

Bortolotti, Ettore | Encyclopedia.com

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(b. Bologna, Italy, 6 March 1866; d. Bologna, 17 February 1947)

mathematics, history of mathematics.

A disciple of Salvatore Pincherle, Bortolotti received his degree in mathematics *summa cum laude* from the University of Bologna in 1889. He was a university assistant until 1891, when he was appointed professor at the lyceum of Modica, Sicily. After completing postgraduate studies in Paris in 1892–1893, he taught in Rome from 1893 to 1900. In the latter year Bortolotti was appointed professor of infinitesimal calculus at the University of Modena, where he taught analysis and rational mechanics. He was dean of the Faculty of Science from 1913 to 1919, the year in which he assumed the professorship of analytical geometry at the University of Bologna. He retired in 1936.

Bortolotti's early studies were devoted to topology, whereas his later works in pure mathematics dealt largely with analysis: calculus of finite differences, the general theory of distributive operations, the algorithm of continuous fractions and its generalizations, the order of infinity of functions, the convergence of infinite algorithms, summation and asymptotic behavior of series and of improper integrals.

Bortolotti's interest in the history of mathematics was clear in his early works on topology; it increased during his stay in Rome, when he was an associate of the physicist and mathematician Valentino Cerruti; and it was fully developed in Modena, when he made deep studies of Paolo Ruffini's manuscripts. His first published historical work was "Influenza dell'opera matematica di Paolo Ruffini sullo svolgimento delle teorie algebriche" (1902). He later edited Ruffini's *Opere matematiche* (1953–1954). Bortolotti gradually widened the scope of his studies to include more remote times. The period in the seventeenth century during which infinitesimal analysis was developed was the subject of profound studies by Bortolotti, who revealed the importance of Torricelli's infinitesimal results while vindicating Cataldi's claim to the discovery of continuous fractions.

Bortolotti also studied the work of [Leonardo Fibonacci](#) and of Scipione Dal Ferro, Nicolò Tartaglia, [Girolamo Cardano](#), Ludovico Ferrari, and Rafael Bombelli. He found and published (1929), with an introduction and notes, the manuscript of books IV and V of Bombelli's *L'algebra*. Among his other contributions is the objective reconstruction of the argumentations of the Sumerian, Assyrian, Babylonian, and Egyptian mathematicians.

BIBLIOGRAPHY

I. Original Works. Bortolotti's works total more than 220, and lists of them may be found in the appendixes to the articles by Bompiani and Segre (see below). Among his works are "Influenza dell'opera matematica di Paolo Ruffini sullo svolgimento delle teorie algebriche," in *Annuario della R. Università di Modena*, 1902–1903, pp. 21–77; *Lezioni di geometria analitica*, 2 vols. (Bologna, 1923); *Studi e ricerche sulla storia della matematica in Italia nei secoli XVI e XVII* (Bologna, 1928); *I cartelli di matematica disfida e la personalità psichica e morale di Girolamo Cardano* (Imols, 1933); and *La storia della matematica nella*

Università di Bologna (Bologna, 1947). He also edited Books IV and V of *L'algebra, opera di Rafael Bombelli da Bologna* (Bologna, 1929) and Ruffini's *Opere matematiche*, 3 vols. (Rome, 1953–1954).

II. Secondary Literature. Works on Bortolotti are E. Bompiani, "In ricordo di Ettore Bortolotti," in *Atti e Mémoiredell' Accademia di Scienze, lettere e arti di Modena*, 5th ser., **7** (1947); E. Carruccio, "Ettore Bortolotti," in *Periodico di matematiche*, 4th ser., **26** (1948), and "Commemorazione di Ettore Bortolotti," in *Atti della Societa italiana di scienze fisiche e matematiche "Mathesis"* (1952); and B. Segre, "Ettore Bortolotti—commemorazione," in *Rendiconti dell'Accademia delle scienze dell'Istituto di Bologna, classe di scienze fisiche*, n.s. **52** (1949), 47–86.

Ettore Carruccio