Organic analytical reagents. (Vol. II.) Frank J. Welcher. New York: D. Van Nostrand, 1947. Pp. xi + 530. $8.00.

This is the second volume in a series of four dealing with the use of organic compounds as analytical reagents. The first volume was reviewed in this journal (July 18, 1947, p. 72). The general style and arrangement are the same as in Volume I: the formula, molecular weight, Beilstein reference, properties, and method of preparation are given for each reagent, as well as references to the original literature.

Volume II includes chapters on "The Organic Acids" (89 pp.), "Halogen Substituted Acids" (4 pp.), "Hydroxy Acids" (94 pp.), "Amino Acids" (32 pp.), "Miscellaneous Acids" (10 pp.), "Acyl Halides" (3 pp.), "Acid Anhydrides" (4 pp.), "Esters" (8 pp.), "The Amines" (256 pp.), and "Quaternary Ammonium Compounds" (12 pp.). The book concludes with an index of names and synonyms of the organic analytical reagents treated in the text, and one on their uses, the compounds being listed alphabetically under the element or radical for which they are employed in analytical procedures. The large number of amines used as analytical reagents is indicated by the 256 pages (almost half the volume) comprising the chapter devoted to this type of compound.

The book is conveniently arranged for ready reference and, together with the companion volumes in the set, will make a useful and up-to-date treatise on organic analytical reagents.

JOHN H. YOE

University of Virginia

A concise comparative anatomy. William Henry Atwood. St. Louis: C. V. Mosby, 1947. Pp. 413. (Illustrated.) $5.50.

Perhaps many victims of the paper blizzard, that modern visitation which silently builds its drifts on doorstep and table, have wearily reflected that the struggle would be easier if words were used qualitatively rather than quantitatively. Prof. Atwood's book is not brief—it has 413 pages bearing 303 illustrations—but it is admirably concise.

Following introductory chapters on such topics as terminology, classification, and embryology, the material is presented on the basis of morphological systems. Each chapter includes both a general discussion of a system and analyses of the system as it is represented in familiar chordates. The histology of many structures is briefly presented. Phylogeny is emphasized. There are numerous summaries, tabular and otherwise. The subject matter is presented in a clear, well-organized, and interesting manner. The illustrations are more than adequate but vary somewhat in quality. The legend (p. 350) for the picture of the human kidney and suprarenal fails to state that the lobulated kidney and relatively large suprarenal gland are not characteristic of the adult.

The text is further supplemented by a glossary, a bibliography of British and American titles, and an index. The latter is detailed but falls short of the ideal anatomical reference index in which all named structures are listed.

This volume should be of value as an elementary textbook and as a brief reference work.

THOMAS R. FORBES

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Die genauen Methoden der astronomisch-geographischen Ortsbestimmung. Th. Niethammer. Basel, Switzerland: Verlag Birkhäuser, 1947. Pp. 181. (Illustrated.)

This volume concerns primarily those methods of determining time, latitude, azimuth, and longitude which do not require the precise measurement of a vertical or a horizontal angle. An exception is made in the case of the determination of azimuth, where one method involving the measurement of an angle in the horizontal plane is offered. This approach permits the precise determination of time, longitude, latitude, and azimuth with instruments whose divided circles have not been investigated with great care. Among others, the methods of Pewzow, Doellen, Zinger, and Horrebow-Talcott are presented.

The author is professor of astronomy at the University of Basel and an expert in the field on which he writes. He presents in each case the basic mathematical derivations, including differential expressions which give the errors of the quantities sought in terms of the errors of the observed or given quantities. For each of the principal methods presented, a numerical example is worked out in detail.

Only 6 pages are devoted to the determination of difference of longitudes. There is considerably less on the instruments used than is customary in American books in this field. There are relatively few illustrations. Regrettably, there is no index, but only a table of contents.

This volume will supplement quite well the authoritative American reference volume, *Determination of time, longitude, latitude and azimuth* (5th ed.), Special Publication #14 of the U. S. Coast and Geodetic Survey, Department of Commerce.

CHARLES H. SMILEY

Brown University

Radar system engineering. Louis N. Ridenour. (Ed.) New York-London: McGraw-Hill, 1947. Pp. xviii + 748. (Illustrated.) $7.50.

This book, the first volume of the MIT Radiation Laboratory series on radar, represents an attempt to present in a coherent manner the information pertinent to the over-all design of a radar system. It is the result of a joint effort by a number of authors under the editorial supervision of Louis N. Ridenour, and the material is drawn from a variety of sources.

Those portions of the book which deal with basic matters are well written and are of permanent value. In these sections, the emphasis is on the "why" rather than on the "how" of system engineering. Material of this type is given in the chapters on the radar equation, prop-