was advertently omitted from k^2 in the tabular headings on pages 18, 19, and 107. It is regrettable that such careless errors should have been allowed to mar this unique table.

J. W. W.

1. HENRY E. FETTIS & JAMES C. CASLIN, *Ten Place Tables of the Jacobi Elliptic Functions*, Report ARL 65-180 Part 1, Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, September 1965.

34[L, M].—HENRY E. FETTIS & JAMES C. CASLIN, *Elliptic Integral of the Third Kind*, Applied Mathematics Research Laboratory, Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, two manuscript volumes, each of 180 computer sheets, deposited in the UMT file.

The authors have herein tabulated to 10D the elliptic integral of the third kind in Legendre's form for $\theta = 0°(1°)90°$, and arcsin $k = 0°(1°)90°$, $\alpha^2 = 0.1(0.1)1$, except that when $\alpha^2 = 1$, the upper limit of the argument θ is 89°. This voluminous table is intended as a companion to the authors' manuscript 10D tables of the elliptic integrals of the first and second kinds [1].

The published 10D tables [2] of elliptic integrals by the same authors employ the modulus k or its square rather than the modular angle as one argument. However, it is possible to compare a few of the entries in those tables with corresponding entries in the tables under review; in particular, those entries corresponding to the erroneous entries [3] in the published tables are thus found to be given correctly.

The authors have informed this reviewer that the present tables were calculated on an IBM 7094 system by means of a program adapted from that used on an IBM 1620 in preparing their previous tables of elliptic integrals.

The impressive series of 10D tables of elliptic integrals and elliptic functions by the present authors reflect the continually increasing capabilities of electric digital computer systems used in such calculations.

J.W.W.

1. HENRY E. FETTIS & JAMES C. CASLIN, *Elliptic Integral of the First Kind and Elliptic Integral of the Second Kind*, ms. tables deposited in the UMT file. (See *Math. Comp.*, v. 20, 1966, pp. 626, RMT **99.**)

2. HENRY E. FETTIS & JAMES C. CASLIN, *Tables of Elliptic Integrals of the First, Second and Third Kind*, Applied Mathematics Research Laboratory Report ARL 64-232, Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, 1964. (See *Math. Comp.*, v. 19, 1965, p. 509, RMT **81.**)

3. *Math. Comp.*, v. 20, 1966, p. 639, MTE **398.**

35[L, X].—V. S. AIZENSHTADT, V. I. KRYLOV & A. S. METEL'SKIĬ, *Tables of Laguerre Polynomials and Functions*, translated by Prasenjit Basu, Pergamon Press, Inc., Long Island, New York, 1966, xv + 150 pp., 24 cm. Price $8.00.

This is an English translation of some work originally published by the Academy of Sciences of the BSSR, Minsk, in 1963. It is closely related to some work done by the same authors in 1962 and previously reviewed in these annals, see *Math. Comp.*, v. 17, 1963, p. 93.

Let $L_n^s(x)$ denote the generalized Laguerre polynomial which we express in hypergeometric form as $L_n^s(x) = (s+1)_n\, {}_1F_1(-n; s+1; x)$. Note that the polynomials are usually normalized by the factor $(s+1)_n/n!$ The related function

$\psi_n^s(x) = e^{-x/2}x^{s/2} L_n^s(x)$ is called a Laguerre function. In some circles use of the nomenclature Laguerre function may be misleading as this usually refers to $L_n^s(x)$ where n is an arbitrary parameter.

The following are tabulated:

$$L_n^{(s)}(x),\ \psi_n^{(s)}(x) \quad \text{for} \quad n = 2(1)7, \qquad s = 0(0.1)1.0,$$
$$x = 0(0.1)10.0(0.2)30.0,\ 6S.$$

Coefficients of the polynomials $L_n^{(s)}(x)$ for $n = 2(1)10$, $s = 0(0.05)1.0$, to 8S. (Note that these coefficients are not always exact.) Zeroes of the polynomials for $n = 2(1)10$, $s = 0(0.05)1.0$, 8S.

See the references [1]–[5] below and the sources they quote for tables relating to the abscissae and weights for numerical evaluation of $\int_0^\infty x^s e^{-x} f(x)dx$.

Y. L. L.

1. M. Abramowitz & I. Stegun, *Handbook of Mathematical Functions with Formulas, Graphs and Mathematical Tables*, Applied Mathematics Series No. 55, U. S. Government Printing Office, 1964. (See *Math. Comp.*, v. 19, 1965, pp. 147–149.)

2. P. Concus, D. Cossat, G. Jaehnig & E. Melby, "Tables for the evaluation of $\int_0^\infty x^\beta e^{-x} f(x)dx$ by Gauss-Laguerre quadrature, *Math. Comp.*, v. 17, 1963, pp. 245–256.

3. P. Concus, "Additional tables for the evaluation of $\int_0^\infty x^\beta e^{-x} f(x)dx$ by Gauss-Laguerre quadrature," *Math. Comp.*, v. 18, 1964, p. 523.

4. T. S. Shao, T. C. Chen & R. M. Frank, "Tables of zeros and Gaussian weights of certain associated Laguerre polynomials and the related generalized Hermite polynomials," *Math. Comp.*, v. 18, 1964, pp. 598–616.

5. A. H. Stroud & D. Secrest, *Gaussian Quadrature Formulas*, Prentice-Hall, Englewood Cliffs, N. J., 1966. (See *Math. Comp*, v. 21, 1967, pp. 125-126, RMT **14.**)

36[L, X].—V. A. Ditkin, Editor, *Tables of Incomplete Cylindrical Functions*, Computing Center of the Academy of Sciences of the USSR, Moscow, 1966, xxix + 320 pp., 27 cm.

Consider the functions

$$\frac{1}{2} J_\nu(\alpha, \rho) = \frac{\rho^\nu}{A_\nu} \int_0^\alpha \cos(\rho \cos u) \sin^{2\nu} u\, du, \tag{1}$$

$$\frac{1}{2} H_\nu(\alpha, \rho) = \frac{\rho^\nu}{A_\nu} \int_0^\alpha \sin(\rho \cos u) \sin^{2\nu} u\, du, \tag{2}$$

$$F_\nu^+(\alpha, \rho) = \frac{\rho^\nu}{A_\nu} \int_0^\alpha e^{\rho \cos u} \sin^{2\nu} u\, du, \tag{3}$$

$$F_\nu^-(\alpha, \rho) = \frac{\rho^\nu}{A_\nu} \int_0^\alpha e^{-\rho \cos u} \sin^{2\nu} u\, du, \tag{4}$$
$$A_\nu = 2^\nu \Gamma(\nu + \tfrac{1}{2}) \Gamma(\tfrac{1}{2}).$$

Note that

$$J_\nu(\pi/2, \rho) = J_\nu(\rho), \qquad H_\nu(\pi/2, \rho) = H_\nu(\rho),$$
$$F_n^\pm(\pi/2, \rho) = \tfrac{1}{2}[I_n(\rho) \pm L_n(\rho)],$$

where $J_\nu(\rho)$ and $I_\nu(\rho)$ are the Bessel and modified Bessel functions of the first kind, respectively, and $H_\nu(\rho)$ and $L_\nu(\rho)$ are the Struve and modified Struve functions respectively.