

Europe's Escape from the Biological Old Regime

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Abstract

What makes the present day so different to the past? The world we now live in is one that has escaped from what Robert Marks called the 'biological old regime'. The essay looks at three key case studies: expansion within the biological old regime, the escape from the biological old regime and the aftermath of the escape. Examining the ways in which the empires of Europe were increasingly forced to battle against this natural order to continue to expand in power, wealth and population and their eventual forced escape from it can reveal a lot about both the world of the past and the world we live in today.

I. Introduction

According to American 'world historian' Robert Marks, the biological old regime reigned supreme over humankind for millennia.¹ It was a natural order, which placed limitations on human societies and constantly challenged the strength of empires.² Around 1500, things began to change as European empires were pushed by their natural limitations towards 'escape' from that regime. Imperial expansion both within the regime and after the 'escape' was geographical, economic and technological in nature. Examination of the aftermath of the 'escape', and of the 'escape' itself, can throw new light on the nature of European imperial expansions. The biological old regime constrained the potential of empires through its environmental limitations.³ It was the ambitions of empires to continue to expand, both fiscally and geographically, that defined the nature of the clashes which dominated the last centuries of the biological old regime and pushed humans into a new world.

Marks' concept is an interpretation of French *Annales* historian Ferdinand Braudel's theory of the biological *ancien régime*.⁴ Braudel used the association of the French *ancien régime*, which the French people escaped as a result of the French Revolution, to define the limitations which nature placed on humans prior to the Industrial Revolution. In Marks' concept, the biological old regime 'depended on the annual

¹ Robert B Marks, 'The (Modern) World Since 1500' in J R McNeill and Erin Stewart Mauldin (ed), *A Companion to Global Environmental History* (Wiley-Blackwell, 2012) 59.

² Ibid 58.

³ Ibid 59.

⁴ Ferdinand Braudel, *Civilisation and Capitalism, 15th– 18th Century: The structures of everyday life* (University of California Press, 1992) 70.

flows of solar energy to supply the four necessities of life: food, fuel, clothing, and housing.⁵ It limited what humans were able to accomplish and the kinds of lives they were able to lead as ‘virtually all human activity drew upon renewable sources of energy supplied to varying degrees throughout the year by the sun.’⁶ Population was limited by the amount of food that could be produced from the available land and the presence of disease.⁷ Braudel believed that there was ‘a constant tendency towards an equilibrium between the patterns of birth and deaths ... what life added, death took away’.⁸ The same factors that limited population also limited economic expansion. The societies of the biological old regime were agrarian, thus land and its availability dictated everything.⁹ Empire was the most sophisticated form of government under the biological old regime.¹⁰ Once empire had reached the limits of what it could achieve under the regime, there were only two options: continue to push the limits and decline or be forced to ‘escape’.

II. Expansion Within the Terms of the Biological Old Regime

The ship changed everything for the empires of Europe. Columbus had not set out to discover a new world but rather to aid the ambitions of the Spanish Empire. On his way to finding a new passage to Asia he unwittingly discovered something which would prove much more precious: The Americas. This new continent provided the Imperial powers of Europe with new lands and new possibilities for expansion. The ability to conquer not only the land but also the waves could have a great influence on Imperial power. The threat that a navy could pose and the wealth that overseas colonies could bring were among some of the factors that made the conquest of the seas both a maker and breaker of empires.¹¹

The problem the empires were met with when it came to expanding into the new world was that it was not ‘new’.¹² The vast lands were already home to a significant number of people, each with their own customs, societies, beliefs and leadership systems. It was through a biological exchange, whereby the people of the new world were exposed to and contracted old world diseases and vice versa, that the Europeans were able to successfully cultivate vast amounts of the land and populate the continent with their own people.¹³ Diseases new to the native people

⁵ Marks, above n 1, 58.

⁶ Ibid 59.

⁷ Ibid 58–9.

⁸ Braudel, above n 4, 71.

⁹ Marks, above n 1, 58.

¹⁰ Ibid 61.

¹¹ Alfred Thayer Mahan, *The Influence of Sea Power Upon History, 1660 – 1783* (Cambridge University Press, 2010) 1.

¹² Russell Thornton, *American Indian Holocaust and Survival: A Population History since 1492* (University of Oklahoma Press, 1987) xv.

¹³ J Donald Hughes, *An Environmental History of the World: Humankind's changing role in the community of life* (Routledge, 2001) 109.

of the Americas were carried with the Europeans aboard their ships, clothing and breaths and proved catastrophically deadly.¹⁴ The human populations like the environments had been isolated from one another for so long that the people of the new world had no immunity to the diseases and their bodies struggled to fight the 'invisible killer'.¹⁵ Native populations were decimated, leaving the continent wide-open for opportunistic European empires to take for their own uses.¹⁶ This was the first stage of expansion within the terms of the biological old regime.

As empires expanded economically, they were also required to reform politically. During the period from 1500 to 1800, economic thinking became vastly more sophisticated both through global expansion and through new ideas.¹⁷ The thinking, which had dominated the minds of leaders and subjects under the biological old regime, was that to become more wealthy, empires needed to take wealth from other empires by force. These tactics can be observed in the conquest of the new world and in the constant fighting between the European powers. During the final centuries of the biological old regime, empires expanded their power within Europe through warfare and this ultimately shaped the European state system.¹⁸ The resulting developments of these constant conflicts included: 'the system of taxation and state bureaucracies to collect it, representative assemblies of various kinds demanded by the taxed subjects so they would influence the level of taxation, public indebtedness, and the initiation of national debt.'¹⁹ Capitalism was driving progress and the focus of European empires shifted heavily towards their increasing global trading networks.²⁰ This provided the economic wealth, which helped to facilitate the technological advances that brought selected empires out from the domination of the biological old regime.

New ways of considering wealth and doing business allowed empires to expand both geographical and economical. The Dutch East India Company and the British East India Company were the products of this new thinking. Through successful global trade, they were able to establish themselves like independent states with their own rules and eventually, in the case of the British East India Company, 'transformed itself into a colonial power'.²¹ The rise and power of these companies

¹⁴ Ibid.

¹⁵ David E Stannard, *American Holocaust: The Conquest of the New World* (Oxford University Press, 1993) 77.

¹⁶ Thornton, above n 12, xv.

¹⁷ Daron Acemoglu, Simon Johnson and James Robinson, 'The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth' (2005) 95 *American Economic Review* 572.

¹⁸ Marks, above n 1, 63.

¹⁹ Ibid.

²⁰ Sampie Terreblanche, *Western Empires, Christianity and the Inequalities between the West and the Rest*, (Penguin Books Limited, 2014).

²¹ Tirthankar Roy, *The East India Company: The World's Most Powerful Corporation* (Allen Lane, 2012) 2.

demonstrates the speed at which the world was able to adjust the way they thought and the way in which they viewed the world around them in order to take advantage of the economic opportunities that surrounded them. Through the two East India Companies, Europe was able to not only continue their global expansion successfully into Asia, but also achieve a significant shift in the scale and objectives of its expansion.²² Geographical and economic expansion worked together to allow the companies to flourish for centuries. It was this expansion — and particular the wealth and trade which came with it — that provided Britain with the means to industrialise and launch itself into an entirely new world.²³

Increased food production allowed empires to support larger populations; the price of this increase was slavery. The availability of land in the New World for cultivation by the Imperial powers of Europe allowed their populations to grow. The biological old regime ensured that population was kept at a relatively constant level with fluctuations in both directions caused only by environmental conditions or the presence of disease.²⁴ The larger amounts of food grown in the new world and brought to Europe cheated the natural order.²⁵ The population expansion provided Europe with the manpower necessary for their next stage in the process of overcoming the biological old regime: the Industrial Revolution. However, land cultivation in the New World required manpower too and there were few reliable alternatives locally available. To combat this compliant worker shortage millions of Africans were transported from their home continent to the New World to form part of the slave trade.²⁶ Slaves drove Imperial expansion through the service they provided.²⁷ In removing them from the African continent, the empires of Europe were connecting another continent and race into their ever growing and increasingly global network of trade.

III. The Point of 'Escape'

Population pressure forced empires to begin to challenge the restrictions of the biological old regime. Between 1500 and 1750 Europe's population rose from 80 million to 140 million.²⁸ More people meant that more land was required for human use and land, unlike wealth, was finite in Europe. In Britain further deforestation for energy sources was unsustainable.²⁹ Coal began to be used

²² Chris Nierstrasz, *In the Shadow of the Company: The Dutch East India Company and Its Servants in the Period of Its Decline (1740–1796)* (Brill, 2012) 13.

²³ Marks, above n 1, 66, 71.

²⁴ Braudel, above n 4, 71.

²⁵ Johnson D Hughes, *What is Environmental History* (Polity Press, 2006) 78.

²⁶ Marks, above n 1, 63.

²⁷ George Raudzens, 'Military revolution or maritime evolution? Military superiorities or transportation advantages as main causes of European colonial conquests to 1788' (1999) 63 *Journal of Military History* 640.

²⁸ Colin McEvedy and Richard Jones, *Atlas of World Population History* (Penguin, 1978) 19–119.

²⁹ Marks, above n 1, 65–6.

as a substitute for firewood.³⁰ From here, the coal mining industry grew and transformed into deeper mining. The problem of extreme damp and water filling mineshafts prompted the development of technology to address such flooding, which in itself could draw on the resource of coal. The turn to steam power would go on to be the final pushing factor in empire's 'escape' from the biological old regime. Steam power was revolutionary. Though it was inefficient at first, gradual improvements made it a technology that could be used in other situations to industrialise many areas of production.³¹ Around 1800, the Industrial Revolution pushed selected nations in Western Europe past the limits of the biological old regime.³²

Some historians would argue that success in the Industrial Revolution was also a question of belief.³³ The Protestant British were able to embrace the technological advances brought by the science of the enlightenment when Catholic empires were not.³⁴ This comes down to the differences in the values and beliefs of Catholics and Protestants. Protestantism arose in Europe in the 16th century through the desire to reform the Catholic Church.³⁵ The individualism, which this new church has been credited with fostering in its followers, is what separated Catholic and Protestant empires when it came to the technological advances of the period of the Industrial Revolution.³⁶ Thus, the empires that could best accept and strive for change were pushed with increasing speed towards limits imposed by the biological old regime.

To Marks, the switch from renewable sources of energy to fossil fuels was the key to the beginning of the Industrial Revolution.³⁷ Other historians, however, have played down its significance. It was not the act of changing from the renewable to the non-renewable alone which helped to push empires past the limitations of the biological old regime. Contrary to the opinions of Marks and Braudel, it is contended that it was not until after the 'escape' occurred that coal and steam power was widely adopted.³⁸ The most widely used energy source for the majority of the Industrial Revolution was water power.³⁹ Yet, had it not been for the discovery of coal and the possession of colonies, Marks argues that Britain would have followed the same fate as China in the nineteenth century

³⁰ Cutler J Cleveland, *Concise Encyclopedia of the History of Energy* (Elsevier, 2009) 3.

³¹ Marks, above n 1, 65.

³² Braudel, above n 4, 91.

³³ Ronald Inglehart, *Culture Shift in Advanced Industrial Society* (Princeton University Press, 1990) 55.

³⁴ Alexander Murphy, Terry G Jordan-Bychkov, and Bella B Jordan, *The European Culture Area: A Systematic Geography* (Rowman Littlefield, 2014) 139.

³⁵ *Ibid* 131.

³⁶ *Ibid* 139.

³⁷ Marks, above n 1, 65–6.

³⁸ Karl G Persson and P Sharp, *An Economic History of Europe: Knowledge, Institutions and Growth, 600 to Present* (Cambridge University Press, 2015) 94.

³⁹ *Ibid*.

where the limits on economic production and land shortage snuffed out hope of industrial revolution.⁴⁰ It seems that there was more at play in Britain and other Western empires dodging of economic and imperial decline. The possession of coal alone would have been no great help had they not possessed the correct social environment to accept and embrace technological expansion and the economic environment to finance it.

IV. Afterwards

Advances in technology irrevocably changed empires. In escaping the biological old regime, empires gained ‘labour-saving devices’ and ‘land-saving mechanisms’.⁴¹ The Industrialisation of the 19th century ‘lifted material constraints on food production’, causing a population explosion.⁴² Between 1750 and 1850, the European population increased from 140 million to 266 million.⁴³ Britain experienced the most rapid population growth of the European empires rising from 9.25 million in 1750 to 28 million in 1850.⁴⁴ The benefits of the ‘escape’ allowed Britain to rise to become ‘the world’s most powerful nation’.⁴⁵ Even their warfare went beyond the limits of the biological regime, signalling the beginning of a different kind of warfare, one of industrial technology and constantly improving weaponry.⁴⁶ Technology brought all that an empire could wish for; however, in the two centuries since the biological old regime was ‘shattered’ the environment and society has changed dramatically and gained enough distance to view the event with perspective.⁴⁷

The biological old regime had not only placed limits on the population, but it had also limited the productivity of the economy.⁴⁸ Free of these limits the economy was able to flourish to new heights; but did it go too far? Industrialisation has contributed to the now very real threat of global warming. To remedy it the lives of the people of the 21st century would be drastically affected. The technology of warfare led Europe to two catastrophic world wars, and continues to destroy lives in conflicts around the world. Technology to solve problems made new ones.⁴⁹ The population continues to grow with the unrelenting rapidity with which it began to take off at the point of ‘escape’. Perhaps the biggest question

⁴⁰ Marks, above n 1, 66.

⁴¹ Ibid.

⁴² John F Richards, *The unending frontier: an environmental history of the early modern world* (University of California Press, 2003) 1.

⁴³ McEvedy et al, above n 28, 19–119.

⁴⁴ Ibid.

⁴⁵ Marks, above n 1, 66.

⁴⁶ Hughes, above n 25, 6.

⁴⁷ Braudel, above n 4, 70.

⁴⁸ Marks, above n 1, 65.

⁴⁹ Victor C Ferkiss, *Nature, technology, and society: cultural roots of the current environmental crisis* (New York University Press, 1993) vii.

of the aftermath is what happened to the empires? The political system of empire was the most sophisticated form to exist in the environment of the biological old regime.⁵⁰ Empire was forced all the way to its own extinction. Now empire has been 'escaped' just as the biological old regime was. There are new political systems have evolved within the new world which the legacy of industrialisation created.

Empires expanded out of necessity. While there may at times have been other elements at play, it was the need to maintain their old home states, in the wake of population increase and economic ambitions, which forced the constant geographical and economic expansions of empires.⁵¹ It was like a wheel. Population pressures started it turning and once it had begun there was no stopping it. Each individual factor was caused by another until slowly a select few empires broke free of the limitations of the biological old regime. The rise of economic wealth and power along with the development of technology could be considered chiefly among these factors. The question must, however, be posed as to whether this 'escape' was positive? The biological regime protected human society from becoming too large and allowed empires to rule over the people. The escape from the biological regime represents a dramatic change of roles and responsibilities. Where once humans and empires were at the mercy of the environment, after the 'escape' environment was at the mercy of humans and empires.⁵² The 'escape' allowed empires to expand sufficiently for their successful survival, but not indefinitely. The cycle cannot continue; it must stop at some time. Empires have now fallen as well as the biological old regime. Human society is no longer capable of existing within natural environmental limitations in its current form. Braudel raised the question of whether those empires truly 'escaped' from the biological old regime. He points out that the biological regime has the 'capacity for short-term revival'.⁵³ This is a great reminder that while humans may rule the environment for now, the future of the human relationship with the environment is not certain. It would not take much for the entire world be pushed back within the limitations of the biological old regime — as some nations and people are, even today.

⁵⁰ Marks, above n 1, 61.

⁵¹ Donald Worster, 'The Vulnerable Earth: Toward a Planetary History' in Worster (ed.), *The Ends of the Earth: Perspectives on Modern Environmental History* (Cambridge University Press, 1998) 13.

⁵² *Ibid* 19–20.

⁵³ Braudel, above n 4, 92.

V. Conclusion

Throughout the last centuries of the biological old regime, successful empires were in a state of economic, technological and geographical expansion. The limits set by the biological old regime were being gradually pushed right until the final 'escape'.⁵⁴ It was this pushing of the limitations which caused the clashes which have come to define the western early modern period. War was a means of taking wealth from others, which evolved to become a means of gaining assets and defending economic advantages. Warfare pushed the systems of government to become increasingly sophisticated in order to finance and undertake them.⁵⁵ The lack of space pushed the search for alternative energy sources, which in turn produced steam power and the dawn of the industrial age.⁵⁶ Only the strongest empires survived the battle with the limitations on population and only Britain came to rise to full power and prominence.⁵⁷ The most pronounced clash of the final period of the biological old regime was that of man and the environment. Increasingly empires encouraged subjects to go against nature, slowly producing the split of man and natural systems, which concluded in the 'escape' of 1800. Thus, the overwhelming imperial expansion and clash of the period after 1500 is that of man's unnatural expansion into the environment which he once worked in partnership with.⁵⁸ To overcome the limitations of the biological old regime man and empire were pushed to expand into a world beyond that of the natural, one that still exists today.

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