Industrial Revolution

Name

Institution

INDUSTRIAL REVOLUTION

**Introduction**

At this age and era, it is impossible to imagine a situation where we would survive without using machines. We live in an era where the machines do everything for us, and all that is thanks to the industrial revolution—living of farming and hunting alone as survival methods. That was the nature of life before the 18th century and the industrial revolution. The industrial revolution refers to a period and process in which Britain showed a change from their agrarian lifestyles and economical ways. It is a period in which people changed to use of machines, innovations. It was a period of transformation from the agrarian period to the use of machines and new manufacturing processes. Even though the industrial revolution has taken place in about 200 years ago, we are reaping of its emergence. In as much as the manufacturing processes and machines that we have now are way more advanced than the 18th century, they have all evolved due to the industrial revolution. It was the industrial revolution that led to the rise of urban areas that is urbanization. Before this time, people lived in rural communities where they depended on farming and other hunting and gathering (Hudson, 2014). Over the years, there have been different eras of industrial revolutions, which have significantly had an impact on the ways that things turned out. While the industrial revolution did not happen overnight, the effects that it brought upon were felt globally as it spread to other countries past Britain.

During the agrarian period, the people depended on plants and animals to do anything. Farming was all they had; it was the source of the food they consumed and their trade source. Trade routes were existent, and the mode of transport was dependent on the animals. Various disadvantages came with the use of animals as a source transport. One is that they could barely cover much distance without the need to rest, unlike the machines. The life in the 17th-century backward was quite simple. It involved farming, domestication of animals, and their lifestyles revolved around the same routine. There was rarely anything needed. That is why, with the industrial revolution, there was a significant change in how things were done. Before, all the labor was on the individual and the animals, and now they could depend on then machines. With the machines and changes in manufacturing processes, there was an increase in the living standards of the people as well as a chance to diversify in what they did. They could now break their rural cycles to include the innovations that had come. The industrial revolution is documented to have taken place in four phases through the most groundbreaking of all was the industrial revolution in the 18th century.

**First Industrial Revolution**

During this agrarian period, the most used resource was wood. It was used for cooking, building, and running the structures that they used like carts, which were used with animals. Unfortunately, with time, wood was running low, and in Britain, they had to find ways to survive. While wood had been a great source of energy, they had to move to so nothing that would be more reliable as well as effective. European countries had come up with ideas that were shut down as they did not fit with their thinking and workings. With Britain, things were different as the new designs were greatly accepted. Coal was more effective than wood as well as readily available within Britain. Then the 18th century marked the year of innovations and great new ideas for Britain, which worked well with the emergence of the industrial revolution. Even before the industrial revolution, the people in England were invested in textiles and even though it was all done by the people. It did drive the need for advancements. While coal was readily available, it was faced with its challenges that affected the progress within the economies. One of the things is that the coal mines were being filled with water, which affected the effectiveness of coal (Wrigley, E. A. 2010). As such as they had to find ways that they would ensure that the process remained helpful. With coal discovery, came a lot of other developments within Britain and European countries. With the water filling in the coal mines, they depended on horses to pull up bucketfuls of the water, which with time as the mines became deeper, became slower. They needed to keep mining the coal, and the most glaring problem was the water flooding. It prompted the steam engine's construction, which was way faster than the horses in the extraction of water within the mines. James Watt, in 1776 designed a steam engine in which burned coal produced steam, which would then propel the motor to move faster. From his innovations, others came up with advancements that served to increase the efficiency of their workings. While so many countries had access to coal, one cannot help but wonder why Britain was the first to take the step. One, they needed to find alternatives as wood was running out. Another sole reason is that their government was more lenient, open to new ideas, and more inclined to democracy. With that, the new ideas were much considered and supported. They also had a free enterprise system in which the government had little involvement in what the people did in terms of ideas and innovations.

The Discovery of coal was the beginning of a great movement in industrialization. Steam engines also bright light into other sectors like the melting of iron within the factories, which meant that now they would produce better and more stable iron than before. With the metal, they were able to make more durable and efficient machines. Initially, the furnaces were run by hand-driven bellows, which later moved to waterwheels, but they had a limit of bellow that they could push. With the steam engine, there was no limit, and they even got to raise the temperatures of the furnaces. Even then, most of the iron that was made was cast iron, but with industrialization, there was the production of the wrought iron. With wrought iron, they could make small steam engines which were portable like railroads and steamboats. Britain had the advantage of having harbors, which made it easier for them to transport the products that they made to other countries.

With the steamboats combined with the railroads that they made, Britain was unstoppable in advancement. Their textile industries grew to greater heights, and now they could easily supply to other nations. At the same time, the populations were able to diversify in what they could do. While they were used to doing farming and the textile in industries, now they could move to other areas. Industrialization led to the emergence of urban cities, as the population was growing, people moved to the metropolitan cities and towns to pursue different job opportunities. Machinery increase meant that there was more than could be done, which increased the levels of employment. The workers had to work for more hours as they were turned into 14 hours a day. Even the women had to work now. They were paid less compared to men. The issue of capitalism emerged as those who were working had to live in rural areas, mainly slums while the wealthy who had control of the industries ran the urban areas.

**Transportation**

Additionally, transportation was an area that was well invested and touched by the industrial revolution. Before the industrial revolution, the transport was done by use of the animals, which was slow and, at times, ineffective. Things like textiles could not be applied to remote areas as the distance was too much to cover. Richard Trevithick in the early 1800s invented steam locomotives, and with time, they advanced on the technology. With the canals that they had made, it took so long to arrive at the destinations that they wanted to, and that took weeks. That is why they had to come up with more effective ways of transport. Asa result, they ended up investing in building new roads. It became easier to get to destinations, and it took less time as well. In as much as Britain tried to keep the developments to themselves, it could not last forever. Due to their progress, they put in some measures that would help promote their monopoly. For instance, they forbid the export of machinery, manufacturing techniques, and even skilled workers. Unfortunately, their monopoly was not going to last forever. With such limitations, some of the people within Britain saw a chance that they could take advantage of within the other countries with the knowledge that they had. At some point, two Englishmen managed to move to Belgium, where they shared some of their experience. Belgium wat the first country in continental Europe to advance economically, even though they were invested in the same things as Britain: iron, textiles, and coal with the new machinery. Other countries were either politically unstable or invested in other matters, which hindered their advance in the industrialization front. Countries like France and Germany were slow to industrialization. In Germany, they immediately managed to establish national unity, which made rapid progress in the industrialization front. It advanced so much that it was now above Britain in the production of steel.

In 1879, a man by the name of Samuel Slater moved to Rhode Island. He had grown up in England and ad knowledge of how the things worked there. He took his first hand to build a textile industry from the knowledge that he could remember as he had not carried any plans or maps from England. It was the first textile industry to be built in the United States soil. Years later, another man left to visit Britain, and two years later, when he got back, he ended up building a factory that combined weaving and mechanical spinning in the United States. Such steps gave way to other industrializations like the building of the railway lines within the state. Even then, Britain was still heading in the industrial revolutions, though by now they had acquired competition from other countries like Germany, now the United States, and even Belgium (Stearns, P. N. 2012). The first industrial revolution was mainly during the 18th century. Several discoveries were made, which helped in the transformation of the agricultural practices and then the new age of the machinery used.

**Reasons why Britain was first in the industrial revolution**

When we look at the advancements today, both economically and structure-wise, we would think that countries like the United States or even China would have been first in the industrial revolutions. But that is not the case as Britain is known to be the first country to experience the industrial revolution. The outcome does beg the question of what led to Britain being the country that first existence the industrial revolution. What factors did it have that gave it an advantage against other states that are now better positioned developmentally than Britain. While several had coal, with Britain, they were looking for alternatives for wood as they were running out of wood. They needed a new source of energy, and their desperation to get something new is t made them stumble upon coal, which later on transformed their whole lives. With coals, they were able to move from agricultural productions alone and advance in other sectors like manufacturing and expanding their textile industries. They made significant progress in their agricultural production. The tremendous agricultural revolution helped in pushing their industrial revolutions. In most countries, however, innovations were prohibited or not supported by the government; this was not the case with Britain (Fernihough, & O'Rourke, 2014). That is why advancements like those made by Jethro Tull were much appreciated. Now they could manage to incorporate new farming techniques, and farming became labor-intensive. As such, people had to move to more advanced areas where they worked in the factories that were emerging, promoting industrial growth and factor-like urbanization. They had other accepted and supported innovations, which gave them the advantage to progress on industrial levels. Change that was related to the transport sector helped promote international trade, which gave them grounds to increase industrialization.

Additionally, during the 17th and 18th centuries, Britain had a very stable political standing, which allowed them for time to concentrate on other matters. They had also acquired some colonies, which made it possible to get the raw material that they needed. Countries like France were in political disabilities, which greatly affected their ability to make any progress. At the time, the colonial powers got the advantage of producing their products at a cheap process due to the availability of raw material and their access to cheap labor. The more the population grew in Britain, the more people were divided into different classes. While the wealthy and upper class already had everything they wanted, the middle class was eager to get more. This led to mercantilism, where they readily invested in industrialization to have more than they already did. It benefited the innovators and other sectors who pushed for the growth and better innovations as they had financial support.

**Second Industrial Revolution**

While the first industrial revolution was mainly focused in Britain, it later spread to other countries and continents. In the 19th century, there was another wave of the industrial revolution, which was marked by advancements beyond those in the first industrial revolution. Here the emergence was that of electricity and oil. It took place tween 1870-1960 and saw great changes from those in the previous industrial revolution. During this period, other nations joined in the industrial revolutions. Countries like France, which were before plagued by political instability, would now venture into the revolution and developments. Other countries that joined in were Russia and Japan who made progress in the industries that they opened within their states. Germany was now overtaking Britain in the industrial front while the United States was growing rapidly in the sector. The boost that they had gotten in the 18th century was now paying off, and they were coming up with new ways to advance their developments. Unlike Britain, who had already invested in the industrial revolution, the other countries like the uni9ted states were starting in their invention and finding grounding within the economy, which gave them an advantage.

Notably, the better part of the second industrial revolution was marked by technological change that was not experienced before. Iron melting processes advanced and now used new and more effective technologies. During this period, internal combustion engines were invented, which facilitated the workings of the machines they had. For instance, in the 1880s, Gottlieb Daimler led to the invention of a gas-powered engine. Before, they depended on steam engines, but now they had an alternative that was less polluted and more reliable. In the same time frame, there was the invention of an oil-mixed powered engine. With the advancements within the internal combustion engine, power could be transmitted even beyond factory lines. That meant that there was more excellent coverage, which promoted better and more growth and development within the nations. The emergence of electricity was a significant milestone in the ways that things were done within the countries (Allen, 2009). Now every sector within the economy was changing. There was more production of clothes, advancements within the construction sites, machines that made baking as well as other areas like ice-cream making easier. The innovations went beyond the textile industries, and shoe manufacturers were in a better position too. With the advancements made, shipping was less hectic and less labor-intensive, which means that they would now load more within a short time. Generally, this increased the productions per capita, which was great for the economic developments within the different nations.

Mass production increased as now they had various machinery to their disposal. There was the emergence of typewriters, sewing machines, and even firearms. Communications were also significantly affected during the second industrial revolution. Graham Bell invented the telephone, which enhanced communication between people, especially those who were not together; it was now possible to call someone who was away and now how they were doing. Telephones also revolutions the world of trade. Now, suppliers and buyers could easily communicate without the need to use traditional methods. Other inventions include perfection on the concept of the light bulb, which promotes the use of electricity. With the new energy source, it was possible to do so much as it was more durable and reliable when compared to other resources like coal or even one of the significant ways that most economies survive. That is why the more advancements they made during this period. Everything that needed to be moved was dependent on the modes of transportation. That is why, with the new technologies within the second industrial revolution, came a significant change within the transportation sectors.

At the time, most of the transport system was dependent on the railroads that they ah, that is why the industrialized countries started by laying the tracks within their states. By now, most of the industrialized countries had colonies that they were running. When they were done with the railroads building within their land, they moved to their colonies to find it easier to move the raw materials they used there. In the case of Britain, they build a railroad from Cape to Cairo, which was vertical across Africa. That is from Egypt to South Africa. Another primary source of their transport was the sea and the oceans. That is what prompted the building of the canal, which would allow the movement within the waters as long as the countries wanted to transport something. Among the canals, we had the Panama Canal, the Suez Canal, and even the Kiel Canal. It was also during this period that the Wright brothers invented airplanes. Later on, there was the growth and invention of the commercial airlines where the rest of the population could travel by air if they could afford it. With the gas engine that had been invented, it was easier to revolutionize even the road transports. Countries had come a long way from traveling on animals to now the use of devices like trains and even airplanes. Under transportation, automobiles and airplanes were the most prominent achievements and advancements that were made. In as much as most of the developments were within the industrial areas, the revolution did affect other sectors. With the growing population, the new techniques of farming provided food for the people. Social changes were significant, especially with the emergence of cities and towns.

**Third Industrial Revolution**

The better part of the late 20th century, there was an insurgence in other discoveries and innovations. It marked the thirds industrial revolution, which was marked by mainly the Discovery of nuclear energy. Electronics became in use, especially as electricity had been discovered within the 19th century. Now, people relied greatly on the electronics, the devices that they had access to. Another area that saw a great boost within this period was the communications where the telephones were now advanced. Productions became more automated, unlike the previous centuries. Since then, there has been a breakthrough in things within the industry levels as well as the other sectors. Today, the society that we live in is well connected due to the advancements in technology and the internet. Simultaneously, we have electricity-driven trains and even driverless cars, which were something but a dream in the 19th and 20th centuries. When Britain made the first step towards industrialization, they opened up the world to a scene where they could do anything and make progress. It was the sign that they all needed so that they could tap into the innovations and ideas and came up with a society that no depends on machines and technology to do their work unlike before in the agrarian periods when it was the humans and the animals in every endeavor.

**Implications of Industrial Revolutions**

Observably, the industrial revolution had effects in various sectors within the society. There was the economic changes, the social change as well as political changes within the countries.

**Social Implications**

The emergence of industries meant that now the people would concentrate and invest in more than the agricultural aspect. That is why there was the growth of cities and towns. Here the people depended on working on the industries for their survival while in the rural areas, they continued with the agricultural pursuance. With mercantilism, there was an increase in the statuses, especially for the middle class. When they invested in the factories, they got the chance to make more money and get wealthier. With increased earnings and wealth accumulation, there was an increase in leisure time. As long as people have disposable income, then they can indulge in leisure and recreational activities. With the advanced transport systems, it was made easier for people to travel to other areas for leisure. As the movement to urban areas increased, the more the population grew. Now they had various ways of providing for their families. Women were empowered as they started working in factories even though they were paid less than the men; it was a step towards being empowered as now they were considered part of the workforce. The research was stimulated, and since then, so many other discoveries were made in terms of science among other sectors (Cunningham, 2016).

All in all, we cannot overlook the negative effects that it had on a social level. With advanced ideas and innovations, they were able to make weapons and arms which they used for wars. Therefore, there was an increase in wars. Economic insecurities increased as now the countries had to compete with others to get ahead. With the increased population and capitalism, there was an increase in slums, especially in the urban areas, as they would not afford to pay for the housing.

**Economic and Political Changes**

Considerably, then trade system s increased and expanded on international levels for most countries. There was the mass production of goods as well as the growth in the economy. Living standards increased even though with time, the levels of unemployment increased due to the overtaken by the machines. Capitalism is one of the ideologies that grew with the increased industrial revolution. Democracy grew and spread to most of the countries, which increased government involvement in social matters and dealings. At the same time, the business people had a chance to bloom and grow in power as now they owned most of the factories and manufacturing companies that were in existence. With time, they also owned their automobiles; among other things, some of them even got the chance to run towards owning most of the properties within the said towns. The industrialized nations grew greatly in power within the globe.

**Conclusion**

The transformation of societies from agriculture to industrials has come a long way and influences how we live. Within the current economy, most of it is dependent on the industrial sector. While it has brought forth some issues like global warming due to the gasses released and resources used, it has helped a great deal in the advancement of the globe. The inventions that were done in the 18th century have given way to better innovations and inventions in the 2q1st century. For instance, today, people are using smartphones to communicate, and the ideology has evolved from the telephone made by Graham bell. Therefore, history plays a great role in the future and even the present that people are living in. Now we can live in the internet of things, and it all started with one step.

**References**

Allen, R. C. (2009). The British industrial revolution in a global perspective. Cambridge University Press.

Cunningham, H. (2016). Leisure in the Industrial Revolution: C. 1780-c. 1880. Routledge.

Fernihough, A., & O'Rourke, K. H. (2014). Coal and the European industrial revolution (No. w19802). National Bureau of Economic Research.

Hudson, P. (2014). The industrial revolution. Bloomsbury Publishing.

Stearns, P. N. (2012). The industrial revolution in world history. Westview Press.

Wrigley, E. A. (2010). Energy and the English industrial revolution. Cambridge University Press.