Nikola Tesla, Humble Genius

Nikola Tesla, Alçakgönüllü Dahi

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Why is Nikola Tesla such an important inventor?

Many of us have heard the name Tesla when we go to have an MR investigation done. The terms used to indicate the strength of the MR device such as 1.5 Tesla or 3 Tesla remind us of Tesla. Tesla contributed so greatly to today's technology that the name is used as the unit of magnetic field strength (Figure 1).

What is the story of Tesla's life?

Tesla was born on 10 July 1856 in Smiljan as a child of a housewife mother and a clergyman father. Smiljan is currently within the borders of Croatia. When Tesla was born, it was a city of the Austria-Hungary Empire. There are articles stating that he was very interested in experiments in his early childhood but it is not clear how much of these are true. Tesla studied at technical schools in Prague and Graz due to his interest in engineering and technical issues. After working at a couple of different places following his graduation, he started to work in a business that would change his life completely. This was Edison's European company in Paris.

What do you mean by saying it would change his life?

Tesla was able to demonstrate his intelligence, ability to work hard and his talent for finding practical solutions. He was therefore recommended by his boss to go to New York and continue his profession there. The boss even wrote a letter to Thomas Edison while Tesla was going to New York to visit him and said "I know two great people in the world, one of them is you, and the other one is the young man bringing this letter to you". When Tesla met Edison for the first time in New York, Edison gave him a problem to solve for which they had not been able to find a solution for a long time to test this young man. He expressed that he would give him prize money if he solved the problem. Tesla solved the problem that the engineers had not been able to solve for years within a few weeks. This had a great effect on Edison. However, Edison cheated Tesla regarding this matter and did not give the prize money he had promised.

Edison was especially working on direct current, wasn't he?

Yes. Edison had invested heavily on direct current electrical energy production and sales. In fact, it had many disadvantages.

Figure 1: Photograph shows Tesla while reading a tome in his lab (Taken from http://en.wikipedia.org/ on 13 October 2014).

Tesla saw that he could overcome these problems by using alternating current. However, Edison always opposed this idea of Tesla, thinking that all his investments would be for nothing. Therefore, Tesla understood that he could not work in this company anymore and quit. Afterwards, he tried to survive by working in construction including working as a manual laborer for a few years.

How did the transition from manual laborer Tesla to great inventor Tesla happens?

One of the most significant names in Tesla's Life is Westinghouse. The friends of Tesla who heard his ideas introduced him to Westinghouse. Then, this duo established the system that would produce the first alternating flow at Niagara waterfalls and distribute it to houses. The company they established as partners began to make big money out of this business. However, Edison's unethical anti-propaganda was very effective. They had to spend a lot of money to fight this. This

shook the company's finances and Westinghouse told Tesla "If we continue to pay you the current amount, the company will bankrupt". Tesla tore the contract showing the fee he received per unit of energy produced and enabled the company to continue its existence. This simple but very significant event demonstrates that money was not important for Tesla and he wanted people to benefit from the technology.

What are the technological innovations Tesla had invented or laid the foundations for?

The most important invention of Tesla that is most closely related to current technologies was alternating flow. Furthermore, the radio, transceivers, and remote radio controlled devices are very important inventions. He focused all his energy on free energy to be distributed all over the world in the later stages of his life. However, he could not realize this dream when JP Morgan who had previously supported him withdrew this support later.

It appears that Tesla was a great scientist but how was he as a human being?

Tesla was a man who liked solitude. He was about 1.90 m tall and quite thin and had an asthenic type. He was thought to be obsessive compulsive due to his certain behaviors. He had an obsession with cleanliness, he ate alone and he wiped all kinds of spoon, knife, etc. objects he would use one by one before eating. He performed all his works in multiples of three. He preferred hotel rooms with a number divisible into three. He hated to touch people and washed his hands if he had to touch them. He did not like jewels, pearl jewelry, round objects and hair; he could not touch them and could not even look at them. Despite his entire obsession with cleanliness, he loved pigeons and he left his window open so that they could easily enter and exit his room. As far as we know, he had no relationship with any woman. He did not marry throughout his life. He said that he did not want it because he would not be able to find enough time for his scientific studies.

I guess Tesla died alone.

Yes. Tesla died alone on 7 January 1943 in his room no. 3321 of the New Yorker Hotel. This great man is the person who has made the greatest technological contribution to mankind but unfortunately he is not known as widely as he deserves (Figure 2).

Figure 2: On his wish Tesla's body was cremated in New York and the remnants were later transferred to his birthplace. The photo shows the gilded urn with Tesla's ashes, in his favorite geometrical object, a sphere. Nikola Tesla Museum, Belgrade (Taken from http://en.wikipedia.org/ on 13 October 2014).