

## CREMONA'S WORKS.

*Opere matematiche di Luigi Cremona.* Pubblicate sotto gli auspici della R. Accademia dei Lincei. Volumes 1 and 2. Milano, Hoepli, 1914 and 1915. Quarto, viii + 492, 451 pp.

CREMONA'S career as geometer and teacher covered very nearly the second half of the nineteenth century. Born at Pavia in 1830, he was only eighteen when his ardent patriotism drew him into the war of independence. Returning after a year and a half, at the close of the war, he studied at the University of Pavia under Bordoni and Casorati and in 1853 took the laureate in civil engineering and architecture. After seven years of teaching in lower schools, he was called in 1860 to the University of Bologna as first professor of projective geometry and mechanics. After six years of intense activity there, he returned to Milan as a colleague of Brioschi at the Polytechnic and Normal School, training teachers in graphical statics for the technical institutes of the new Italy. From 1873 until the end of his life, 1903, he lectured in the University of Rome, on geometry, graphical statics, and "higher mathematics," meanwhile giving time and care without stint to the school of engineering, of which he was the founder and director. Usually also he gave courses in the normal department, to which he attached no less importance than to the more purely theoretical studies.

It may be doubted whether any great teacher has been actuated primarily by considerations of economic utility. While Cremona was intensely patriotic, it is evident from his writings that it was the innate love of his chosen science that moved him to teaching and to the preparation of the books through which his name is most widely known. In this collection the editors have not included his *Elements of Projective Geometry*; but we have his *Introduction to a geometrical Theory of Plane Curves* (1862), which was later translated (1865) into German by Curtze, and attained wide circulation and use; also his *Fundamentals of a geometric Theory of Surfaces*. This latter, combined with the memoir on *Cubic Surfaces*, was also most extensively known in Curtze's German version (1869). Here too are included, of course, the two epoch-making essays on transformations of