

STATISTICAL TABLES

BY

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Tables for Statisticians and Biometricians. Edited by Prof. Karl Pearson. Part 1. Third edition. Pp. lxxxiv + 143. 15s. net. Part 2. Pp. ccl + 262. n.p. (London: Biometric Laboratory, University College, 1930-1931.)

STATISTICIANS have for long been familiar with Prof. K. Pearson's "Tables for Statisticians" as the standard exposition of the theoretical conceptions and practical procedures adopted by the Biometric Laboratory at University College. The handsome and expensive production of the tables, and the abundant introductory matter, were features which, from its first appearance, compensated for the partial or personal tone which characterised the treatment of controversial topics.

In the course of time, as was inevitable, certain extensive tabulations have been found to be of less use than was originally hoped, and others, based on faulty theory, have been shown to be definitely in error. It is the most serious fault of this new edition that no account seems to have been taken of these changes. Thus Tables 17, 18 and 19, concerned with the calculation of the probability of deviations from proportionality in a 2×2 table, are printed without change from the first edition, although it is now recognised, almost if not quite universally, that the use of three degrees of freedom in place of one is definitely erroneous.

Part 2, of which this is the first edition, is an even larger volume. The introduction occupies 250 pages, and the tables 262. Many tables supplement or enlarge those given in the first volume,

and it would have been of great advantage to the user if the matter had been re-arranged so as to bring together tables dealing with the same function. Thus the reader of Table 30 of Part I is not told that, under a different title, sixty pages of Part 2 (Tables 8 and 9) contain a fuller and more accurate table of the same function.

The utility of some tables would have been greater had their nature not been disguised by the special terminology of the Biometric Laboratory. Thus a good, though truncated, table of the derivatives of the normal probability function (Table 7) is termed "Table of the First Twenty Tetrachoric Functions", owing to the accident that these functions were at one time used in the Biometric Laboratory for estimating the correlation coefficient from a 2×2 table. Others, such as the fifty-seven crowded pages devoted to Table 3 (more than 70,000 entries), seem like elaborate attempts to make available a cumbrous method of approach to problems already more simply solved.

Among the more useful tables should be mentioned Table 2 of the second part, giving the abscissæ and ordinates of the normal curve, and certain important ratios, arranged as in Prof. Kelley's textbook of "Statistical Method". The table is to ten figures and based on Sheppard's extensive tables, as yet unpublished, of the probability integral. Table 7, which we have already mentioned, will also be useful, though in the introduction the reader is warned against this heresy, in constructing curves from their Charlier expansions.

As a collection of the labours of the Laboratory the work is monumental. Like other ambitious monuments, however, it invites criticism at a number of points.