

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

advanced for high school reference use.

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RICE, CRAIG, SCOTT, *Biology Careers Chart-Manual*, Rice Research Associates, 6500 S. Dorchester Ave., Chicago 37, Illinois, 98 pp., 1950. \$2.00.

This useful little book covers the most important aspects (statistics, requirements, duties, earnings, employment loci, working conditions, advantages, disadvantages, specializations, women in the field, future, affiliations and miscellaneous features) of 32 different biological careers, under the headings of general biology, botany and agriculture, zoology, general professions and technicians. There are separate chapters on securing a position and pre-scientific deferments and ratings, also a list of career-education locations.

The book, designed for biology majors, advisors and counselors, represents a careful attempt to compile in as few words and as little space as possible the pertinent data of biology careers. It is necessarily oversimplified, the statements are incomplete and must be used with a certain amount of local adaptation. This is not a criticism, for a full analysis of each vocation would fill a large volume and defeat the purpose of this book. The *Biology Careers Chart-Manual* should prove highly useful to anyone involved in helping young folks who are interested in biology as a career. It is to be hoped that frequent revisions will keep it up-to-date and of constantly increasing value.

JOHN BREUKELMAN

DEAN, H. L. *Laboratory Exercises, Biology of Plants*. Wm. C. Brown Co., Dubuque, Iowa. v + 265 pp. illus. 1949. \$2.25.

Laboratory Exercises, which is a workbook of college botany, consists of basic information and experiments, drawings to be labeled and tables to be completed, and the factual type of questions. In *The American Biology Teacher*, Dec., 1945, there was a review of the first edition. This edition was revised in 1947, and in 1949 the typography was improved and several additional pen sketches were included.

The high school teacher will find a copy of such a manual useful for interesting demon-

strations and for supplying special projects for students.

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BARNETT, ANTHONY. *The Human Species*. W. W. Norton & Company, Inc., New York. x + 280 pp. illus. 1950. \$3.75.

The author, an Oxford scientist, presents in this work the why and wherefore of the human mechanism as it relates to practical biological and social problems. Free from the annoyance of biological terminology, the book may be read with understanding by anyone interested in man and his problems.

Part One deals with Heredity and Reproduction, describing the organs and the principles involved in the succession of stages that intervene between the egg and the adult. Included in this portrayal are the ways in which the variables of nature and nurture interact.

Part Two depicts Human Diversity. Beginning with man's ape-like ancestors, there is a full and careful presentation of the know data which trace man as a product of evolution. With regard to modern man, the author notes differences of the various races such as skin color, ability, social worth, race theories, inequalities, and sex.

Part Three treats the problems of Life and Death. Five chapters are devoted to Man and Society, Food and Soil, Food and Nutrition, Death, and Population. Despite the fact that we have made great advancements in numerous phases of our complex society, man still suffers from many of the scourges of our ancestors of centuries ago. As stated, "If full use is to be made of biological knowledge for human benefit, human population must attain relative stability."

The book deals with some of the most pressing problems of our times. The author is to be congratulated for his farsighted presentation of the facts. Biology teachers, as well as laymen, will profit by an understanding of its contents. Sixteen plates, fifty-nine drawings and diagrams, a bibliography, and an index are included.

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