

Medicinal Chemistry

Psychopharmacological Agents. vol. 1. Maxwell Gordon, Ed. Academic Press, New York, 1964. xvi + 678 pp. Illus. \$23.50.

The organization of this book is, in general, based on the review, in separate chapters, of the major classes of psychopharmacological agents. To the extent allowed by the diverse nature of the subject matter, each chapter covers the history, synthesis, pharmacological activity, in vivo distribution and metabolic fate, and, briefly, the clinical uses of each class of psychopharmacological agents, as well as the relevant analytical methods. The editor believes that by having the discoverers or developers of each class of compounds write the chapter on that particular compound, he has achieved a more authoritative treatment of this complex subject. This approach, however, leads to bias in some chapters. In general, the papers provide a successful balance with respect to the scientific disciplines involved, but the major emphasis is on the chemical rather than the biological approach.

A review of phenothiazines was considered for this volume, but the chapter proved to be a monograph in itself and will be published as a separate volume. Volume 1 covers the literature up to 1963, and supplementary material will be made available in the appendix of volume 2.

The editor does not mention butyrophenone types of antipsychotic compounds. This is unfortunate because in Europe haloperidol and its congeners represent one of the largest groups of antipsychotic compounds in present-day clinical use.

Usually the number of pages devoted to each type of compound is in accord with the clinical usefulness of that compound. A possible exception is the treatment of the monamine oxidase inhibitors, but in this case the many types, and the numerous clinical disappointments because of toxic side-actions, merit the more complete discussion. A second exception may be the 13 pages allotted to benactyzine, which seems large in view of the fact that all of the rauwolfia alkaloids are covered in 21 pages.

The chapters on the chlordiazepoxides and imipramine types are perhaps the most interesting from the standpoint of medicinal chemistry and

structure-activity relationships. The final chapter, on psychotomimetic drugs, is exceptionally well written and comprehensive.

The book is written by and for medicinal chemists and pharmacologists who are interested in the present state of the development of psychopharmacological agents. The drug-oriented clinician who is interested in psychopharmacology can find here the pharmacological basis for the clinical trial of agents in man and some indication of their scope of application. He will not find any details on the types of clinical syndromes that have responded to the psychopharmacological agents.

CARL C. PFEIFFER
*New Jersey Neuropsychiatric
Institute, Princeton*

Statistics

Introduction to Experimental Statistics. C. C. Li. McGraw-Hill, New York, 1964. xii + 460 pp. Illus. \$11.50.

This book, in the author's own words, is intended to be ". . . useful to the practising experimental worker as well as to the student." Whether or not it will satisfy the practising experimental worker, only time will tell, but I am sure that it will prove useful to the serious student. However, there is a third person who should certainly be thankful that Li has written this particular type of book. I refer, of course, to the teacher of statistics, for *Introduction to Experimental Statistics* contains many "explanations" (algebraic, geometric, and verbal) that should prove invaluable to those of us who are continually seeking better ways to explain the concepts and techniques of statistical analysis.

This book is divided into three parts: Basic Mechanics and Theory (14 chapters), Experimental Designs (15 chapters), and Some Related Topics (4 chapters). The first 14 chapters, which are essentially the same as the author's earlier book, *Numbers From Experiments: A Basic Analysis of Variation*, contain not only the algebraic and geometric concepts that are encountered in many statistical techniques but also an introduction to regression and analysis of variance. Part 2 is devoted to the more common experi-

mental designs (completely randomized, randomized complete block, Latin square, and the like) and includes discussions of such related topics as factorials, concomitant data, and missing observations. Part 3 contains chapters on multiple measurements, multiple comparisons, unequal group variances, and change of scale. Tables are not included, but owing to the availability of many fine sets of tables, this is not a serious omission.

As enjoyable and informative as I found the book to be, I nevertheless did not appreciate the experience of contending with yet another notation for sums of squares. An even more disturbing experience, however, was the encountering, on page 59, of the following statement regarding the use of Model I or II in the analysis of variance: "In the great majority of cases, however, the investigator may argue either way, depending on his mood and his handling of the subject matter. In other words, it is more a matter of assumption than a matter of reality." With such a philosophy, I cannot agree.

In spite of the critical comments made in the preceding paragraph, it is my belief that Li has written a most useful book. In particular, it should prove especially helpful to serious students and to dedicated teachers.

BERNARD OSTLE
*Statistical Test Design,
ROCKETDYNE, North American
Aviation, Inc.*

Modern Mathematics

Lectures on Modern Mathematics. vol. 2. T. L. Saaty, Ed. Wiley, New York, 1964. x + 183 pp. Illus. \$5.75.

This volume, the second in a three-volume series, contains six expository lectures given at George Washington University and sponsored by the Office of Naval Research. The purpose of each lecture is to describe a substantial research area of mathematics, broadly and comprehensively, for an audience of mathematicians not specialists in that area.

The first article "Partial differential equations with applications in geometry," by L. Nirenberg, is in two parts. The first covers equations with constant and with variable coefficients, boundary value problems, and singular in-