

page on prostaglandins, which includes seven structural formulas), through quite thorough chapters by Kritchevsky and Shapiro, to a very extensive discussion of sphingosine-type biochemistry by Burton. The methods chapter by Wagener is particularly appropriate in this account of subject matter so fraught with experimental difficulty.

Part II, termed "Lipidoses," is larger, covering 318 pp. It is written in the style of a modern medical text and gives unusual, but proper, emphasis to the biochemical as well as the clinical and pathological aspects of the disease state. Three chapters entitled Gangliosidoses, Gaucher's Disease, and Niemann-Pick Disease were prepared by G. Schettler and W. Kahlke. Another set, Metachromatic Leucodystrophy, Angiokeratoma Corporis Diffusum (Fabry's Disease), Heredopathia Atactica Polyneuritiformis (Refsum's Disease), A- β -Lipoproteinemia, and Tangier Disease, was authored by W. Kahlke alone with the balance done as follows: Essential Hypercholesterolemia (G. Schettler, W. Kahlke, G. Schlierf), Essential Hyperlipemia (L. W. Kinsell, G. Schlierf, W. Kahlke, G. Schettler), and Genetic Aspects of Lipidoses (W. Fuhrmann). One is astounded at the extensive study that has been devoted to several of these rather rare and tragic, but extremely interesting, disease states. Even so, each of these fascinating chapters should provide a stimulus to further investigations in its area. Unfortunately, the preparation of text on Refsum's disease preceded the recent elegant work of Steinberg, *et al.*, that finally elucidated the specific nature of the genetic defect. However, one can assume that this vigorous group of authors will not fail to include such important developments in the next printing or edition of the book.

The balance of the volume is devoted to a very useful and thorough set of author and subject indexes (93 pp). These indexes complement the extensive use of citations to original literature and review articles, which allowed the authors to maintain the readability and reference aspects of the book while containing it within a reasonable size. By supplementing any of the chapters with even a portion of the references cited, one should be able to enter rapidly the mainstream of current research in any of these areas.

Throughout the text there are minor errors in spelling, perhaps attributable to foreign production. It is nicely printed, although on an odd mixture of two grades of paper, and contains a number of beautiful illustrations in color.

This work will be a useful purchase for all medically and biochemically oriented libraries as well as for specialists in lipid research. Individuals with more general interests in medicinal chemistry will want to have access to it and be familiar with the contents, particularly Part I, but are unlikely to have a consistent need sufficient to justify the cost of a personal copy.

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JERRY A. WEISBACH

Annual Reports of Medicinal Chemistry, 1966. Sponsored by the Division of Medicinal Chemistry, American Chemical Society. Edited by CORNELIUS K. CAIN. Academic Press Inc., New York, N. Y. 1967. x + 368 pp. 26 \times 18 cm. Paperback, \$7.95.

Medicinal chemistry has now reached a stage where there are more reports and reviews than new ideas. The publication of half a dozen annual or biennial review series has led to an overlap of the topics under consideration, and it is no longer unusual to find the same subject treated in several simultaneous books from almost the same point of view. This imposes on the various editors a necessity to exert considerable effort in corraling knowledgeable contributors. Loyalty to an organization with which one has grown up may be the decisive factor for an author in choosing an affiliation with one of these monograph series. The Division of Medicinal Chemistry of the American Chemical Society has been a vehicle for American medicinal chemists for exchanging ideas, acquiring and meeting like-minded friends, and for presenting and listening to the development of our field at its many symposia. It is, thus, only natural that many of the best experts, mostly in the pharmaceutical industry and in some university departments, could be drafted to review in depth the significant events in their specialty during the last year. The present annual report volume covers virtually all aspects of medicinal research, from highly speculative and theoretical ideas

to the more earthly motions of molecular modifications. The reports are written well and clearly, carefully referenced, and carefully edited. The type-offset process by which the book has been printed is not unattractive and has made possible a low price.

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ALFRED BURGER

Biosynthetic Patterns in Microorganisms and Higher Plants.

By H. GRISEBACH. John Wiley and Sons, Inc., New York, N. Y. 1967. xi + 110 pp. 14 \times 19 cm. \$7.95

This booklet deals with the biosynthesis of three classes of compounds: the flavonoids, macrolide antibiotics, and branched-chain carbohydrates. Each topic is introduced with a skeleton survey of the chemistry of the compounds under discussion and then goes quickly into the consideration of biosynthetic pathways. Reliance is placed on evidence from isotopically labeled precursors and reaction products, but predictions based on reasonable hypotheses are also mentioned. This reviewer enjoyed the chapter on branched carbohydrates, with its tabulations of structures and sources compiled for the first time.

The reference lists and the index are adequate, and print and paper are unusually good. The E. R. Squibb Lecture Series at Rutgers, the State University of New Jersey, deserves credit for arranging for this valuable and attractive publication.

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ALFRED BURGER

New Drugs. Evaluated by the A. M. A. COUNCIL ON DRUGS. American Medical Association, Chicago, Ill. 1967. xiii + 591 pp. 16 \times 24 cm. \$3.50.

The 1967 edition of this annual compendium is addressed, as were its precursors, to the physician; it provides an authoritative compilation of carefully worded brief introductions to 51 classes of drugs, and within each class gives a monograph on those compounds marketed in the United States during the decade, 1957-1966. A total of 256 drugs are dealt with, listing the actions, uses and adverse reactions of each specific agent, contraindications, precautions, dosages and routes of administration, structural formulas, generic names, and the most common proprietary names with the sources of each drug.

The impartiality with which the advantages and disadvantages of each drug and class of drugs are presented should help the physician to form his own opinion above and beyond the recommendations of the detail men whom he has to see every day. Indeed, he will have to make up his own mind about using a given drug since the book does not tell him whether the AMA Council on Drugs favors or disfavors the agent. However, he can assume that the extensive remarks about efficacy and adverse reactions reflect the opinion of the Council and its consultants. The index gives the physician a chance to learn the generic (nonproprietary) names which, in the years to come, he will have to use more and more in prescriptions.

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ALFRED BURGER

Química Farmacêutica. By QUINTINO MINGOIA. Edições Melhoramentos, São Paulo, Brasil. 1967. 787 pp. 23.5 \times 16.3 cm. Paperback.

Although not many American chemists can read Portuguese, they should, like this reviewer, be able to gather the principal scientific data from a book in their own discipline. A little background in French or Spanish should guide any medicinal chemist through the present volume. They will be glad to see that a modern approach to our subject has been adopted in Latin America and is being taught to students in the good universities there. The arrangement of topics follows almost to the letter that chosen by this reviewer in an earlier book ("Medicinal Chemistry," A. Burger, Ed., Interscience Publishers, Inc., New York.

N. Y., 1960); the general chapters are shorter, on the whole, and directed to juniors or seniors in colleges of Pharmacy. Some of the specific drug categories have been treated in greater detail. In addition to the medicinal, biochemical, and metabolic aspects of drug chemistry and of drug design, purely descriptive statements are to be found which link the presentation to that of student-oriented pharmaceutical chemistry. However, on the whole the spirit of the book is forward-looking and up-to-date. The subject matter is covered through 1964, and thus a few important events of the last three years have not been included. This book should do much to elevate the standards of medicinal chemistry in Latin countries to a high level.

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ALFRED BURGER

Fluorescence: Theory, Instrumentation, and Practice. Edited by GEORGE G. GUILBAULT. Marcel Dekker, Inc., New York, N. Y. 1967. xxviii + 697 pp. 15.5 × 23.5 cm. \$15.75.

The increasingly revitalized area of luminescence has been the subject of several books in the past few years. Like certain other analytical techniques, fluorescence and phosphorescence theory and procedures were relatively well known but awaited the development of sufficiently sophisticated instrumentation to bring out their full potential. This book reports on recent progress in each of the three areas indicated in the title. In origin and development, it is similar to the volume edited by D. M. Hercules last year. Both books evolved from symposia organized by the Analytical Division of the American Chemical Society and represent

expansion of the symposia papers. It is not surprising that there is some overlap in topics and contributors.

The book can be considered as comprised of three parts. Chapters 1-4 treat fluorescence theory, starting generally at a level such that the novice is not completely overwhelmed. Chapter 2 on structural and environmental effects is particularly well done. The use of a laser for fluorescence excitation is described in Chapter 3. Part II, Chapters 5-6, involves two of the newer developments in instrumentation. Included is discussion of polarization-modulation techniques and also a description of an attachment for a popular commercial instrument which will now allow correction of excitation and emission spectra. Part III, applications of luminescence techniques, takes up the last 60% of the book. A short, but interesting, chapter on fluorescent metal chelates suggests sensitivities to the sub-p.p.b. level for certain elements, a remarkable achievement. Topics covered in other chapters of part III include kinetic methods, phosphorimetry, the use of fluorescence to study protein structure, the investigation of photosynthetic pigments by fluorescence, atomic fluorescence flame spectrometry, and electrochemiluminescence.

Of the three parts, coverage of instrumentation is considerably shortchanged. The editor's expressed hope that this book be useful to the "novice, the researcher, and the theoretician" is no doubt met to some extent, but a beginner would be advised to look elsewhere for a detailed description of instrumental problems and limitations. The range of applications is very useful, particularly inclusion of the newer techniques. This book will complement and supplement previous works and will be of value to all those interested in luminescence. Considering the large amount of material in the 14 chapters, it is probably not overpriced.

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