

² *A Semi-Centennial History of the American Mathematical Society 1888–1938*, New York, 1938, p. 119–120.

HELGE VON KOCH, "Sur une application des déterminants infinis à la théorie des équations différentielles linéaires," *Acta Math.*, v. 15, 1891, p. 53–63; "Sur les déterminants infinis et les équations différentielles linéaires," *Acta Math.*, v. 16, 1892–3, p. 217–295.

³ RAYLEIGH, "On maintained vibrations," *Phil. Mag.*, s. 4, v. 15, 1883, p. 229–235, or *Scientific Papers*, v. 2, 1900, p. 188–193; "On the maintenance of vibrations by forces of double frequency, and on the propagation of waves through a medium endowed with a periodic structure," *Phil. Mag.*, s. 4, v. 24, 1887, p. 145–159, or *Scientific Papers*, v. 3, 1902, p. 1–14.

⁴ G. LAMÉ, "Mémoire sur les surfaces isothermes dans les corps solides homogènes en équilibre de température," *Jn. de Math.*, s. 1, v. 2, 1837, p. 147–188; "Mémoire sur l'équilibre des températures, dans les corps solides homogènes . . .," *Jn. de Math.*, s. 1, v. 4, 1839, p. 126–163, 351–385.

⁵ E. L. MATHIEU, "Mémoire sur le mouvement vibratoire d'une membrane de forme elliptique," *Jn. de Math.*, s. 2, v. 13, 1868, p. 137–203; *Cours de Physique Mathématique*, Paris, 1873.

⁶ C. NIVEN, "On the conduction of heat in ellipsoids of revolution," *R. So. London, Trans.*, v. 171, 1880, p. 117–151.

⁷ HEINE, *Handbuch der Kugelfunktionen*, second ed., Berlin, v. 2, 1881.

⁸ M. BRILLOUIN, *Propagation de l'Électricité*, Paris, Hermann, 1904, Ch. 6, p. 376, 383–4, etc.

⁹ E. A. HYLLERAAS, "Équation d'ondes d'un électron dans le champ de forces de deux noyaux atomiques, problème de l'ion moléculaire d'hydrogène," *Inst. Henri Poincaré, Annales*, v. 7, 1937, p. 121–153.

¹⁰ E. T. WHITTAKER, "On the functions associated with the elliptic cylinder in harmonic analysis," *Intern. Congress Math.*, Cambridge, 1912, v. 1, p. 366–371. "On Lamé's differential equation and ellipsoidal harmonics," *London Math. So., Proc.*, s. 2, v. 14, 1915, p. 260–268 or *Modern Analysis*, p. 564; "On an integral equation whose solutions are the functions of Lamé," *R. So. Edinburgh, Proc.*, v. 35, 1915, p. 70–77. See also J. H. PRIESTLEY, "On some solutions of the wave equation," *London Math. So., Proc.*, s. 2, v. 20, 1922, p. 37–50. J. L. SHARMA, *Jn. de Math.*, s. 9, v. 16, 1937, p. 199–203, 355–360.

¹¹ N. NIELSEN, *Théorie des Fonctions Métasphériques*, Paris, 1911.

¹² R. C. MACLAURIN, "On the solutions of the equation $(\nabla^2 + k)\psi = 0$ in elliptic coordinates and their physical applications," *Cambridge Phil. So., Trans.*, v. 17, 1898, p. 41–108. For numerical results see p. 92–95, 98, 106, 108.

¹³ L. PAGE and N. I. ADAMS, JR., "The electrical oscillations of a prolate spheroid, part I," *Phys. Rev.*, s. 2, v. 53, 1938, p. 819–831.

MATHEMATICAL TABLES—ERRATA

References have been made to Errata in RMT 121 and 122 (WAR DEPT.), 123 (BROWN & SHARPE), 125 (SERVICE GÉOGRAPHIQUE), 132 (HIGDON), and in 118 (HOLLAND, JONES and LAMB; BYERLY); see also in the second article of this issue, nos. 8 and 45. For errors made by MEISSEL and WATSON see the first article in this issue.

21. J. BOURGET, {*Tables of the first nine roots of $J_s(x_n) = 0$, $s = [0(1)5; 3D]$* }, Paris, École Normale Sup., *Annales*, v. 3, 1866, p. 82–87.

On comparing the 54 entries of these tables to 3D, with the tables to 5S or 6S for $s = [0(1)10(5)20(10)50 \dots 1000]$, of J. R. AIREY, B.A.A.S., *Report*, 1922, p. 271 (see MTAC, p. 72), it was found that 27 of the Bourget entries were erroneous. Four of the worst errors were as follows: $J_3(x_3)$, for 32.050, read 32.065; $J_4(x_3)$, for 33.512, read 33.537; $J_5(x_1)$, for 8.780, read 8.772; $J_5(x_3)$, for 34.983 read 34.989. All 27 of these errors are faithfully reproduced in each of the five editions of JAHNKE and EMDE, *Table of Functions*; see RMT 113. So also for Table V (p. 302) in GRAY and MATHEWS, *Treatise on Bessel Functions*, second ed., London, 1922; for Table XXXIII (p. 82) in J. B. DALE, *Five-Figure Tables of Mathematical Functions*, London, 1903; and for Table V (p. 286) in W. E. BYERLY, *An Elementary Treatise on Fourier's Series . . .*, Boston, 1895. These 27 errors (and one more added) are reproduced with equal faithfulness in RAYLEIGH, *The Theory of Sound*, v. 1, London, 1877, p. 274 (also in the German ed., v. 1, Brunswick, 1879, p. 364, and in

various other English prints such as v. 1, 1929, p. 330.) Compare J. R. AIREY, *Phil. Mag.*, s. 6, v. 32, 1916, p. 10. F. BOWMAN, *Bessel Functions* (1938) also copied Bourget errors.
R. C. A.

22. [L. J. COMRIE], *Seven-Figure Trigonometrical Tables for every Second of Time*, London, 1939. Compare *MTAC*, p. 43.

In addition to the errors already included in the Errata Slip are the following: P. 74, d for $\tan 2^h 05^m$, for 995–1000, read 995–1001; d for $\cot 3^h 54^m$, for 1000–995, read 1001–995.
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23. P. R. E. JAHNKE and F. EMDE, *Tables of Functions*, first ed., 1909. Compare RMT 113.

P. 54, $F(35^\circ, 30^\circ)$, for 0.6220, read 0.6200. P. 137, table expressing $J_0(x\sqrt{i})$ in the form $a + ib$, there are 10 errors of sign in the imaginary parts from $x = 5.1$ to $x = 6.0$ inclusive (F. F. P. BISACRE, *Phil. Mag.*, s. 6, 1923, v. 45, p. 1035.)

24. T. L. KELLEY, *The Kelley Statistical Tables*, 1938. Compare RMT 130.

The Tables III, IV and V (of 4-point, 6-point and 8-point Lagrangian coefficients) have been compared with tables of these coefficients that I made about 12 years ago on a Burroughs machine. In the 2000 values of Table III there is only one error:

Page 121, $p = 0.155$, col. C_0 , for .90033 79375, read .90033 69375. As the values are exact, the question of rounding-off errors does not arise. In Table IV there are no errors, when we take into account the fact that in 15 cases the rounding off has been (quite properly) changed by a unit in order that the sum of the coefficients shall be 1. The 72 values in Table V are all exact and correct.

L. J. C.

25. MATHEMATICAL TABLES PROJECT, New York, I. *Tables of the Exponential Function e^x* , 1939; II. *Tables of Circular and Hyperbolic Sines and Cosines for Radian Arguments*, 1940; compare RMT 89; III. *Tables of Sine, Cosine and Exponential Integrals*, v. 1, 1940; IV. *Table of Natural Logarithms*, v. 4, 1941; V. *Tables of Probability Functions*, v. 1, 1941; compare RMT 91 and MTE 16; VI. *Table of Arctan x* , 1942; compare RMT 90.

- I. P. 202, heading, for "descending," read "ascending"; p. 282, heading, for σ^x , read e^{-x} ; p. 335, argument, read .5486.
- II. P. 358, argument, read 1.7850.
- III. P. xv, footnote, for "result in error by six units," read "result in error by two units"; also, for $(1/24)p(p-1)(p-2)(p-3)$, read $(1/24)p(p^2-1)(p-2)$.
- IV. P. 440, argument, read 9.3890.
- V. P. 131, argument, read 0.6496.
- VI. P. 36, arguments, read 3.456, and p. 71, read 6.905.

A. N. LOWAN

26. C. W. MERRIFIELD, "The sums of the series of the reciprocals of the prime numbers and of their powers," R. So. London, *Proc.*, v. 33, 1881, p. 4–10.

Mr. K. W. Miller, of Chicago, has called my attention to the following errata (p. 10):

n	for	read
3 ¹	17096	17476
5	50164	50174
11	69104	69105
13	26973	26983

There is also a last figure error in Merrifield's preceding table (p. 9) of $\log S_n$ for $n = 13$ where 1 should be 2. All these errata are in Gram's reproduction of these tables [K. Danske Videns. Selskabs, *Skrifter*, s. 6, *Naturd. og Math.*, v. 2, p. 269]. Their discovery is the result of collation with Davis' excellent tables of these sums to 24 decimals in his *Tables of the Higher Mathematical Functions*, Bloomington, Ind., v. 2, 1935, p. 249–250. The verification mentioned by Glaisher (*l.c.*) has been applied to the tables of Davis and Glaisher by the writer without uncovering any error.

D. H. L.

¹ The first error was discovered by J. W. L. Glaisher, *Quart. Jn. Math.*, v. 25, 1891, p. 373, and listed in the writer's *Guide to Tables in the Theory of Numbers* (without due credit).

27. J. T. PETERS, *Sechstellige Tafel der trigonometrischen Funktionen*, . . . , Berlin, 1929.

In acknowledging the list of errors in this work which I had sent to Peters (see MTE 14), he wrote on 23 May 1939 that a new proof had been read for the second edition (which appeared later in 1939), and that this had confirmed his suspicion that Herr Schoch, who is mentioned in the Introduction as one of the readers, had not been sufficiently painstaking with his share (except in the case of the last three figures of each function), and that many errors remained. I felt that this warning should be passed on to anyone who may be using the first edition.

L. J. C.

28. HERMANN BRANDENBURG, *Sechstellige trigonometrische Tafel*, Leipzig, Lorentz, 1932. xxiv, 304 p. 19.9 × 28.3 cm.

This table gives 6-figure natural values of the four principal trigonometric functions at interval 10'', with an auxiliary table of cotangents up to 3° at interval 1''. Like the similar 7-figure tables by the same author (Leipzig, Lorentz, 1923 and 1931), it is based on the *Opus Palatinum* of Rheticus (1596). It was compared soon after publication with Andoyer's *Nouvelles Tables Trigonométriques Fondamentales* (Paris, Hermann, 1915 and 1916). The early cotangents were compared with the values computed by the undersigned for Peters' *Achtstellige Tafel der trigonometrischen Funktionen für jede Sexagesimalsekunde des Quadranten* (Berlin, Reichsamt für Landesaufnahme, 1939; Amer. ed., Ann Arbor, Mich., 1943). These comparisons and other examinations led to the discovery of the errors listed below, only the first of which is serious. This work is, therefore, of a very high standard of accuracy, whereas the first edition of the 7-figure tables (1923) was full of errors. Brandenburg, however, by offering rewards for any errors discovered, and in other ways, laboured incessantly to remove this blemish. The second edition of the 7-figure table (1931) was almost free from error, and this volume has fewer errors than the corresponding volume by Peters of all six functions to six figures at the same interval (see MTE 14, 27).

page	angle, etc.	for	read
4	cot 0°16'24''	208,6171	209,6171
95	Argument col. for P.P. 1340	3 (line 2)	2
150	tan 20°09'10''	Delete asterisk	
193	Arguments 27°18'40'' and 50''	To be interchanged	
225	P.P. for 7/10 of 168	117,7	117,6
302	Beispiel, line 3	mau	man
300	ρ°	170 32	170 33
300	ρ'	219 2	219 9
300	ρ''	152	197

The errors in ρ° , ρ' and ρ'' are due to multiplying $1/\pi$ (which is correct) by 180, 10,800 and 648,000, and writing too many significant figures. There are also end-figure errors in $(\frac{1}{2}\pi)^n$, especially for the higher values of n . The value of e on the same page is, of course, correct to 19 decimals only, since the largest neglected term begins in the 20th decimal.

L. J. C.