2. H. BRIGGS, *Trigonometria Britannica*, trigonometry by H. GELLIBRAND, Gouda, 1633:

	for	read
tan 6°.24.	0.10934 01888	0.10934 11888
tan $35°\frac{100}{100}$	0.72654 45280	0.72654 25280; tan 36° is correct
sin 64°.49	0.90221 ...	0.90251 ...

J. T. PETERS, *Siebenstellige Werte der trigonometrischen Funktionen von Tausendstel zu Tausendstel des Grades*, Leipzig, 1918, p. [iii]; also English edition, New York, 1942, p. [iii].

tan 19°.29 *for* 0.35099,90945 *read* 0.34999 90945

tan 77°.34 to 77°.67, 34 entries where the first digit should be 4 instead of 9.

AMELIA DE LELLA, *Five Place Table of Natural Trigonometric Functions to Hundredths of a Degree*, New York, 1934, Preface.

3. A. J. C. CUNNINGHAM, *Binomial Factorisations*, v. 1, London, 1923; see UMT **1**.

P. 243, in the table for which $(1/10)(n^2+1)$ is a prime, col. 11, *for* 4683 *read* 9683.

P. 244, in the table for which $(1/13)(n^2+1)$ is a prime, *omit* the entry 671; and *for* 3930 in col. 4, *read* 2930.

L. EULER, "De numeris primis valde magnis," 1764; see UMT **1**.

193 is given as a divisor of 82^2+1, whereas it divides 81^2+1; 1068^2+1 is said to be equal to $5^5\cdot 73$, instead of the correct factorization $5^6\cdot 73$; 1080^2+1 is said to have 773 as a factor, whereas 773 divides 1090^2+1, and 1080^2+1 is a prime. These errors remain uncorrected in the later editions of this paper, even in Euler's *Opera Omnia*, s. 1, v. 3, 1917.

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4. L. J. COMRIE, editor, *Barlow's Tables . . .*, fourth ed., London, 1941. See RMT **82**.

P. 5, cube root of 197, *for* 5.8186497, *read* 5.8186479.

In the first edition, 1930, p. 25, the difference following $\sqrt{10n}$ for 1156 should be 46494, not 45494.

L.J.C.

UNPUBLISHED MATHEMATICAL TABLES

The list of unpublished mathematical tables, on which we shall later make report, is long, but this list can doubtless be greatly extended. We hope that anyone knowing of such tables in public or private hands, will acquaint us with the facts. The Committee desires to become a clearing-house for all information of this kind. It believes that the dissemination of such information is highly desirable, and may render notable services.

1. JOHN WILLIAM WRENCH, JR. (1911–) *Complete factorization of integers of the form of n^2+1 for* $1 \leqq n \leqq 16{,}200$. Ms. in possession of Dr. Wrench, and a film copy in the Library at Brown University.

There is also a portion of the table, $n\leqq 10{,}000$, in the Library of Yale University where the table was part of a doctoral dissertation (1938).

The first table of this kind was given by L. Euler, "De numeris primis valde magnis," Acad. Sci. Petrop., *Novi Commentarii*, v. 9 (1762–3), 1764, p. 112–117. (For 3 other editions see D. H. Lehmer, *Guide to Tables in the Theory of Numbers*, National Research Council, 1941.) The range of this table is $1 \leqq n \leqq 1500$ and the largest prime is purposely omitted in the majority of cases; hence a prime is indicated, for the most part, by a blank space. Gauss gave a factor table of n^2+1 (*Werke*, Göttingen, v. 2, second ed., 1876, p. 478–481), where the numbers are selected according to the criterion that the largest prime factor should not exceed 197. He has given an enumeration of 657 such integers (from $n=2$ to $n=14\ 033\ 378\ 718$) with their complete factorizations—the factor 2 being omitted throughout. Gauss constructed similar factor tables for integers of the form n^2+k^2, where k assumes the values 2, 3, 4, . . . , 9, inclusive.

In his *Binomial Factorisations*, v. 1, London, 1923, p. xxvi, the late A. J. C. CUNNINGHAM mentions an unpublished ms. table of his which gives the complete factorization of n^2+1 for $1 \leqq n \leqq 15{,}000$. On the basis of this table he enumerates (p. 238–239) the positive values of $n < 15{,}000$ for which n^2+1 is prime. (I have discovered no errata in his list.) He has also tabulated (p. 240–244) in separate groups those values of n for which $(1/2)(n^2+1)$, $(1/5)(n^2+1)$, $(1/10)(n^2+1)$, $(1/13)(n^2+1)$, $(1/17)(n^2+1)$, are prime. For errors in these, and in Euler's table, see MTE **3.**

As Gauss first indicated (*Werke*, v. 2, second ed., p. 497–500), one of the most important uses of such a table is the derivation of arctangent relations for the calculation of π. I have elaborated this theme in "On the derivation of arctangent equalities," *Amer. Math. Mo.*, v. 45 (1938), p. 108–109. In the same volume, in an expository article "On arccotangent relations for π" (p. 657–664) D. H. Lehmer compared the relations with regard to ease in application to the calculation of π to a large number of decimal places.

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MECHANICAL AIDS TO COMPUTATION

1. *Seventeenth Century Calculating Machines.*—In *Nature*, v. 150, 31 Oct. 1942, p. 508–509, is an address delivered at a memorial luncheon held in London on 19 October, by the president of the Royal Astronomical Society, S. Chapman, "Blaise Pascal (1623–1662) tercentenary of the calculating machine." A report of this luncheon organized by a small committee, of which L. J. Comrie was chairman, appeared in this same issue of *Nature*, p. 527, "Pascal tercentenary celebration." The 120 guests included many distinguished French scientists, as well as an official deputation from General de Gaulle's headquarters. At the age of nineteen Pascal invented the first calculating machine, made in 1642. By this means he hoped to assist his father, Etienne Pascal (d. 1651), discoverer of the limaçon, in statistical work involving additions and subtractions of sums of money. Such operations were those to which its applications were confined. During the following decade he made improvements, and one of his machines of 1652, bearing his signature, is preserved in the Conservatoire des Arts et Métiers. A replica of this is in the Science Museum, South Kensington, London. A detailed account of this machine by Denis Diderot (1713–1784), with illustrations, was published in *Encyclopédie, ou Dictionnaire Raisonné des Sciences des Arts et des Métiers*, Paris, v. 1, 1751, p. 680–684, Planches, v. 5, 1767, algèbre et trigonométrie, plate II. Also in 3rd ed., Geneva, and Neuchâtel, 1779, v. 3, p. 381–388, plates, v. 1. See also *Encyclopédie Méthodique. Mathématiques*, . . . , Paris, v. 1, 1784, p. 136–142; and *Oeuvres Complètes de Blaise Pascal*, v. 2, Paris, Hachette, 1860, p. 368–380. Chapman notes, "In 1652 he [Pascal] presented one of the last of his fifty models, with a famous letter, to Queen Christina of Sweden. He also wrote a prospectus of his invention that would do credit to a modern school of salesmanship." This