

ality attracted large numbers of pharmacy students and Brunswick became one of the most popular centers for pharmaceutical teaching in Germany.

Dr. Beckurts was a member of the Pharmacopœia Commission, co-editor of the *Archiv der*

Pharmazie and the *Berichte der Deutschen Pharmazeutischen Gesellschaft* and editor of the *Jahres-Berichte der Pharmazie*. He was also author of books on pharmaceutical chemistry and contributed largely to pharmaceutical literature.

BOOK NOTICES AND REVIEWS.

Volumetric Analysis—Vol. II.—Practical Principles. By DR. I. M. KOLTHOFF, Professor of Analytical Chemistry, University of Minnesota, with the collaboration of Dr. Ingram H. Menzel, Dresden; translated by N. Howell Furman, Ph.D., Associate Professor of Analytical Chemistry, Princeton University. John Wiley & Sons, Inc., New York, 1929, 552 pages, 18 figures, cloth 6 x 9". Price \$5.00.

This book represents a successful attempt to present an English treatise, somewhat more concise than and supplementary to the well-known German standard work by Mohr on the Methods of Volumetric Analysis, the last revision of which, by Beckurts, appeared in 1913. Although the latter text is freely drawn upon by the author, the extension and immense development of volumetric methods during the past fifteen years necessitated a critical and comprehensive survey of the literature to bring the subject matter up-to-date. That the author has most carefully searched the literature is attested to by the fact that there are over 1500 references, which include every method of any importance.

The book appears to have been written for the mature student and the man in practice. Although it includes a number of different methods for each substance discussed, the mass of data will not prove confusing to the experienced analyst, since the advantages and disadvantages of each are thoroughly discussed and the specific use of each method gone into. Of particular value is the fact that by far the large majority of the methods have been tested in the author's laboratory and the limits of accuracy noted. Quite a number of the procedures are original and have not heretofore been published.

The first two chapters go into extreme details concerning manipulation of apparatus, the principles of calibration and the selection and methods of testing of primary and secondary standards. The author's exposition on primary standards is most illuminating.

The use of "rational" atomic weights and equivalents, instead of International Atomic Weights, is advocated by the author to compensate for the error due to weighing in air. Tables are included for rational, international and rounded atomic weights.

The next five chapters on acidimetry and alkalimetry include methods of standardizing solutions, and an elaborate exposition on the choice of indicators. In fact throughout the volume, the author's contributions to the subject of indicators—adsorption, precipitation turbidity, fluorescence, oxidation-reduction, as well as the more usual neutralization indicators, are indeed notable.

The third division of the book is devoted to precipitation and complex formation reactions (Argentometry and Mercurimetry).

The last division is concerned with oxidation-reduction reactions. An entire chapter is devoted to the standardization of permanganate solutions. The remaining chapters deal with the use of iodine, potassium iodate, potassium bromate, potassium dichromate, ceric sulphate and titanous chloride as volumetric reagents. In a few cases the author might have devoted a little more space to the method rather than refer one to the original article; for example, the use of the Jones reductor, rather widely employed in this country, is discussed in but a few lines.

The book covers organic as well as inorganic compounds. Although not intended as a text for pharmacists, many medicinal products are included; aspirin, antipyrine, atophan, chloral, phenol, salol, benzaldehyde, the sugars and many alkaloids are some of the substances discussed. In most cases these are treated lightly, the original articles being cited.

The translation has been well carried out. The translator has added some fifty pages of new material to the German edition. The editing is almost perfect, only a few minor errors coming to the reviewer's attention.

For the advanced student, as well as for the worker who wishes to have at his disposal

a variety of methods to select from when certain interfering substances are present, this book may be warmly recommended as an important contribution to the field of analytical chemistry.—ABRAHAM TAUB.

Down the World's Most Dangerous River. By CLYDE L. EDDY, member of the A. P. H. A. and formerly Editor of *The Druggists Circular*. There is a foreword by Fred S. Dellenbaugh, one of the surviving members of Major Powell's valiant band. The book is published by Frederick A. Stokes Co., 443 Fourth Ave., New York City, Price \$2.50.

Lowell Thomas, famous explorer, author and lecturer, writing from the Island of San Salvador on August 20, 1929, says, "Nearly all present-day explorers travel *de luxe*. They can't be blamed for that. But it is a thrilling and exhilarating experience to come upon a book like this. Clyde Eddy did his exploring under conditions as primitive as any since the first Malays ventured across the South Seas. Columbus in his Spanish caravel had a tame voyage in comparison with Eddy and his men in their little open boats. In shooting some eight hundred miles of boiling waters in his attempt to conquer the most dangerous river on earth, Explorer Eddy got his thrills and risked his life every day during his entire voyage. If you read this book out of doors nearly every page of it will whoop your hat right up on your lifted hair."

Clyde Eddy was the leader of the Eddy Colorado River Expedition consisting of thirteen men, three boats, an Airedale dog and a cub bear, which explored the Colorado River in June 1927. The members of the party were mainly young college men, fearless, daring, adventurous, who through the trying and hazardous six weeks gave daily proof of their mettle. They started from Greenriver, Utah, and ended at Needles, Calif., a distance of 800 miles. There are 300 rapids in the course and they ran through all but ten of them, a record which has never been equaled by any other expedition on the river. In a few places where navigation is impossible, the men had to take the boats out of the river and slide them over the rocks, or else "line" them, which meant getting them around the rocks by means of heavy ropes. Usually the supplies were left in the boats but sometimes they had to be portaged.

At the end of the first 332 miles four of the men left the expedition, but their bravery could not be questioned.

The book is written in fascinating style and vividly depicts this most dangerous river, the bed of which is deep and wide; its current is swift and variable so that the navigator must be continually on guard; its water level is subject to sudden change and frequent floods. Mr. Eddy undertook the expedition at the most dangerous time of the year, when the water was at high mark. Later in that year, after Mr. Eddy had completed his successful expedition he was called out to the river to aid in the rescue of the Pathé-Bray expedition, reported lost in Cataract Canyon, and remained to assist the party through 125 miles of the Grand Canyon from Lee's Ferry to Bright Angel Creek, where the winter expedition was abandoned.

A great portion of the river is cliff-bound and the walls of the canyons are so precipitous that one can only find an outlet in a few places where there are narrow trails. When camping in these places over night the boats were hauled up to a safe height, but there was always danger of sudden floods. The rapids hold many dangers—rocks, holes, whirlpools. The men's lives were daily and hourly imperiled, but they came through without loss of life or limb.

In the swift rush of water through the rapids huge boulders are sometimes rolled along like pebbles, making a thunderous sound, and muddy waves toss their spray, drift wood and huge logs into the air. There were many mishaps and one boat was lost. Frequently the men looked into the very jaws of death, yet their courage never faltered.

The book is dedicated to Dr. H. A. B. Dunning (President of the A. P. H. A.). Many will, perhaps, buy the book because it is written by Mr. Eddy, or because it is dedicated to Dr. Dunning, but the reviewer has found the book of such intense and thrilling interest and so full of information that its reading is recommended on the worth of the book itself.—L. H. E.

FOUR-YEAR PHARMACY COURSE (1930).

The following schools and colleges of pharmacy have—or will adopt, in 1930—a four-year minimum course in Pharmacy: Universities of Ohio, Minnesota, Nebraska, Notre Dame, Georgia, Purdue, Valparaiso, Washington, Michigan, Pittsburgh, State College of Washington, Oregon Agricultural, North Pacific, South Dakota, City of Detroit, Indianapolis, Detroit Institute of Technology.