

## BOOK REVIEWS

*THE DIAGNOSIS AND TREATMENT OF ACUTE POISONING.* By J. D. P. Graham. Pp. viii + 438 (including Index). Oxford University Press, London, 1962. 45s.

It is difficult to write a good book on the management of poisoning. From a theoretical aspect, the distinction between the therapeutic and the toxic actions of a drug is often only quantitative, and there is little value in considering one without the other. From a practical point of view, poisoning usually requires urgent treatment if it requires any treatment, and a discursive handbook is worse than useless. What is wanted is a reliable and brief guide to diagnosis and treatment, from which the necessary facts can be elicited accurately in a minimum time. It is possible that casualty officers and others may welcome a book which comes between the two in scope, and is at once readable and concerned only with practical problems. For these, this book is written, in characteristic style and from Dr. Graham's considerable personal experience. It has the advantages and disadvantages of accounts which depend on personal experience rather than on statistically balanced evidence. It is to be regretted that the appendix which lists numerous proprietary preparations of drugs consistently omits to specify the identity of more than one ingredient in a remedy. It seems undesirable, for example, to embark on treatment of poisoning with "Drinamyl" without knowing that it contains dexamphetamine, or with "Barbasprin" or "Dexytal" without awareness that they contain barbiturates. It is also incorrect to refer to amphetamine sulphate, cocaine, and codeine sulphate as proprietary names, but this may not matter in the urgency of treating a poisoned patient.

MILES WEATHERALL.

*DRUGS AFFECTING LIPID METABOLISM.* Proceedings of the Symposium on Drugs Affecting Lipid Metabolism, Milan, 1960. Pp. viii + 604 (including Index). Elsevier Publishing Company Ltd., London, 1961. 126s.

Congresses, symposia, conferences, and other forms of discussion are vital to co-ordinating and correlating research problems, and reports on their proceedings are of interest to all non-participants who are directly concerned with the subject. However, it is essential that the information reported at these meetings is made available as soon as possible otherwise its value is considerably lessened. Perhaps the rather expensive bindings and high standards of printing often encountered should be sacrificed for speed in getting the information out to research workers.

*Drugs Affecting Lipid Metabolism*, edited by S. Garattini and R. Paoletti, comprises more than 80 papers and short communications read at the Symposium in Milan in 1960. Whilst there are contributions in Italian, French and German, most are in English and all are summarised in English. Intensive research work has been conducted in recent years into lipid metabolism and a significant contribution has come from pharmacologists: this book surveys the most recent ideas and advances in this field. The book is divided into four main sections. The first deals largely with the biosynthesis of fatty acids and their incorporation into lipid molecules, the biosynthesis and catabolism of cholesterol and the absorption and excretion of these substances. It is unfortunate that the recent

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brilliant work of Kennedy on the biosynthesis of glycerides and phospholipids was not discussed. The volume does not include points raised during discussions on each paper: in my experience this part of a symposium is usually most illuminating and instructive.

The second section deals with the experimental methods for the evaluation of drugs affecting the metabolism of the substances mentioned earlier. Physical methods, including vapour-phase chromatography and column chromatography, are described for the separation of steroids and fatty acids, but investigations with labelled substances are surprisingly few. The mechanism of the inhibitory effects of MER-29 on cholesterol metabolism and the bearing of these findings on the place of desmosterol in the biosynthesis of cholesterol is reported. Another paper on the comparative evaluation of hypocholesteremising drugs, including MER-29, thyroxine, nicotinic acid, diphenesenic acid, benzmalacene, and their related compounds indicates that each group has quite a different pattern of activity, which suggests there are various modes of action.

Section three is devoted to the important current problem of drugs affecting the lipid metabolism in relation to experimental atherosclerosis. The effects of thyroxine and compounds including steroids and other natural products on the disease and also the lowering of cholesterol level by the use of isoprenoids and corn oil are reported. The possibility that genetic factors are involved in the level of circulating cholesterol by exerting their influence on controlling cholesterol absorption is suggested by two Canadian workers.

The last section, devoted to the therapeutic value of drugs, is probably the most important, and should have revealed interesting observations on discussion. Most papers read in this section are concerned with clinical trials reporting the lowering effects and other alterations of lipid metabolism; evidence from *in vitro* experiments using labelled substances is also presented.

In conclusion, the symposium showed that there are now very powerful methods of achieving a lowering of serum cholesterol. Elucidation of the mechanism of inhibition of biosynthesis at various stages is illustrated by the use of isotopes. Other ways of lowering serum cholesterol by, for example, increased oxidation and excretion are outlined. A controlled diet could also achieve some effect, but Professor Sinclair raises the question whether these are desired effects to be produced in isolation from structural and other functional roles. His contribution is most valuable.

This volume is beautifully printed and bound. It is a book for the specialist, and this limitation keeps its price out of reach of many interested workers.

N. ROBINSON.

*THE RUSSIAN DRUG INDEX*. National Library of Medicine\*. Washington 25, D.C. 1961. U.S. Public Health Service Publication No. 814. Pp. 103 (including Index).

The book is divided into two parts: the first gives information on a large number of drugs encountered in Russian medical and pharmaceutical literature; the second, forming the index proper, is an alphabetical list of names, synonyms and cross-references.

In the main subject section, the drugs are classified under some fifty functional headings. The entry under each drug begins with the anglicised form of the "Latin" name; this is followed by the transliterated Russian name, the chemical formula or composition, the structural formula, properties, a Russian reference and an American reference. For the Russian references, the authors have

\* Now at Bethesda, 14, Maryland, U.S.A.

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drawn heavily on Mashkovskii's *Legarstvennyye sredstva*, the most useful source of information for readers who know some Russian, but there are also numerous references to the journal literature. The system used for transliterating Russian names is similar to that used by *Chemical Abstracts*, which will be appreciated by research chemists.

The book is an essential reference for all workers who have to deal with Russian medical or pharmaceutical literature, and for pharmacists who may have to decipher Russian prescriptions.

E. HAYES.

*PRINCIPLES AND APPLICATIONS OF PAPER ELECTROPHORESIS.*  
By Ch. Wunderly. Pp. xii + 253 (including Index). Elsevier Publishing Company Ltd., London, 1961. 26s.

Paper electrophoresis was in its infancy before 1950 but since then it has expanded and improved rapidly as an analytical tool for chemists and workers in the biological sciences.

The method of free electrophoresis had been applied to problems in clinical medicine for some time before the advent of paper electrophoresis, and it was to be expected that the development of the paper method was associated with clinical investigations. The simplicity of the method and its suitability for the micro scale makes it particularly applicable to the study of the composition of biological fluids during the course of illness. More recently the technique has been applied to pharmacology, experimental pathology, enzymology and botany. In his book, Dr Wunderly has discussed problems in all of these fields and, in addition, he has mentioned the little explored use of paper electrophoresis in inorganic chemistry.

In this compact volume, Dr. Wunderly has gathered together information drawn from many publications, which he has carefully selected for their reliability. A short introduction leads into a chapter on theoretical aspects emphasising the fundamental physico-chemical concepts of migration and the rate-determining factors. These are treated in non-mathematical terms and stress the practical aspect.

In the succeeding chapter the author reviews the methods which use low and high voltages and different arrangements of support for the stationary phase, and also the kinds of paper to select for different problems. More recent developments such as column electrochromatography, other modifications to vertical migration, and "continuous deviation" for the separation of larger quantities of materials into their components are adequately covered. This last technique is too expensive for most laboratories. Many of the kinds of apparatus described are of foreign manufacture: the names of British manufacturers should have been quoted where they exist.

Chapter 4 describes in detail the practice of electrophoresis in the laboratory. Many examples are given, together with advantages and some of the difficulties that may arise. An invaluable ten pages are devoted to the statistical interpretation of results. The author of "Histochemistry," referred to on page 50, should read A. G. Everson Pearse.

More than half the book is devoted to the last chapter describing the results achieved by electrophoresis. These include the isolation and examination of highly complex molecules such as vitamins, nucleic acids, enzymes, lipoproteins, antibodies and also viruses and toxins. 'Labelled' substances are also discussed. Very often sufficient experimental detail is given to enable the reader to conduct his own experiments without recourse to original work. This is not the primary purpose of the author, the book is too compact to achieve this, but the information, whether in detail or in the bibliography, is there.

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The author deserves praise for the amount of information he has put into this small volume, at the same time keeping it lucid and well illustrated with excellent photographs and diagrams. An extensive list of references (1721) will make this book a standard reference on paper electrophoresis. It is excellent value at 26s.

N. ROBINSON.

*PRACTICAL PHARMACEUTICAL CHEMISTRY*. Quantitative Analysis. By A. H. Beckett and J. B. Stenlake. Pp. viii + 378 (including Index). University of London, The Athlone Press, London, 1962. 63s.

From earliest times the notion that education is more concerned with values than with facts has persisted. Homer in his "Iliad" uses the descriptions of the armour of the warriors to inculcate ideas of excellence in workmanship.

This is no less true in analytical chemistry which must be taught so as to produce in the student attitudes of precision and care in experimental work. The educational value of this then extends far beyond the boundaries of analytical chemistry.

Beckett and Stenlake's book on quantitative analysis will form an excellent basis for training along these lines. It has the outstanding merit of giving meticulous attention to the fine details of technique and procedure which make for accurate results. The attention to detail is such that the reviewer begins to search for omissions and finds that a reader is not warned that in gravimetric analysis a dried precipitate can rapidly increase in weight on the balance pan. The authors presume a knowledge of the analytical balance and there is therefore no mention of sensitivity, of the calibration of weights, or of modern aperiodic balances.

Although descriptions of analytical procedures are not expected to have the vividness of a novel they are sometimes in this book unnecessarily wordy. "To effect complete solution of the oil" means no more than "to dissolve the oil".

The part of the book which deals with physical instruments gives basic theory followed by details of experiments designed to illustrate the theory and the application of instruments in quantitative analysis. Again the standard is high and a reviewer can point out only small sections of the work which might be enlarged or clarified. With the exception of fluorescence spectrophotometry and possibly quantitative infra-red spectrophotometry all the important instrumental methods of analysis are well covered.

Other topics in this book which might not be inferred from the above account are chemical purity and limit tests, titrations in non-aqueous media, complexometric analysis and ion exchange.

It is clearly outside the scope of this work to refer to the original literature of the various analytical procedures and this has not been attempted. A future edition might, with advantage, include a chapter giving an account of the literature of analytical chemistry and an essay having an interesting theoretical background which could be critically discussed in the light of published literature. The iodometric assay of copper sulphate would serve the purpose well.

The reviewer would like to see formulae for calculating iodine and saponification values deleted. These are memorised by weak students and often applied with disastrous results. There is no reason why these values should not be calculated from first principles.

The authors are to be congratulated on their excellent work in compiling and classifying the large variety of analytical procedures, and the proof readers on the high standard they have achieved.

The book is strongly recommended for degree and diploma students in pharmacy and suggested as a reference work for analysts.

V. ASKAM.