

and particularly of that Committee's emphasis on the similarities in the causation and treatment of dependence upon alcohol and upon drugs, although 'a combined approach to the problems of alcoholism and drug dependence does not apply equally to all aspects of these problems'. Brief reference is also made to the work of the UN Commission on Narcotic Drugs, of the U.N. Division on Narcotic Drugs and of the International Narcotics Control Board.

Next comes a short discussion of two or three substances not at present under international control, but this does not take us beyond the conclusion that 'each substance would require individual evaluation before recommendations concerning level of control could be made'; after this the final sections are devoted to brief discussions of cannabis, of methadone maintenance and of specific opiate antagonists in therapy, followed by single paragraphs on the evaluation of treatment programmes, on the co-ordination of educational efforts, and on new notifications.

Every report that emanates from the United Nations or from any of its affiliated organizations is generally the product of a line by line scrutiny by highly expert personnel, who may be driven, in the struggle for unanimity, to take refuge in safe generalities. The present Report would appear to be no exception. Thus, on cannabis, the Committee simply records the existence of 'considerable differences of opinion about questions of dependence liability, the acute and chronic effects on the individual user and the community, and the type and nature of controls to be applied',—and reaffirms the need for research accurately to assess the degree of hazard to the public health. One may look in vain for any discussion of the prevalence, or the merits, of these different opinions, or of the range and effectiveness of the controls applied by various countries. In short, though it may be news to some that 1-(3-cyano-3,3-diphenylpropyl)-4-(2-oxo-3-propionyl-1-benzimidazolyl)-piperidine ('bezitramide' to the masses) ought to be included in Schedule I of the Single Convention on Narcotic Drugs, 1961, it is doubtful if many of those concerned with drug dependence will find their concrete knowledge materially enhanced by this Report.

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STATISTICS

Methods of Multivariate Analysis. By KEITH HOPE. London: University of London Press Ltd. 1968. Pp. 165. Price 30s.

As the author points out in his preface this book is not primarily concerned with the mathematical

theory of multivariate analysis, which is taken on trust, nor with the elaborate calculations involved which can be carried out on a computer. Instead, the theory is illustrated by very simple arithmetical examples, and attention is concentrated on the basic logic of the techniques described and on the interpretation of results obtained by their use. On the whole the outcome is successful.

The book begins with a chapter on the elements of matrix algebra, which is followed by one on the partitioning of sums of squares. At this stage the reader is introduced to multivariate analysis of variance and to tests for the equality of dispersion matrices, due note being taken of the importance of underlying assumptions. The third chapter is devoted to simple factorial designs without replication. The treatment here is of itself somewhat inadequate, and the chapter is obviously included to prepare the reader for an elaboration of discriminant function analysis presented in Chapter 8. Chapter 4 deals with principal component analysis, but it also contains a few asides on factor analysis which serve only to show that the author is not well-informed about the latter technique. Chapter 5, entitled 'spherical maps', is in large part an extension of Chapter 4 and is concerned with the physical representation of the results of a principal component analysis. It is illustrated by reference to the 'repertory grid' type of investigation: the author might well here have warned the reader that in such investigations the sample size is generally small, with the result that little confidence can be placed in the stability of the results.

Chapters 6 to 8 deal with multiple regression analysis in its simplest form, with canonical correlation analysis, and with discriminant function analysis. Interesting relationships between the three types of analysis are also exemplified. These chapters form the main core of the book, and the author is to be congratulated on the clarity he achieves in these chapters and on the penetrating comments offered to the user. A considerable amount of the information given in Chapter 8 too will be unfamiliar to most readers. The penultimate chapter is devoted to analysis of covariance in its simplest forms, while the final chapter deals in particular with some further problems in regression analysis.

This is a useful and stimulating book. Mastery of its contents, will require considerable effort, but the effort is worth making. The principal statistical methods described have been programmed by the author in Atlas Autocode and are stored on magnetic tape at the Atlas Computer Laboratory, Chilton, Berkshire. Details of the programme are given in the hard-backed edition of this book.

A. E. MAXWELL.