962-01-788   **Joseph W. Dauben*** (`jdauben@worldnet.att.net`), Department of History, Herbert H. Lehman College, The City University of New York, 250 Bedford Park Blvd. West, Bronx, NY 10468. *Large Numbers and the Infinite in Ancient Chinese Mathematics: Puzzles of Xu Yue's* Shu Shu Ji Yi *(Memoir on Some Traditions of the Mathematical Art).* Preliminary report.

The *Shu Shu Ji Yi* (Memoir on Some Traditions of the Mathematical Art), traditionally ascribed to Xu Yue with a commentary by Zhen Luan, is an important if obscure and difficult work concerned with questions of the infinite, the expression of arbitrarily large numbers, and various devices used to express if not actually calculate with numbers of any desired magnitude. It is a classic text that may owe as much to the Indian Buddhist concern with infinite cycles of time and the concept of duration without limit as it does to Chinese concerns with the physical processes of record keeping and computation.

In the course of interpreting the significance of the *Shu Shu Ji Yi* for the history of Chinese mathematics, this paper will consider questions of its origin and allegations that the text itself, a late addition to the "Ten Classics of Ancient Chinese Mathematics," was in fact not the work of Xu Yue but instead a very clever forgery by the Buddhist master and mathematician Zhen Luan. Comparisons will also be drawn with important Western parallels, including Archimedes' *The Sand Reckoner*, in which he, too, was concerned with the expression of arbitrarily large numbers. (Received September 26, 2000)

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