. London: G. W. Bacon and Co., Ltd.)

TO write a book in a conversational style for the instruction of children requires a deal of art and close familiarity with the curious workings of young minds. Books of this kind have usually to be classed as failures, and the present volume only rises in parts above their level. In the first place, few of the illustrations will interest children, and the figures of Mars on p. 69, and of the Orion Nebula on p. 157, are in no way satisfactory. Then the children's questions and answers are too ready and apt for an average child to follow or retain in his mind. Thus, on the four pages 20–23, Master Harry, who plays the part of the inquiring boy, has impressed upon him that it would take a train nearly one hundred and seventy-five years to get to the sun, that at the rate of two cents a mile the fare would be nearly two million dollars, that walking at the rate of four miles an hour for ten hours a day the journey would occupy more than six thousand years, that a cannon ball would take nine years to reach the sun, and the sound of the explosion fourteen years, and that if an imaginary long arm touched the sun, the pain of burning would not be felt for one hundred and fifty years on account of the time taken in the transmission of sensation through nerves.

Now all this may be very well in a popular lecture in a country village, for grown-up people sometimes like to be impressed by statistics of the millions upon millions, type, but it has no educational value whatever, and is entirely out of place in a volume intended for the instruction of children. In fact, Miss Proctor makes the common mistake of crowding too many uninteresting details into her book, and of describing too many appearances which her pupils will be unable to see for themselves.

By far the best part of the volume is that in which the chief constellations are described, and the legends connected with the constellation figures are related. These star-stories from the mythology and folk-lore of different peoples are better suited to the mental condition of a child than the descriptions of petty details concerning planetary motions and appearances.

A number of short poems of variable quality are interspersed through the pages, and may help to relieve the narrative when children of poetic temperament are the readers or listeners.

Canalisations électriques. By R. V. Picou. Pp. 172. (Paris: Gauthier Villars. Masson et Cie.)

DETAILS concerning the erection and working of aerial lines for electric currents are given in this volume, which belongs to the well-known Aide-Mémoire series. The first part of the volume includes descriptions of the wires used, the various forms of insulators, and different kinds of posts and supports used to carry the wires; the second part is concerned with the mounting of lines, all the details as to earths, tension, and protection against electrical and other disturbances being dealt with. In the third part of the volume the chief formulæ and tables used by electrical engineers engaged in wiring work are brought together.

Contributions a l'Étude de l'Hérédité et des Principes de la Formation des Races. By J. M. Harraca. Pp. 172. (Paris: Félix Alcan.)

HERE and there in this little volume the reader will find an interesting point referring to facts or views bearing upon heredity, but the search for this material for thought in a waste of words is very wearying. The author writes with apparent conviction that he has new things to say, and he certainly does express some ideas which appear to merit consideration, so that students of heredity may find it worth their while to glance through the volume.