

NEW BOOKS

edited by F. W. Quackenbush

INSTRUMENTATION IN THE CHEMICAL & PETROLEUM INDUSTRIES, Vol. 5, Edited by George H. Robinson, "The Challenge of Computers in the Chemical and Petroleum Industries" (Instrument Society of America/Plenum Publishing Corp., New York, 1969, 88 p, \$7.00)

This book consists of 13 papers and two addresses presented at the ninth ISA Chemical & Petroleum Instrumentation Symposium held at Wilmington, April 22-23, 1968.

The first three papers discuss the economic aspects of computer installations. They can be of value to an engineering-management group making the initial decision whether or not to embark on a large computer project. They serve primarily as a corrective to exaggerated claims of economy or simplification derived from computer use, made by vendors (or existing users seeking to justify their investment).

In the "System Design and Programming" section, the first paper describes two large scale computer control systems (Ethylene and SBR processes) in some detail, and the second paper, perhaps the most useful for the general reader, describes what actually goes on in the core of a large direct digital control process computer.

The three short papers in the third section present opinions on the problems of adapting existing programs and machine languages which tend to be computation oriented, to on-line process control.

Section four, "Application—The Users Speak," presents four case histories of actual installations. In one, a 10 year old manually operated batch process plant was computerized for \$875,000 by DuPont. This was a choice target for automation because of the high degree of operator attention required, and the simple repetitive nature of a well understood process. Another paper described the application of a computer for dry materials blending and inventory control at Monsanto.

Two papers discuss the application of a digital computer for the interpretation of laboratory chromatograms. Dow, for example, processes data from 32 chromatographs in their system.

For the reader considering the purchase of a process computer system, the histories of the projects, describing the conception, design, specification, programming and start-up of the systems, will be of greater value than the somewhat skimpy technical details of the actual systems described.

The last paper, in a section by itself, describes a complete program of acceptance tests for computer equipment to be performed at the vendor's plant, a matter too often neglected, not only for computers, but for complex conventional instrument systems as well.

No one could learn how to successfully specify a process control system from this slim volume alone, but it presents a valuable general view of the capabilities (and the drawbacks) of computers in the process industry. From the point of view of the oil industry, it is regrettable that the authors confined themselves to discussing large (and expensive) general purpose machines. The smaller number of instrument loops in the typical oil plant, and the proportionately greater holdup capacity in our industry (which devalues the big computer's capability for making instantaneous plant-wide inventory and planning decisions) suggests that we could more profitably employ "mini-computers," custom built logic systems ("semi-computers"), or manually loaded shared-time computer service. Some examples of this type of installation would have improved the book's usefulness considerably.

LESLIE R. DRISKELL
RICHARD Z. VANCE
Blaw-Knox Chemical Plants, Inc.
Pittsburgh, Pa.

BLEACHING EARTHS by M. K. Hasnuddin Siddiqui (Pergamon Press Inc., New York, 1968, 86 p, First Edition, Price Unknown).

This is a hard-back book consisting of seven chapters. They are: Classification and Mineral Composition of Bleaching Earths; Geology of Bleaching Earths; Structure and Adsorption Property of Clays; Determination of Clay Minerals; Activation of Bleaching Earths; Mechanism of Bleaching and Bleaching of Vegetable and Mineral Oils; Distribution of Bleaching Earths.

This book, dedicated to the young scientists of India, is easy to read and gives location of major deposits of fuller's earth and bentonitic clays. It describes the industrial application of these minerals as adsorbents, particularly in the vegetable and mineral oil industries. The book also discusses in general the mineralogy of clays, their structure and adsorption properties, chemical analysis, method of acid activation, and mechanism of bleaching.

To the expert on bleaching earths the material in the book is common knowledge. For the person who is familiar with bleaching earths the book would be a good source of information. If the price is reasonable, the five page bibliography alone would be worth the purchase. These references consist of works pertaining to the subject by authors throughout the world.

EDWARD R. HAHN
Hahn Laboratories
Columbia, S.C.

PARAFFINS CHEMISTRY AND TECHNOLOGY, F. Asinger, translated by B. J. Hazzard, edited by H. M. E. Steiner (Pergamon Press, New York, 1968, p. 896, Price unknown).

This English edition of F. Asinger's "Chemie und Technologie der Paraffinkohlenwasserstoffe" (Akademie-Verlag 1962) is a valuable reference work for the student or industrial chemist working in the field of petrochemical derivatives of the paraffin hydrocarbons. It is essentially a collection of interrelated detailed reviews of the major segments of industrial paraffin chemistry and basic process technology. Each chapter is a self-contained "monograph" with a thorough list of references covering the international chemical and engineering literature. The topics covered include: (1) production; (2) Fischer-Tropsch synthesis; (3) chlorination, nitration, sulphochlorination, oxidation, sulphoxidation; (4) isomerization and (5) substitution behavior of the paraffins.

The first German edition was published in 1956 and was updated in 1962 for translation into English. As is generally the case with translations of this nature, the literature references are therefore not completely up-to-date. A later work, "Chemie und Technologie der Monoolefine," is referred to frequently in the text; this work is also being published in English by Pergamon Press under the title, "Olefins, Chemistry and Technology."

This unique and valuable reference on Paraffins, along with Marshall Sittig's "Paraffins and Cycloparaffins Manufacture and Derivatives," (Noyes Development Corporation, 234 p., 1968) provide a useful reference shelf combination for a quick summary review of the various areas of paraffin process technology and an introduction to the basic literature. Asinger concentrated on the trade journal references while Sittig concentrated on the patent literature. Asinger directed his book primarily to the research or development chemist and, indeed, has provided a very useful reference work for this group. In addition, advanced chemistry or chemical engineering students will find this book to be a good supplementary text. The book will be of most interest to petrochemical groups, but certain sections, particularly on oxidation, sulphoxidation and sulphochlorination, will be of special interest for

• *New Books . . .*

(Continued from page 10A)

AOCS members active in the fatty acid, alcohol and detergent areas.

Paraffin chemistry and technology is a wide and diverse field. A comprehensive review of the type presented by F. Asinger is a valuable contribution to the chemical literature. However, in covering such a broad and diverse topic in a single book, it is not possible to treat each topic in sufficient depth. The combination of basic reaction chemistry and fundamental process descriptions gives a quick overview of the field, but the research or development expert requires a more thorough treatment of reaction mechanisms, process variable interactions, process equipment and economic implications. To more effectively serve the needs of the industrial research and development groups, general treatises of the type being reviewed here should be reinforced by thorough, comprehensive and economically critical reviews of each of the specific topics of significance to the industry. This is the greater need of the times.

CHARLES W. SEELBACH
Hydrocarbon Raw Materials Development
USS Chemicals
Div. of U.S. Steel Corporation

High Nutrition Confections

One of the most effective ways to improve child nutrition in developing countries would be to provide low cost, high nutrition confections.

Although confections customarily consist largely of sugars, this need not be the case. Edible cottonseed flour, soy flour, peanut meal, sunflower meal, sesame seed, non-fat dried milk, whey solids, and defatted coconut meal could be used to supply low cost, good quality protein.

The level of desired sweetness could be regulated over a wide range. Flavor additives could be selected to meet local taste requirements and the textural properties could be adapted to local preferences. Thus by applying candy-making technology, one could produce at low cost a highly concentrated, sanitary, very nutritious, long shelf-life food which would have high acceptance.

Research and development is already under way in the United States and India, and most probably in other countries, to explore the potential of this type of product. It is to be hoped that the private sector of the food industry in developing countries will begin to address itself to this promising approach to improving nutrition.

• *Obituaries*

L. L. WALTON ('55) died on November 28, 1969. He was Associate Director of Research, Glyco Chemicals, Inc., Williamsport, Pa.

F. C. MARTIN, age 64, died October 7, 1969, in Southampton, England, from complications of cerebral arteriosclerosis. He left the Soybean Council of America, Madrid, Spain, early in 1969 because of ill health.

Fred was born in Basingstoke, England, and was educated at Oxford. He worked in the United States for General Foods and others from 1928 until 1962 when he joined the Soybean Council's International Operations in Rome, Italy. He served as Technical Director for Vegetable Oils with responsibilities in more than 60 countries.

He will be remembered by technical and operating personnel in oil mills throughout the world for the help he gave them in the production and refining of soybean oil and in the manufacture of oil products. He will also be remembered by his friends in the United States and overseas for his talent for making friends.

He is survived by his wife Kathryn G. and sons Frederick J. and Patrick M.

• *Leaders Meet . . .*



The 43rd AOCS Fall Meeting in Minneapolis was another good occasion for old colleagues to meet. Here are Past Presidents J. D. Konen and N. D. Embree in a friendly discussion with President G. C. Cavanagh.

Response to Retired Membership Category Slow as Members Renew for 1970

The AOCS Membership Department has advised that relatively few retired AOCS Members have requested transfer to the new category of membership specially set up for them. The new "Active Retired Membership" is a subdivision of Active Membership, and retains all the rights and privileges of Active Members. The advantage to Retired Members is that this new category offers them their membership at only one-half the regular cost.

Active Members who are retired should contact the AOCS Membership Department, 35 East Wacker Drive, Chicago, Illinois 60601, and request transfer to the new category. If Active Membership dues have already been paid, a refund will be forthcoming.

Response from the other regular established categories of membership has been better than usual this year. This response, in the face of a substantial dues increase, is interpreted as indicating a strong and active year for the AOCS in 1970.

Non-members wishing to establish their professional affiliation to the AOCS should contact the Membership Department at the above address.

A.I.D., L.I.F.E. and Others Need Consultants

The AOCS Office has received numerous inquiries from Government Agencies and from foreign countries regarding the availability and professional capabilities of oil chemists willing to act as corresponding consultants or willing to serve for a period of time in a foreign country.

It is suggested that interested people send biographical and other pertinent data regarding their professional capabilities and availability to the Executive Director, AOCS, 35 E. Wacker Drive, Chicago, Illinois 60601.

Please be as specific as possible with respect to foreign language proficiency, employment experience preferences with respect to location and the length of time available.

This data should enable the Society to better serve its membership, and to offer additional valuable assistance throughout the world.