

practical hints. The book, which is attractive in appearance, is the work of an experienced teacher and can be recommended with confidence.

*Experimental Physiology.* By Sir E. Sharpey Schafer. Third edition. Pp. viii+131. (London: Longmans, Green and Co., 1921.) 6s. net.

THIS laboratory manual of experimental physiology, first published in 1912, has now reached a third edition. To those who do not know the book it may be said that the matter is arranged in thirty-two chapters, each of which contains, on the average, enough to occupy the student for a laboratory period. The book does not deal with chemical physiology; hence the amount of time demanded by a course such as the present is more than some schools will find themselves able to devote to it; a certain number of the exercises, however, are intended for advanced students, though the author does not attempt to mark these off from the rest, the selection having been left to the teacher. The author's experience is a sufficient guarantee of the suitability of the matter, and of the method of arrangement; the descriptions of the experiments, though concise, are lucid; and the book is amply illustrated by ninety explanatory figures.

*Laboratory Exercises in Applied Chemistry for Students in Technical Schools and Universities.* By Dr. W. Moldenhauer. Authorised translation by Dr. L. Bradshaw. Pp. xii+236. (London: Constable and Co., Ltd., 1921.) 12s. 6d.

THE long title of this book is somewhat misleading; "Technical Chemical Analysis" would have been much more appropriate. The explanations of industrial processes which are interspersed are clear and concise, but some of the methods differ from those in common use in this country. No mention is made of the important ammonia oxidation process in describing the fixation of nitrogen. The exercises cover a wide field, including water, fuels, alkali industry, fertilisers, metals and ores, oils, fats and waxes, soap, glycerin, and lubricants. The translation appears to have been carefully done, and the book may be recommended to senior students who intend to follow industrial chemistry.

*The Haunts of Life: Being Six Lectures delivered at the Royal Institution, Christmas Holidays, 1920-1921.* By Prof. J. Arthur Thomson. Pp. xvi+272+xvi plates. (London: Andrew Melrose, Ltd., 1921.) 9s. net.

THE Christmas Holiday Lectures at the Royal Institution have resulted in several books that charm the general reader as thoroughly as the spoken word held the attention of the juvenile audience to which the lectures were delivered. To those already existing Prof. Thomson has added "The Haunts of Life," where, in simple language, he sketches the problems that confront the inhabitants of the waters fresh and salt, shallow and deep, open and coast-bound, of the dry land, and of the air. His brief studies of animal adaptations, and of race-migrations from one "haunt" to another, are admirable, and open to the thoughtful reader a wide field of deep philosophic interest. The book should be on the prize-book list of every school.

*The Alo Man: Stories from the Congo.* By Mara L. Pratt-Chadwick and L. Lamprey. (Children of the World.) Pp. 170. (London and Sydney: George G. Harrap and Co., Ltd., 1921.) 3s. 6d. net.

THE series of which the volume under notice forms a part, is designed to open for young readers the study of geography and history as living subjects. It is written as a narrative of events in the tribal life of a boy and girl in the Congo Forest, culminating in an exciting fight between the tribe and a band of Arab slave traders which ends in the discomfiture of the latter. The Alo Man, a wandering story-teller, is responsible for the introduction into the narrative of a number of folk-tales of the animal type. The book is true to detail of a generalised forest type, although both type and area might perhaps have been more precisely defined with advantage.

*Alternating Currents.* By G. C. Lamb. Part I. Pp. viii+73. 5s. 6d. net. Part II. Pp. viii+127. 7s. 6d. net. (Cambridge: At the University Press, 1921.)

IN the books under notice a full explanatory syllabus is given of the lectures delivered to third-year students in the Engineering Laboratory at Cambridge. The volumes are meant primarily to be a help to the student when writing up his lectures. They will also be useful to teachers in technical schools, as the diagrams are beautifully clear, the descriptions are good, and many of the proofs given are very neat. The notation and nomenclature are practically international. "Effective," however, is now preferred to "virtual." Personally we prefer "sine-shaped" to "sinoidal," and "not sine-shaped" to "non-sine."

*The Structure of the Atom: Notes on some Recent Theories.* By Dr. Stephen Miall. Pp. iii+26. (London: Benn Bros., Ltd., 1922.) 1s. 6d. net.

DR. MIALL states that he has published this pamphlet in the hope that it "might interest, and even instruct, some junior students of chemistry." To treat of the structure of the atom, radioactive changes, isotopes, and the octet theory in twenty-six pages, and in such a way as to be clear and interesting as well as accurate and instructive, is a task which calls for no little skill. Dr. Miall has undertaken it with a great measure of success, and his small pamphlet should fulfil the object he had in mind in its publication. If he had given some account of Sir J. J. Thomson's recent theory the whole range of the subject would have been covered: perhaps he will do this in future issues.

*Insects and Human Welfare.* By Prof. C. T. Brues. Pp. xii+104. (Cambridge, Mass.: Harvard University Press; London: Oxford University Press, 1920.) 10s. 6d. net.

THOUGH embodying no original research, this book is a useful and pleasantly written compilation of the results achieved by economic entomologists (including medical investigators), and of the tasks that are yet to be undertaken in Man's battle with his most formidable rivals on earth. The majority of the statistics and facts narrated are from the United States; but this circumstance in no way impairs their value to the British reader, whether doctor, farmer, or forester.