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The Past and Present of Environmental History

ALFRED W. CROSBY

THE ANNUAL MEETING of the American Historical Association scheduled in Cleveland, Ohio, for the end of December 1918 never took place. It was canceled, according to the next issue of the *American Historical Review*, on the recommendation of the health officer of that city "because of the epidemic of influenza then prevailing in Cleveland." When the cancellation was next mentioned in the journal, two decades later, it was blamed on the postwar congestion on the railroads, and the flu was downgraded to "an additional good reason for avoiding nonessential gatherings."¹

In the last four months of 1918, the Spanish flu, as it was called, killed 3,156 in Cleveland, nearly 20,000 in Ohio, upwards of half a million in the United States, and something in excess of 20 million in the world. It was a more efficient killer than World War I and the greatest single demographic catastrophe, in terms of absolute numbers, yet suffered by humanity.² But the members of the American Historical Association, whatever their reaction as human beings may have been, as historians were indifferent to this nearly universal calamity.

The generation of historians who were twenty-five years of age when the first issue of the *AHR* appeared in 1895 and seventy-five at the end of World War II was devoted almost exclusively to what Bernard Bailyn called *manifest* history in his Presidential Address to the Association in 1981, that is to say, devoted to "the story of events that contemporaries were clearly aware of, that were matters of conscious concern, were consciously struggled over, were, so to speak, headline events in their own time even if their causes and their underlying determinants were buried below the level of contemporaries' understanding."³ Professional historians had no interest, certainly no burning interest, in what we today call environmental history, the story of humanity as an often passive or distracted participant in local, regional, and world-wide ecosystems.

There was no absence of contemporary events and trends in addition to the flu epidemic to stimulate interest in environmental matters. There were catastrophes: Krakatoa's detonation in 1893 set off a tsunami that drowned 40,000, the explosion of a comet or asteroid over the Tunguska River, Siberia, in 1908, flattened 2,000 square kilometers of forest. There were calamities: from 1896 to 1898, rinderpest, previously unknown in sub-Saharan Africa, appeared in the

¹ *American Historical Review*, 24 (April 1919): 249; *AHR*, 44 (January 1939): 237.

² Alfred W. Crosby, *America's Forgotten Pandemic: The Influenza of 1918* (Cambridge, 1989), xiv, 207, 214, 217.

³ Bernard Bailyn, "The Challenge of Modern Historiography," *AHR*, 87 (February 1982): 9.

Horn of Africa, probably brought in with Asian cattle imported by the Italians to feed their army fighting in Somalia. This disease swept south, traveling as fast as twenty-five miles in a day, slaughtering myriads of cattle and wild ungulates, reducing large numbers of Africans to hunger and even starvation and death, disrupting their societies and opening the way for European imperialistic advances.⁴ There were tragedies: on August 12, 1883, the last quagga, a species of zebra of which there had been vast herds at the time of the seventeenth-century Dutch settlement of the Cape Colony, died in an Amsterdam zoo.⁵ On September 1, 1914, the last passenger pigeon in the world, "Martha," died in a zoo in Cincinnati, Ohio. She was the last of billions, the last of a species that had comprised an estimated 25 to 40 percent of all bird life in North America.⁶ The *Bison bison* (buffalo), which may have existed in the scores of millions at the beginning of the nineteenth century—certainly in the tens of millions—had by the first issue of the *AHR* been reduced to a few hundred.⁷

During the lifetimes of the first cohorts of the Association, the grasslands of the northern and southern temperate zones—plain, pampa, veldt, and steppe—hitherto the support of small riverine populations and a few nomads, were altered in flora and fauna in the service of international capital and to satisfy the needs of millions of new city dwellers. Cities were growing faster than cities had ever grown before, and so cattle, sheep, and wheat displaced buffalo, guanaco, kangaroo, antelope, ostrich, emu, rhea, and native grasses and forbs.⁸ Australia, the land of marsupials, which had no sheep whatsoever in 1788, had 100 million of these placental mammals when the first issue of the *AHR* appeared.⁹

The world's human population, increasing faster than ever before, doubled between 1850 and 1950,¹⁰ and migrated farther, more swiftly, and in greater numbers. Millions steamed out of Europe, 1.3 million to the United States in one year alone, 1907,¹¹ literally more living biomass than had ever crossed an ocean in such a short time.¹² Forests that were ancient when humans had first cultivated wheat and maize were felled in the demand for building materials and fuel. Loggers were clear cutting the forests of southern Brazil and India and elsewhere. The forests of white pines that had extended in their millions from the Atlantic through the America's Great Lakes states were nearly gone by the end of the nineteenth century. The preservation of the remaining forests was a major

⁴ Helge Kjekshus, *Ecology Control and Economic Development in East African History: The Case of Tanganyika, 1850–1950* (London, 1977), 66–68, 70, 74–75, 126–32; Thomas P. Ofcansky, "The 1889–97 Rinderpest Epidemic and the Rise of British and German Colonialism in Eastern and Southern Africa," *Journal of African Studies*, 8 (Spring 1981): 31–38; Pule Phoofole, "Epidemics and Revolutions: The Rinderpest Epidemic in Late Nineteenth-Century Southern Africa," *Past and Present*, no. 138 (February 1993): 112–43.

⁵ Robert Silverberg, *The Auk, the Dodo, and the Oryx: Vanished and Vanishing Creatures* (New York, 1967), 106.

⁶ A. W. Schorger, *The Passenger Pigeon: Its Natural History and Extinction* (Madison, Wis., 1955), 205.

⁷ "Bison," *Encyclopedia Americana* (Danbury, Conn., 1993), 4: 19.

⁸ D. B. Grigg, *The Agricultural Systems of the World: An Evolutionary Approach* (London, 1974), 241–83; Dan Morgan, *Merchants of Grain* (New York, 1979), *passim*.

⁹ "Sheep," *The Australian Encyclopedia* (Sydney, 1979), 5: 314.

¹⁰ Paul Demeny, "Population," in *The Earth as Transformed by Human Action: Global and Regional Changes in the Biosphere over the Past 300 Years*, B. L. Turner II, ed. (Cambridge, 1990), 43.

¹¹ *Encyclopedia of American History*, Richard B. Morris, ed. (New York, 1965), 471.

¹² Many migratory birds cross seas, but few cross oceans.

political issue in the United States, with Teddy Roosevelt and Gifford Pinchot (U.S. Forest Service) as the Galahads of conservation.¹³

Congeries of cities in the northeastern United States, in Great Britain's Midlands, and in the Ruhr burgeoned and thickened like secondary growth after a burn in a tropical forest. Buenos Aires, which had a population of 40,000 in 1800, had 1.5 million in 1914.¹⁴ Chicago, little more than a convenient location for portage of canoes in 1800, had 2 million inhabitants a century later.¹⁵ Every city shoveled mountainous quantities of wastes, organic and inorganic, into adjacent waters and trailed smoky, particulate-laden, and even poisonous plumes of polluted air mile after mile downwind.¹⁶

American historians were fully, almost painfully, conscious of immense and accelerating change but did not yet think of it ecologically. Frederick Jackson Turner's paper "The Significance of the Frontier in American History," delivered to the Association in 1893, seemed halfway to environmental history, with all its references to the tidewater region, the fall line, aridity west of the 99th meridian, cattle, pigs, salt, grasses, etc., but never reached that destination. Turner pointed to the "end of the frontier" announcement in the 1890 census report as the obituary of this major factor in American history but not because of the frontier's biological ramifications. The frontier's most important influence, he said, had been in the promotion of individualism and democracy.¹⁷

In Turner's Presidential Address to the Association in 1910, he again expressed awe at the momentum of change: "The transformations through which the United States is passing in our own day are so profound, so far reaching, that it is hardly an exaggeration to say that we are witnessing the birth of a new nation in America." He again veered toward environmental history, warning that the population was increasing faster than the food supply and that the problem was no longer how to blaze trails through the forests but how to save them; and yet he did not take the next step and start to write environmental history. He continued to think politically and parochially, not biologically, comparing contemporary America not to ancient Attica when it was being deforested and over-grazed but to America of the Revolution or the Constitutional Convention or the Civil War.¹⁸

Another early president of the Association, Henry Adams, was appalled by the momentum of change.¹⁹ He warned that humanity was emptying the organic treasury of the planet, exhausting reservoirs of petroleum and natural gas, digging

¹³ Charles F. Carroll, *The Timber Economy of Puritan New England* (Providence, R.I., 1973), 31, 35–36; Michael Williams, *Americans and Their Forests: A Historical Geography* (Cambridge, 1989), 198–99, 22–23, 228–29; Richard B. Tucker and John F. Richards, "The Global Economy and Forest Clearance in the Nineteenth Century," in *Environmental History: Critical Issues in Comparative Perspective*, Kendall E. Bailes, ed. (Lanham, Md., 1985), 577–85; Richard P. Tucker, "The Depletion of India's Forests under British Imperialism: Planters, Foresters, and Peasants in Assam and Kerala," in *The Ends of the Earth: Perspectives on Modern Environmental History*, Donald Worster, ed. (Cambridge, 1988), 118–40; John R. McNeill, "Agriculture, Forests, and Ecological History: Brazil, 1500–1984," *Environmental Review*, 10 (Summer 1986): 122–34.

¹⁴ "Buenos Aires," *Encyclopedia Americana*, 4: 711, 712.

¹⁵ "Chicago," *Encyclopedia Britannica* (Chicago, 1972), 5: 485.

¹⁶ Brian J. L. Berry, "Urbanization," in B. L. Turner, *Earth as Transformed by Human Action*, 113–15.

¹⁷ Frederick Jackson Turner, *The Frontier in American History* (1947; New York, 1962), 293, 333–34.

¹⁸ F. J. Turner, *Frontier in American History*, 311–13.

¹⁹ Henry Adams, *The Education of Henry Adams* (New York, 1931), 494–96.

up the peat bogs, razing whole forests, systematically decimating large animals, and replacing them and many wild plants with feebler domesticated organisms. Yet when he sought a law, a principle, to help him to comprehend the significance of the rate of change, he looked not to the life sciences, as we might think a historian would, but to physics. That science confirmed his pessimism with the Second Law of Thermodynamics, nature's promise of universal entropy, an effective antidote for faith in eternal progress but of little use to historians with nascent environmental interests.²⁰ Adams mused that continued acceleration of change "would require a new social mind," not that this mind might have to think in biological terms.²¹

Historians could not see what they were not ready to see. One wonders why. After all, proto-environmentalists and geographers such as Pierre Poivre and Alexander von Humboldt had witnessed ecological disasters following European exploitation of tropical colonies, particularly deforestation, and had published extensively on the subject in the eighteenth century.²² The Darwinian revolution in the life sciences, fundamental to environmental history, had already transformed the biological and social sciences. George Perkins Marsh, author of *Man and Nature* (1864), had pointed to "the dangers of imprudence and the necessity of caution in all operations which, on a large scale, interfere with the spontaneous arrangements of the organic and inorganic worlds," and he had provided page after page of examples to illustrate his thesis. John Wesley Powell had produced a brilliant report on the arid lands of the American West in 1878, warning that plans to cut down its mountain forests and irrigate the lowlands would lead to frustration and, probably, disasters.²³ In October of 1897, even the *AHR* made a contribution of sorts to America's sensitivity to its natural context: Mary E. Woolley's article "The Development of the Love of Romantic Scenery in America."²⁴ It was the nearest thing to environmental history, article or book review, to appear in the journal in its first thirty years.

Although none of these discussions of natural life had much influence on historians, one great naturalist, Charles Darwin, did. Charles Francis Adams (Henry's brother and another president of the Association) declared that the first day of October 1859, the date of the publication of *Origin of Species*, "was the dividing line between us and the historians of the old school."²⁵ Roscoe Thayer (in the Presidential Address he did not deliver to the Association in 1918 because of the epidemic) proclaimed that evolutionary theory "has opened to us . . . the process by which we and all other living things, and all forms of matter, live."²⁶ Yet the effect of Darwin's writings on historians was not to stimulate them to write

²⁰ Adams, *Education of Henry Adams*, 492, 497; Henry Adams, *A Letter to American Teachers of History* (Washington, D.C., 1910), 79, 131, 188.

²¹ Adams, *Education of Henry Adams*, 498–99.

²² Richard H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600–1860* (Cambridge, 1995), 179–84, 366–68.

²³ George Perkins Marsh, *Man and Nature* (Cambridge, Mass., 1965), 3; Preston E. James, *All Possible Worlds: A History of Geographical Ideas* (Indianapolis, 1972), 208–09.

²⁴ Mary E. Woolley, "The Development of the Love of Romantic Scenery in America," *AHR*, 3 (October 1897): 56–66.

²⁵ C. F. Adams, "The Sifted Grain and the Grain Sifters," *AHR*, 6 (January 1901): 199.

²⁶ Roscoe Thayer, "Vagaries of History," *AHR*, 24 (January 1919): 185–86.

environmental history so much as to encourage, via Social Darwinism (the least comely spinoff of his theory) racist and other grossly oversimplified explanations of historical trends and events.

American historians were representative of their profession in paying little attention to the influence of environmental change. Oswald Spengler and Arnold Toynbee, possibly the two most famous European historians of the first half of the twentieth century, explained human behavior with only peripheral references to environmental factors. This is not surprising in Spengler, who was not really a historian but a sort of sage for whom the record of humanity was pertinent insofar as it could be mined for illustrations for his preconceptions. Toynbee was more of a historian, yet anyone who scans the indexes of his gigantic *A Study of History* for such items as soil, rainfall, cattle, fish, disease, or extinction will be disappointed. Aldous Huxley went through the index of Volume 6 of Toynbee's masterwork and found five citations for Popilius Laenas, two for Porphyry of Batanaea, "but the word you would expect to find between these names, Population, is conspicuous by its absence."²⁷ Toynbee does mention insects a few times in the massive volumes of *A Study* (much of which is devoted to the Mediterranean basin, malarial for thousands of years) but never as a major factor and often merely analogically, as in "Insects . . . Arrested civilizations, analogies with, iii, 88–9, 106 *seqq.*"²⁸

Historians were purblind in considering environmental matters. They were trained to value written eyewitness accounts above all else, but the real ore of environmental history is only occasionally found in diaries or memoirs. They were trained to specialize, to devote their lives to the minute study of small patches of history; environmental historians must be generalists because environmental changes are rarely affairs of days, weeks, or even years and are often only discernable regionally, even continentally. Most historians were immured in the past few hundred years and ill-equipped to think, for instance, of America environmentally. A mature consideration of human influence on the Western Hemisphere must involve an examination not of the subject since 1775 or 1607 or even 1492 but since the first arrival of humans many millennia ago. For orthodox historians, the starting line for American history was only a step or so back from the present, which anyone who has seen the pyramids at Cholula or the Cahokia Mounds must think absurd.

Historians of the Association's first generations were, with very few exceptions, marooned on one side of the chasm between the sciences and the liberal arts, a chasm that was getting deeper of late. When, in James Harvey Robinson's Presidential Address to the Association in 1929, he recommended utilization of sources not yet fully exploited, he was referring to literature.²⁹ The data environmental historians needed were to be found in government reports and scientific journals filled with talk and numbers and charts about such illiberal matters as stream flows and pollen counts.

When the *AHR* first appeared, the science of ecology, indispensable to the

²⁷ Aldous Huxley, *Tomorrow and Tomorrow and Tomorrow and Other Essays* (New York, 1956), 221.

²⁸ Arnold J. Toynbee, *A Study of History*, 10 vols. (London, 1951–54).

²⁹ James Harvey Robinson, "The Newer Ways of Historians," *AHR*, 35 (January 1930): 254.

environmental historian, did not exist. In 1866, German biologist Ernst Haeckel had coined the word ecology (*oecologie* in its first appearance, derived from a Greek term referring to the affairs of a family household), but there was no such independent science for long after the turn of the century, and what we would call ecological research attracted little attention inside or outside the sciences.³⁰ There was, for most historians, no way yet to think about the environment except as Henry David Thoreau had, that is to say, less scientifically than philosophically or, if you will, sentimentally.

The astigmatism of historians was not unique: it was shared by nearly all citizens of the industrialized nations. They did not, in most cases could not, think of themselves or of their species as equal or subordinate partners with the other organisms in the biosphere (a word that, according to *The Oxford English Dictionary*, did not appear in English until the very end of the nineteenth century and then not again for a decade).³¹ The ancient belief of human beings as inferior to the angels but surely above and somehow independent of the rest of life still reigned. The chain of being had not yet been unclined, drawn into threads, and woven as the web of nature.

ENVIRONMENTAL HISTORY IN AMERICA seems to have had several beginnings before it was finally well launched. In 1926, Avery Odell Craven's *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606–1860* appeared, received a positive review in the *AHR* the next year,³² and triggered a succession of studies that continues to this day, agreeing, disagreeing, and expanding on its thesis. But the historical profession as a whole took little notice. In 1931, Walter Prescott Webb's classic *Great Frontier* appeared, and its concentration on climate, flora and fauna, wild and domesticated, of the grasslands of North America definitely represented an environmental approach.³³ The writing of the history of the American West would never be the same again, an effect reinforced by the Dust Bowl disaster of the 1930s; but again the profession as a whole was unmoved. The first of James C. Maalin's books, the unambiguously environmental and heavily scientific *Grassland of North America: Prolegomena to Its History*, appeared in 1947, but few read it. A number of good books with environmental content were reviewed in the *AHR*—for instance, Andrew Hill Clark's fascinating *The Invasion of New Zealand by People, Plants, and Animals* (1949) and Harold Innis's valuable *Cod Fisheries* (1940), a study, for once, about a piece of ocean, not land—but historians paid them little attention. Neither the profession nor the public was yet conscious of a need for environmental history.

All was not static, however. There were a number of intellectual developments prerequisite to environmental history under way in the early twentieth century. Archaeologists, now beyond merely digging up art objects, were shifting their attention to how ancient peoples had lived and were utilizing new techniques to

³⁰ Peter J. Bowler, *The Norton History of the Environmental Sciences* (New York, 1992), 364–69.

³¹ *Oxford English Dictionary*, 2d edn., 2: 210.

³² *AHR*, 32 (April 1927): 610–11.

³³ *AHR*, 37 (January 1932): 359–60.

learn about ancient climates and ecosystems. As their knowledge accumulated, the line between prehistory and history faded, tempting historians to push farther and farther back, and enabling those with environmental interests to ask and sometimes to offer answers to questions about the land, waters, and ecosystems over longer periods than Frederick Jackson Turner had ever taken into consideration. In an odd way, prehistory and undocumented history were especially fertile fields for environmental historians. Where there were no documents, historians had to content themselves with the vast and enduring: soil fertility, erosion, climate, nutrition, disease burden, flora and fauna.

Ecology became a mature science and a source of encouragement and instruction for the historian. Figures such as Frederic E. Clements and Charles Elton established it as a separate science and provided some of its basic techniques and concepts. Clements's "succession" and "climax" have since been modified and even discredited, but they served first ecologists and then historians well for many years. Arthur G. Tansley's term "ecosystem" made its debut in 1935 and has had a longer useful life.³⁴ The science these men helped to found was initially somewhat "holistic," not a very respectable characteristic according to some scientists, who have since subjected ecology to mathematical discipline.³⁵ But early ecology was useful to environmental historians, who have been obliged by the nature of their scattered and impressionistic data to be holistic.

Studies in geography were undergoing changes that made this discipline useful and even inspirational to historians with a burgeoning interest in the environment. In the first years of the twentieth century, Paul Vidal de la Blache of the Sorbonne replaced simple-minded and easily dismissed geographical determinism with *possibilism*, a proposition that nature does not dictate but does set limits and offers a finite number of possibilities to people, who then, according to the limits and possibilities of their own culture and genius, make choices. De la Blache emphasized not political units, the bailiwicks of kings and generals, but regions with natural and cultural borders, and he was interested not simply in what the environment did to humans but in what they did to the environment. He mapped and analyzed the distribution of *Homo sapiens*, the plow, wheel, domesticated animals, and systems of transportation across the globe. His most important work, *Principles of Human Geography*, was published in French in 1921 and appeared in English translation in 1926. It has enjoyed a number of reprintings, including several since World War II, and remains influential among geographers and not a few historians.³⁶

Carl Ortwin Sauer was the most influential American geographer during the middle decades of this century. He defied categorization, concerning himself with what humanity did to site, as well as vice versa, sometimes focusing on such subjects as language distribution and the origins and dispersions of agriculture and, in his last years, writing out-and-out history. His work fascinated and stimulated historians, most particularly Latin Americanists at his home university,

³⁴ Bowler, *Norton History of the Environmental Sciences*, 374–76, 520, 529–30.

³⁵ Donald Worster, *Nature's Economy: A History of Ecological Ideas*, 2d edn. (Cambridge, 1994), 301–15.

³⁶ James, *All Possible Worlds*, 246–49; P. Vidal de la Blache, *Principles of Human Geography*, Millicent T. Bingham, trans. (London, 1965).

the University of California at Berkeley, who, in turn, influenced historians in other fields.³⁷

American geographers aspire to scientific accuracy and produce tightly focused studies with a strong mathematical component and a minimum of theory: studies that contain useful facts for environmental historians but not generalizations they can test against the versions of the past summoned up from the record. Fortunately for the historians, mid-century geographic studies, like those in ecology, were intelligible and useful to outsiders. Sauer declared that geographers "welcome whatever work is competent from whatever source, and claim no proprietary right. In the history of life the less specialized forms have tended to survive and flourish, whereas the functionally self-limiting types become fossils."³⁸

French historians were, as a group, the first to scorn "manifest history" and to make a sustained and intellectually powerful attempt to examine humanity as a collectivity in interaction with the organic and inorganic world. Marc Bloch and Lucien Febvre, in the years immediately before World War I, had rebelled against the kind of historiography that sought truth about the forest of human experience by cataloguing and describing individual trees. They turned from the minutely factual history of Charles-Victor Langlois and Charles Seignobos to writing history of general trends and factors of extended duration. They looked to de la Blache and to Emile Durkheim, the sociological theorist, for guidance, emphasizing the social and collective, a bias that has often led historians to a consideration of the interaction of humanity and the environment.³⁹

The most influential work of France's innovative historians to appear between the wars was Febvre's *Geographical Introduction to History*, published in English in 1925 and many times since. It is a magisterial work, including as subcategories such subjects as climate, climatico-botanical areas, hunter peoples, fisher peoples, nomadism, and roads. The author rejects the old argument about geographical determinism versus humanity's free will: "The difference is really a frivolous and a purely academic distinction which leads to nothing,"⁴⁰ a statement of liberating revelation with which Sauer and today's environmental historians would heartily agree.

The most spectacular and influential achievement of post-World War II French historians has been Fernand Braudel's massive *La Méditerranée et le monde Méditerranéen à l'époque de Philippe II*, first published in 1949 and, after revision, again in 1966, and in English in 1972–1973.⁴¹ The translation is still in print two decades later despite its length, well over 1,000 pages, and despite the many

³⁷ James, *All Possible Worlds*, 399–400, 406, 531. For those unfamiliar with Sauer's work, I recommend, for starters, *Land and Life: A Selection from the Writings of Carl Ortwin Sauer*, John Leighly, ed. (Berkeley, Calif., 1974); *The Distribution of Aboriginal Tribes and Language in Northwestern Mexico* (Berkeley, 1934); *Seeds, Spades, Hearths, and Herds: The Domestication of Animals and Foodstuffs* (Cambridge, Mass., 1972); *The Early Spanish Main* (Berkeley, 1966).

³⁸ James, *All Possible Worlds*, 399–400, 406, 531.

³⁹ Stuart Clark, "The *Annales* Historians," in *The Return of Grand Theory in the Human Sciences*, Quentin Skinner, ed. (Cambridge, 1985), 180–82.

⁴⁰ Lucien Febvre, *A Geographical Introduction to History*, E. G. Mountford and J. H. Paxton, trans. (New York, 1925), 361.

⁴¹ Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 2 vols. (New York, 1972–73).

thousands of copies already sold. Its opening chapters, the most original, are devoted to the *histoire de la longue durée*, which is a matter of environmental factors, of "man in his intimate relationship to the earth which bears and feeds him." Man, Braudel wrote, in a sentence that George Perkins Marsh could have written a century earlier, is "a prisoner of climate, of vegetation, of the animal population, of a particular agriculture, of a whole slowly established balance from which he cannot escape without the risk of everything's being upset."⁴²

DESPITE THE POWERFUL INFLUENCE FRENCH GEOGRAPHERS and historians have enjoyed in the United States, their work did not initiate the surge in environmental history in America. Febvre, Braudel, and the others provided confirmation for ideas germinating in American minds and served as monuments behind which American environmental historians could retreat when attacked for their audacity, but other factors operating closer to home were the chief stimuli.

Frontier history *circa* 1950–1960, though no longer as prestigious as it had been in Turner's heyday, still attracted young historians. Turner had been attacked—demolished, said some—but the heart of his thesis survived, the proposition that the frontier had been very important in American history. Such history had an undeniable environmental factor: the advance by the Old World peoples had been profoundly affected by geography and biology, and it involved a dramatic alteration of ecosystems: cattle for buffalo, wheat for buffalo grass, gold miners for grizzly bears. The historian of the frontier was, to use a biological term, "preadapted" for environmental history.

There were changes in attitude among Americans in general that cleared the way for environmental history. Thoughtful Americans were beginning to realize that Henry Adams had taken poetic license but not leave of his senses when he wrote that "every American who lived into the year 2000 would know how to control unlimited power."⁴³ World War II and the Cold War provided support for his prophesy. For instance, the word "blockbuster" did not come into the language as a descriptive term for a particularly expensive and popular movie or for a real estate agent specializing in placing African Americans in white neighborhoods but as the name of a World War II bomb so big that it could destroy an entire city block. The word was freed up for new uses when the weapons dropped on Hiroshima and Nagasaki reduced all traditional explosives to minor status. The fusion bombs of the Cold War in turn demoted the fission bombs to second class. By the 1960s, radioactive fallout could be detected around the planet, and the claim that humans could destroy the planet was a cliché. No longer could anyone dismiss offhandedly the books and articles of historians who argued that humans had over the ages radically influenced the environment.

The triumphal moon landing was another stimulus for environmental history. Although this achievement confirmed for many a faith in the ability of science and technology to solve all our problems, to others the moon looked forbidding, while

⁴² Clark, "Annales Historians," 185.

⁴³ Adams, *Education of Henry Adams*, 495.

the earth, remarkably photogenic, appeared to be the only (the suitable word seems odd for a planet) *lovely* thing in the solar system—and *small*.

The reaction of C. P. Snow, physicist and novelist, to the moon landing seemed oddly out of step in 1969, but it is one that many have adopted since:

The solar system is dead, apart from our world: and the distances to any other system are so gigantic that it would take the entire history of mankind from paleolithic man to the present day to traverse—at the speed of Apollo 11—the distance to the nearest star. We can explore a few lumps in our system, and that is the end . . . As a result of supreme technological skill and heroism, we are faced not with the infinite but with the immovable limits.⁴⁴

The moon shot had the paradoxical effect of converting many to earth worship.

The environmentalist movement of the 1960s and after was the engine that drove environmental history. What had been a discontinuous mutter of complaint rose to a continuous shout audible even in the halls of academe. The new environmentalists of the Cold War era were different from old conservationists of the era of the Square Deal and the New Deal. The old conservationists wanted to assure the conservation of resources for future use, that is, the harvesting rather than the mining of nature. The new environmentalists wanted to preserve as much of primordial nature as still existed because of its intrinsic value, an almost religious yearning, and to defend an allegedly damaged biosphere so that the human species might survive, a yearning thrumming with anxiety.

The new environmentalism did not detonate but grew and therefore has no precise birthday, but for the sake of convenience we can date its scientific debut from a 1955 symposium at Princeton, with Carl Ortwin Sauer presiding as one of three co-chairs. This symposium produced a two-volume anthology, *Man's Role in Changing the Face of the Earth*, dedicated to George Perkins Marsh.⁴⁵ The theme of the conference was unabashedly ecological: "Man is dependent upon other organisms both for the immediate means of survival and for maintaining habitat conditions under which survival is possible."⁴⁶

The new environmentalism as a popular movement had been germinating for some time—Fairchild Osborn's *Our Plundered Planet* caused a stir in 1948, Aldo Leopold's *Sand County Almanac* a greater one in 1949, and Peter Matthiessen's *Wildlife in America*, 1959, maintained the spirit—but the movement did not surface as "manifest history" until Rachel Carson's jeremiad on DDT, *Silent Spring*, appeared in the *New Yorker* and then as a book in 1962. Its message was both scientifically informed and evangelical: "The 'control of nature' is a phrase conceived in arrogance, born of the Neanderthal age of biology and philosophy, when it was supposed that nature existed for the convenience of man."⁴⁷ Carson transformed environmentalism from an elitist to a popular movement. At last, there was an audience for environmental history.

⁴⁴ C. P. Snow, "The Moon Landing," *Look*, 33 (August 26, 1969): 72.

⁴⁵ *Man's Role in Changing the Face of the Earth*, William L. Thomas, Jr., ed., 2 vols. (Chicago, 1956). This still-valuable work has been supplemented by B. L. Turner, *Earth as Transformed by Human Action*.

⁴⁶ Paul B. Sears, "The Processes of Environmental Change by Man," in Thomas, *Man's Role in Changing the Face of the Earth*, 2: 471.

⁴⁷ Rachel Carson, *Silent Spring* (Greenwich, Conn., 1962), 261.

ENVIRONMENTAL HISTORY WAS ALREADY UNDER WAY when Rachel Carson did for environmentalism what Harriet Beecher Stowe had done for abolitionism, but the first new environmental historians were a tentative lot, not yet particularly conscious of themselves as a separate school. The heyday of Dwight D. Eisenhower and Mao Zedong was not comfortable for those with doubts about humanity's capacity to improve on nature. The pioneers of environmental history approached their subject obliquely, concentrating on its political manifestations or on attitudes toward the subject, rather than about the subject itself, as historians often do when unsure of their footing. Samuel P. Hays's *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890–1920* (1959) and Roderick Nash's *Wilderness and the American Mind* (1967) are fine books from this period.

Some of these pioneers were not historians. Geographer and Sauer protégé Clarence J. Glacken proffered *Traces on the Rhodian Shore* (1967), a massive and invaluable history of Western Civilization's conception of the environment from the earliest times to the eighteenth century. Some were historians but were not in the mainstream of the profession. Lynn White, Jr., an expert on medieval technology, published a declaration of war against complacency. He cited the man-centered Judeo-Christian tradition as the primary cause of the environmental crisis.⁴⁸ In the same year (modesty does not quite forbid my mentioning), I sprinkled a pinch of salt over the laceration White had torn open by declaring that the conquistadors had not won Mexico and Peru with Christian evangelical enthusiasm or even with their military prowess so much as with their loathsome infections.⁴⁹ In the following year, an article by Philip D. Curtin appeared dealing directly with the role of infectious disease in the transatlantic slave trade, an article that ten years before would have been written by a specialist in medical history and, almost certainly, have been destined for obscurity rather than broad and lasting influence.⁵⁰

The 1970s was an encouraging period for environmentalists, a decade that began in the United States with the first Earth Day and the formation of the Environmental Protection Agency and that spawned in the next few years the Clean Water Act, the Endangered Species Act, and the Environmental Pesticide Control Act. Simultaneously, environmental history emerged as a separate and independent school of scholarship. The entire August 1972 *Pacific Historical Review* was devoted to environmental history. The May–June 1974 issue of *Annales: Economies, sociétés, civilisations* had a similar focus and was prefaced by Emmanuel Le Roy Ladurie's definition of the field as embracing climate, epidemics, natural calamities, population explosion, urbanization, industrial overconsumption, and pollution. William H. McNeill published *Plagues and Peoples* (1976), a history of disease and humanity from African origins to the present, not a medical history as

⁴⁸ Lynn White, Jr., "The Historical Roots of Our Ecologic Crisis," *Science*, 155 (March 10, 1967): 1203–07.

⁴⁹ Alfred W. Crosby, "Conquistador y Pestilencia: The First New World Pandemic and the Fall of the Great Indian Empires," *Hispanic American Historical Review*, 67 (August 1967): 321–37; rpt. in *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, Conn., 1972), extended and broadened in *Ecological Imperialism: The Biological Expansion of Europe, 900–1900* (Cambridge, 1986).

⁵⁰ Philip D. Curtin, "Epidemiology and the Slave Trade," *Political Science Quarterly*, 83 (June 1968): 191–216.

usually conceived but an examination of humanity in an ecological context. McNeill's British mentor, Arnold Toynbee, in *Mankind and Mother Earth* (1976), published posthumously, proclaimed what he may never have imagined—may not have been able to imagine—in his prime years: “Since Man is rooted in the biosphere and could not survive apart from it, Man's acquisition of the power to make the biosphere uninhabitable is a threat by Man to Man's own survival.”⁵¹

Environmental historians, like environmental activists, hoped that the progress of the 1970s would be a prelude to greater things. The 1980s, the era of President Ronald Reagan and Prime Minister Margaret Thatcher, dampened that hope, but institutions founded in the previous decade, such as the EPA, survived and provided bases for further work. Environmental historians had also created an institution of their own, and it too survived to provide mutual support and a site for scholarly communication for specialists who received little encouragement from the profession at large. Philip Curtin noted in his Presidential Address of 1984, “The discipline of history has broadened enormously in the postwar decades, but historians have not.” He warned of “the dissatisfied drift away from the American Historical Association toward more specialized associations.”⁵² Environmental historians had already drifted away in 1976. John Opie, Roderick Nash, Wilbur Jacobs, Donald Worster, Samuel Hays, and others had resorted to a time-honored technique of American outsiders. They founded their own sect, the American Association for Environmental History, with its own journal.⁵³

The results have been both positive and negative. Environmental historians have gained the advantages of each other's company and advice but, too often, as a matter of preference, write for and talk to each other exclusively. Mainstream historians are only beginning to feel the influence of the new school: the last ten years of the *AHR* includes more pages on film than on environmental history. Environmental history exists as an independent subdivision of the discipline of history, but it remains a minor one. The job listings in the newsletter of the Association show little evidence of a professional consciousness of the environmental crisis.

THE AMERICAN ASSOCIATION FOR ENVIRONMENTAL HISTORY is nearly twenty years old, and environmental history is older than that, old enough to possess distinguishing characteristics. Its practitioners may be looked on as innovators, but they are stoutly old-fashioned and unfashionable in some ways. They tend to be more interested in dirt than in perceptions, per se, of dirt. They have no doubts about the reality of what they deal with, nor about their ability to come to grips with it. They may squabble about the details of the story of the extinction of edible fish in the Passaic River in the early years of our century or megafaunal extinctions in North America at the end of the Pleistocene, but they have no qualms about

⁵¹ Arnold Toynbee, *Mankind and Mother Earth: A Narrative History of the World* (New York, 1976), 563.

⁵² Philip D. Curtin, “Depth, Span, and Relevance,” *AHR*, 89 (February 1984): 1, 2.

⁵³ Philip G. Terrie, “Recent Work in Environmental History,” *American Studies International*, 27 (October 1989): 44.

assuming that these extinctions truly happened. They do not suffer from epistemological malaise.

On the other hand, they are avant-garde in the agility with which they leap over the concertina wire that divides the humanities from the sciences. They expect to read articles and books on geology, demography, meteorology, epidemiology, or agronomy and, after some struggle, to understand them. They have taken to heart the complaint of medical historian Richard Shryock, back in 1936, that historians have too often ignored materials immediately at hand, materials that "are for all practical purposes 10,000 miles away, simply because they are within buildings occupied by professional schools."⁵⁴ Environmental historians have discovered that the physical and life sciences can provide quantities of information and theory useful, even vital, to historical investigation and that scientists try and often succeed in expressing themselves clearly.

America's environmental historians, because they are conservationists, rile conservatives. They are as concerned with depreciation of ecosystems as others are with depreciation of the dollar. They are comfortable with suggestions about subtracting estimations of environmental degradation when calculating gross national product. Yet they often fail to be politically correct by definitions common on the traditionally Marxist wing of American intellectual life. Most American environmental historians agree with the judgment of their Indian counterparts, Madhav Gadgil and Ramachandra Guha, that dialectical materialism is simply not materialistic enough to be of much help. Marxists, say these two, are too quick to be satisfied with analyses of modes of production "without investigating the ecological context, i.e. the soil, water, animal, mineral and vegetative bases of association in which the infrastructure is embedded."⁵⁵

The ideology of environmental historians is at its root biological. They doubt the ultimate sense of many of the choices that humanity has made, especially in the last few hundred years, in exploiting the earth. They are worried about the durability of the intricate organic and inorganic relationships that support us all. Their guiding principles are not those of the boosters, Adam Smith and Karl Marx, but those of the worriers, Thomas Malthus and George Perkins Marsh, whose ideas we are all currently testing.

⁵⁴ Richard H. Shryock, "Medical Sources and the Social Historian," *AHR*, 41 (April 1936): 459.

⁵⁵ Madhav Gadgil and Ramachandra Guha, *This Fissured Land: An Ecological History of India* (Berkeley, Calif., 1992), 12.