Tesla, Nikola (1856-1943)

by Ruth M. Pettis

Top: An engraving of Nikola Tesla (*ca* 1906). **Above:** A trick photograph of Nikola Tesla's laboratory (*ca* 1900). The image is a double exposure. The seated figure was not actually in the laboratory when the electrical discharge occurred.

Prolific inventor and developer of the alternating current system used in modern electric power generation, Nikola Tesla vied with Thomas Edison for the preeminence of his ideas. A brilliant scientist and visionary, he was a celebrity in wealthy New York circles but maintained a shroud of privacy around his personal life. His apparent indifference to the sexual attraction of women fueled speculation as to his sexuality both in his own time and since.

Son of a Serbian Orthodox clergyman, Tesla was born in Smiljan--in what is now Croatia--on the stroke of midnight, July 9, 1856. Expected to follow his father into the church, the young Tesla was more inclined toward mathematics and experimenting with mechanical devices. Eventually he persuaded his father to let him enroll in the Technical University at Graz, Austria, and later seems to have audited university studies in Prague, though he earned no degree.

Electricity fascinated him from an early age. He had an extraordinary three-dimensional capacity of imagination, which allowed him to visualize complex machinery without relying on sketches. In fact, he detested drawing, a trait that would later exasperate engineers who attempted to meet his specifications without benefit of blueprints or industrial designs.

By 1881 he was an electrician for the new phone company in Budapest. That year, while recovering from a period of illness and mental exhaustion, he suddenly had a vision of an efficient induction motor for alternating current, a design problem that had preoccupied him since his school years in Graz.

Tesla's solution exploited the properties of two or more out-of-step currents to produce a rotating magnetic field. Six years later Tesla introduced his "polyphase induction" system to the American Institute of Electrical Engineers. Meanwhile, he took a job with Thomas Edison's company in France.

In 1884, Tesla immigrated to the United States, arriving in New York with four cents, a few poems, and a letter of introduction to Edison from his supervisor in Paris. Edison hired him for his New York laboratory, but when Tesla tried to advance his views on alternating current the two inventors had a falling out. Edison was firmly committed to his direct current system, which was presumed to be safer than A.C. but which had significant disadvantages in long-distance transmission.

Convinced of the superiority of his approach, Tesla struck out on his own. An economic downturn in the mid-1880s compelled him to make ends meet through manual labor, but he continued developing his ideas. Eventually he attracted the support of financier George Westinghouse, who bought several of his patents. Tesla rebounded and began to establish a reputation in the scientific arena. He took American citizenship in 1889.

Edison and his financial backers launched a fierce and often scare-mongering campaign to discredit Tesla,

exaggerating A.C.'s dangers and unpredictability at every opportunity. However, Westinghouse and Tesla effectively demonstrated its efficacy and safety at the 1893 Columbian Exposition in Chicago.

As a result of this demonstration, Tesla and Westinghouse were awarded the contract to construct the world's first major hydroelectric generating facility at Niagara Falls. It went online in 1895 and effectively tipped public and scientific opinion toward Tesla's polyphase system, which became the standard for electric power expansion throughout the world.

Tesla had the debonair bearing of European gentility. New York society women professed to be fascinated by him. His apparent indifference to such attentions gave rise to recurring rumors of homosexuality.

Even the scientific journals urged Tesla to marry and procreate in order to pass on his genius--exhortations he ignored. In 1897, he explained his failure to pursue romantic relations with women by declaring to a reporter that marriage dissipated an inventor's creative energies.

Despite his lack of sexual interest in women, Tesla was no misogynist. In 1924, expounding on the topic of women in an interview for *Collier's,* he avowed that they possessed greater educability than men and that full attainment of their abilities would bring about a superior and efficient society resembling that of bees.

Although rumors of Tesla's homosexuality abounded, no same-sex sexual relationship has been documented. This is not surprising considering the fact that such relations were illegal.

However, Tesla's many obsessive-compulsive idiosyncrasies may have precluded intimate relationships of any kind. He had a phobia of germs and avoided shaking hands with anyone. He could not stand the touch of another person's hair. He abhorred pearl earrings on women. He calculated the cubic volume of each meal served him before eating it.

Tesla's many accomplishments included advancements in fluorescent lighting, radio remote control, high voltage transmission, wireless lighting, and the properties of electrical frequencies. He stunned audiences with demonstrations of artificially generated lightning. A year after his death, the U.S. Supreme Court affirmed that Tesla's discovery of the principles of radio had preceded Marconi's.

Although he held more than a hundred patents, and was undoubtedly a greater scientific thinker than his rival, Tesla lacked Edison's business acumen and was unable to profit from his discoveries. He developed a pattern of tapping his connections in the "New York 400" whenever he needed financing and poured each cash infusion into his work until it was gone.

After his mid-forties, Tesla's attention swung toward ever more outlandish and improbable scenarios, such as receiving communications from Mars or envisioning a mysterious "death beam" that would protect the nation from any form of attack.

In his waning years he developed an intense fondness for the pigeons he routinely fed, growing especially attached to a white one that seemed to exemplify his sublimated ideal of the feminine archetype. He was crestfallen when it died.

At age 86, on January 7, 1943, Tesla died alone in his New York hotel room, probably while sleeping; the maid discovered his body the next day. He was eulogized by Franklin and Eleanor Roosevelt, Fiorello LaGuardia, the Yugoslav government, and numerous luminaries from the sciences.

Tesla remains a vital--though mysterious--figure in the popular imagination. His scientific discoveries, especially in the field of electromagnetism, but in other areas as well, have earned him lasting fame and

abiding interest. As the prototype of the solitary genius, he is sometimes regarded as significant to the twentieth century as figures such as Sigmund Freud, Alfred Einstein, and Alan Turing. But he is also sometimes depicted as a kind of mad scientist, and some of his more bizarre pronouncements have been used to support pseudoscientific and occult theories.

Tesla's sexuality--whether it was sublimated in the pursuit of science or simply very well-hidden from an intolerant society--is but one among many mysteries associated with this fascinating figure.

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