

## Book Reviews

**Progress in Drug Research. Vol. 4.** Edited by ERNST JUCKER. 606 pages, 17 × 24 cm. Interscience Publishers (A Division of John Wiley & Sons, Inc.), New York, N.Y., 1962. \$30.00

The fourth Volume of this series contains five chapters. H. Herbst writes (in German) on newer medicinal organic sulfur compounds. The word "newer" is a mis-nomer. The sulfonamide drugs, DDS, thiosemicarbazones, penicillins, thioxanones, phenothiazine and thiophene derivatives discussed from a medicinal hodge-podge of well known materials which have only an insignificant sulfur atom in common to justify their discussion under one heading. This is old-fashioned drug chemistry at its worst. If only new facets of old drugs were stressed in this conglomeration, but alas, they are not; even the several hundred references are not much of a consolation in fields of which individual topics have previously been covered by thousands of references in several monographs.

Another chapter (in German) on connections between structure and activity of local anesthetics by H. Grasshof again brings echos of early 20th century views on drugs. It is a systematic account of the effect of structural variations on the activity in infiltration anesthetics, and from that point of view a good source of references. However, it reaches little beyond a compilation of empirical findings.

A survey of Antihypertensive Agents by E. Schlittler, J. Druey, and A. Marxer brings us back to the accustomed high standards of the "Progress" series. Strongly oriented toward the pharmacological causes of various types of hypertension, and richly introduced with historical developments, this chapter presents all the various important types of drugs which in the last ten years have alleviated high blood pressure. The thiazides which had been reviewed in Vol. 2 are not reviewed again, but most other types of drugs are brought up to date critically and adequately in a satisfactory medicinal approach.

N. J. Harper reviews the role of activating and protective groups which steer drug molecules past the pitfalls of premature metabolism and unwanted absorption. Such an article on "Drug Latentiation" has long been needed and will undoubtedly facilitate inquiry by others into these important problems. Like the next chapter, it gives only a bird's eye view of a complicated and ill-understood field. Such an over-all treatment necessarily overlooks details some readers would want to find, but at least the right biochemical attitude toward transport biochemicals is preserved throughout, and the effect of stereochemistry on group removal is stressed.

The long article (173 pp., 876 references) on Molecular Geometry and Mechanism of Action of Chemical Carcinogens by J. C. and M. Arcos is the best one of this book. Thoroughly biochemically oriented, but solidly based on organic reaction mechanisms, it authoritatively fits together the many conflicting hypotheses of chemical carcinogenesis. It leads to the idea that the mode of action of carcinogens is randomization of protein and nucleic acid structure resulting in the loss of metabolic feedback channels. This fascinating exposition should be read by every organic chemist who works in cancer chemotherapy, and by every author of review articles in this field. The Arcos have also rectified many traditional historic errors which have assigned original ideas to late-comers who by sheer volume of work and repetitive publication have been credited with important priorities they do not deserve.

UNIVERSITY OF VIRGINIA  
CHARLOTTESVILLE, VIRGINIA

ALFRED BURGER

**Advances in Organic Chemistry. Methods and Results. Vol. 3.** Edited by R. A. RAPHAEL, E. C. TAYLOR, and H. WYNBERG. vii and 333 pp. Interscience Publishers (John Wiley and Sons, Inc.), New York, 1963. \$13.75.

The third volume of this series follows the first two volumes in format and purpose. It presents four chapters written by experts and designed to familiarize organic chemists with broadly

applicable specialized methodologies. Mass spectroscopy as a structural tool, by R. I. Reed, accounts for instrument design, analytical applications, cracking patterns of hydrocarbons, applications to mono- and polyfunctional molecules, rearrangements and distinctions between types of isomers. A consideration of low energy spectra and their analysis concludes this chapter. D. M. Brown describes phosphorylation; he introduces the reader to phosphate ester chemistry, phosphorylation methods and acyl phosphates. With the authority of the Cambridge University Laboratory behind it where so much work in this field has been done, the reader is assured of an authoritative account (325 references) of organic and biochemical implications of phosphate ester chemistry. The third chapter by R. A. Boissouas on selectively removable amino protective groups used in peptide synthesis is particularly timely. At a moment when structure-activity variation in the peptide field may become a major activity in medicinal chemistry, a survey of the synthetic methodology by a great expert is to be welcomed. The critical appraisal of the virtues of each protective method is especially valuable. There are 227 references. Finally, J. F. W. McOmie reviews methods of protecting all kinds of bonds and functional groups while other facets of the molecule are to be manipulated. Although much of this is classical organic chemistry, a fresh view of recent methods with 613 references is of interest. It complements much of what a more trying study of many Theilheimer volumes could convey. Author and subject indexes are good and the paper, print, and binding of good quality.

UNIVERSITY OF VIRGINIA  
CHARLOTTESVILLE, VIRGINIA

ALFRED BURGER

**Piante Medicinali, Chimica, Farmacologia e Terapia. Vol. 1.** By R. BENIGNI, C. CAPRA, and P. E. CATTORINI. Inverme e Della Befra, Milano, 1962. 722 pages.

Volume I of this series, which is to be completed by the publication of a second volume, is a courageous attempt to condense into a relatively small number of pages the new, important, and interesting developments in pharmacology, botany, and therapeutics in the medicinal plant field over the last ten years. A publication of this kind could only meet with the approval of everyone, provided the treatment equally satisfies the need in each specialized field. Unfortunately this is not entirely the case. Even if it can be said that for the most part pharmacological and therapeutic aspects are presented lucidly and comprehensively, the commentary on certain topics is too argumentative and subjective. However, it is easy to forgive this minor defect when considering the good presentation given most of the time; what is not so easily forgotten is the irritating recurrence of mistakes in chemical formulas or in nomenclature, for instance on pages 1, 84, 129, 143, 503; and the waste of space on large structural formulas of compounds which have been known for years. Also, sentences such as (page 143) "... e bagnata con soluzione di potassa o soda odora di baccala" sound neither technical nor scientific; or to give another example, a statement such as "... hanno isolate composti ben definiti, cioè gli acidi triterpenici pentaciclici acido ursolico ed oleanico e  $\beta$ -sitosterina  $C_{27}H_{46}O + H_2O$ " can be very misleading and confusing to an inexperienced researcher. Further, when reviewing substances isolated from various plants it is not really necessary, in the mind of the reviewer, to mention that they are not present in a certain plant (see, e.g., page 101 "Assenza di saponine"). If a substance is not present, why mention it? Or, if for some reason it should be present, why is no explanation given for this? Finally it is not very clear who can benefit from the knowledge of the fact that the Chinese name for *Illicium verum* sounds something like "Ta hoei hiang-Pa Kio hoei hiang-Pa ynetchou."

There is much good in this book, and the effort to make available a piece of work which could satisfy a real need should be appreciated. Most people may forget the few faults which have made this book a good work instead of a very good work.

UNIVERSITY OF CAMERINO  
ITALY

PAOLO MARCHINI