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Industrial revolution

In the contemporary world factories, businesses, advanced technology, mass manufacturing and urban community are terms that are fundamental to the living of practically any individual. However, their existence can entirely be credited to one period of time - Industrial revolution. In fact, a statement that the industrial revolution was a specific period of time can even be considered inaccurate, since it largely and in many various aspects continues its trends today. Although, most commonly the term of the industrial revolution refers to the time from 18th and up until the beginning of 20th century. It can generally be defined as a societal and economical process of transition from agricultural and hand-made production of goods to machine manufacturing (The Editors of Encyclopaedia Britannica). Many countries in different times underwent the aforementioned process of industrialization, which as consequence resulted in many positive changes, which includes: change in the system of classes, increase in population, migration from rural to urban, advancements in science and technology, improvement in standard of living and general increase in amounts of goods for people. However, with those changes and improvements there is also a visible and very significant amount of negative aspects that the industrial revolution created. Particularly this includes: child labour, pollution, increased death rates, sanitation problems and aggravation of gender inequality. Many of the above-named changes remain present and are relevant even today, which only emphasizes the historical importance of the industrial revolution. This essay will focus on both negative and positive aspects of the industrial revolution, as well as will discuss and explore it as a whole.

Although the specific point in history when did the industrial revolution started is rather a debatable, uncertain and something hard to trace, it can be unquestionably stated that its inception occurred in the 18th century in Britain and the fact is that only the very specific amount of factors allowed for the industrial revolution to occur. Before the industrial revolution,

for many and many centuries, the lifestyle of the vast majority of mankind relied on the rural and agricultural traditions. People primarily lived outside cities, since it allowed them to improve their production of goods, due to more land for plants and space for animals. However, for the industrial revolution to occur a process of urbanization or the mass change of lifestyle towards large communities and cities was necessary. Such was achieved as a result of another revolution that occurred at a relatively similar time, particularly the Agricultural revolution. Predominantly it was a combination of advancements in technology, approach and techniques used in order to produce crops. In addition to that, specifically with Britain at the time, a process of “Parliamentary Enclosure” occurred, which generally speaking improved legal and law support for the farmers giving them more freedom and flexibility with their farms, which as a result improved productivity. As a result of the above-described processes occurring in the agricultural revolution, the amount of crops that were produced improved significantly. Therefore it allowed for the major increase of the population in Britain, since the amount of food produced equally increased, which meant an increase in how many people received food and hunger, that was rather problematic at the time, because of that was a lesser problem, allowing for more people to be born. That is one of the fundamental reasons for the occurrence of the industrial revolution, because a lot of work force was required in order to support the factories. However, a possibly even more crucial and influential factor, that was a consequence of the population growth, is that more people implied that more inventors existed, that created new machines. Equally, the increased number of people resulted in the increased number of possible investors in the aforementioned inventions.

In fact, the inventions themselves with their purpose mattered significantly. One of the most well known examples include John Kay’s flying shuttle, spinning jenny and carding machine (CrashCourse). Which are all machines that improved and contributed to the creation and support of the textile industry, which at the time, the British Empire was leading at, meaning that it had the needed market and need for all of the aforementioned inventions. However, even those markets were only present due to the state that the country was in at the time. One of the most essential was the fact that for many years it has been in peace, meaning that more countries were willing to trade. With that, the British Empire itself possessed the largest number of colonies that were at the time and in fact ever. Which first, meant even more trade, but more importantly the resources for production, such as the necessary for textile cotton, to be imported and used back in

Britain. In addition to that, the above named machines, collectively with other inventions such as the water frame and famous steam engine allowed for the need, further creation and development of factories, since the machines could now work collaboratively and in greater amounts, improving productivity. The problem is that in many other countries such would be quite difficult to implement, but in Britain the government and laws largely supported such production and private businesses that created the factories, allowing for a significant amount of them to be created. However, another problem of powering them at the time was the costly and largely resource consuming coal that theoretically existed, but even then Britain, with its colonies and own land possessed an enormous amount of natural resources and specifically resources that were quite close to the surface, making it easier to obtain them with the tools that existed at the time. In fact, some of the factories were built on the coal mines, for the purpose of the easier powering of the machines.

Ultimately many various factors, that were to some extent exclusive to Britain, collectively initiated and started the industrial revolution, which then later spread all throughout the world and had an undeniable and very visible impact on the economy of many countries in the world.

The Industrial revolution introduced a new way of handling the economy, which largely benefited the revolution itself and improved the living standard of the people. Previously, the system in most of the world was mercantilism, which consisted of large regulation from the perspective of the government, which was meant to increase the strength of the countries in the period of war and most importantly the expansion during the age of exploration. However, when the aforementioned period of time was over, such a system became unnecessary, therefore it adapted for the needs of the newly emerging industrial revolution. A new system of “free market economy” was introduced and became highly popular (Heimler’s History). Its main difference was the major decrease in the control over the economy that the government had. The legislations on trade that could be seen previously, now became more abandoned, allowing for increased trade and hence the increased wealth of the people. Even that trade itself, with the introduction of factories and the increased effectiveness and quality of production of goods, became easier. By such, the already rich factory owners became even richer. They created companies that were now able to expand into different countries and products were now sold all

around the world. In addition to that, the creation of companies in the industrial revolution allowed for the new system of stocks to emerge, which benefited the companies and the stockholders, and everyone generally became wealthier. However, the working class, also were benefiting largely from the revolution. The factories and particularly the wages of factories were significantly higher in comparison to the farming that was the dominating work of the lowest class. Meaning that the general wealth increased. In addition to that, the factories, efficiency of production and introduction of mass production by themselves allowed for the goods to be sold at a cheaper price, which again largely benefited the working class and in general anyone. The industrial revolution as a whole made large improvements in the economical system and increased the general wealth of the public. Many of the positive changes made during the industrial revolution are now an active part of the economy of the world, and similar can be said about the social changes of the industrial revolution, which at times were not the most positive.

Society in many different ways has changed due to the industrial revolution and the way social classes are viewed is quite similar to the one of the contemporary world. Particularly the industrial revolution entirely redefined the purpose and their meaning. Prior to the revolution, in many countries, the social structure consisted of peasants being in the bottom and usually serving the upper classes, that was the class responsible for production of crops and other aspects, after which were commonly some nobility, that were in comparison significantly wealthier and owned land and then depending on the country, monarchs or members of the church, the elite and highest level. Principally their identity was defined by their wealth, which commonly did not change throughout generations, meaning that generally speaking the same nobility and the same leadership existed for many years. However, already prior to the industrial revolution, many other revolutions have occurred throughout the world, which resulted in the formation of governments, rather than leadership under a monarch or church. However, in the other social classes, the change was to a much lesser degree. The industrial revolution has then entirely changed the above described societal structure. The peasants, who for many centuries have been working on farms, far away from the cities, were now moving into cities due to the newly emerging work opportunities. They became the working class, mainly working in farms and factories, however, fundamentally their identity was not subjected to any major change. They

still remained poor due to the extremely low payments that they received. Furthermore they were the most exposed to the horrors of the industrial revolution and particularly factory labor. More often than not, the majority of the people working in the factories lacked any form of proper qualification for working with the newly created machines, which were highly dangerous. The pipes were falling, the exposed gears and blades of the mechanisms could be seen everywhere, ladders without railing, exposed wires of high voltage, furnaces created a danger of “hot-metal breakouts”, generally speaking, anyone working in factories was exposed to all of the aforementioned risks to a very high extent. The cases of hands, fingers, eyes, legs, and generally speaking limbs, being caught and chopped off in the machines were a common, in fact daily, occurrence. The injury and death rate was extremely high and mainly it was the working class who was subverted to it. The poor and minimal wages that the working class have received, resulted in sometimes a need of children having to work in the exact same working conditions. At times, 7 year old children could be seen cleaning certain machines and such was incredibly common. Child labour was spread not only in factories, but also coal mines or steel mills. In addition to all of that, women working in factories, equally to children, were exposed to unfair and bad treatment, together with even lower wages in comparison to the ones of men. All the aforementioned applied exclusively to the working class, and while they were exposed to constant difficulties and horrors of the industrial revolution, on the contrary, the high class, which included businessmen and bourgeoisie, was, as previously mentioned, only getting richer. They were the ones who owned the factories and who had the main profits from them, allowing them to build giant mansions that can be seen today. In fact, even the government was dominated by the nobles, which were the high class. The previously middle class of nobles, now was significantly richer than ever and became the high class. The middle class by itself remained, however, now it consisted of people with important jobs for the country. That included: lawyers, doctors, factory managers, shopkeepers and in general people with special skills that highly served the society (CrashCourse). That class was never seen before and the industrial revolution was the one to introduce it.

This approximate structure of the society is similar to that of the contemporary world and it can be credited solely to the industrial revolution. Industrial revolution in addition to all has created the urban society that is known today.

The advancements of the cities and creation of new ones during the industrial revolution largely attracted the population, resulting in the phenomenon of urbanization. As a part of the revolution, it is another step in the transformation of agricultural society into one of manufacture. De facto, their developments began prior to the industrial revolution itself and already the interest of the masses grew. With inventions including: mechanical clock, the windmill and water mill, and the printing press, which at the time were considered highly modern, the cities already began to become desirable more than ever before (“Urbanization | Definition, History, Examples, and Facts”). Additionally, with the industrial revolution, as was established before, factories required some extent of labor or people working for the factories. This demand created work opportunities for the people living outside the cities. Furthermore, the invention of steam locomotives made the process of relocation and hence growth of the urban areas simpler.

London is a great illustration of the extent of the urbanization that occurred during the years of industrialization. In 1780 the number of people living in it could be described by the contemporary standards as rather low, with approximately 750 000 people, however, it reached 1.4 million 1815, then 3 million in 1860 and by the beginning of the new century this number had reached 6.5 million (*London, 1780-1900 | the Digital Panopticon*). Such can only be described as an enormous increase, which unfortunately resulted in many difficulties.

Particularly with the rapid increase in the number of inhabitants of the cities, their previous size, with its housing, was further unable to sustain the now large numbers of people. Such resulted in overcrowding and vastly poor conditions of the workers of factories, coal miners and generally speaking working class. They were forced to live in inhumanly small spaces that lacked any form of proper sanitation. The water that the vast majority of the city’s population used for many needs including drinking was directly obtained from the polluted and dirty rivers. Bathrooms were a luxury at that time, and therefore excrement, more often than not, along with garbage and waste products, were commonly found on the streets. In addition to all of this were the diseases, that were difficult to cure for the reason being the mediocre level of medicines and high population density due to overcrowding and lack of space, which together with aforementioned poor sanitation measures, made it easy for diseases such as Cholera, Typhoid, Smallpox and many others to spread. An aspect that made matters worse was the

absence of proper public health and medicine up until approximately 1848, which even then proved to be ineffective. Overall, the problematic time and situation for the middle class have resulted in the average life expectancy of 45 years, however, working class citizens and particularly factory worker's life expectancy was significantly lower, being 30 years.

The urbanization, in general, gave work opportunities for people and in addition to that allowed them to move to a modern city, however, with that it created large amounts of problems, specifically resulting in incredibly poor conditions of the people. Urbanization's and the Industrial revolution's impact on the lives of people can to a large extent be described as negative and the equal can be described about its impact on the environment.

Although in many ways the industrial revolution was a period of time that ultimately led to positive changes in technology, science, economy and society, one of its changes that could only be described as negative and the unfortunate reality is that it is one of its most detrimentally negative impacts. Particularly the industrial revolution has started the trends, that to some extent still continue up until today, that largely harm the environment and generally the planet Earth. One of the most well known facts about the industrial revolution is its heavy usage of coal in order to power machines, including trains and most importantly steam engines. Coal, and particularly burning of it, is considered as one of the most polluting methods to produce electricity. Its impact, particularly in early industrial revolution, was escalated further by the inefficiency of the machines, therefore they required a larger amount of coal burned, worsening the impact. It is impossible to track some specific effects simply due to the absence of required tools and data from that time, however, regardless the definite reality is that the above-named process and method of powering machines has partially initiated the global warming that the earth is experiencing right now. The burning of coal and usage of fossils have reached the limits that were not possible before, therefore the release of CO₂, which harms the environment, pollutes the air and is one of the most crucial reasons for global warming, is equally increased. Furthermore, its impact was not limited to only the environment, but also spread to humans. Working with coal can cause chronic obstructive pulmonary disease (COPD), asthma, lung cancer, and respiratory infection; which considering the extent of the amount of hours that workers of factories, which included children, were exposed to, its definite to say that the consequences of such were large (Gasparotto and Da Boit Martinello).

A further major harm to the planet and environment, as a consequence of the industrial revolution, was caused by its rapidly rising population in the world. Despite its initial cause being rather positive, particularly the improvement in the standard of living, equally it caused a significant amount of harm and in fact started a trend with the continuously increasing population that exists in the contemporary world. With an increase in population, more resources and land are required for their sustain. Meaning that more of the minerals and natural resources, the amount of which is limited, is used to a much greater extent. Furthermore, the increase in population causes deforestation due to land being in high need and demand. Specifically during the industrial revolution, many trees and plants have been destroyed due to lack of space in order to build houses and in addition to that factories. The general urbanization that was occurring throughout the industrial revolution, caused even further deforestation and destruction of natural ecosystems.

Overall, the many aspects of the industrial revolution have caused large harm to the environment, planet Earth and people themselves. Some of the above-named consequences or issues are still possible to witness and which maintain their negative impact today, however, ultimately they started during the Industrial revolution.

In summary, the industrial revolution was a very nuanced period of time that left a lasting impact on societies and people around the world. Industrial revolution, though initially started in Britain, it then continued expanding and at some point in time reached almost every single part of the world. It impacted, predominantly in a positive manner, the economy, made goods and materials more accessible and improved standard of living for the people. The new technology that it introduced made living easier. It changed and partially redefined the way society, social classes are viewed and although the conditions at the time were quite horrible, especially for the working class, this period of time helped to understand and later improve that aspect. Due to the Industrial revolution, the world experienced urbanization and made it more desirable and preferable to live in a larger community, equally to the contemporary world. To some extent, it can be said that it helped people to start connecting and to some extent unite humanity. The Industrial Revolution did not impact the environment of the Earth in a positive way, it polluted land, air and caused large deforestation. However, due to it, humanity is now able to understand and value its resources more and in general it allows us to understand what should be avoided.

That revolution caused many deaths, problems and issues and wasn't exclusively something great, but it ultimately led to it. It led to improvement, and it was the one to start that trend. That is why the industrial revolution, from a certain perspective, is still continuing today. The technological advancements and improvements are made every single year, and without Industrial revolution, such would not exist. The world that exists right now, in many ways is a consequence of that period of time. It's unknown how the world will look 10 years from now, but certainly and because of the industrial revolution, that is going to be a place where many things will be improved and the world will be a better place.

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