Landscape as developed by the processes of normal erosion. (2nd ed.) C. A. Cotton. New York: John Wiley, 1949. Pp. 509. (Illustrated.) $10.00.

This is the second edition, revised and much enlarged, of a notable book first published in 1941. Numerous new illustrations have been added, including aerial photographs. It is the initial book of a trilogy; the others are *Climatic accidents in landscape-making* (1942) and *Volcanoes as landscape forms* (1944). The author has kept well in mind the interests of general readers as well as of students who need an authoritative, interesting elementary textbook in the discussed phases of geomorphology. The major topics comprise the mass movement of waste, land forms produced by the erosion and deposition of running water, structural controls, landscape cycles, and features of limestone terrains.

ARTHUR BEVAN

Illinois Geological Survey

Textbook of virology: For students and practitioners of medicine. A. J. Rhodes and C. E. van Rooyen. New York: Thomas Nelson, 1949. Pp. ix + 312. (Illustrated.) $5.00.

The title of this book suggests completeness of coverage of a scientific discipline. In this respect the book is disappointing. In their preface, however, the authors state their aim to be a succinct presentation of the essential features of virus and rickettsial diseases of man for medical students. As such, it has merit.

Brief chapters summarizing the essential physical, chemical and biological properties of viruses introduce the text. Supplemented with generalizations on epidemiology and immunity, standard factual material is presented in a didactic and admittedly dogmatic fashion. Technical procedures, such as those of centrifugation, electron microscopy, and egg and tissue cultivation are outlined; rather concise staining directions are included. Good reproductions of diagrams and electron micrographs serve as visual aids to the exposition.

The various disease states of man are presented in an inclusive fashion with emphasis on clinical features; the pathologic manifestations, diagnostic aids, prophylactic and therapeutic procedures provide balance. The essential characteristics of the etiologic agents are outlined briefly and specific epidemiologic problems are presented. Throughout, the text assumes the reader's familiarity with the vocabulary of medicine and there is little exposition beyond the special subject. Terseness is a conspicuous feature.

The authors' own prefatory statements justify the suggestion that this brief text represents a condensation of certain features of their larger work on the same subject; the absence of any bibliography in the present book limits its usefulness. As an introduction to human virus and rickettsial diseases, leveled at the specified group, the book may serve a useful purpose in spite of its limitations.

WILLIAM S. PRESTON

University of Michigan

Modern science and its philosophy. Philipp Frank. Cambridge, Mass.: Harvard Univ. Press, 1949. Pp. 324. $4.50.

In 1941, Philipp Frank collected ten interesting papers from his own pen, written between 1908 and 1938, and republished them under the title *Between physics and philosophy.* The present work is a republication of these with an addition of other articles, all previously published, of more recent date. Added to this collection is an historical preface, full of personal reminiscences, and tracing the history of the movement of logical empiricism which the author fervently espouses. Although the book as such lacks continuity between its chapters, the growth of the philosopher's own views, which is apparent throughout, provides a bond of unity that welds the work into an attractive whole.

The book's attention can hardly be said to be focused upon the crucial issues of recent science; the work is clearly therapeutic, and the treatment exhibits a consuming desire to show that physics furnishes no nourishment to the advocates of metaphysical systems. The book is thus meant to clear the air for a proper view of perennial philosophic problems without pretending to solve them and, like all of Frank's writings, it is successful in achieving that end.

HENRY MARGENAU

Yale University

Pedigrees of negro families. R. Ruggles Gates. Philadelphia-Toronto: Blakiston, 1949. Pp. vii + 267. (Illustrated.) $5.50.

Inspection of pedigrees has been a predominant method of analysis throughout the short history of human genetics. Because of the expense of population surveys in which all known characters are recorded, the pedigree method of tracing a particular attribute along one or more family lines will probably provide most of our information on inheritance in man for a long time hence. Prof. Gates, in *Pedigrees of negro families,* adds to the record of sample cases for the three major divisions of mankind, the literature in European languages and such collections as the *Treasury of human inheritance* being chiefly concerned with Caucasoids and the two volumes by Komai on Japanese material representing the Mongoloids.

Two hundred eighteen pedigrees on 72 different characters are discussed, of which 35 show the presence of more than one character. The pedigrees were collected by students (of what and where is not specified) usually on some condition in their own families or in a family with which they were intimate. The material is mainly from the United States, but Canada, the West Indies, and British Guiana are represented.

A feature of special interest is the suggestion that skin color in man is determined by three pairs of additive genes. A chart illustrating eight skin color phenotypes is the frontispiece. The proposed correspondence of these phenotypes with the possible genotypes (see especially p. 254) on the three-factor hypothesis is not made explicit, and statistical tests of the hypothesis are not given.

Two considerations should be kept in mind by those who use this work:

(1) Pedigree information collected by students for course credit is sometimes faked (usually with reference to published sources). The author has seemingly made such checks as were possible regarding this source of error (cf. p. 1).

(2) The data as presented are not sufficient in themselves to establish the degree or the mode of inheritance for any of the mentioned characters. The history of genetic knowledge of the ABO blood groups is here an object lesson on the limitations of pedigree inspection. In spite of a relative abundance of pedigree data for a character set which shows full penetrance and constant expressivity, an incorrect (meaning much less probable) mode of inheritance of the ABO system was accepted for more than twenty years. In human genetics, degree and mode of inheritance can be considered well established only when results are concordant for all of three types of tests: (a) pedigree analysis, (b) gene frequency statistical tests, and (c) twin studies.

These strictures are not passed in criticism of Prof. Gates. He has done an admirable job with the available information. But his information should be considered a start, and not a finish. Some of the data is of sufficient bulk to permit statistical analysis; for example, more than fifty cases each are recorded for color blindness, baldness, polydactyly, allergy, and musical ability.

J. N. SPUHLER

Ohio State University

Trees: Yearbook of agriculture, 1949. (U. S. Dept. of Agriculture.) Alfred Stefferud. (Ed.) Washington (25), D. C.: Supt. of Documents, 1949. Pp. xiv + 944. (Illustrated.) $2.00.

The 1949 yearbook of agriculture, *Trees,* is the tenth of a series of reference volumes prepared by the Department of Agriculture since 1936, when the annual progress report and statistical summary content was discontinued. This is the third of the series to be edited by Alfred Stefferud. Like the others, it represents the cooperative effort of a great many individuals, most of whom are or have been members of the Department of Agriculture, with the majority from the U. S. Forest Service.

The contents consist of 138 separate short treatises grouped together under four broad headings, namely: "The Tree," "Trees and Homes," "Forests and Men," and "Lists and Other Aids."

"The Tree" includes an exceptionally concise discussion of tree growth and development, considerable miscellaneous information about noteworthy and historical trees, and a question and answer section that the reviewer believes rightfully belongs under "Lists and Other Aids."

"Trees and Homes" considers trees from the arboricultural viewpoint. It includes descriptive lists of shade and ornamental trees for town and country and various geographical regions, as well as pointers on the establishment and care of these trees.

"Forests and Men" comprises about two-thirds of the yearbook and deals rather broadly with the entire gamut of forestry activities in the United States. It is subdivided into several sections that cover the following aspects of forestry: ecology; seeding and planting; genetics; management and care of private and public forests; protection from insects, diseases, parasites, and fire; wildlife; water relations; wood utilization; history; economics and policy.

"Lists and Other Aids" is essentially an appendix to the main text of the book. It presents information on tree and wood identification, including useful diagnostic keys and helpful illustrations, lists of trees for special purposes, a vacation guide locating and in part describing forest areas administered by the federal government and the states, a reference bibliography, and a woodsman's glossary.

In addition to the black and white text illustrations, there is a 16-page section of colored plates "chosen to summarize the main points in this book and to awaken interest in the purposes and pleasures of trees and forests."

Prepared by well-qualified authorities and carefully and objectively written, the book succeeds in its purpose of relating to the general public in considerable detail a very important phase of the work of the Department of Agriculture. At the same time, the volume will take its place as a readable, reliable, and unusually complete compendium of tree and forestry facts for teachers and others who would like society to make more effective use of this renewable organic resource. Throughout its pages there is a strong undertone of sound conservation of natural resources, a guide to action that we must adopt if we are to give future generations a chance to attain a reasonably adequate standard of living. The book is highly recommended.

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