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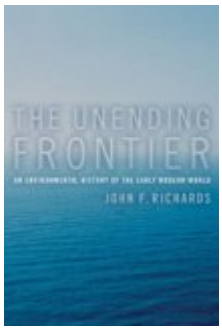
in the Humanities & Social Sciences

John F. Richards. *The Unending Frontier: An Environmental History of the Early Modern World.* Berkeley: University of California Press, 2003. xiv + 682 pp. $75.00, cloth, ISBN 978-0-520-23075-0.



Reviewed by David Biggs

Published on H-Environment (May, 2006)

John F. Richards presents an environmental history of the early modern world starting in 1500 and ending in the early 1800s. It is a well-written, organized synthesis of secondary sources describing sixteen case studies organized by theme and geographic region. Except one chapter on climate change, each chapter details the effects of widespread, organized human activity in specific ecoregions or states. Adopting a more conservative interpretation of environmental history as the study of material changes in the physical environment, he sets out to approximate the extent of changes brought about by specific human activities across many parts of the globe in this era. The book as a whole addresses four basic themes: the exploration and exploitation of frontiers; biological invasions associated with these exchanges; the widespread depletion of large animals, fish and sea mammals; and a prevailing sense of scarcity and doubt about sustaining local resources that leads organized groups to push commercial and political activities into new frontiers. Finally, Richards sets out in this work to correct what he sees as a prevailing notion in environmental history that such organized human activities in the early modern era resulted in an "unrelieved tragedy of remorseless ecological degradation and accelerating damage."

While I agree with this sentiment, I was impressed more than ever after reading the work with the extent and rapidity that early modern farmers, trappers, and fishermen decimated the world's ecosystems, in a sense pushing today's post-modern narratives of irreversible environmental degradation back even further into the 1500s. What environmental-minded luminaries such as Henry Thoreau, Charles Darwin or John Muir described as pristine nature in their nineteenth-century travels must have paled in comparison to the forests, fisheries and large animal populations that Russian trappers and English cod fleets encountered a few hundred years prior. Perhaps an alternate way of understanding these case histories and the more general problem with decline narratives might be to see them as laying the foundation for what geologist Paul J. Crutzen calls "the Anthropocene": a new geological epoch characterized by intense human activity and the warmest climate in Earth's history. Crutzen sug-

gests that this era began in 1784 (when atmospheric carbon levels contained in ice cores first began to increase and James Watt invented his steam engine).[1] The early modern period may be considered as a period of global social, political and technological transitions in which human beings and the planet crossed into this terra incognita. In this sense, *Unending Frontier* offers a compelling historical map of the world's terrains in this transitory period.

One of the strengths of the 682-page work is Richards' clear writing style and organized presentation of arguments. Despite its length, the book is accessible to undergraduates and would make a useful textbook in an early modern world history survey; the notes, synopsis of major historiographical arguments, and extensive bibliography also recommend the work to graduate students and those interested in a broad overview of research in regions beyond their areas of specialization.

Pushing well beyond his own area of expertise on Mughal India, Richards demonstrates how the general intensification of strong centralized governments exercising control over distant, local economies was a relatively widespread phenomenon in this period. Despite his claim that it is "European dynamism" that invigorated this intensification, the evidence in following chapters on India and China suggest that the political and economic dynamism of early modern expansion was common to other societies across Eurasia. It is unfortunate that Southeast Asia does not appear as part of this Eurasian dynamism, especially given the central role that spices and the development of the sea routes past Malacca and Sumatra played in the rapid expansion of early modern trade, especially in Europe.[2] Successive chapters on Mughal India and China also suggest other ways that early modern colonization and industrial expansion were by no means strictly European ventures. In the settlement of Taiwan, Chinese authorities actually replaced Dutch forts with their own in 1662 and proceeded to manage settlement and land conversions for agriculture well into the 1800's. In his chapter on China, Richards also points out that the Chinese had since the Sung dynasty experimented with the use of coal as a substitute for wood fires and even used it in the processing of iron, thus predating British industrial use of coal by several centuries.

One of the most interesting case studies given the association between the development of early modern capitalism and the general story of a global environmental shift occurs in Tokugawa Japan. Richards' description of travel logs describing the island kingdom in the 1600's conjures up what might still be construed today as an urban utopia:

"Travelers generally praised the cleanliness, order, and spaciousness of Japanese cities. Foreigners commented on the efficient sanitary methods adopted by the Japanese for disposal of human and other wastes. They marveled at the Japanese custom of relaxing in hot baths daily." (p. 151)

Tokugawa Japan, with its compound state system of rule through locally powerful shoguns and relative seclusion from Portuguese and other international traders, appears to have achieved a highly sustainable and pleasurable environment where standards of living, both in the cities and the countryside, may have been higher than anywhere else in the world before 1800. The early modern Japanese state appears to have almost balanced economic growth and technological change with a prevalent conservation ethic that prevented the kinds of environmental degradation evident elsewhere. Shoguns even developed and enforced complex laws to replant and protect state forests.

The following chapter draws a sharp contrast to Japan in its overview of Britain, another island kingdom of similar size and population. The enclosure movement in Britain effectively destroyed village common-property regimes that had more

or less regulated consumption of resources in forests and other common property before 1500. The Black Plague's devastating effects on the peasantry combined with Henry VIII's consolidation of a strongly centralized English state effectively ended the manor system and replaced it with a strongly capitalist system of enclosed, private property. The depletion of domestic forests combined with a strong European trend in exploration on the high seas ultimately led to an expanded consumption of timber and naval stores across the world from the American colonies to India. Successive chapters on frontier settlement in Russia and Dutch settlement in South Africa for the most part reinforce the experience in England that consolidation of political power by the crown and increased commerce spurred on unprecedented replacements of native forests with plantations and native fauna with domestic cattle.

In concluding part 2 on Eurasia, I think Richards misses a chance to consider why Tokugawa Japan did not follow the trend in Eurasia. His conclusion at the end of the chapter considers only briefly that social stability may have contributed to late Tokugawa Japan's successful coping with issues of resource scarcity. Since successive chapters on the Columbian Exchange and the World Hunt generally reiterate the big-picture view of widespread devastation to indigenous people, flora and fauna, there is an opportunity here to question whether Tokugawa Japan and perhaps other smaller or island-like societies may have developed political and economic systems that could be seen today as philosophical pre-cursors to contemporary conservationist or sustainable development principles.

Part 3 on the Americas offers a concise survey of recent scholarship and introduces various theories about the region's environmental past. In the chapter on Mexico, Richards compares Melville's boom-and-bust description of sheep grazing with Butzer's and Sluyter's arguments that Spanish ranchers may have grazed dense herds of sheep and cattle in the lowlands at sustained, high densities for almost 300 years. Richards' discussion in these chapters is especially clear and focused, providing well-documented sources that could be easily grasped in an undergraduate course. His occasional counterfactual questions also present opportunities for generating good in-class discussions: "What would the landscape of New Spain have looked like after 1519 if the Spanish had not developed a widespread ranching industry?" He points out that the rapid decline in native populations would have prevented continued farming in many managed areas and that a re-wilded landscape may have led to seasonal fires and may not have been any more diverse.

In part 4, Richards examines the development of major settlements around "commercialized predatory hunting" associated with the fur trade in Siberia and North America, cod fisheries in the North Atlantic, and whaling in the northern oceans. The stories that follow are well organized and accessible to the lay reader. In his discussion of the fur trade's impact on Indians in North America, Richards may overgeneralize a seemingly inevitable tendency of Indian societies involved in the fur trade to move into conditions of dependency on European settlements and trade. However, he includes provocative questions such as "were Indians conservationists?" that again could lead to interesting discussions in the classroom.

In chapters such as "Cod and the New World Fisheries" Richards displays his particular talent in this work of synthesizing many different types of historical and scientific detail into a single coherent argument. He expertly weaves together descriptions of "wet" and "dry" codfish, explanations of bait and boats, and descriptions of packing and transportation methods into a larger argument of Braudelian proportions: rapidly expanding New World cod fisheries created a cheap and abundant source of protein for all classes of consumer across Europe. Like most of the book's case studies, it also draws out ongoing debates such as

whether the Atlantic cod fishery is made up of a single stock or many discrete substocks. He also points out that for over five hundred years, until the 1960s, the fishery was apparently sustainable with no evidence of declining fish stocks or population crashes until the late twentieth century.

Richards comes closest to articulating an alternative to the narrative of decline in the book's conclusion where he makes several important observations. He notes that benchmarks used by ecologists and population biologists to describe pre-decline conditions may in fact be vestigial remains of once much larger populations. Mysterious collapses in marine ecosystems may be more related to severe exploitation in the distant past than more recent activities. The work as a whole offers a multifaceted view into the material and ideological dimensions of environmental changes in the early modern era, focusing much of its attention on radical transformations in human populations, patterns of energy consumption, and the conversion of large ecosystems from "wild" or locally managed to "modern" or state-managed places.

As human societies today continue to struggle with the challenge of sustaining adequate levels of energy use and consumption for an increasing population, ***The Unending Frontier*** deftly guides students and general readers through parts of an earlier period when human societies were just beginning to build fossil fuel-based industries, legal codes and global networks that are now fundamental to the modern global economy. ***The Unending Frontier*** allows one to see that our historical image of abundant natural resources before the onset of the twentieth century, especially on colonial frontiers, was largely a fabrication of the post-Earth Day present. And although Richards does not take this on directly, research into early modern environmental history may also further explore how our myths of limitless bounty and limited growth have played deep, formative roles in contemporary ideas of the global economy and environment.

Notes

[1]. Paul J. Crutzen, "Geology of Mankind," ***Nature***, vol. 415 (3 Jan 2002): p. 23.

[2]. See for example Anthony Reid's two-volume work, ***Southeast Asia in the Age of Commerce: The Lands Below the Winds*** (New Haven: Yale University Press, 1988); and ***Southeast Asia in the Age of Commerce: Expansion and Crisis*** (New Haven: Yale University Press, 1993).

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Citation: David Biggs. Review of Richards, John F. *The Unending Frontier: An Environmental History of the Early Modern World.* H-Environment, H-Net Reviews. May, 2006.

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