

Chemical Industry Medalist



Ernest W. Reid, president of the Corn Products Refining Company, New York City, has been chosen to receive the Chemical Industry Medal for 1951, announces the American section of the Chemical Industry, donor of the medal. Formal presentation will be at a Society meeting, following a dinner in the medalist's honor November 2, 1951, at the Waldorf-Astoria, New York City.

New Books

COSTS, BUDGETING, AND ECONOMICS OF INDUSTRIAL RESEARCH, edited by David B. Hertz (Kings Crown Press, New York, N. Y., 261 pp., 1951, \$4.50). The First Annual Conference on Industrial Research, sponsored by Columbia University's Department of Industrial Research, was held in June of 1950. "Costs, Budgeting, and Economics of Industrial Research" is a record of the proceedings of that conference. The 12 papers presented by research experts do not all fall within the scope of the title of the book however. The record of discussions following several of the papers also reveals a departure from this scope.

The papers and attendant discussions comprise about two-thirds of the book. The remainder is devoted to a verbatim transcript of the clinic sessions of the conference. Both portions will be found of equal interest to research administrators and to company executives who have an interest in research.

There is ample evidence in this book of industry's constant striving to evaluate research and to fit it into a formal plan. That the former is difficult and the latter well-nigh impossible is tacitly acknowledged. The viewpoint that an industrial research department is a service organization and not an "ivory tower" is expressed or implied fairly frequently. One speaker puts it, "Remember that research has no inherent rights it does not earn for itself . . ."

The ideas and techniques outlined in these proceedings have, in the main, been published in other, more integrated books on industrial research. However for those interested in the multitudinous and complex problems of research administration, time spent in scanning this book will not be wasted. It should provide some apropos quotes for the next meeting with the research budget committee.

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SOYBEANS AND SOYBEAN PRODUCTS, edited by K. S. Markley (Interscience Publishers, New York, London, Volume II, 1951, 621 pages, 87 illustrations, 81 tables, 1 plate, \$11). Volume I was reviewed in the March 1951 Journal. This second volume contains 11 chapters, of which 10 are on the utilization of soybean products. As in the first book, the 15 authors are outstanding experts in their fields. The first chapter on solvent extraction processes by L. F. Langhurst completes the section on processing. The other four chapters are in Volume I. It is unfortunate that this last chapter under processing could not have been included in Volume I for the sake of continuity although perhaps it would have unbalanced the physical format of the two books. In the rest of Volume II J. Stanley writes on lecithin; Bodman, James, and Rini on processing edible oil; H. J. Deuel Jr., on nutritional value (of fats and oils); H. C. Black and K. F. Mattil on edible soybean oil products; R. W. Lehman and N. D. Embree on oil by-products; T. F. Bradley on non-edible soybean oil products; J. W. Hayward on oil meal for livestock and poultry. R. S. Burnett contributes two chapters, one on protein food and the other on protein industrial products; J. M. Smith and F. O. Van Duyne write on other soybean products (green vegetable soybeans, etc.).

All concerned with soybeans owe much to Dr. Markley and his able collaborators for making these two complete and comprehensive books available. Volume II in many ways seems superior to Volume I. Much of the data presented is previously unpublished. There is more of a sense of cohesion and summary in the chapters as written although this may be caused by the nature of the subjects in this second volume. Since high compliments could be paid to each chapter, it is difficult to single out any for special commendation. The discussion on processing edible oil seemed exceptionally complete and well written. Although the longest chapter in the book, it is concisely stated and excellently illustrated and gives much new material. Bradley, in presenting non-edible oil products, emphasizes the underlying theory of polymerization and demonstrates its application to protective coatings. His coverage of the patent literature is quite complete and most valuable. The summaries of sections on feeding animals given by Hayward are especially valuable for those not expert in assessing nutritional experiments.

It is unfortunate that very recent knowledge on the use of antibiotics and vitamin B₁₂ with soybean oil meal appeared too late for inclusion. The chapters on the nutritional value and edible products of soybean oil are so comprehensive that they will be of interest to all, not only those concerned with soybean oil. Minor errors of misspelled names and an omitted line on page 1070 are regrettable but do not detract from the value or usefulness of this volume.

I predict that "Soybeans and Soybean Products," Volumes I and II, will be the standard reference work in this field for many years to come.

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CONTINUOUS PROCESSING OF FATS, by M. K. Schwitzer (Leonard Hill Ltd., 17 Stratford place, London W. 1., England, 1951, 345 pp., 8½ x 5½ in., illustrated, 30 s.). The format of this book is excellent, and the binding in red cloth. No errata, not a single error noticed. There are indexes, 40 instructive schematic plant and flow diagrams, 30 plant photographs, 44 valuable tables, followed by bibliography. The work consists of eight chapters and carries two appendices: seven pages on material used in construction, five pages on names of suppliers, and a 12-page index.

This treatise emphasizes the trend of the industry toward continuous and mass processing and is valuable to all interested in oils and fats, such as economists, technologists, operators, managers, chemists, and students.

Chapter 1 deals with the impact of the war on supply of oils and fats, world requirements, production and exports of chief vegetable oils, whale and fish oils (of special interest to Europe), and animal fats, with 17 references. The second chapter, with 13 references, is concerned with the task of technologists in a world scarcity of oils and fats, the economic need for and the evolution of continuous techniques.

Chapter 3 is entitled Continuous Vegetable Oil Production Methods, and subjects of the ensuing chapters are Production of Fish Oils, Continuous Refining of Vegetable and Fish Oils, Processes Involving Changes in the Chemical Characteristics of Oils, Finishing Processes in the Production of Food Fats, and Manufacture of Soap and Glycerine.

Treatment of fish oils, with 43 references and short bibliography, should be of interest to the European and Asian industry. Subjects discussed include wet reduction and dry rendering plants, solvent extraction, continuous solvent extraction, floating fish factories, fish protein meal for human consumption, and so on.

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ORGANIC REACTIONS, Volume VI, Roger Adams, editor-in-chief (John Wiley and Sons Inc., New York City, 1951, 517 pages, price \$8). Volume VI is published with the dark blue cover characteristic of this series. This volume contains chapters on the following reactions: Stobbe Condensation (reaction of carbonyl compounds with succinate esters to alkylidenesuccinic acids), by W. S. Johnson and G. H. Daub; Bischler-Napieralski Reaction (synthesis of isoquinolines by cyclodehydration of β-phenethylamides), by W. M. Whaley and T. R. Govindachari; Pictet-Spengler Reaction (synthesis of isoquinolines by condensation of β-arylethylamines with carbonyl compounds), by W. M. Whaley and T. R. Govindachari;

Pomeranz-Fritsch Reaction (synthesis of isoquinolines by acid-catalyzed cyclization of benzalaminoacetals), by W. J. Gensler; Oppenauer Oxidation (action of aluminum *t*-butoxide and acetone on steroid alcohols), by C. Djerassi; Synthesis of Phosphonic and Phosphinic Acids, by G. M. Kosolapoff; Halogen-Metal Interconversion Reaction with Organolithium Compounds, by R. G. Jones and H. Gilman; Preparation of Thiazoles, by R. H. Wiley, D. C. England, and L. C. Behr; Preparation of Thiophenes and Tetrahydrothiophenes, by D. E. Wolf and K. Folkers; and Reductions of Lithium Aluminum Hydride, by W. G. Brown.

The subject matter listed above is of primary interest to organic chemists interested in the synthesis of "rare" organic compounds or in theoretical organic chemistry. The book should be of first importance to those chemists engaged in the synthesis of biologically active materials. However all organic chemists and reference libraries should have a copy.

This book is the sixth in a series on "Organic Reactions," and it is a worthwhile addition to the series. There are no other comparable volumes available to the organic chemist. Each chapter is written by an expert on that particular reaction. The editors have probably done a fine job of editing the book. For example, on the synthesis of isoquinolines three chapters are found in this volume; two chapters are written by the same authors, but the third chapter was written by another more familiar with the particular synthesis. Further review of the latest addition to the series seems superfluous since it is immediately apparent that the standard of excellence achieved in the earlier volumes is maintained in Volume VI.

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TECHNIQUE OF ORGANIC CHEMISTRY, Volume IV, Distillation, edited by Arnold Weissberger (Interscience Publishers Inc., 250 Fifth Avenue, New York 1, N. Y., 1951, xxvii + 668 pp. Price \$14). Heading and authors of the seven chapters of this encyclopedia are as follows: Theory, A. and E. Rose; Ordinary Fractional Distillation, A. L. Glasebrook and F. E. Williams; Extractive and Azeotropic Distillation, C. S. Carlson; Distillation of Liquefied Gases and Low Boiling Liquids, A. and E. Rose; Distillation under Moderate Vacuum, J. R. Bowman and R. S. Tipson; Distillation under High Vacuum, E. S. Perry and J. C. Hecker; and Sublimation, R. S. Tipson.

This book is both a theoretical treatise and a working manual. One of the authors summarizes as follows: "Some theory, an adequate column, and the proper operating procedure are sufficient to resolve all but the most complicated mixtures of volatile compounds and azeotropes." Since distillation is one of the most useful of the separation processes available to scientists, much effort has been devoted to an understanding of its theoretical and practical aspects.

The theoretical treatment of vapor-liquid equilibria and the discussions of the variables involved in the fractionating process of distillation are excellent. The book is enthusiastically recommended to those who are concerned with developmental work in this field.

The experimental parts of each chapter give detailed descriptions of apparatus appropriate for distillation at high or low temperatures and at ordinary or reduced pressures. One of the helpful features of the book is the inclusion of discussion of auxiliary apparatus such as pressure gauges, vacuum pumps, and manostats. Some sources of commercially produced equipment are mentioned. The construction of apparatus not otherwise available will be facilitated by the numerous simplified drawings.

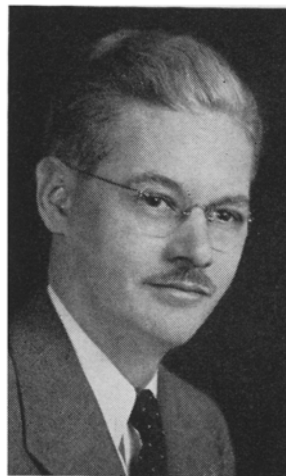
Operating instructions are sufficiently detailed for the analyst whose primary concern is the practical application of distillation to specific separation problems. The generous use of actual examples should aid in the selection of appropriate apparatus for a particular application. Limitations as well as actual physical hazards are pointed out. Many suggestions of useful shortcuts and ingenious solutions to troublesome little problems reveal the authors' first-hand knowledge of the subject.

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K. S. PITZER is resigning, effective June 18, as director of research for the Atomic Energy Commission, to become dean of the College of Chemistry, University of California.

Daubert Joins Koppers Research

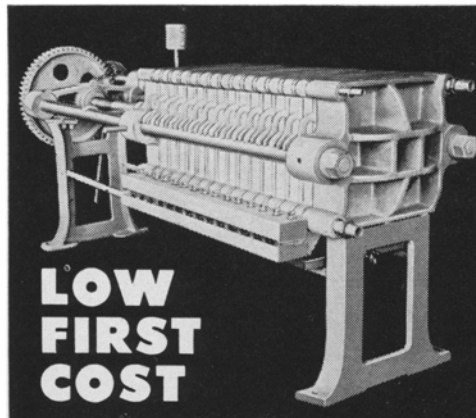
B. F. Daubert, research administrator and research professor in the chemistry department of the University of Pittsburgh since 1943, will join the Research Department of Koppers Company Inc., on August 15, 1951, as assistant manager of the laboratory section, according to Gilbert Thiessen, manager of the section. Dr. Daubert, who is widely known as a chemist and an administrator, has written more than 70 articles in chemical magazines.



B. F. Daubert

A native of Martins Ferry, O., he was graduated from the University of Pittsburgh School of Pharmacy in 1925 and received a B.S. degree in 1930 and a Ph.D. degree in 1939. From 1935-1943 he was an instructor in the Pharmacy school of the University of Pittsburgh, then becoming research professor and research administrator in the Chemistry Department.

At present Dr. Daubert is chairman of the Pittsburgh section of the American Chemical Society. He is affiliated with many other professional societies, including the American Oil Chemists' Society, the American Society for Biological Chemists, the American Association for Advancement of Science, the American Pharmaceutical Association, and the New York Academy of Sciences. He also is listed in Chemical Who's Who, American Men of Science, and Who's Who in American Education. He is a member of the Journal Committee of the A.O.C.S.



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