

experience, and contains some very valuable hints, and some excellent descriptions of the composition of pigments. In its chemistry it is a trifle weak. Its style of composition is colloquial, and a publishing house like J. Wiley & Sons should employ a scientific censor whose duty it is to edit a book thoroughly. For instance, the statement that the formula for white lead is 2PbCO_2 , should not be published, but probably this is a printer's mistake. The statement that red lead is a bi-oxide, and orange mineral a ter-oxide is also incorrect.

Under the History and Chemistry of Red Lead, the author states that red lead is the best priming paint for steel and other metals, and that engineers and architects are unanimous in recommending it, and that it is becoming more important every year now that so much structural iron and steel are being used in the construction of buildings in all our large cities. This is only one example of some of the haphazard statements made in the book, because the direct opposite is the case. The Singer Tower, The City Investing Building, the Metropolitan Life Tower and the new Pennsylvania Terminal are four of the largest buildings with steel construction that have ever been built, and not one of them has had red lead applied as a priming or finishing coat, and I do not know of a sky scraper of any importance excepting the Times Building, on which red lead has been used. The author quotes the Norfolk Navy Yard, but inasmuch as the Navy Department in the United States is not progressive, and all their painting is done *in situ*, which is totally different from the shop and field coating of building construction, we cannot attach much importance to naval usage. This would tend to indicate that engineers and architects are anything but unanimous in recommending red lead as a priming coat, and many of the railroads in the United States who do use red lead use a special kind of ready-prepared or ready-mixed red lead which contains a large percentage of reinforcing pigment like silica.

On the other hand, Mr. Maire's book contains some excellent general information for the painter. He has, however, omitted any reference to wood turpentine and China Wood Oil and speaks of naphtha and benzine as materials having a horrible smell.

The chapter on the mixing of tints is excellent, and the general description of the dry colors is very good. The table of synonyms is perhaps the best table of its kind ever published. MAXIMILIAN TOCH.

Technologie der Fette und Oele, Bd. II, Gewinnung der Fette und Oele, Spezieller Teil. By GUSTAV HEFTER, with the collaboration of G. LUTZ, O. HELLER, FELIX KASSLER, and others. Berlin: Julius Springer. 1908. pp. x+97+, with 19 plates. Price, 28 Marks.

The first volume of this valuable work appeared in 1907; Volumes III and IV are promised during 1908. Hefter is director of the Aktien-

gesellschaft zur Fabrikation Vegetablischer Oele in Triest. We have a considerable list of books on industrial and technological subjects by college and university professors, by commercial analysts and consulting chemists, but all too few from the pens of those who have attained high rank in the industries of which they write. It is then, with real delight, that we welcome this work on the technology of fats, written by industrial men.

The subject-matter of the present volume is arranged in six general divisions; *viz.*, The Vegetable Oils, The Vegetable Fats, The Animal Oils, The Animal Fats, The Vegetable Waxes, and The Animal Waxes. Under the head of each individual fat, oil, or wax is detailed its history, source, raw material, production, properties, trade relations and economic significance. Methods of analysis are not given, inasmuch as these are to be found well presented and in great detail in such authoritative works as those of Lewkowitsch and Benedikt-Ulzer. In this way the written page keeps faith with the title (a virtue none too common in technological works and worthy of commendation) and the work remains a technology throughout.

The authors have gathered together from a great number of sources and by no means from chemical and technological sources alone, an immense amount of valuable data bearing on the main subject and in point of accuracy few works can boast a superiority to this one. A well-seasoned acquaintance is shown with the special and general literature of the subject and with the patents and processes of various countries. It is pleasing to find the historical side of the subject so capably handled, and at the same time it is a source of satisfaction that the latest mechanical devices and arrangements used in the fat industries are so accurately and fully described and illustrated. Obsolete methods and apparatus, if mentioned at all, are given but the briefest consideration in those portions of the volume treating of modern industrial practice.

Of considerable interest and usefulness are the lists of synonymous terms in various languages as applied to the various oils and fats and the raw material from which they are derived, in the headings of the subdivisions and also in the body of the descriptive text.

The book is a mine of information for the chemist and technologist and it can be heartily recommended to anybody interested in the oils and fats industries.

The paper, typography, general and marginal indexing and the general make-up of the volume are of the usual excellence which characterizes Springer's productions.

W. D. RICHARDSON.

Traité Complet D'Analyse Chimique Appliquée Aux Essais Industriels. PAR J. POST, B. NEUMANN. DEUXIÈME ÉDITION FRANÇAISE ENTIÈREMENT REPRODUITE, TRADUITE D'APRÈS LE TROISIÈME ÉDITION ALLEMANDE ET AUGMENTÉE DE