

NIKOLA TESLA: HAPPY BIRTHDAY

SPEECH PRESENTED BY ROBERT UTH TO SERBIAN
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Good afternoon ladies and gentlemen, it's a pleasure to be here to honor and discuss the great Serbian-American inventor, Nikola Tesla. Tesla has been called "the greatest inventor you never knew," so I'd like to shed a little light on his life for you.

Now the important and serious subject of the speech I'm about to deliver is, "Happy Birthday Nikola Tesla."

Several weeks ago, Tesla's 150th birthday was celebrated around the world. He was born at the stroke of midnight, between July 9 and 10, 1856. This was emblematic in a way, because for the rest of his life, Tesla was caught between two worlds:

The world of religion and the world of science.

The world of Serbia and the world of the United States.

The world of reality, and the world of his extraordinary imagination.

When you spend a great deal of time writing a biography, you reach a very strange point where you feel that you know your subject intimately. This can be deceptive, I'll admit, but in this regard I had a distinct advantage. My wife Simonida, who was the driving force behind this project, is Serbian, and my father-in-law is a dead ringer for Tesla, and was born in Tesla's birthplace, Lika. So when the well ran dry, I knew where to turn.

One of the mistakes I think many people make when they analyze Tesla is that they try to separate the Serb from the man.

Most important to understanding Tesla is his Serbian Orthodox heritage.

Tesla's father was a priest, and he wanted young Tesla to follow in his footsteps. To his father's dismay, the church that Tesla worshiped in was scientific invention.

Before moving on, I want to briefly mention the so-called "great man" theory. Leo Tolstoy wrestled with this concept in his famous novel, War and Peace. The question is, is history shaped by the collective action of many individuals, or can a single great man change the world? More and more, historians dismiss the great man theory. I'll give you an example. One historian has recently claimed that Galileo cannot be fully credited with discovering the heliocentric universe. Why? Because Galileo used a telescope, and the telescope was only possible because of the invention of the glass lathe. Therefore, the credit must be shared with the inventor of the glass lathe. And so on. This is like saying that Beethoven can't take all the credit for his 9th Symphony because someone else invented the oboe.

I think you see the demise of the “Great Man Theory” reflected in our society today. People look the world and say its problems are too big for any single person to change. It reminds me of a lyric from the 1960s. “I want to change the world, but I don’t know what to do. So I’ll leave it up to you.”

I think one reason for Tesla’s enduring legacy is that ordinary mortals, not technological historians, know in their bones that one man or woman can make a difference, for good or for bad. So it helps if that person is a benevolent genius.

Now, Tesla is one of those individuals who did change the world, but in some higher circles there seems to be a lapse of memory.

In 1999, the National Academy of Engineering created a list of the 20 greatest engineering achievements of the 20th Century.

It was no surprise to hear “electrification” at the very top of the list, radio and television being sixth. However, the NAE did not even mention the name “Tesla.” This has since been corrected, but it’s a good reason to stay vigilant about the accomplishments of Nikola Tesla.

Now, the obvious question is, if Nikola Tesla is so great, why does history keep trying to forget him? And why is it important to know about him at all? This is a question I struggled with in the creation of our book and our documentary.

As we all know, history is written by the winners. So understanding Nikola Tesla, his inventions, his life, and his controversial legacy is revisionist by necessity. In addition, Tesla was such a rare and brilliant human being that he remains to most a pure enigma.

In truth, the official histories have not been kind to Tesla. I have a copy of an electrical engineering textbook from 1913, and even in the area of Alternating Current, where his contribution was greatest, Tesla's name is not mentioned. How strange that he would be absent from textbooks less than 10 years after the electrification of Niagara.

Over the years, a number of Tesla's inventions have come to be attributed to others. I have a film produced in 1913 by the General Electric Company in which they refer to their in-house genius, Charles Steinmetz, as the father of Alternating Current power transmission. Now how did that happen? Particularly when the record is so clear. We have the patents as evidence. Tesla's inventions form the basis for all AC power generation and transmission. Even today.

I travel around the country quite a bit, and it always surprises me that so many AC power plants have the name "Edison" on it.

How peculiar when we remember that Edison was the champion of DC power transmission and an opponent of the so-called “executioner’s current,” AC.

A similar set of ironies took place in the area of radio. Most school children will tell you that Marconi was the inventor of radio. After all, that’s what it says in the encyclopedias. Yet the historical evidence is again clear. Tesla had patent priority in this invention – namely, two-tuned circuits, connected to ground and antenna by a circuit with inductance and capacitance. That’s what radio is.

Again, how did this happen? Tesla’s radio patent was filed in 1896 just as Marconi and others were beginning their experiments. So why is Marconi “The father of radio?” In fact, he received a Nobel Prize for inventing it. Marconi filed his first U.S. patent for radio in 1901, but it was rejected because of similarities to Tesla’s invention. Yet in 1915, the Patent Office suddenly changed it’s mind and gave Marconi a U.S. patent for radio.

This would be overturned again in Tesla's favor in 1943, only five months after his death. The timing of this perplexing.

So, in this case, and in many others, there has been almost a reluctance to give Tesla credit for his inventions. One of the reasons for this is that Tesla was a scientific outsider and has lacked academic champions. I asked the curator of electricity and modern physics at the Smithsonian what it would take for the Smithsonian to recognize Tesla as the "Father of Radio," and he told me simply, "A PHD dissertation." Over the years I have challenged a number of audiences to encourage and sponsor the writing of such a dissertation – but to date no one has taken me up on it.

Now, it's reasonable to assume that Tesla himself played a part in his confused reputation. Indeed, he had a number of human shortcomings, for which he paid dearly. First of all, he was a loner, and was almost incapable of collaborating with other engineers.

He also had no practical sense for money, and as time passed, he seldom met his deadlines or his predictions. And, I think it's fair to say, Americans didn't understand him, and tended to look at him in stereotypical terms – something many of you in this room can sympathize with, I'm sure.

So, why is it important to remember Tesla and his accomplishments? It's simple. The truth has been changed to suit the needs of others. So now, let's cover Tesla's key inventions.

FIRST, THE ALTERNATING CURRENT INDUCTION MOTOR.

This is Tesla's most famous invention, patented in 1888. The technology is so much a part of our civilization today that it is like asking, "Who invented the paper clip?" Charles Steinmetz, who first managed to figure out the mathematics of the polyphase AC system said, "I can find no mistakes in Tesla's thinking" – much to the regret of Tesla's arch-rival Thomas Edison.

THE TESLA COIL

This famous invention is named for Tesla so it's going to be hard to forget. It produces high-voltage, high-frequency electricity – something that never existed before. Without it, Marconi's transmissions would never have exceeded 20 or 30 miles. The Tesla coil is so unique that its workings were only accurately understood in the 1970s.

NEON LIGHTING

Tesla was the first to perfect neon and florescent lighting, making these devices commercially practical.

THE TELE-AUTOMATON

This is a fantastic Tesla invention that we use every day. We call it radio remote control. When Tesla first demonstrated a small radio-controlled boat in 1898, skeptics had him pull the lid to prove there wasn't a midget operating it inside. This invention led Tesla to predict the radio-controlled guided missile, which seemed like pure science fiction in the 1920s. It doesn't seem so fantastic now.

X-RAYS

Roentgen is considered the discoverer of X-rays, but it was Tesla who accidentally took the first x-ray photos early in 1896. In fact Roentgen wrote to Tesla inquiring how he achieved such impressive results. The reason Tesla did not publish his results before Roentgen was that his laboratory was burned down under very suspicious circumstances.

The list of Tesla's discoveries and inventions goes on and on. But just as important are his visionary ideas.

In 1903 Tesla gave a perfect description of the hybrid automobile, which combines an electric and an internal combustion motor. It is just now coming out onto the market.

Unfortunately, in all these important areas, Tesla simply did not have the time or money to develop his concepts into successfully commercial products.

Many ignored his ideas because they reflected the needs of the future, not the present. And those who did pay attention received the credit, and became billionaires.

As years passed, Tesla began to invent purely in his mind. And since there are no limits to the imagination, particularly one like his, Tesla gradually became labeled an eccentric, a mad scientist.

In 1923, he wrote newspaper article titled, “A Giant Mechanical Eye to See Round the World.” Can you imagine how that sounded at the time? He spoke of a round object of tempered steel, floating above the earth’s atmosphere that could transmit pictures and other information around the world. It was a perfect description of a communications satellite. No one credits Tesla with this idea, because he didn’t build it or make it work. Instead, the concept is attributed to the science fiction writer, Arthur C. Clark, who didn’t build it or make it work either. So history is not necessarily fair or accurate, and that’s why it’s important to question it.

In the last decade of his life, one of Tesla's few pleasures was his annual birthday celebration. He would hold a press conference in the lobby of the Hotel New Yorker, where he lived in New York. Newspaper reporters, looking for a laugh, would attend to listen to the crazy old man's outlandish predictions of wireless telephones, communication with other life forms in the cosmos, beam weapons that could shoot down airplanes and missiles, and many more science fiction concepts that are now becoming a reality.

So, in spite of efforts to diminish Tesla's role as a "Great Man," our technological world continues to spin on his great inventions and outlandish ideas. Of course, Tesla was not able to enjoy his eventual success, but as he once said:

“The scientific man does not look for a reward. He does not expect his advanced ideas to be readily taken up. His work is like that of the planter. For the future. His duty is to lay the foundation for those who are to come, and point the way!”

To me, that sounds more like a priest than a scientist.

I want to thank you all for your kind attention today and I'd like to wish my dear friend, Nikola Tesla, a belated happy birthday!