

The Origins of the Industrial Revolution – 1750-1850 – Several Revolutions in One

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The term Industrial Revolution is used to describe the changes that took place in Great Britain as from the 1750s onwards, although most historians agree that the process was evolutionary rather than revolutionary in character. The phrase, however, has lingered on and refers to a very long period which has been divided into different phases for the sake of study, hence, the title of this paper. As to the subtitle, the first stage of the Industrial Revolution included several other aspects, so much so that it could be more appropriately called the economic and social “revolution” of the 18th century. Therefore, the word industrial should not overshadow the other changes that also contributed to the rise of new working and living conditions in Great Britain, the country that pioneered the whole process for several decades. The purpose of this essay is to look at all the “revolutions” that coexisted at the time, and to focus on the way in which they affected one another, becoming the causes as well as the consequences of each other.

The need to produce more, which led to the invention of the steam engine and the heavy machinery that had to be installed in special buildings called factories (from the original word manufactory), was partly the result of the rise in population, the so-called “Demographic Revolution.” Research carried out by the Cambridge Group for the History of Population and Social Structure led by E. A. Wrigley and R. S. Schofield is conclusive.

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The population of England was fairly static for the first half of the eighteenth century, but it then grew from 5.7 million in 1751 to 8.7 million in 1801 to 16.8 million by 1851. Scotland and Wales also experienced demographic growth, but not at quite so high a rate... (Morgan, 1999, p. 5)

There are several reasons for this growth such as the tendency for people to marry at a younger age particularly in the country, the improvements in medicine that included the invention of vaccines, more widespread habits of cleanliness, and a drop in the death rate, especially in the infant mortality rate. Besides, there were no longer deadly plagues that reduced the amount of population drastically, which had been so common in the past. G. M. Trevelyan points out another cause of the Demographic Revolution:

... an improved standard of living which may to some extent be attributed to cheap goods produced by the new mechanical inventions. (Trevelyan, 1972, p. 448)

This is a clear consequence of industrial growth, which shows the way in which the developments in this age were closely connected.

As to the consequences, the rise in population resulted in the larger labour force that was necessary to satisfy the demands of the growing number of factories that were being set up especially in the north and west of England, where the coal mines provided the factories with the fuel the steam engines required.

Factories proliferated in the sixty years after 1770: by 1835, for instance, there were 1,113 cotton mills in Britain (...) and 1,333 woollen and worsted mills. (Morgan, 1999, p. 40)

Going back to the causes of the Demographic Revolution, another one coexisted with the Industrial Revolution, namely the "Agrarian Revolution." According to Kenneth Morgan, the evidence that the fall in the death rate was due to improved nutrition and diet is not conclusive. However, agricultural production did increase thanks to, among other techniques, the widespread use of crop rotation and the elimination of fallow (uncultivated) fields, the use of fertilizers, and the cultivation of fodder crops. The popularity of turnip as a rotation crop for cattle meant that animals were better fed so that they could produce more and better milk and meat. Besides, it was no longer necessary to kill many of the animals at the onset of winter, the usual practice

in the past when there was not enough food for the whole livestock to survive and the meat obtained was kept in salt. Now there was fresh meat all year round. From all this, it can be concluded that there must have been some kind of improvement in the diet of at least part of the population. The lack of sufficient data corresponding to the early period of industrial development probably explains why the evidence available is inconclusive.

The Agrarian Revolution had other consequences such as the need for fewer workers on the land due to some of the new methods and to the enclosure of fields that had begun in the past but speeded up in this period. In order to try out the new techniques, landowners wanted to put an end to the old system of open fields, asked Parliament to implement enclosures and put up fences as soon as they received their plots of land. This process was responsible for gross social injustice since many poor peasants were given small holdings that ended up being sold so that Parliament could be paid for its services. Another situation that forced those peasants to sell their land was the fact that they lacked the capital that was necessary to carry out improvements if the field they had been granted was not suitable to be cultivated. Those peasants became landless labourers looking for jobs alongside the people that did not receive any land because they had no rights to it. Those were the cottagers who, until that moment, had been allowed to use the common land that was shared by everybody and that disappeared with enclosures. Some of those unemployed workers remained in their localities, depending on poor relief provided by the existing Poor Laws, but others emigrated to America and many moved from the rural areas to the new industrial zones, where there were plenty of jobs being offered. Needless to say, whole families had to leave their villages behind, a situation that upset their daily lives, but at least they managed to escape from unemployment, which did not become an issue at a national level until the outbreak of the French and Napoleonic Wars disrupted the economy and affected work in many of its aspects.

Thus, unemployment on land resulted in a shift of population from the southeast to the northwest, where the factories were being set up near the coalfields that provided the fuel for the steam engines that made the machines move. Gradually, cities developed round factories leading to the appearance of a new way of life. "Urbanism" together with the new type of work in the factories became the most significant social consequences of the Industrial Revolution.

Lancashire towns such as Oldham, Blackburn, Bolton and Ashton-under-Lyne grew rapidly in the nineteenth century partly

because of the construction of cotton mills and their lure of mass employment. Manchester was so much imbued with the trappings of the industry that it became known as "cottonpolis". (Morgan, 1999, p. 5)

Needless to say, it is no use producing more if those products, particularly perishable goods, cannot be transported properly. This was not a problem either, because the "Revolution in Transport" made it easier to distribute both industrial and agricultural production faster and at lower costs. The changes in transport involved the improvement of the surface of the roads and dock facilities, the building of canals, and, as from the 1830s onwards, the building of railways, perhaps the best symbol of the new era. In turn, railways affected industry, in particular the iron industry, which grew enormously thanks to the need for iron used in the construction of locomotives, tracks and so on.

Better means of transport contributed to the improvement of the living standards of society. This last statement seems to contradict the widespread concept that the Industrial Revolution led to unacceptable living and working conditions. However, if we look at the changes from a different perspective, we will discover that there were unexpected improvements. In the past, it was common for harvests to be lost for different reasons or for diseases to kill animals, which led to famine in the usually self-sufficient villages. Shortages in one area could not be relieved by extra production in others for two reasons. Firstly, the old methods of agriculture, such as leaving a field fallow to enable it to recover fertility, made it difficult to produce large quantities of foodstuffs. Secondly, even if there were surplus products in the past, they could not be easily carried to areas in need of them because of the poor means of transport available at the time. Now with more production and improved transport, the possibility of famine was reduced. Under the new conditions, population went on growing into a virtuous circle, since now more people required more products, more factories had to be set up, production increased and was more easily and cheaply distributed, and commerce went on growing both at domestic and overseas levels.

The growth of foreign trade had already started in the Middle Ages as a consequence of the Crusades, and had speeded up with the development of capitalism and the foundation of European colonies in America. Britain had become a great commercial power by the 18th century, and her overseas profits provided the capital that was invested in the new industrial ventures, which, in turn, fed trade with their products. Some interesting data provide evidence for this.

In 1752-54 English exports were worth £11,909,000 (...) By 1804-06 British exports had risen to reach £51,069,000. (Morgan, 1999, p. 68)

In 1750 woollens were the leading export commodity, as they had been for centuries, but their dominance was cut back after 1800 by the rise of cotton manufactured goods. In 1784-86 textiles accounted for 46 per cent of British exports (...) In 1844-46 textiles made up 69 per cent of exports ... (Morgan, 1999, pp. 68-69)

The term “Commercial Revolution” is commonly used to identify this process.

Meanwhile, as part of another virtuous circle, overseas trade encouraged industrial development. Quoting K. Morgan again,

Without markets in the colonies, British industries would not have had so much incentive for rapid expansion at that time. The large trading bowl of Britain’s overseas trade became vital after 1750 for industrializing areas because it gave added incentive for manufacturers to quicken the productivity of textiles, metalware and hardware through extra employment, the division of labour, and improved commercial organization: in this way supply and demand intermeshed. (Morgan, 1999, pp. 74-75)

Industrial development led to further increase in commerce and vice versa.

It is clear that all the movements mentioned above were closely intertwined. The country became a huge factory that flooded Europe and the colonies with industrial goods that were in high demand, while a new type of society emerged, with far-reaching consequences that are still part of the present day.

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