



***The Volterra Chronicles:
The Life and Times of an
Extraordinary Mathematician
1860–1940***

by Judith R. Goodstein

The American Mathematical Society

310 pages, \$47

Mathematician Vito Volterra was lucky enough to be born in the brief window of freedom for Italy's Jews that occurred between the liberation of their ghettos by the French and the beginning of Mussolini's fascist dictatorship. As Judith Goodstein writes in her biography *The Volterra Chronicles*, from the 1500s until the time of Volterra's birth, Jews were prohibited from, among other things, attending public schools at all levels (except for medical schools, so they could practice on other Jews), owning property, maintaining shops outside the ghetto, or remaining outside the ghetto after sunset. They had to wear a yellow armband, and they were restricted to a few trades. In contrast, Volterra, who was born in 1860, was free to pursue his passions of math and physics at the highest levels.

Volterra distinguished himself intellectually early in life—at age 13 he concocted an

approximate solution to “the notorious three-body problem that had confounded mathematics since Newton's time,” writes Goodstein. Despite his family's urging him to pursue a practical career like railroad engineer, Volterra seemed destined for academia. He was extremely gifted, but also charmed, winning a professorship soon after he earned his doctorate at the tender age of 23. This came at a time when most scholars toiled for a decade or more teaching high school or even junior high before climbing the university ranks. His best-known mathematical contributions are to integral and differential equations, but Volterra embraced all mathematical complexities that crossed his path.

This book is far more than the remarkable history of a man who remains extremely well known in extremely small circles. It is an exploration of Italian history, especially of its academic and political organization, from the late 1800s until the rise of Mussolini in the 1930s. Details like street addresses and their updated names today and descriptions of neighborhoods then and now give a sense of how people lived. Letters to and from Volterra intimately reveal his and his family's personalities, as well as how he

and his colleagues dealt with one another.

In his lifetime, academics were also politicians and statesmen, and Volterra served as a senator as well as a lieutenant in Italy's Army Corps of Engineers during World War I. It must have hit him extra hard then when Mussolini enacted racial laws that mandated, among other things, that Jews could no longer attend public schools or universities or serve in Italy's armed forces. He died in this sad reality, shortly after World War II began. So as not to leave us dangling on this haunting note, Goodstein describes in the epilogue Italy's return to democracy and sanity and what happened to Volterra's Jewish colleagues and family, most of whom survived. She also provides the full text of Volterra's obituary by Sir Edmund Whittaker, which was a tribute to his life and work and was published in 1941 by the Royal Society of London. □—EN

**HOMER J. STEWART
1916 – 2007**



Homer Stewart (PhD '40), a pioneer of rocket research who helped develop Explorer I, America's first satellite to reach orbit, died May 26 at his home in Altadena, California. He was 91.

A native of Dubuque, Iowa, Stewart earned his bachelor's degree in engineering from the University of Minnesota in 1936 and then came to Caltech as a graduate student in Engineering and Applied Science. He became interested in the rocketry work being done on campus by a small group of Caltech engineers and scientists, chief among them Theodore von Kármán. Stewart, von Kármán, and others began testing rockets in a rugged foothill area of the San Gabriel Mountains about five miles northeast of campus—a group of people and a site that would later become the heart of the Jet Propulsion