Part three tabulates to 3D that zero of $u \sin x - \cos x + e^{-ux}$ which lies between π and 2π for $u = .1(.01).3(.02)2$ and $\sqrt{u} = 0(.02).5$. The author states that the last figure should be correct to within 0.7 of a unit. Linear interpolation yields full accuracy and first differences are provided.

YUDELL L. LUKE

Midwest Research Institute
Kansas City, Missouri

MATHEMATICAL TABLES—ERRATA

In this issue references have been made to errata in RMT **1022**, **1032**.

214.—E. P. ADAMS & R. L. HIPPISLEY, *Tables of Elliptic Functions*, *Smithsonian Miscellaneous Collections*, v. 74, no. 1, Washington 1939, 1947.

The heading of page 294

for $E' = 1.5629622295$
read $E' = 1.5631622295$.

H. J. HAUER

Box 342
China Lake, California

215.—(1) A. A. GERSHUN, "Berechnung des Volumleuchtens," *Physikalische Z. d. Sowjetunion*, v. 2, 1932, p. 149–185 [*MTAC*, v. 2, p. 191].

(2) E. SCHMIDT, "Die Berechnung der Strahlung von Gasräumen," *Zs. Verein Deutscher Ingenieure*, v. 77, 1933, p. 1162–1164.

(3) S. GOLDSTEIN, "On the vortex theory of screw propellers," Roy. Soc., London, *Proc.*, v. 123A, 1929, p. 440–465.

Three tables are given in (1), on p. 172, 175, and 180, respectively. Table I, containing the function

$$F_1(x) = 1 - (1 - x)e^{-x} + x^2 \operatorname{Ei}(-x) = 1 - 2x^2 \int_x^\infty \frac{e^{-t}}{t^3}\, dt$$

to 4D for $x = 0(.01).02, .05, .1, .2(.2)1, 1.6(.4)2.4, 3, 4$, was read against the same function given in (2) in complementary form on p. 1163, also to 4D mainly, for $x = 0(.01).02, .05, .1(.1)1.0(.2)2.0, 2.4, 2.5, 3(1)5$. The discrepancies, and the extra values given in (2), were checked, revealing the following errors in (1) and (2):

	F_1	*for*	*read*
(1)	0.4	.4925	.4854
	3.0	.9822	.9821
(2)	0.3	.6000	.6001
	0.9	.2516	.2514
	1.2	.1680	.1679
	1.4	.1296	.1292
	1.6	.1011	.0998
	1.8	.0777	.0774
	2.5	.0328	.0326
	4.0	.00545	.00552
	5.0	.00175	.00176

Table II, of the function

$$F_2(x) = 2\sum_1^\infty \frac{(-1)^{p+1}x^p}{(p+2)p!} = 1 - \frac{2}{x^2}(1-(1+x)e^{-x}),$$

was recomputed. The following values are in error:

F_2	*for*	*read*
2.8	.8039	.8038
4.0	.8863	.8864
5.0	.9289	.9232

Table III gives $F_x = 1 - \int_0^{\pi/2} e^{-x\cos t}\cos t\,dt = \frac{1}{2}\pi[I_1(x) - L_1(x)]$,

where I_1 and L_1 are Bessel and Struve functions of imaginary argument. Comparison with (3) indicated one error in (1)

$x = 4$	*for* 9281	*read* 9271

and two in (3)

$\mu = 0.8$	*for* 0656	*read* 0671
1.2	*for* 0039	*read* 0045

DAPHNE P. KILNER

Scientific Computing Service, Ltd.
London, England

216.—P. R. E. JAHNKE & F. EMDE, *Tables of Higher Functions*. 4th (revised) ed. Leipzig, 1948.

This edition gives on p. 9 a more extensive table of the maxima and minima of the sine integral, that is, si (x) for $x = \pi(\pi)24\pi$. Comparing these values with those obtained from interpolating in the NBS tables we find the seven errata:

$\pi^{-1}x$	*for*	*read*
18	−0.007673	−0.017673
19	+0.006744	+0.016744
20	−0.005907	−0.015907
21	+0.005151	+0.015151
22	−0.004463	−0.014463
23	+0.003834	+0.013834
24	−0.008258	−0.013258

H. J. GRAY, JR.

Moore School of Electrical Engineering
University of Pennsylvania
Philadelphia, Penn.

On p. 239 the entry immediately to the right of 6.3 in the x column should be shifted down one line. Thus $-H_1^{(1)}(i6.30) = 0.0^36170$. The first significant figure of the function does not change from 6 to 5 until x is between 6.32 and 6.33.

J. H. HANCOCK

1745 Lanier Pl., N.W.
Washington 9, D. C.

217.—NILS PIPPING, "Die Goldbachsche Vermutung und der Goldbach-Vinogradowsche Satz," Åbo, Finland, Akad., *Acta Math. Phys.*, **v. 11**, no. 4, 1938, p. 1–25.

x	*for* m_x	*read*
6944	61	37
10006	149	83
23926	47	17
31004	73	67

S. A. JOFFE

515 West 110th Street
New York 25

UNPUBLISHED MATHEMATICAL TABLES

In this issue there is a reference to an unpublished table in RMT **1041**.

150[F].—D. D. WALL, *Table of Wilson's Quotient*. 11 leaves tabulated from punched cards. Deposited in the UMT FILE.

For each of the 709 primes $p \leq 5381$ the table gives the least positive remainder on division of $\{(p - 1)! + 1\}/p$ by p. This remainder is zero for $p = 5, 13$, and 563. The table was produced on the IBM Card Programmed Calculator. [See also *MTAC*, v. 5, p. 81, MTE **182**.]

D. D. WALL

IBM Corporation
Los Angeles, California

AUTOMATIC COMPUTING MACHINERY

Edited by the Staff of the Machine Development Laboratory of the National Bureau of Standards. Correspondence regarding the Section should be directed to Dr. E. W. CANNON, 415 South Building, National Bureau of Standards, Washington 25, D. C.

DISCUSSIONS

ASYNCHRONOUS SIGNALS IN DIGITAL COMPUTERS

It is frequently necessary, during the operation of a digital computer, to inject signals from sources that are not synchronized with the computer itself, for example, the manual signals. This operation may be initiated by pressing an appropriate push button. In this discussion, we will not be concerned with such problems as "bounce" of contacts, wavering pressure or the possibility of repeated operation because of completion of computation before the button is released, but only with the fact that the contact is made (or broken) at a random moment with respect to the computer timing pulses or "clock." Probably the most important source of automatically generated signals asynchronous with the computer proper is the input equipment. Whether data are introduced by magnetic tape, punched cards, manual keyboard or other means, it is generally introduced at a much lower rate than transfers within the computer itself and at intervals which do not synchronize with the main "clock."