126, 131, 133, 165, 167, 168, 198, 199, 202, 207, 244, 247, 258, 266, 268, 275, 278, 287, 302, 305–309, 311, 318, 324, 328, 333, 334, 338, 339, 349, 353, 354, 358, 363, 365, 374, 378, 397, 399, 403, 407, 424, 434, 435, 437–439, 445, 451, 453, 455, 456, 458, 460, 465–467, 474, 496–498, 506–508, 517, 519, 523, 525, 527, 537, 542, 543, 549, 557, 558, 567, 572, 577, 579, 581, 588, 589, 594, 596, 598, 632, 635, 636, 637, 645–648, 665, 667, 669, 686, 693, 730, 735, 741, 743, 744, 746, 751, 757.

TABLE IIIE

Argument	*For*	*Read*	Argument	*For*	*Read*
7	...02250	...02450	532	...51202	...51203
70	...24500	...45000	753	...50057	...50457
335	...12551	...11251	807	...64459	...62459
346	...85401	...85801	955	...01264	...01265

NYMTP

EDITORIAL NOTE: While last-figure unit errors are of no special importance, Holtappel's table is such a good one, they have been noted here for use in a new edition.

69. NYMTP, *Table of Hahn's function* $S_0(a)$; See *MTAC*, RMT **208,** p. 425.

In our table of this function published in the paper of WHINNEY and JAMIESON, corresponding to the argument $a = .05$, *for* 26.924, *read* 26.239.

NYMTP

UNPUBLISHED MATHEMATICAL TABLES

References have been made to unpublished tables *MTAC*, p. **417** (Bickley), Q **15** (Foster), QR **18** (Roman).

35[A].—ROBERT JAMES PORTER (1882–) *Factor Table for the Eleventh Million.* Two independent mss. for the same million calculated during the years 1916–1933, and 1930–1945, and the property of the author, residing at 266 Pickering Road, Hull, England.

Ms. A. 1916–1933 is in book-form, 267 pp., 8 × 13 inches, each accounting for 3750 numbers, but as the multiples of 2, 3, and 5 are omitted, the actual entries on each page number 1000. The entries are in longhand, in black ink, and are arranged in 40 parallel columns of 25 squares each. The lowest prime factor only is listed, the notation being similar to that used by KULIK, *a* representing 7; *b*, 11; *c*, 13; etc., a bar showing a prime number. About half the entries were made by the stencil method, and the remainder (by an adaptation of the "multiple" method) entered from working-sheets; to obtain the places for a given entry, the column and square were calculated up to, and including, the prime 727, and thereafter the actual number itself.

Ms. B. 1930–1945 is also in book-form, 200 pp., 7 × 7 inches, each accounting for 5040 numbers, but as the multiples of 2, 3, 5, and 7 are omitted, the actual entries on each page number 1152. The entries are in longhand, in black ink, and are arranged in 24 parallel columns of 24 squares, each square accommodating two entries. The lowest prime factor only is listed, and in the same notation as used in *Ms. A*. In the present Ms. the stencil method was not used at all. The entries for 11, 13, 17, 19, were made by direct comparison with D. N. Lehmer, *Factor Table for the First Ten Millions*, the entries for 23 to 223 inclusive by applying to the pages numbered slips showing at their edges the number of column and square needed for each entry, and thereafter by the method used in *Ms. A* for column and square.

The two mss. were purposely made different in form to avoid errors due to similarity of position of the places of entry, and were afterwards cross-checked, each discrepancy investigated, and the mss. brought into agreement. The results, subjected so far to only one check by the author, show that the total number of primes in this million is 61,945.

R. J. PORTER

36[A].—H. S. UHLER, *Exact values of n!*, $n = 201(1)300$. A photostat of a typed copy (20 leaves) is in the Library of Brown University.

This calculation is an extension of results in the booklet by this author, 12 Hawthorne Ave., Hamden 14, Conn., reviewed in *MTAC*, p. 312.

37[D].—*Table of (1/x) tan x*, manuscript prepared by, and in possession of, the Westinghouse Electric Corporation, Research Laboratories, East Pittsburgh, Pa.

In some computations on transmission line measurements it was found that a table of $(1/x)\tan x$ was necessary and this was computed for the following radian arguments: $x = [0(.0001).1(.001)3.15(.01)6.3(.1)10;\ 4D]$. For values of the parameter up to $x = 2$, the values of the tangent (to 8S) were taken from the NYMTP volume (1943; see *MTAC*, p. 178f), and for $x > 2$, from K. HAYASHI, *Fünfstellige Funktionentafeln*, Berlin, 1930, where $x = [0(.01)10;\ 5D]$. In this manuscript each value of the argument is followed by the value of tan in the table used, followed by the 4-place value of $(1/x)\tan x$. The only previously published table of this function appears to have been the one in JAHNKE & EMDE, *Tables of Functions*, $x = [0(.01)3.14;\ 4\text{–}5S]$.

THOMAS W. DAKIN

Insulation Department

EDITORIAL NOTE: Since Hayashi's table referred to above, is only 5-place, a 4-place table derived from it must be uncertain in the last figure; but furthermore, all of Hayashi's tables are unreliable. If the NYMTP volume for $\tan x$, $x = [2(\cdot 1)10;\ 10D]$, p. 402–403, had been used, much greater security would have been achieved. Then Hayashi's 10-place table of $\tan x$, *Sieben- und mehrstellige Tafeln der Kreis- und Hyperhelfunktionen . . .*, Berlin, 1926, $x = 2(\cdot 01)6\cdot 3$, p. 128(2)180, could be employed for filling in the remaining gap.

38[A].—J. W. WRENCH Jr., $\pi^{\pm n}$.

This table of $\pi^{\pm n}$, $n = 1(1)110$, was calculated by involution of π and $1/\pi$, to 206S at least, and corresponding powers were checked by multiplication to yield a product differing from unity by less than 10^{-206}. Incidentally, the value of π^2 as computed by H. S. UHLER to 262D and my approximation of π^{-1}, correct to 253D, appeared in Nat. Acad. Sci., *Proc.*, v. 24, 1938, p. 29; see *MTAC*, p. 55. Subsequently, I extended the approximation of π^{-1} to 358D.

Upon collation of my results with those given by PETERS & STEIN, *Anhang*, p. 2, of PETERS *Zehnstellige Logarithmentafel*, v. 1, Berlin, 1922, it was found that their tables of $\pi^{\pm n}$, $n = [1(1)32;$ 32S and 32D respectively], are entirely free from error.

It is intended that the present table shall provide the basis for an extensive table of $\pi^n/n!$ to be used in evaluating various transcendental functions corresponding to rational multiples of π in the argument.

J. W. WRENCH, JR.

MECHANICAL AIDS TO COMPUTATION

16[Z].—F. J. MAGINNISS, "Differential analyzer applications," *General Electric Rev.*, v. 48, May, 1945, p. 54–59.

The paper presents a brief description of problems which have been treated on the differential analyzer at the General Electric Co. References to original publications are given for most of the problems outlined. Although the bibliography of papers describing applications is not complete, it is a useful selection covering a wide field of interest and is reproduced below.

H. P. KUEHNI & H. A. PETERSON, "A new differential analyzer," *Electrical Engineering*, 1944, p. 221–235, discussion p. 431; A.I.E.E., *Trans.*, v. 63, 1944. See *MTAC*, p. 430f.