

THE TRAGIC STORY OF NIKOLA TESLA

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When you think about the greatest inventors of all time, there are a few names that come to mind. Henry Ford. The Wright brothers. Thomas Edison. But there's one name that is not as recognizable. When you plug your phone in, turn on the lights, or use the refrigerator, you have Nikola Tesla to thank. This is the story of the forgotten genius and the story begins at the end.

On January 7, 1943 a maid working at the New Yorker Hotel walked into room 3327,

where she
found the body of an 86--
year-old man who called the
hotel home for the past
decade.

Tesla died alone and broke.
He lived off a diet of warm
milk and crackers and was
obsessed with
feeding the pigeons outside.
One of the greatest inventors
of all time faded into
obscurity and
died penniless. There is a
reason why this happened
which will become clear by
the end
of this story. Tesla was born

in the town of Smiljan in
present-day Croatia on July
10, 1856.

He was born during a
lightning storm. According to
family legend, the midwife
said halfway through the
birth: this child will be a child
of darkness to which his
mother replied, no, he will be
a child
of light. Little did she know
how prophetic those words
would be. When Tesla was
five he witnessed
his older brother fall from a
horse and later die. This
would haunt him for the rest

of his life.

As a child, he began seeing visions accompanied by flashes of light, confusing what was real and what was imaginary. This never went away. The vision spurred his ability to conceive inventions in his head in such detail that he didn't even need to draw them out. He explained how the designs were perfected in his mind in an article in 1919.

"Invariably, my device works as I conceived that it should and the experiment

comes out exactly as I planned it. In 20 years there has not been a single exception." Tesla credits his mom for his interest in invention. Đuka Mandić invented small household appliances in her spare time. She had an eidetic memory - the ability to recall an image from memory with high precision and she passed this on to her son. Tesla's father was a priest and wanted him to become one too but Tesla was interested in engineering. When he

contracted cholera as a teen
and nearly died, his father
promised to send him to
engineering school if he
survived and
miraculously, he did. He went
to study in Austria at the
Technical College of Graz
where he is
said to have worked from 3
am until 11 pm every day.
Professors were worried that
he
would die from exhaustion.
Tesla had a beautiful mind.
He could perform calculus in
his head and
spoke eight languages. He

was a good student at the start but would not finish school.

He dropped out after becoming addicted to gambling and cut ties with his family so they wouldn't find out. His friends didn't know what happened to him either. They thought he drowned in a river.

Tesla moved around Europe and eventually ended up in Budapest working as an electrician at a telephone company. While walking around a park in the city one day, he had an epiphany about

developing a new way of generating electricity using alternating current. It would be his greatest invention that would change the world. I'll explain more about AC a little later. In 1882, he settled in Paris to work for the French branch of Thomas Edison's electric company. He started off installing indoor lighting but the managers noticed his talents and had him doing more complicated work, designing and building dynamos and

motors. He was soon traveling throughout Europe fixing problems at other Edison branches. Two years later, in 1884, Tesla's manager offered him a job at Edison Machine Works in New York City. He agreed and arrived in America with only four cents in his pocket because his money was stolen on the boat ride over. Tesla initially had a good impression of Edison. Edison was also impressed by Tesla, later saying: "I have had many hard-working

assistants but you take the cake." This mutual admiration didn't last. They would become bitter rivals. The two men disagreed over how electricity should be contained and delivered.

Edison preferred direct current which is a system where the electric charge only flows in one direction.

Tesla was a fan of alternating current in which the electric charge changes direction periodically.

Changing directions is crucial

to maintaining a steady supply of electricity because it does not overpower outlets. This means it can provide more power and transmit power over longer distances. It's the reason AC powers our homes and other large appliances whereas DC powers smaller items like flashlights. But Edison didn't care about AC because it could have hurt the sales of direct current since he owned all the patents for DC. According to Tesla, a

manager at Edison's company offered him a \$50,000 bonus if he could improve some machines that ran on DC. When he did, the manager refused to pay up. Another account of the story has Edison telling Tesla: "You don't understand our American humor." Regardless of how it played out, Tesla quit and set off to form his own electric company the following year in 1885. But his investors showed little interest and decided to take the

company and all of Tesla's patents which they could do because Tesla had assigned the patents to the company in exchange for stock which was now worthless. After losing his company, Tesla had to take a job digging ditches for two dollars a day just to survive. But his fortunes would change. In 1887, Tesla invented an induction motor that ran on alternating current. The motor was the most efficient way to convert electricity to mechanical

power. A version of it powers Tesla's vehicles which took its name from the inventor. He patented the motor and showed it off the following year at the American Institute of Electrical Engineers that caught the attention of George Westinghouse, a major player in the electric market who realized Tesla's AC motor might just be what he needed to complete his alternating current system and compete against Edison's DC system. So Tesla

licensed the patents for the AC motor to Westinghouse for \$60,000 and also received stock and royalties. Westinghouse hired him as a consultant for \$2,000 a month which is the equivalent of over \$50,000 a month today. The war of the currents began. Edison tried hard to try to discredit Westinghouse and Tesla.

He secretly financed the electric chair that used alternating current to prove how dangerous AC was.

Edison's company also publicly tortured animals to prove its point. In 1903, they electrocuted a circus elephant named Topsy and produced a film about it called *Electrocuting an Elephant*. Despite Edison's schemes, good things were happening for Westinghouse and Tesla. They underbid Edison and his newly formed company General Electric to illuminate the World's Colombian Exposition in Chicago in 1893. The first all-electric fair celebrated the

400th anniversary of
Christopher
Columbus's discovery of
America. It was clear to the
27 million people who
attended that AC would
power the future. Their
success continued when they
beat out Edison's General
Electric again to
build the world's first
alternating current power
plant in Niagara Falls. The
hydroelectric power
station was a massive success
and helped light up Buffalo,
New York. The building of
the plant also

meant Tesla became a pioneer in renewable energy. His statue can be found at Niagara Falls today.

Westinghouse and Tesla won the war of the currents and direct current was being phased out.

But there were problems. Westinghouse's company was running out of money and eventually went \$10 million into debt. In 1897, he went to Tesla and asked if his royalties could be reduced in a desperate attempt to save the company. Tesla was so compelled by compassion for

his friend
that he ripped up his contract.

He was grateful to
Westinghouse for believing in
him when no one else
would. Tesla willingly
walked away from \$12
million in royalties which in
today's terms
would be worth over \$300
million. Had he held on to
those royalties over time, he
would have likely
become the wealthiest person
on the planet and the first
person with a billion dollar
net worth. That
act of compassion for his

friend of tearing up his
contract saved Westinghouse.

In return,
Westinghouse
paid Tesla \$216,000 for the
rights to use as ac patents
forever. This
is the equivalent of about \$60
million today. With that
money, Tesla became
financially
independent and set up a
series of laboratories in New
York for new projects where
he was visited by
the rich and famous,
including his close friend and
one of the greatest American

writers of all time,
Mark Twain. This was his
period of many inventions.
He held over 300 patents in
his lifetime.

He created an early version of
neon lighting, the tesla
turbine - a bladeless turbine
for vehicles.

He pioneered x-ray
technology by experimenting
with radiation. This is an x-
ray of his own hand.

Another stand-out invention
was one of the first remote
controls. In 1898, he
controlled a miniature
boat at Madison Square

Garden in New York. It was so far ahead of its time that the crowd thought he was using magic to make it move. That would be the ancestor to today's remote-controlled drones.

One of his most well-known inventions is the Tesla coil - a device that can produce large amounts of high voltage electricity.

Because of the coils, he discovered he could send and receive powerful radio signals when they resonated at the same frequency. Tesla was getting

ready to broadcast
his first radio signal but
disaster struck. A fire
destroyed his lab in 1895. He
lost years
of research and equipment.
Tesla didn't apply for a patent
for the radio until two years
later. The
fire would be the turning
point in his life that led to a
downhill spiral. At the same
time that
he was working on radio, an
Italian entrepreneur,
Guglielmo Marconi, was also
working on the radio
in England. He tried to

acquire patent rights in the US but was turned down because it was too similar to Tesla's. However, things changed when Marconi was able to send the world's first transatlantic radio message in 1901 using 17 of Tesla's patents. Edison then threw his financial support behind Marconi.

Tesla had no problem with Marconi's achievements but in 1904, the US Patent Office suddenly changed its mind and awarded Marconi a patent for the invention the radio. There has

never
been a reason given for this
decision but the powerful
financial backing Marconi
received
could explain it. Marconi
went on to win the Nobel
Prize in Physics in 1911
which was only possible
due to Tesla's work. Tesla
was furious and sued
Marconi. The case dragged on
in court for years and
was only settled in Tesla's
favor after his death. That
radio incident negatively
impacted the rest
of Tesla's career. For

example, Tesla was obsessed with bringing wireless communication to the world and built a huge wireless transmission station in Long Island, New York called Wardenclyffe Tower.

He imagined a world where we could send and receive messages wirelessly. He was, again, well ahead of his time. But financial backers did not have enough faith in his project. They pulled out and banked on Marconi's radio invention instead. This left Tesla in

financial ruin. He had no choice but to abandon his dream project in 1905 and eventually lost Wardenclyffe Tower to foreclosure. Tesla's mental health deteriorated. He lived his last decade in the New Yorker Hotel beginning in 1933.

Westinghouse Corporation hired him as a consultant and paid for his room. He lived rent-free but died in debt. So why did one of the greatest inventors of all time fade into obscurity and die penniless?

You could say Tesla was unlucky at times like when the fire burned down his New York lab.

But the main reason is because Tesla was not a capitalist. He made decisions that those with more business acumen would not have made such as giving up his royalties for the AC motor. He wasn't concerned about money. He was concerned about the pursuit of science for the betterment of humanity. He wanted to change the world and he did. Thanks in

part to Elon Musk's company,
people are starting
to learn more about the man
who inspired the company, a
man whose inventions would
power our entire planet. It's
because of Tesla that modern
society functions the way it
does.

Tesla's mother called him a
child of light and she was
quite right.

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