

are carefully decontaminated every time they leave the station. For the same significant reason visitors are not welcome at any time.

CHICAGO PARK DISTRICT. During the war about a fifth of my students secured employment with the Chicago Park District during the summer months. The CPD at that time was in need of biologically minded boys. Since trained personnel is hard to get, CPD holds inservice training for its employees. I still place an occasional graduate with them. To get an idea of the CPD, there are seven thousand acres in 150 parks. These are landscaped and most have one or more field houses on them. Annually they use 25,000 pounds of grass seed. In their greenhouses they grow approximately 200,000 seedlings and propagate 250,000 cuttings each year, besides the thousands of bulb plants and perennials they have on hand. These are boosted with 150 tons of fertilizer. If you are contemplating a visit to Chicago write to my good friend Fred. G. Heuchling, Director of Publicity, Burnham Park Building, Chicago Park District, Chicago, for points of interest to visit in the District areas. If you contemplate bringing your classes by bus, train, or auto, write to him ahead of time. He will furnish you with a trained guide at any park for a conducted tour; it will be free. It is not uncommon to see groups of students from colleges and other schools as far away as three hundred miles.

How to STUDY, the pamphlet mentioned in the April 1950 issue, brought forth comment. Mrs. Mary E. Clark of Missouri: "All students need help along this line." Miss Elizabeth Dunlap of Lexington, Virginia: "I was interested in your paragraph on the first week of school in your biology course. I wish you would develop this theme further in an early issue of the Journal." (With the permission of the editor I will do that soon.) S. M. Pattee, of Cedar Rapids: "I would like to develop a 'How to Become a Better Reader' sheet to be handed to some of our poor readers." If you have any ideas about this write to S.M. at Roosevelt High School, Cedar Rapids, Iowa; or the Old Fossil will clear it for you.

SCHOOL GREENHOUSE. Mr. Ivory C. Mann-

ing of Mississippi has a daily program divided between chemistry and biology. In addition he has charge of the school greenhouse. He was interested in the method of placing it in charge of third semester boys for maintenance. Boys not planning on going to college, if they bring a written request from their parents, are permitted to take a third and fourth semester of biology. They maintain the greenhouse at a professional standard of excellence.

WRITE DR. GILBERT O. RAASCH, Illinois State Geological Survey, Urbana, Illinois, for *Aids to Schools and Teachers*. This has some attractive titles for you to choose from. He is head of Educational Extension Division. These aids are in mimeographed form.

THE OLD FOSSIL is still buried in the mid-century cultural debree of 1950. If you would like to unearth him for any reason, get out a three-cent postage pick and shovel and let the federal post filter it thru to 5061 North Saint Louis Avenue, Chicago, 25.

REVIEWS

NIXON, ALFRED F. *Teaching Biology for Appreciation*. 1st ed. Chapman and Grimes, Boston. 143 pp. + index. illus. 1949. \$3.00.

Teachers of biology will find in this authoritative book a valid foundation philosophy, and numerous techniques and activities, for integrations which biology can and should make with other subject-matter areas. Teachers of the fine arts, industrial arts, music, literature, and the social studies will also find suggestions for correlating their course work with the sciences. The first four chapters are devoted to a justification of teaching the sciences for appreciation, and present evidence that the sciences in general and biology in particular can be made functional and emotionally appealing to the non-specialist aside from factual knowledge, problem-solving techniques, and the inculcation of scientific attitudes. The remaining three chapters suggest aims, attitudes, materials, and techniques which may aid teachers of biology in developing appreciation through art, literature, and the social studies.

Some parts of the text matter imply that

the author may at times be confusing certain phases of appreciation with unscientific "purposeful" activities assigned to living organisms. All photographic illustrations are grouped near the middle of the book; several are lacking in detail, where clearer detail would be helpful to the reader. There are a number of typographical errors, as for example on pages 68, 69, 74, and 88. A comprehensive bibliography appears at the end of each chapter. The index is complete and usable. *Teaching Biology for Appreciation* can be read with profit by all teachers in the secondary schools, and in general is a worthwhile contribution to the field of science education.

B. BERNARR VANCE

McAVOY, BLANCHE and HAROLD MOORE. *Biology, A Study Guide*. 2nd ed. Burgess Pub. Co., Minneapolis, Minn. ii + 191 pp. Mimeoprint with spiral binding. illus. 1950. \$2.50.

This complete biology study guide for class and laboratory use should prove quite adaptable for college preparatory pupils in high schools, for teacher training use, and perhaps for some classes in general biology in junior colleges. It is too technical for 10th-year general biology sections in the average high school. The informative text matter is clear and concise. The mimeoprint is of good size and readable. A few minor typographical errors appear, as on page 73 where "cats" has become "oats." Technical terms, of which many are used, are underlined for emphasis and review. The arrangement of topics is seasonal, with eleven chapter headings. Their continuity permits rearrangement and changes to suit local conditions. Two identification keys for native trees, and one for common molds, are included. The line diagrams are large, simple in detail, and are for the most part done at pupil level. There is a good discussion of simple biochemistry in the chapter on foods, which includes photosynthesis.

Using the book as a laboratory guide would necessitate keeping a separate notebook for completing laboratory exercises, and for recording written assignments. Books for general and special reference reading are listed; they are not referred to by page numbers. Special book reports are also sug-

gested. For the most part, the experiments can be performed with readily obtainable and non-technical apparatus and materials. Many excellent original experiments, which involve sound principles of scientific method, are included. The sections on photosynthesis and respiration, and on diffusion and osmosis, are especially good. Most of the experiments could be done either individually, by small groups, or used as teacher demonstrations. A number of challenging projects are suggested for more advanced biological investigations.

B. BERNARR VANCE

BAWDEN, F. C. *Plant Viruses and Virus Diseases*. 3rd ed. Waltham, Mass.: The Chronica Botanica Co.; New York City: Stechert-Hafner, Inc. XV + 335 pp. illus. 1950. \$6.00.

This entirely revised edition of *Plant Viruses and Virus Diseases* is a worthy contribution to the New Series of Plant Science Books. In recent years much research has been done, especially on the factors that affect the spread of virus diseases and the insect vectors which are responsible for spreading virus diseases. Chapter Four discusses the methods of transmission and Chapter Five considers the relation between viruses and their vectors. The scope of the book is illustrated by a few of the seventeen chapter headings: Mutation, Interference Between Strains and Recovery from Diseases, Serological Reactions of Plant Viruses, The Purification of Viruses, The Crystallinity of Plant Viruses, Taxonomy of Viruses, and Control Measures Against Virus Diseases. In discussing the various topics the author has given a brief review of the results of earlier research which serves as a background for the better understanding of the progress in present-day research on the study of viruses.

To make the book readily usable the author has provided a list of illustrations, a list of tables, a general index, and an author's index. Each chapter has an extensive list of references for additional reading. Because the book contains a wealth of material on recent advances in the study of viruses; it will be welcomed by those working in this specialized field. It is for the specialist and not for the layman; consequently, it is too