

*de Belgique* **105** (1939), *Notes biographiques*, 239–269 (with bibliography and portrait). Portrait: [BÖLLING 1994, 3.1]. P.B.

**LI Yan** (\* August 22, 1892, Fuzhou City, Fujian Province, China; † January 14, 1963, Beijing, China). It is well known that LI YAN and QIAN BAOCONG, two prominent Chinese scholars, were active for half a century in studying the history of mathematics in ancient and medieval China. LI YAN was the son of an intellectual but poor family in Fuzhou City, Fujian Province. He passed the college entrance examination and went on to study civil engineering at the Tangshan Railway and Mining College in 1912. Unfortunately, he had to discontinue his study in 1913 to work on the Longhai Railway. Thereafter, as one of the contemporary engineers of China, he devoted his life to the Long Hai Railway for 42 years.

At virtually the same time, he began his academic career as an historian of Chinese mathematics. Between 1915 and 1917, he corresponded with the American historian of mathematics D. E. SMITH on the history of Chinese mathematics. In the course of his scholarly career, LI published more than twenty books and slightly more than one hundred treatises. He was an historian of Chinese mathematics who exerted an international influence.

During the period of the 1930s and the 1940s, he collected a number of his articles together and published them as books (four in all, in 1933, two in 1935, and 1947, respectively), under the title *Zhongsuanshu luncong* (Collected Essays on the History of Chinese Mathematics) (4 vols.). In the 1950s, a revised edition was published (5 vols.).

Volume One was devoted to achievements of ancient Chinese mathematicians, including the theory of fractions, research on the *gougu* (right-angled triangle) theorem (the so-called Pythagorean theorem), the *pingfang lingyue* (approximate expression of irrational roots) method, the method of *dayan quyu shu* (the so-called Chinese remainder theorem by Western scholars), JIA XIAN's triangle (the Chinese "Pascal triangle"), the *zongheng tu* (the magic square), the *fangcheng* (a method for solving simultaneous linear equations, later also applied to higher equations), and the *duoj zhaocha* (the methods of series and interpolation).

Volume Two studied mathematical books in every dynasty. Here LI YAN's bibliography of mathematical works of the Ming and Qing dynasties proved especially valuable.

Volume Three discussed the transmission of Western mathematics into China during the MING and QING periods, and the study of Western mathematics including logarithms, conic sections, trigonometry, and infinite power series by Chinese scholars at that time. In particular, LI YAN studied the chronicle of MEI WENDING, the famous early Qing dynasty mathematician.

Volume Four dealt with the counting-rod arithmetical operations, the application of the abacus, the history of mathematical education systems, the *Ceyuan haying* (Sea Mirror of Circle Measurement), and the chronicles of LI SHANLAN and HUA HENGFANG, two famous mathematicians in the late QING dynasty.

Volume Five contained the investigation and source materials for the history of mathematical interchange and the historiography of the history of mathematics in China.

Among his many books, the most representative are his *Zhongguo suanxue shi* (A History of Chinese Mathematics) (1937; Japanese trans. by YABUTI KIYOSHI and SHIMAMOTO KAZUO, 1940); the *Zhongguo shuxue dagang* (An Outline of the History of Chinese Mathematics) (2 vols., 1958); the *Zhongguo gudai shuxue jianshu* (A Concise History of Ancient Chinese Mathematics) (2 vols., written in collaboration with DU SHIRAN, Engl. trans. by J. N. CROSSLEY and A. W.-C. LUN, 1986).

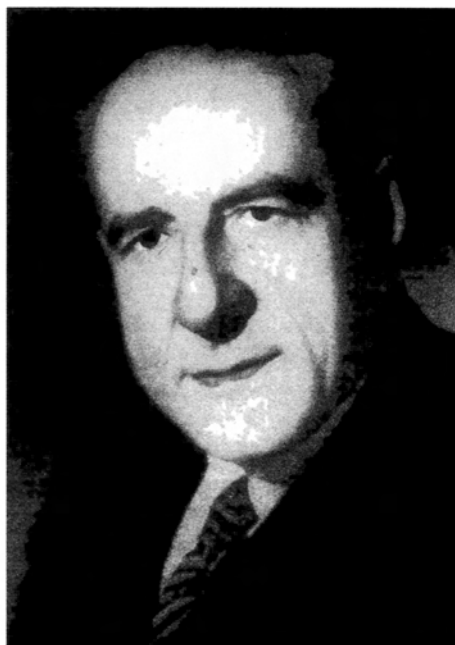
LI YAN was also a famous collector of ancient and medieval Chinese mathematical books. After his death, his extensive collection was donated to the Institute for History of Natural Sciences, Academia Sinica, Beijing, where it is now used by students and scholars from all parts of the world. From 1957 to 1963, LI YAN was the Institute's first director. In the course of his career he made many valuable contributions to the cause of the history of modern science in China, and facilitated cultural exchanges with foreign scholars. His works are still quoted by historians of science and mathematics alike, and remain useful resources for Chinese and foreign scholars even today.

Secondary Literature: WONG MING: "Le professeur Li Yen, 1892 1963." *Rev. Hist. Sci.* **16** (1963), 256 257. ZHANG DIANZHOU: "Correspondence between Li Yan and D. E. Smith" (in Chinese, with English summary). *Zhongguo keji shiliao* (Chinese Historical Materials on Science and Technology) **12**, no. 1 (1991), 75 83. DU SHIRAN: "In Memory of Prof. Li Yan" (in Chinese, with English summary). *Zhongguo keji shiliao* (Chinese Historical Materials on Science and Technology) **13**, no. 4 (1992), 31 36 (with portrait on inside front cover). LI DI: "Yan LI as a Founder of the Science of the History of Chinese Mathematics" (in Chinese; English and Chinese summaries). *Neimenggu shida xuebao (ziran kexue Hanwen ban)* 1994, no. 2, 73 80. [LIU 1994, 4, 108 109]. L.D.

**Libri, Guglielmo Bruto Icilio Timoleone Conte Carrucci della Somaia** (\* January 2, 1803, Florence, Italy; † September 28, 1869, Fiesole, Florence, Italy). GUGLIELMO LIBRI is one of the more controversial figures among historians of mathematics. The son of a noble family, he attended secondary school in Florence and then studied at the University of Pisa. At the age of 17 he published his first scientific paper, *Memoire sur la théorie des nombres* (Mémorial on the Theory of Numbers) (1820), which caught CAUCHY's attention. In 1823 (at the age of 20!) LIBRI was appointed professor of mathematical physics at the University of Pisa, but the following year, due to a serious illness which prevented him from teaching, he was forced to give up this position. However, because his scientific abilities were highly appreciated by the Grand Duke of Tuscany, LIBRI was named professor *emeritus* of the University of Pisa. Between 1824 and 1830 he published several papers on analysis, on the theory of equations, and on mathematical physics (which



MIKAMI YOSHIO (1875 1950)



JULIO REY PASTOR (1888 1962)



KURT VOGEL (1888 1985)



LI YAN (1892 1963)