

interesting is the fact that practically all subsequent educational reformers have been the intellectual heirs of the French iconoclast, such as Pestalozzi, Fellenberg, Froebel, Herbart, and Montessori. While giving prominence to the evolution of education in America, Prof. Graves does not neglect this or other countries, and his account of the German experiments at NeuhoF, Königsberg, and Keilhan is detailed. He has an interesting chapter on the introduction in recent years of scientific subjects into curricula, and another on the application of psychological results to the methods of education. The book includes an excellent selected bibliography, very useful in view of the enormous literature of the subject.

(5) The series of scientific and mathematical handbooks edited by Dr. Norrenberg is an encyclopædia for teachers. The fifth volume, on methods of instruction in natural history, by Prof. Schoenichen, of Posen, contains more than six hundred pages, crammed with detailed advice and facts. The author attempts, with success, to cover the whole ground of zoology, botany, and biology generally as an educational subject, and from the teacher's point of view. From psychological pedagogy to gardens and vivaria, he omits nothing that can come into the ken of the schoolmaster. Courses are laid down for the various classes in the Gymnasium, the Real-gymnasium, and the Real and Oberrealschule. The suggestions about methods of drawing, and those on excursions and collecting are excellent. A notable feature is the description of models, their manufacture and use.

Fas est et ab hoste doceri; the book is a triumph of method. A. E. CRAWLEY.

OUR BOOKSHELF.

The Rubber Industry in Brazil and the Orient. By C. E. Akers. Pp. xv+320. (London: Methuen and Co., Ltd., 1914.) 6s. net.

MR. AKERS contrasts in this book the unscientific, and unbusinesslike, rubber-collecting industry of Brazil with the rubber-planting enterprises of the British and Dutch East Indies, which are conducted on more or less scientific lines and with the commercial skill and acumen which distinguishes the two peoples concerned with these East Indian Colonies.

Compared with their competitors in the East, the rubber producers in Brazil have one great advantage—their trees are mature and in their natural habitat. This advantage is believed to account for the general opinion that Brazilian Para rubber is better than the plantation article from the East Indies. Many competent judges maintain that this advantage is illusory, and that properly-prepared East Indian plantation rubber, from well-established

trees of fair age, is just as good as "fine hard Para," and that the premium obtained by the latter in the markets is the result of conservative prejudice on the part of manufacturers. However that may be, the advantage, supposing it is real, is bound to disappear, in view of the increasing age of the plantations in Ceylon and Malaya, and the untiring efforts of the planters there to improve and unify their methods of preparation.

In all other respects, such as cost and efficiency of labour, good administration and government, business skill and foresight, and last, but not least, the realisation of the necessity for scientific and technical research, the advantages lie with the East Indian producers, and Mr. Akers makes it clear that unless there is a drastic change in the conditions of working in Brazil, the rubber industry there is bound to disappear in the face of the competition of the East Indian plantations.

Mr. Akers probably records little that is new to rubber planters, but his book is none the less interesting on that account, and it can be cordially recommended to all who are interested in the development of this great industry, in which British enterprise and technical skill have played so large a part.

The Beginner's Garden Book: a Text-book for the Upper Grammar Grades. By A. French. Pp. viii+402. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1914.) Price 4s. 6d. net.

THERE is always much to learn from an American teacher of a rural subject. The science may be superficial, yet he manages to get his students to think about their work and to find reasons for the way in which the work is done. This book is a case in point. It takes the form of an address by a teacher of school gardening to boys engaged in the cultivation of school gardens. The American origin of the book little interferes with its use in this country. The English is almost free from Americanisms, and the cultivation of all our more commonly grown vegetables and flowers is described. The treatment of fruit culture and bastard trenching is inadequate, and grafting and budding are not even mentioned, but, on the other hand, several matters are dealt with that do not often find a place in gardening manuals. The chapters on the saving of seed and on gardening under glass are excellent. A good deal of gardening can be learnt by merely looking at the numerous illustrations.

An Introduction to Geology. By C. I. Gardiner. Pp. xiv+186. (London: G. Bell and Sons, Ltd., 1914.) Price 2s. 6d.

MR. GARDINER is well known as a field-observer, and has added largely, both by himself and with Prof. S. H. Reynolds, to our knowledge of Silurian areas. He now attracts others to his favourite studies by a clearly written introduction to geology, which will be of especial interest to dwellers in the English midlands. General principles are supported by more detail than is usual in elementary works, and this method carries convic-