

THE CHEMICAL TECHNOLOGY OF TEXTILE FIBRES. BY DR. GEORG VON GEORGIEVICS, Professor at the Imperial and Royal State Trade School, Beilitz. Translated by CHAS. SALTER. London: Scott, Greenwood & Co. 1902. x + 306 pp. Price, \$4.50 net.

This is a concise text-book for students, which will not prove too abstruse for the general reader. The contents are almost entirely descriptive, and the material is, for the most part, well presented.

The book contains six chapters, *viz.*, The Textile Fibres; Washing, Bleaching, Carbonizing; Mordants and Mordanting; Dyeing; Printing; Dressing and Finishing. The chapter on dyeing is the most important section of the book. It opens with a discussion of the theory of color and color combinations; then follows an epitome of the author's views on the theory of dyeing. The mechanical theory is advocated, and a close analogy is traced between absorption of dye from the dye-bath by fibres, and solution of substances in two non-miscible liquids; the coefficient of the distribution of the dye is shown to be the same as the ratio of concentration, and it is argued that the dye-stuff "exists in different states of molecular constitution in the fibre and in the bath," the fibre absorbing simple molecules, leaving complex molecules in the bath. From this, various conclusions regarding the properties, fastness, etc., of dyes on fibres, are deduced.

The "solid solution" theory of Witt is rejected as not explaining the influence of the mechanical condition of the fibre on the "ratio of distribution," nor of the action of water on the dyed fibres. The chemical theory of dyeing is also rejected, after some discussion, with the sweeping assertion that "not one single fact is known that would indicate the probability of the occurrence of chemical combination between the dye-stuff and the fibre in dyeing."

The general excellence of the book is apparent, and but few defects may be noted. The discussion of Kellner's process for "electrolytic chlorine" might be clearer had a diagram of the apparatus been included. The directions for bleaching with sodium peroxide involve a procedure which would probably result in some loss of active oxygen. Errors in proof-reading occur on pages 2, 66, 67, 84 and 103; obscurity and some apparent carelessness of statement are shown on pages 24, 25 and 58, while in many places, the influence of the German syntax appears in the work of the translator.

There is a good index, but the omission of references to original articles is a serious defect.

F. H. THORP.

THE DYEING OF WOOLLEN FABRICS. BY FRANKLIN BEECH. London: Scott, Greenwood & Co. New York: D. Van Nostrand Co. 1902. viii + 223 pp. Price, \$3.50 net.

In the author's words the book is intended "to supply the dyer of woollen fabrics with a conveniently arranged handbook." Being designed for the use of practical dyers, it is liberally supplied with recipes applicable to special cases; these directions are frequently brief but sufficiently full to be understood by any one acquainted with the work of the dye-house. All reference to the composition and properties of the various dyes, mordants, etc., has been omitted as foreign to the purpose of the book. Chapter IV on the principles and practice of wool dyeing, the most important section of the book, contains a lucid account of the various methods of dyeing woolens, though written somewhat after the cook-book style; the chapters on the dyeing of union fabrics, and of gloria, also contain much valuable information; the numerous recipes comprise, altogether, nearly 80 pages of the book. The teacher of textile coloring may also gain some useful hints from a perusal of these pages.

Typographic errors are few, but on page 4 we find *photoplasmic* and also an obscure sentence concerning the amount of curl in wool; on page 27 appears *covered* for recovered; the cut on page 55 is inverted.

The style is simple and clear and the absence of theoretical discussions will cause the book to find favor with many to whom such material has little attraction.

F. H. THORP.

PRINCIPLES OF DYEING. BY G. S. FRAPS, PH.D. New York: The Macmillan Co. 12mo. 270 pp. Price, \$1.60.

This little book sets out to give a systematic presentation of the principles underlying the art of dyeing, illustrated and emphasized by laboratory exercises. The plan of study is to take one or two typical members of each of five main classes of colors and study them with reference to their action toward the different fibers. The groups of textile fibers are next taken up and their physical and chemical characters and behavior under differing conditions noted. The operations of bleaching, scouring and dyeing are then explained in their main outlines. The groups of dye