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The 50th Year: Special Essay 5

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Environmental History in the *JIH*, 1970–2020

Environmental history has been defined as the intersection between nature and culture, combining human societies and their ecologies, and their different processes of change, in order to illuminate their inextricable stories. Natural history was already a venerable subject before modernity. In the nineteenth century, it became more scientific as the new disciplines like geology acquired the capability of explaining subjects like the age of the earth and the course of the recent ice ages. Hoffmann proposed an alternative model in which nature and culture overlap to form a joint field of human and social biophysical structures, the latter being a hybridization of living and nonliving aspects of culture—for example, farming. He also emphasizes that what we say about environmental history (or anything else) appears in a culture of language with its own rules. Hence, people bring to nature ideas in part derived from it, which they in turn apply directly to nature as they work to extract food and energy (among other things) from it, thereby transforming nature to the extent that these efforts result in sustainable or destructive processes. The types of ideas or images that people derive from nature matters because many, if not all, of them reflect what people want to find in nature to justify their preconceptions, as well as what they declare to be objective facts. Does nature teach any moral lessons that people are willing to learn?[1]

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1 For a comprehensive analysis of many things, including ecology from a historical of perspective, see Donald Worster, *Nature's Economy: A History of Ecological Ideas* (New York, 1994; orig pub. 1977), 421–422; *idem*, *Shrinking Earth: The Rise and Decline of American Abundance* (New York, 2016); for the premodern story, Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century*

These models about nature and culture may work best for Europe and North America from the eighteenth-century Enlightenment forward but emphatically not for the rest of the planet in history. At their best, these models show, for example, how sustainability can become both a mythic cultural construct and an experience in nature. For the period before modernity, we must ask if environmental history morally benefits from a Cartesian view of a pre-Cartesian world. Just as the "environment" and "ecology" existed before the words were invented, the environmental histories of past peoples and climates need not be written in language that they would have recognized. Economists and economic historians have contributed the concept of *revealed preference*, encouraging environmental historians to study what people do as well as what they say. Contemporary crises have inevitably driven research and writing in this vein from the California smog and DDT of the 1960s to the present day. The *JIH* has recognized the deep history of the environment while not neglecting current concerns, but its interdisciplinary roots may at times miss important influences from "exogenous" fields or systems of belief like religion. Environmental history descends from environmentalism, a system of beliefs with a long pedigree that at times resembles a secular religion or a spiritual science.

Since antiquity, observers have not failed to notice subjects like the role of climate and epidemics in human history, to name only two of the most salient themes. Around 1900, scholars began to integrate questions and data to produce the first environmental histories. No matter how flawed or irrelevant to contemporary concerns these accounts may be, they remain a useful antidote to any presentist biases. By the 1970s, history had also emerged from the study of past politics to incorporate new approaches drawing from the insights of economics, sociology, gender studies, and other emerging disciplines. "Environmental history" is a relatively recent label for an

(Berkeley, 1967). Richard C. Hoffmann, *An Environmental History of Medieval Europe* (New York, 2014), 9–10. This book, by the dean of the field in medieval history, informs much of my discussion. For one scholar's approach to (and biases about) the subject of environmental history driven by ideas about nature rather than research about it, see Epstein, *The Medieval Discovery of Nature* (New York, 2012). Medieval European history—with ecological problems to explore at its beginning and end; tree rings, pollen, and glaciers to investigate; and demographic disasters like the Plague of 1348 to analyze—has been fertile territory for fruitful work in environmental history by both scientists and historians.

older subject, and as usual, we should not mistake the absence of a phrase for the non-existence of the subject. This context explains how environmental history became an archetype—for its practitioners, *the* archetype—for interdisciplinary studies relying on a basic competence in scientific fields like climatology, epidemiology, and geology, not to mention traditional skills in the humanities for constructing narratives with people at their center. This competence, however, extends primarily to literacy in the sciences, not the ability to do their research. Scientists frequently work in teams whereas historians traditionally work independently. Interdisciplinary work in environmental history is a hybrid requiring scholars to assimilate the best practices of both methodologies.

These generalities help to explain the synchronicity of Earth Day and the *JIH* in 1970. By that year, recent developments in the United States, such as air pollution in California, worries about the consequences of nuclear fallout and the use of pesticides, and the conquest of polio had focused popular and scholarly attention on nature and culture. Both Earth Day's history within the last five decades and the increasing evidence for climate change have received considerable attention. The interdisciplinary intentions of the founders of the *JIH* encouraged collaboration among the social sciences and humanities, but the door was wide open for scientists to join in their debates. The purpose of this article is to survey the contents of the journal for the last fifty years to see how environmental studies have fared in its pages, and to find patterns of emphasis over time.[2]

This endeavor is inevitably impressionistic, encompassing any article that could be remotely classified as environmental in focus. The total submissions from which these articles derived are mostly lost in time; it would take a large, and intrepid, team to uncover patterns in submissions and, above all, rejections to the journal. A journal can be only as good as its submissions, at least partly deriving from the intellectual communities of the editors. Considering book reviews is difficult because of the evolution of editorial

2 For the "prehistory" of Earth Day, see Adam Rome, *The Genius of Earth Day: How a 1970 Teach-In Unexpectedly Made the First Green Generation* (New York, 2013), 9–56. The story begins with Senator Gaylord Nelson's call for a national teach-in in 1969. Nelson, with Susan Campbell and Paul Wozniak, *Beyond Earth Day: Fulfilling the Promise* (Madison, 2002), examines the first thirty years of the holiday, and the fiftieth anniversary will doubtless encourage newer retrospectives.

policies, and the frequency of review essays also varies by subject. The scope of the *JIH*'s subject matter meant that only a tiny fraction of even the best books could receive a review, but we can might be able to glean from the books that the journal did not review clues to its evolving view of environmental history.[3]

Finally, the *JIH* has always been an English-language publication, though not limited to English-speaking parts of the world. Nevertheless, the journal has rarely shown much interest in reviewing books in other languages. Moreover, would-be authors must be able to write in clear English (or find translators). Even more importantly, they must target readers in the United States who may know their work (but not necessarily in English) and are prepared to give them a hearing. How editorial boards are composed (including attention to their language skills) and how they recruit potential contributors, all influence a journal's content. These stipulations, relevant to any American journal to one degree or another, are especially important with respect to environmental history because at first glance, American scholars appear to have invented environmental history and to have led the way in researching the subject. A reader of the *JIH* could easily come away with that impression.[4]

In fact, however, the best general studies of environmental history suggest that the initiative may have come from outside America. The existence of a Rachel Carson Center in Munich is hardly an accident. Signs in the English-language literature suggest that at least some of the impulse for this work may derive from fundamental studies in continental journals. Scholars in the field may know it, and the specialized journals in the "field," like *Environmental History* (founded in 1996), assume it. Nonetheless, it is a blind spot in the *JIH* worth noting. The American Society for Environmental History, a typically nationalist enterprise founded in 1977, now runs the leading journal on the subject. More short-lived journals—*The Environmental History Review* (1990–1995); the *Forest History Newsletter* (1957–1974), which became the *Journal of Forest History* (1974–1989); and the ephemeral *Environmental Review*

3 The reviews of books about environmental history merit a separate study. In brief, some, but by no means all, of the best works since 1970 have received a review in the *JIH*.

4 Another example from the field of medieval studies is Thomas Labbé, *Les catastrophes naturelles au Moyen Âge* (Paris, 2017), an excellent work with a bibliography that reveals a strong tradition in environmental history outside the non–English-speaking domain.

(1976)—testify to urgent concerns, while also according prominence to forestry, a premodern science, within the environmental frame.[5]

Environmental history—or, in its more expansive role, "studies"—has blossomed to claim pride of place as a capital of interdisciplinarity; in a typical article, evidence drawn from ice-core samples, economic statistics, and old newspapers can foster teamwork seldom seen in more traditional fields like economic history. Where environmental history has been, and where it is going, is crucial to its reception in the *JIH*, as scholars find venues for publishing their research. From Worster's perspective, "Environmental history is the only practical long-term hope of the field of history . . . certainly [the] biggest hope for interdisciplinarity." If most journals are becoming more conservative and provincial as they proliferate and reflect the careerism of their contributors and editors, efforts to counteract these baleful trends must be conscious and active.[6]

As the urgency of climate change increasingly defines environmental history, its practitioners must become more literate in basic science. A historical approach to environmental studies reveals a deep past in subjects as diverse as cultural history and resource conservation (like forestry), arguing against simplistic ideas that trace its origins to climate or harvest studies. Economic historians (with some exceptions like John Kenneth Galbraith and Robert Heilbroner) have been stony ground for environmental history, contributing little to it until very recently. Since at least the 1960s—in other words, before Earth Day—anthropocentrism has been a special problem in environmental history. The rise of a new label for the present era, the Anthropocene, with its inevitable tinge of anthropocentrism, has inevitably raised concerns about who has the privilege of inventing such a label, geologists or historians, and why not consider other options like the Capitalocene? Thus far, the Holocene prevails as the favored term for the here and now, but it too may change.

5 For a good study originating outside America, see, for example, Joachim Radkau (trans. Thomas Dunlap), *Nature and Power: A Global History of the Environment* (New York, 2008), in which a German scholar ushers interested English readers into a global context of environmental history and conservation.

6 The quotation is from Worster via personal communication, January 6, 2017. For it and much else to follow, I thank him. Our many years as colleagues have certainly shaped my approach to the subject, but no blame attaches to him for this essay.

Other fiftieth-anniversary essays begin with the very first issue of the *JIH* (Autumn, 1970) in which the founding editors explained their purposes. Yet in this issue, which was devoted to demography and population mobility, the journal included Bruce Mazlish's article about the "real" Richard Nixon. The editors' general outlook was partly inspired by an essay in the *Times Literary Supplement* in 1966, urging interdisciplinary history and new ways of doing history—which did not include environmental history. At that time, the spirit of the 1930s still shaped the discipline; some believed that it was time for a change. Although the editors promised to avoid fads, their earliest issues have an emphasis on psychohistory, which, alas, did not strike everyone as a fad.[7]

From the beginning, the editors either commissioned review essays or responded to colleagues with ideas for them. In *JIH*, III (Spring 1973), a long review essay by John Post (1926–2012), which characterized Emanuel LeRoy Ladurie, *Times of Feast, Times of Famine* (New York, 1971; orig. pub. in French, 1967) as a work of meteorological history, explained how earth scientists treated climate as an independent variable in history, not as a parameter in the manner that historians tended to treat it. Post may have been one of the last historians to notice Ellsworth Huntington's *The Pulse of Asia: A Journey in Central Asia Illustrating the Geographic Basis of History* (Boston, 1907). Such older works about climate and history rested on conjecture and not the latest findings from glaciers and ice cores or the as-yet uncertain evidential offerings of dendrochronology and sunspot activity. At that time, climate change seemed slow and hard to detect except over a long haul measured in centuries. Post's own scholarly interests fell into what he called the Little Ice Age (1550–1850) and famines. His general approach toward LeRoy Ladurie was respectful, but he criticized the French scholar for undervaluing even small changes in temperature over time. Post looked for consequences of climate change in the short term (weather) and the long run (climate), accusing historians of discounting both. Throughout his career, Post provided an invaluable service to the readers of

7 Bruce Mazlish, "Toward a Psychosocial Inquiry: The 'Real' Richard Nixon," *JIH*, I (1970), 49–106.

the *JIH* concerning environmental history, primarily within a medieval and early modern European framework.[8]

Scholars across the United States might think that the *JIH* in the 1970s had a regional focus limited to a small area of Massachusetts—specifically, Cambridge and Boston—and to those who worked at or went to a university there. Some traditional studies and reviews about famines and plagues appeared but little in the way of environmental history. For example, a review of Alfred Crosby's *Epidemic and Peace, 1918* (Westport, 1976) by Martin S. Pernick in *JIH*, VIII (Summer 1977), focusing on influenza, was mainly critical but gave the book credit for casting an interesting perspective on current concerns about swine flu! The first article about environmental history to appear in the *JIH* was Christian Pfister's "Climate and Economy in Eighteenth Century Switzerland." Pfister, who is still a leading environmental historian in Europe, took the history of weather, climate, and history in a new direction by mobilizing strong data about crop yields and applying sophisticated statistical tools to their analysis. Not for nothing did he thank Stanley Engerman. Using the phrase "human ecology," Pfister argued his case by proposing models and testing them. Post returned to the *JIH* in the Autumn, 1979 issue for a review article on Hubert H. Lamb, *Climate: Present, Past, and Future* (London, 1972–1977). Both Lamb and Post were worried about cooler winters in Europe and North America in the 1960s! Post, able to read German and French well and therefore equipped to appreciate the work of Pfister on Switzerland and Jan deVries on Holland, was again well placed to summarize what was known about climate change during the late 1970s, which was, admittedly, not much.[9]

HIGHLIGHTS FROM THE SPECIAL ISSUE "HISTORY AND CLIMATE"

In 1980, the editors devoted the entire spring issue of the tenth volume to the theme of "History and Climate," arguably the most important and influential issue ever published. No brief summary

8 John D. Post, "Meteorological Historiography," *JIH*, III (1973), 721–732.

9 Christian Pfister, "Climate and Economy in Eighteenth Century Switzerland," *JIH*, IX (1978), 223–244; Post, "Climate Change and Historical Explanation," *JIH*, X (1979), 291–301. From the standpoint of science and public policy, Nathaniel Rich in *Losing Earth: A Recent History* (New York, 2019) asserts, "Nearly everything we understand about global-warming was understood in 1979" (3).

could do justice to its contents. The editors concluded their tenth year of labors by attending to a new area that had not been adequately explored in its pages, publishing articles and comments from a conference that they had convened with climatologists and historians. The first contribution—"The Climates of History," by Reid A. Bryson, director of the Institute for Environmental Studies at the University of Wisconsin, and his colleague Christina Padoch—argued against a simplistic determinism, stressing a major theme in environmental history, the competition for resources. Beginning in antiquity, the authors explored the debates about medieval climate, referring to a 1963 conference on this theme in Boulder, Colorado. They also acknowledged the research strengths of their university and its studies of glacier effects in Minnesota and Wisconsin. By including changes 10,000 years before the present, this introduction set a tone for subsequent articles by encouraging studies of regional variation across the globe and avoiding anthropocentrism.[10]

De Vries, a scholar with an enduring role in the *JIH*, mobilized fresh Dutch and English data to illuminate the role of climate in preindustrial northwestern Europe. Praising the work of Post and Pfister for their research on crises, he crunched big data on grain prices, crop yields, water temperature, and other factors to illuminate climate change over the long run. Thus, environmental history divided into the short sharp shocks of crisis and the *longue durée*. De Vries was keen to examine how people learn by doing (he would later write a book called *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* [New York, 2008]), or how they respond to climate change (or not). Privileging the methods of his field, economic history, he wanted more from environmental history than a mere catalog of disasters. He stressed instead the ways in which people could adjust to climate change, a theme that has occupied him for many years.[11]

10 The special issue, "History and Climate," *JIH*, X (1980), 583–858. For other tributes to that pioneering work, see Michael McCormick, "Climates of History, Histories of Climate: From History to Archaeoscience," *JIH*, L (2019), 3–30; Peter A. Coclanis, "Field Notes: Agricultural History's New Plot," in the current issue. Reid A. Bryson and Christine Padock, "On the Climates of History," *JIH*, X (1980), 583–597.

11 Jan de Vries, "Measuring the Impact of Climate on History: The Search for Appropriate Methodologies," *ibid.*, 599–630.

Andrew B. Appleby (1929–1980) investigated epidemics and famine in the Little Ice Age, particularly in Tudor and Stuart England (the subject of his monograph *Famine in Tudor and Stuart England* [Stanford, 1978]). His acknowledgment of Post for help with this article reveals the seminal influence of a scholar in shaping the *JIH*'s continuing interest in premodern Europe. Appleby was aware of recent man-made famines, citing Holland 1944/5 and Warsaw 1941–1943 (but missing Ukraine in the early 1930s). He tested a model positing a decline in both famines and great epidemics from the seventeenth century. By asking whether warming after 1700 contributed to the decline of epidemics, he opened up the promising field of climate change and disease. Appleby noted that bubonic plague disappeared in Europe during the Little Ice Age and smallpox worsened, demonstrating that whatever the causal relationship was, it worked in both directions. Just as complicated was the apparently neat progression of bad weather (harvest failures), famine, and high mortality. Climate was only one factor; whether an economy was closed or open also mattered. An international grain trade might be able to alleviate a local famine. Because market integration and systems of relief were factors even within a single country, France experienced more devastating famines than did England. This excellent research article drew from the methods of several disciplines and, above all, advocated that the devising and testing of models were crucial to environmental history.[12]

In "The Little Ice Age: Thermal and Wetness Indices for Central Europe," Pfister performed a similar service for Central Europe by assembling a synthesis of data about rainfall and temperature. At this stage, when the search for facts was vital, the best run of information that he could find concerned the date of the cherry blossoms in Japan, collected from the ninth to the nineteenth century. Big data on anything in the northern hemisphere might shed light on Central Europe. Pfister's major contribution to the debates were his indexes for changes in climate by decade; his data found considerable variability within Lamb's long Little Ice Age.[13]

12 Andrew B. Appleby, "Epidemics and Famine in the Little Ice Age," *ibid.*, 643–664.

13 Pfister, "The Little Ice Age: Thermal and Wetness Indices for Central Europe," *ibid.*, 665–696.

Units of measure for climate data and the problems of noise within the data remain serious issues in every climate model. The next article in this special issue's careful ordering was climate scientist Jerome Namias' attempt to decipher patterns in the droughts of the 1970s. Scientists reasonably wanted to predict droughts whereas historians studied past ones. David Herlihy commented on the problems of climate in the documentary sources. Contrasting field data with documentary data, he stressed the need for documentary data to be datable, precise, and consistent, as well as amenable to manipulation by what was then a new tool, the computer (in the era of punch cards and huge mainframes). Historians had to take their data where they could find it and be receptive to the most unusual sources. He optimistically challenged historians to find these new sources and exploit them.[14]

A prescient article by John A. Eddy, a scientist at what was then called the High-Altitude Observatory in Boulder, explored the relationship between sunspots and climate change on earth. Good data have existed in the West since 1610, thanks to the telescope, though the Chinese assembled data from 1077 to 1278; regular Greenwich observations did not begin until 1750. Optimists in the nineteenth century believed that sunspots could be used to predict the weather, but nothing useful came from this notion at that time. Eddy's real task was to understand the entire system of solar and climate cycles. He proposed that minimums in solar activity coincided with temperature dips because the real issue was total solar radiation. Well-demonstrated eleven-year cycles were not what mattered. Instead, the longer patterns, called Maunder minimums, were the keys to establishing the connection between variations in solar heat and the earth's climate.[15]

A parallel scientific article by the geologist Thompson Webb III looked to botanical sources to find climate sequences. Webb's research took him to pollen data from the Holocene in the American Midwest, where the absence of written data encouraged a search for proxies. Although his data confirmed a Little Ice Age in North America, the resulting stress on pollen had little to say about people; North America might as well have been uninhabited. A team of

14 Jerome Namias, "Severe Drought in Recent History," *ibid.*, 697–712; David Herlihy, "Climate and Documentary Sources: A Comment," *ibid.*, 713–718.

15 John A. Eddy, "Climate and the Role of the Sun," *ibid.*, 725–748.

dendrochronologists from Arizona, a natural home for such studies, defended studies of tree rings as a good proxy for climate and weather. They verified this data by linking it to the pollen and glacier findings. Reliable information from the American West in the nineteenth and twentieth centuries suggested regional cooling in the twentieth century.[16]

A somber theme in the articles by Eddy and Webb is the general absence of awareness regarding global warming in 1980. These technical articles demonstrate a period of interdisciplinary history when all the sciences—natural, social, and human—mattered equally. The key to common understanding seems to have been an ability to deploy statistics and big data. Not everyone possessed these skills or the curiosity to learn and deploy them.

Another scientist, the chemist Alexander Wilson, explained the isotopes for hydrogen, carbon, and oxygen, and how variations in them over time helped to confirm climate and environmental changes. His elegant work on Greenland ice cores and data from New Zealand charted carbon14 changes throughout the last 35,000 years. David Hackett Fischer, in a short piece about research priorities for climate and history, was justifiably impressed by the ingenious contributions of scientists to interdisciplinary history. He called for an integrated synthesis of global-climate data, hoping that it would result in a new periodization, implicitly challenging the long Little Ice Age. He also encouraged closer looks at climate and culture, singling out the Dust Bowl of the 1930s for research. The then-recent book by Worster, his Brandeis colleague—*Dust Bowl: The Southern Plains in the 1930s* (New York, 1979)—found no mention in Fischer's contribution, but in fairness, his short article contained only six footnotes. Fischer concluded with the traditional call for more regional studies, observing that "the question of the validity of determinant explanations drawn from climatology puts me in mind of G. K. Chesterton's remark on Christianity. They have not been tried and found wanting, but found difficult and not tried."[17]

16 Thompson Webb III, "The Reconstruction of Climate Sequences from Botanical Data," *ibid.*, 749–772.

17 Alexander T. Wilson, "Isotope Evidence from Past Climatic and Environmental Change," *ibid.*, 795–812; David Hackett Fischer, "Climate and History: Priorities for Research," *ibid.*, 821–830.

Theodore K. Rabb (1937–2019), a founding editor of the *JIH*, concluded this issue of the journal with a perceptive look at the relative interests and strengths of historians and climatologists. A survey of the fields encouraged Rabb to sound a note of caution. Some of the timescales of climate research were irrelevant to historians (a point that privileges the age of documents). Historians are better at describing short-term phenomena like the Dust Bowl. The chain of reasoning from climatology to history required great leaps that might encourage mistaking coincidence for causality. Future research did not sustain his suspicions about the relevance of sunspot activity, but the general query remains valid. In looking for the space where history and climate intersect, he found less than meets the eye and shared de Vries' concerns. Looking to the future and the interdisciplinary context, Rabb envisioned both sides continuing their quest for more data, especially from proxy sources, to assess the man-made changes in climate. Asking for more data never goes amiss. His emphasis on beginning with the problem and then looking for evidence has remained essential in climate studies. Since one of Rabb's fields was the period of the Little Ice Age (a concept that he fully endorsed), the most important outcome of this issue was that it exemplified genuine interactions between climatologists and historians.[18]

ADVANCES AND CONSEQUENCES Over the last forty years, the field of environmental history has developed in ways that mainly prove the benefits of interdisciplinary methods. A healthy skepticism on all sides is the best antidote to polemics and self-validating arguments that start with policy prescriptions and then cherry-pick evidence from climatology and history to support them. The grand conception of the issues raised in this special issue of the journal remains remarkable and impressive, though it is hardly easy to demonstrate the effects that it had on the subsequent course of research. How many graduate students at the time were drawn to environmental history? Some influences remain conjectural and impossible to measure. Nevertheless, a consideration of the methodological state of the art in 1980 can prove instructive. The

18 Theodore K. Rabb, "The Historian and the Climatologist," *ibid.*, 831–838. For the Little Ice Age, see the related special issue of the *JIH*, "The Little Ice Age: Climate and History Reconsidered," *ibid.*, XLIV (2014), 299–425, also discussed below.

contributors to the 1980 special issue would have marveled at, say, Google Scholar Citations, a tool that enables authors and readers to keep track of future citations to their work, although, telling as these references may be, they do not necessarily reflect a deep understanding or, alas, even reading of the work cited. Yet Eddy has an impressive list of 621 publications dating at least until November 12, 2018. The publishing and working habits of active scientists routinely yield such large numbers. His article in this issue of the *JIH* has led to forty-one citations, on the low side for his publications.[19]

By way of contrast, Pfister, also active to the present day, accumulated seventy-one citations, a large number for him, especially because many of his publications are in German. Appleby's entry about the Little Ice Age has earned a respectable 137 citations. To test these findings outside the special issue, Pfister's first standalone article in the *JIH* (1978) garnered thirty-four citations, suggesting that his work found a larger audience in the special issue. The climate article by the prolific de Vries, who merits his own special sub-entry in Google Scholar Works, had 132 citations; in the year 2018 alone (thus far), it had eleven, which is its largest number (he did not cite it himself), testifying to its long-term importance. The best gauge of the issue's subsequent influence, however, may well be the type of articles that the *JIH* published within the next decades.

In the early 1980s, the *JIH* published copious reviews and review essays, meaning less space for articles, sometimes as few as two per issue. The journal also devoted pages to announce conferences and other activities. It largely returned to an emphasis on its traditional themes, such as the linkages between fertility and the demographics of the slave trade, as well as psychohistory (a fad to be deprecated?). Susan L. Swan's research note on the Little Ice Age in Mexico in Spring 1981 appeared to be the first response to the special issue. Her preliminary work suggested possible climate effects on history and brought a new part of the northern hemisphere into the discussion. Another special issue was devoted to "The New History: The 1980s and Beyond," in Summer 1982. These articles primarily addressed the use of statistics in research, contrasting numerical and formal analysis. The next issue continued with this theme, singling

19 Unfortunately, Google's database makes it extremely difficult to disentangle many authors with common surnames, for example de Vries and even Pfister.

out four fields for special notice—economic history, demography, anthropology and history, and intellectual history. Another special issue, "The Measure of American History," in Spring 1983, focused on elections, the economy, and demography in the United States. Further research might be able to determine whether submissions to the journal in environmental history waned in the early 1980s, despite the special issue, or whether the *JIH* was reverting to type, favoring big numbers and the social sciences. Nevertheless, some will count the absence of environmental history from these lists as a blind spot.[20]

In Summer 1984, Post returned with an article on climate variability and the European mortality wave in the early 1740s. He was one of the first scholars to pay close attention to the x.1 phenomenon in famines. The variable x counted the immediate effects of rising death rates, whereas x.1 looked a generation into the future for health and other effects, principally among the children born during periods of hunger, as well as the fates of survivors as they aged. Post's essay combined climate studies and subsistence crises, which are mainstays of demographical studies. One way to do environmental history is to attach its methods to something already engaging scholars, like demography.[21]

Another article that year, by Stephen R. Ell, investigated how iron deficiency in diets may have weakened people and made them more vulnerable to plagues in seventeenth-century Europe. Again, early modern history led the way and, again, through the back door. Bubonic plague took its historians deep into the world of bacteria, vectors, and death rates, which were tailored for interdisciplinary history but also part of the interaction between nature and culture. Plague was becoming a more important field for research in the mid- to late 80s, partly in response to the unfolding AIDS story. A research note by David E. Davis in Winter 1986 tied the ecological history of the plague to rats. As a partial antidote to anthropocentrism, Davis noted the disconnect between how inconspicuous rats were in contemporary accounts of plague and how central they are in current medical understandings as hosts for

20 Susan L. Swan, "Mexico in the Little Ice Age," *ibid.*, XI (1981), 633–648; special issue, "The New History: The 1980s and Beyond," *ibid.*, XII (1981), I, 1–175; II, 177–374; special issue, "The Measure of American History," *ibid.*, XIII (1983), 591–808.

21 Post, "Climatic Variability and the European Mortality Wave of the Early 1740s," *ibid.*, XV (1984), 1–30.

the bacterium, and the fleas that were its vectors. At this stage of research, the gap in the narrative sources was inexplicable, but it was certainly worth noting.[22]

In subsequent special issues, the journal branched into fresh areas—a foray into the classic humanities for evidence and meaning in works of art (Summer 1986) and Caribbean slavery and British capitalism (Spring 1987). None of the articles in these collections ventured into environmental history, as they probably would today, as scholars look for evidence on Dutch climate from contemporary paintings and explore in detail the epidemiological consequences of new peoples in the Caribbean. A special issue on religion and history (Winter 1993) also ignored environmental history. The articles in this period continued to center mostly on the themes of demography and mortality, and the search for proxy evidence about nutrition, often creatively exploring changes in adult heights across generations. Many of these studies were classics in interdisciplinary history, combining big data from historical sources, sophisticated regression analyses, and a close understanding of nutrition, increasingly understood as related to the diets of women, men, and children.[23]

Daniel O. Larson's research note in Autumn 1994 aimed at reconstructing the climate history of California from a variety of sources, mainly tree rings and records of river flows. Larson divided his field into the ethnographical period (1592–1776), the mission period (1776–1834), and the ranching period (1834–1900). Different forms of evidence shed their own light on the problem of periodic drought in California; the tree-ring data provided the clearest picture of climate variability not yet tied to global patterns like El Niño. Apart from its findings, the article represents the

22 Stephen R. Ell, "Iron in Two Seventeenth-Century Plague Epidemics," *ibid.*, XV (1985), 445–458; David E. Davis. "The Scarcity of Rats and the Black Death: An Ecological History," *ibid.*, (1986), 455–470. For the importance of rats to plague, see Anne Hardy, "The Under-Appreciated Rodent: Harbingers of Plague from the Middle Ages to the Twenty-First Century," in this issue.

23 Special issue, "The Evidence of Art: Images and Meaning in History," *ibid.*, VXII (1986), 1–310; special issue, "Caribbean Slavery and British Capitalism," *ibid.*, XVII (1987), 707–885. For related themes, see Philip McCouat, "Art as a Barometer of Climate Changes," *Journal of Art in Society* (2015), available at http://www.artinsociety.com/art-as-a-barometer-of-climate-changes.html (with many bibliographical references); John R. McNeill, *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620–1914* (New York, 2010), a truly interdisciplinary book.

JIH's premier venture into the American West, a region where environmentalism had deep roots, from the origins of the Sierra Club forward. Researchers in what we can call the Trans-Mississippi West had long endured the tendency of educational centers on the East Coast to be more engaged in the history, demography, and even the environment of early modern France or England than that of early modern California. Big data tended to follow the documents, and Europe (and East Asia) supplied some of the longest runs. As it happened, the American West had excellent runs of tree-ring data covering centuries of climate history. It also had surviving indigenous populations of North American Indians with special knowledge of the environment, and records in Spanish, impenetrable to the monolingual. Like the increasingly significant *Journal of Environmental History*, which was a major venue for publishing research on the American West, the *JIH* had yet to figure out a balance between local and global studies.[24]

Research notes, review essays, and occasional special issues prevailed in the 1990s, but sometimes the journal contained only a single article. A notable exception to the dearth of groundbreaking articles was Herlihy's posthumous, wide-ranging look at biology and history, which depicted the triumph of monogamy in the Christian West. Google Scholar counts only thirty-two citations for this article, a low number for him. His acknowledgment of Richard Aronson, from the Marine Environmental Sciences Consortium in Mobile, Alabama, was a sign of how interdisciplinary studies benefited from formal and informal discussions between scholars in different fields. At first glance, monogamy might seem far cry from the domain of environmental history, but Herlihy's sensitivity to the big picture and his intellectual curiosity embraced households as evolutionary phenomena, as well as suitable units of moral and economic study. In the hands of some scientists, evolutionary biology lent support to sociobiology. Eventually, ideas about a consilience in research centered on nature as biologists and other scientists interpreted it. This viewpoint was a challenge to the *JIH* and its foundational belief that the social sciences, including history, were the *fons et origo* of interdisciplinary history, subject to enrichment by the findings of natural scientists and

24 Daniel O. Larson, "California Climatic Reconstructions," *JIH*, XXV (1994), 225–254.

humanists. Even this modest intellectual generosity was not always reciprocated.[25]

In Autumn 2004, the American environmental historian Ted Steinberg wrote a review essay on an important reference work, the *Encyclopedia of World Environmental History* (New York, 2004), edited by Shepard Krech III, John. R. McNeill, and Carolyn Merchant, themselves distinguished scholars. This three-volume work, the monument to a field now come of age, provided Steinberg with the occasion to survey the subject as well as the publication. Deploying a metaphor from the theater, he observed that a matured environmental history, if not at the center stage of history, had at least become part of the chorus, though it is not clear what exactly the libretto of history is that this chorus is supporting. Steinberg mostly praised the work, singling out for special notice William Cronon, Stephen White, and Worster (admittedly his erstwhile advisor but necessarily in this company). Like many such reviews, Steinberg's remarked that his own specialty, the study of environmental disasters, had received short shrift.[26]

Taking their cue from Worster, Steinberg and others perceived the field as encompassing three levels. The biotic level includes nature, the resources and living creatures, and an ecosystem in which humans lived but were not central. At the next level come the techno-economic cultural forces that operated on the biotic—the stuff of the histories of technology and capitalism "improving" nature and extracting from it the resources that growing populations needed to survive. In the final tier are the ideas and perceptions about nature that can develop into an intellectual history of environmental history, like those offered by Henry David Thoreau, John Muir, Rachel Carson, or Aldo Leopold, among others. The main work of the *JIH* occupied the second level, but in some ways, environmental history was taking shape as an alternative method of interdisciplinary history,

25 David Herlihy, "Biology and History: The Triumph of Monogamy," *ibid.*, XXV (1995), 571–584. For the strongest argument in favor of consilience, see Edward O. Wilson, *Consilience: The Unity of Knowledge* (New York, 1998). This version of interdisciplinarity depreciates the humanities and social sciences and invites them to imitate and collaborate with their hegemons in the sciences or perish.

26 Ted Steinberg, "Fertilizing the Tree of Knowledge: Environmental History Comes of Age," *JIH*, XXXV (2004), 265–278.

a meta-interdisciplinary history that could absorb (and supersede?) something like the *JIH*.

THE SPECIAL ISSUE "THE LITTLE ICE AGE: CLIMATE AND HISTORY RECONSIDERED" In this special issue (Winter 2014), the editors explicitly referenced the precedent of 1980. In fact, de Vries, a contributor to both special issues, cast an experienced eye over developments during the previous thirty-five years, still suspicious about the actual data supporting the Little Ice Age (LIA). Recent articles in the *JIH* about climate had reduced the period to a factor about which to accumulate evidence, though this position represented a drift away from the purposes of environmental history to explain changes. An article by Morgan Kelly and Cormac Ó Gráda on the subject found no major trends in temperature from the Middle Ages to the end of the nineteenth century. This revisionist research has not gone uncontested, but the debate about it has transpired within the context of global warming since the mid- to late nineteenth century, whether deliberately acknowledged or not.[27]

As we have seen, back in the 1960s, along with researchers who still raised the specter of global cooling were skeptics who questioned the length and severity of the Little Ice Age. Sam White's article in this special issue rebuts Kelly and Ó Gráda's by adducing all the standard authorities and proxy evidence supporting the reality of the Little Ice Age. These pro and con positions are testimony to the open-mindedness of the editors and a lesson in how different methods can produce contrary results. Ulf Büntgen and Lena Hellmann's scientific perspective on the Little Ice Age, which explores the period from 1350 to 1850 (the conventional dating of the LIA writ large), finds several cooling periods separated by warming ones. They sensibly conclude that methodologies and findings require refinement with respect to units of measurement and rolling averages over smaller units of time; on this score, even a decade can be a crude standard of measurement. As cycles proliferate and become more complex, the big picture may become obscure, and any period of warming

27 Special issue, "The Little Ice Age: Climate and History Reconsidered," *ibid.*, (2014), 299–645: Morgan Kelly and Cormac Ó Gráda, "The Waning of the Little Ice Age: Climate Change in Early Modern Europe," *ibid.*, 301–326.

or cooling may look like a temporary blip. Anyone following contemporary debates about the urgency of climate change is familiar with the significance of these points.[28]

THE NEW STATE OF THE ART In Autumn 2014, John Haldon and fourteen co-authors published a long article, "The Climate and Environment of Byzantine Anatolia: Integrating Science, History, and Archaeology," demonstrating that environmental history does not necessarily result from a collaboration of large teams deploying different methodologies. Byzantine Anatolia, roughly the boundaries of modern Turkey, has advantages and disadvantages as a region to study. Since these scholars also consider data from the southern Balkans, their region sits at the boundaries of three major circulation (weather) systems—the North Atlantic, the Southern Asia monsoonal, and the Eurasian Continental (128). According to the methods of Horden and Purcell, it is too extensive to count as a microregion and too small to appear on most lists of the world's climatic zones. Is integrating science, history, and technology the same thing as doing environmental history? The answer must depend on execution. A collaboration of this size, which is far more common among scientists than historians, suggests that silos of expertise now communicate best around huge conference tables or in email groups, no matter how small the region involved. The question remains whether Haldon's region is too small to yield enough data to produce clear pictures or findings relevant to other researchers.[29]

The subject of Simon Nicholson's review essay in Winter 2016 is free-market fundamentalism and environmentalism, surveying policies and debates since the 1960s, almost the lifetime of the journal. Even the special issue of 1980 had by now entered history. The *JIH* had long eschewed articles stressing any practical or contemporary salience, probably on the sensible grounds that

28 Sam White, "The Real Little Ice Age," *ibid.*, 327–352; Ulf Büntgen and Lena Hellmann, "The Little Ice Age in Perspective: Cold Spells and Caveats," *ibid.*, 353–368.

29 For some astute comments on regionalism and history, see Peregrine Horden and Nicholas Purcell, *The Corrupting Sea: A Study of Mediterranean History* (New York, 2000), in which micro-regions are a central theme, defined by religious and geographical factors, as well as others, including the environment. John Haldon et al., "The Climate and Environment of Byzantine Anatolia: Integrating Science, History, and Archaeology," *JIH*, XLV (2014), 113–152.

this endeavor, worthy as it may be, is not history; after all, many venues were dedicated to publishing policy issues. Nicholson, convinced that the Anthropocene constituted a genuine break in the ages of the earth, as well as in environmental history, emphasized the importance of human agency in shaping the earth's environment. The lessons of Vietnam applied to more than state policies; they may even have extended to the journal's editorial decisions about addressing issues of contemporary relevance before it was too late. Another example of this encounter with contemporary relevance was a review essay by Timothy Newfield and Inga Labuhn in Autumn 2017 that explored pre-industrial climate and pre-laboratory disease by closely scrutinizing a special issue of *Quaternary Science Review* (2016). Repackaging recent scientific studies of an expanded Holocene for non-scientists debating the Anthropocene certainly moved the discussion beyond narrowly anthropocentric concerns.[30]

In Winter 2018, de Vries, once again offering the journal his long perspective on the history of scholarship, published an article about how the "New History" of the 1970s was faring almost fifty years after its inception. Much of this essay concerns the arcana of the historical profession, but two themes are apropos for the discussion at hand. First, the idea of interdisciplinary history arose from a milieu in which the New History, whatever its complexities, had moved beyond the traditional narrative framework of telling stories about past wars and politics. Second, those who espoused the "cultural turn" and a "return to narrative," in the form of microhistory, had delivered yet another view of modernity to the discipline. Whatever it is and will be, no one could seriously call the New History a fad. Some within the profession lamented the splitting of history into what they perceived as various advocacy sub-disciplines or over-specializations. The obvious importance of environmental history spared it the worst of such criticisms.[31]

30 Simon Nicholson, "The Birth of Free-Market Environmentalism," *JIH*, XLVI (2016), 421–434; Timothy Newfield and Inga Labuhn, "Realized Consilience in Studies of Pre-Industrial Climate and Pre-Laboratory Disease, *ibid.*, XLVII (2017), 211–240—review essay based on the special issue, "Mediterranean Holocene Climate, Environment and Human Societies," *Quaternary Science Reviews*, CXXXVI (2016), 1–252.

31 De Vries, "Changing the Narrative: The New History That Was and Is to Come," *JIH*, XLVIII (2018), 313–334. Peter Novick, *That Noble Dream: The "Objectivity Question" and the*

For whatever reason, de Vries, whose methodological skills have afforded him the ability to range broadly across premodern and modern Europe and to assess all manner of historical inquiry, omitted environmental history from his survey of the New History. Yet, the works of Cronon, Crosby (1931–2018), Merchant, McNeill, Worster, and others all counted, in one way or another, as New History, and their reach often extended beyond North America. Environmental historians have also grappled with similar problems in writing narratives about their field, their solutions ranging from biography to regional and global works. Their pioneering narratives, by definition interdisciplinary, merit attention because, in addition to the importance of their findings in their own right, their methods of presenting them may assist those in other disciplines looking for a way forward. As Hoffmann admirably stated in his environmental history of medieval Europe, "This is a history as if nature mattered." In this sense, every publication in environmental history was a work of New History.[32]

Recent articles show the *JIH* on a steady course with respect to the role of environmental history in its pages. In Summer 2018, another large team, led by Nicola Di Cosmo with eight collaborators, investigated environmental stress on steppe nomads in the Uighur Empire of Central Asia from 744 to 840. Crisis and response are again the main story. Three Spanish scholars presented new data on military recruits in Mediterranean Spain from 1850 to 1949 to demonstrate that better climatic conditions for farming resulted in improved nutrition and taller soldiers. Breaking old ground in new places can continue for a long time.[33]

The *JIH* and environmental history have matured during the last fifty years; predicting where they are headed is not the task of this article. What the *JIH* has accomplished thus far, however, may be

American Historical Profession (New York, 1988), caught these two trends in mid-passage. His omission of environmental history is unusual, because the debate about whether history could be objective began with the idea that historical analysis could, and should, be more scientific, and environmental history was a place where the two cultures appeared to intersect.

32 Worth noting is Crosby's *Ecological Imperialism: The Biological Expansion of Europe 900–1900* (New York, 1988), which received a review by Richard M. Douglas in *JIH*, XVIII (1988), 489–490, and Merchant's *American Environmental History* (New York, 2007). Hoffmann, *Environmental History*, 3.

33 Nicolo di Cosmo et al., "Environmental Stress and Steppe Nomads: Rethinking the History of the Uyghur Empire (744–840) with Paleoclimate Data," *JIH*, XLVIII (2018), 439–464.

a guide to how it will contribute to the future of interdisciplinary history. Certainly the 1980 special issue on "History and Climate" was a landmark—a model of how to bring together the best ideas at a conference and then to publish the results. The editors must choose which of the many suggestions and proposals that they receive for special issues merit their attention; they cannot publish all of them. Occasional review essays can address the neglect of timely or fresh subjects. The specialist journals in environmental history must bear the main burden of keeping people up to date in their field. The task of the *JIH*—a publication explicitly founded to foster interdisciplinarity—has to balance competing claims and keep the focus on collaborative and innovative methodologies.

Several articles within the past decades have drawn attention to the connections between climate changes and epidemics. For example, Post's work in the journal and in recruiting contributors stressed this issue in early modern Europe, and in Winter 1988, Anne Hardy, who also has a special article in this issue about rats and the plague, explored the relationships between nutrition and diet in London via big data from 1750 to 1909. Outside the *JIH*, this problem has gained considerable traction as changes in climate affect the spread of viruses like Zika and West Nile into previously hostile climates. Bruce Campbell posited another major Great Transition, linking the great plague that lasted from 1348 to 1352 to climate change. On a broader canvas, Samuel K. Cohn, Jr., cogently explored epidemics in history from the plague of Athens to the AIDS crisis. Although his focus is more on the emotional than the medical responses to these disasters, he asks a question that applies universally: Why do epidemics sometimes issue into violence against the sick and germinate widespread panic—as in the case of the influenza outbreak of 1918/9, a prototypical pandemic—or incline people into scapegoating. Although Campbell is more concerned with the environment than is Cohn, both their studies take an interdisciplinary approach to the broader topic of human ecology and changes, either in climate or in people's minds. Both these scholars are indefatigable publishers of articles that lay the foundations for subsequent books.[34]

34 Hardy, "Diagnosis, Death, and Diet: The Case of London, 1750–1909," *JIH*, XVIII (1988), 387–402; Bruce M. S. Campbell, *The Great Transition: Climate, Disease and Society in the Late-Medieval World* (New York, 2016); Cohn, *Epidemics: Hate and Compassion from the Plague of Athens to AIDS* (New York, 2018).

Scientists prefer to reveal their discoveries in articles, seldom deigning to write books that are likely to become obsolete quickly. Much social science, especially economics, also follows this pattern. Some humanists write books in isolation, maybe after a previous article or two claiming their territory. How does an interdisciplinary journal accommodate these cultural differences and remain in the forefront of publishing the best research? The evidence on environmental history in the *JIH* suggests that using networks to hold conferences on major themes that result in a special issue may well be the best solution.

One of the special features of environmental history is the requirement that its practitioners already acquire, or be willing to acquire, a basic familiarity with the language and methods of science, let alone spoken languages besides English. Since these skills are rarely present in a single scholar, historians writing about ideas concerning the environment and bioarchaeologists looking at trace minerals in skeletal remains may not always be on the same page. Big data is one way to bring these cultures together. From the very beginning, the *JIH* found demography in history to be an ideal way to present new questions and new regimes of research, especially after computers made it possible to crunch numbers and run regression analyses cheaply and almost anywhere. In some respects, climate and disease have lately become de rigueur for demography, offering scholars an opportunity to go beyond mortality tables and daily caloric intake to investigate the causes of change, in populations and in climates, over time.

The special concerns of the *JIH*'s editors, the editorial board, and their colleagues may at times appear idiosyncratic, and the salience of premodern Europe and its environmental history in the journal may strike some outsiders as arcane or provincial. The Little Ice Age, however, was broad subject matter from the outset; debates about it were important precursors to the most recent discussions about global warming. Environmental history, like interdisciplinarity, is not always easy to define, and the past fifty years of the *JIH* reveal that a willingness to stretch the initial boundaries of both has been successful.

A theme deriving from medieval history, a field rightly preoccupied with multilingualism and changes in the meanings of words, provides a fitting way to conclude this survey. Principally because of the bubonic plague of the fourteenth century (and

subsequent global outbreaks into the nineteenth), medievalists have made important contributions to studies of climate, famines, epidemics, and other issues. One other contribution, possibly less welcome in interdisciplinary studies, concerns the place that most modern historians allow for theology or religion in environmental history. Most historians prefer to leave debates about a subject like God's providence to theologians. Although they may understand that a certain literacy in the sciences is necessary for proper interdisciplinary environmental history (even if they remain ill-equipped to reduplicate the research or even sift the gold from the dross), they have not accorded the history of religion, however, the same respect. For example, medievalists are well aware that the Muslim world permitted no massacring of Jews, Christians, or any other scapegoats because in its theology, the plague was a mercy and a martyrdom from God. People evidently believed it. Christian theologians taught that the plague was, like much else, a consequence of human sin. In their parts of Europe, massacres of Jews in the first outbreak of plague, but not the subsequent ones, were popular pogroms that the established authorities generally deplored (officially) but found difficult to stop. Comparative theology matters in this context, but the supernatural, however defined, does not find an entry into these scholarly debates. Perhaps a lesson for environmental history in and out of the *JIH*, and for the journal itself, is that sifting the fads from the enduring subjects need not exclude the lesson that values, even spiritual ones, have consequences.[35]

35 The pioneer in this work about the Muslim reaction to plague is Michael Dols, *The Black Death in the Middle East* (Princeton, 1977), reviewed in *JIH* by William McNeill, *JIH*, VIII (1978), 769–770.