Fundamentals of the Histology of Domestic Animals. Alfred Trautmann and Josef Fiebiger; trans. and rev. from the 8th and 9th German eds. of 1949 by Robert E. Habel and Ernst L. Biberstein. Ithaca, N. Y.: Comstock Pub., Cornell Univ. Press, 1952. 426 pp. Illus. $8.75.

In an evaluation of the English translation of Trautmann-Fiebiger, it is well to keep in mind the history and characteristics of the German text itself. This European work represents an extreme condensation of several very detailed and well-documented German texts on comparative domestic animal histology. At intervals a considerable amount of new material, with many very excellent illustrations and color plates, was added. It is natural that a book condensed to this degree to be used as a school text could not include the extensive bibliographies of the works on which it is based.

The preparation of the English text involved translation primarily, although considerable rearranging, and some substituting, adding of new material, and condensing were done.

Many excellent improvements are seen in the form and arrangement of the contents. For instance, light and boldface type in varying sizes are used to emphasize headings and subheadings. In addition, the various units of subject matter are set apart in chapter form. The use of center headings exclusively for this purpose in the German text was confusing. Readers will welcome the use of a standard type face that is uniformly readable. In the German text the reviewer often found general subject matter in addition to the minute detail buried in fine print.

Numerous excerpts summarizing recent important researches, together with references, have been added. The translation is free enough to avoid cumbersome German sentence structure, yet literal enough to preserve the original thought or meaning. In a trifling number of instances inexact translation and a poor choice of equivalent words were noted, especially in the section on basic tissues. For example, in the discussion of reticular fibers, an addition of the translator states that reticular fibers "branch as collagenous fibers are not supposed to do." In the previous paragraph of the original text and also in the translation it is stated that collagenous fibers do branch, as we well know. In another place the German text states that smooth muscle cells are enveloped in ". . . *Membranellen, die viele feine Reticulinfasern und auch elastische Fasern enthalten. . . .*" This implies that there is a predominance of reticular fibers, which is correct. The English translation reads, ". . . many elastic fibers and reticular fibers . . . ," and as such neutralizes or reverses the emphasis. An example of poor choice of words is seen in the chapter on the female genital organs. It is stated that the "mucosa bears a columnar epithelium whose cells are only temporarily ciliated." The German word in question is *"zeitweise,"* and it is apparent that the English equivalent would more properly be "occasionally" rather than "temporarily."

The reviewer highly recommends this text to those interested in domestic animal micromorphology, since in addition to being the only textbook in the English language in its field, this translation is a very significant achievement in its own right.

ALVIN F. WEBER

School of Veterinary Medicine
University of Minnesota, St. Paul

Chemical Engineering Techniques. B. E. Lauer and Russell F. Heckman. New York: Reinhold Pub., 1952. 496 pp. Illus. $6.00.

The volume is characterized by the authors as "a new treatment of the methods used in conducting chemical manufacturing operations," in which they emphasize techniques rather than specific equipment. A well-arranged series of topics, such as "The Assembly of Materials," "The Preparation of Materials for Reaction," "The Production and Distribution of Energy," "Conditions Affecting the Chemical Reaction," "The Separation and Purification of Materials," and "Further Treatment of Products for Sale, Shipment, Storage, or Other Use," is covered in a completely descriptive, brief, and quite elementary manner. Much of the material duplicates that already covered in current works on unit operations and other engineering texts.

The book will probably have greatest use in presenting to nontechnical students or nontechnical personnel in industry the scope and approach to problems of a chemical nature by the chemical engineer. Unfortunately it leaves the reader stranded in that no references are given through which topics of interest might be further pursued. The authors have attempted to cover a tremendous field in a small volume, which leads to the characterization of "less and less about more and more" for this work. The printing, binding, and illustrations are good.

C. W. SELHEIMER

Department of Chemical Engineering
Illinois Institute of Technology

Ultraviolet Radiation. Lewis R. Koller. New York: Wiley; London: Chapman & Hall, 1952. 270 pp. $6.50.

Dr. Koller's book is a useful summary of much of the literature about ultraviolet radiation and is clearly addressed to the nonspecialist. After a short introductory chapter, it discusses the various artificial and natural sources of ultraviolet radiation, and next deals with its transmission and reflection by a number of substances commonly used in scientific laboratories, as well as some tissues such as human skin, and some materials of industrial importance. The last two chapters deal with miscellaneous applications of ultraviolet radiation and with the means of detecting it, nearly all the space in the last chapter being given to photoelectric devices.

There is a good index, and the book is valuable for reference. It cannot be said to be equally valuable as

a text. The author's haphazard use of photometric units and notation lead him to make statements such as the one on page 91, that "the amount of energy radiated normal to . . . a flat surface" is obtained by dividing by π the total amount of energy radiated by it. What is meant is, of course, that the radiance normal to the surface is $1/\pi$ times the total radiant flux per unit area. This is true only if the surface is a perfect diffuser, a fact not mentioned by Koller. It seems unfortunate that the logical nomenclature adopted by the Optical Society of America and the Illuminating Engineering Society was not followed.

There are a few misprints, the most serious one being in the scale of abscissae of Fig. 8 (*d*) on page 248, which may mislead some users of S-5 phototube cathodes.

The author is at his best when he is in his own field, but this reviewer gets the impression that some sections of the book—for instance, the one on atmospheric ozone—have been written hurriedly. Very little of our information about the distribution of ozone in the atmosphere has been obtained by means of radiosondes and rockets, the only methods mentioned by the author. The book can scarcely be recommended for those completely new to the subject.

W. E. K. MIDDLETON
Division of Physics
National Research Council of Canada

Water. A Study of Its Properties, Its Constitution, Its Circulation on the Earth, and Its Utilization by Man. Cyril S. Fox. New York: Philosophical Library, 1952. 148 pp. Illus. $8.75.

Water, the short but emphatic title of this book, has lately become most important throughout the world. The vast striving everywhere toward greater agricultural and industrial production has stimulated an enormous thirst for water. The most common of fluids has become a strategic material. As the author emphasizes, adequate basic data and soundness of analysis are the key to proper management and development of water resources; therefore, a book that helps to explain the occurrence and distribution of water is to be welcomed.

The first part deals with the properties, occurrence, and circulation of water and includes an account of the water budget of the earth. Although these broad generalizations on the hydrologic cycle are of background interest, an explanation of the physical relations between the various elements of the hydrologic cycle would have been equally helpful and in some ways more practical. For example, the author seems content with the statement that runoff is often taken as one third of the rainfall. This ratio is of course highly variable, and further development of the relationship would have been desirable.

The second part of the book deals with water as a geologic and geochemical agent. Here, again, discussion of the river forms and modern erosion would have been valuable in a book that is geared to the utilization of water—the final part of the book. The author shows the trend toward multiple-purpose developments, drawing most of his examples from the U. S., rightly emphasizing the need for adequate hydrographic data.

This is not a book for the professional worker; the layman might find it informative, although not necessarily an authentic text. There are numerous misstatements of facts, some of which might be charged to poor editing. The word "hydrology," the basic subject of the book, is persistently misspelled. The professional worker in hydrology will be annoyed with unprofessional details and bothered most by the unprofessional units. The author refers to the same physical quantities—even in the same paragraph—in different units, making comprehension of relative values quite troublesome. Volumes are reported in cubic feet, cubic miles, cubic meters, and acre-feet, velocities in inches per second, feet per second and miles per hour. It would have been preferable had the author observed the practice common among hydrologists in English-speaking countries of reporting rates of flow in cubic feet per second, volumes in gallons or acre-feet, and velocities in feet per second. As it is, the publisher might well provide each reader with a slide rule.

W. G. LANGBEIN
U. S. Geological Survey, Washington, D. C.

Scientific Book Register

Modern Science and Modern Man. Bampton Lectures in America, No. 5; delivered at Columbia University, 1952. James B. Conant. New York: Columbia Univ. Press, 1952. 111 pp. $2.25.

Fatigue and Fracture of Metals. A symposium held at the Massachusetts Institute of Technology, June 19–22, 1950. William M. Murray, Ed. Cambridge, Mass.: Technology Press of MIT; New York: Wiley, 1952. 313 pp. Illus. $6.00.

Synopsis of Pathology. 3rd ed. W. A. D. Anderson. St. Louis: Mosby, 1952. 788 pp. Illus. $8.00.

Resource Conservation: Economics and Policies. S. V. Ciriacy-Wantrup. Berkeley: Univ. California Press, 1952. 395 pp. $6.50.

Wood Chemistry, Vol. 1. 2nd ed. American Chemical Society Monograph Series. Louis E. Wise and Edwin C. Jahn, Eds. New York: Reinhold, 1952. 688 pp. Illus. $15.00.

Dr. Howe and the Forsyth Infirmary. Rollo Walter Brown. Cambridge, Mass.: Harvard Univ. Press, 1952. 188 pp. $3.50.

Textile Chemicals and Auxiliaries. Henry C. Speel, Ed. New York: Reinhold, 1952. 493 pp. Illus. $10.00.

Photoelectric Tubes. 2nd ed. A. Sommer. London: Methuen; New York: Wiley, 1951. 118 pp. Illus. $1.90.

Textbook of Quantitative Inorganic Analysis. 3rd ed. I. M. Kolthoff and E. B. Sandell. New York: Macmillan, 1952. 759 pp. Illus. $6.50.

Science and Method. Repr. Henri Poincaré; trans. by Francis Maitland. New York: Dover, 1952. 288 pp. $2.50; $1.25 paper.

Maleic Anhydride Derivatives: Reactions of the Double Bond. Lawrence H. Flett and William Howlett Gardner. New York: Wiley; London: Chapman & Hall, 1952. 269 pp. $6.50.