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Nicola Tesla: The Personality Behind the Inventor

Although Nicola Tesla is seen by many to be the most influential inventor of the late 19th and early 20th centuries, as he built the foundation for all modern technology that relies on electricity, he is still unknown to a large majority of the population. Not only is he unknown, but many of his inventions are widely believed to have been invented by others, for example the radio. This disparity between his accomplishments and recognition also occurred during Tesla's lifetime, as he encountered many skeptics of his work, people who thought he was crazy to dream up many of his ideas. Despite this, Tesla did invent and achieve many of his outstanding goals, paving the way for technology as we know it, not letting the views of others get in his way. This ability to overcome adversity made much of his work possible, as he had confidence in himself and more importantly in his ideas, and let no one stand in the way of what he believed to be possible.

Tesla was born on midnight between July 9 and 10, 1856 (he celebrated his birthday on the 10th), in an area called Lika in the western part of the Austro-Hungarian Empire, which was eventually part of Yugoslavia, and is now in Croatia. He had an older brother, and three sisters. His brother, Dane, was considered the genius of the family, and Tesla looked up to him immensely. When Dane was killed in a horse-riding accident when Nicola was five years old, it gave Tesla a life-long sense of obligation to his parents to make up for the loss of his brother, as well as guilt that he had survived instead of his brother. Tesla later wrote, "Anything I did that was creditable merely caused my parents to feel their loss more keenly" (Cheney, 3).

Tesla's father was a clergyman in the Serbian Orthodox Church, and during Tesla's childhood, it was customary for the oldest son to follow his father's footsteps and continue the family profession. With the death of his older brother, this destined Tesla to become a priest, although this was against his will, as from a very early age Nicola had his heart set

on becoming an engineer. This desire arose from the environment in which Tesla was raised, one in which learning was encouraged, and reading was valued and made possible by the extensive library in the family's home, of which Tesla took full advantage. Tesla was also encouraged to invent from an early age, and had an example, as his mother's family included many inventors, and his mother herself made many useful inventions such as a mechanical eggbeater, as well as others for use on the farm (Cheney 4). Another attribute to Tesla's extraordinary ability to invent and formulate new ideas is the fact that he, along with his parents and sisters, were all gifted with amazing memories. His mother memorized poetry and recited it to her children, and his father helped his children further expand this gift, as Tesla said:

Although I must trace to my mother's influence whatever inventiveness I possess, the training my father gave me must have been helpful. It comprised all sorts of exercises . . . guessing one another's thoughts, discovering the defects of some form or expression, repeating long sentences, or performing mental calculations. These daily lessons were intended to strengthen memory and reason and especially to develop the critical sense, and were undoubtedly very beneficial. (Cheney 4-5)

Tesla also had an abnormal ability to visualize scenes, people, and objects so vividly that he was sometimes unable to determine what was real and what was imaginary (Cheney 6). This was also very useful for inventing, as well as at school, where at the age of 10 Tesla was doing calculations in his head faster than his teacher could do them on the board, and as a result was first accused of cheating. It was also around this time that Tesla envisioned a huge waterwheel being turned by the power of the water at Niagara Falls, a world-changing invention that was first formulated through his extraordinary ability to visualize in a lifelike manner.

At the age of 17, having just graduated from the Real Gymnasium in Austria, Tesla returned home in the midst of a cholera epidemic, and contracted the disease. His health was very bad, and his father promised him that if he survived, he would allow him to go to engineering school. Tesla survived, and attended the Austrian Polytechnic School at Graz where he began studying mechanical and electrical engineering. Once at school, Tesla's

physics teacher showed him a machine that could be used as both a motor and a generator. As this was an early motor, it operated on direct current, thus required a commutator to reverse the direction of the current. Tesla proposed the idea that it would be possible to do away with the commutator, and it is here that he met face to face with the first major opposition to his ideas. His professor thought that this idea was absurd, and said that it would be like building a perpetual motion machine, convinced that Tesla would never achieve it (Cheney 9). This obviously didn't deter Tesla a bit.

Eventually, lack of money due to a lifestyle of gambling and drinking forced Tesla to drop out of school. However the death of his father and his mother's disapproval of his lifestyle made him resolve to change his ways, which he did with much success, giving up gambling, drinking coffee, and smoking, and only drinking alcohol in small amounts. However, Tesla never officially returned to school, making him essentially self-taught.

Tesla moved to New York in 1884, bringing only a letter to Thomas Edison from Charles Batchelor, the manager of the Continental Edison Company in Europe, and almost nothing else. He proceeded to get a job from Edison, but soon found that he wouldn't be able to achieve his goals in this situation, and went out on his own. He was unable to find work for a while, and even worked hard labor for many months, digging ditches in the New York streets. But word of this extremely talented young foreigner was quickly circulating, and he was approached by a group of investors who were willing to finance a Tesla Electric Light Company. Upon moving into his new laboratory, he immediately began building his vision of the AC motor. This shows Tesla's diligence, as he did not lose sight of his goals even when he was going through hard times.

The effects and benefits of Tesla's great mental abilities are evident in all of his work and inventions, for which he never used drawings or performed calculations on paper. "Tesla had no use for blueprints; he made minute sketches in a palm-sized notepad that he handed off hastily to engineers and mechanics" (Cheney 26). Even for his revolutionary AC motor Tesla used no drawings. He said of building the motor, "The motors I

built were exactly as I imagined them. I made no attempt to improve the design, but merely reproduced the pictures as they appeared to my vision and the operation was always as I expected” (Cheney 21). The fact that he was able to create so many inventions and work in many different fields was also made possible by this talent. He didn’t have to spend time on prototypes, as they were unneeded – he did all of the preliminary work in his head. However, this may also have been the cause of some of the dissent for much of Tesla’s work, as he had no concrete evidence with which to explain his ideas, as he needed none, it was all clear in his mind. Still, the fact that many people were reluctant to believe in his seemingly radical ideas never once stopped Tesla.

Another valuable attribute of Tesla’s personality was his ability to see the big picture, the full implication of what he was doing. He saw the use of alternating current and his AC motor as the means to unite cities and distant villages, to span whole continents, and eventually the world, not just for electric lights, which was as far ahead as others working in the field at the time had thought. Tesla envisioned much of the technology that we have today, including the internet and robotics, and he was very optimistic, saying, “To reach a number of miles out into space requires the overcoming of difficulties of merely mechanical nature” (Cheney 40). Tesla also said to his friend Katherine Johnson, “The time will come when crossing the ocean by steamer you will be able to have a daily paper on board with the important news of the world . . . and by means of a pocket instrument and a wire stuck in the ground, you can communicate from any distance with friends at home through an instrument similarly attuned” (Cheney 49). These ideas also brought him skeptics, though, and he was often laughed at for their impossibility (Cheney 13).

Another aspect of Tesla’s personality that made him able to invent as he did is that he was never afraid of electricity, despite the widespread claims to its danger. Because devices for electrical measurement, like the oscilloscope, did not yet exist, Tesla used his body to fine-tune his instruments, something that would not have been possible had he been afraid of the electricity, or not understood it as thoroughly as he did.

Tesla was also extremely observant, and many of his inventions arose simply from watching nature. The solution for the AC motor came to him while he was on a walk. Tesla said, "One afternoon . . . I was enjoying a walk with my friend in the city park and reciting poetry. The sun was just setting and reminded me of a glorious passage . . . As I uttered these inspiring words the idea came like a flash of lightning and in an instant the truth was revealed" (Cheney 11). He also extensively observed lightning, avalanches, and many other natural phenomena, which gave rise to countless other solutions, ideas, and visions of inventions. An example of this is how Tesla first came upon the idea of using electricity to change the weather, as he said:

One day as I was roaming in the mountains, I sought shelter from an approaching storm. The sky became overhung with heavy clouds but somehow the rain was delayed until, all of a sudden, there was a lightning flash and a few moments after, a deluge. It was manifest that the two phenomena were closely related, as cause and effect, and a little reflection led me to the conclusion that the electrical energy involved in the precipitation of the water was inconsiderable, the function of lightning being like that of a sensitive trigger. Here was a stupendous possibility of achievement. (Cheney 40-41)

In addition to being a brilliant man with an inherent knowledge for the workings of electricity, Tesla embodied other qualities without which he would have had many difficulties in overcoming all of the obstacles that he was faced with throughout his life. Because of his great memory, ability to visualize, and intelligence, he was able to dream up his inventions, but it is Tesla's other qualities - his unceasing optimism, confidence in his ideas, fearlessness, and ability to look to the big picture - which enabled him to bring the visions in his head to life, setting the stage for all technology after him.