New Literature

V. D. Anderson Company has just published a six-page bulletin describing their new small line type Hi-eF Purifier. The bulletin lists functions of this new unit which is used to clean up small pipelines carrying live or exhaust steam, vapors and air.

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A new 40-page handbook has been published by the Fischer and Porter Company to aid in the selection and sizing of variable-area meters. The handbook gives a complete description of variable-area meters, tubes and floats and their comparison with variable-head meters, and calibration prediction data.

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A bulletin on nonisols, nonionic surface-active agents of the polyoxyalkylene fatty ester type, has been issued by the Alrose Chemical Company.

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Arthur S. LaPine and Company has released its latest publication, the Lanco Apparatus News, Vol. 4, No. 1. It is an eight-page bulletin, describing new items of equipment, such as the Kinney Vacuum Pump, electric stopwatches, and others.

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A new catalog, describing three-dimensional microscopes, has been issued by Bausch and Lomb Optical Company. It is illustrated with photographs and sketches of various models and accessories.

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Synthetic waxes of a wide range of physical properties are fully described in the new catalog, "Synthetic Waxes by Glyco," published by Glyco Products Company Inc. This 16-page catalog gives tables of specifications for these waxes.

❖

Baird Associates Inc. has published Bulletin No. 36 entitled "Plant Stream Analyzer." It describes process control by continuous analysis, continuous analysis by infrared absorption, and the Baird Associates plant stream analyzer.

This company has also released Better Analysis, Vol. 3, No. 1, a periodic review of the theory and practice of instrumentation. This issue centers on emission spectroscopy with several interesting applications described.

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(EDITOR'S NOTE: *If you are interested in obtaining any of the literature mentioned above or any further information concerning various products, please write to the New Literature Department, Journal of the American Oil Chemists' Society, 35 E. Wacker Drive, Chicago 1, Ill. Please state issue and page number containing desired information.*)

New Books

THE CHEMISTRY AND TECHNOLOGY OF FOOD AND FOOD PRODUCTS, Volume III, by Morris B. Jacobs and Associates (807 pp., including 77-page subject index for Vol. 1, II, and III, 1951, Interscience Publishers, New York and London, $15). Reviews covering Volumes I and II of "The Chemistry and Technology of Food and Food Products" have been reported by this reviewer in past issues of J.A.O.C.S. Volume III, recently issued as the final volume of the series, completes this most comprehensive work. In each field of endeavor Jacobs has made use of authors of unquestioned ability. The sum of their effort has been the production of perhaps the most useful volumes yet to appear in the field of food technology. Volume III presents fundamental aspects of food preservation including chapters on dehydration, temperature control, canning, and chemical preservation. This volume also presents production information with respect to cereal products, bread and other baked goods, sugar and sugar syrups, confectionery and chocolate products, chewing gum, fruit juices, jams, jellies, milk, meat products, fish and crustacea, oils and fats, carbonated beverages, and alcoholic beverages.

Special and laudatory mention is required concerning chapters on Food Preservation by Temperature Control by Pennington and Tressler; Food Preservation by Microorganisms by Fabian; Chemical Preservatives by Jacobs; and especially the chapter on Sugar and Syrups by Meade. New material with reference to Chewing Gum (Jacobs) and Fish, Shellfish, and Crustacea (Stansby) has been added.

This reviewer has profited immeasurably by the reading of these magnificent volumes. Taken as a whole, the series will leave no room for doubt that they are necessary volumes for the food technologist's library.

A critical review of certain specific chapters however raises the question of adequacy with respect to the extent of revision between the first edition published in 1944 and the present edition. This observation might cause appreciable doubt concerning the cost ($42) to those who already own the first edition. In weighing this important consideration, this reviewer is of the opinion that sufficient new material has been added to warrant the additional expenditure.

It seems important to indicate that "Food and Food Products" is not only a most comprehensive work for technical minds but that it is also arranged and presented in a manner of enormous value to laymen engaged in various phases of the food business.

GEORGE T. CARLIN
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NOMOGRAPHY AND EMPIRICAL EQUATIONS, by Lee H. Johnson (John Wiley and Sons Inc., 440 Fourth avenue, New York, 150 pp., 1952, $3.75). In this concise volume Dean Lee Johnson describes the design and construction of the most versatile of calculating devices, the nomograph; Part 11 treats of the techniques for handling experimental and operational data and the derivation of mathematical equations therefrom.

The general arrangement of the subject matter follows that of Joseph Lipka's book, "Graphical and Mechanical Computations," John Wiley and Sons, 1918.

Dean Johnson has chosen what is to him the simplest and most direct approach to the treatment of nomographic construction. The characteristics and mathematics of nomographic construction are based upon plane geometry, and logarithms and shortcuts are given for geometrical plotting of scales. This choice is a wise one. Without fear of dissent, it can be said that relatively few readers are able to handle determinants with any facility so that the reader of the conventional text on the subject of nomography is in most cases discouraged at the start.

Careful and thorough treatment of the factors involved in the actual construction of specific nomographs is given in a step-by-step development from elementary to more complex

equations. Noteworthy is the method of analysis prior to plotting and the discussion of the effect of scale arrangement on the accuracy obtainable.

The volume is well indexed according to specific equation types. The book, as a whole, will be of interest to engineers and scientists, as well as businessmen, industrialists, doctors, and other professional groups engaged in experimental research. The great wealth of exercise problems recommends it as an excellent university text. Proportional charts for scale plotting are provided at the back of the volume.

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OIL, FAT, AND SOAP, by Benjamin Levitt (Chemical Publishing Company Inc., 26 Court street, Brooklyn 2, N. Y., viii plus 230 pp., 1951, $6). Into this small volume (5.5" x 8.5" x 0.5") and under a most ambitious title, the author has compressed a truly astonishing amount of useful information. The contents are outlined under 10 categories: (1) Historical, (2, 3, 4) Classification and Properties of Oils and Fats, (5, 6) Soap Manufacture, including Specialties, (7) Fatty Acids and Glycerin, (8) Synthetic Surfactants, (9) Analysis of Oils and Fats, and (10) Analysis of Soap Products. In the Appendix of nine pages are given tables of useful data, a glossary of technical terms, and a bibliography of well chosen reference works. The Index comprises 14 pages and affords an excellent key to the text.

As indicated in the Preface, this book is written not only for technical and non-technical workers, chemists and students, but for manufacturers, executives, purchasing agents, and skilled workers wishing to improve their technical knowledge and understanding of their every-day tasks. To any qualified technologist in this field it is at once obvious that this book is not, and does not imply or claim to be, in any way encyclopedic. Its stated purpose is to furnish a good, over-all picture of raw materials, manufacturing processes, and testing methods. This objective has been well accomplished.

On perusal of each section the reader will experience regret that the volume was not expanded to two or three times its present size so as to enable more comprehensive treatment of almost every subject. As in every first edition, there are numerous misspelled words, but this reviewer has been unable to detect any serious factual errors. As an example of the superficial treatment accorded to important processing operations, the whole subject of hydrogenation is dealt with in the brief space of two and one-half pages. Though fatty acids and their derivatives are the building blocks of the industrial products described, only one page is devoted to the structure and properties of individual acids and less than two pages are given to the composition, in terms of fatty acids, of the principal natural fatty oils.

The sections on analysis of fatty oils and soap products embrace 37 pages. It is unfortunate that no space is given to the ultraviolet spectrophotometric analysis of polyunsaturated acids, and some of the compositions given on pp. 130-31 are based upon older, inaccurate methods, e.g., 2% linolenic acid for soybean oil. The accepted value today is 3-4 times as much. Under glycerin analysis, pp. 189-92, no mention is made of the periodate method, and there is a statement that "in the analysis of pure glycerine, either by the dichromate or by the acetin method, the results are identical." This statement is controverted by data obtained over a period of several years by the A.O.C.S. Glycerin Analysis Committee. In justice to the author it must be emphasized that he recommends A.O.C.S. Methods and offers his own modifications as satisfactory for routine commercial analysis.

From the foregoing comments it is apparent that this volume will not be of much interest to the specialist in fatty oil and soap technology. But in addition to such readers as are mentioned in the second paragraph, the teacher of industrial chemistry may find it an excellent means to bring up to date and supplement the usual college course in this phase of the subject.

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