

# The State of the Field of Environmental History

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## Key Words

historiography, forest history, wetlands history

## Abstract

This article reviews the state and evolution of the field of environmental history since about 1970. It focuses chiefly on the work of professional historians, but because environmental history is pursued by many varieties of scholars, it occasionally discusses the work of archeologists, geographers, and others. It offers a working definition of the field and an account of its origins, development, and institutionalization from the 1970s until 2010. It briefly surveys the literature on several world regions, concentrating most heavily on South Asia and Latin America, where environmental history at present has grown especially lively. It considers the prominence of Americanists (that is, historians of the United States, not the same thing as Americans) in the field and how that prominence is now waning. It reviews the utility of environmental history for historians, sketches some of the critiques of environmental history, and comments upon some signal findings of recent years.

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## 1. INTRODUCTION

This article reviews the state of the field of environmental history. It focuses chiefly on the

work of professional historians, but because environmental history (not always by that name) is pursued by many varieties of scholars, it occasionally discusses the work of archeologists, geographers, and others. It offers a working definition of the field and an account of its origins, development, and institutionalization from the 1970s until 2010. It briefly surveys the literature on several world regions, concentrating most heavily on South Asia and Latin America, where environmental history at present has become especially lively. It considers the prominence of Americanists (that is, historians of the United States, not the same thing as Americans) in the field since the 1970s and how that prominence is now waning. It reviews the utility of environmental history for historians, sketches some of the critiques of environmental history, and lastly comments upon a few of the signal findings of recent years. It updates a general review of the field published in 2003 (1) and tries to reframe the subject for scholars who are not professional historians.

This article does not review the allied field of disease history. Although several historians at work in this field have for decades taken an ecological approach to their subject (2, 3), lately most of them have migrated in the direction of cultural interpretations of disease (4). This is a fascinating and fast-moving scholarly field, but deserving of its own separate review. Nor does this review take full account of the emerging field of natural disaster history, which is tending toward the view that few disasters are fully natural. A recent introduction to this field is available in Mauch & Pfister (5).

## 2. WHAT IS ENVIRONMENTAL HISTORY?

Over the past generation or so, a growing cohort of renegade historians has created a new subfield called environmental history. They write history as if nature existed. And they recognize that the natural world is not merely the backdrop to human events but evolves in its own right, both of its own accord and in response to human actions.

Like every other subset of history, environmental history is different things to different people. My preferred definition is the history of the relationship between human societies and the rest of nature on which they depended. This includes three chief areas of inquiry, described below, which of course overlap and have no firm boundaries.

## 2.1. Material Environmental History

First is the study of material environmental history, the stories of human involvement with forests and frogs, with cholera and chlorofluorocarbons. This entails study of the evolution of both human impact on the rest of nature and nature's influence upon human affairs; each is always in flux and always affecting the other. This form of environmental history puts human history in a fuller context, that of Earth and life on Earth, and recognizes that human events are part of a larger story in which humans are not the only actors. A full extension of this principle is the so-called Big History of Christian (6) and Spier (7), which places humans into the unfolding history of the Universe and finds recurrent patterns over the largest timescales. In practice, most of the environmental history work in the material vein concerns the past 200 years, when industrialization, among other forces, greatly enhanced the human power to alter environments.

## 2.2. Political Environmental History

Second is political and policy-related environmental history. This concerns the history of self-conscious human efforts to regulate the relationship between society and nature as well as between social groups in matters concerning nature. Thus, efforts at soil conservation or pollution control qualify as environmental history, as perhaps do social struggles over land and resource use. Political struggle over resources is as old as human societies and close to ubiquitous. I would not use the term environmental history to refer to contests between

one group of herders and another over pastures, but I would use it to refer to struggles over whether a certain patch of land should be pasture or farmland. The difference lies in the fact that the outcome of the struggle carries major implications for the land itself, as well as for the people involved. (Mind you, others see this differently.) In practice, policy-related environmental history extends back only to the late nineteenth century, with a few exceptions for early examples of soil conservation, air pollution restrictions, or monarchical efforts to protect charismatic species for their own hunting pleasure. This is because only in the late nineteenth century did states and societies mount systematic efforts to regulate their interaction with the environment across the board. Before 1965, these efforts were normally spasmodic and often modest in their effects, so most of this sort of environmental history deals with the decades since 1965, when both states and explicitly environmental organizations grew more determined and effective in their interventions.

## 2.3. Cultural Environmental History

The third main form of environmental history is a subset of cultural and intellectual history. It concerns what humans have thought, believed, written—and more rarely, painted, sculpted, sung, or danced—dealing with relationships between society and nature. Evidence of a sort exists from tens of thousands of years ago in Australian aboriginal rock shelter paintings and in the cave art of southwestern Europe that dates back some 25,000 years—although no one has anything more than a guess about what this ancient evidence means. The great majority of cultural environmental history is drawn from published texts, as with intellectual history, and treats the environmental thought contained either in major religious traditions or, more commonly, in the works of influential (and sometimes not-so-influential) authors from Aristotle and Mencius millennia ago to twentieth-century thinkers such as Mohandas

K. Gandhi and Arne Naess.<sup>1</sup> Remarkably, the most comprehensive work in this vein as regards the Western world was written over 40 years ago, Glacken's *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (8). Glacken's massive work explored the conceptions of nature among several dozen prominent writers from ancient times through the European Enlightenment. This sort of environmental history tends to focus on individual thinkers, as Glacken did, but it can also extend to the study of popular environmentalism as a cultural movement.

#### 2.4. Environmental History as Interdisciplinary History

More than most varieties of history, environmental history is an interdisciplinary project. Many scholars in the field trained as geographers or historical ecologists. In addition to the customary published and archival texts of the standard historian, environmental historians routinely use the findings culled from bioarchives (such as pollen deposits, which can tell us about former vegetation patterns) and geoarchives (such as soil profiles that can tell us about past land-use practices). The subject matter of environmental history is often much the same as that in historical geography or historical ecology, although the choice of sources emphasized normally differs. An illustration is the field of climate history, which is pursued by scholars from at least a half-dozen disciplines, including text-based historians. Textual historians have found useful records (proxy evidence normally) for climate history going back many centuries, for example, a series of dates for the beginning of grape harvests in European vineyards (9).

<sup>1</sup>Arne Naess was a Norwegian academic philosopher, born in 1912, who was credited with establishing a school of thought known as Deep Ecology, according to which humans are merely one among many species and ethically obliged to pursue egalitarianism within the biosphere.

### 3. THE ORIGINS AND INSTITUTIONALIZATION OF ENVIRONMENTAL HISTORY

Like every twist and turn within intellectual life, environmental history has countless and tangled roots. Some of the oldest extant texts, such as the "Epic of Gilgamesh"—the earliest versions of this are 4,000 years old—deal with environmental change generated by human action (in this case, cutting cedar forests in the Levant).

#### 3.1. Forebears of Environmental History

Many scholars of long ago, notably Ibn Khaldun (1332–1406) and Montesquieu (1689–1755), found in the geographical variations in the natural world, in climate especially, a key to human behavior. By today's standards, they rank as naive environmental determinists. Historical geographers since the 1870s charted landscape change, as did George Perkins Marsh, lawyer, diplomat, and polymath, whose 1864 book *Man and Nature* is a foundational text for many American environmental historians (10). Among professional historians, awareness of geographical constraints and influences has long been a hallmark, although not a universal. Braudel (11, 12), in what was probably the twentieth century's most influential work among professional historians, devoted a large proportion of his classic study of the Mediterranean in the sixteenth century to geography and environment. Braudel and a set of colleagues, loosely termed the Annales school because they often published in the journal *Annales: Economies, Sociétés, Civilisations*, wrote copious geographically aware histories, mainly of medieval and early modern Europe.<sup>2</sup> Their work on harvests, famines, climate, epidemics,

<sup>2</sup>Since 1994, this has been published as *Annales: Histoire, sciences sociales*. The journal was founded in 1929 by Marc Bloch and Lucien Febvre and underwent many name changes, becoming *Annales: E.S.C.* in 1946 when Braudel joined Febvre as editor.

and demography proved enormously influential from the 1950s onward. Braudel and others tended to adopt the position of “possibilism,” prominent in French academic geography in the early- and mid-twentieth century; according to this position, geographical contexts set limits upon human affairs while not strictly determining them. Braudel did not leave much room for changing environments in his work, although in later editions of his Mediterranean book he included sections on deforestation in Venetian lands, on which the Venetian archives include plentiful information (13). Braudel’s most prominent successor, Emmanuel Le Roy Ladurie, explicitly considered changing environments in a pioneering work of medieval and modern European climate history in 1967, which he followed up decades later with a more general study of climate history (9, 14). But Le Roy Ladurie, like Braudel and almost all of the rest of the *Annales* historians, betrayed little interest in human-induced changes to the natural world. In 1974, *Annales* printed about 160 pages of articles in a special section, edited by Le Roy Ladurie, entitled “Histoire et Environnement,” but the articles deviated only slightly from the established emphasis on harvests and epidemics.<sup>3</sup> In subsequent decades, *Annales* offered almost nothing that could be called environmental history, and the proportion of its pages devoted to agrarian themes declined as other interests evolved among its editors. In general, although Braudel and the *Annales* school offered one of the most compelling perspectives available to professional historians in the latter half of the twentieth century, they had only modest impacts on what was becoming environmental history and did not conceive of their own work in those terms.

### 3.2. Origins of United States Environmental History

Environmental history as a self-conscious undertaking dates only to about 1970 and, like

so much in intellectual life, drew its energy from trends within society at large. Around the world, of course, the 1960s and 1970s witnessed the coalescence of popular environmentalism as a cultural and political force (15, 16). It was stronger in some places than in others and took different shapes in different contexts. In the United States, it helped a few historians, initially almost all scholars of U.S. history, to come together both intellectually and institutionally. Among them were Roderick Nash, John Opie, Donald Worster, Susan Flader, and a historian of the ancient Mediterranean, Donald Hughes. By some accounts Nash, author of *Wilderness and the American Mind* (17), an intellectual history of an environmental subject, was the first to employ the term environmental history.

Between the publication of Nash’s book and 1985, a small handful of books acquired status as foundational texts in U.S. environmental history. The first was Crosby’s *Columbian Exchange* (18), one of the few books whose title became part of nearly every historian’s vocabulary. It is a global as well as an American history and did not easily fall into any existing historiographical categories. Revealingly, Crosby had great difficulty finding a publisher for a book that explored the extraordinary ecological consequences of the regular crossing of the Atlantic after 1492. His portrayal of the transmission of pathogens, crops, weeds, and livestock back and forth across the Atlantic has found its way into standard histories and textbooks, more so than any other single contribution from environmental history. Worster’s *Dust Bowl* (19) took an iconic subject in U.S. history and gave it a new twist, bringing new detail to historians’ discussions of climate, soil, and grass, as well as to the human tragedies that played out on the southern plains in the 1930s. Cronon’s *Changes in the Land* (20), which explored the transformations of southern New England’s human ecology between 1600 and 1800, enjoyed great success and inspired unabashed imitation (21). Worster and Cronon soon became the most influential figures in U.S. environmental history, joined by White, who like Cronon featured Amerindians prominently in much

<sup>3</sup>*Annales*: E.S.C. 29:537–647, 915–965. Two of the articles were contemporary rather than historical.

of his work (22–24), and by Merchant, who put women and gender relations front and center (25, 26). Melosi (27, 28) and Tarr (29) pioneered U.S. urban environmental history.

Environmental history in the United States in its infancy displayed a strong connection to rural history and the history of the American West. It took some time, and some argument, before urban subjects became fully accepted as legitimate fields for environmental history. Worster (30), for example, argued that cities were expressions of culture rather than nature and that environmental historians should confine themselves to rural themes, where nature showed itself more conspicuously. But by the late 1980s, Melosi (29) and Rosen & Tarr (31)—and a handful of allies—had won that battle. Cronon in *Nature's Metropolis* (32) showed in convincing historical detail, for Chicago circa 1850–1900, what every student of urban economies already intuitively knew—cities and their hinterlands were intimately bound together—and hence, there can be no firm divide between urban and rural environmental history. Urban environmental history since the 1980s has flourished to the point where many large American cities, and not a few smaller ones, have an environmental biography (33, 34). By the end of the 1980s, environmental history, both rural and urban, had won a place on the crowded stage of U.S. history. Of new subfields in U.S. history, only women's history (now often termed women's and gender history) has enjoyed fuller acceptance.

These Americanists, who continued to produce influential work, attracted international attention too. Historians around the world, contemplating taking an environmental turn, often read them, especially Worster and Cronon, while formulating their own projects. Worster's work on droughts and irrigation in the American West, for example, seemed thought provoking in many settings outside the United States, and Worster invited cross-cultural comparisons by using Wittfogel's ideas about hydraulic despotism in China to frame his own study (35). The themes of cultural clash and colonization, developed in Cronon's,

Crosby's, and White's work, found interested readers among those writing about colonial encounters in Asia and Africa. White's concept of a middle ground, for example, seemed helpful to scholars both of medieval Central Europe and of Tokugawa Japan 1603–1868 (36, 37).

### 3.3. Institutionalization of Environmental History

Part of the influence of the U.S. authors must be attributed to institutional rather than intellectual factors. The first generation formed the American Society for Environmental History (ASEH) in 1976–77 and by the early 1980s held regular conferences. Most importantly, the ASEH began publishing a journal, now called *Environmental History*, in 1976. Moreover, as in all fields of history, the Americans enjoyed advantages in the form of the general vigor and (comparatively) generous funding of U.S. academia and in the fact that so many historians around the world could read English (this, obviously, boosted the fortunes of all Anglophone authors).

In contrast, the institutionalization of environmental history came later elsewhere. For example, the European Society for Environmental History (ESEH) began regular meetings in 2001. SOLCHA, the Society for Latin American and Caribbean Environmental History, began operations in 2003. A Canadian network of environmental historians (NiCHE) took shape in 2006–2007. The Association of South Asian Environmental Historians (ASAEH) arose in 2007–2008. Scholars from China and Japan formed an Association for East Asian Environmental History (AEAEH) in 2009. An umbrella organization for environmental history around the world coalesced in 2006–2008 and oversaw the first world congress of environmental history in Copenhagen in 2009. The journal *Environment and History*, which published chiefly British, European, and imperial environmental history, started up in 1995. A Dutch and Flemish journal, *Tijdschrift voor Ecologische Geschiedenis* (*Journal for Ecological History*), became a regular annual in

1999. In 2004, the Croatian journal *Ekonomska i ekohistorija* was launched. An Italian-based but internationally focused journal, *Global Environment: A Journal of History and Natural and Social Sciences*, began publication in 2008.

In every respect, the Americans enjoyed a firmer institutional footing sooner than environmental historians elsewhere. The opening of the Rachel Carson Center at the Ludwig-Maximilians-University in Munich in 2010 may mark a shift in the center of gravity of environmental history toward Europe. Still, numerically, Americanists continue to loom large in the early twenty-first century and, at a guess, accounted for roughly half of the environmental historians around the world as of 2010.

### 3.4. The Waning of American Influence

But the intellectual prominence of the Americanists' examples waned. Scholars elsewhere quickly found their own voices and confronted the limits of the relevance of American precedents, concepts, formulas, and approaches. The American environmental historians' emphasis on wilderness, for example, had minimal resonance in most of the rest of the world. Beyond that, although almost everyone in the field could read their work, the Americanists could not (or chose not) to read the work of scholars elsewhere. Over time, the proportion of environmental history written in Spanish, German, Italian, among other tongues, grew, and most Americanists could not read it. A few prominent works, such as Radkau's *Natur und Macht: Eine Weltgeschichte der Umwelt (Nature and Power: A Global History of the Environment)*, 38), were translated for Anglophone audiences, but no more than a few (39, 40). Thus, as the enterprise of environmental history globalized, the intellectual exchange expanded but not evenly. By and large, everyone around the world read the prominent Americanists, but the Americanists, for reasons of language and inclination, read only one another. This is not quite as blinkered as it sounds; by the 1990s, Americanists were

numerous enough that keeping up with their production alone became a full-time job.<sup>4</sup>

## 4. A QUICK AROUND-THE-WORLD TOUR

Since the 1970s, environmental history has appealed to thousands of scholars and students around the world. However, the degree to which environmental history has made inroads in professional history varies tremendously from place to place and era to era.

About eras, I will only say that in general the further from the present the less interest environmental historians have shown. This is partly a matter of scarcity of available source material. The chief exception to this is the ancient Mediterranean, where comparatively abundant sources and other attractions have invited historians and classicists to take up environmental approaches (42–48). But it is also a matter of the intrinsic drama of their subject. Environmental changes—with many exceptions—came more slowly and proved less pervasive in the deeper past than in recent decades. Environmental policy in distant centuries was rare and exerted comparatively little sway over the affairs of societies and states. For scholars interested in the policy aspects of environmental history, or in environmentalism, the 1960s and 1970s hold an attraction unlike any other moment. As a group, environmental historians overwhelmingly focus their attentions on the recent past. This is also true, but less true, of historians in general, of whom perhaps half are chiefly concerned with the twentieth century.

Regionally, the appeal of environmental history has been especially uneven. Below, I discuss quickly several world regions and dally only in South Asia and Latin America.

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<sup>4</sup>This blanket generalization is only that, and it does not capture the minority of Americanists who read languages other than English and the larger minority who follow environmental history work written in English from around the world. A case in point is Karl Jacoby (41), whose *Crimes Against Nature* owed something to Indian, Africanist, and British studies that presented conservation as an elite imposition upon unwilling peasantries.

#### 4.1. Antipodes and Asia

Historians of Australia and New Zealand have taken to environmental history with gusto since the early 1990s. The theme of ecological change brought by settler colonialism, especially the extinction of native species and the spread of exotics, resonated in both countries. The brevity of the settler period and the pace of ecological change made this theme irresistible, although subjects such as the (politically sensitive) ecological impact of Aborigines and Maori as well as the meanings of modern environmentalism have also found their historians (49–55).

Southeast Asia may be well served by writers working in Thai, Malay, or Tagalog; I do not know for sure, although colleagues tell me it is not so. Bankoff, Boomgaard, and Kathirithamby-Wells led the way in bringing Southeast Asian environmental history to international audiences, highlighting colonial themes in the Philippines, the Dutch East Indies, and Malaya, respectively. Deforestation, forest protection, land use, and responses to hazards, such as drought and typhoon, feature prominently in their work. The records of the Dutch East India Company have proven especially useful for this work for the era before 1815 (56–62). East Asia presents a contrasting picture. If my informants are correct, aside from Liu in Taiwan, Chinese, Japanese, and Korean historians were as of 2000 little interested in environmental history, but foreigners working on China took to it readily. The provincial gazetteers of imperial China, especially from the Qing dynasty, included raw data for detailed work on material environmental history, and the abundance of surviving texts from the literati rewarded inspection by investigators interested in the environmental attitudes and sensibilities of Chinese elites. For imperial China, the majority of work by foreigners came from scholars closer to economic history, and so themes such as agriculture, irrigation, and state management predominated (63–66). Soon after 2000, however, Bao, originally an Africanist, led the development of environ-

mental history within China (67). Bao and his colleagues pursued themes of environmental management—efforts to combat desertification for example—that span the gap between imperial China and the era (post-1949 China) of the People’s Republic. The tempestuous environmental history of post-1949 came in for less attention from foreign scholars, partly no doubt owing to restrictions on access to relevant documentation (but see Reference 68).

Japan too has attracted some attention from environmental historians. Among foreigners, Totman (69) led the way with studies of forests and forestry in particular. Japanese scholars, often not historians, had laid a foundation for Totman, as they had for other foreigners working on whaling, wolves, or other themes. And by 2010, the Japanese had begun to produce environmental history in earnest (37, 69–72). The rest of Asia, aside from the Indian subcontinent, remains almost *terra incognita* for environmental history—in other words—a beckoning opportunity. Although historical geographers have done excellent work on southwest Asia, Central Asia, and Russia, environmental historians have scarcely set to work (but see References 73–75).

#### 4.2. Europe and Africa

Europeanists since 1990 have excelled in producing provocative environmental history. In the work of the *Annales* historians (considered above) and in that of a few other prominent scholars, such as Keith Thomas, some observers see a deep tradition of environmental history within Europe. Thomas considered himself a historian of English culture and society, but his *Man and the Natural World* (76) canvassed English letters of the early modern centuries for changing attitudes toward animals and nature in general. Today, this book could easily pass as a work of environmental history, even if Thomas did not think of it (or himself) in such terms. A landmark early work of self-conscious environmental history, *The Silent Countdown* (77) set a fine example, showing some of the variety of possible subjects and how to make use of a comparatively deep documentary base.



Scholars working on Germany, Scandinavia, Scotland, and the Netherlands led the way in the 1980s, originally concentrating on forests and water issues, but the strong traditions of agrarian history in Italy and especially Spain soon led to a fruitful exploration of environmental themes in the rural history of southern Europe (78–80). East Europeanists got off to a late start, perhaps because environmental perspectives did not fit easily with the state’s approved historical agendas before 1989. Since 1989, Hungary and Czechia have developed small but lively environmental history communities. Perhaps because of the supply of suitable records, Europeanists have done more than others with climate history as it affected human affairs (81–85). They also explored the history of industrial pollution and the social conflicts surrounding its regulation (86–88). European environmental historians are sometimes inclined to lament the state of their field (89), partly on the grounds that mainstream historians seem uninterested in what they do (an interesting contrast to the fate of U.S. environmental historians), but from an outsider’s perspective, the Europeanists have done and continue to do well in almost every sphere of environmental history.

European scholars—but by and large not textual historians—developed one of the few concrete methodologies of environmental history in the “social metabolism” approach. Drawing on a few observations of Karl Marx, Herbert Spencer, and others, groups in Barcelona and Vienna doggedly compiled quantitative studies of the raw material use of chosen societies. This is both a hypermaterial form of environmental history, tabulating units of energy and materials, and an explicitly theoretical one, using the analogy of metabolism in biology to construct an input-output model of economies. It has the virtue of showing in bold relief how different the modern, fossil-fuel-based economies are from their organic predecessors. But it has the limitation that to be persuasive it requires very good data of the sort not easily found outside modern European and North American settings (90, 91).

Africanists showed an early inclination to adopt environmental history perspectives. The famous challenges of African environments (aridity, disease) inclined Africanists to keep ecological matters in view. More than any other, the theme of colonial alteration to the environment dominated, partly because of the availability of suitable sources, which are scarce for precolonial African history. Of necessity, Africanists have gone further than anyone else in making the techniques of oral history serve the interests of environmental history. This allowed research into the environmental thought and practices of Africans, as opposed to the better-documented subjects of the doings of colonial states, science in the service of empire, and the resource conflicts between Africans and settlers. Lately, it seems that work on South Africa pours out faster than that on the rest of the continent put together (92–97). The persuasiveness of Africanist environmental history is reflected in the fact that Iliffe, one of the leading scholars of African history since the late 1960s, chose to put environmental themes at the center of his conspectus, *Africans: The History of a Continent* (98). Iliffe emphasized those constraints of nature that operated in African history, notably diseases, drought, and soil infertility, in narrating sagas of African pioneer settlement and transformation of a wide variety of environments.

Although historians of one region or another may have made an earlier start in adopting the perspectives of environmental history, by 2010 environmental history had traveled almost everywhere, from the polar regions to the equatorial latitudes and from ancient Mesopotamia to the day before yesterday. Almost every world region by 2010 had an environmental history survey (54, 60, 63, 96, 99).

### 4.3. Global Environmental History

Global-scale environmental history is built upon the foundation of local work and regional surveys. It has the obvious intellectual merit that many ecological processes are global in scope, and many of the cultural trends

concerning the environment have been nearly so. But it has the equally obvious practical problem that mastering the relevant information is out of the question, and bringing coherence to the subject much more difficult than, say, to the history of asbestos regulation in Kansas City in the 1980s. For decades, the only global syntheses came from authors who were not professional historians, but geographers such as Simmons (100) and in one case a former mandarin of the British Foreign Office (101). Sociologists too joined the fray, unencumbered by the documentation fetish that historians acquire during their apprenticeships (102). Eventually, natural scientists had a go at global historical treatments of subjects such as nitrogen and soil (103–108). A multidisciplinary magnum opus from 1990, Turner et al.'s *The Earth as Transformed by Human Action* (109), helped spur global historians to action.

Professional historians began by taking slices of the whole, with books on global fire history by Pyne (110) and environmentalism by Guha (16). Pyne's work, which grew out of his earlier studies of fire in American history, sought to discuss every aspect of the human relationship with fire, from cooking and the physiology of digestion to the cultural perceptions of wildfires. Guha's short treatise on modern environmentalism showed the contrasts between the social movements that go by that name in, above all, India and the United States. Radkau (38) was perhaps the first to bring the sensibilities of the historian to general global-scale environmental history in his *Natur und Macht: Eine Weltgeschichte der Umwelt*, first published in German in 2000. His was not a survey, but a sprawling series of soundings and reflections on everything from animal domestication to contemporary tourism in the Himalayas. A small flurry of world environmental histories appeared almost simultaneously, some written as surveys (111–113) and some as portraits of an era (114, 115). Although the practical problems of such efforts will always remain, environmental history probably lends itself to global-scale work more readily than does, for example,

labor history, women's history, or intellectual history.

#### 4.4. South Asia and Latin America: Active Frontiers

Two of the most active arenas for environmental history lately have been South Asia and Latin America. Both appear energized by scholars' investment in current environmental struggles.

**4.4.1. South Asia.** Within South Asia, indeed within all of Asia, environmental history writing began first and appears strongest in India (116–120). Sri Lanka, Bangladesh, and especially Pakistan have come in for much less scrutiny (but see Reference 121). If this impression is not an illusion resulting from my English-language bias, it is probably a result of Indian scholars' engagement with social and environmental struggles since 1980. As in Latin America, environmental history in India seems to carry more political content, and a stronger social commitment, than it now does in Europe or North America, where that sort of engagement has waned since the 1970s and 1980s.

The vigor of Indian environmental history also results from the helpfulness of the available historical records. The gazetteers of the Raj, for example, proved most useful for understanding land-use patterns. Its forestry service left behind mountains of memoranda, allowing very detailed work on Indian forest management history. The lack of comparably meticulous work for the period 1500 to 1750 suggests that the record base left by the Mughals is not nearly so helpful, but that may be disproven in years to come. So far, environmental perspectives have made no impact on the syntheses of Mughal history (122), not even the one written by a prominent environmental historian, John Richards (123). The success of Indian environmental historians may also owe something to their having easy access, through English, to work done elsewhere. The Indians too have often read Worster and Cronon and dozens of others writing on the

Americas, Africa, and Australia. The context of Indian history is so different from that of North America that there could be no facile appropriation of the themes that the U.S. (or any other) environmental historians championed. But, to take a single example, the struggles for control of water in the American West had their parallels, indeed their precursors, in Indian history. Indian environmental historians have shown great interest in social competitions over natural resources, especially where peasant protests were involved.

A good deal of early work focused on land use and forests. Issues of access to forests loomed large (as they still do in parts of India), especially under the Raj when ambitious state forest conservation efforts put officialdom on a collision course with peasants for whom forests had routinely provided much of their livelihood. Another important theme was water manipulation, including canal building (chiefly in the colonial era) and dam building (mainly since independence in 1947). Indeed, one might fairly say that Indian environmental history grew out of the study of forests and irrigation and the conflicts raging around them. A third subject, taken up more recently, was the fate of wildlife, especially iconic mammals such as tigers and elephants, and their meanings in different Indian cultural settings (124). These are all rural subjects, appropriate perhaps in India. But the tremendous urbanization of the last century has made Indian cities a most interesting and rewarding topic for environmental history, one that as yet has attracted almost no historians.

Environmental historians of India also tended to focus their work on the role of the state, whether that refers to the Mughal Empire, or more commonly the British Raj, or the post-1947 national state. There is a threefold logic to this. First, since at least the middle of the nineteenth century, India has been home to environmentally activist states. Rulers chose to try to remake nature in India according to (evolving) ideas about modernity, security, and prosperity. Not content with the nature they inherited from the past, they sought to change

and to manage it in service of either imperial or nationalist agendas. This is far from unique, and never reached the levels of ambition attained by the Soviet leadership. But it supplies a rationale for historians (most of whom rarely need encouragement) to focus on the role of the state (116, 119, 125).

Second, just as states indulge in gross simplifications in order to understand the complexity of the societies they rule (126), historians often focus on the state to simplify their tasks. In the Indian subcontinent, the situation is especially challenging. Its ecological diversity, from the Himalayas to deserts to rice paddies to jungle (and much else besides), is daunting enough. Add to that the rich linguistic, religio-cultural, and ethnic diversities, and then bear in mind that none of this stays still for long. Indian history is a kaleidoscopic swirl that, as much as anywhere in the world, drives historians to take intellectual refuge in emphasizing the role of the state (116, 119, 125).

Third, a focus on the role of the state makes environmental history in India (perhaps more than most other settings) more interesting and relevant to historians in general and the public at large. The significance of British colonial rule has probably been the foremost preoccupation of Indian historians in the past half century, and certainly that issue has dominated Indian environmental historiography. Although it may be that the import of colonial rule is exaggerated, it did bring major changes: new plantations, railways (and forest protection to ensure supplies of railway sleepers), and far more ambitious irrigation, among other things. The colonial preoccupation, I cautiously predict, will change as the colonial experience recedes in time and memory. Historians of Africa, where admittedly colonial rule came later and lasted less long, have progressively demoted colonialism from its formerly dominant position among historiographical priorities (98, 127). The same, I suspect, is happening or will happen in Indian historiography, both in general and with respect to environmental history. Against this prediction, it must be admitted, is the convenience of record keeping and archives created

and maintained by colonial authorities, which will long make work in this sphere tempting for historians.

Since the pioneering works of two decades ago (116, 128), Indian environmental history has grown with extraordinary exuberance. Those working in the field freely admit that they can scarcely keep up with the spate of publications in the field.

**4.4.2. Latin America.** The same happy situation now exists for Latin American environmental history as well.<sup>5</sup> Scholarship on this region included a rich tradition of historical geography dating back to Alexander von Humboldt (1769–1859). But environmental history as such arrived only in the 1970s with a small handful of articles in Spanish and with Crosby's *Columbian Exchange* (18), which included a good deal about Latin America and the Caribbean. A growing sense of crisis in the 1980s underlay the work of two pioneers of Latin American environmental history, Luis Vitale and Warren Dean. Vitale (129) steered the conventional Marxist critique of economic development in Latin America in an environmental direction, although his work remained obscure even among Latin Americanists. Dean (130), a Brazilianist and economic historian based in New York, wrote about the Amazonian rubber boom of 1880–1920 as his first work of environmental history. In many respects, the agendas of Vitale and Dean, with their emphasis on colonial (and neocolonial) economic impacts, remain in place decades later. Leaving the question of pre-Columbian Amerindian relations with nature to the preserve of anthropologists, geographers, and archeologists, the main issues of Latin American environmental history have been connected to colonial conquest (as in South Asia) and settlement (unlike South Asia). More recently, work on industrialization, urbanization, conservation,

and environmentalism has emerged, making Latin American environmental history both richer and less distinctive.

In exploring the ecological impacts of colonialism and capitalism, Latin American environmental historians emphasized themes often familiar in other contexts, such as the installation of plantation economies and the spread of deforestation. Dean took up both in his final book (131), a masterpiece of research and a model of politically committed scholarship. He took the story of a sprawling forest from pre-Columbian times to the 1990s, emphasizing the accelerating retreat of the forest in the face of short-sighted economic agendas. The book is squarely in the declensionist tradition (see below) of environmental history, and consistent with the *raubwirtschaft* (plunder economy) theme prominent in Latin American historical geography. These themes also predominate in the as yet thin environmental history of the Caribbean (132–134), where the colonial era was long and plantation economies dominant.

The grasslands of Argentina and Uruguay had a different history, inviting historians to take different approaches. Settlement of the pampas by people and herbivores looms large in the environmental history of Argentina, summarized in a prizewinning book, *Memoria verde: Historia ecológica de la Argentina* (135), written by an unusual team, an economist and a biologist long active in Argentine environmental politics. The story of the pampas, the displacement or destruction of its indigenous peoples, and its transformation into pasture and wheat fields readily call to mind the North American prairie experience (136, 137). Within the environmental history of the Latin American colonial economy in general, pastoralism, irrigation, and mining attracted attention, although much opportunity remains especially as regards mining (but see References 138 and 139).

Lately environmental historians of Latin America have struck out in new directions. While not neglecting the study of colonial transformations, they have begun to work on environmental thought and science in both

<sup>5</sup>The bibliography maintained by Sedrez and colleagues included about 1,200 entries as of 2009. See <http://www.csulb.edu/projects/lach/>.

colonial and independence periods. In terms of research, two standard setters were Pádua (140) and McCook (141). State programs of nature conservation also came in for some treatment (142–144). Latin America has for centuries been among the most urbanized parts of the world (today nearly 80% of its people live in metropolitan areas), so the early work on rural and agrarian subjects acquired a complementary literature, albeit still small, in urban environmental history. The first in-depth work was Ezcurra's study of Mexico City and its surroundings (145), eventually followed by works on Brazilian cities, such as São Paulo (146, 147), widely regarded as an environmental blight, and Curitiba, a southern Brazilian city viewed by some as a bright example of enlightened environmental city planning (148, 149). Bogotá is another giant city, now the subject of an environmental history (150). Latin Americanists have gone further in the direction of urban environmental history than have the South Asianists (after all their region is twice as urbanized), but plenty of interesting cities still await attention.

Latin Americanists produced several regional and national overviews after Vitale's early effort, taking into account the fruits of new research. Castro (151) offered a compact survey, and Brailovsky longer ones (152, 153), all firmly nostalgic for a more ecologically intact past. Miller's *An Environmental History of Latin America* (99) succeeded admirably as an introduction to and conspectus of the field. Despite the complications, discussed above, of using the nation-state as a unit of analysis in environmental history, Latin Americanists have followed this well-worn path too (154, 155).

There will soon be need for further overviews, as more research pours forth and as new subjects find their historians. Climate history, for example, including the impacts of El Niño, have only just begun to figure in Latin American environmental history, and the same may be said of energy history, although Enfield (156) and Santiago (157) have shown some of the potential these two areas hold. The entire Caribbean region, so prominent in one of the shining achievements of modern

historiography—revealing the dark world of plantation slavery—remains woefully underdeveloped when it comes to environmental history (but see References 132 and 134).

From the 1970s to the early 1990s, environmental historians within Latin America were few and isolated from one another. Castro, working in Mexico in the early 1990s on his dissertation, was unaware of the works of Vitale (129) or Brailovsky & Foguelman (135). He found the books of Worster and other U.S. environmental historians much easier to locate.<sup>6</sup> But since the 1990s, an organized community of Latin Americanist environmental historians has grown up, linking scholars mainly in the Americas and in Spain—an effort in which Castro himself played a prominent part. This new scholarly community has great opportunities still before it in the turbulent environmental history of Latin America.

## 5. FOR AND AGAINST ENVIRONMENTAL HISTORY

Like any new initiative in the world of scholarship, environmental history has attracted admirers and detractors. Here, I offer a few words on the utility of environmental history, especially to historians who are not predisposed to think in environmental terms, and then explore some of the leading critiques of the genre.

### 5.1. The Value of Environmental History

Sometimes environmental history seems too tangential to the main concerns of other historians. What can it tell them about the big issues that have preoccupied historians for generations? What can it say about empire, war, revolution? What can it say about issues that have preoccupied the last generation, such as gender, identity, or slavery? These are fair questions, to which a fair answer would be more and more every day, but not yet enough.

<sup>6</sup>Castro relates this in "Environmental History (Made in Latin America)," (<http://www.h-net.org/~environment/historiography/latinam.htm>).

Environmental historians since Crosby have had a great deal to say about the success of European overseas empires in the early modern period, particularly the extent to which disease, crops, and animals abetted them. Environmental historians, especially those working on Africa, Southeast Asia, and India, have contributed a great deal to the appreciation of what European empires did, how they sought to maximize their revenues, control populations, and “modernize” nature (158–161). Environmental historians have done much less with non-European modern empires, whether Russian, Chinese, or Japanese, let alone the deep roster of ancient ones. Since about 2000, environmental historians have turned their attention to warfare, especially the subject of its environmental consequences, following (usually unknowingly) in the footsteps of French forest historians (162). Two edited collections give a fine sense of the field (163, 164), and Bennett’s detailed study of the Pacific War (165) stands as the most in-depth work to date, aside from one available only in Finnish (166). For the most part, historians have not followed the invitation of the environmental security specialists in political science, who have sought to find environmental components in the causes of war (167). As for revolutions, environmental historians have begun to show how just about every peasant revolution has a component of environmental grievance and bad weather behind it. Perhaps the boldest attempt in this direction was Grove’s linking the French Revolution to the disruptions of the giant El Niño of 1789–93 (168). The outcomes of some revolutionary wars in the Americas, including the American Revolution, the Haitian Revolution, and the independence wars in Venezuela and Cuba, probably also had significant environmental causes behind them: Plantation systems made landscapes more hospitable to the mosquito vectors of yellow fever and malaria, both of which ravaged armies sent to prevent these revolutions (134).

Merchant pioneered the systematic use of gender perspective in environmental history.

Her first book (25) offered a feminist critique of the intellectual underpinnings of Europe’s Scientific Revolution and Enlightenment, arguing for a linkage between the quest for mastery over nature and male oppression of women. She then took her arguments to colonial New England (26) and expanded the inquiry beyond intellectual matters to actual changes to the biosphere, where she found, as in her earlier work, a thorough transformation in social and cultural appreciation and appropriation of nature, one that increasingly reflected male preferences and power. Since the 1980s, Merchant and other eco-feminist voices have inspired several environmental historians working in diverse fields (95, 157).

The history of identity (an amorphous category that includes studies of race, nationality, and ethnicity) intersects easily with environmental history. This is perhaps most evident in the work on German *heimat* in which local affiliations to particular landscapes translate into identity and consciousness that in turn support landscape preservation and conservation movements (169). But it also appears in the environmental justice subset of environmental history, which considers how powerful entities—governments and businesses mainly—select the sites of such things as toxic waste incinerators and nuclear waste repositories. The environmental justice literature, especially well developed in the United States, finds that Native Americans and African Americans often found their communities chosen for these unwelcome installations. Politically and economically weak minorities around the world probably had similar experiences, as further work is beginning to show (95, 170–176).

The study of slavery, in Africa and in the Americas, is one of the jewels in the crown of historiography in the last generation, for which environmental historians can take no credit. Historians of slavery have shown extraordinary ingenuity in exploring various aspects of their subject, but as yet, they have found little to say to connect the exploitation of nature with the exploitation of slaves. Geographers such as

Watts (133) and Earle (177) have inquired more deeply into such matters than environmental historians until recently, but that is beginning to change (178–181). A shining opportunity still beckons.

## 5.2. Critiques of Environmental History

The enterprise of environmental history has its problems. It does not fit very well with the typical training of historians. It can easily slip into facile morality tales of past edens despoiled by someone's greed. And to many social scientists, it can appear credulously environmentally determinist.

**5.2.1. Environmental history and the nation-state focus of historians.** Questions of language, training, and inclination inform one of the three main weaknesses of environmental history. First is its awkward compatibility with the nation-state as a unit of analysis. For more than a century, most historians have defined themselves in national terms, as historians of Japan, Russia, Canada, Mexico, or some other nation-state. The publishing industry and the academic job markets strongly reinforced this socialization. The investment in linguistic skills made it seem unrewarding for someone who had learned Chinese to study the history of Chile. Moreover, many archives are kept by national governments and record the behavior of a single state. Very few historians see themselves as specialists in a given time period, e.g., 1600–1650, around the world, and indeed, most would find this ambition absurd, as they would the idea of specializing in, say, the history of plantations or monasticism or smallpox throughout the ages and around the globe. The main reason these things seem absurd to most historians is the importance of reading texts in original languages, and there is a great deal to be said in favor of this preference. However, this preference fits poorly with most forms of environmental history. The natural phenomena that form part of environmental

history's subject matter pay no heed to political borders. Pumas and sulfur dioxide plumes migrate across boundaries with impunity. The cultural and intellectual trends concerning human views of nature migrate internationally with almost equal ease, as the near-simultaneous rise of modern environmentalism as a popular movement around the world in the 1960s and 1970s attests. Only in the realm of political environmental history does the historian's preference for national units of analysis make much sense. And even there its logic diminishes yearly as in recent history international NGOs, transnational institutions, and diplomacy have played ever larger roles. The long-standing, although weakening, fetish for national-scale history is problematic for many genres of history, but especially so for environmental history. If in the future transnational, international, and global history continues to grow in appeal and importance, then perhaps environmental history can claim some credit for nudging this evolution along (182).

**5.2.2. Declensionism.** The second problem for environmental history is that it consists (allegedly) of a single dreary and repetitive tale of woe, irritating to other historians (183) and depressing for the young. Environmental historians grandiosely call the tendency to write in this vein declensionism. In the 1970s and 1980s, many scholars found in environmental history an opportunity to critique the environmental record of societies, their own or others', by writing degradation narratives. With varying degrees of plausibility, they located in the past societies that behaved with ecological prudence and restraint, or at least in a better time when ecosystems were intact. Since those halcyon days, it seems, all has gone relentlessly downhill.

The weight of this critique has diminished over time. Since the 1980s, environmental historians have lost some of their political commitment and moral certitude, especially in Europe and North America, and are ever more apt to write about environmental change rather

than loss and degradation. Their stories have grown more complex, in recognition of the likelihood that environmental change is good for some people and species and bad for others. The beguiling formula of Leopold's (184) "land ethic"—"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise"—seemed progressively less suitable as a guiding principle as layer after layer of complexity emerged from ever more research (185). Moreover, historians found encouraging stories of environmental change that could scarcely be seen as degradation, such as the reduction in urban air pollution in many cities since 1965 and the diplomatic protocols that led to bans of chlorofluorocarbon use (thereby sparing the stratospheric ozone shield a fast death and giving the international community more time in which to prevent a slow one.) The most resolutely cheerful environmental history I have seen is Brown's account of twentieth-century Georgia (186).

Related to the impatience with declensionism is a critique of degradation narratives as either intentional or unwitting accusations of improper ecological conduct on the part of others, especially Africans. Environmental history that found degradation as a result of African land use was suspect, complicit with colonialism, because it implied that Africans ought not be allowed sovereignty over African ecosystems (187). Normally this view carried weight only when applied to European and American authors writing about formerly colonial, or Amerindian, societies. Many historians have grown wary of offering critical accounts of African or Amerindian ecological practices, lest they expose themselves to charges of racism.

**5.2.3. Environmental determinism.** Third among the chief faults found with environmental history is environmental determinism. Scholars in the social sciences and history have been highly sensitive to environmental determinism for more than half a century, as a result of early twentieth-century overenthusiasms

[e.g., the climatic determinism of geographer Huntington (188)] and the efforts to justify Nazi racism by recourse to belief in biological superiority. Hence, any effort to explain matters with emphasis on environmental or biological factors attracts objections. Crosby's *Ecological Imperialism* (189) is a case in point. It argues that the success of European imperialism in the temperate Americas, Australia, and New Zealand owed a lot to the unconscious teamwork of pathogens, plants, and animals that paved the way for the imposition of imperialism, the removal and near-extinction of indigenous peoples, and the creation of settler societies. To some readers, this seemed to go much too far, serving to exculpate Europeans for crimes against humanity (which a proper reading of Crosby rules out). To others, it seemed to locate agency and causation not in human choice and social structures but in viruses, sheep, and bluegrass (which to a considerable degree Crosby did, and unabashedly).

Diamond's enormously popular and much admired *Guns, Germs, and Steel* (190), which I do not consider a work of environmental history but which Diamond (and others) does, aroused sharp criticisms for its efforts to explain the long-term distribution of wealth and power around the world in environmental terms (191). Diamond's analysis began with the distribution of potentially domesticable species, which were found much more frequently in Eurasia than on other continents. From there, he argued that domestication took place earlier and spread more readily in Eurasia than elsewhere, giving Eurasians advantages in the development of high population densities, cities, states, writing, and much else. Although Diamond anticipated criticisms of environmental determinism and tried to rebut them, the thrust of his book is that the geographical distribution of potentially domesticable plants and animals is the best explanation of why some people are rich and some are poor today—an argument that, whatever its merits, is hard not to classify as environmentally determinist.



Nonetheless, the great majority of environmental history easily escapes the charge of environmental determinism. More often than not, environmental historians write about how societies and cultures have altered environments, rather than how environments shaped them. Work in material environmental history that covers long time periods normally recognizes that environment and society shape one another through time. Anyway, much of the genre concerns cultural interpretation of nature, or societies' efforts to regulate nature, which is as far from environmental determinism as scholarship can get.

Diamond eschewed all environmental determinism in another popular book, entitled *Collapse: How Societies Choose to Fail or Succeed* (1992). It has a stronger claim to be a work of environmental history than did *Guns, Germs, and Steel* because it explicitly tackled questions of anthropogenic environmental change and its consequences for the sustainability of societies. In *Collapse*, Diamond constructs an argument based on a series of comparisons to the effect that it is within human power, indeed within the capacity of a given society's political elites, to select a sustainable or an unsustainable course for that society. As a work of scholarship, it has many drawbacks, not least that many of those societies he judges as ecological failures (e.g., the Greenland Norse) lasted longer than some he rates as successes (the modern Dominican Republic). It has attracted vigorous critiques (191), indeed harsher ones than followed *Guns, Germs, and Steel*. Each of Diamond's books has had a much greater intellectual footprint, as far the general public is concerned, than any work of professional environmental history ever written.

## 6. WHAT HAVE WE LEARNED?

After more than a quarter century of work by more than a thousand scholars active in environmental history, we have learned literally millions of things, large and small. Contrary to some of their rhetoric, and early scholarship

that took rhetoric too seriously (193), the Nazis were not greens at all but enthusiastic despoilers of the environment in their quest for military power (194). The concept of the "tragedy of the commons," popularized by Hardin (195) with its classic example of a pasture open to all comers, rarely applied to pastures and is much more useful for thinking about the Earth's atmosphere or oceans (196). Biological invasions, an anxious concern for environmentalists today, were enthusiastically encouraged in much of the world for centuries (197). Many shibboleths of the early environmental movement in the United States, perhaps unsurprisingly, do not stand up to scholarly scrutiny. American Indians were not ecological angels but altered their environments to suit their preferences within the limits of their technologies and populations (198). There is probably no true wilderness in the United States, despite the resonance of that term in the history and culture of American environmentalism (199). Devotees of eastern religions and philosophies, including Hinduism, Buddhism, Confucianism, and Daoism, eagerly degraded their environments for centuries in routine quests for survival, prosperity, and power. Despite early suggestions to the contrary (200), it seems most unlikely that the Judeo-Christian tradition lies at the heart of ecological degradation. The reverence for nature expressed in some sacred texts scarcely restrained any but the most ascetic believers (63, 70, 72).

Lately the community of scholars interested in environmental change has grown increasingly concerned about the possibility of ecological catastrophe or collapse. What insight can environmental history offer on this issue? The first point to make is that clear cases of ecological collapse or even irretrievable decline in the historical record are few and far between. Archeology has its candidates, such as the Classic Maya, around 900 AD, or the Khmer kingdom in Cambodia, around 1420 (201). All such cases are ambiguous, and most are disputed by archeologists and anthropologists (191). Textual historians have been unable to shed

any light on the matter because the few surviving texts say next to nothing, or more often nothing at all, that can be used for environmental analysis. Even where texts do abound, and environmental historians have made the case for collapse on ecological grounds, they have at most been able to say that environmental decline was a contributory cause to a more general collapse, for example, in the case of the western Roman Empire in the fifth century AD (43).

This is only prudent. Environmental history casts suspicion on straightforward linear explanations of environmental change in general. Rarely, if ever, has climate change, population growth, or capitalism acted alone. Regrettably, the society-environment relationship has proven complex, and particularities of time and place have irritating significance. Historians sometimes revel in such particularities (202) and convincingly argue for the merits of microlevel analysis. But that makes drawing generalizations and the development of theory fraught undertakings. Whereas a generation ago environmental historians, even the best ones, might offer capitalism as the decisive variable in tales of environmental decline (19, 20, 101), work on noncapitalist societies such as the Soviet Union (73, 74) shows unequivocally that capitalism has no special power to provoke environmental changes.

Two generalizations that seem safe are that people have always affected their environments and that environments have always affected people. Geoarcheologists and others rather than historians have provided the data (because there are no texts old enough), but it is clear that, at least since the harnessing of fire, communities have both intentionally and accidentally altered their surroundings, especially through the burning of forests and grasslands (110, 203). Over time, they gradually acquired more power to do so through technological changes and population growth. Over the long run if not in every particular epoch, this power encouraged them to do so on ever larger scales. Nonetheless, modern history seems a case

apart. The scale, scope, pace, and intensity of anthropogenic environmental change since the emergence of fossil fuels around 1800, and especially since 1945, eclipse that which went before. The enormous expansion of energy use and the burgeoning of population are likely the most important proximate causes (114, 204).

For as long as there have been humans, environments have also affected people, providing their sustenance but also constraining their options. Over the long haul, this has remained true. In one sense, it is more true than ever and, in another, perhaps less true than before. For most of human history, i.e., the Paleolithic, if people found aspects of their environments unsatisfactory—too little food, too cold—they had one simple solution. They could walk elsewhere, and there were so few people on Earth that their chances of bumping into another group were small enough. Even settled cultivators (in more recent millennia) could often do this and find empty or sparsely populated new terrain. But in the modern world, such easy migration is no longer feasible, globalization notwithstanding, and so the great majority of people cannot exchange one environment for another but instead must live within the confines of the one they have. In that sense, people are more affected than ever by their environments.

In a more conventional sense, they are less affected now than ever because billions of people (not everyone) have technologies and knowledge that insulate them from some environmental effects and constraints. Those people with access to yellow fever vaccine, for example, are almost certain to avoid that affliction even if living in or visiting environments rife with yellow fever. Whether this is a temporary state of affairs remains to be seen: The yellow fever virus might evolve so as to sidestep immune systems primed with vaccine. More generally, environmental change in the future might proceed so rapidly and sweepingly that our ability to insulate ourselves from its less agreeable impacts might diminish.

More systematically, what have environmental historians learned about specific biomes or environments? Below, I offer some of the findings from work on forests and wetlands and pass over a dozen or more other possibilities.

### 6.1. Forests

Forest history has a tradition all its own, dating back a century or more. Early work in this vein mainly considered management of forests, generally in Europe where adequate documentation existed. North American forest history came to emphasize the economic, labor, and technological sides of the long saga of exploitation of American and Canadian forests. Environmental historians, at first writing squarely in the declensionist mode, sought to help establish the extent of deforestation in ancient and modern times. Despite the fact that forests are among the easiest biomes for humans to alter, thanks to fire, and therefore were among the earliest that humans transformed (and destroyed), the great majority of global deforestation took place in the nineteenth and twentieth centuries (131, 205, 206). Faster population growth, intensified demand for more farmland, more vigorous timber markets, and more efficient technologies for cutting and transporting timber, all led to a gathering tempo of deforestation, climaxing in the post-1960 assaults on the tropical forests of the Americas, West and Central Africa, and Southeast Asia. Trees do grow back where sufficient nutrients remain and where humans and their livestock permit. But in most environments outside of eastern North America and Europe, trees have not yet had much chance to make a comeback (207).

Environmental historians have sought to find the best institutional management regime for forest preservation, but with no luck. In some settings, peasants succeeded for centuries in managing local forests sustainably, but in others, they obliterated them within a generation. Similarly, professional foresters have in cases poured whole forests into sawmills with

no misgivings but elsewhere have carefully nurtured forests over generations. Kings and emperors were often the best stewards of forests, preserving them for their own hunting pleasures and imposing draconian punishments on all who dared to poach a deer or gazelle (207). In the age of wooden navies, kings and their ministers worked hard to manage oak and conifer forests for a sustainable yield to ensure steady supplies of ship timber (13, 208–210). For Japan and for Western and Central Europe, we have detailed accounts of sophisticated forest management practices going back several centuries, which does not mean that forest cover in those lands remained steady (69, 211, 212)—far from it. Anxieties about declining forests were among the spurs promoting the development of forest management.

### 6.2. Wetlands

Like forests, wetlands often seemed a waste of land that might serve humankind better if farmed or grazed. Unlike forests, wetlands could not be removed by fire but instead required hydraulic skills and endless backbreaking labor by man and beast (until the era of fossil-fuel powered earth-moving equipment). So the draining of wetlands, although an ancient practice, gathered pace chiefly where and when plentiful labor could be focused by the coercive power of lords and states, and where land hunger pushed young men to desperation. The ancient river valley civilizations in Egypt, Mesopotamia, and north China drained some of their wetlands to expand cultivation, probably though forced labor. Expanding states in several Asian river deltas—the Irrawaddy, Mekong, and many smaller ones—converted wetlands into rice paddies. Successful drainage, as well as flood management, was a hallmark of durable states and prestigious rulers in the Asian monsoon zone.

At higher latitudes in Eurasia, the retreat of the ice at the end of the last glaciation left a landscape pockmarked with depressions that became bogs, wet moors, fens, and marshes.

Many of these were useful to people as sources of edible fish, birds, and seasonal grazing or browsing for livestock. Many were also dangerous to people as sources of the various anophelid mosquitoes that carried malaria, which until the nineteenth century was an annual summer scourge in northern Europe and Russia. This broad expanse of wetlands became a target for drainage on a small scale through the efforts of medieval monasteries to create fresh farmland. In the Netherlands and Norfolk, England, the wetland drainage skills reached high levels in the seventeenth century, and both societies converted many thousands of hectares of swamp to farmland. Dutch engineers also found drainage work along the Baltic, in what is now Poland, and elsewhere. Still, the great majority of European wetlands remained unaffected.

After 1750, however, two factors converged to bring on a swamp drainage fever in Europe. The first was accelerated population growth, meaning more desperate young men eager for land. The second was the rise of both scientific expertise and an improving mentality, which confirmed the view that wetland drainage was desirable and feasible. Rulers with ambitions to be modern and progressive found in swamp drainage a suitable outlet for their talents, much as twentieth-century statesmen were drawn to dam building. Peasants hungry for land found they had no better choice than wading into the muddy marshes of east Prussia, with spade in hand. Frederick the Great set the pace with his determined effort to conquer the wild wetlands of his domains and settle them with fertile peasant families, who, he hoped, would fill the ranks of his army with sturdy sons. As usual, environmental modification had its political purposes (213).

Europeans in the nineteenth and twentieth centuries carried their swamp drainage fever—and their engineering expertise—overseas. The settlement of North America, especially the region from Ohio through southern Manitoba circa 1830–1910, involved draining millions of hectares of wetlands left behind by the retreat of the glaciers and the creation of one of the

world's great breadbaskets. Elsewhere, imperial rulers sought legitimacy through drainage, as for example, when the British held a League of Nations mandate over Palestine in the 1920s and 1930s (214). Draining wetlands in Palestine helped reduce malaria (knowledge of anophelid's role as malarial vector was by then well established) as well as created new farmland. French colonial authorities tried hard to drain parts of the interior Niger delta (in today's Mali) as part of their improvement schemes. In the course of the twentieth century, wetland areas the size of Canada were drained (114).

Ironically, after 1980, some of the drained wetlands were flooded again, in Israel for example. There, early in the twentieth century, Zionist pioneers and (after 1919 when Palestine became a British-mandated territory) British authorities had drained swamps to combat malaria, create new arable land, and demonstrate their superiority to the local Arab population through vigorous environmental manipulations (214). But in time, the rise of ecological consciousness converted bad swamps into good wetlands, and where land values were low enough, it seemed sensible to undo the reclamation of decades ago in order to restore wetlands in hopes that wildlife might return (which it often did, especially in the case of migratory birds). This is perhaps the best example of how cultural preferences with respect to a given biome can change over time, and the reviled can become the revered.

## 7. CONCLUSION

Over its 30–35-year existence, environmental history has emerged from the shadows to become one of the fastest-growing—quite possible the fastest of all—subfields within professional history writing. It has cropped up almost everywhere that historians are at work. In some respects, Americanists still predominate, although less so every day. The political commitments of the early days have waned somewhat, especially in North America and Europe, but remain a strong motive for some

environmental historians everywhere and perhaps for the majority of those working in India and Latin America.

In the first decade of the twenty-first century, environmental history appeared in robust good health. Nearly 700 scholars proposed papers for the first world congress, held in Denmark in 2009. Books and articles pour forth at a rate that makes it a daunting challenge for anyone to keep up (see the sidebar entitled How to Get Up to Speed in Environmental History). Young scholars in dozens of countries continued to flock to environmental history. Much of this good health, regrettably, was owing to unhappy larger circumstances, notably the continuing anxieties over environmental problems around the world. As long as global climate change, Beijing's air quality, Brazil's Amazonian forests, and a dozen other concerns remain with us, environmental history will probably maintain its grip on historians' imaginations. Because these issues are likely to grow in salience (although one never knows), the future for environmental history looks distressingly good.

Sustaining innovation and intellectual excitement are always issues for a young subfield. In environmental history, two easy routes remain that it can follow in the years to come: more interdisciplinarity and more imitation. Although many historians trained to work as individual scholars find it uncomfortable, interdisciplinary collaboration of the sort routine among environmental archeologists is one way forward. Combining the data and perspectives of environmental historians with those of archeology, ecology, botany, climatology, and so forth, while not without practical problems, will help push along the frontiers of knowledge (215).<sup>7</sup> Collaboration of a different sort, among historians trained in different languages, might also propel environmental history forward. It is a rare scholar who can cope with all

## HOW TO GET UP TO SPEED IN ENVIRONMENTAL HISTORY

For those keen to keep abreast of (mainly English-language) work in environmental history, the easiest way to do it is to follow the journals *Environmental History*, *Environment and History*, and *Global Environment: A Journal of History and Natural and Social Sciences*. One can also subscribe to the discussion network H-environment (<http://www.h-net.org/~environ/>), which includes notices of conferences, book reviews, and discussions of various issues. In addition, several university presses publish series in environmental history.

the languages of the Black Sea basin, for example, which makes it exceedingly difficult for any individual to write an authoritative environmental history of that body of water. But a team might do so, and it is well worth the risks, real as they are, of collaborative scholarship.<sup>8</sup>

Paradoxically, more imitation will also propel environmental history forward. Americanists (other than Tarr) have as of yet taken virtually no notice of the social metabolism approach used to good effect by many scholars in Europe (90, 91). The Americanists have written environmental histories of at least 10 U.S. cities, but no one has yet published one of an Asian or African city. In this respect at least, environmental history in and of the United States still deserves the attention of and, within the limits implied by local variations, imitation by scholars elsewhere. In short, to maintain its intellectual vibrancy, environmental history as a field needs more integration, both with other disciplines and within itself, among scholars at work on different regions and different problems. As always, communication among scholars across disciplinary divides and linguistic barriers is the key.

<sup>8</sup>The Black Sea is a comparatively young body of water, perhaps only 8,000 years old in its present incarnation, and thus especially susceptible to ecological disturbance. It has had its share of ecological problems because of developments along the big rivers that flow into it, such as the Danube, Bug, Dneiper, and Don.

<sup>7</sup>A few examples exist (e.g., 215). At Göttingen University, the world's largest environmental history graduate program is premised on interdisciplinary approaches.

## SUMMARY POINTS

1. Environmental history as a self-conscious enterprise dates back to the 1970s and got its start primarily in the United States. It can usefully be divided into three main varieties: material, political, and cultural environmental history.
2. In the 1970s and 1980s, the example of scholars working on and in the United States set most of the research agendas. But in the last 20 years, this has changed, and the American influence upon the field has declined.
3. Environmental history is pursued in many countries around the world, and lately, South Asia and Latin America have produced quantites of excellent work. To date, historians of the Middle East remain the least attracted by environmental history.
4. Among the problems with environmental history is that it requires an outlook and training that are untraditional for historians. Moreover, it strikes some scholars as too focused on degradation or too close to environmental determinism.
5. Environmental history can provide some context on current concerns about deforestation or wetlands loss. It can also speak to issues of importance to scholars in environmental studies, such as the implications of common property resources or of various religious doctrines.

## FUTURE ISSUES

1. The modern Middle East and Russia are the two geographic areas that, at present, are least well represented in the literature on environmental history. Each offers dramatic opportunities for scholars with the requisite language skills.
2. To date, there is a strong terrestrial bias in the work of environmental historians. More work would be welcome on the seas and oceans.
3. The environmental history of the slave plantation world in the Americas has scarcely been explored. Historians of slavery have taken every imaginable approach to their subject except this one.
4. The environmental history of the industrialization of East Asia since 1960 is one of the great ecological transformations of modern times, but has yet to attract much environmental history treatment.
5. While authors have ventured many blanket statements about the roles of capitalism and communism in shaping environmental histories, there is a natural experiment available. The Koreas, North and South, since their separation in the Korean War (1950–1953) and East and West Germany during the Cold War would allow controlled comparisons that might shed some light on the significance of communism and capitalism in environmental history.
6. The environmental history of migration and migrants remains but little explored. How do people change their ideas and practices with respect to nature when they move from one place to a very different one?

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