104[L, X].—G. E. ROBERTS & H. KAUFMAN, *Table of Laplace Transforms*, W. B. Saunders Company, Philadelphia, Pennsylvania, 1966, xxx + 367 pp., 27 cm. Price $6.75.

This is a rather comprehensive reference of Laplace transforms and their inverses and should prove useful to pure and applied workers. The volume is in two parts. The first concerns direct transforms and the second inverse transforms. In the presentation of a large list of transform pairs (there are over 3,100), it is of utmost importance to arrange the material so that a result (if given) can be located quickly. Obviously no list is complete, since a table of integral transforms is by its nature infinite in character. To provide quick access, the authors have developed an index system which is not too much different from that used by Erdélyi et al., that is, A. Erdélyi, W. Magnus, F. Oberhettinger, and F. G. Tricomi, *Tables of Integral Transforms*, v. 1, v. 2, McGraw-Hill Book Co., New York, 1954, see *MTAC*, v. 10, 1956, pp. 252–254. The volume under review gives the definitions of the most common special functions. Code numbers are assigned to various types of functions and it is this reference system which permits location of a desired transform. Thus, for example, code numbers 1, 2, 4, and 10 refer to algebraic rational functions, irrational algebraic functions, exponential functions e^x, a^x and Bessel functions $J_\nu(x)$, $Y_\nu(x)$, respectively. Thus the Laplace transforms of $J_\nu(at)$, $J_0[a(t^2 + bt)^{1/2}]$, and $(1 - e^{-t})^{\nu/2}J_\nu[a(1 - e^{-t})^{1/2}]$ are found in Sections 10, 10.2 and 10.3, respectively.

Since the date of the Erdélyi et al. volumes referred to, numerous papers and some books have appeared in the literature on transforms and related topics. However, only six of the eleven items given in the present volume date beyond 1954. A notable omission is the absence of Meijer's G-function, though MacRobert's E-function is listed in the function definitions.

In a work of this kind, it is inevitable that typographical errors should occur. A casual reading has revealed several blemishes. On p. xxi, there is given $\int_x^\infty u^{-1}I_\nu(u)\,du$ where $I_\nu(u)$ is the modified Bessel function. This integral does not exist unless, of course, ∞ is interpreted as $i\infty$. See also p. 104 formulas (6), (10). In the list of function definitions, there is given the so-called Schlömilch function, which is better known as the incomplete gamma function. On p. 115, for formulas (3) and (4) and p. 220 for formulas 125, 126, the condition given for the validity of an integral reads $R(s) > 0$, whereas it should read $R(s) > 2^{-2/3}$. Actually, the result is valid for $|\arg(s - 2^{-2/3})| < \pi$.

A natural question is whether the present compendium is more detailed than that of Erdélyi et al. I do not think so. It must be remembered that the latter reference gives, in addition to Laplace and inverse Laplace transforms, Fourier sine and cosine transforms which are essentially Laplace transforms, and exponential Fourier transforms which are in a sense two-sided Laplace transforms. They also give Mellin and inverse Mellin transforms which are virtually two-sided Laplace transforms. We do not find in the volume under review references to the two-sided Laplace transforms. Further, the Erdélyi et al. volumes give Hankel, J, Y, K and H transforms and, of course, many of these are Laplace transforms.

In any event, we find the present volume very usable. Certainly for a tome of this size, the price of $6.75 is quite reasonable.

Y. L. L.