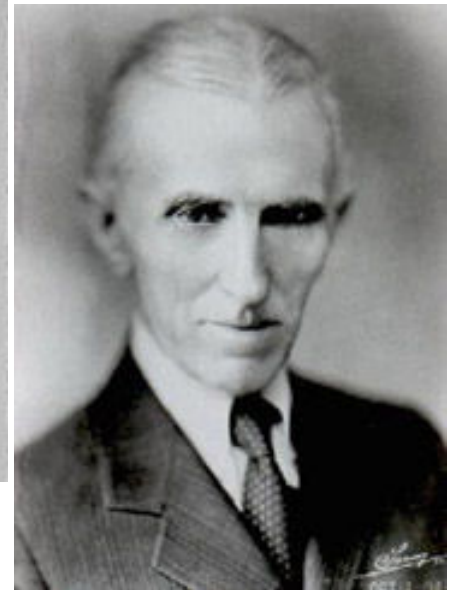
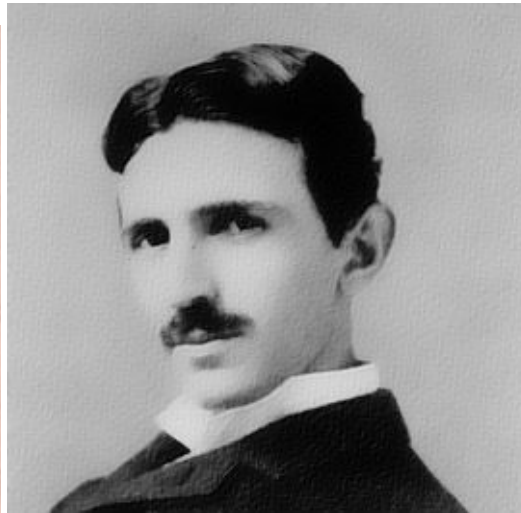




The Tesla Timeline

Updated 12/30/08



Nikola Tesla
1856- 1943

| <u>When</u> | <u>Event</u> | <u>Comments:</u> |
|-------------|---|---|
| 1856 | Tesla Born to Serbian parents in Croatia | Nikola Tesla was born a subject of the Austro-Hungarian Empire (now the Republic of Croatia) in Lika on the stroke of midnight on July 10th, 1856 |
| 1875 | Tesla begins technical schooling in Graz, Austria | In his sophomore year, Tesla's father has a stroke and dies shortly thereafter. Tesla is forced to drop out of school due to lack of funds. Tesla learns to speak 5 languages. |
| 1880 | Tesla begins working for the American Telephone Company in Budapest | Tesla suffers a nervous breakdown. |
| 1882 | Tesla conceives of AC induction motor | Tesla sees the rotating fields in a vision, meticulously detailing the construction of both single and polyphase motors it in his notebook. He later designs his motor just "as seen" and it works just as he envisioned. |
| 1882 | Tesla begins working for Edison (in Paris, France) | Tesla begins working for Continental Edison in Paris, France, helping them to resolve problems with their DC dynamos. |

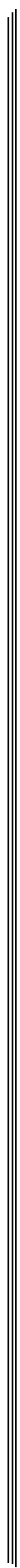
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| 1883 | Tesla constructs the first polyphase AC motor | While on assignment to Strasburg, France, Tesla constructs a working brushless polyphase AC induction motor. It is demonstrated before the former Mayor of the town and to wealthy potential investors. Unfortunately, Tesla is unable to secure financing. |
| 1884 | Tesla immigrates to the United States | Fleeing from war, Tesla arrives in New York at age 28 with only 4 cents in his pockets! |
| 1884 | Tesla begins working for Thomas Edison | Tesla comes highly recommended by Charles Batchelor, Manager of Continental Edison in France. Tesla is hired to improve Edison's DC dynamos. |
| 1885 | Tesla quits working for Edison | Edison reneges on a promise to pay Tesla \$50,000 for improvements to his dynamos, saying he was just joking - Tesla resigns in disgust... |
| 1886 | Tesla launches Tesla Electric Light & Manufacturing | However, his financial backers, Robert Lane and B. A. Vail, refuse to fund Tesla's AC Motor, and they fire Tesla! Tesla is forced to work as a manual laborer. |
| 1887 | Tesla builds first AC Induction Motor | This is the world's first brushless AC motor. Tesla files key worldwide patents, locking the rights to the invention |
| 1888 | Tesla demonstrates AC motors to the American Institute of Electrical Engineers (AIEE) | Once thought impossible, Tesla demonstrates a brushless 2 phase 1/5 HP AC motor to the foremost group of Electrical Engineers in the USA |
| 1888 | Inventor and businessman <u>George Westinghouse</u> buys Tesla's key Polyphase Patents after buying patent for the AC transformer | Westinghouse now controls AC motors and transformers - and the " <u>War of the Currents</u> " begins between Westinghouse (AC) and Edison (DC)... |
| 1888 | Tesla begins working for Westinghouse | Tesla sets 60 cycles per second (now <u>Hertz</u>) as the North American standard for AC power transmission and distribution |
| 1891 | Tesla becomes a US citizen | Tesla builds his own experimental laboratory at 46 East Houston Street, in New York City |
| 1891 | Tesla invents 2-coil "Tesla Coil" | Tesla lights evacuated tubes with no wires, demonstrating the possibility of wireless power transmission |
| 1892 | First Polyphase Power System Installed | Tesla is granted 40 patents, thereby locking in his rotating magnetic field principles and polyphase power distribution into a comprehensive system for the generation, transmission, distribution, and utilization of AC power. |
| 1892 | Tesla discovers <u>X-ray</u> radiation while experimenting with HV and evacuated tubes | This is <u>THREE YEARS</u> before they are rediscovered by Willhelm Roentgen. Tesla terms the effect "radiant energy" of an invisible kind. Tesla actually warns of potential hazards of these rays during a lecture before the New York Academy of Sciences in 1897. ("The stream of Lenard and Roentgen and novel apparatus for their production") |
| 1893 | Demonstrates Wireless Transmitter/Receiver | Tesla demonstrates system in St. Louis <u>TWO YEARS</u> before Marconi's first demonstration... |
| 1893 | Lighting the 1893 World's Fair | Westinghouse and Tesla provide AC power to light the Chicago's Columbian Exposition, even though Edison forbids the use of Edison's |

| | | |
|---------|---|---|
| | Exposition | light bulbs.. The public sees firsthand the capability of AC power. |
| 1894 | Tesla generates 1,000,000 volts | Using a conical air-core Tesla Coil, Tesla later achieves 16 foot discharges in his New York City lab |
| 1895 | Tesla harnesses Niagara Falls | Tesla's 1st commercial 2-phase power plant, built by Westinghouse - designed to deliver power to the industries of Buffalo, NY |
| 1895 | Fire destroys Tesla's laboratory | Disaster strikes - Tesla's laboratory is completely destroyed by fire, ruining the work of half a lifetime. Tesla is devastated. |
| 1896 | First long-distance transmission of polyphase AC Power | AC Power from Niagara Falls is transmitted to Buffalo via Tesla's High Voltage Polyphase System |
| 1897 | Tesla files the basic Radio Patent | Tesla's patents stand the test of time - he is indeed the Father of Radio |
| 1897 | Tesla releases Westinghouse from contract | The " War of the Currents " between DC and AC nearly bankrupts Edison and Westinghouse. Tesla gives Westinghouse a break on AC motor royalties, saving the company from bankruptcy |
| 1898 | Tesla Demonstrates Wireless Control | Tesla demonstrates a wireless controlled boat. But, he is unable to interest the US military... |
| 1898 | Tesla develops electric Igniter for Gasoline Engines | Basically the same approach that's used in today's internal combustion engines |
| 1899 | Tesla begins his Colorado Springs Research | Research phase: wireless transmission of messages and electrical power |
| 1900 | Tesla begins Wardencllyffe Transmitter | Wardencllyffe 200 kW system is funded by \$150,000 from J. Pierpont Morgan (51%) - Tesla tells Morgan that the system is for radio communication |
| 1903 | Tesla runs out of money | Morgan refuses to provide any additional funding after learning of Tesla's true plans for Wireless Power Transmission |
| 1904 | Marconi awarded patent for radio | The US Patent Office reverses itself, wrongly awarding Guglielmo Marconi the patent for radio! Tesla begins his fight as the inventor of radio |
| 1905 | Wardencllyffe forced to close operations | Tesla runs out of funds and cannot pay his workers, forcing him to close his lab |
| 1906 | Tesla announces Bladeless Turbine | Tesla's 200 hp 16,000 RPM Bladeless Turbine is demonstrated on his 50th birthday |
| 1907 | During the financial panic of 1907, Tesla agrees to release Westinghouse from paying royalties on every induction motor | Weakened by the "War of the Currents", Westinghouse convinces Tesla to sell his royalty rights to Westinghouse for \$216,000 - they were worth over \$12 Million at the time. The Westinghouse Company survives the crisis... |
| 1909 | Marconi wins Nobel Prize for Radio | Tesla deeply resented the fact that Marconi got the prize, and not himself... |
| 1910-11 | Tesla's bladeless turbines are tested in New York | Several turbines were tested, 100-5000 HP in Waterside Power Station, New York |
| 1915 | Tesla signs over | The deed to Wardencllyffe is turned over to George Boldt , the |

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| | Wardenclyffe deed to pay his debts | proprietor of the Waldorf-Astoria, to pay a \$20,000 debt |
| 1915 | Tesla files lawsuit against Marconi | This starts a patent fight that lasts for 29 years. Tesla vs. Marconi is ultimately resolved in Tesla's favor. |
| 1916 | Tesla declares bankruptcy | Tesla owed back taxes, but was penniless, living in poverty, on credit, at the Waldorf-Astoria |
| 1917 | Wardenclyffe Tower is demolished | George Boldt destroys tower to make property more marketable. Although the tower was blown up, the main building still stands today. |
| 1917 | Tesla receives the Edison Medal | The Edison Medal is the most prestigious honor the AIEE can bestow upon an engineer |
| 1928 | Tesla receives his last patent at age 72 | "Apparatus for Aerial Transportation" - similar to a helicopter or VTOL aircraft (US Patent 1,655,114) |
| 1931 | Tesla turns 75 | Tesla is honored by being on the cover of Time Magazine , and receives congratulations from more than 70 pioneers in science and engineering including Einstein.. |
| 1935 | 15 out of 16 of Marconi's Patent claims are invalidated by the Court of Claims | Tesla is acknowledged to have been prior inventor on these portions of Marconi's patent. The case is eventually decided by the US Supreme Court in 1944. |
| 1943 | Tesla dies penniless in NY hotel on January 7, 1943 | Tesla's dies a lonely man at age 87 in room 3327 in the Hotel New Yorker, his only remaining friends the pigeons he fed in the park. The FBI orders the Office of Alien Property to seize Tesla's papers and possessions although Tesla had been a US citizen since 1891. These were eventually inherited by Tesla's nephew, Sava Kosanovich, and are now housed in the Nikola Tesla Museum in Belgrade, Serbia |
| 1944 | Tesla awarded Patent for Radio | The US Supreme Court confirms that Marconi's patents infringed Tesla's. Tesla finally wins... |
| 1956 | The " Tesla ", a new unit of magnetic flux density in the metric system, is named in Nikola Tesla's honor | The new unit is equivalent to 10,000 Gauss |
| 1976 | Tesla Monument given to US by Yugoslavia | A monument to Nikola Tesla celebrating the first hydroelectric plant at Niagara Falls was erected on the US side (Goat Island - between the American and Canadian falls). |
| 2006 | New Tesla Monument unveiled in Niagara Falls park | A new monument was erected on the Canadian side of Niagara Falls (at Queen Victoria Park) celebrating Tesla's role in designing the first hydroelectric power plant at Niagara Falls (1895). |

Today, most school children are taught that Marconi is the Father of Radio.

This error is still perpetuated by the Smithsonian Institution even today...
However, it looks like the Smithsonian may finally rectify the situation...



Some Other Places to Visit:



*Lichtenberg
Figures*



*The "Quarter
Shrinker"*



BIG Arcs & Sparks



10" Tesla Coil



Shrunken Coins!

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