

E. S. PEARSON AND H. O. HARTLEY, *Biometrika Tables for Statisticians, Volume I*. Cambridge University Press, England, 1966. xvi + 264 pp. \$6.50.

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When a new edition of a popular book appears the first question that comes to mind is how does the new one differ from the old. We will attempt to answer this question here. First, the introductory material covers 103 pages instead of 97 in the second edition. Known errors in any of the tables have been corrected. The new tables included are:

Table 11, "Test for comparisons involving two variances which must be separately estimated," has upper 2.5% and 0.5% critical values added—adding 2 pages of tables.

Table 16, "Percentage points of the B -distribution," has lower 0.25% and 0.1% points added—adding 4 pages of tables.

Table 26, "Percentage points of the extreme studentized deviate from the sample mean," is completely revised and expanded with the lower percentage points deleted—adding 1 page to the tables. A reason for the just mentioned deletion which also gives a way to approximate the lower percentage points is given on page 50 of the introduction.

Table 26a, "Percentage points of $(x_n - \bar{x})/S$ or $(\bar{x} - x_1)/S$ (where $S^2 = \sum_{i=1}^n (x_i - \bar{x})^2 + \nu s_v^2$)," is a new table—adding 1 page to the tables.

Table 26b, "Percentage points of $\max. |x_i - \bar{x}|/S$ (where $S^2 = \sum_{i=1}^n (x_i - \bar{x})^2 + \nu s_v^2$)," is a new table—adding 1 page to the tables.

Table 29, "Percentage points of the studentized range, $q = (x_n - x_1)/s_v$," is completely revised and expanded, has upper 10%, 5% and 1% points, lower percentage points deleted—adding 1 page to the tables.

Table 29a, "Two sample analogue of Student's test. Values of $u = |\bar{x}_1 - \bar{x}_2|/(w_1 + w_2)$ exceeded with probability α ," is a new table—adding 2 pages to the tables.

Table 29b, "Upper percentage points of the ratio of two independent ranges, $F' = w_1/w_2$," is a new table—adding 4 pages to the tables.

Table 29c, "Percentage points of the ratio of range to standard deviation, w/s , where w and s are derived from the same sample of n observations," is a new table—adding 1 page to the tables.

Table 31a, "Percentage points of the ratio $s_{\max}^2/\sum_{t=1}^k s_t^2$," is a new table—adding $\frac{1}{2}$ page to the tables.

Table 31b, "Percentage points of the ratio $w_{\max}/\sum_{t=1}^k w_t$," is a new table—adding $\frac{1}{2}$ page to the tables.

Altogether then there are 18 additional pages of tables and 6 pages of introduction in the third edition, over the second edition.

The tables contained in this volume were selected with the greatest of care.

Accuracy of the tables was tested by prior publication (almost exclusively in *Biometrika*) and tables with doubtful figures were eliminated. Prior publication also enabled the authors to gather some information on the usefulness of each table. Only the most useful are included in the present volume. The second volume of this series is projected to contain the more unusual tables. It is clear that this set of tables has the most authoritatively accurate values of any set in existence with four or more decimal places usually given.

When a fourth edition comes out the reviewer hopes, however, that additional figures (beyond the present 3 significant figures) can be given for Table 18, "Percentage points of the F -distribution". Presumably the authors argued that if additional places were needed one could go to Table 16, "Percentage points of the B -distribution" and easily compute additional figures of accuracy from the six figure accuracy given there. Or is it that no table of the percentage points of F is yet sufficiently accurate beyond the three figures published?

Anyone who is a practicing statistician now probably has a copy of these tables, or has easy access to one. This says to those entering the field that they would do well to obtain a copy of this work. For those with earlier editions the decision on getting the new one can probably be made on the basis of whether the new tables as outlined above would be of sufficient usefulness to them.