of the basic results in the *Grundlagen*, but restricted to the cases actually applied here, could be appended to a latter edition.

KAI LAI CHUNG

Department of Mathematics
Stanford University
Stanford, California 94305

6[L].—M. I. ZHURINA & L. N. OSIPOVA, *Tablitsy vyrozhdennoy gipergeometricheskoy funktsii* (*Tables of the confluent hypergeometric function*), Computing Center of the Academy of Sciences of the USSR, Moscow, 1964, xviii + 244 pp., 27 cm. Price 2.50 rubles.

This volume is one of a well-known series edited by V. A. Ditkin, and lists values of solutions of the confluent hypergeometric equation

$$xu'' + (\gamma - x)u' - \alpha u = 0$$

in the case $\gamma = 2$. The solution called $F(\alpha, \gamma, x)$ is regular at the origin, and is identical with the usual one, often denoted by ${}_1F_1(\alpha; \gamma; x)$, $M(\alpha, \gamma, x)$ or $\Phi(\alpha, \gamma; x)$. The solution called $G(\alpha, \gamma, x)$ is the $\Psi(\alpha, \gamma; x)$ of [1] and the $U(\alpha; \gamma; x)$ of [2]; in general, for $\gamma = 2$, it has a singularity at the origin, but $G(0, 2, x)$ is unity.

Table I (pp. 2–121) and Table II (pp. 124–243) give $F(\alpha, \gamma, x)$ and $G(\alpha, \gamma, x)$ respectively; since F and G are not mentioned in page headings, and the two tables are similarly arranged, the user has to keep his wits about him to avoid dipping into the wrong table. Both F and G are given to 7S or 7D for $\alpha = -0.98(0.02) + 1.10$, $x = 0(0.01)4.00$. No differences are given; Lagrange interpolation is used when necessary in the illustrative examples, which never involve interpolation in both α and x.

For the two integral values of α included in the range ot tabulation, namely 0 and 1, the solutions tabulated reduce to:

$$F(0, 2, x) = 1, \qquad G(0, 2, x) = 1,$$

$$F(1, 2, x) = (e^x - 1)/x, \qquad G(1, 2, x) = 1/x.$$

Thus for $\alpha = 0$ the tabulated G solution fails to be independent of the F solution; but for this value of α an independent second solution, $Ei(x) - x^{-1}e^x$, may easily be calculated from tables of the exponential integral and function.

The early part ot the Introduction contains a number of formulas relating to confluent hypergeometric functions; they include the usual formulas connecting "contiguous" functions, which allow F and G to be calculated for values of α outside the range of tabulation, and integral values of γ different from 2.

ALAN FLETCHER

Mathematics Department
University of Liverpool
Liverpool 3
England

1. A. ERDÉLYI, W. MAGNUS, F. OBERHETTINGER & F. G. TRICOMI, *Higher Transcendental Functions*, Vol. 1, McGraw-Hill, New York, 1953; Ch. 6.

2. L. J. SLATER, *Confluent Hypergeometric Functions*, Cambridge Univ. Press, New York, 1960.