

Did Colonialism Spur European Industrialization?

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Abstract

This article specifically addresses the role of colonialism in the European industrialization. In order to examine this process, the article used secondary sources of data and employed desk analysis to make replicable and valid inferences from texts. Unlike the conventional wisdom which claims the phenomenon was solely driven by internal developments in Europe, this article argues that external factors, specifically colonialism, had an important role in fueling the Industrial Revolution in the 18th century, perhaps through the supply of land, raw material, labor force, and being a market destination of industrial products for the European countries, particularly Great Britain.

Keywords: Industrial Revolution, Colonialism, Capital Accumulation.

Introduction

Among all the crucial episode that have been regarded as separating “modernity” from previous times, the most familiar and enduring have been the Industrial Revolution.

Findlay and O’Rourke The Industrial Revolution was the most remarkable phenomenon in the history of the world economy [1]. Hartwell notes that “it is one of the greatest discontinuities of history”. According to the conventional wisdom, industrialization of Europe and the world started with the Industrial Revolution in Britain (Cameron 1975, p.75) [2].

O’Brien and Williams defines the Industrial Revolution as “a complex phenomenon which involved the application of machinery to production, the introduction of new energy source to power the machine, and the reorganization of the labor force into factories” [3]. Until now, questions surrounding this phenomenon became the bone of contention among economic historians. The debate ranges from the timing to the root causes of the Industrial Revolution [4]. Precisely, economic historians have no unanimous agreement in both cases. In relation to the causes, Hartwell points out that economic historians suggest varieties of distinctive approaches in explaining the political economy of the period which resulted in the rise of Western Europe in the global political economy and they try to elevate one factor to the role of the leading cause [2].

The timing of the industrial revolution is not my major focus in this article. However, the fast growth of industrialization was believed to occur in the year between 1750 and 1850 [5]. According to Vries

and Ferguson economic historians AndreGunder Frank, Bin Wong (2000), and Kenneth Pomeranz mainly agree on the existence of global economic parity among the world advanced economies of eighteenth-century Europe and Asia. However, despite their striking similarities the former started to experience sustained industrial growth. Therefore, certainly, there must be one or more reason for the rise of Europe, particularly Britain which was said to be the first mover in the Industrial Revolution [4, 6, 7, 8, 9].

In the frame of a much holistic question, why did the ‘West’ industrialized first, this article specifically addresses the role of colonialism in the Industrial Revolution. The underlining argument of the article is that colonialism has had an important role in fueling the European industrialization.

In order to explain the argument, the article first introduces the theoretical framework of the study. Then, it proceeds with addressing the competing positions regarding the causes of the Industrial Revolution. Finally, it analyzes some of the salient features of colonialism and their contribution in spurring the Industrial Revolution.

Theoretical Framework

Accumulation of capital is one of the theoretical framework economic historians implicitly or explicitly apply to explain the rise of Europe, the Industrial Revolution. While dealing with this theory the work of Rosa Luxemburg, ‘*The Accumulation of Capital*’ remains the most crucial. Her book was mainly regarded as a solution to problems which arises in the work of Karl Marx (1971), ‘*Capital: A Critical Analysis of Capitalist Production*’ [10, 11]. In

her book, Luxemburg states that Marx's diagrammatical explanation of "enlarged reproduction" was short of explaining the historical process of capital accumulation and claims that "real life has never known a self-sufficient capitalist society under exclusive domination of capitalist mode of production. Rather, capital requires the means of production and labor force of the whole world for sustained accumulation and without the resources and labor of the whole world, it cannot manage the accumulation of capital [10]. Indicating looting of colonies by capitalists, she argues that the non-capitalist countries market is "a historical milieu of accumulation" and capital moves there to fulfill its requirements (ibid., pp.345-46).

The explanation below entirely focuses on her work under section III, 'The Historical Conditions of Accumulation', subsection entitled '*The Reproduction of Capital and its Social Setting*' (pp.329-346).

In her detailed explanation on capital reproduction, Luxemburg notes that there are three important requirements of accumulation of capital. These are surplus value, access for material elements necessary for expanding reproduction, and variable capital. Luxemburg assumes that surplus value is realized outside the capitalist sphere, thus through exporting of its production to others, non-capitalists. This will be augmented by new demand among the non-capitalist which further intensifies the expansion of their production. But, the realization of surplus value makes only part of the reproduction process. Second, access to material elements of capital for the expanding production remains an important requirement for capital accumulation. For continued expansion of production, there needs to be an intensive exploitation of the constant capital, means of productions. The exploitation of constant capital absorbs the ever-growing number of the labor force which in turn increases the quantity and value of the production. She states that, by joining itself with other originators of wealth-labor and the land "capital acquires a power of expansion that permits it to augment the elements of its accumulation beyond the limits apparently fixed by its own magnitude" [10].

Luxemburg argues that if the capitalist mode of production is entirely dependent on the elements of production found in its own territorial limit, its progress to the current level would have been impossible. The advancement of capital accumulation requires raw materials for its expanding need from the non-capitalist sections and its output should also be traded with those which do not produce it. Therefore, international trade is a major requirement for the very existence of capitalism.

The third element is the variable capital, capital which is essential to realize the supply of labor for accumulation. The increasing amount of variable capital which supplements accumulation should be manifested through the growing number of workforce. She asks, where can this additional labor found? According to her, only the very existence of the non-capitalist societies can ensure the supply of extra labor needed for the reproduction of capital.

Competing Positions On the Causes of the Industrial Revolution

If we learn anything from the history of economic development, it is that culture makes all the difference.

Landes To find the really germane factors in economic, social, and cultural "development," we must look holistically at the whole global sociocultural, ecological-economic, and cultural system which itself both offers and limits the possibilities of all of us. [12]

Andre Gunder Frank (1998, p.28) *European science, technology, and philosophical inclination alone do not seem adequate explanation and alleged difference in economic institutions and factor prices seems largely irrelevant.*

Pomeraz The causes of the industrial revolution were subject to intense debate among economic historians. The debate has been diverged among those who argue the root of the industrial revolution lay primarily within the nature of British, broadly Europe, society during the period of Enlightenment, and those who argue that Europe's relationship with the rest of the world were a crucial cause helping them make an Industrial breakthrough [1, 3, 4, 9]. Thus, these explanations consisted of suggesting numerous variable, the relationship between variables or the dominant role of one single variable to explain the cause of the Industrial Revolution [2]. David Landes, Andre Gunder Frank (1998), Roy Bin Wong (2000), Kenneth Pomeranz, and Jack Goldstone (2000), to mention few, are among the recent notable authorities in the field having different views in explaining the cause of the Industrial Revolution (Ferguson 2009, p.128)[9, 12].

As Hartwell asserted, economic historians have developed their hypothesis which differs from one another at least in their explanation of the role of "chief cause" which makes students much more confused while trying to understand the root cause of the Industrial Revolution [2]. I am not exceptional in this regard. The difference among economic historians has been continued and the confusion is still there. Therefore, prior to analyzing the role of colonialism in the Industrial Revolution, it is worthy to discuss the competing positions in brief.

David Landes

To begin with David Landes, *The wealth and Poverty of Nations: Why some are so Rich and some so Poor* (1998) and *The unbound Prometheus: technological change and industrial development in Western Europe from 1750 to present* (2003) are two of his notable books in this field. In his first book, Landes notes that "the very notion of economic development was the Western invention" [12]. For him, the Industrial Revolution resulted from European internal development and he attributes this development to cultural values, social institutions and political practices within Europe (Ferguson 2009, p.128). In doing so, according to Vries, Landes almost completely ignores the role played by other variables in the rise of the West. Thus, Landes argues the Industrial Revolution was part of the natural process of growth in the European trade, evolving technological knowledge and accumulation of capital which are the fruit of the distinct European cultural openness to new inventions and progress [4, 6].

In explaining why Britain industrialized first, Landes states that "Britain had the makings, but then Britain made itself". He further notes that this goes beyond the material advantage Britain had, which he claims others also had it, to the nonmaterial values and institutions (ibid., p.215) [12]. He notes, the protection of prop-

erty right is one of the unique attributes of the Western European culture and maintains that it made Western European civilization different from the rest [12]. Furthermore, he argues that the rest are “hostile to change and lacks the protection of private property right” (Ferguson 2009, p.130).

Andre Gunder Frank

Frank in his work *ReORIENT: Global Economy in the Asian Age* (1998) strongly opposes much of the contemporary social theorists view and Landes’s argument of the uniqueness of Europe (Ferguson 2009, p.129). He claims that their views are Eurocentric and biased. For Frank, Europe in the early modern period was backward compared to Asia, China in particular [13]. He argues that in the early modern period, before 1750, Europe was relatively backward than Asia in terms of technology and had nothing to offer for the market of Asia except for Gold and Silver appropriated from the New World (Ferguson 2009, p.130).

He refutes the culturist view and proclaims that the global economic system enabled Europe to become a dominant force circa 1800m, but not their exceptionality (Ferguson 2009, p.129). He believes that institutions are not so important, rather economic forces derived technological change [13]. Thus, for him it was economic forces, not the exceptional European cultural values, that brought about the Industrial Revolution” (ibid., p.442).

He disproves the idea of Landes as a Eurocentric myth and assumes that Asia was a dynamic center of world economic system having a dominance in productivity and competitiveness (Ferguson 2009, p.129). For him, “the rise of the West is really derived from the prior development of Asia” (Buch 1999, p.422) and the Gold and Silver that continued to flow from America was crucial to the expansion of trade, accumulation of capital and continuation of industrial development in the European cities and Ferguson 2009, p.130 [14].

R. Bin Wong

Wong in his book *China Transformed: Historical Change and the Limit of European Experience* (2000) came up with a comparative approach between Britain and China to explaining the cause of the Industrial Revolution in Europe (Ferguson 2009, p.131). He has much to share with both Landes and Frank but at the same time rejects some of their arguments. He focuses on internal development as a very important attribute for the Industrial Revolution, nevertheless, he argues that history reveals multiple pathways (Vries 2001, p.409 and [6,13]).

In discussing why Europe experienced industrial revolution and why China not, Wong asserts the difficulty of assessing which of the factors are much important (Ferguson 2009, p.131). For Wong, both China and Europe faced “similar challenges in production and allocation of resources” in early modern periods around the 1750s, but due to the distinctive political economies they established, Europe started to rise higher than China [13].

Wong is against the idea that capital accumulated from trade and resources amassed from the new World had significant importance in the industrial take-off in Europe, but he agrees that the boost in productivity caused by technological innovation of energy give

rise to Europe (Ferguson 2009, pp.132). However, he underlines that the phenomenon was sudden and did not necessarily related to existing culture in Europe (ibid., p.132).

Kenneth Pomeranz

Kenneth Pomeranz also hugely involved in this debate. His book, *The Great Divergence: China, Europe, and the making of the modern world economy* (2000) is notable in this regard. He combines the work of Frank’s globalist approach and Wong’s comparative analysis to figure out the cause which resulted in the Europe’s rise above its Asian counterparts (Ferguson 2009, pp.132).

He challenged the idea that “winners in the global economy emerge through internally driven process” (Pomeranz 1999, p.75). He combines the internal and external variables contributed to the rise of Europe and regards the role played by the peripheries very crucial for the Industrial Revolution [6]. Even if not in a bold way, Pomeranz acknowledges the role of institutions in the industrial revolution but, he overlooked the unique role of culture in industrial revolution (ibid., p.409). For him, the European political institutions and military capacity were important but the so-called exceptional advantage of technological innovation and property right fades up on a comparison with China, which he states in a better position than the European’s prior to the Industrial Revolution (Pomeranz 1999, p.75).

He employed comparative analysis to substantiate his argument. He asserts that, Europeans and Asians were at similar level of technological advancement, capital accumulation, population growth, market mechanisms, agriculture and ecology before the breakthrough in Europe (Ferguson 2004 [4, 6]). As far as Pomeranz was concerned, the major advantage the European’s possessed in the long-distance trade, war and colonization had brought fundamental difference and enabled them to maintain their progress in Industrial Revolution [6].

He basically identifies two major factors decisive for the Industrial Revolution. First, the advantageous location of coal fields near to industries in Britain and second, easy access for important resources from the colonies helped Europe to embark on the Industrial Revolution [4]. He argues that, of course, it had something to do with the technological innovations, but the important factors are “exogeneous” to the economy [15].

Colonialism and The Industrial Revolution

Numerous economic historians attempted to provide their own analysis of the causes of the Industrial Revolution. As we have seen in the debate above, there are some groups of economic historians who credits the prevailing culture of innovation, property right and institutions as a driving force behind the Industrial Revolution while some other claim European expansion to the peripheries fueled the Industrial Revolution in one way or another. However, the latter claim was subject to criticism by economic historians like O’Brien who argue the contribution of the peripheries to this phenomenon should not be exaggerated to the extent that it played a defining role [14].

Virtually, singling out one or two variables among the many factors contributed to the dynamics of the Industrial Revolution sub-

jects itself to various critiques. This has been evident in the works of many economic historians who have the authority in the field. One sided argument leads to a never-ending debate in case of questions against a particular position and counterfactual arguments. For example, what would have happened if Europe had no easy access to resources of the new peripheries? Could the technological innovation alone sustain the Industrial Revolution? How can we call the colonies decisive if, for example, capital accumulation and domestic supplies of food were larger in Europe? Acknowledging that the Eurocentric approach has an upper hand on the debate, unless it is the right balance of various factors, I believe that any selective argument could only make part of the whole dynamics of the phenomenon. My intention in this article is also nothing more than stating that colonialism had the helping hand in the Industrial Revolution, perhaps through the supply of land, raw material, labor force, and being market destination of industrial products. Hence, the means of capital accumulation needed for further expansion of industrialization.

British Industries and The Colonial Raw Materials and Labor Force

An increase in the production of industrial output, such as that started in the late eighteenth century Britain needs an equally great increase in the input of industrial raw materials required for the process of production [16]. According to the analysis made by Pomeranz, the Atlantic trade gave this advantage to Britain in that it provided access to cheap labor intensive resources produced with massive exploitation of slaves from Africa (Ferguson 2009, p.133). Findlay and O'Rourke further strengthens this argument by stating that the Industrial Revolution has close connection with British oversea expansion and trade [1].

In relation to access to raw materials, the colonies were very important in feeding the growing need of resources in British industries. A typical example for this could be cotton required for textile industry which is deemed to be groundbreaking in the Industrial Revolution. As Wrigley argues, after the discoveries of colonies in America, there was no hindrance in the supply of raw cotton needed to expand the production in the textile industries [16]. Colonies supplied not only cotton but also cheap sugar, tobacco, timber and other goods for European consumption [8]. Labor is another important resource required to produce the raw material in the plantations. So as to fulfill its demand for labor, according to Luxemburg, the British needed to exploit the work-force of other parts of the world [10]. She argues that "for the first genuine capitalist branch of production, the English Cotton industry, not only the Cotton from the colonies was essential, but also millions of labors shipped from Africa was ever more important" (ibid.).

With regard to the relation between the colonies and Industries in Britain, the backward and forward linkage created between them had a facilitating role to the Industrial Revolution. This statement was either implicitly or explicitly revealed by some of the economic historians. Plantations areas in the New World, according to Pomeranz (1999, p.85), are key in that they can buy industrial products from the core and its import and export could be counted to stimulate each other. He mentions the case of sugar whose large export resulted in more slave import to the plantation sites. William (1992, p.164) also strengthens this claim by arguing that the slave trade and slave plantations had created an extensive

backward linkage with the British Industries. For instance, the development of textile industry which was closely linked with the Industrial Revolution in the 18th century Britain was spurred by the export of textile goods which was used to purchase slaves from Africa and clothing for slaves on the plantations (William 1992, p.164) [17].

Hence, the relation (the forward and backward linkage) created between the British industries, especially the textile industries in the early period of industrialization, and colonies played its part in the expansion of industries in Britain.

Colonies Escaping Roots from The Resource Constraints

In his comparative approach to the 'Greater Divergence' between Europe and Asia, Pomeranz has made a rigorous analysis about the ecological constraints faced by Europe (Britain) and Asia (China) in the early industrialization period of the eighteenth century. He asserts that Europe has equally faced immense resource constraint with China as of 1800 due to the population and proto-industrial growth which he called the "Malthusian stress" [9]. However, he states that the wood crisis was solved by the emergence of coal which required technological breakthrough and geographical luck while the need of more fiber for cloth production was replaced by cotton imported from the peripheries (Ferguson 2009, p.133). With regard to the cotton imported from the peripheries, Pomeranz argues that the colonies were a massive ecological relief for the industrializing Britain in that "the land-saving import helped to sustain an industrial revolution that could otherwise have stopped on its own appetite for primary products" (Pomeranz 1999, p.86.). Findlay and O'Rourke also have praise on the trade with colonies for enabling the economies of Britain to escape from resource constraints [1]. They even claim that the technological innovation Britain had would not have a bigger impact if they wouldn't have worked within the Atlantic system of the source of raw materials. Thus, the expanding land-intensive production; cotton, sugar, grain, and other primary products, in the plantations provided Britain with the opportunity to become more specialized in the industrial production [9].

Moreover, in a century nearby 1800, peripheries were very important by providing a huge amount of land which would have been difficult to find based the then prevailing context of Britain apart from being an outlet for the surplus population from Europe, including Britain [9]. Therefore, taking into consideration the type of raw materials exported to Britain from the plantations and intensively exploited periphery lands, one can envisage the importance of the New World in shouldering enormous ecological responsibility required for the growth of industries in Britain. As Pomeranz (1999, p.93) argues, unless it was due to the oversea occupation, Europe, Britain in particular, would have lacked the "ecological breathing room that was required to complement the early industrial growth".

Trading with The Peripheries

Economic historians like Patrick O'Brien are skeptical about the importance of trade with the peripheries in the Industrial Revolution. In discussing the "Contribution of Peripheries" to the rise of Europe, O'Brien notes that trade between the core and periphery was not very essential and cannot be regarded as decisively im-

portant to the economic growth in Western Europe [14]. Putting aside my incompetence to be much critical to the work of O'Brien, his generalization was a bit harsh considering the opportunity Britain got for cheap primary products and labor in the peripheries in return to its finished products.

When it comes to trade, O'Brien and Williams neatly mentions the existence of crucial international dimension to the Industrial Revolution both from the supply and demand side in the textile industry [3]. In the supply side, the cotton needed for the expansion of textile industries came from the Caribbean's and the US while the production of this quintessential input was undertaken through the use of African's labor and the land of native Americans. On the demand side, it was the Western countries which created the market for the products of textile industries. Even if they didn't mention the peripheries role as a receiving end to the capital products, they indicated the importance of peripheries in supplying the raw materials for industrial production in Britain. Pomeranz (1999, p.86) also notes the importance of trade with the peripheries by arguing that the periphery was a different kind of trading partner which was essential to maintaining the increase in production by offering what the home market could not; ever expanding need of land-intensive raw materials at falling prices. But, his explanation is much focused on the ecological relief the trade provided for Britain than the profit it generated.

Luxemburg goes beyond both O'Brien and Williams and Pomeranz explaining the importance of trade with peripheries. She states that, for instance, the English cotton industry had been supplying cotton textile to the outside market including to the peasants of India, America, and Africa and the enormous expansion of the English cotton industry was thus founded on consumption by the peripheries along with the European market [10]. Therefore, whether it be as a supplier of raw materials which stimulated further production in British textile industries or market for the final product, peripheries had enormous importance to the Industrial Revolution. As Hartwell specifies, they have at least increased the total size of the market available to English producers [2].

Findlay and O'Rourke argue that by helping the economies of Britain escape from resource constraints, trade with the peripheries ensured that technological change transformed into more sustained growth experience than would otherwise have been possible and the slavery and plantation economy of the periphery was an integral part of this system. They question; What would have happened if there had not been colonies or slavery in the new world for the British early industries? But, Vries has a counter question for this; what is the role of the New World in the industrialization and economic growth of Germany, Italy, Belgium and even Japan? Vries is right to raise this question. Virtually, this clearly signals the very importance of technological innovation to the rise of the Europe in the 18th and 19th centuries [1, 6].

However, Vries's question cannot guarantee technological innovation alone could have enabled Britain to embark on the Industrial Revolution and maintain its growth. How could Britain be there without those intensively used land of peripheries and largely exploited African labor forces? An easy example could be, the "cotton famine" which was caused due to a war of secession in

America [10]. Luxemburg in her work states that shortage of cotton caused massive problem in the textile industry in Britain. But, due to the new plantation in Egypt, Britain has once again secured the raw material for its industries (ibid.). Could Britain home market (including the land and labor) have had solved the shortage of raw material required for textile industries would it have been not the case Egypt became a new source of cotton supply? The question will only lead to an endless debate. In fact, it is not surprising if historians question the role played by colonies in the Industrial Revolution as countries like Germany and Japan industrialized due to their technological innovations without copying the British footsteps. In this case, skepticism seems appropriate but, we should not dismiss the role of colonies outright while dealing with the first industrialized country, Britain.

Colonialism and Capital Accumulation

One of the influential arguments about colonies and capital accumulation was made by Eric Williams in his book '*Capitalism and Slavery*' [18]. His stance makes him different from many of those economic historians that are mentioned in this article as he goes to the very extreme of crediting the transatlantic slave trade for the Industrial Revolution. He argues that "the profit obtained from the triangular trade provided one of the main streams of that accumulation of capital in England which financed the Industrial Revolution" [18]. Of course, he is not alone in making such a bold statement. In reviewing the debate about the colonial source of capital and market, Jose Arrunda argues that; the commercial investments made in the colonies substantially and strategically contributed to the growth of Western Europe. They opened new areas for investment-areas essential for the growth and mobility and circulation of capital...the colonies did pay [19].

Arrunda's asserts that the colonies supplied not only very cheap labor and raw materials but also almost a free money which was used to trade with countries in Asia and the profit they derived from this trade facilitated technological breakthrough, for example, in Britain (ibid., pp.295-296). However, this kind of arguments have no wide acceptance over the years. For example, the work of Eric Williams was subjected to fierce criticism and reactions from British historians [1]. Patrick O'Brien who was very skeptical of the contribution of the Transatlantic Slave Trade in British wealth and income stated that, even if the slave trade was abolished two centuries earlier than 1807, it wouldn't have much difference to the British wealth and economy. But, his argument lacks greater vigor as he didn't suggest any substitute to plantation land, cotton from peripheries, and British overseas controls which are all dependent on the slave labor [1, 14].

O'Brien's doubt stems from his very concern over the profitability of the transatlantic trade. But, Pomeranz, who himself is not convinced of the importance of any profit obtained from trade with overseas occupations for the Industrial Revolution, states that the overseas exploitation had some role in the capital accumulation in the Western Europe [9].

In substantiating his argument, Williams states that the triangular trade has provided "triple stimulus" to the British industrial growth [18]. First, the slaves were purchased with the British industrial products, Second, they produced raw materials in the plantations

whose processing created new industries in England and finally, the existence of slaves and their owners created another market for industries in Britain. Even if I also doubt the leading role it played among other factors as Eric Williams asserted in his thesis, I agree that the profitability of the transatlantic trade and capital obtained from it had been an important part of the development of British industries. As Ferguson (2009, p.136) states revenues from the slave trade and production from slave labor were essential parts of the transatlantic trade and thus, important part of the Industrial Revolution.

Finally, O'Brien himself noted that "neither quantification nor more historical scholarship will settle debates about the significance of transatlantic trade for the Industrial Revolution" [8]. Indeed, as Crouzet asserts, the debate on the role of the colonies as a source of capital accumulation required for the Industrial Revolution appears to continue as lack of enough quantitative data hinders the creditability of different findings [20].

Conclusion

The inquiry about the root cause of the Industrial Revolution has been subject to widespread debate among the economic historians. While arguments claiming that the phenomenon was internally driven has got wider acceptance, the contribution of colonies in the Industrial Revolution has still remained questionable.

This article argued that, along with other various, i.e. technological, institutional and cultural, factors colonialism has fueled industrialization through the supply of labor for the plantations, raw materials for the industries in Britain, and market for the industrial goods. It had also a helping hand in escaping the ecological constraints which Britain has faced during the Industrial Revolution. Accordingly, the capital accumulated from the interaction with colonies has had a facilitating role in the Industrial Revolution. Part of the larger dynamics of the Industrial Revolution-which I have essentially neglected in this article was the technological innovation and institutional capacity developed in Europe, Britain. This is basically because of their widespread acceptance as determinant factors for the Industrial Revolution and their importance is not as much debatable as the role of colonies in the phenomenon.

Generally, borrowing the quote from Pomeranz, the article asserts "European science, technology, and philosophical inclination alone do not seem adequate explanation in explaining the complex dynamic of the Industrial Revolution". Thus, the colonies had also an enormous role in spurring the Industrial Revolution [7].

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