

BOOK REVIEWS

THE PLANT GLYCOSIDES, by H. J. McIlroy. Pp. 125 and Index. Edward Arnold and Co., London. 1951. 18s.

The author presents an up-to-date, concise account of plant glycosides, which is not intended to be comprehensive. After a brief general treatment of the subject, the book is divided into sections dealing with natural glycosides of alcohols and phenols, cyanogenetic glycosides, thioglycosides, phenyl benzopyrone glycosides, anthocyanins, coumarin glycosides, saponins, phytosterol and solanum alkaloids, cardiac glycosides, anthraquinone glycosides and the nucleosides. A chapter on "Recent Advances" brings "the survey of available literature up to October, 1950." Each chapter records brief details of the glycosides and includes an extensive bibliography. The extensive use of structural formulae, especially in the description of the proof of structure and synthesis of a few types of glycoside, help to relieve the book from appearing as a catalogue of compounds. It is stated that "it is not intended that this work should be treated as more than an up-to-date summary for convenient reference," and if this is borne in mind the book can be said to fulfil the intentions of its author.

A. H. BECKETT.

ENZYMATISCHE ANALYSE, by Hermann Stetter. Pp. 196 and Index. Verlag Chemie GMBH, Weinheim. 1951. DM.17.50.

Enzymatic analysis is becoming increasingly important in the investigation of materials of natural origin. The extremely high specificity of enzyme-substrate reactions, alone, enhances the value of this type of analytical procedure as compared with other, more general, analytical methods. This book presents for the first time a comprehensive account of this branch of analysis, covering the literature up to the beginning of 1950. The author has been careful to point out the distinction, which it is necessary to make, between microbiological analytical methods, involving the use of enzyme systems still within a living organism, and those methods in which an enzyme system is separated in solution from the living organism before use. It is only this latter class of analytical operation which falls within the scope of the book, though both qualitative and quantitative methods are described.

The subject matter has been divided into three sections according to the type of analytical procedure used. The first and largest section includes those methods which involve the use of substrate specific enzymes. Such methods depend upon the principle that the action of a specific enzyme on the substance under test results in the formation of some product, which can be estimated by a standard analytical procedure. Enzyme groups, the use of which are described in this section, include esterases, carbohydrases, aminases, proteases, dehydrases and certain oxidases. Methods are described for the estimation of such important biological materials as ascorbic acid, citric acid, co-carboxylase and various glycosides and amino acids. The utility of the book is much increased by the inclusion, in this and the other sections, of practical details for the conduct of all the more important estimations.

The second and much smaller group of methods includes all those in which the substance to be analysed either inhibits or activates enzyme action. Typical of these methods is the estimation of such alkaloids as eserine, morphine and diamorphine by means of the inhibitory action which they exert on the action of cholinesterase. The third section describes methods in which the enzyme is used as an indicator. The temperature, for example, at which a particular

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PHARMACOPŒIAS AND FORMULARIES

PHARMACOPŒA INTERNATIONALIS, Editio Prima, Volumen I.

By PROFESSOR D. M. DUNLOP,

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The publication by the World Health Organisation of the Pharmacopœa Internationalis is a landmark in the progress of scientific international relations. It represents the fulfilment of long felt aspirations to unify the pharmacopœias of the world. It has been realised since about 1874 that the pharmaceutical Tower of Babel which existed as regards standards, terminology, strengths and composition of drugs was, as in other spheres, a source of confusion, misunderstanding and even of danger. A long step has been taken by the publication of the present volume to resolve these national differences though some still remain: for example, two strengths for the tinctures of digitalis and opium are recognised, probably the result of the impossibility of reconciling differences of long-established national habits in treating liquids by volume or by weight; and the limit test for lead and the limit test for heavy metals are both included in this pharmacopœia which thus perpetuates the differing analytical practices in this country and in the United States. The volume has a very British flavour about it, which is a tribute to the influence which must have been exerted by the very British Chairman of the Expert Committee which dictated its policy. Nevertheless, a considerable list could be made out of preparations which have different strengths in the International Pharmacopœia from those in the British Pharmacopœia. The book is beautifully produced and printed, though the typographical innovation which omits a full-point after "g" and "ml" but retains it after "cent." is, as Gibbon once said of Venice, "singular if not pleasing," as is the confusing habit of giving a dose as 0.0005 g instead of 0.5 mg. Incidentally, is there any point in giving an oral dose for adrenalinum? Since it is the stated object of the International Pharmacopœia only to include drugs of *established* therapeutic interest, as well as some substances used for diagnostic and pharmaceutical purposes, it is surprising that it should have been thought worth while to include aconitinum, bromoformium, and lobelini hydrochloridum. Hyoscyami mutici herba is also included which is not itself a medicinal agent but is only used as a source of hyoscyamine and atropine, but other monographs on the botanical material from which alkaloids, such as pilocarpine, are extracted, are not included. The title thiopentalum natriicum cum natrii carbonate gives to thiopentone a pedantic accuracy which chiniofonum is perhaps fortunate to escape. Lastly, the simple doctor may find it difficult to recognise the familiar chloramine under the formidable title of tosylchloramidum natriicum. These are, however, perhaps captious criticisms of what is an important and admirable work, the production of which can only have been achieved by patient compromise and general co-operation.

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enzyme becomes inactivated is characteristic, and measurement of the activity of an enzyme can be used to establish the temperature to which a particular product has been heated during the course of its preparation. The inclusion, in the preface, of a table of substances which may be estimated by methods of enzymatic analysis, is most useful. Numerous references to original papers are given throughout the text.

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