text book with a minimum of technical material, no dissection, and few experiments involving the use of apparatus, this text is the answer. In this book the technical terms are defined at their point of use, as, "Plants such as tall peas . . . which have both the tall and dwarf characteristics are called hybrids," This learning device is of great value to the student.

There are activities at the end of each phase of a unit to assist the teacher. These are divided into two groups: One for general class discussion, and the other for independent assignment and research. The latter may be used largely for the more capable members of the class. Very little experimentation is included in these activities. The assignments are rather elementary as they involve chiefly the looking up of factual material, as for example: "What is the significance of the tuberculosis stamps which are seen in the United States mail every Christmas?" or "Determine the specific dates for spraying for codling moth in your locality." Typical of the research assignments is "Investigate the cost of guaranteed moth proof furniture as compared to the ordinary variety." However, the supplementary material treated under the heading "sidelights" contributes several experiments such as methods of collecting insects (page 346). Exercises of this type offer an opportunity for development in recreational activities and hobbies. The bibliography at the end of each unit would be more valuable to both teacher and pupil if each reference were applied to specific aspects of the unit.

Since the aim of the authors admittedly is to present in a simple and informal way biological principles suitable to the needs of the average student, the learning activities and teacher aids included are sufficient.

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ZIM, HERBERT S. *Science Interests and Activities of Adolescents.* Ethical Culture Schools, New York. Lithoprinted. vii + 256 pp. 1940.

Science Interests and Activities of Adolescents is the report of a study begun in 1934 in connection with a research program of the Commission on Secondary School Curriculum of the Progressive Education Association. It consists of three parts and the Appendices.

Part one, in addition to a brief summary of previous work in the field and the methods of attack of the present study, presents data gathered from over three thousand boys and girls representing five different schools. The data were obtained by several methods, namely, the science interest questionnaire; analysis of compositions from 1171 pupils in English classes of the participating schools; a technique involving interests displayed in a science exhibit; the selection of films listed in a fictitious list of films corresponding to the areas of science included in the science exhibits; "Wondering Questions"; and from exhibits offered at the "Science Fair."

Part two is concerned with science interests from a more individualistic point of view, giving many interesting autobiographies and case histories.

Part three offers suggestions for both a program of study and the formation of a science curriculum for adolescents which bring out the practical application of the study. The curricular set-up of the five schools engaged in the study and

a good, brief bibliography for general books in the several pertinent fields are found in the Appendices.

Because of the large number of individuals concerned in the study and the many methods used in attacking the problem, the data present an especially interesting and important contribution to the field of science education. The science teacher who directs adolescent boys and girls should find the monograph of aid in understanding the attitudes of many of his pupils toward their science work. Those teachers or administrators interested in curriculum construction for this age group also might well consider the possibilities suggested by the data.

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MCMINN, HOWARD E., AND MAINO, EVELYN. *An Illustrated Manual of Pacific Coast Trees.* University of California Press, Berkeley, California. xii + 409 pp. 2nd ed., 1937. $3.50.

This book is more than a manual for the identification of the more commonly cultivated and native trees of California, Oregon, Washington, and British Columbia. It is a book that can be used with scientific accuracy by botanists or by nature lovers, as the authors have made the descriptions as nontechnical as possible without making a conscious effort to eliminate the more commonly used botanical terminology. The genera, under which are listed the species, are arranged alphabetically within the family and are based on vegetative characteristics for ease in using. The book is profusely illustrated.

Probably the most valuable part of the book for class or personal use is the short introduction on how to use the manual which includes adequate illustrated information on the names of the parts of a plant as well as a glossary of botanical terms.

In the back of the book is a 29 page list of trees recommended for various uses on the Pacific Coast, by H. W. Shepherd of the University of California, which includes information on alkali-tolerant trees, autumn-foliage-producing trees, avenue trees, border trees for home grounds, flowering trees, heat-tolerant trees, etc., with climatic recommendations and peculiarities.

This book is the prized possession of many prominent coast botanists.

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