Table VII (Corrections for refraction and curvature of the earth) gives integer values of d (in meters) corresponding to $f = 0.01(0.01)1.68$, also in meters.

The final table (Horizontal distances and gradients) consists of $\tan \alpha$, 5 dec.; $\cot \alpha$, 5 fig.; $h \cot \alpha$, 2 dec. for $h = 0.5$, 1, and 1 dec. for $h = 2$, 2.5, 5, 10, 20; $\alpha = 0°30'(30')10°(1°)30°$.

The user is well advised to study the illustrative examples in the use of the tables, which appear on pp. 196–198.

A supplementary loose sheet lists 25 known typographical errors in these tables.

This convenient set of tables should materially expedite the calculations involved in topographic levelling.

J. W. W.

68[F].—N. G. W. H. Beeger, *Tafel van den kleinsten factor der getallen van* 999 999 000–1000 119 120 *die niet deelbaar zijn door* 2, 3, 5, ms. of 57 pp. (unnumbered) deposited in the UMT File.

In accordance with the bequest of the late Dr. Beeger this factor table, together with the one described in the next review, has been placed in the file of unpublished mathematical tables that is maintained by this journal.

The format is that devised by L. Poletti in his *Neocribrum* and used subsequently by Dr. Beeger in his factor table for the eleventh million [1]. Accordingly, we find in the present table the least prime factor of all integers not divisible by 2, 3, or 5 in the range of the 120,120 numbers designated in the title.

The details of the construction of this factor table are set forth in English on a carefully handwritten introductory page.

Each page of the manuscript is devoted to the factors of numbers prime to 30 over an interval of 2310 consecutive integers, and the number of primes is subtotaled for each such interval and for each member of the reduced residue class modulo 30. The grand total of all primes listed is 5775.

Comparison of these data with the table of primes for the thousandth million by Baker & Gruenberger [2] revealed complete agreement in the 63 entries common to the two tables.

Information on the inside title page shows that Dr. Beeger compiled the present table between 19 December 1937 and 18 June 1938. It represents an impressive accomplishment for this well-known expert in the art of factoring large numbers.

J. W. W.

1. N. G. W. H. Beeger, *Table of the Least Factor of the Numbers that are not Divisible by 2, 3, 5, of the Eleventh Million*, ms. in UMT file. See *MTAC*, v. 10, 1956, pp. 36–37, RMT **5.** For a brief description of the *Neocribrum*, see *MTAC*, v. 4, 1950, pp. 145–146, RMT **768.**

2. C. L. Baker & F. J. Gruenberger, *Primes in the Thousandth Million*, deposited in UMT file. See *MTAC*, v. 12, 1958, p. 226, RMT **89.**

69[F].—N. G. W. H. Beeger, *Tafel van den kleinsten factor der getallen* 61 621 560–61 711 650 *die niet door* 2, 3, 5 *deelbaar zijn*, ms. of 54 pp. (unnumbered) deposited in UMT file.

This manuscript table consists of three fascicles, each giving the least prime factor of integers relatively prime to 30 over an interval of 30,030 consecutive numbers within the range stated in the title.

The format is identical with that used in other factor tables by the author (see the preceding review).

The explanatory text (in Italian) consists of four printed pages prepared by L. Poletti in 1921 to accompany the printed fascicles constituting his "Neocribrum."

Cumulative counts of the primes belonging to each member of the reduced residue class modulo 30 are shown on each page. The total number of primes in the table is given as 5005.

Dr. Beeger compiled the first fascicle between 1 January 1928 and 4 May 1929; the remainder of this unique table was completed on 1 January 1933.

Both this manuscript and the one described in the preceding review are listed in the *Guide* [1] of D. H. Lehmer.

J. W. W.

1. D. H. LEHMER, *Guide to Tables in the Theory of Numbers*, National Research Council Bulletin 105, National Academy of Sciences, Washington, D. C., 1941 (reprinted 1961), pp. 39 and 86.

70[L, M].—L. N. OSIPOVA & S. A. TUMARKIN, *Tables for the Computation of Toroidal Shells*, P. Noordhoff, Ltd., Groningen, The Netherlands, 1965, 126 pp., 27 cm. Price $7.00.

This is a translation by Morris D. Friedman of *Tablitsy dlya rasheta toroobraznykh obolochek*, which was published by Akad Nauk SSSR in 1963 and previously reviewed in this journal (*Math. Comp.*, v. 18, 1964, pp. 677–678, RMT **94**). The highly decorative dust jacket of this translation shows a sea shell, which the publisher presumably associates with the subject matter.

J. W. W.

71[L, M, K].—I: F. D. MURNAGHAN & J. W. WRENCH, JR., *The Converging Factor for the Exponential Integral*, DTMB Report 1535, David Taylor Model Basin, Washington, 1963, ii + 103 pp., 26 cm.

II: F. D. MURNAGHAN, *Evaluation of the Probability Integral to High Precision*, DTMB Report 1861, David Taylor Model Basin, Washington, 1965, ii + 128 pp., 26 cm.

These two reports, herein referred to as I and II, concern the calculation, to high precision, of converging factors (c.f.'s) for the following functions:

$$\text{(A) } Ei(x) = \int_{-\infty}^{x} (e^t/t)\,dt, \qquad \text{(B) } -Ei(-x) = \int_x^{\infty} (e^{-t}/t)\,dt,$$

$$\text{(C) } T(x^{1/2}) = \frac{1}{2}\int_x^{\infty} e^{-t}t^{-1/2}\,dt.$$

Functions (A) and (B), the exponential integrals of positive and negative arguments, are treated in I; function (C), which is related to the probability integral, in II.

For a function $f(x)$ with asymptotic expansion $\sum_{r=0}^{\infty} a_r x^{-r}$, the c.f., $C_n(x)$ is given by

$$f(x) = \sum_{r=0}^{n-1} a_r x^{-r} + a_n x^{-n} C_n(x).$$