and these are dated 1957 and 1965. References to mathematical tables and related data are absent. It is unfortunate that a number of references to books and papers dating from about 1956 which are accessible to most readers are not noted.

There are no exercises and this coupled with our above comments suggests that the volume is not likely to be used as a text. On the other side of the ledger, the tome is quite readable and contains much information of value to applied and pure research workers.

Y. L. L.

41 [7].—L. S. SRINATH, K. R. SARMA & S. V. PATANKAR, Editors, *Basic Engineering and Mathematical Tables*, Tata McGraw-Hill Publishing Co., Bombay and New Delhi, 1971, x + 136 pp., 24 cm. Price $9.95.

This compact set of mathematical and engineering tables has been designed primarily to meet the needs of students of engineering and science for such information.

The first part, subtitled Mathematical Tables, contains a total of 14 numerical tables consisting, respectively, of 4S or 5S values of the standard elementary functions, zeros of the Bessel function of the first kind, and the normal distribution function. In addition, this part includes sets of formulas from algebra, geometry, trigonometry, analytic geometry, calculus (including tables of 174 indefinite and 80 definite integrals), complex variables, vector analysis, operational calculus, and statistics. Also included is a table of 35 physical quantities (with dimensions and units), as well as related tables of the principal physical atomic constants, and a useful list of conversion factors.

The latter part of the book, subtitled Engineering Tables, consists of a total of 74 engineering tables, arranged under the broad headings of analytic mechanics; mechanics of solids; and physical, mechanical, electrical, and thermal properties of substances.

Careful examination has revealed that several of the tables contain erroneous entries. For example, on p. 22 last-place errors occur in the values of e^{-x} for $x = .04$ and $.06$, in e^x for $x = .47$ (where only a 4D approximation appears), in $\sinh x$ for $x = 5.2$ and 5.3, and in $\cosh x$ for $x = 5.2$. More serious errors occur on p. 60 in the 3D table of the first nine positive zeros of $J_p(x)$ for $p = 0(1)5$, where half the entries require correction. The source of this table can be traced ultimately to the table of Bourget, whose errors are discussed and corrected in the FMRC *Index* [1].

Furthermore, the table of the normal distribution function (pp. 68–69) contains a total of 16 errors, all in the last decimal place except for the entry corresponding to $z = 1.82$, where one should read .9656 in place of .9556. On p. 102 this reviewer discovered through recalculation a total of 15 errors in the table of $e^{\mu\theta}$.

In addition to these tabular errata a significant number of serious typographical errors (in addition to obvious ones) appear in the formulas and text. For example, on p. 23, in the expression for the second root of the cubic equation, read $A - B$ instead of $A - 3$, and in the following line $d^2/27$ should be replaced by $d^3/27$. On p. 34 the constant e is inadvertently represented as the sum of a terminating series. On p. 51, in formula 194 an extraneous minus sign obtrudes in the integrand, and in the last line on p. 61 it is clear that $E(n \pm \phi)$ should be replaced by $E(n\pi \pm \phi)$. In the table of torsional deflection constants (p. 93) the symbol k should be replaced by K, and in formula 4 we should read $q = a_i/a_0 = b_i/b_0$. Also, the reader may be confused by formula 7 because the quantities a and b therein actually represent the lengths of the half-sides of the rectangular cross-section, which differs from the notation adopted in related formula 5.

Finally, it should be mentioned that although the authors state in the preface that they consulted several source books, reference books, and handbooks while selecting the present tables, they do not identify these sources nor do they include a bibliography to assist those users who may desire information regarding more extensive tables.

A careful emendation of these tables is clearly required before their overall reliability can match their evident utility.

J. W. W.

1. A. FLETCHER, J. C. P. MILLER, L. ROSENHEAD & L. J. COMRIE, *An Index of Mathematical Tables*, Second edition, Addison-Wesley, Reading, Mass., 1962. (See v. II, p. 791.)

42[8].—CHARLES E. LAND, *Tables of Critical Values for Testing Hypotheses about Linear Functions of the Normal Mean and Variance*. II, Department of Statistics, Atomic Bomb Casualty Commission, Hiroshima, Japan 730. Ms. of 69 computer sheets (reduced) deposited in the UMT file.

The calculation of these unpublished tables was carried out by the author while he was a member of the Department of Statistics at Oregon State University.

They represent expanded versions of similar 3D tables [1] previously deposited by the author in the UMT file. The tabular precision and the tabulated significance levels α in [1] remain unchanged, but the number of degrees of freedoms listed in Table 1 (one-sided tests) is now

$$\nu = 3(1)30(5)50(10)100(20)200(50)500(100)1000,$$

while in Table 2 (two-sided tests) $\nu = 2(2)20$. Furthermore, the range of the parameter ξ has now been extended beyond $\xi = 100$ for $\nu \leqq 14$ in Table 1, so that the upper limit of ξ progressively increases (at intervals varying from 10 to 500) with decreasing ν until it attains the value 5000 when $\nu = 3$. Similarly, in Table 2 the upper limit of ξ ranges from 100 for $\nu \geqq 16$ to 4000