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Donald Babbitt* (dgbabbitt@sbcglobal.net), 484 E. California Bl.-#15, Pasadena, CA , and **Judith Goodstein.** *Federigo Enriques' Obsession: A Tale from Italian Algebraic Geometry.* Preliminary report.

The talk reconstructs the historical context for a plaintive letter from Federigo Enriques to Beniamino Segre in 1945, near the end of Enriques' life. In 1904, Enriques published a paper claiming to give an algebro-geometric proof of a rather technical theorem that became an essential ingredient in the proof of one of the beautiful theorems of algebraic geometry in the early 20th century. Enriques' "proof" turned out to be flawed, and in 1921 Francesco Severi took pleasure in pointing this out. Enriques took offense, and they essentially stopped speaking to each other. For Enriques the quest for a algebro-geometric proof turned into an obsession. Although Henri Poincare' gave an independent transcendental proof for Enriques' "Theorem" in 1910, a half-century would pass before the French mathematician Alexander Grothendieck, in 1961, succeeded in obtaining an algebro-geometric proof of the 1904 Enriques theorem. In his 1945 letter to Segre, Enriques complains about the lack of an algebro-geometric proof of his "Theorem" and suggests that a proof he proposed in a later (1938) paper, using higher-order differentials (nilpotent objects), might work. He was essentially right. (Received September 18, 2009)