are devoted to color, luster, odor, taste, weight and hardness with particular reference to their aid in wood identification.

The part dealing with the identification of species is limited to those of native origin but includes a larger number of genera than other publications on the same subject. Two identification keys of the dichotomous type are provided, one for use with a hand lens and the other for use with a microscope.

As a result of the conservative nature of wood no attempt is made in many cases to carry the identification any farther than the genus or a group of species within a genus. Only in a limited number of cases can the individual species be identified by the wood alone. For example, the numerous species of deciduous oaks are classified into only two groups, the red oaks and the white oaks, and the southern pines are grouped under one head without distinction as to species. Although the wood of two closely related species may show no single reliable diagnostic feature, the possibility of distinguishing species by means of a statistical combination of several features of the wood that show slight variation in averages or extremes has not yet been thoroughly investigated and may some day open up a new field of research in wood structure.

A large part of the text is devoted to descriptions of the wood of over 80 native species covering the gross and minute structure, a brief discussion of properties and principal uses with reasons for such uses. This part, no doubt, would be of interest to engineers, architects, manual training instructors, lumbermen and woodworkers who want more than a superficial knowledge of the various species of wood.

The text is amply illustrated throughout. The key based on gross features is accompanied by illustrations of cross sections magnified 5 times of 86 species and several tangential views natural size. The key based on minute features is accompanied by 32 photomicrographs of special microscopic diagnostic features. Photomicrographs of transverse and tangential sections of 92 species magnified 75 times accompany the descriptions of the different kinds of wood.

A chapter on figure in wood classifies and describes the more common types of ornamental figure found in lumber and veneer, and a chapter on defects gives their definitions, causes, if known, and detrimental effects.

The book is strictly a scientific publication. Technical terms are freely used, as should be the case in a student's manual, but they are carefully defined. The terminology used follows principally that adopted by the International Association of Wood Anatomists several years ago. A glossary of technical terms is appended. The language of the text is in a free-flowing, simple, narrative style which makes it easy to read. Only occasionally do the authors indulge in the use of "high-brow" nontechnical words, but that should not only be excusable but even justifiable in a college textbook.

ARTHUR KOEHLER
U. S. FOREST PRODUCTS LABORATORY,
MADISON, WIS.

SOIL PHYSICS

Soil Physics. By L. D. BAVER. New York: John Wiley and Sons, Inc. London: Chapman and Hall, Ltd. ix + 370 pp. $4.00.

AT long last there is available a satisfactory work on soil physics written primarily for use as a text-book for advanced undergraduates and graduate students in agricultural colleges. It is the only book on soil physics that has come to the writer's attention since Keen's "Physical Properties of the Soil" appeared some ten years ago. The new edition of Keen announced over a year ago is reported to have been delayed.

Baver's text is essentially a comprehensive review of carefully selected material from the extensive literature of soil physics research. Conclusions and the interpretation of results are stressed, with less attention being given to apparatus and methods. A liberal list of references is given at the end of each chapter. Frequent reference is made to the pioneer work in soil physics of the last century, particularly to Wollny, whose contributions to soil science should receive more attention than they now do. The book is written from the agronomic viewpoint, there being little material upon the engineering aspects of soils other than those pertaining to soil conservation. A few topics dealing with mathematical operations and thermodynamic processes are not presented with the conciseness and precision desired by some physicists perhaps, but in the manner which the author, in his nine-year experience in teaching the subject, has found to be best suited to soils students.

The subject-matter is divided into ten chapters. After an introductory chapter, largely of a historical character, the author takes up the mechanical composition of soils and the physical characteristics of soil colloids. Next is a chapter on soil consistence and then one on soil structure, the longest in the book, with many references to Russian work. Unfortunately the simple soil structure and soil consistence classifications of Nikiforoff were omitted. Chapters on soil water, soil air and soil temperature are followed by two chapters on some physical and technological aspects of tillage and soil erosion.

Teachers and students of soil physics will appreciate

this book as a valuable time-saver, and agronomic workers will find it interesting and useful. Those who do not have ready access to all foreign soil science periodicals will appreciate the summaries of the important work of Russian, German and French soil physicists. The book is particularly timely and its acceptance is assured.

L. B. OLMSTEAD
BUREAU OF PLANT INDUSTRY,
U. S. DEPARTMENT OF AGRICULTURE

SOCIETIES AND MEETINGS

THE VIRGINIA ACADEMY OF SCIENCE

THE nineteenth annual meeting of the Virginia Academy of Science was held at the Medical College of Virginia, Richmond, from May 1 to 3, with 520 in attendance; 197 papers were presented in the 11 sections, a new one in forestry having been formed this year. Dr. John H. Yoe and Dr. Lyle G. Overholzer were awarded the Interacademy Award of $100 for their paper, "Application of a New Class of Organic Reagents to the Detection and Determination of Palladium." Dr. Allen T. Gwathmey won the Jefferson Award of $50 with his paper, "The Action of Some Gases on the Surface of a Single Crystal of Copper." The Academy Award of $50 was won by Mr. Charles Ray, Jr. His paper was entitled "Cytological and Genetic Studies on the Flax Genus, Linum." All recipients of awards are on the staff of the University of Virginia.

Austin H. Clark, curator, Division of Echinoderms, U. S. National Museum, and president of the Washington Academy of Sciences, was the principal speaker at the banquet and at the organization meeting of the Junior Academy of Science.

The first report of the newly formed Long Range Planning Committee of the Academy recommended that two projects receive special attention during the coming year—the Junior Academy and science clubs and the James River monograph.

Officers elected were Dr. George W. Jeffers, Farmville State Teachers College, *President;* Dr. E. C. L. Miller, Medical College of Virginia, *Secretary-Treasurer;* Dr. Sidney S. Negus, Medical College of Virginia, *Assistant Secretary;* Dr. Marcellus H. Stow, Washington and Lee University, *President-elect,* and Dr. Harvey B. Haag, Medical College of Virginia, *new member of the Council.*

After the academy meeting closed, 135 of those in attendance took a trip into Dismal Swamp, while others visited the bogs at Petersburg and Seward Forest.

There were 203 science club members from over the state present at the first formal meeting of the Junior Academy of Science. Honorary junior memberships in the American Association for the Advancement of Science were awarded to Gordon Jones and John Tompkins jointly, of Mt. Vernon High School, Arlington, in recognition of their exhibit of plants displayed at the meeting and to Forrest Pitts, of Thomas Jefferson High School, Richmond, for his excellent showing in the radio quiz held in connection with the meeting. Miss Lena Artz and Miss Martha H. Lipscomb are respective sponsors of the science clubs in these two high schools. Honorary junior memberships in the Virginia Academy of Science were awarded to Martin Milroy, Randolph Henry High School, Charlotte Court House, Miss Lyndele A. Pitt, sponsor; Walter Brown, Lane High School, Charlottesville, Mr. W. I. Nickels, Jr., sponsor; and Miss Patsy Whitaker, Pulaski High School, Pulaski, Miss J. Frances Allen, sponsor. These three young people were selected becaues of their outstanding work during the year in science club work.

Besides Mr. Clark, Miss Margaret E. Patterson, of the American Institute of the City of New York, spoke to the Junior Academy group. Hubert J. Davis, of the Matthew Whaley High School, Williamsburg, acted as chairman of the meeting.

A. J. Davis, of the Test Tube Tinkerers Science Club of George Washington High School, Danville, was elected president of the Junior Academy for the ensuing year. Miss Patsy Whitaker, of the Roy Chapman Andrews Museum Club, Pulaski High School, was elected vice-president, and Miss Catherine Christian, of the Einstein Club, Appomattox High School, was chosen secretary.

E. C. L. MILLER,
Secretary

THE PENNSYLVANIA ACADEMY OF SCIENCE

THE seventeenth annual meeting of the Pennsylvania Academy of Science was held on April 11 and 12 at Coatesville. During the sessions 175 persons registered as senior academy members and 161 registered in the Junior Academy. General meetings for the presentation of papers were held on Friday and Saturday mornings. On Friday afternoon the program was split into three section meetings, one on meteorology that had been arranged by the Central Pennsylvania Seminar of American Meteorological Society, one on geology and one devoted to the teaching of science and general papers. The Junior Academy met simultaneously under the direction of Professor Karl F. Oerlein. The annual dinner was held on Friday eve-