New Books

J.F. Gerecht, Book Review Editor

Analyse der Nahrungsfette by Hermann Pardun, Volume 16 of the Series: Grundlagen Und Fortschritte Der Lebensmitteluntersuchung Und Lebensmitteltechnologie Verlag Paul Parey in Berlin/Hamburg, (384 p., 1976, DM 98)

Hermann Pardun, a well known pioneer and authority in the field of fat and oil analyses, has written this book "The Analyses of Food Fats" primarily with the German readers, oil chemists, and students in mind.

It has been quite some time since an up-date of methods, especially in the light of modern instrumentation techniques, has been published in one volume. This book, giving a critical review of available analytical methods, is well organized and supplies an abundance of background information with numerous references to original literature.

Detailed procedures are given for fat stability and fat oxidation. Not only for those who are daily involved with fat and oil analyses but also for those who occasionally have to explore this field, this is a good book to have next to methods of AOCS, ASTM, AOAC, and Mehlenbacher's "The Analysis of Fats and Oils."

The table of contents is as follows:

General Analytical Methods

I. Determination of Fat Content in Raw Material and Fat Containing Foods.
II. Isolation of Larger Amounts of Fat For Detailed Analyses.
III. Qualitative Testing and Identification.
IV. Physical Analytical Methods.
V. Chemical Characteristics.
VI. Special Methods in Fat Analysis.
VII. Determination of Major Constituents.
VIII. Determination of Minor and Foreign Substances.
IX. Tests For Stability and Spoilage.

Specific Analytical Techniques

I. Analysis and Identification of Vegetable Fats.
II. Analysis and Identification of Animal Fats.
III. Hydrogenated Fats.
IV. Esterified Fats.
V. Fractionated Fats.
VI. Baking and Frying Fats.
VII. Margarine.
VIII. Mayonnaise and Salad Dressings.
IX. Fats For Feeds.

PETER KUHR
Basic Food Science Laboratory
Kraft Inc.
Glenview, Illinois

Characterization of Coatings: Physical Techniques, Part II (Treatise on Coatings Series, Volume 2), Edited by Raymond R. Myers, and J.S. Long (Marcel Dekker, 680 p., 1976, $69.50)

Characterization of Coatings: Physical Techniques, Part II is the most recent addition to Meyers' and Long's Treatise on Coatings series and it continues to live up to the high standards set by earlier volumes in this comprehensive treatment of the science of coatings.

While prior volumes have given us much detailed information on the raw materials used to formulate paints and coatings, this new volume deals with up-to-date fundamentals of physical methods for characterizing the nature of coatings.

The book is comprised of ten chapters each one dealing with a topic that is of special interest to the coatings scientist. The sections on NMR, X-ray analysis, particle sizing, and scanning electron microscopy are written to show how the application of each can lead to a better understanding of the science of coatings.

But the remaining sections dealing with dielectric measurements, gel permeation chromatography, viscometry, interfacial energetics, solubility parameters, and transport in polymer films present a thorough treatment on concepts that are basic to scientists in many varied fields. As an understanding of interfacial energetics is of fundamental importance to the chemist trying to develop better water borne coatings, so it is to the food technologist trying to develop a better margarine or the scientist who strives to make a better shampoo.

Fats and oils are used in so many forms in the coatings industry—as components of air drying or baking varnishes, as components of plasticizers, as builidng blocks for surfactants, or thixotropes, to cite only a few. This book is especially recommended to those who work with such materials because much of value will be found.

R.J. BURNS
Union Carbide Corp
Boundbrook, NJ 08805

Perfumery Technology: Art, Science and Industry, by Marcel Billot and F.V. Wells (Halsted Pressd 353 p., 1976, $41.00)

This book is in hardcover and consists of 15 chapters. I am certain it will become a basic text and general reference work for both apprentice and practicing perfumers. It fills a need for a modern text in the art of perfumery since the last major works in this field are from the late 50's—Jellinek (1954), Maurer (1958), and Poucher 6th Ed. (1959).

The first chapter begins with a rather elementary discussion of terminology, safety aspects of perfumes, and technological aspects. It touches many subjects that are perhaps better and more comprehensively handled in other more specific works. The second chapter, however, on the origins of perfumes, is fascinating and seemed especially well documented. An interesting listing and brief biographical sketch of outstanding perfumers is also included along with their noted contributions.

Chapters 3 to 6 classify the perfumery raw material according to the absolutes, essential oils and synthetics. These chapters are especially valuable for their comments regarding odor types, perfumery applications, and up-to-date availability. The arrangement of the synthetics according to odorant families is well done.

The comparison of the different classifications of odors became a little too tedious for what it is worth. However it is a good summary of all the reported odor classifications.

I found the most interesting and perhaps important part of the book to be the Formulation Sections of Chapters 9 to 11. These very practical chapters list nearly a hundred formulas or fragrance prototypes to illustrate fragrance themes. I believe the authors did a very professional treatise in providing a very useful discourse without disclosing proprietary information.

The most disappointing aspect of the book was chapter 13 which was on the perfuming of industrial or functional products. This field of perfumery is obviously too vast and complex for a single chapter and was thus inadequately handled.

To summarize, this is a very practical text and should be of keen interest to all those engaged in the perfumery industry. It should be especially interesting to perfumers, perfumer trainees, consultants, and perfumery administrators. Despite an inflationary price of $41.00, I recommend those so interested in perfumery to spend their money on this one.

ROBERT J. STELTENKAMP
Colgate Palmolive Co.
Piscataway, NJ

Pump Handbook, edited by Igor J. Karassik, Wm. C. Grutzch, Warren H. Fraser, and Joseph P. Messina. (McGraw-Hill, N.Y., 1976, 1,102 p., $34.50)

This handbook is divided into 14 sections, including a brief introductory section. The first part of the book is devoted to pump theory, design, and performance characteristics. Then prime movers, couplings, and control devices are discussed. The largest section is devoted to descriptions of specific pumping applications. Finally, brief sections relating to selection, installation maintenance, and testing are presented. Because of its many authors, the book does contain some repetitive material and specific information is sometimes difficult to locate.

The sections of the book dealing with dynamic pumps are heavily weighted toward centrifugal pumps of the volute type. Very little space is dedicated to the less familiar dynamic pumps such as the diffuser type centrifugal and the regenerative turbine pump. The discussions on the displacement types of pump are more evenly weighed among the major types of these pumps and are written more for the applications man.

Approximately one third of the handbook is devoted to drivers (electric motors, turbines, ect.) gear boxes, couplings, valves, and other associated equipment. Although the information is useful, one would hardly start looking in a "Pump Handbook" for information on these items.

The largest single section of the handbook is devoted to "Pump Services." In this section, detailed discussions are presented regarding specific pump applications in twenty-one different services. In these brief sections outlines are presented, which in most cases, would assist a knowledgeable person in selecting specific pumps and designing fluid transport systems for the specific case being discussed. However, some sections, by necessity, caused by space limitations, are not very useful. For example, only 16 pages are devoted to pump applications in the Chemical Industry. Perhaps the space in the Pump services section could have been utilized more effectively by presenting instead a sort of "dichotomous key" for pump selection. Twenty-one applications barely touches the wide range of applications for the "second most common machine in use."

"Pump Handbook" could be a valuable asset to a Plant or Design Engineer who is responsible for the specification and maintenance of pumps. The sections on Pump Selections, Pump Systems, and Pump Installation, Operation and Maintenance could be expanded at the expense of the Pump Services section, if necessary, to make the handbook more valuable to these people.

R.E. SCHULER
Colgate Palmolive Co.
Jersey City, NJ