

The Origin and Importance of the Industrial Revolution

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The expanse of the Industrial Revolution marks one of the greatest transitions of the modern era. It was a time when an exploding population, innovation, and social mobility were the major talking points of the world. Cities arose from nothing, and economies grew. Nowhere was this impact felt more so than in Britain. Attributed by virtually all historians as the birthplace of the Industrial Revolution, the British Isle at this time lead the way in all manner of areas, including textiles, agriculture, and of course industry. Countless historians and economists have put forth their views and theories on the period, and with these various theses, come the respective opposing sides to the question of its importance. That single question has occupied the historical world for much of the modern age, and most of those differing perspectives are acknowledged in *The British Industrial Revolution In Global Perspective* by Robert C. Allen, *The Industrial Revolution* by Pat Hudson, and *British Industrial Revolution* by Joel Mokyr. All three publications attempt to answer whether the Industrial Revolution was as revolutionary as classically understood, though by different methods and with differing conclusions. By ascertaining this point, the reader can reach a better understanding of the impact that the so-called revolution had on society as a whole. By examining each of the main points argued by these various historians, this paper seeks to determine the popular theory and view of the Industrial Revolution.

Robert Allen's book uses collected data and statistics along with supporting documents from other historians and individuals from the time to establish his main theme. Allen saw the various industries and innovative technologies as important, but to him the main reason for a

British Industrial Revolution was that it simply made economic sense. It was economically viable and possible, whereas it was not worth it for other nations to convert to all the industrial transitions that accompanied this dramatic shift. Allen's book places the British Industrial Revolution into a global theme and takes into account the accompanying statistics from various countries around the world. He thus demonstrates exactly how Britain ranked in comparison to other countries in terms of population, agricultural productivity, natural resources, and general social demographic factors.

The first of Allen's major points for the Industrial Revolution being British was that the necessary technologies could only be adopted in Britain where "labour was expensive and coal was cheap" whereas elsewhere "wages were low and energy dear."¹ This argument is fairly self-evident, yet extremely important in understanding part of the reason why the revolution occurred in the first place. Because wages were high, the industry of Britain needed a way to stay competitive, which meant paying labourers less, or finding another source of labour altogether. The abundance of cheap coal in Britain provided that avenue since the creation of new macro-inventions involving the use of coal allowed British factories to not only remain competitive, but allowed early technologies to become even more efficient. This in turn permitted British industry to pull ahead of the competition abroad.² All this is not to say that other countries were not inventing. France also had its inventions, but as Allen states "industrial development occurred first in Britain for reasons that had to do with science and culture, not simply or exclusively with raw materials, capital development, cheap labor, or technological innovation ...

¹ Robert C. Allen, *The British Industrial Revolution In Global Perspective*. (Cambridge University Press, 2009), 2.

² A macro-invention is the main technology (i.e. Water frame) whereas a micro-invention is the added elements and tinkering that come about as a result of trial and error or simply different methods of operation across the country. (i.e. more rollers to increase the thread count).

the British were practical.”³ What Allen means by this is that the British public was for the most part disenfranchised from the typical superstitions and beliefs that plagued most of Europe. Their ideas were rooted in reasonable logic and science allowed them to be useful and extremely economic.

Another aspect that Allen builds on is that prior economic success was almost certainly a prerequisite for the Industrial Revolution. Only such successes could create the high real wage and cheap energy that so characterized Allen's view of the period. High real wage not only gave British businesses an incentive to use alternatives to human labour, but it also brought about an increase in the literacy and education of the general populace. “The resulting high rates of literacy and numeracy contributed to invention and innovation.”⁴ Better wages meant parents could give better education to their children which meant a greater number of innovative individuals who could create the technologies we today associate with that period.

One dramatically different theory Allen proposes is that the typical idea that advances in agriculture drove the growth of cities should be completely reversed. While the former is largely true, he sees a much larger causal relationship that encompasses the “expanding world trade, to the growth of urban manufacturing, to rising agricultural productivity, and, finally, to large farms and enclosures.”⁵ This viewpoint is in stark contrast to many of the modern standpoints, though it does have some merit to it. If, as his data attempts to show, the growth of the economy and cities began before the serious agricultural technologies and changes had begun, then it follows that the reverse should also be true.⁶ Allen stresses the importance of the high wage and cheap energy throughout his book and touches on them constantly by exploring their separate impacts

³ Allen, *Industrial Revolution In Global Perspective*, 9.

⁴ *Ibid.*, 15.

⁵ *Ibid.*, 58.

⁶ Such changes as field enclosure, new crops and higher yields etc.

and origins as a way of building up to the 'how' of the Industrial Revolution.

The Industrial Revolution marks a fairly one-sided account of the changing times. Hudson looks to explain the causes of the Industrial Revolution by leaning heavily on the accounts of others before him. His main argument then is that the Industrial Revolution was not just a period of greater industry, but that it “was a period of marked economic and social transition.”⁷ After introducing a few of the key theories regarding its origins, Hudson turns to the major perspectives that are most popular today. A quote he uses from a paper by Joel Mokyr clearly identifies what he believes is the importance of the Industrial Revolution: “More changed in Britain than just the way in which goods and services were produced. The nature of the family and household, the status of women and children, the role of the church, how people chose their rulers and supported their poor, what they knew about the world and what they wanted to know – all of these were transformed.”⁸ This statement, taken from Mokyr, reinforces Hudson's main argument that the Industrial Revolution was a significant transition period in social and economic terms. It not only heralded technological advances far greater than imagined, but it also created a new social order. With the dramatic shift of people to the cities, the rural peasant society of Pre-18th century Britain no longer dominated. The focus of people turned to the new towns and manufacturing cities, where a whole new set of problems and social demographics arose, such as alcoholism, a general change in living standards (whether better or worse, the book does not reach a verdict), and many other such alterations.

A collection of smaller works edited by Joel Mokyr in *British Industrial Revolution* possesses much of the same arguments and theories regarding the origins and the importance of the Industrial Revolution. In the analysis, it became clear that all of the authors approached the

⁷ Pat Hudson, *The Industrial Revolution*. (New York: Edward Arnold, 1992), 32.

⁸ *Ibid.*, 4.

topic of the Industrial Revolution differently. The first chapter, entitled “The New Economic History and the Industrial Revolution” is a piece by Mokyr. His writing largely focuses on stepping away from the idea of the revolutions as a radical event, but rather as “a series of events, in a certain span of time, in known localities, which subsequent historians found convenient to bless with a name.”⁹ This theme is fleshed out through the following topics as Mokyr seeks to present the Industrial Revolution as a significant series of events, examining the build-up, the countless innovations developed along the many years, and the 'spill-over' effects the changes have had on society.

By establishing the views of four main schools of history (the social change, industrial organization, macroeconomic, and technological schools), Mokyr seeks to provide a solid grounding from which to establish his own view. Following the styles of Hudson and Allen, Mokyr uses examples of the technologies that so clearly marked this period and discusses their varied influences and immediate impact on the society at large. Like Allen, Mokyr stresses the importance of the micro-inventions like the various additions to the steam engine and mechanized spinning. However, Mokyr uniquely took the important idea of macro and micro-inventing and created a working definition of the Industrial Revolution with it. This definition is: “A clustering of macro-inventions leading to an acceleration in micro-inventions. The macro-inventions not only increased productivity at the time but opened enough new technological vistas to assure that further change was forthcoming ... a gradual diffusion, adaptation, improvement, and extension of the techniques developed during the Industrial Revolution.”¹⁰ This statement, along with the countless examples of inventions offers a more technological view of the Industrial Revolution than the previous authors. The broader views of the former books are

⁹ Joel Mokyr, “The New Economic History and the Industrial Revolution,” in *British Industrial Revolution*, ed. Joel Mokyr. (Colorado: Westview Press, 1993), 2.

¹⁰ *Ibid.*, 22-23.

sharply contrasted by Mokyr's in-depth examination of the effects of the many innovations occurring over the century and a half of industrialization.

The second chapter in this collection is a piece by David Landes titled “The Fable of the Dead Horse, or, The Industrial Revolution Revisited.” This chapter expresses much of the same material as the countless other publications regarding the Industrial Revolution, but unlike some of the historians, such as Mokyr, Landes does not ask questions, but seeks to answer those that have already been asked. A common critique by modern historians is the apparent exaggeration of the rates of change in industry during this time. Many historians – especially of the New Economic History school – leave it at that according to Landes. They agree it appears exaggerated, and move on. Landes on the other hand took it further. He recognized that they were lower than today’s rate of change, but “they were certainly not low by comparison with what had gone before.”¹¹ This investigation is characteristic of Landes's writing, and as a result of his extensive research he reaches a definite conclusion as to the over-arching question of the Industrial Revolution's validity. In his eyes, the Revolution and its spill-over events were exactly that, a revolution.

The final article examined in *The British Revolution* was titled “Agriculture and the Industrial Revolution: 1700-1850” by Gregory Clark. This paper is perhaps one of the most unique ones researched as it deals with the agricultural revolution in conjunction with the Industrial Revolution. Typically, the agricultural revolution is almost universally recognized as both a key contributor to the Industrial Revolution's success, and also as a recipient of its innovations. Therefore, most historians place it as starting prior to the start of the Industrial Revolution, or before the end and continuing some time into it. Like all the historians involved in

¹¹ David Landes, “The Fable of the Dead Horse, or, The Industrial Revolution Revisited,” in *British Industrial Revolution*, ed. Joel Mokyr. (Colorado: Westview Press, 1993), 156.

this project, data and statistics play an important role in Clark's analysis of the symbiotic relationship between the two revolutions. By playing on the reader's knowledge, he tries to imagine what the world would have looked like had there been only an Industrial Revolution, and no agrarian transformation:

The importance of the agricultural revolution in creating the modern world is, indeed, perhaps greater than that of the Industrial Revolution. For suppose all that had happened to the world was an industrial revolution. Industrialization would have caused a fall in the prices of industrial products relative to those of agriculture ... most of the population would have still laboured in the agricultural sector. Consequently, urbanization would not have occurred. Further, the great population growth associated with industrialization would have been impossible if yields per acre did not increase.¹²

From Allen's key theme of high wages and cheap energy to Hudson's conclusion of the importance the revolution had on both the social and economic future, there exists a wide range of views and theories regarding the Industrial Revolution. Its origins appear a little less murky than perhaps the start of the paper, and its importance has hopefully been illuminated. With so many voices, it is likely that there might never be a clear consensus on the impact the Industrial Revolution had, or will have on society. It can be said with certainty though, that without the Industrial Revolution, society as we know it would be vastly different.

¹² Gregory Clark, "Agriculture and the Industrial Revolution: 1700-1850," in *The British Revolution*, (Westview Press, 1993), 228-229.

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