brief discussion of recent applied studies and fundamental research on autoxidation of fuels (particularly gasoline), on the role of metals, sulfur and nitrogen compounds, and on the function of inhibitors of various types.

This volume will be a useful addition to any library concerned with current developments in petroleum technology. Its usefulness would be enhanced if an adequate cumulative index were provided: that in Volume IX is little more than an alphabetized list of chapter titles, with only occasional and unsystematic cross-indexing of key words. For example, the article on "Hydrodealkylation" is indexed under the title word, but not under "Aromatics," "Benzene," or "Naphthalene." Likewise, the present paper on "Thermal Cracking" is so indexed, but not under "Cracking, Thermal," although an earlier article on the same subject is indexed both ways.

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NEW METHODS OF ANALYTICAL CHEMISTRY, by R. Belcher and C. L. Wilson (Reinhold Publishing Co., New York, 1964, $13.50). This book comes in a hard cover, clearly printed, 5½ by 8¾ inches, 347 pages, with a subject and an author index. It is essentially a reference text. The chapter headings are Titrimetric Standards (19), Indicators (44), including chemiluminescent, metallochromic and metallofluorescent indicators, Titrants (16), Organic Reagents (18), Inorganic Reagents (4), Selective Spectrophotometric Methods (15), Precipitation from Homogeneous Solution (16), Solvent Extraction (15) and Miscellaneous Methods (28). The format is similar to the first edition published in 1955, but almost all of the text is new. Methods described in the earlier edition can now be found in standard texts and are no longer included. In this second edition the authors have collected methods that have, since 1955, been described in the literature and have selected those which they consider to be a definite improvement, based on their personal experience with the method or because of the reputation of the original investigator. Therefore, one finds listed many uncommon chemical species such as potassium hydrogen bis-(3,5-dinitrobenzoate), lucigenin, tris-1,10-phenanthroline osimum-II perchlorate, calcichrome, phloroglucinol, chloramine-T, ascorbic acid, tetraphenylphosphonium chloride, argentic oxide and quercetin.

Each section begins with a discussion of the chemical species, followed by methods for preparing or making of the reagent, its scope and limitations of usefulness and the references to the literature.

The book is a useful reference text for those who must determine a wide variety of inorganic anions and cations in trace or moderate concentrations. Reactions in nonaqueous solvents are not discussed and very little attention is given to the determination of organic compounds. Only those who are looking for an improved method to determine metallic impurities without searching the literature will find this an excellent reference text.

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ADVANCES IN ANALYTICAL CHEMISTRY AND INSTRUMENTATION, Vol. 3, edited by C. N. Reilley (Interscience Publishers, 523 pp., 1964, $15.00). In the introduction to the series, of which this is the third volume, the editor states that the purpose of these *Advances* is to draw together the significant developments which are appearing in increasing numbers in order that these can become everyday working knowledge and be translated into practice. A further aim of the series is to present the material from the standpoint of the non-specialist but to retain a scholarly level of treatment. These goals are achieved to a remarkable degee in this third volume.

Eight subjects, all by recognized authorities in the field, are covered in the present volume. The chapter headings are as follows: Atomic Absorption Spectroscopy, Photometric Titration, Analytical Applications of Enzyme-Catalyzed Reactions, Ion Sources and Detectors for the Mass Spectroscopic Study of Solids, Galvanic Analysis, Linear Elution Adsorption Chromatography, Concepts and Column Parameters in Gas Chromatography, and Thin-Layer Chromatography. The treatment of atomic absorption spectroscopy is quite brief and is occasioned, no doubt, by the relative newness of this topic. The literature is covered through 1962 but much has transpired in this field since that time. The subject is timely but those considering the field should consult additional sources.

The inclusion of enzyme-catalyzed reactions in this series may be somewhat of a surprise since these have not been considered generally as analytical tools. As the authors point out, however, today "dozens of kinds of enzymes are commercially available in purified form with high specific activity and at reasonable prices" and many of the previously valid objections are disappearing. The analyst who hasn't considered enzymes as analytical tools will find the information brought together here most helpful.

In the chapter on linear elution adsorption chromatography, author L. R. Snyder calls attention to the declining popularity of adsorption chromatography during the past decade. It is his feeling that "much of the blame seems attributable to the absence of a useful theory of adsorption chromatography." He then reviews the fundamental investigations of the LEAC technique including the theoretical treatment and a "beginning in the development of a quantitative theory of adsorption chromatography." Those analysts who have used or are using adsorption chromatography will find this discussion most stimulating.

The final chapter on thin-layer chromatography is nearly a book in itself. The authors, in nearly 100 pages, cover the subject in detail. This discussion should be particularly helpful to those considering the thin-layer field but the practicing chromatographer will also find much of value here. In addition to presenting theory, they have included detailed descriptions of the types, properties, and sources of adsorbents, and of the equipment which is available. This is one of the better summaries of thin-layer chromatography that have appeared.

In all, approximately one-half of the volume is devoted to chromatography, including the discussion of the fundamentals involved in the choice of GC column parameters. Undoubtedly it will find widest use by those interested in this area, although the chapters on or related to instrumentation are, for the most part, excellent, up-to-date (several 1964 references) summaries of the subject. An accumulative index covering Volumes 1–3 completes the book.

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## • Names in the News

D. L. Duensing, vice-president and director of marketing for Armour Grocery Products Co., was recently appointed vice-president and assistant general manager of Armour Meat Products Co.

R. T. Boyers, general sales manager of Armour Grocery Products, was named to succeed Duensing.

Raymond Myers, research professor of chemistry at Lehigh University, has been elected 1965 Chairman of the American Chemical Society's Division of Organic Coatings and Plastics Chemistry. Chairman-Elect is R. H. Helmreich, Dow Chemical Company; Vice-Chairman—F. P. Greenspan (1952), FMC Corporation; Secretary-Treasurer—J. C. Cowan (1941), USDA.

A. E. Griffin has been appointed Director of Marketing of Ziegler Chemical & Mineral Corp., Great Neck, N. Y. His activities will center on the manufacture and distribution of acid-refined tall oil at Ziegler's Kirby plant in Severn, N. C.

Nopco Chemical Company, Newark, N.J., has elected three new assistant vice-presidents: L. J. Owen, C. H. Lighthipe, and R. T. Whelan. The three executives will continue their current assignments in the operating divisions and will assume expanded administrative responsibilities.