Progress in Drug Research. Vol. 5. E. JUCKER, Ed. Birkhäuser Verlag, Basel, Switzerland, 1963. 654 pp. Swiss Francs 124.

The fifth volume of this series contains three chapters: The effects of structural alteration on the anti-inflammatory properties of hydrocortisone by L. H. Sarett, A. Patchett, and S. Steelman (142 pages, 371 ref.); Analgesia and addiction by L. B. Mellet and L. A. Woods (111 pages, 199 ref.); and Phenothiazines and azaphenothiazines as therapeutic agents (E. Schenker and H. Herbst, in German, 357 pages, 6,800 ref.). An author and title index for Vol. 1–5 is appended. Each chapter is distinguished by completeness, by progressing from descriptive chemical and biological data to searching inquiries into the mechanisms of action on a molecular level, and by reviewing clinical applications in the light of structural modifications. All three chapters feature well written historical introductions which lead us from chance observations by mystery-story-like pathways to the decisive discoveries. Many of these facts have not been presented accurately before.

The monumental chapter on phenothiazines is the most descriptive of the three but will remain the factual reference work in this field for a long time. The review of potent analgetics has gathered much material from earlier review articles and books but goes well beyond them in its interpretation of theories of analgesia and addiction. The chapter on hydrocortisone and its many anti-inflammatory congeners fills a much-needed gap in steroid compilations. Most reviews of steroid chemistry and pharmacology have covered so many areas of this diversified field that details had to be treated by reference rather than by discussion. The original grouping for even a justification for congeners of hydrocortisone makes interesting reading. The Merck scientists offer a critical and probing survey of all pertinent facts and ideas both on the "how" and the "why" of steroid anti-inflammatory activity. Although the interpretation of steroid receptors remains speculative, the authors have penetrated as deeply as facts, reasoning, and scientific hoping will permit at present. These pages should be read as a model as to what contemporary knowledge can do with the concepts of bioreceptors.

It is not too much to say that this is one of the best volumes of the series. If future volumes are to be measured by its standards, they will offer the most penetrating reviews of medicinal science available today.

UNIVERSITY OF VIRGINIA ALFRED BURGER
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Grundlagen der Arzneimittelforschung und der synthetischen Arzneimittel. By JAKOB BÜCHI. Birkhäuser Verlag, Basel and Stuttgart, 1963. 744 pp. Swiss Francs 96.

Although adequate texts and reference books covering all phases of the chemistry of drugs have been available in English, no such compendium has appeared in German in recent years. Professor Büchi, who has just been celebrated in European medicinal journals as an outstanding modern pharmaceutical chemist on that continent, has returned this compliment by writing a large, learned, yet very readable book on the fundamentals of the science of drugs. The second part of the title, involving synthetic drugs, points to the older preoccupation of pharmaceutical chemical research and education: the application of organic chemistry to the preparation of medicinal agents. But Prof. Büchi has taken a significant step forward. He recognizes that the synthesis and manufacture of drugs are activities of organic chemistry and make such compounds available for study and therapy, but do not contribute in any way to the understanding of drug action; nor do they help in the conception of new structures of potential medicinal interest. The present book deviates, therefore, from previous texts on drug chemistry: it does not report or discuss synthetic methods by which drugs are prepared but is concerned with the discovery of drugs, with their properties and their mode of action. The organically trained pharmaceutical chemist may pout over this lack of synthetic or degradative chemical information, but he should realize that to be a medicinal chemist, one has to lean towards more than pure organic chemistry.

This pioneering step in designing the book is counterbalanced by the inclusion of 43 pages on physical pharmacy (pp. 239–247, 289–324) which has only a peripheral value to drug design. On the positive side, the book is the first of its kind to devote a full chapter on drug metabolism and the impact of biochemical alteration on activity. To the medicinal chemist this area is of ever-growing interest, and a compact survey of this work is highly welcome. The nonpharmacologist will be glad to find an excellent simple chapter on biological methods of evaluation of drugs, and a carefully conceived short section on clinical trials reflecting the latest regulations and difficulties imposed on such experiments.

Professor Büchi is an authority on the relation of physical properties and pharmacological activity, and the chapter devoted to this topic (120 pp.) goes well beyond the scope of similar reviews. So does the chapter (60 pp.) on the mechanism of drug action which describes what we know of biological, cellular, and biochemical receptor sites, modes of drug-receptor interactions, and the moderate amount of enzyme chemistry a medicinal chemist ought to know.

The main portions of the book deal with structure–activity relationships and their application to the design of new medicinal agents. Metabolite antagonism is treated somewhat as a stepchild, but the author has succeeded in stressing other aspects suggestive of new and needed researches, even in therapeutic fields in which the cause of the disorder is not understood. The novel subdivision of the book and the extensive literature coverage make for refreshing and useful reading.

American medicinal chemists will perhaps wish that the book were written in English. But even if that wish could be accommodated by translation, the text would have to be adjusted extensively to American usage, especially in drug nomenclature. Most drugs are given European registered trade names in the present volume rather than generic names. Many new drugs of the last five years in rapidly moving fields (antineoplastic agents, psychotherapeutic drugs, etc.) are not mentioned. Nevertheless, the new organization of the material, and the enthusiastic persuasion of the ethically satisfying mission of medicinal science should make every medicinal chemist want to read this book.

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Entstehung, Wachstum und Chemotherapie maligner Tumoren. By DIETRICH SCHMÄHL, University of Bonn. Editio Cantor, Aulendorf i. Württemberg, Germany. 209 pp. 17 × 24 cm., 62 figures. DM 28.

This small book attempts to give an all-too brief survey of cancerogenesis and all types of therapies of malignancies. It is addressed to the medical student and practitioner; the oncological scientist will not derive too much benefit from the over-all sketchy presentation of data. Perhaps the best portions of the book deal with animal experimentation, and with a review of exogenous carcinogens from radiation through every type of chemical to tars from tobacco smoke and smog. There is a good chapter on malignant growth phases, and on metastasis. The chapter on the radiological therapy of cancer is reasonably adequate but the section on the huge modern effort in tumor chemotherapy is not. It reflects the gap between experimental and clinical therapy as seen by a clinical pathologist. Perhaps such conservatism is as it should be, but it does not inspire confidence in research in a field where clinical failure is still the current end of the road.

There is an author index but no subject index.

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Metabolic Inhibitors. A Comprehensive Treatise. Vol. 1. Edited by R. M. HOCHSTER and J. H. QUASTEL. Academic Press, Inc., New York, N. Y. xx + 669 pp. $26.00 (subscription price for each of two projected volumes $22.00).

The inhibition of metabolic pathways, enzymes, and especially of metabolites is one of the few defendable approaches to drug