35[9].—EDGAR KARST, *The Second* 2500 *Reciprocals and their Partial Sums of all Twin Primes* $(p, p + 2)$ *between* (102911, 102913) *and* (239387, 239389), Department of Mathematics, University of Arizona, Tucson, Arizona, February 1972. Ms. of 253 computer sheets deposited in the UMT file.

This manuscript table is a direct continuation of one [1] by the author giving 20D reciprocals of the first 2500 twin primes, together with 20D cumulative sums of these reciprocals. As in the previous table a useful supplementary table of two computer sheets here lists the first member of each of the subject prime pairs.

The author states that comparison of his list of twin primes with the tables of Selmer & Nesheim [2] and of Tietze [3] has revealed no discrepancies.

The announced motivation for the present tables is the testing of the author's conjecture that the sum of the reciprocals of the twin primes (counting 1 as a prime) closely approximates π. However, the calculation of Fröberg [4] implies that this sum to 4D is 3.0352, which does not appear to substantiate this conjecture to any reasonable degree.

J. W. W.

1. EDGAR KARST, *The First* 2500 *Reciprocals and their Partial Sums of all Twin Primes* $(p, p + 2)$ *between* (3, 5) *and* (102761, 102763), Department of Mathematics, University of Arizona, Tucson, Arizona, January 1969. (See *Math. Comp.*, v. 23, 1969, p. 686, RMT 52.)

2. E. S. SELMER & G. NESHEIM, "Tafel der Zwillingsprimzahlen bis 200000," *Norske Vid. Selsk. Forh. Trondheim*, v. 15, 1942, pp. 95–98.

3. H. TIETZE, "Tafel der Primzahl-Zwillinge unter 300000," *Bayer. Akad. Wiss. Math.-Nat. Kl. S.-B.*, 1947, pp. 57–72.

4. CARL-ERIK FRÖBERG, "On the sum of inverses of primes and of twin primes," *Nordisk Mat. Tidskr. Informationsbehandling*, v. 1, 1961, pp. 15–20.

36[9].—ELVIN J. LEE & JOSEPH S. MADACHY, "The history and discovery of amicable numbers—Part 1," *J. Recreational Math.*, v. 5, April 1972.

This is the text of the published version of our previously reviewed [1]. The table of amicable numbers has been increased from the previous 977 pairs to 1095 pairs and includes all pairs known to the authors through the end of 1971. The table is not given here but will follow in "succeeding issues" of the *Journal of Recreational Mathematics.*

For more detail of the contents of this paper see our previous review [1]. The main change in the present edition, besides a second author (the editor of JRM) and a slightly changed title, is the inclusion of brief reports on the subsequent work of Henri Cohen, Walter Borho, A. Wolf, Richard David and Harry Nelson. These authors account for the extra 118 pairs in the table. No doubt there will be a supplement at the end of the table since new pairs are still coming in.

The paper lists a new "aliquot 4-cycle" due to R. David, and subsequently David found three others. Adding these to Cohen's eight cycles and Borho's one gives a present total of thirteen 4-cycles. Counting Tuckerman's new perfect number, which is also listed here, the number of cycles satisfying $s^{(k)}(n) = n$ is now 24 for $k = 1$, 1095 for $k = 2$, 13 for $k = 4$, and 1 each for $k = 5$ and 28. There still are none for