survey of the materials, to be sure, but that is not chemistry. The chapter on X-ray contrast agents is better in this regard.

The introductory chapter of the book on subcellular actions of cortisol in liver is pharmacology and biochemistry and looks strange under the heading, "Theoretical Concepts." Does that mean that biochemical remarks about the mode of action of drugs are theoretical in one chapter and applied in another?

Fortunately, the "Applied Medicinal Chemistry" section of the book *is* medicinal chemistry. It contains several good chapters (antiinflammatory agents by T. Y. Shen, chemical modification of antibiotics by S. J. Childress, antiviral agents by T. S. Osdene, antihypertensive agents by A. D. Bender, and thyroid and antithyroid drugs by H. A. Selenkow and M. S. Wool). The chapter on cancer chemotherapy by M. B. Shimkin is purely descriptive, clinically oriented, and of not much help for future researches.

It is to be hoped that the editors and publisher will be more critical in future volumes what they call medicinal chemistry. Half of the present book has abused and diluted the term, and such expansionist thrusts into nonchemical areas will not aid our thinking and our selection of reading material even in these days of interdisciplinary growth of science.

UNIVERSITY OF VIRGINIA ALFRED BURGER
CHARLOTTESVILLE, VIRGINIA

Dilemmas in Drug Therapy. By HARRY BECKMAN. W. B. Saunders Co., Philadelphia, Pa. 1967. xi + 404 pp. 19 × 26.5 cm. $11.50.

A veteran American pharmacologist who serves as a consultant on drugs faces the following questions which almost any physician would ask an expert clinical pharmacologist: "Here is the patient and these are the circumstances. This drug has failed, and so has that. Who has used another unusual one and why? What are the risks? Is there something I should know and do not? What would you do?" The author offers experience, wisdom, and opinions in answers given by a physician, not by a computer. These answers cover 313 clinical subjects ranging over the whole area of medicine. Each subject is introduced by a detailed and straightforward question of several sentences. Then follows the author's answer, referenced where possible. Then comes another question and answer, and so forth. The opinions expressed are considerate, conservative, and carefully formulated and should be invaluable to the practicing physician in innumerable situations.

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Psychotropic Drugs and Related Compounds. By EARL USDIN and DANIEL H. EFRON. Sponsored by the Pharmacology Section, Psychopharmacology Research Branch, National Institute of Mental Health, Public Health Service, U. S. Department of Health, Education and Welfare. Public Health Service Publication No. 1589. U. S. Government Printing Office, Washington, D. C. 1967. iv + 367 pp. 24 × 16.7 cm. $2.75.

When a major field of medicinal research reaches a plateau and offers the investigator and clinician a bewildering array of similar agents for several areas and conditions, a referenced tabulation of virtually all drugs and agents (690 of them) comes as a most welcome gift to guide us at a glance through the burgeoning list of names, dosage forms, and applications. The term "gift" is appropriate; this book is offered at one-sixth or one-seventh the standard publisher's price for the number of pages and formulas, and although we recognize the taxpayer's contribution, the low price evokes nostalgic recollections of the days when individuals, and not just institutions, could afford a shelf full of professional books.

Both clinical drugs and all experimental compounds reported to have psychotropic activity were to be included; this ambitious goal had to be cut back arbitrarily, *e.g.*, all barbiturates were deleted. On the whole, however, almost all compounds with principally psychic activities can be found in this volume.

There exists no universally accepted system of nomenclature, and the authors have done a good job classifying compounds by popular naming schemes, by generic names, and by giving structural formulas. Virtually every synonym or trade name is listed, as well as names of manufacturers, distributors, and Registered Trade Mark users. Each entry contains LD_{50} values and human doses, where applicable, perhaps one of the most valuable features of this collection. Tranquilizing, antidepressant (energizing), and hallucinogenic activities are indicated, but no subclassification has been attempted. There are 985 literature references, 40 general references to media used in searching the literature of psychotropic drugs, an extensive compound index cross-referencing synonyms, an alphabetical list of manufacturers, and lists of abbreviations. Moreover, every owner of this book is promised a list of supplements until a new edition will be prepared. And all this for the price of a haircut.

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CHARLOTTESVILLE, VIRGINIA

Problemès Actuels de Biochimie Appliqueé. Edited by M.-L. GIRARD. 1st series. Masson and Cie., Editeurs, Paris. 1967. vi + 368 pp. 16.5 × 24.5 cm. Paperback, 90 Francs.

This volume contains seven chapters concerned with some biochemical analytical processes, their background in physical chemistry, immunochemistry, pathology, biosynthetic pathways, and their application to diagnosis. In a discussion of gas exchanges on the pulmonary and cellular level, R. Bourdon touches upon phases of diabetes, anoxia, and other disorders traceable to contributory disturbances of acid–base equilibria. J. Canal takes up acid–base equilibria again in his chapter, the determination of the amount of NH_4^+ in biology, concentrating on ammonium ion metabolism and enzyme activity affected by it. A conservative chapter on serotonin and the biochemical exploration of its metabolism, well written, avoids speculation about the role of 5-HTA in organs where its significance is in question. However, the description of selective analytical methods for 5-HTA should aid in locating this compound and distinguishing it from accepted neurotransmitters. The remaining chapters also emphasize the analytical approach to biochemical researches. They are the exploration of electrophoretic results by the analyst and clinician (M.-L. Girard); errors in carbohydrate metabolism (F. Paolaggi); paraproteinemias: diagnosis, biochemistry, and immunochemistry (F. Rousselet); and dehydration states (J. Yonger and J. Saada) which so often cause infant mortality.

Any practicing biochemist who uses modern analytical techniques will find this book useful, especially if he can read elegant Parisian French with enjoyment.

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Design of Active-Site-Directed Irreversible Enzyme Inhibitors. By B. R. BAKER. John Wiley and Sons, Inc., New York, N. Y. 1967. xiii + 325 pp. 18 × 24.5 cm. $13.50.

Any scientist who publishes over 30 major articles per year in a field for whose growth he is principally responsible should assess his own work and that of others in the same area at given intervals. The book by "Bill" Baker, as he is known fondly among American medicinal chemists, fulfills this purpose in the field of irreversible enzyme inhibitors.

The first 15–20 years of metabolite antagonist studies centered around essentially reversible inhibitors, but scored successes only in a few selected cases. The reason for this over-all failure was lack of selectivity. In an irreversible inhibitor attached to the active site of an enzyme plus some other location at the enzyme surface, an extra dimension of specificity has been introduced which can distinguish between even closely related isoenzymes. Since the three-dimensional conformation of enzymes is still mostly unknown, we cannot design an antagonist *a priori* to fit a site surrounded by those spatially neighboring groups to which the enzyme owes its rapid rate of reaction. Therefore, patient mapping of such amorphously visualized humps or cavities is necessary by systematic alteration of the structure of the inhibitor and by carrying out thousands of kinetic measurements of residual enzyme activity. From these data at least some conclusions have been drawn concerning the structure of selective inhibitors and the role and location of polar, bulky, and hydrophobic groups in their molecules. It is a tedious way of mapping