

# NIKOLA TESLA:

## A Violin OF ANONIMITY

BY ERIC OSTREM

NIKOLA TESLA WAS ONE OF THE most brilliant men ever to live. His mind was a finely tuned violin, vibrating and resonating, producing beautiful scientific music. He did not constrain his music to only one string, and played many different songs. He experimented in many different areas of science, however, mainly in the area of electrical science and engineering. He was fascinated not so much with what one could see, but more with what one could not see. He experimented with things built into the world that were not obvious or research oriented. He investigated electricity, radio transmission, frequencies, waves, x-rays, magnetic fields, remote control . . . all intangibles to the normal mind. His experimentation led to the creation of Alternating Current (AC), which revolutionized electrification and provided the basis for today's electronic age. He was one of the firsts to develop radio, remote control and x-rays. However, despite his enormous contributions to electrical science, he is virtually unknown to the general populous. Why, if his contributions were so large, does he to this day receive so little credit for them? The answers are many and ranging, however, I believe that three chief reasons lie behind this enigma. The products of his experimentation were either not marketable or he did not market them. His experimentation was largely scientific: he was less an inventor and more a scientist. Finally, he failed to specialize enough to gain an identity with a single production. These three factors combined to create his relative anonymity among those who fail to personally pursue learning about him. His name is not synonymous with a single invention. These

reasons are why he wallows in an undeserved anonymity.

The first reason addressed is the marketability of Tesla's inventions. An inventor usually has his name attached to a single invention, and at most two. Everyone knows that Alexander Graham Bell invented the telephone. People could easily understand what the telephone was, what it was used for, and why they needed it. It was a tangible invention. People went to the store to buy it, set it on their table, and used it. Bell's company made the first telephones, and his name appeared on the telephones people had in their living rooms. This was a successful invention. Marchese Guglielmo Marconi's company was the first to begin manufacturing radios. He associated himself with other prominent inventors and businessmen, such as Thomas Edison and Andrew Carnegie. He marketed the radio successfully, and once again, it was an invention that people could understand and use. Though the Supreme Court eventually ruled that Tesla was, in fact, the inventor of the radio (Marconi had used seventeen of Tesla's patents), it was not only too late, but Tesla had not been the one to bring the radio to the world. Tesla's most important contribution was his development of AC electricity. However, he would never get credit for "inventing" modern electricity – this title has gone to Thomas Edison. Edison invented the light bulb, and powered it with Direct Current (DC). This amazing new technology was quickly spread throughout New York. Edison was credited for bringing modern electricity into the world. However, this new technology was very dangerous and frequently caused electrocutions and fires. Direct Current simply wasn't a good way to transfer electricity. Tesla came to New York, and after briefly working for Edison, developed AC electricity, a vastly superior way of transferring electricity. A "War of the Currents" ensued, which AC won eventually. However, Edison had already "invented" electricity, so AC was seen merely as an improvement, though in fact, it was a revolution. Edison's name became synonymous with electricity and the light bulb. The light bulb was something people could touch, understand and purchase. Tesla's inventions were not that simple. He substituted AC for DC, but people bought nothing and saw it only as an improvement. He developed radio,

but didn't really tell anyone or start to sell radios. He developed remote control, but once again failed to put it to an applicable use or "invention." An advertisement for the Tesla Company, Inc., features his chief inventions of the time: the Oscillation Transformer, the Induction Motor, the Steam and Gas Turbine, and the Telautomaton. None of these are easily understandable, purchasable or marketable. Tesla's name is attached to only one of his inventions: the Tesla coil. But do average people know what it does?

There is a difference between inventing and experimenting with science. Inventing usually involves the application of the invention to something useful. This is where Tesla either fails miserably or succeeds amazingly, depending on the viewpoint. Looking at it from a commercial point of view, Tesla failed to produce anything that could be sold as a product. However, from a scientific point of view, he made incredible leaps and bounds. His scientific experimentation was revolutionary and advanced electrical science greatly. He was a somewhat of a mysterious recluse, though, and was paranoid (rightly so) of others using his work for their profit. Therefore, his influence on other scientists and inventors of the time was not as great as it might have been. This is the chief reason he is not traditionally credited among scientists and engineers for the invention of the radio. He may have developed it first, but he didn't publicize or market it. His inventions were primarily scientific - great advancements and experiments. They were not great products, and therein lies the difference between science and invention.

Lastly, Tesla failed to specialize enough for people to identify him with a single product. There were many opportunities for him to develop a single product, and if he had, he might have been identified with that product, ensuring his place in history. For example, he could have developed the radio as Marconi did. He could have developed remote control further and created a marketable product. But Tesla's problem was that he was so good at everything. He couldn't confine himself to a single focus. One might suppose that he could have focused on AC electricity, and perhaps if he would of, he could have been known as the father of electricity. However, his vision had a fatal flaw, and that

was that it wasn't marketable. He wanted to power the entire world by transmitting the power through the sky. He built the Wardenclyffe Tower, which was to be a transmission tower to power places far away. He experimented with these systems at great length, focusing on his vision of energy for the world. However, people asked, "Where would the meter be?" The question was: how would he make money off it? It is difficult to gain financial support for an invention that will be free. He had in his possession a global mind, a mind that visualized a world of interconnection and alive with electricity. But this vision was not marketable and was therefore doomed to failure. He failed to specialize in an area or a product, and thus his name was not attached to a single invention (besides the Tesla coil, already discussed). This contributed greatly to his relative anonymity.

Nikola Tesla was a brilliant man, but a poor businessman. He was so sure of his legacy that he failed to attach himself to something substantial enough to be remembered, though the opportunity presented itself several times. He didn't invent a product that people could buy and identify him with, or establish a lasting company to develop that product. He was more a scientist and less an inventor, which contributed greatly to science, but not to his legacy. His experiments yielded products useful to science, but not as inventions unto themselves. Finally, he failed to specialize in order to be identified with a single area of electrical science (apart from AC, already discussed). He had a global mind, not a business mind. All these elements contributed to his relative ambiguity, and are the central reasons why the world today knows so little about the beautiful violin of his mind, the instrument that could play such lovely melodies, but no one wanted to buy or remember.