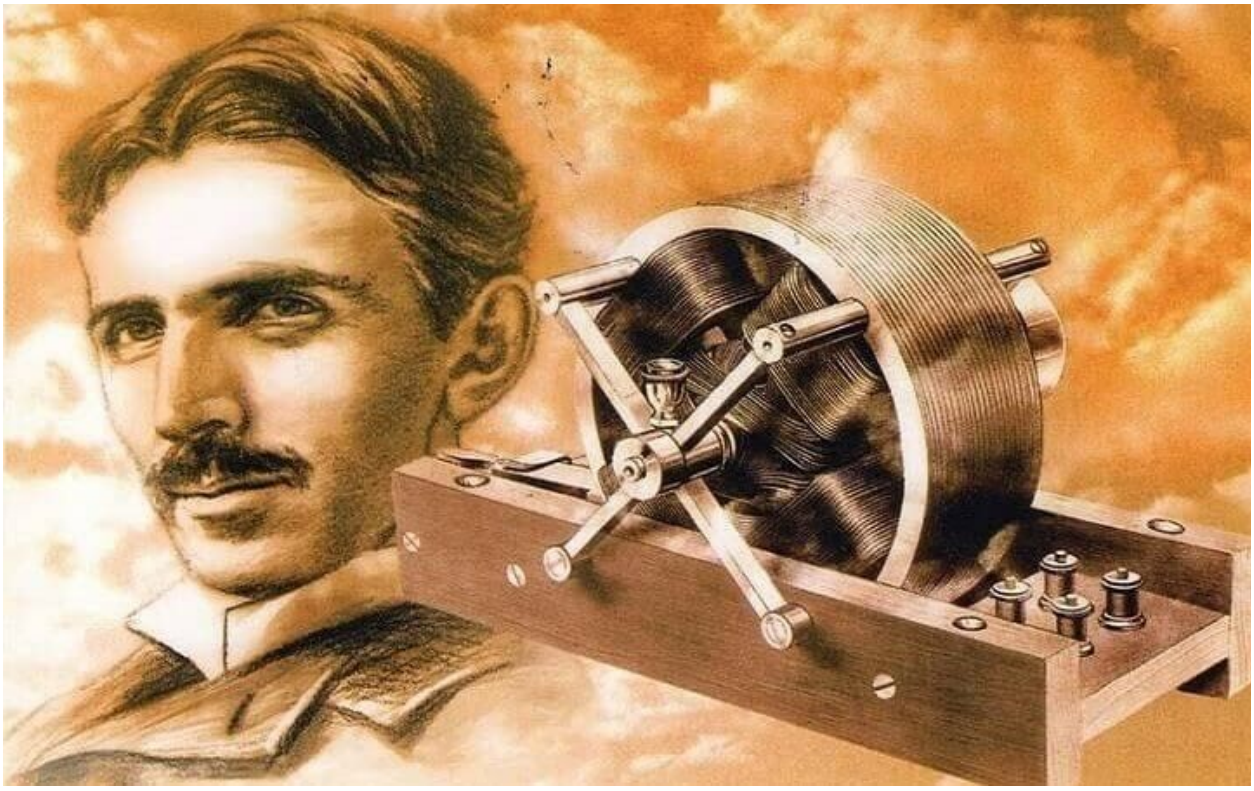
A Different World Without The Discoveries of Nikola Tesla



A Different World Without The Discoveries of Nikola Tesla

Submitted To:

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Submission Date: 16th August, 2020

LETTER OF TRANSMITTAL

16th August, 2020
Md. Iftekharul Amin
Associate Professor
Institute of Business Administration
University of Dhaka.

Subject: Submission of final report on “A Different World Without The Discoveries of Nikola Tesla”

Dear Sir,

With due respect, I am pleased to submit the final report on “A Different World without the Discoveries of Nikola Tesla”. In this report, I have given my best effort albeit some shortcomings. I would be grateful if you overlooked my mistakes and accepted my effort.

Sincerely Yours,

Abdullah-Al-Jahid
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Acknowledgement

I am highly indebted for getting such a tremendous opportunity to prepare the report on “A Different World without the Discoveries of Nikola Tesla” . I would like to thank whole-heartedly our course teacher, **Md. Iftekharul Amin** (Associate Professor, Institute of Business Administration, University Of Dhaka) for giving us guidelines about how we can prepare this report. In completing this paper I have collected various important data and information from different websites . I am thankful to all of the works cited.

Contents

Executive Summary

This report is the result of my personal interest in the inventions of Nikola Tesla. Some of the inventions of Tesla and their impacts on humankind has been discussed in this report. The world would be different without these discoveries.

Findings of the study

I can happily say that Tesla was born. If not for him we wouldn't have been able to even write this report. How will we charge our devices if Tesla wasn't born?

Nikola Tesla was a visionary who changed the history of humanity with his inventions. No wonder then if there is a large community who made the brilliant scientist a kind of divinity. Tesla is according to them the true father of an impressive amount of fundamental inventions like the alternating current, tesla coil, the radio, robotics, the X-ray, laser, violet ray, death ray, artificial tidal wave and so on.

Impact on use of energy:
Tesla's inventing skill has made him the father of modern alternating current also known as AC. After his invention of the AC, Tesla coil, Polyphase induction motor the world became easier for the humankind. The mass people get a chance to use electricity , wireless communication.

Impact on Wireless Communication:
It is difficult to imagine a world without remote control, but one without wireless technology? Unthinkable. For his inventions we are able to change TV channels from our bed, robots were invented to minimise our physical labour and we can use the internet from anywhere in the world through our mobile phones or laptops. The remote control system came true.

Impact on Medical Sector:

Tesla has made some remarkable contributions in the medical sector and in medicine. Teletherapy, x-ray, laser technologies are the best of those.This technologies save millions of people on a regular basis and is a prime example how technology can be used for good rather than bad.

Impact on Military Sector:

We can't quite decide whether it sounds like the coolest thing on the planet or the scariest. The likelihood is both, but Tesla's invention had both eyes firmly fixed on peace as opposed to war. Artificial Tidal Wave, Supersonic Airship, Death Beam/Ray all are the contribution of Tesla in the military sector to prevent war.

The situation of the current would be something like the following if Tesla wasn't born.

- ❏ Electricity would be a luxury in developing countries. It will be pretty expansive in developed nations.
- ❏ There will be small power stations every 10 kilometers in big cities.
- ❏ Computers would be a luxury, even in developed nations.
- ❏ A war could have happened over electricity.
- ❏ Access of internet would be our imagination
- ❏ We be lack of many things in Medical sector
- ❏ Probably, our society would be now what it was 50–60 years ago.

Chapter 1

Introduction

1.1 Origin of the Report

When you flip a switch and a lamp bathes the room in light, you probably don't give much thought to how it works or to the people who made it all possible. If you were forced to acknowledge the genius behind the lamp, you might name Thomas Alva Edison, the inventor of the incandescent light bulb. But just as influential perhaps more so was a visionary named Nikola Tesla. The genius is considered to be the man who invented the 20th century, the brains behind the technological revolution that made the world the place it is today. Tesla was involved in many more discoveries and creations, including the rotating magnetic field, the speedometer, the Tesla Coil, which is a transformer that produces sparks by creating high voltage at a low current and so on. Tesla envisioned his inventions, especially AC power, improving people's lives. Experts say he wanted to bring safe electric power to the masses to make our lives easier at work, and light up our homes so that we can study in the evenings to improve ourselves. Nowadays many of the great thinkers are thinking about what the world would look like today if the genius Nikola Tesla never existed in this world and so his inventions.

This report is a result of my personal interest and a course assignment. In this report, I tried to discuss the discoveries of Nikola Tesla, its impact on modern life and a life without these discoveries.

1.2 Objectives of This Study

The major objectives of this report is to study the impact of Nikola Tesla's discoveries on human life and to find out the probable situation if these things were not discovered.

Specific Objectives-

- ➢ Show the discoveries of Nikola Tesla
- ➢ Show the impact of these discoveries
- ➢ Imagine a life without these discoveries

1.3 Scope of The Report

This report will focus on the discoveries of Nikola Tesla and the impact of these discoveries on humankind. This report will also show how the world would be without these discoveries .

1.4 Limitations of The Report

Although I have tried my best to accomplish the goal of this report, there were some limitationsI had to face. I was unable to take interview of general people to know their opinion on this topic . I gathered information only from websites, news and articles published.

As no inventor is a lone ranger. There always have been many in any race of exploring scientific phenomena. The winner gets all the credit for being ahead in time & publicizing his find early. If a particular winner is not born, the runner up would be the winner after some time lapse. Nikola Tesla is not an exception. In this report I will assume that there were no other scientists working on the same phenomena that Nikola Tesla had discovered.

1.5 Rationale of The Study

- ➢ This Report will briefly discuss about the discoveries of Nikola Tesla
- ➢ It will also show the impact of these discoveries
- ➢ It will also show how the world would be without these discoveries

1.6 Methodology of The Study

The study is conducted through secondary analysis. I have collected all the data and information from the websites and other resources (news and article published).

1.7 Chapter Outline

This chapter shows the origin of the report, that is, how and why the report is generated, the objective of the report, the scope and limitations, rationale of the report and the methodology.

Chapter 2

Findings of the Study

This Chapter shows the discoveries of Nikola Tesla and its impact on humankind.

2.1 How did Nikola Tesla change the world we are living in?

When you flip a switch and a lamp bathes the room in light, you probably don't give much thought to how it works or to the people who made it all possible. If you were forced to acknowledge the genius behind the lamp, you might name Thomas Alva Edison, the inventor of the incandescent light bulb. But just as influential perhaps more so was a visionary named Nikola Tesla. The genius is considered to be the man who invented the 20th century, the brains behind the technological revolution that made the world the place it is today.

2.1.1 How did Tesla change the way we use energy?

Polyphase Induction Motor

Edison unveiled his electric incandescent lamp to the public in January 1880. When Edison flipped the switch during a public demonstration of the system in 1881, electric lights twinkled on -- and unleashed an unprecedented demand for this brand-new technology. The Edison system used direct current, or DC. Direct current always flows in one direction and is created by DC generators but it has limitations. The biggest was the fact that DC is difficult to transmit economically over long distances. Edison knew that alternating current didn't have this limitation, yet he didn't think AC a feasible solution for commercial power systems. AC system that relied on high-voltage transmission lines to carry power far from where it was generated.To step down the voltage of AC transformer

came. Even with the development of the transformer and several successful tests of AC power systems, there was an important missing link. That link was the AC motor. Tesla worked through a problem that had intrigued him since he was a student .While a student, Tesla saw a demonstration of a Gramme dynamo. After then he was thinking what if one were to change the magnetic field in the stator of a dynamo instead of altering the magnetic poles of the rotor? This was a revolutionary concept that turned convention on its head. And building what would become known as a **polyphase induction motor(AC motor)**. The term polyphase refers to a motor based on multiple alternating currents, not just one. The term induction refers to the process whereby the rotating stator magnets induce current flow in the rotor.

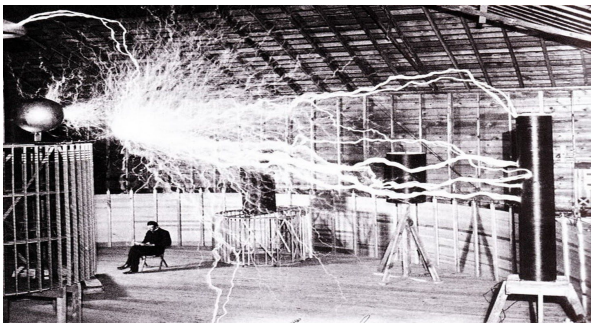
Alternating Current

One of his most notable and famous inventions of Tesla was “Alternating Current” that can be explained as being a form in which electrical power is delivered from one to another place. In alternating current the flow of an electrical charge periodically reverses direction making it easier and less expensive to get to its destination. All radio and audio signals are carried on electrical wires and as such are best example of alternating technology. Tesla didn’t exactly invented Alternating Current (AC), but he was the man who made AC practical and usable for the entire planet due to its ability to easily convert to lower and higher voltages.

Tesla Coil

Among his numerous innovations, Nikola Tesla dreamed of creating a way to supply power to the world without stringing wires across the globe. The inventor came close to accomplishing this when his "mad scientist" experiments with

electricity led to his creation of the Tesla coil. The Tesla Coil is used to produce high-voltage, low-current, high-frequency electricity. That might fly over the heads of many, so look at it like this – it was a contraption that created flying arcs of electrical energy.Tesla coil does not have much practical application anymore but some radios and television still used tesla coin and so the workers who works on electric power plants .



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2.1.2 A World With Wireless Communication

It is difficult to imagine a world without remote control, but one without wireless technology? Unthinkable. Nikola Tesla dreamed of creating a way to supply power to the world without stringing wires across the globe.. He set about building a tower that would use natural frequencies to transmit data across the globe undoubtedly a precursor to the world wide web. The first system that could wirelessly transmit electricity, the Tesla coil was a truly revolutionary invention.

Radio

The credit for inventing the radio initially went to Italian engineer Guglielmo Marconi, but when Marconi broadcast across the Atlantic, he used Tesla's invention: the Tesla Coil. (Marconi changed the name, calling it an "Oscillation Transformer."

Robotics

With the idea that all living things are driven by electrical impulses, Nikola Tesla put the basis for the creation of robotics.

2.1.3 Contribution of Tesla in Medical Sector

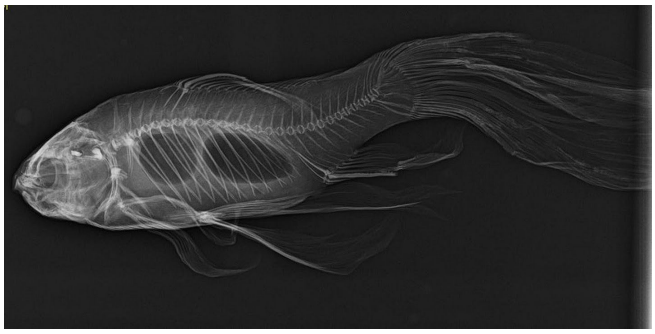
The major contribution of electrical engineer, scientist and inventor Nikola Tesla (Smiljan, Croatia, 1856 – New York, USA, 1943) to medicine was his high-frequency, high-voltage transformer known as the Tesla coil. High frequency currents are used in diathermy, as they, passing through the body, transform electrical energy into a therapeutic heat. Tesla himself spoke about this effect in an 1891 issue of Electrical World, reporting on an experiment in which he passed current through his own body. Even though he did not have medical training, he was interested in physiological effects of electricity and kept correspondence on electrotherapy with J. Dugan and S. H. Mahonell. In a 1896 issue of the Electrical Review Tesla published skull X-ray shots, beating Roentgen to it.

Violet Ray

It may be obsolete today, but at the beginning of the 20th century electrotherapy was all the rage, if ‘all the rage’ is an acceptable thing to say about revolutionary medicine. People soon grew tired of having electric currents thrust through their bodies, and the practice stopped. It is similar to x-ray.

Shadowgraph / X-Ray

How many times have you seen someone breaking a bone and getting a X-Ray so doctors could help him out? A lot we are sure of and thanks to Tesla for this invention.It was some throwaway experiments with discharge tubes that led to the discovery when Nikola noticed that photographic plates nearby were damaged as a result of his noodling. Two years later Tesla produced some of the first images of the human body using X-rays, which he referred to as ‘Shadowgraphs’.



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Lasers

Those lasers at the wild techno parties, hand lasers that kids play, lasers on firearms or even Star Wars laser swords are all a product of Nikola Tesla. Today this invention of his is used both in good and bad be it for medical treatments to army technology.

2.1.4 Tesla’s invention in alerting us about natural Disasters

Earthquake Machine

In 1893, Tesla patented a steam-powered mechanical oscillator that would vibrate up and down at high speeds to generate electricity. After a while this invention brought the concept of earthquake machine and the modern earthquake machines uses this.

2.1.5 Contribution in Military Sector / Country Defence

From the time Tesla was a boy, he had been fascinated with the idea of flight. Combining his knowledge of electrical and mechanical engineering, he began to think more about aviation after the failure of Wardenclyffe.

Artificial Tidal Wave

The engineer and physicist believed the power of science could be harnessed to prevent war. In 1907 the *New York World* reported on another of Tesla's military innovations in which wireless telegraphy would trigger the detonations of high explosives at sea to generate tidal waves so vast that they would capsize entire enemy fleets.

Electric-Powered Supersonic Airship

In an article in the July 1919 issue of *Reconstruction* magazine, Tesla discussed his work on developing a supersonic aircraft that would travel eight miles above the surface of the Earth and generate speeds allowing passengers to travel between New York City and London in three hours. Tesla's concept called for the aircraft to be powered by electricity transmitted wirelessly from power plants on the ground, eliminating the need for aircrafts to carry fuel.

Death Ray

A military weapon that would accelerate mercury particles at 48 times the speed of sound inside a vacuum chamber and shoot a high-velocity beam "through the free air, of such tremendous energy that [it] will bring down a fleet of 10,000 enemy airplanes at a distance of 250 miles.

2.2 Impact of Tesla's Invention and world without it

2.2.1 Impact on use of energy

Nikola Tesla was a man that changed our civilization to its foundations. His knowledge in electrical and mechanical engineering and inventing skill has made him the father of modern alternating current also known as AC. After his invention of the AC, Tesla coil, Polyphase induction motor the world became easier for the humankind. The mass people get a chance to use electricity , wireless communication. If he didn't discover those things

- we won't be able to glow in lighting,
- Electricity would be a luxury in developing countries. It will be pretty expansive in developed nations.
- Computers would be a luxury, even in developed nations.
- A war could have happened over electricity.

2.2.2 Impact of Wireless Communication

It is difficult to imagine a world without remote control, but one without wireless technology? Unthinkable. Tesla had a dream that one day every single person on the planet would be able to receive free energy without wire. For his inventions we are able to use TV channels from our bed, robots were invented to minimise our physical labour and we can use the internet from anywhere in the world through our mobile phones or laptops. If this things were not invented-

- We don't have robots and we know how important it is in this world where we are looking forward for everything gets automated

- ➢ We won’t be to hear news through Radio or Televisions
- ➢ Satellite will be missing
- ➢ We won't be able to use wireless internet

2.2.3 Impact on Medical Sector

Although being an inventor and scientist Tesla has a remarkable contribution in the medical sector. Electrotherapy was one of the most used technologies of 20th century.The invention of Shadowgraph was a golden luck for us our civilization has all the means to battle all kinds of human diseases and traumas due to one of the most important discoveries(X-Ray) for medicine. This technology saves millions of people on a regular basis and is a prime example how technology can be used for good rather than bad. The invention of the laser brought a tremendous change in medical surgery(cancer, eye). Without these inventions -

- ➢ X- ray will not be available in medical sector and we will have to suffer a lot
- ➢ The surgery that includes laser will be missing

2.2.4 Impact on Military Sector

We can’t quite decide whether it sounds like the coolest thing on the planet or the scariest. The likelihood is both, but Tesla’s invention had both eyes firmly fixed on peace as opposed to war. Artificial Tidal Wave, Supersonic Airship, Death Beam/Ray all are the contribution of Tesla in the military sector to prevent war. If this things were not invented the military sector will be in lack of so many important things

2.3 Chapter Summary

This Chapter shows the discoveries of Nikola Tesla and its impact on different sectors of the humankind.

Chapter 3

Ending Summary

This study focuses particularly on the inventions of Tesla and its impact on mankind . Nikola Tesla has invented a lot of things and I can't imagine the modern world without his inventions. If his inventions are missing in this current world our world would be now what it was 50–60 years ago.I can happily say that Tesla was born. If not for him, I wouldn't have been able to even complete this report and you wouldn't be able to read this report. We wouldn't be able to do internet search or anything else. How will we charge our devices if Tesla wasn't born?

Conclusion

We can not think of our daily life without the internet, electrical devices, electricity and so many discoveries of Nikola Tesla. **Nikola Tesla** was a man that changed our civilization to it's foundations. Nikola was a genius visionary, inventor, scientists and thinker that humankind has produced and with his intellect he was able to achieve anything his mind wanted. Tesla's vision was always ahead of his contemporaries, he imagined already two centuries ago, a world where people could communicate with radio waves, illuminate cities without using wires. He was not afraid of innovation: for this aspect, Tesla will always be an indisputable example. His discoveries ease the way we use energy today , the way we use many medical instruments such as lasers, violet ray, x-ray. Without his inventions our society would be now what it was 50–60 years ago. His inventions have a remarkable impact on humankind. A person can't think of a day of our modern

life without these inventions. We are happy that a greatest scientist like Tesla was born in our world.

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