

PHARMACOPOEIAS AND FORMULARIES

43 on General Information, including a useful synopsis of the Federal Regulations on Narcotic Drugs, and 30 of Index. Tables of Atomic Weights, Metric Doses and Apothecaries' Equivalents usefully decorate the fly leaves at the back—"good measure-running over!" Gm. not G. is used for gram and L., ml. and μ l. are retained with ml. taken as the equivalent of the cc.

Pharmacists will be specially interested in the tests and assays directed to quality control. There are many new assays and many improvements in standards for tablets which are now subject to individual assay. Half the tablets have had their disintegration times reduced—in most cases by at least 50%. Increasing use is made of modern and instrumental methods of analysis. N.F.XII is primarily a book of standards and introduces in this edition for the first time gas-liquid chromatography, flame spectrophotometry, thin-layer chromatography, polarography and delta-pH titrimetry amongst other techniques. Spectrophotometric Reference Standards have increased from 42 in N.F.XI to 91 in N.F.XII—59 of these are provided for the first time. Virtually all the spectrophotometric assay formulae have been converted to calculations based upon absorbance values.

Although the U.S.P. has recently deleted its monograph on meprobamate on the ground that this drug is not a "true tranquiliser," it is included here and categorised as such! Only one typographical error has been detected—or does U.S.A. refuse to differentiate between principal and principle? In his closing tribute to his committees and participants the Director of Revision refers to their "Contribution to the fulfilment of the obligation to advance the public welfare which was assumed by the National Formulary more than 75 years ago". Perhaps such dedicated volumes are of limited value here because of differences in names, standards, practices. But the pattern has its values.

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Book Review

INTRODUCTION TO PHARMACOLOGY. By J. J. Lewis. Third edition. Pp. xvi + 1048 (including Index). E. & S. Livingstone, Ltd., Edinburgh and London, 1964. 63s.

This textbook is now well-established and its success is evidenced by the appearance of this third edition barely four years since the first edition was published in 1960. With thirty-seven chapters comprising nearly one thousand pages it is certainly a comprehensive "Introduction" to the subject. This edition is one chapter and over 100 pages longer than the 2nd Edition.

The first chapter deals with general aspects of the subject such as administration, absorption, distribution and fate of drugs and theories of drug action which are important but which students so often fail to appreciate or to enjoy at the beginning of the subject. This may be because an understanding of these topics in perspective depends so much on having studied what appears in the rest of the book. This section would probably have more significance for the student if it were placed at the end of the book.

The next three chapters deal mainly with the pharmacology of the autonomic nervous system and with drugs related to this topic. The beginning is rather abrupt as there is no introduction to the concept of humoral transmission. The treatment is immediately very specialised with a pronounced chemical bias. It is up-to-date, but beginner students will find it heavy going. In the bibliography there is no reference to the appropriate sections in "Goodman and Gil-

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man," nor to Professor Burn's little book on the Autonomic Nervous System, which are so well done and would make excellent complementary reading.

Later there is an account of the functional anatomy and physiology of the sympathetic nervous system, essential as a background against which to consider the pharmacology, but no comparable consideration of the parasympathetic system.

There is a useful discussion of structure-activity-relations for the sympathomimetic amines and a full account of the formation and metabolism of the sympathetic transmitter amines. There is plenty of factual detail in the section on the sympathetic nervous system but more correlation of the mechanisms at work would make for easier understanding.

It is surprising that some of the errors should have persisted into a third edition. In the section on ergot alkaloids, medical students using this book would get unorthodox impressions if they learnt that ergometrine is used to induce labour (p. 221) or that oxytocic drugs are not used before the third stage of labour has begun (p. 221) or that ergotoxine is used in obstetrics to prevent or reduce post-partum haemorrhage (page 225).

There is a good account of the pharmacology of histamine and antihistamines. It is pleasing to see 5-hydroxytryptamine and some of the vasoactive polypeptides given a prominent place in a students' textbook.

The section on general anaesthesia is notable for an up-to-date discussion of theories of anaesthesia. It is strange that the metabolism of the barbiturate drugs is dealt with so scantily since a great deal is now known which can provide a basis for a discussion and understanding of their properties and uses. The anti-epileptic drugs are dealt with in a comprehensive manner and the up-to-date account of the tranquillizers is well based on chemical structures and relations. By comparison the section on antidepressives, a group of drugs likely to be of increasing importance, is brief. On p. 337 the word should surely be psychotropic not psychotropic?

In several of the sections the emphasis is on *drugs* rather than *mechanisms*, this is of course unavoidable because so often the mechanism is unknown, but Lewis's book is better in this respect than many other textbooks. The best type of approach is seen, for example, in the section on Emetics and Anti-Emetics where there is first a full consideration of nausea and vomiting, then a discussion of the drugs which influence these processes. Such an approach would improve the account of the diuretic drugs which are more readily understood after a brief consideration of the normal ion-exchange and excretion mechanisms of the kidney.

The section on purgatives is old-fashioned and mentions too many of the out-of-date compounds at the expense of clarity and usefulness.

The last quarter of the book is devoted to the chemotherapy of bacterial, viral, protozoal and fungal diseases and is a comprehensive and useful treatment of a large subject. The book ends with an exhaustive and extremely helpful index which occupies nearly one hundred pages.

This is a book which is available to and likely to be studied by a wide range of students with differing requirements such as pharmacists, pharmacologists, medical students and veterinary students. It is not ideal for any one group but has a great deal to commend it as an introductory text for any of these students. Because of its comprehensive coverage of drugs and drug chemistry (the structural formulae are clearly reproduced) it will prove to be a useful book of reference for anybody who needs to know about drugs and how they act.

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