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(*b*. Venice, Italy, 14 August 1865; *d*. Rome, Italy, 27 April 1952),

mathematics.

Castelnuovo studied mathematics at the University of Padua under Veronese and was graduated in 1886. He then spent a year in Rome on a postgraduate scholarship and subsequently became assistant to E. D'Ovidio at the University of Turin, where he had important exchanges of ideas with Segre. From 1891 until 1935 he taught projective and analytical geometry at the University of Rome. After the death of Cremona, Castelnuovo also taught advanced geometry and, later, courses in the calculus of probability. When Jewish students were barred from state universities, Castelnuovo organized courses for them.

After the liberation Castelnuovo was special commissioner of the Consiglio Nazionale delle Ricerche and then president of the Accademia Nazionale dei Lincei until his death. He was also a member of many other academies. On 5 December 1949 he was named senator of the Italian republic for life.

Castelnuovo's scientific activity was principally in algebraic geometry and was important in the Italian school of geometry, which included Cremona, Segre, Enriques, and Severi. His mathematical results particularly concerned algebraic surfaces and the theories constituting their background.

In connection with these results is the theorem of Kronecker-Castelnuovo: "If the sections of an irreducible algebraic surface with a doubly infinite system of planes turn out to be reducible curves, then the above surface is either ruled or the Roman surface of Steiner" (*Memorie scelte*, pp. 223–227). The origin of this theorem was explained by Castelnuovo as follows: Kronecker, during a meeting of the Accademia dei Lincei in 1886, had communicated verbally one of his theorems on irreducible algebraic surfaces having infinite plane sections that are split into two curves. But the written note was not sent by Kronecker to the Accademia dei Lincei, nor was it published elsewhere. Further, Castelnuovo held that perhaps Kronecker had not finished the final draft. On the basis of information furnished to him by Cremona and Cerruti, Castelnuovo reconstructed the demonstration of the theorem. He also developed the theorem that every unruled irreducible algebraic surface whose plane sections are elliptical curves (or are of genus 1) is rational (*Memorie scelte*, pp. 229–232.

Besides writing on algebraic geometry, the calculus of probability, and the theory of relativity, Castelnuovo also delved into the history of mathematics, producing *Le origini del calcolo infinitesimale nell'era moderna* (1938), which contains a quick and effective summary of the evolution of infinitesimal methods from the Renaissance to Newton and Leibniz.

BIBLIOGRAPHY

I. Original Works. Castelnuovo's writings include *Lezioni di geometria analitica* (Milan- Rome-Naples, 1903 7th ed., 1931); *Calcolo della probabilità* (Rome, 1919; 3rd ed., Bologna, 1948); *Spazio e tempo secondo le vedute di A. Einstein* (Bologna, 1923); *Memorie scelte* (Bologna 1937), with a list of

publications on pp. 581–584, to which should be added those in the obituary by A. Terracini (see below); *La probabilityé dans les différentes branches de la science* (Paris, 1937); and *Le origini del calcolo infinitesimale nell'era moderna* (Bologna, 1938; 2nd ed., Milan, 1962). A picture of Castelnuovo's results in the geometry of surfaces may be obtained from the two articles he wrote in collaboration with Federigo Enriques: "Grundeigenschaften der algebraischen Flähen" and "Die algebraischen Flächen vom Gesichtspunkte der birationalen Transformationen aus," both in *Encycklopädie der mathematischen Wissenschaften* (Leipzig, 1903–1915), III, pt. 2.

II. Secondary Literature. Obituaries include F. Conforto, in *Rendiconti di matematica e delle sue applicazioni*, 5th ser., **11** (1952), i–iii; and A. Terracini, "Guido Castelnuovo," in *Atti della Accademia delle scienze* (Turin), **86** (1951–1952), 366–377. Castelnuovo's numerous results in algebraic geometry are discussed in F. Conforto, *Le superficie razionali* (Bologna, 1939), index; and F. Enriques and O. Chisini, *Lezioni sulla teoria geometrica delle equazioni e delle funzioni algebriche*, 4 vols. (Bologna, 1915–1934), see indexes of the various volumes under "Castelnuovo."

Ettore Carruccio