

12, and others. "Palmitic" acid, pages 76 and 54, seems to have displaced palmitic.

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GLUE AND GLUE TESTING. BY SAMUEL RIDEAL, D.Sc. London: Scott, Greenwood & Co.; New York: D. Van Nostrand Co. 1900. viii + 144 pp. Price, \$4.00

The author aims to give the more important facts connected with the manufacture of glue. In Chapter I the constitution and properties of glue and allied substances are dealt with. This is a topic which most books on this subject do not go into to any great extent. The relations between glue and gelatine are discussed pretty thoroughly, and a table of gelatine-producing substances is copied from Allen. The next chapter considers the manufacture of glue from the raw materials. Starting with the stock it is carried through the liming, washing, cooking, and clarifying process. The need of careful liming and a good supply of water for washing purposes are both emphasized. The use of antiseptics for prevention of putrefaction is mentioned briefly. A few different kinds of kettles, boilers, and evaporators are described and illustrated. Chapter III, in a few pages, states the various ways in which glue is used and the qualities necessary for the different grades. The next thirty pages have to do with gelatine, giving its properties, tests, etc., and describing different forms and the various uses to which they are put.

The chapter on glue testing is somewhat of a disappointment. The title of the book leads one to expect considerably more than is contained in the twenty odd pages given to it. The final pages on "commercial aspects" review the glue trade in general and deprecate the "antiquated policy of exclusiveness," claiming that the custom of keeping "trade secrets" entirely in the dark retards improvement, and works to the disadvantage of the business.

The book on the whole, while covering the ground pretty thoroughly, contains very few original ideas. Liberal quotations are made from similar works.

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SELECT METHODS IN FOOD ANALYSIS. BY HENRY LEFFMANN, A.M., M.D., AND WILLIAM BEAM, A.M., M.D. Philadelphia: P. Blakiston's Son & Co. 1901. 383 pp. Price, \$2.50.

This is one of the most concise and up-to-date books on the subject of food analysis out. While it is intended to be adapted to the needs of advanced students of chemistry as well as the

practising analyst, yet there is nothing of the ordinary text-book style about it. To a large extent the book is a summary of methods and data scattered through the bulletins of the United States Agricultural Department, and of the A. O. A. C., the most of which are now out of print. The authors have also drawn largely upon the works of Allen and Mitchell, and the *Analyst* for considerable of the material. It is divided into two main sections, analytic methods and applied analysis.

The first section on analytic methods describes both physical and chemical operations, such as determination of melting-point, specific gravity, and methods for extraction, distillation, etc., and illustrates some of the newer pieces of apparatus for the same. In describing methods of determining melting-points no mention is made of the acoustical method which is considered very dependable by many chemists. Under nitrogen determinations the Gunning method is mentioned as the most satisfactory, and nothing is said of the straight Kjeldahl method which, for some purposes, is preferable.

Several pages are devoted to the study and identification of starches and flours, giving tables summarizing the characteristics and microscopical appearances of the different starches. In this connection are several plates in the appendix of starch granules reproduced from a government bulletin, the reproduction of which by the way is poor. The examination of food fats and oils, is discussed at some length but is incomplete in some ways.

The matter in the sections on milk, butter, and cheese, is similar to the contents of the author's excellent little book on "Milk and Milk Products," but it has been revised and made more practical, and now contains all the information necessary for the analysis of milk products.

The last 100 pages take up such subjects as the examination of tea, coffee, spices, extracts, alcoholic beverages and flesh foods.

There is an appendix containing a few tables, followed by plates of starch granules and leaves all reproduced from Bulletin 13, U. S. Department of Agriculture. The book is bound the same as the latest edition of Allen's "Commercial Organic Analysis."

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