

## BOOK REVIEWS

DICTIONARY OF COMMERCIAL CHEMICALS, by Foster Dee Snell and Cornelia T. Snell. D. Van Nostrand Co., Inc., Princeton, N. J. 1962. 795 pages, indexed. Price \$12.50.

The text is classified by type of compound, such as acid, alkali, etc. Each commercial substance in the group is then considered with the formula, general description, method of commercial manufacture, impurities and commercial grades. Only items of general industrial use are discussed. Thus we find that the term sodium molybdate covers a series of compounds.

While two forms of aluminum chloride are mentioned, the rather widely used aluminum chlorohydroxide is not included in the review. Beeswax is mentioned as being available in slabs and bricks although discs are common in trade circles as are flakes. Witch hazel leaves are said to be astringent, a doubtful property.

A desirable quality of this book is its wide and all encompassing scope. By the same reasoning, it is weak in its description of many substances. The arrangement of the entries appears to be well organized, yet it is a bit problematical to locate a given substance except by referring to the index which is very well done.

This is a good general dictionary, particularly in its description of articles of commerce within the scope of the text.—M. G. DEN.

ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY, Second Supplement Volume, edited by Raymond E. Kirk

and Donald F. Othmer. Interscience Publishers, Inc., New York 1, N. Y. 970 pages, illustrated and indexed. Price \$25.

The entries starting with acetylene and ending with unsaturated polyester resins, add information on older subjects and introduce a number of new subjects.

A few subjects close to the heart of the cosmetic chemist not found in earlier volumes: nonionic surfactants, oxo process, PVP, polyethylene oxides, sugar derivatives and U. V. absorbers.

The entries discuss each subject quite well, documenting the same with enough references to support text statements. The style is similar to that used in earlier volumes.

The section on polyethylene oxides could have stressed the Carbowaxes a bit more.

You will want to add this to your previous set of sixteen volumes to keep them up to date.—M. G. DEN.

THE CONDENSED CHEMICAL DICTIONARY, by Arthur and Elizabeth Rose, 6th Edition. Reinhold Publishing Corp., New York 22, N. Y. 1961. 1257 pages. Price \$17.50.

One has seen this useful reference grow steadily over the years. This sixth edition is justified by the excellence of earlier ones and by the need to keep up with all the new things coming under the heading of "chemicals."

Among the new entries are the polymers, ferrocenes, metal organics and plasticizers. There are thousands of new substances mentioned

in only about 60 more pages, but the page size has been increased by nearly an inch each way. Some of the older subject matter has been completely revised where necessary.

Chemical substances are first given by name alphabetically, then the chemical formula, properties and uses. Specialties, in addition, carry the source of supply.

No library can go without this valuable dictionary. It will save you a lot of searching elsewhere.—M. G. DEN.

**WATER-SOLUBLE RESINS**, by R. L. Davidson and M. Sittig. Reinhold Publishing Corp., New York 22, N. Y. 1962. 209 pages, indexed and illustrated. Price \$7.50.

Eleven authorities write a total of nine chapters on a "semi-technical survey of natural and synthetic water-soluble polymers," according to the book jacket.

On the face of it, here is an opportunity for writing a very useful book. But the results are disappointing. The authors too often describe their own company product to the exclusion of others. One can get a great deal of this information from the suppliers' booklets and save the cost of a book.

If the book title is not a misnomer, then some of the contents are. Since when are the cellulose ethers resins? If it is a misnomer, why weren't the Carbowaxes included with Polyox polymers?

One comes to expect "good" books from the present publisher, but the reviewer feels that someone was sleeping on the job when this manuscript was passed on for publication.—M. G. DEN.

**CREATIVITY AND INNOVATION**, by J. W. Haefele. Reinhold Publishing Corp., New York, N. Y. 1962. 306 pages, indexed. Price \$7.95.

John Haefele has essayed a difficult task: as a chemist, to give advice in the field of human behavior. From the viewpoint of a psychologist, he has done quite well. Obviously himself a creative individual, Dr. Haefele has written a manual on creativity, the climate which fosters creativity, and methods of improving one's own creative ability. Although he indicates his suggestions are useful in all fields of human endeavor, they are actually not universal and are, in truth, most applicable to scientific pursuits.

The level at which the book is written is somewhat uneven. Some portions are well written, carefully organized, and informative. At times, however, the author seems to under-estimate the intelligence and experience of his readers. In addition, references and evidence for some of his conclusions are tenuous at times.

Occasionally, Dr. Haefele uses psychological terms in explaining his ideas, terms which he uses and defines in ways that are somewhat strange to psychologists. Examples are "insight," "motivation," and "personality integration." For example, Dr. James Lawrence, a psychologist, who wrote the chapter on "The Creative Personality," states that the truly creative individual is mentally healthy. On the other hand, Dr. Haefele lists among aids to creativity poor personality integration, an erroneous idea, since to psychologists this term means an immature or mentally ill individual.

Considering the plainness of the format and the quality of the paper, the book seems to be over-priced. Furthermore, the proofreading of the bibliography is the poorest this reviewer has ever seen with regard to rules of style and also the spelling, especially of the names.

Much of the book describes specific and on the whole useful procedures to be followed by the individual who wishes to improve and develop his creative abilities. Furthermore, the author is very concerned about the effect of common management practices. Reward and recognition are extremely important to the creative individual, but he believes (and rightly) that rewarding by promotion into the ranks of management results only in stifling the creative person. He urges instead more use of the "Senior Scientist" concept. He would also like to see companies develop the "Creative Lodge" idea, a spot where creative employees could go in order to incubate their ideas, in peace and privacy.

Finally, the author is concerned with wider ramifications of the central problem: that of permitting creative individuals to function most effectively, for their personal fulfillment and for society at large. He deplores pressures to conform and also many educational procedures, practices which this reviewer also deplores.

In conclusion, the book is worthy of attention by scientists, by management, and by those with social consciences.—DR. AUDREY F. RIEGER

STANDARD METHODS OF CHEMICAL ANALYSIS, Sixth Edition, edited by N. Howell Furman. D. Van Nostrand Co., Inc., Princeton, N. J. 1962. 1401 pages, illustrated and indexed. Price \$25.

Scott's Analysis, as it is known to most analytical chemists, has been a much used reference book since its first edition in 1917. The fifth edition appeared in 1939, and the book has been brought up-to-date in this, the sixth edition. Its text differs significantly from that

of the fifth edition and has also been changed by inclusion of new procedures and numerous references to the original literature.

Analytical chemistry has changed greatly in the past twenty years and "wet methods" have been supplanted by instrumental procedures. These procedures not only improve acuity of the human senses (e.g. spectrophotometers) but permit use of physical measurements not even dreamed of in 1930. Polarography, invented in 1922, became a useful tool only in 1935 after Kolthoff extolled its virtues, and the inventor of polarography, Heyrovsky, received the Nobel prize in 1959, more than 35 years after his discovery. Since World War II, many analytical procedures applicable to inorganic materials have been added; they range from cryoscopy through spectrophotometry (emission fluorescence, u.v. and visible), x-ray diffraction, mass spectrometry and nuclear magnetic resonance to activation analysis. Despite this increase in available methods and despite the development of automatic analyzers which swallow a sample on one end and spit out an analytical report a few minutes later, the inexpensive and precise wet procedures are still needed for a variety of analytical jobs encountered in day-to-day operation of a laboratory.

It is indeed a credit to the editor to have avoided excessive emphasis on the "glamour" methods in this revision but to have retained the techniques of "wet" chemistry.

This volume is concerned with the assay and detection of individual elements. Each chapter, in addition, includes methods for the analysis of common commercial compounds or sources of the element. Altogether more than 80 elements are covered. Analyses in-

clude gravimetric, volumetric, potentiometric, electrolytic, colorimetric, polarimetric, nephelometric and radiation procedures. The text is readable, and methods and separations are described carefully. The setup of special trains, etc., are given diagrammatically and carefully labeled.

Although the sixth edition follows the pattern and repeats some sections of the fifth edition, it should be a worthwhile addition to chemical libraries, in view of its wide scope and great comprehensiveness.—M. M. RIEGER, WARNER-LAMBERT PHARMACEUTICAL CO.

**SURFACE ACTIVITY**, by J. L. Moilliet, B. Collie, and W. Black. D. Van Nostrand Co. Inc., Princeton, N. J. 1961. 518 pages. Price \$15.

This is the second edition of a monograph which, since its appearance in 1951, has become one of the standard works in its field. Readers familiar with the first edition will find that the authors have changed the form very little. Nevertheless, they have fitted in a wealth of new material, deleting older items and references that are no longer of prime value, to produce a fresh, up-to-date volume.

The book's 15 chapters are grouped into three parts entitled "Physical Chemistry of Surface Active Agents and Interfacial Processes," "Technical Applications of Synthetic Surface Active Agents" and "Chemical Constitution of Synthetic Surface Active Agents." Except for the last part, some 140 pages, which is largely descriptive organic chemistry, emphasis throughout the book has been placed on the physico-chemical behavior of surfactants. A unifying thread of modern colloid science is carefully maintained in the technical

applications discussions as well as in the chapters dealing with fundamental physical chemistry. This is indeed well-named as a treatise on Surface Activity since it is the behavior of the materials, rather than the materials themselves or their specific uses, that occupies the limelight. After a brief introduction, the authors begin with a discussion of the solution states of surfactants, emphasizing theories of micelle formation and structure, and solubilization. This is followed by chapters on the interfacial adsorption of surfactants and on the major groups of interfacial processes, including wetting, deflocculation, protective colloid action, emulsification dispersion and foaming. The discussion is well balanced between the formal mathematical approach and the descriptive or phenomenological approach. In the five chapters on technical applications the various individual processes are grouped on the basis of the dominant colloid chemical effect that is involved. Thus the processes that depend on wetting, emulsification, dispersion of solids and detergency are considered collectively and their common features emphasized. A separate chapter is devoted to processes that depend on a variety of other colloidal properties of surfactants.

The book is excellently written and the references are well selected. The authors never neglect to guide the reader with their own opinion when controversial or conflicting literature is cited. These points all contribute to making a good readable text that will be useful to all interested in surface activity—A. SCHWARTZ, Harris Research Laboratories, Inc.

✓A MANUAL OF COSMETIC ANALYSIS, by Sylvan H. Newberger, Ph. D. The Association of Official Agricul-

tural Chemists, Inc., Washington 4, D. C. 84 pages. Price \$4.00.

This booklet describes analytical procedures which are currently used in the laboratory of the Division of Color and Cosmetics of the Food & Drug Administration. These procedures are authoritative because they are used for the analyses required for the enforcement of the Federal Food, Drug and Cosmetic Act. However, the procedures are equally authoritative since they are based on sound chemistry and on methods widely adopted in the cosmetic industry.

Three chapters in this book, which comprise approximately one third of the total pages, are of particular interest. The first of these is concerned with the analysis of creams. This chapter is equally useful for the analysis of lotions and, with minor modifications, can be adapted for the analysis of various types of hair dressings, brilliantines, etc. This is especially true if the information in the chapter on creams is combined with that in the chapter on the analysis of lipsticks. The third chapter which appears of major interest to the reviewer is the chapter on the analysis of shampoos, which describes the separation of a variety of detergents and their qualitative identification.

Other important chapters are devoted to the analysis of nail lacquers, of hair dyes, and of permanent waving products.

Each section is devoted to qualitative analysis as well as to quantitative methods of assay. A number of flow sheets are presented for the qualitative analysis of cosmetics. From the numerous infrared spectra included in this volume, it must be concluded that the F.D.A. places particular emphasis on this extremely useful method of qualitative determination. Over 50 infrared

spectral curves are included in the text. Admittedly, this is not a comprehensive collection, but it should prove useful to the cosmetic analyst who is confronted with a variety of qualitative identification problems.

The reviewer was surprised to find no mention made of additives used in creams which are routinely sold to the American public. For example, no mention is made of hormones and skin lighteners which are frequently used in creams and lotions. Similarly, a large number of other cosmetic preparations are not included in this book. Facial makeup products and the identification or separation of various pigments used in them are not covered. Shaving preparations (tube, jar or aerosol), pre-electric shave lotions, and after-shave lotions are not mentioned in this volume. A serious omission from this volume is the lack of attention given to eye makeup products. It is well known that the F.D.A. has developed methods for the analysis of eye products and for the identification of pigments in such products. It is surprising to find that these methods and analyses were not made part of this book.

Another omission is the absence of spectral data of components of suncreening preparations which are identifiable by their ultraviolet and infrared spectra. Finally, it would have been desirable to include a series of qualitative and quantitative procedures for various germicidal and antimicrobial substances which are used commonly in cosmetic preparations.

Regardless of these omissions, the booklet is an important and significant contribution to cosmetic science and will be of value for all who are involved in analytical procedures.—M. M. RIEGER, Warner-Lambert Pharmaceutical Co.

FUNDAMENTAL PRINCIPLES OF BACTERIOLOGY, by A. J. Salle. McGraw-Hill Book Co., Inc., New York 36, N. Y. 1961. 812 pages, illustrated and indexed. Price \$11.

Every chapter of this fifth edition of a work nearly twenty-five years old has been updated, according to the preface. A significant amount of the text appears for the first time, hence the reader is cautioned not to accept the statements as established fact.

In a random checking of the text one fails to find reference to the self-sterilizing properties of certain shell fish and plankton, although the round-up of the bacteriology of the sea is otherwise quite thorough.

While there is a considerable review of the bacteriology of water, nothing is said about the maximum bacterial count of drinking water. The chapter on bacteriophage is well illustrated. The germicidal properties of the glycols and the effect of surfactants is inadequately described.

The book perhaps is a good class text, but it fails to let the student know some of the developments since, say 1950. Although the references heavily cover early years, the subject after 1950 is but sparsely reviewed. Yet a smattering of references up to 1960 are given.

For those wanting very basic bacteriological information, this book will be helpful. The subject is clearly and well presented.—M. G. DEN.

✓ THE BEHAVIOR OF PLASTICIZERS, by Ibert Mellan. Pergamon Press, Inc., New York 22, N. Y. 1961. 273 pages, illustrated and indexed. Price \$8.00.

Most of us think of plasticizers as simple substances added to both rigid and semi-rigid plastics to keep their substance together for ex-

tended periods of time—to ensure toughness, increase flexibility or to improve stability.

Among the items treated in this book are the mechanism of plasticizers, retentivity, efficiency, flexibility, tensile strength, shrinkage, creep behavior and internal plasticization.

Table 2 on pages 28–29 seems transposed. The list of sources commencing with page 261 is a valuable addition, but it does not seem to be tied in with a given plasticizer.

It is regrettable that the references are so few; furthermore, most of them date to years before 1950. The index is very insufficient. If one wants to learn anything about plasticizers for nylon, polyethylene, polypropylene or polystyrene, one has to look for it in the text, if the data is there. The index does not list it.

And yet the book contains many valuable data formerly scattered throughout the literature.—M. G. DEN.

QUANTITATIVE METHODS IN PHARMACOLOGY, edited by H. De Jonge. Interscience Publishers, Inc., New York 1, N. Y. 1961. 391 pages, illustrated. Price \$13.25.

This book is not for the beginner. It presumes a considerable knowledge of the subject. It is in fact the proceedings of a symposium held at Leyden in 1960.

The book, typical of others reporting a "proceedings," presents an exchange of knowledge of quantitative pharmacological methods. Discussions of the papers are also included.

A casual examination shows: "distributionfree" not hyphenated; *biassed* not *unbiased*; the grammar, as is often the case in translating into English, is not the best, as in the discussion on page 168.

All in all, this is an advanced book with a strong European flavor. It is good for us to know more about methods used by others.—M. G. DEN.

INTRODUCTION TO COLLOID CHEMISTRY, by Karol J. Mysels. Interscience Publishers, Inc., New York 11, N. Y. 475 pages, illustrated and indexed. Price \$10.

Twenty chapters are prepared for two audiences in mind: (a) the college senior; (b) the industrial chemist or executive. The author uses a presentation that is good for college students possibly but not for either the industrial chemist or executive, especially the latter.

There is no section or chapter on emulsions. The subject is treated or referred to in twelve different places. This is the author's choice of course. Wouldn't it have been better to bring it all together at some point at the risk of some repetition?

As a reference, the book leaves the reviewer bewildered. As a text, a student can learn and understand the author's method because he has to. If the book is to sell to executives it will have to be considerably simplified, for executives are neither concerned with the extensive mathematical explanations nor do they have the time to figure them out. Even so, there are numerous interesting expositions within the covers.—M. G. DEN.

NEW HOPE FOR YOUR HAIR, by Irwin I. Lubowe. E. P. Dutton and Co., New York 10, N. Y. 253 pages, illustrated and indexed. Price Cloth Covered \$3.95; Paperback Edition \$0.95.

Realizing that the book is aimed at the public at large, one discounts the numerous impressions of lack of what some would call "scientific

exactness." The layman has to have the material greatly simplified. To do so, many complicated explanations of our knowledge of hair must be tailored or altered. The author has been exceedingly clever at achieving this goal.

However, on page 52, one wonders why hard candy is all right to eat in an anti-seborrheic diet but saccharin is to be used in place of sugar. Furthermore, if hard candy is permitted, why not soda pop? Both contain sugars, acids and flavors. Or does the author refer to cola type "pops?"

On page 147 *p*-phenylenediamine is not correctly stated and it is also misstated in the index.

On page 148, second paragraph, the author misunderstands the Food, Drug and Cosmetic Act and regulations regarding hair dyes. The warning and patch test go on hair dyes made with coal tar colors which *may* be injurious to users (Sections 601a and 902a). On page 158 it is not usual for depilatories to contain barium sulfate. In former times barium sulfide was used. Today, thioglycolates (one l) are almost universally used, although some calcium and strontium sulfides are still in use. Finally, Chapter 19 appears to be misnamed when it is called "Nutrition of Hair and Scalp." A cosmetic chemist could not get away with the implications of such a title.

This is no attempt at denigrating the author's efforts. It does point up the difficulty of translating a scientific subject to lay language. For indeed it contains much lucid and factual information for the public. The prophylactic recommendations for saving one's hair could certainly be fruitful, for example. Results of work in the area of growing hair is for "tomorrow or the day after." The difficulties with transplants; the prob-

lems with the Japanese treatment using cepharantine; Foldes' thesis of hair loss due to high salt content of body tissues; placenta extracts; plant hormone injections and numerous other unusual ways of growing hair, all come in for review.

The glossary at the end of the book along with the illustrations simplify the subject so all can understand it.

One finds it difficult to put the book down once you start reading it. You will want it in your library.—M. G. DEN.

ADVANCES IN APPLIED MICROBIOLOGY, Vol. I, edited by Wayne W. Umbreit. Academic Press, Inc., New York 3, N. Y. 304 pages, illustrated and indexed. Price \$9.50.

Another of the series of "Advances in—" by this publisher, which so many of us have used in the past. Whether there are sufficient advances in applied microbiology to put out such a volume on an annual basis is hard to predict.

In attempting to cover a range of subjects of interest to all people, one finds all too often that some of the meat is left out of the sandwich. The contributions fail to describe the real character of modern industrial microbiology.

The chapter "Factors Influencing the Antimicrobial Activity of Phenols," devotes but four lines to inactivation by nonionics. Elsewhere, flow patterns as actually used in mass production techniques in industry should be included. Up-to-date information on the production of mutations is necessary.

The principal value of these "Advances—" series is that usually there are a lot of references in the reviews. Obviously their very forte is their weakness in that the advances in these areas are rapid and it is impossible to keep up with them

in such a text which at best is over a year behind.—M. G. DEN.

THE CHEMISTRY AND TECHNOLOGY OF EDIBLE OILS AND FATS, edited by J. Devine and P. N. Williams. Pergamon Press, Inc., New York 22, N. Y. 1961. 154 pages, illustrated and indexed. Price \$6.50.

This text is the published record of the Unilever Conference held at Port Sunlight in 1959.

The following are the titles of the papers presented:

Physical and Chemical Properties of the Constituents of Edible Oils and Fats; Fatty Foods and the Pattern of Their Consumption in the U. K.; Processing of Oils and Fats for Edible Purposes; The Analysis of Oils and Fats; The Determination of Linoleic Acid; Gas/Liquid Chromatography of Atheromatous Plaques; Modern Spectroscopic and X-ray Techniques; with an appendix on Methods of Analysis.

Each address carries the discussion that followed the presentation.

These contributions came from the Unilever Research staffs in England and Holland, hence reflect to a certain extent, the practice within that company.

This is an useful little addition to your library on fats and oils.—M. G. DEN.

SYNTHETIC METHODS OF ORGANIC CHEMISTRY, by W. Theilheimer, 14th yearbook. Interscience Publishers, Inc., New York 1, N. Y. 549 pages, indexed. Price \$29.50.

Portions of this book appear both in German and English. It covers papers published during 1957-1959 on the broad subject of synthesis of organic compounds, improvement of known methods and also old proven methods.—M. G. DEN.



LIPIDE CHEMISTRY, by Donald J. Hanahan. John Wiley and Sons, Inc., New York 16, N. Y. 330 pages, illustrated and indexed. Price \$10.

This interesting volume could almost be called by a title such as "Phospholipid Chemistry." It discusses the lipides starting with the very simplest and going on to consider the most complicated and conjugated types as the lipoproteins and proteolipides.

No matter how many books on "fats" you have in your library, this one fills in the missing data in other volumes.—M. G. DEN.

ACRYLIC RESINS, by M. B. Horn. Reinhold Publishing Corp., New York 22, N. Y. 192 pages, illustrated and indexed. Price \$4.50.

The history, chemistry, properties, manufacture, fabrication and application, including future trends of the four types of acrylics, form the subject matter of this book. It is one of the "plastics application series," usually general in nature but giving quite a bird's-eyefull of valuable data.

Better coverage of both trade named materials and industrial usage would be most useful. The value of acrylates in cosmetics is not mentioned.—M. G. DEN.

SILICONES, edited by S. Fordham. Philosophical Library, Inc., New York 16, N. Y. 1961. 252 pages, indexed and illustrated. Price \$10.

Along with eleven collaborators the author has prepared twelve chapters on silicone chemistry, manufacture and use.

The chapter on the commercial aspects of silicones is useful. Here one finds that seventeen companies now produce silicones, for example. Although pharmaceutical uses are

mentioned, cosmetics apparently fall into the "other minor application" category.

The book is of very limited interest to cosmetic chemists, but it does give a good roundup of information for industries using substantial quantities of silicones.—M. G. DEN.

PHYSICAL METHODS OF CHEMICAL ANALYSIS, Vol. I, edited by Walter G. Berl. Academic Press, Inc., New York 3, N. Y. 686 pages, illustrated and indexed. Price \$19.

The following physical methods are described in as many chapters: absorption phenomena of x-rays; x-ray diffraction; spectrophotometry and absorptimetry; emission spectrography; infrared; Raman spectra; refractive index; mass spectrometry; electron microscopy and electron diffraction. A subsequent volume will discuss other useful physical methods.

Today's analytical laboratory has a difficult time to keep up to date on methods. The present volume in its second revision is a contribution intended to solve this problem.—M. G. DEN.

PHOSPHORUS AND ITS COMPOUNDS, Vol. II, by John R. Van Wazer. Interscience Publishers, Inc., New York 1, N. Y. 1961. 1108 pages, illustrated and indexed. Price \$35.

Aided by fifteen contributors, the author supplements Volume I with an "up-to-date treatment of the technology, functions, and commercially important applications of the compounds of phosphorus."

Six chapters are devoted to the technology, three to biological functions and ten chapters on applications which are further fortified with four appendices on patented uses for the phosphates.

The chapters on the use of phosphates in dentifrices, cleaners, built detergents and in suspensions are especially interesting. This volume completes the set, a valuable and useful reference in any library.—M. G. DEN.

RECENT ADVANCES IN THE CHEMISTRY OF CELLULOSE AND STARCH, edited by J. Honeyman. Interscience Publishers, Inc., New York 1, N. Y. 358 pages, illustrated and indexed. Price \$9.25.

A series of lectures given at Manchester College is edited into a book. Like so many volumes of this type, its title is misleading. Essentially, the lectures given by fourteen different people and written as twelve chapters, are the chemistry (advanced) of cellulose. Little space is spent on its derivatives. Starch is but slightly considered and its derivatives are only sketchily touched on.

If you are interested principally in the advances in the chemistry of cotton cellulose, then this book is for you.—M. G. DEN.

COLORIMETRIC METHODS OF ANALYSIS, Vol. III A, by Foster D. Snell and Cornelia T. Snell. D. Van Nostrand Co., Inc., Princeton, N. J. 1961. 576 pages, illustrated and indexed. Price \$10.75.

The present volume includes material appearing in the seven years previous to the publication date. Earlier material appears in Volume III.

The nineteen chapters of this volume discuss thousands of photometric methods of analysis along with sufficient text to enable the reader to prepare samples, remove interfering substances and to calculate results.

The only error noticed in a casual

examination of the text was on page 552 in the misspelling of cigarette *smoke* as *smole*.

The book is well made and written. It is an useful reference in all analytical laboratories.—M. G. DEN.

POLYMERS AND RESINS, by Brage Golding. D. Van Nostrand Co., Inc., Princeton, N. J. 744 pages, illustrated and indexed. Price \$15.

According to the book jacket, this volume covers "in one convenient, comprehensive volume . . . the chemistry, properties, manufacture, fabrication and application of all commercial polymers and resins." The book is an outgrowth of a course in organic polymers and resins given by the author to senior students and graduates at the engineering school at Purdue University.

Twelve chapters accomplish the author's mission, in what this reviewer feels is a satisfactory manner. The book fills a need in all branches of industry using plastics of any kind.—M. G. DEN.

PHARMACOLOGY OF PLANT PHENOLICS, edited by J. W. Fairbairn. Academic Press, Inc., New York 3, N. Y. 151 pages. Price \$6.00.

There seems to be a never-ending series of published "Proceedings" of various symposia. The present work is one of these. It consists of eleven contributions without benefit of an index, together with discussions. The contributions on plant phenols possessing estrogenic activity is of considerable interest and is well done. The papers dealing with the flavanoids are well done as is the one on plant phenolics in foods.

If you have interests in this area, the book is a worthwhile addition to your library.—M. G. DEN.

SPICES, by John W. Parry. Chemical Publishing Co., Inc., New York 10, N. Y. 1962. 226 pages, illustrated and indexed. Price \$8.75.

About 185 pages of this interesting book are devoted to the anatomy of plants used as spices. The balance of the work considers the chemical composition of the spices.

The first part of the book is arranged by botanical morphology and histology. The second portion is arranged alphabetically starting with allspice and ending with turmeric. One does wonder how dill, garlic, onion, parsley, peppermint and spearmint, to name a few flavoring materials, are considered as *spices*.

The book is a thumbnail sketch for the busy but interested reader on the general subject of spices and natural flavoring products.—M. G. DEN.

PRINCIPLES OF ORGANIC CHEMISTRY, by T. A. Geissman. W. H. Freeman and Co., San Francisco 4, Calif. 635 pages, illustrated and indexed. Price \$7.00.

The author concentrates on principles eliminating much often included general information. The subject is presented in terms of chemical "groups" rather than of compound classes. Thus the hydroxyl group is considered in place of alcohols. Typical of textbooks, short exercises are found at the end of each chapter. As a result, the

author feels he has produced a text adequate for a one year course in organic chemistry.

The author uses a number of sketches which seem so popular these days in teaching chemistry. Some explain the text well but others would be confusing.

The book is well written and the subject is clearly presented. It is a good refresher for those out of school for awhile.—M. G. DEN.

ORGANIC PEROXIDES, by E. G. E. Hawkins. D. Van Nostrand, Inc., Princeton, N. J. 1961. 434 pages, indexed. Price \$12.50.

There are at least two good books on hydrogen peroxide available to chemists. Rieche's *ALKYLPEROXYDE UND OZONIDE* was published in 1931 and the Tobolsky and Mesrobian, *ORGANIC PEROXIDES*, appeared in 1954.

There are an increasing number of articles on organic peroxides appearing in scientific and trade journals. Hence the publication of this work fills a need.

In twelve chapters the author summarizes all the work up to the present day including reactions of peroxides, kinetics, analysis, applications and autoxidation. Although "the method of classification used may not be ideal," it must suffice until a better one is worked out.

This book is for advanced students of the subject—M. G. DEN.