

carbohydrates and salts. It is true that Liebig already drew attention to the fact that development cannot run its normal course either in plants, or in animals, should the supply even of one of the necessary constituents of a complete diet be inadequate. Max Rubner, director of the Hygienic Institute at Berlin, took a great step forward when he proved that it is not enough to furnish a sufficiency of protein, and that our aim must be to provide the body with the requisite modicum of energy. However, in 1910 the epoch-making discovery was made that, besides the four primary food-stuffs, in addition to a sufficiency of calories, the diet must contain quantities of certain substances which are vitally necessary to growth, strength and health. Dr. Ragnar Berg, director of the Laboratory of Physiological Chemistry at Weisser Hirsch, near Dresden, a renowned health resort, in the book before us considers the whole subject of dietetics in the light of our growing knowledge of these "Accessory Food Factors." These have been named "Vitamine" in 1913 by Dr. Casimir Funk, one of the pioneers in these investigations.

As all this knowledge is scattered in thousands of fugitive essays in the periodical press, in many lands and many languages, Berg's masterwork now before us is the first comprehensive treatment of the whole subject in book form. It is indispensable, not only to physiological chemists and specialists in dietetics, but to all medical practitioners, to students of hygiene, and last, but not least, to scientific pharmacists!

*Anleitung zum Glasblasen.* Von Dr. H. Ebert. 5 Auflage von Dr. phil. et techn. F. Hauser. 110 pp. MK. 5—Verlag von Jok. Ambr. Barth, Solomon str. 18. b. Leipzig.

This popular Handbook of Glass-blowing was first published in 1887 by Dr. Hermann Ebert, then Professor of Physics at the Technical High School in Munich. Upon his death in 1913, the present fifth edition was revised by Dr. F. Hauser, Professor of Physics, University Erlangen.

Glass-blowing is neither very easy nor very difficult. Some operations are so easy that the youngest laboratory boy should be able to carry them out. Other operations are so difficult that years are needed to train eye, hand and judgment in order to accomplish them successfully. However, the greater num-

ber of scientific needs lie between these two extremes. Yet a surprisingly large number of laboratory workers fail even to join a glass tube or make a T piece that will not crack spontaneously. The fault is rather one of understanding than of lack of ability.

The book before us with its 110 pages and 73 illustrations will be a great help to those interested in this subject and we can highly recommend it.

*Kurzes Lehrbuch der Analytischen Chemie.* In Zwei Bänden. Von F. P. Treadwell, Prof. analyt.-Chemie an der Eidgenössischen, Technischen Hochschule Zürich. Verlag Franz Deuticke, Leipzig and Wien.

I. Band: Qualitative Analyse. 13 Auflage, 540 pp.

This being the 13th edition, speaks for a well-deserved popularity. The book was originally devised and written in 1885 to meet the initial requirement of Dr. Treadwell's students. It is a credit to American science that this American chemist has been professor of chemistry at a Swiss University from 1882 until his death on June 24, 1918. Since then his son, W. D. Treadwell, followed in his footsteps.

One principal advantage of the book is the tables and charts showing the separation of the different groups of cations. It is a method which Prof. Treadwell has successfully used in his laboratory practice and by which students can readily learn the separation. Volume one also contains 29 illustrations and three spectra tables.

II. Band: Quantitative Analyse. 11 Auflage, 757 pp.

After a chapter "General Remarks" of 32 pages, the text is divided as follows:

1. Gravimetric Analysis of Metals and Metalloids.
2. Volumetric Analysis: Alkalimetry and Acidimetry; Oxidation and Reduction; Precipitation.
3. Gasometric Analysis.

This volume contains 131 illustrations and a number of tables in the Appendix as: Factors, Logarithms and Antilogarithms.

Treadwell's "Brief" Textbook of Analytical Chemistry is indeed a real contribution to this field of science. Treadwell is dead but his work and especially this book will live after him. As the author was a born American, his book should also become better known in America.

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