4. DANIEL SHANKS, "On the conjecture of Hardy and Littlewood concerning the number of primes of the form $n^2 + a$," *Math. Comp.*, v. 14, 1960, pp. 321–332.
5. DANIEL SHANKS, "On numbers of the form $n^4 + 1$," *Math. Comp.*, v. 15, 1961, pp. 186–189; Corrigendum, *ibid.*, v. 16, 1962, p. 513.
6. DANIEL SHANKS, "Supplementary data and remarks concerning a Hardy-Littlewood conjecture," *Math. Comp.*, v. 17, 1963, pp. 188–193.
7. DANIEL SHANKS, "Polylogarithms, Dirichlet series, and certain constants," *Math. Comp.*, v. 18, 1964, pp. 322–324.
8. DANIEL SHANKS & JOHN W. WRENCH, JR., "The calculation of certain Dirichlet series," *Math. Comp.*, v. 17, 1963, pp. 136–154; Corrigenda, *ibid.*, p. 488.
9. DANIEL SHANKS & LARRY P. SCHMID, "Variations on a theorem of Landau," (to appear).
10. W. A. GOLUBEW, "Primzahlen der Form $x^2 + 3$," *Österreich. Akad. Wiss. Math.-Nat. Kl.*, 1958, Nr. 11, pp. 168–172.

113[F].—SIDNEY KRAVITZ & JOSEPH S. MADACHY, *Divisors of Mersenne Numbers*, $20{,}000 < p < 100{,}000$, ms. of 2 typewritten pages + 48 computer sheets, deposited in the UMT File.

The authors computed all prime factors $q < 2^{25}$ of all Mersenne numbers $M_p = 2^p - 1$ for all primes p such that $20{,}000 < p < 100{,}000$. The computation took about one-half an hour on an IBM 7090. There are 2864 such factors q. These are listed on 48 sheets of computer printout in the abbreviated form: k vs. p, where $q = 2pk + 1$. A reader interested in statistical theories of such factors may wish to examine the following summary that the reviewer has tallied from these lists. Out of the 7330 primes p in this range, M_p has 0, 1, 2, 3, or 4 prime divisors $q < 2^{25}$, according to the following table

0	1	2	3	4
4920	2006	356	46	2

The two values of p with four such factors are $p = 26{,}681$ and $68{,}279$.

The authors do not indicate whether or not any of these factors q is a multiple factor, that is, whether $q^2 \mid M_p$. Heuristically, the probability of a multiple factor here is quite low. Such a q has not been previously found [1], but, on the other hand, no convincing heuristic argument has ever been offered for the conjecture [1] that they do not exist. The alleged proof given in [2] is certainly fallacious, and for the quite closely analogous ternary numbers $\frac{1}{2}(3^p - 1)$ one finds a counterexample almost at once.

For earlier tables of factors of M_p see [1], [3] and the references cited there.

D. S.

1. JOHN BRILLHART, "On the factors of certain Mersenne numbers. II," *Math. Comp.*, v. 18, 1964, pp. 87–92.
2. E. KARST, "Faktorenzerlegung Mersennescher Zahlen mittels programmgesteuerter Rechengeräte," *Numer. Math.*, v. 3, 1961, pp. 79–86, esp. p. 80.
3. DONALD B. GILLIES, "Three new Mersenne primes and a statistical theory," *Math. Comp.*, v. 18, 1964, pp. 93–97.

114[F].—H. C. WILLIAMS, R. A. GERMAN & C. R. ZARNKE, *Solution of the Cattle Problem of Archimedes*, copy of the number T, 42 computer sheets, deposited in the UMT File.

There is deposited here the number T, the total number of cattle in Archimedes' problem, the computation of which is discussed elsewhere in this issue. This enor-