Frequency Curves and Correlation

By W. Palin Elderton. Third edition. Pp. xi+271. (Cambridge: At the University Press, 1938.) 12*s*. 6*d*. net.

FREQUENCY curves, correlation and sampling together form a subject in which a great deal still remains to be done, notwithstanding the progress that has been made in recent years. Much of the work is necessarily highly mathematical, especially where certain small samples are concerned or where mathematical expressions for skew correlation surfaces have to be discovered. These aspects lie outside the scope of the present work; but, as the author says, there are few subjects which offer greater opportunity for research. Prof. Karl Pearson and his school have been responsible for an immense amount of the work that has resulted in practical success; and only those who have studied Prof. Pearson's original work are in a position to appreciate the greatness of his contribution to statistical science. In this book, the author shows that actuarial statistics can be investigated in the same way as the statistics of biology, anthropology or sociology.

The advantages of any system of curves depends on the simplicity of the formulæ and on the number of classes of observations which can be dealt with satisfactorily. For a complicated expression is no great improvement on the original groups of statistics; and if it breaks down, the statistician is left in great difficulties. Furthermore, if a formula be recognized as a suitable one, there must be some method of finding the arithmetical constants which will produce a good agreement in the particular case. Such a method if it is to be of practical use must be simple, reliable and capable of systematic application. This is all the more important, inasmuch as in practice the advantages of systematic treatment are often overlooked and formulæ which have no scientific basis and no connexion with others suitable in similar cases are used in haphazard fashion by many statisticians.

In this, the third edition of the book, some chapters —notably those on standard errors, the test of goodness of fit and on the correlation ratio-contingency— have been re-written. The notation for moments has been retained. Here, the author treats the 'adjusted statistical moment' as identical with the 'theoretical moment'. For although some writers find it convenient to use distinct symbols for the two expressions, in practical curve-fitting they are equated.

Dictionary of Scientific Terms:

as used in the various Sciences. By C. M. Beadnell. (The Thinker's Library, No. 65.) Pp. x+235. (London: Watts and Co., 1938.) 1*s*. net. Library edition, 5*s*. net.

ONE result of the twentieth-century inclusion of science as a general part of the school curriculum has been the greater interest shown by the reading public in popular scientific literature. This interest is probably most lively in biological subjects, and Surgeon-Admiral Beadnell has therefore done wisely in giving a preponderance to biological terms in his attractive little dictionary. Intended for the layman, the book is as non-technical as the subject permits, and many of the definitions are notable examples of conciseness and perspicuousness. It would, of course, be easy to make a long list of omissions, but Admiral Beadnell has shown a sound judgment in deciding what to put in and what to leave out, and only a curmudgeon could grumble at the quality and quantity of his shillingsworth.

Many readers will regret the complete absence of etymologies, but it is doubtful whether the man in the street—for whose assistance, it must be remembered, the book was written—will share this view. The standard of accuracy is usually high, and though there are occasional slips, they are much less frequent than one might have expected in such an arduous single-handed effort. The author is to be congratulated upon having accomplished a very useful service to the scientific education of the layman, and his book deserves to have a wide sale. A word of praise must be given to the publishers for producing the dictionary so well, and at a price which brings it within the reach of even the most impecunious lover of natural philosophy. The library edition is on thicker paper and is handsomely bound.

The Cultivation of Mushrooms

By Dr. W. F. Bewley and J. Harnett. Second edition, revised and enlarged. Pp. 95+18 plates. (London: Anglo-Scottish Press, Ltd., 1938.) 3*s*. 6*d*. net.

THIS second edition is a considerable extension of the first edition published four years ago. The authors are well-known authorities on the cultivation of mushrooms, and they have made not only commercial cultivators of this plant but also botanists in general indebted to them for a coherent and very practical account of all the processes involved from beginning to end.

It is difficult to imagine any query arising in connexion with the cultivation of the mushroom which remains unanswered in these pages. Apart from details of cultivation, diseases and pests and even cooking recipes are considered. The book is written in a pleasing style, and is illustrated by a few line diagrams and about forty excellent photographs.

Organic Chemistry:

a Textbook for Science and Medical Students. By Dr. Frederick Prescott and Dudley Ridge. Pp. viii+688. (London: University Tutorial Press, Ltd., 1938.) 8*s*. 6*d*.

THIS book claims to cover the organic chemistry required by second-year medical students and by students reading for a general B.Sc. degree; the claim is not exaggerated. The wants of the former are met by sections on carbohydrates, ureides and purines, proteins and fermentation and enzyme action which occupy nearly a hundred pages, and other sections having physiological bearings deal with hydro-aromatic compounds (terpenes, sterols, etc.), indole derivatives and the alkaloids.

The remarks on modern theories of valency (pp. 29–35) may need modification in a future edition, since views change so rapidly.