REVIEWS AND DESCRIPTIONS OF TABLES AND BOOKS

67[A].—J. B. REID & G. MONTPETIT, *Table of Factorials 0! to 9999!*, Publication 1039, National Academy of Sciences-National Research Council, Washington, D. C., 1962, 47p. (unnumbered), 28 cm. Price $1.50.

This table gives $n!$ in floating-point form to 10S for $n = 0(1)9999$. The exact values of $n!$ may be inferred through $n = 15$; beyond that point all the entries are rounded, approximate numbers.

We are informed in the introduction that this table was prepared in response to a request for appropriate data for the calculation of the hypergeometric distribution involving numbers exceeding 1000. For numbers not exceeding this limit, tables of factorials to 16S by Salzer [1] and 20S by Reitwiesner [2] are available. The authors, however, make no reference to these tables or any others in this field.

The calculations were carried out to 20S on an IBM 650 system, working with 30-digit products prior to truncation. The printing was done on an IBM 407 accounting machine, and no checks were applied to the printed output. On the other hand, the IBM 650 calculations were performed twice; the first time, without rounding to 20S; and the second time, adding a unit in that place prior to dropping the subsequent figures. The two values of 9999! thus obtained are displayed to 20S, and agreement to 15S is noted. This reviewer has independently computed this factorial to more than 25S; his result differs by less than 9 units in the twentieth place from the average of the two values discussed by the authors. Accordingly, the tabulated results should be reliable, except for the possibility of misprints, as the authors state.

The reviewer has compared the first thousand entries in this table with corresponding values in the table of Salzer, and has detected no discrepancies.

With respect to approximate values of the factorial function corresponding to integer values of the argument exceeding 1000, the present table constitutes a unique and valuable contribution to the literature of mathematical tables.

J. W. W.

1. H. E. SALZER, *Tables of n! and T(n + ½) for the First Thousand Values of n*, National Bureau of Standards, AMS 16, Washington, 1951. (*MTAC*, v. 6, 1952, p. 33, RMT **957**).
2. G. W. REITWIESNER, *A Table of the Factorial Numbers and their Reciprocals from 1! through 1000! to 20 Significant Digits*, Ballistic Research Laboratories, Technical Note No. 381, Aberdeen Proving Ground, Md., 1951. (*MTAC*, v. 6, 1952, p. 32, RMT **955**.)

68[A, B].—H. T. DAVIS & VERA J. FISHER, *Tables of the Mathematical Functions: Arithmetical Tables*, Volume III, Principia Press, San Antonio, Texas, 1962, ix + 554 p., 25.5 cm. Price $8.75.

The "Volume III" in the title has reference to two well-known volumes [1] of Professor Davis published long ago. The present volume is of different character, however, as is indicated in the deletion of the word "higher" from the title. Its main bulk is in the following twelve tables, mostly of powers and roots:

Table 1 gives constants associated with π, e, γ, and certain roots and logarithms to a precision varying from 10D to 45D.