Rachel Carson Center
Perspectives

The Future of Environmental History

Needs and Opportunities

Edited by
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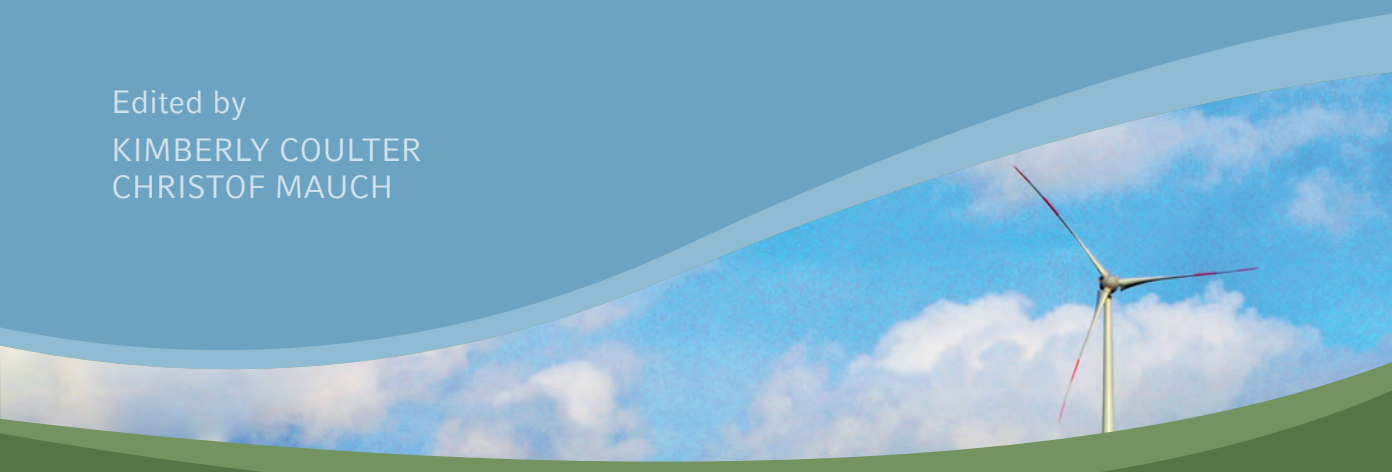

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Introduction

Kimberly Coulter and Christof Mauch
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Is environmental history our "best hope for the future"? The field is young, dynamic, and poised to contribute knowledge and understanding to a variety of problems facing the entire planet. Its work is in demand, but to what extent can its offerings provide hope, or better yet, practical solutions? Which fields have we neglected? Are there directions we should encourage and support?

Such questions, posed by Patricia Limerick in a conversation with Christof Mauch, sparked a plan to invite environmental historians from five continents to take stock of the field of environmental history today and discuss the most promising opportunities for its future development. The resulting workshop was held in Washington, DC, in June 2010 and was sponsored by the Rachel Carson Center for Environment and Society, the National History Center, the Center for the American West, and the John W. Kluge Center at the Library of Congress. In her prepared opening remarks, Limerick encouraged environmental historians to eschew polarizing disputes and to instead consider how they might illuminate current environmental dilemmas in a way that also critically informs public discourse and policy.

To share this conversation with a broader audience, we asked participants to provide a short written statement for this special issue of *RCC Perspectives*. A short film with highlights of the workshop can be found on our *RCC Perspectives* website. We are delighted that nearly all participants have contributed to this issue. In lieu of the two who did not, we are pleased to include thoughtful essays from historians Julia Adeney Thomas and Jane Carruthers.

Together, the sixteen contributions offer diverse insights and concerns about the future of the field from those working in environmental history and related disciplines. We present the essays in two parts. The first part, "Needs," takes stock of the field, identifies subjects for further study, and discusses methodological considerations such as scale. The second part, "Opportunities," offers suggestions for translating this research into real-world impact.

Needs

While environmental history's roots as a discipline lie in environmentalism and in an understanding of the cultural construction of "environment," its practioners have diverse views about which subjects to cultivate, with whom, and at what scale.

Which environmental history topics are most promising for future research—or most needed? Considering how we can best serve the field, John McNeill identifies regions, eras, and themes especially fertile for future work. In particular, he suggests focusing on "bigger themes," topics of policy relevance, and topics of importance to the historical profession. John Gillis points to a "blue hole" in environmental history. Gillis calls for a rethinking of the concepts of land and water, and the relationship between them. He encourages more studies of water, both offshore and inland, as one opportunity to write "history without borders."

Spatial or scalar frameworks for research are another topic of concern, particularly from those who wish to encourage global, transnational, or comparative studies. While acknowledging that environmental histories challenge national, subnational, and supranational frameworks, David Blackbourn points out that they remain stubbornly nationally defined, and encourages environmental historians to write across spatial and temporal scales. He suggests returning to material history, writing "big" histories, and exploring interdisciplinary and international links. Harriet Ritvo notes that environmental problems can seldom be solved within a national political context; yet most environmental history scholarship reflects these human boundaries. Ritvo argues that such scholarship can transcend national boundaries through comparative histories, or by engagement with fields that offer alternative categories for analyzing the world. Frank Uekoetter suggests that environmental history may make global history simpler by stressing ecological similarities and common problems. Taking global or at least transnational perspectives, he says, can provide a new view of the world "from the ground up."

As politically bounded territories are problematized as frames of analysis, foci and practices that transcend these frames provide promising alternative approaches. Looking to our human relationship with the animal kingdom, Mahesh Rangarajan illustrates ways that tigers and European bison have been instrumentalized to serve

national interests. By showing how human boundary construction has consequences for the natural world, he points out the pitfalls in using a national lens for writing environmental histories. Martin Melosi argues that the most daunting task for environmental history is integrating environmental history into mainstream historical narratives *from the local to the global*, for example considering the environmental risk local communities bear for production of goods sold worldwide. In particular, he calls for more attention to the intersection of environment and technology. As we consider how to address environmental issues generally, environmental history may be one useful "angle of attack."

Opportunities

What impact should environmental historians have on academia and the world at large? In Washington, John Gillis cautioned environmental historians against feeling tyrannized by "reference groups" when our most important reference group is a public eager for good writing on the environment. In what ways can environmental historians meaningfully engage the public? What fruits should our efforts yield?

Peter Coates and Frank Zelko stress the importance of policy relevance. Coates describes how his new AHRC research network, "Local Places, Global Processes: Histories of Environmental Change," aims to bring historical studies into dialogue with other specialists and UK site managers, with the aim of benefiting local places and informing public policy. In his role as history editor for the environmental history magazine *Solutions*, Zelko challenges environmental historians to ask what concrete lessons their work may hold for policy makers, scientists, or activists.

Urging us to bring our knowledge of the past into practical partnerships and conversations about environmental futures, Libby Robin discusses the example of the IHOPE project (for an Integrated History and future Of People on Earth). Stephen Pyne reflects on his experience working with fire management professionals. Pyne describes these groups' desire for practical applications from a "usable" past. Historians' practical value, he suggests, may lie in their ability to provide context for data, but also to captivate and inspire audiences to do their work better.

Engagement with the world can be both a materialist underpinning of research, as well as a motivation for undertaking it in the first place. "Get out more!" was the recommendation of Richard Walker. If environmental history is to make a dent in the public discourse, he says, it needs to get some "edginess," some purchase on world affairs, and a willingness to embrace environmental movements and speak to the public. Julia Adeney Thomas argues that in light of a climate catastrophe, environmental historians need to politicize passivity and engage with a new materialism that will focus on the distribution of power in human societies. Jane Carruthers asks us to consider why we write environmental history. Pointing to the field's moral purpose, political purpose, and resulting attraction for the public, she argues that it should remain activist.

Invoking environmental history's magical ability to dissolve the normative categories of time and space, to account for human and non-human actors, and also to get him to put on his hiking boots, Christof Mauch reminds us that there is magic, power, and even hope in environmental history.

Overall, these essays suggest a trend toward reframing scales of environmental histories, and a sense of urgency that communication—both interdisciplinary exchange among scholars as well as participation in public discourse—offers the "best hope" for the future of the field. As a field that aims to positively contribute to human understanding and decisions, the potential for impact is great. We hope that by encouraging environmental historians and others to reflect on these questions, that this issue takes a small step in that direction.

Needs

The Repair of the Earth and the Redemption of the Historical Profession

Patricia Limerick
University of Colorado

The circumstances of environmental history in the twenty-first century present a wondrous pairing of bad news and good news. The proliferation of environmental dilemmas is producing an equal proliferation of opportunities for environmental historians to lead in the redemption of their profession. Every time the public's fitful attention bounces in the direction of an environmental problem, historians who have chosen this field receive the sudden gift of a prospective audience.

If environmental historians rise to this occasion, their actions will chart a route out of exile for the whole profession. Turning hindsight into foresight, the engagement of environmental historians with contemporary issues could, with a few adaptations, prove just as rewarding for historians of race, family, labor, cities, and international relations, to name just a few subject areas where historical work and current dilemmas stand ready for reciprocal illumination.

Many environmental disputes are now mired in pointless and draining polarization, with the topic of global climate change leading the list. There is every opportunity for historians to welcome this opportunity to make the case (or, really, cases) for more sensible and sustainable use of resources. This is what I had in mind, back in January of 2010, when a lively conversation with Christof Mauch led to the idea of a convening to respond to the question, "Is environmental history our best hope for the future?" I am not entirely certain how I defined the "we" that was implied in that possessive pronoun, "our." I still think that environmental history offers hope to humanity. But I believe that engaging environmental history with contemporary discussion is the best hope for "us" *historians*, inviting us to address a widened audience, adding vigor to our minds and value to our research, and deepening the meaning we find in our lives.

Here are the reasons for my conviction:

First, the capacity that is in greatest deficit in the world today is the capacity to think in units of time longer than the next election or the next corporate quarter. Whatever

practices environmental historians follow and whatever topics they select, they are invited—really, required—to frame their study in units of time that dwarf the usual constrained chronology of human thinking. More stretching of the chronological range of thought about environmental issues, performed in public venues, could have a very positive effect on public thinking and decision-making. If people can be persuaded to take the lives of our ancestors seriously, a door opens to taking the lives of our descendants seriously and to incorporating their interests into our decisions.

Second, framing contemporary environmental issues historically can reduce polarization and relieve the stalemate and paralysis that polarization has produced. This is, in part, a function of the lengthening of the chronological framework, since the people responsible for the origins of many of our dilemmas have left the world decades ago, making the twenty-first century enthusiasm for blaming one's contemporaries irrelevant and inaccurate. Just as important, the idea of hybridity, so central to the writings of many environmental historians, scrambles the conventional categories of polarization. Preservationists prove to be people who actively exploit natural resources (last spring, I attended the annual banquet of the Colorado Environmental Coalition in Denver, and there is no question that our carbon footprint for the evening would have squished our spirits, if anyone had had the poor taste to call the "externalities" of our gathering to our attention). Meanwhile people enjoying preserved areas like Grand Teton National Park owe a great debt to the wealth, power, and enthusiasm for nature of the ultimate extractors, the Rockefellers. Attempting to separate a pure strain of "preservationist" from a pure strain of "utilitarian" would require the unraveling of a vast and very complicated tapestry, a tapestry so tightly woven that I am not sure it *can* be unraveled. The omnipresence of complex and mixed attitudes, if communicated by environmental historians to the general public, calls the usual lines of opposition in environmental disputes into question, and offers a route to the pursuit of solutions arising from collaboration.

Third, even though environmental history and environmental activism had a long phase in which they seemed to be partners and allies, we have luckily arrived at a new era. Just as much as the extraction of natural resources, environment activism has become a subject of critical historical investigation. While many environmental advocates may feel sad and even betrayed by this retreat from advocacy, in a paradoxical way, environmental historians writing as honest critics offer greater benefit to the causes of environmentalism than when they wrote as cheerleaders. Consider, for instance, the way

in which it is now possible for historians to point out the unforeseen consequences of the anti-urbanism that characterized much of the politically potent literary genre called "nature writing." Celebrating the benefits of living close to nature, many writers and advocates inadvertently provided the intellectual and emotional justification for sprawl, while obscuring the environmental advantages (in terms of wildlife habitat conservation, or of reduced use of fossil fuel for commuting) of piling up human populations in urban density. Rather than joining in the anti-urbanist choir, environmental historians can now point out the unintended consequences of some of environmentalists' most ardent beliefs. Attention to the strong streak of Calvinism in some branches of environmental advocacy—a construction by which the bulk of humanity lives in sin and darkness while a few enlightened figures are saved by the grace of their belief—has been another domain where the critical commentary of historians has offered useful—if also initially irritating!—perspectives to activists.

Fourth, environmental history has a solid claim to be the youngest field of historical study. By a persuasive interpretation, the recentness of its coalescing would also make it the most nimble, agile, adaptable, resilient, and barnacle-free of historical fields, far less encumbered with traditions and habits that have outlived their time. If this theory has validity, then environmental history is positioned to lead in the broader cause of exploring the practices and rewards of applied history, the most hope-filled force today in the revitalization of the historical profession. Environmental historians might, for instance, lead the whole profession in the project of examining history to show contingency, improbability, alternatives, and paths not taken (but sometimes still takeable), thus counteracting the fatalism and resignation that can hide under excessively thorough and cohesive analysis of causality.

Fifth, the topics and subjects of environmental history offer great promise for knitting the world of human knowledge back together, after decades of fragmentation and specialization. In particular, environmental historians are bridging the lamentable split separating the natural sciences from the humanities and social sciences. No discipline operating in isolation can make sense of any environmental topic of consequence. Thus the value of many territories of expertise rests on our capacity to reintroduce the various forms of inquiry to each other and to unite them in common enterprise. Environmental history is distinctively positioned to advance this cause.

For too long, the relationship between historians and the public has resembled the arrangements of sites rich in renewable energy resources that are simply without the transmission lines that could transport that energy to its consumers. Before the energy of environmental historians can reach the public, the obstacles to transmission posed by jargon, obscurity, and an inward-looking orientation toward historiography must be removed. Since surrendering these anachronistic habits and traditions offers far more satisfaction than pain, a "tipping point" is on the immediate horizon, when more and more historians realize that flexibility and innovation in their style of communication can deliver enormous rewards.

Thanks to my work at the Center of the American West at the University of Colorado, and after many encounters with comrades who are also committed to taking historical perspective in venues far beyond university walls, I can assert that what I describe here is a practical plan, not a utopian dream. Putting this plan in action does require effort and exertion, and also a moderation of the stern judgment that has long posed a temptation to academics commenting on public attitudes and, especially, the conduct of public officials. Time and effort must go into diplomacy, an enterprise that at first seems to require far too much strategy and forethought, and then proves to be as intellectually stimulating as any of the more conventional undertakings of historical practice.

"Is environmental history our best hope for the future?"
The answer: "Yes, absolutely—*if* that hope can gain our consent."

Surely every PhD-carrying historian has been in mid-flight when a passenger's sudden affliction causes the flight attendants to ask if there is a doctor on the plane. It is always a little sad to have to say to oneself, "I am not the sort of doctor to whom people turn when they confront a serious dilemma."

Environmental historians have a distinctive and enviable opportunity to respond to calls for their expertise, to say to their fellow passengers on this earth: "I am here with you and able to help."

Future Research Needs in Environmental History: Regions, Eras, and Themes

John R. McNeill
Georgetown University

I'm going to take the invitation to speak on "needs" very literally, but I will also do it very idiosyncratically. My own "needs" are going to take precedence over everybody else's, and those have more to do with intellectual curiosity than with what the world needs for its improvement, its conversion to sustainability, or its salvation. And I'm going to do a fair bit of what Marty Melosi says has limited appeal, that is, give a few, specific examples of things I think that environmental history needs to do. I'll organize it by referring to regions, to eras, and to themes. And I'll begin with regions.

As I survey environmental history, there are two regions of the world that stand out to me as near black holes. One of them, despite the ongoing efforts of Doug Weiner and a very few others, is Russia and the former Soviet Union. It remains extremely underserved by environmental historians. That is changing—but slowly. The second such region of the world is the Middle East, especially the modern Middle East, which is almost a complete black hole. I often hear colleagues from Australia or Germany say that in their part of the world environmental history is underdeveloped, lacks clout—that latter maybe true—but the former, by global comparative standards, is just not true. There are two outliers in the world in the terms of the underdevelopment of environmental history, regionally speaking. And they both have obviously tremendous potential for interesting work. If I were advising a young student keen on environmental history but uncommitted as to region, I would say, learn Russian or Arabic or Turkish.

Eras: Just about anything prior to 1880 is underserved by environmental historians. I think that is true for historians across the board and maybe that is as it should be if we want to provide relevant knowledge to generate solutions, to generate useful knowledge—the more contemporary it is, perhaps the better, although from the point of view of intellectual curiosity, that is not necessarily the case. In any event, it seems to me there is a powerful contemporary bias in history in general and in environmental history in particular. Going deeper into the past creates source problems, and frequently I think it requires collaboration of the sort that we were discussing earlier in

the day: collaboration with archaeologists, anthropologists, collaboration with nat-ural scientists of many sorts. And that can be an active collaboration where research agendas are composed jointly or it can be a more passive sort of collaboration in which historians merely exploit the research and findings of natural scientists.

Now for what's probably the more interesting part of my seven minutes: themes. Here my modus operandi is to look across regions and across eras to see what is done in one place but not done in another, and thereby try to identify opportunities. Here are a couple of things that leapt out at me as I was thinking about this yesterday:

Number one: The industrial revolution of East Asia since 1960—maybe this is too contemporary to be interesting. Marc Bloch said everything after 1830 is journalism, but he said that about eighty years ago, so maybe we should update it. Everything after 1910 is mere journalism. But in any case, as you all are aware, there is a tremendous transformation of the world economy ongoing in this industrialization of East Asia, and whereas the industrialization of Western Europe and Eastern North America has attracted due attention from environmental historians, the ongoing one in East Asia has—as far as I can tell—yet to do so on the appropriate scale.

Number two: This harkens back to the discussion between Richard Walker and Martin Melosi on urban environmental history outside of the United States and Europe. In the US we actually now have environmental biographies of ten or twelve cities—some of them are anthologies, some of them single-authored—but the world's really big cities, the mega cities other than Bogotá and Rio de Janeiro, as yet do not have—as far as I know—published environmental histories. Lagos, Cairo, Moscow, Tokyo, Bangkok, Seoul, Karachi, Istanbul, Jakarta, Manila, Shanghai, Guangzhou, Mumbai—and a dozen others—all now have ten million or more inhabitants. These are fantastically interesting subjects and they are important. This is increasingly the characteristic habitat of our species and yet we have no historical portrayal of the emergence and development of these mega cities as environmental phenomena.

More generally, there are two directions in which I see beckoning opportunity and a need for environmental history. First of all, environmental histories of things other historians care about: so the American Civil War, the French Revolution—if anybody still cares about the French Revolution. But historians surely still care about slavery, the

Great Depression, the Cold War, decolonization. These are among the many themes that resonate for historians in general. They all have environmental aspects to them. If environmental historians wish—and I'm not sure all do—to deepen their imprint upon the profession as a whole, this it seems to me is the most promising way to do it. And also relevant here are issues of scale. Writing the history of asbestos regulation in northwestern Omaha in the 1970s may have some tremendously interesting intellectual aspects to it, but almost nobody is going to care about it. Bigger themes are going to serve environmental history and environmental historians better.

The second of my two general directions is environmental history of things that environmental science and policy care about. This too harkens back to some of our discussions earlier in the day and I might have a position here that some of you do not share. To use some very topical examples: oil spills, hurricanes, adjustment to climate change, sea changes in the environmental behavior of a population. These are things that the environmental science community, the environmental policy community are all excited about. If we can provide environmental histories of these kinds of things, we won't be appealing to the historical profession as a whole any more successfully, but we will be appealing to other intellectual communities more successfully than we do now. Now, this is in a sense becoming the hireling of natural sciences and policy agendas which I know some of you feel uncomfortable with. But I'm not sure it's such a bad idea. If we're involved in these policy-driven research projects, we can simultaneously pursue our own agendas: as Mao Zedong put it, pursue a strategy of "burrowing from within."

Filling the Blue Hole in Environmental History

John R. Gillis
Rutgers University

There is a blue hole in environmental history. It remains a remarkably landlocked discipline, one that largely ignores the seven-tenths of our globe's surface covered by water and an ecosystem estimated to constitute ninety-eight percent of our biosphere. Oceanography is the last born of the natural sciences, but the persistent reluctance to tackle the oceans is due less to a lack of information than to Western civilization's unique cultural relationship to the sea itself. Other societies have felt much more at home with the sea. We, however, have consistently defined it as "other," as alien and exotic. The cartographic tradition of coloring it blue suggests a vacuity and purity that we do not attribute to land.

In both the pagan and Christian traditions, the sea is a mysterious presence—the "Great Unknown," as Henry Gosse put it. For the Greeks, land stood for order, water for chaos. Europe perpetuated the ancients' notion of an earth island surrounded by a deadly river called *Oceanus*. It would not be until the fifteenth century that the river came to be understood as a series of navigable seas, but the oceans were initially discovered as something to cross rather than to be explored for their own sake. Until the later nineteenth century, understandings of oceans were one dimensional. They were perceived as surfaces, without the depths or inner life.

The sea was thought to be timeless, a notion that survives in the oft repeated trope of the "eternal sea." Naval or maritime history might take place on its surface, but the sea itself is timeless. Even as land was coming to be seen as a factor shaping human destiny, oceans were never historical agents in their own right. History has been traditionally understood to begin and end on land. It starts when explorers or conquerors come ashore and ends when water is reached. Jonathan Raban has observed that "people who live on continents get in the habit of regarding the ocean as journey's end."

Oceans have been as off limits to geographers as to historians. Until recently, seas were seen as placeless places, without topography. In Western cultures, the sea was

perceived as pure nature, something best left to the natural sciences. It was seen as the ultimate trackless wilderness, lying outside society and resistant to civilization. Lands could be cultivated, but seas resisted human agency. Agrarians could be cultured peoples, while mariners are invariably seen as uncivilized, even barbaric. Given our tendency to set land against sea, it should come as no surprise that water has scarcely begun to be incorporated into either Western history or geography. Recently, ecologists have been able to make a place for man in nature, but only on land. They too have failed to overcome the alienation captured in the expression "at sea." Our biblical myth of origins identifies mankind exclusively with earth, ignoring all evidence of our aquatic ancestry.

Filling the blue hole in environmental history is not just a matter of further research, but of a rethinking of concepts of land and water, as well as the relationship between them. Exposure to alternative Pacific and Asiatic notions of the sea is just beginning to challenge the claims to universality of Western understandings of the marine world. For Pacific islanders, the ocean is not a placeless place, but a sea of islands with its own unique geography. For them, history does not begin and end with land, but it is inextricably bound up with the sea itself.

The current critique of the notion of wilderness must now be extended to the sea. Recent work on the history of fish populations has demolished the idea of pristine oceans by showing what enormous effects man has had on the oceans. For at least fifty thousand years, ever since Homo sapiens left the African shore, our history and that of the oceans have been interdependent. It is time to abandon our terrestrial myths of origins and acknowledge the ways that human culture began at the shore, not in the interior. Now that we have gotten beyond the equation of water with nature, land with culture, it should be possible to appreciate the ubiquity of seaboard civilizations.

Taking into account the experience of non-Western cultures, including Native American, it now becomes apparent that land and sea are not polar opposites, but parts of an ecological continuum. Now that the depths as well as surfaces of oceans are better known, we can appreciate their terrains and understand how sea tenures share properties with landed territories. The positive reevaluation of wetland environments underlines the hybridity of land and sea and of the coastal populations who have occupied the ecoto-

nes where earth and water meet. The excessive focus of maritime history (often called blue water history) on the deep sea has blinded us to the degree to which coasts, the most ecotonal of all environments, have played in both natural and human history.

Reformulating and revitalizing landlocked environmental history means going offshore, but also following the waters inland. More attention must be given to watersheds and estuaries, to brown as well as blue water. We must move beyond continental boundaries to follow the migratory species, including humans, who for millennia have moved across as well as along the tide lines. This will be a history without borders, using the more useful concept of borderlands to produce a history with depth as well as breadth, where earth, wind, and water are in constant interaction and mankind plays a significant role. The histories that will result will be more liquid but also more solid. Now that we have muddied the waters by bringing together earth and water, man and nature, the new history of oceans will be a very different hue, but one that more accurately represents its hybrid realities.

Environmental History and Other Histories

David Blackbourn
Harvard University

Environmental history can be seen as one marker of a larger shift in the discipline of history since the linguistic and cultural turns. That shift includes a powerfully renewed sense of place, the return of material history, and a renewed ambition to write "big history." I want to explore these affinities and offer some brief thoughts on the relations between environmental history and other histories, including natural history.

The rediscovery that history occurs in space as well as time has been a great liberating impulse in recent years. It is not true only of environmental historians, of course. The history of knowledge and history of science have fruitfully asked, where was the Enlightenment situated, and how did particular forms of understanding emerge from a given laboratory experiment? But environmental historians, as they examine a habitat, interrogate a landscape, or plot the movements of invasive species, have certainly been prime movers in restoring the spatial dimension to history.

The return of materialist history has also come in many guises—the history of material culture, the commodity, the body—of which environmental history is only one. Working on the environment has led historians to draw in varying degrees on the work of colleagues in the natural sciences—botanists and zoologists, climatologists and ecologists. Within environmental history, as in the mainstream discipline, our medieval and early modern colleagues were quickest off the mark here (just as micro-history was their invention, and for the same reason: exiguous written evidence). This shift opens up new frontiers for historians.

"Big history," finally, is not synonymous with environmental history. To read a work like David Christian's (2005) *Maps of Time*, which begins with the origins of the universe, or Daniel Smail's (2008) *On Deep History and the Brain*, which is concerned to integrate human evolutionary and cultural history, is to have one's sense of historical time turned upside down: the thousand-year span covered by an Alfred Crosby suddenly seems much shorter. Yet I would argue that environmental historians have done more than most to encourage new thinking about the temporal scale of history,

including pre-human history-scale, or perhaps better: scales. For environmental history needs to be written across the temporal scales, from deep history to the history of a crisis, like a fire or flood, that opens a window onto larger questions. Environmental history invites what Jacques Revel called the *jeu d'echelles*, or playing with scales. That is one of its virtues.

Environmental history is thus a marker of changes in the discipline that have brought new questions without displacing the questions asked by political, social, and cultural historians. Environmental history brings together many realms of human experience. That was something that attracted me to the changing German landscape as a subject—the possibility of at least aspiring to write a "total history" in the spirit of the *Annales* school. Richard White describes himself as "among other things, an environmental historian." I gladly offer the same self-description. Environmental history is one of the things I've done. But I have written, and plan to write, other kinds of history. That does not mean environmental history is just a passing enthusiasm (as one might become temporarily enamored of, say, Mendelssohn's music); it is something to which I am strongly attached, but it is not an *exclusive* loyalty. And I think there are many like me. After all, most environmental historians begin somewhere else—in agrarian history, or labor history, or the history of technology. There is a lot to be said for this. Environmental history, broadly defined, is much more prevalent than environmental history narrowly defined, and there are real disadvantages to the subfield becoming institutionalized within its own ghetto. The environment, nature—these are, like gender, useful categories of analysis that shows every sign of entering the mainstream. That's good.

There remain tricky questions. Those who try to bring into environmental history the conceptual gains of cultural history face being challenged by sterner, materialist practitioners. Draw too much on literary sources, or dwell too long on the "constructed landscape," and you risk the charge of soft impressionism. (I think there is a real difference here between environmental history as it is practiced in Europe and in the US.) There are, however, challenges, both practical and conceptual, in the other direction. Where is the border between history and natural history? To what degree can we make a river or a non-human species the subject and not just the object of our work, and still be writing history? Does the historian's category of agency mean the same when applied to non-human actors? Or, quoting Tim Mitchell, who was himself borrowing from subaltern studies: Can the mosquito speak?

Finally, there is the question of environmental history and national history. Environmental history challenges the national frame, of course, at both sub- and supra-national levels—the local and the global. But historiographies are nationally defined. It is clear that, by this yardstick, environmental history has remained more ghettoized in some historiographies than in others. The work of leading US environmental historians has had a much broader purchase—has helped, indeed, to redefine American history. That is not true of Germany, the country about which I write. There are a number of institutional and intellectual reasons for this, but one of them is the association of the kinds of things that interest environmental historians with the National Socialists, their policies, and their intellectual progenitors (real or imagined). There have been many recent works on nature conservation in Nazi Germany. One bears the title "How Green were the Nazis?" US historians have their problems, but they do not have to read books called "How Green was the Ku Klux Klan?" This cuts two ways, it's true, for it helps to create a public for environmental history—but at the cost of taking attention away from the long-term and directing it to that familiar vanishing point of German history, Nazi Germany. That, however, is another discussion.

Broader Horizons?

Harriet Ritvo
Massachusetts Institute of Technology

For very good reasons, obvious every time we hear the news, it is difficult to separate the future of environmental history from the future of the environment. The long record of our species' engagement with the global environment offers strong suggestions about the likely consequences of present actions and inactions. We are eager to share our insights with politicians and with the general public. Historians are naturally aware—probably more aware than anyone else—of the force of George Santayana's well-known comment that "those who cannot remember the past are condemned to repeat it." But we may be less aware of the frequent force of an alternative comment: that those who can remember the past are nevertheless condemned to repeat it, for one reason or another. Some of the attributes of good historical scholarship may actually undermine its potential as grist for the political mill. These are the same attributes that often produce problems when we try to distill complicated arguments or interpretations into an interview sound bite. (Of course, this predicament is not the exclusive preserve of environmental historians; we share it with academics in many other fields.)

So it is probably a good thing that the future of environmental history does not depend on the future of the environment, except in the most general sense. Indeed, in the short term, they may vary inversely. The flowering of environmental history over the last three decades surely echoes increasing concern about the environmental present. And it has become increasingly obvious that very few environmental problems can be solved within a national political context. In this respect, environmental history has not followed the contemporary trend. Like that in other historical subdisciplines, most scholarship in environmental history reflects the human boundaries constructed by nations, languages, and cultures. This is very understandable, since evidence is likely to reflect similar boundaries, and since human interaction with the environment is and has been heavily influenced by law.

The environment itself is not, however, constrained by such limits, and therefore environmental history also offers an unusual opportunity to transcend them. That this opportunity is also a challenge is suggested by the infrequency with which it has been

embraced. For example, the US-Canadian border has effectively bounded the work of most environmental historians who study its vicinity, even though, to a greater extent than many national boundaries, it is only a line on a map. Along most of its five thousand miles, it separates very similar terrains, languages, and people.

Comparative history offers one solution to this problem (or, actually, several). In *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico*, Elinor Melville (1997) supplemented her discussion of colonial land use in central Mexico with a discussion of the impact of sheep on the arid landscape of a very different time and place (nineteenth-century Australia). In his recent *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620–1914*, John McNeill (2010) took a different tack, focusing on a region defined by a shared disease environment rather than by kings and presidents. And comparison can be a matter of consumption as well as of production. Since environmental issues and environmental changes have often provoked similar responses in widely separated places, much scholarship in environmental history can be considered latently comparative—that is, comparative in the eye of the beholder. Perhaps the increasingly global content of our conferences and our journals will encourage us to internationalize our priorities as we decide what to read, not just in our own field but also in fields like geography, paleontology, and evolutionary biology, which incorporate alternative assumptions about how to divide up the world.

Globalizing Environmental History—Again

Frank Uekoetter
Rachel Carson Center for Environment and Society

"Globalization" has emerged as an omnipresent buzzword in the twenty-first century. Goods and information circle the globe at amazing speeds, people travel in unprecedented numbers over long distances, and global environmental conventions discuss the toll for the planet's biosphere. With that, it would seem like a timely endeavor to globalize environmental history; but the history of the field makes things more complicated. In a way, environmental history has been globalized from the very beginning. The limitations of the blue planet have been a recurring theme of environmental rhetoric since the late 1960s, clearly leaving a mark on the discipline's trajectory. It may be difficult to find another discipline that has produced so many monographs with a global outlook so early; Clarence Glacken and Lewis Mumford are two of the more memorable authors. In recent years, scholars like John R. McNeill, Joachim Radkau, and J. Donald Hughes have continued on this path.

However, something strange happened in recent years. As historians in general, inspired by the globalization buzz, are pursuing the project of global history more energetically than ever, environmental historians have shown increasing reluctance to pursue global perspectives. To some extent, this may be a result of the increasing specialization of research, which is in turn a by-product of the massive growth of the field in recent years. But upon closer inspection, we can also identify a certain feeling of remorse. In the early days of environmental history research, it was tempting to write with sweeping generalizations, depicting human history as a long story of abuse and mismanagement that has led more or less directly to the current environmental malaise. To be sure, McNeill and others have done their part in complicating this story, but maybe that was—and is—part of the problem. It is not very attractive to write global environmental history with an emphasis on nuance, where every third paragraph stresses the need to differentiate.

With that, it seems that if we want to globalize environmental history again, we will need a new paradigm. Even more, we will need to rethink the tradition of writing environmental history as a kind of counter-narrative: the underside of human history,

where the dirt accumulates and the hidden costs add up. It would be unwise, and probably even arrogant, to insist on environmental aspects as a separate, autonomous field, while scholars like Jürgen Osterhammel devote much attention to environmental issues as part of a broader global history agenda.

So what does environmental history have to offer as part of a broad choir of global historians? My argument is that, beyond many specific insights, environmental history offers one great opportunity: the chance to make global history *more simple*. Every global historian is grappling with the complexity of the world; cultures, political systems, and economies differ on the national, regional, and local levels. However, when it comes to the interaction between man and the biosphere, the laws of nature make for a good deal of similarity all over the globe. Every irrigation system needs to take the threat of salinity into account. Wherever farmers practice monoculture, pest and disease problems multiply. Every mine leaves a scar in the land, and the question of what will happen after abandonment. To be sure, reactions vary widely, but the basic challenge is remarkably similar all over the globe, and that could become a huge advantage in a field wrestling with the diversity of the globe. Environmental history may provide the project of global history with something akin to an "ecological backbone."

This will not come without a price. We will need to move away from the broad global syntheses, and towards the problems and issues that are similar enough around the globe. In short, we will need a more focused global environmental history, where modes of production and regional similarities are the prime criteria for inclusion, and it does not take visionary powers to see that framing our narrative will raise all sorts of problems. For instance, should we focus on "irrigation" as a global issue for many different cultures—or is "control over water" resources the more pertinent issue? To what extent is "pollution control" a global project, given the fact that pollutants can come from sources as diverse as kitchen stoves and forest fires? Can we talk about "the plantation" as a global endeavor—and if so, should that include the coniferous monocultures of Central Europe as well?

To be sure, this kind of environmental history would probably be more transnational than strictly global. The key criterion would be whether common ecological challenges can be identified that may bring together regions in different corners of the world, rather than the planet as a whole. But again, that is a challenge as well as an opportu-

nity. Maybe a transnational environmental history can come up with a new geography of the world that defies political boundaries: where the distinction between, say, intensive and extensive agriculture matters more than national borders, frequently defined eons ago in utter disregard for environmental conditions? Stressing transregional similarities could eventually lead to a new view of the world "from the ground up," thus demonstrating once more what has always been a hallmark of our field: the subversive power of environmental history.

Nations, Nature, and Environmental History

Mahesh Rangarajan
University of Delhi

All people on earth live within the borders of "nation-states." These very borders are often disputed, and the same lands are often claimed by one or more nation-state. There are peoples within one state wanting to opt out and others wanting to congeal together into larger entities. Much of the history of the past century was about how the fifty-odd states prior to the Great War began multiplying in 1914 to become nearly two hundred by the year 2000. Borders and frontiers, borderlands and transition zones: these have been the stuff of much of history writing, diplomatic or political, economic and cultural. After all, borders do not make themselves—people do.

The web of life, however, knows no such human made barriers. Mountain ranges like the Himalaya cut across nation states. Rivers originate in one country, flow through others, and join the ocean: this is true of the Ganga and the Mekong, the Brahmaputra and the Indus. Of some ten thousand glaciers, those moving rivers of ice in the Himalaya and associated mountain chains, many span human drawn lines on maps. Animals walk past, fish swim by, and birds fly over customs lines and immigration offices, military check points and border patrols. Nature's web defies containment.

But the impulse to label certain animals or lands as distinctive to a particular culture is all too familiar. Shakespeare's dying John of Gaunt in *Richard II* spoke of

> *This royal throne of kings, this scept'red isle,*
> *This earth of majesty, this seat of Mars,*
> *This other Eden, demi-paradise,*
> *This fortress built by Nature for herself*
> *Against infection and the hand of war*

But it was a sea walled garden, blessed and protected by the sea god Neptune himself. Over four hundred years hence, India's Prime Minister, Jawaharlal Nehru (d. 1964), in his last testament, spoke of the Ganga as a river that embodied the diversities of a country of many cultures and faiths. In each case, a feature of nature was rendered distinctively human and as marker of nationhood.

Nowhere is this perhaps clearer than in the human habit to label certain creatures as unique to a culture. While a result of millennia of evolution, the animal is seen as a symbol of place and space in human time. The tiger, the greatest of the great cats, ranges over nineteen nation-states, and in as many as six, it is *the* "national animal." This is a modern practice, but it has roots in yesteryear, when animals were widely used in heraldry or figured in poetry, whether in courts or in folk traditions. The animal, in turn, was and is imbued with human qualities that set it apart from other more humble feathered and furred creatures.

Now, this is easy enough if the species is found only in one nation-state. This is the case with arguably the most popular animal on earth: the giant panda. It is unique to China, and has been used as ambassador when the rulers of the country wanted to befriend one another. When presenting a pair to US President Nixon, China's communist rulers were in line with age-old tradition. The charisma of the panda was harnessed to the power of China's rulers, and became a means to reach out to America's vast public. The pandas in effect became ambassadors for a friendly China reaching out to the world at large and the US in particular.

It is far more commonplace that a creature of emblematic significance lives on disputed lands or in places where borders shift. Once frontiers change, the control of a population of a species with cultural images also changes hands.

The present day frontiers of Poland and Russia cut through the great boreal forest of Białowieża. But this is a frontier that has shifted back and forth through the World Wars of the twentieth century. Rout or triumph in battle meant the forest had a new master after each war. But the forest is of ecological significance: it is habitat for the European bison. Once found over large parts of Europe, the European bison vanished, or rather, were exterminated everywhere else, but lived on here.

The European bison literally made its last stand in Białowieża. History came to a full stop for the wild wisent in the course of the war of 1914–18. German soldiers shot and ate them. For the last of the great wild cattle, the cooking pot was the destination and extinction the consequence. What was, in its day, the most violent conflict in human history also had non human victims.

But the Treaty of Versailles brought the Polish nation back to life. No more divided between rival powers to the east and west, it took shape on the map as much as in real life. The bison were beneficiaries, as they were re-labeled as distinctively Polish beasts. Simon Schama's work shows how Marshal Josef Pilsudski enabled the retrieval of captive animals that were acclimatized and set free in the forest. The bison roaming wild were the living embodiment of the rebirth of a nation. History and ecology seemed both at peace.

There was another angle to the story, for Poland's military dictator was not only anti-communist, but was also deeply anti-Semitic. The ruler and his cohort saw the bison as more Polish than some of their fellow Poles. The tightening of controls was still not comparable to what happened once Hitler invaded Poland in September 1939. The great boreal forest became the hunting ground of the Nazi Reichsmarschall obsessed with legends of a Teutonic past of glory, Hermann Goering. While he hunted bison, Jews in and around the forest, as elsewhere in occupied Europe, were rounded up for the camps. War among nations and the violence within them had differing consequences for different peoples. Białowieża and its bison were at the center, not the edge, of these epochal changes.

Animals could embody more than their forest home. Imbued with all-too-human features, they could be emblems that rallied some but excluded others. This is graphically brought out in scholarship on the imperial and colonial periods in Asia and Africa.

In Ghatiyali, a small princely state in western India, the "Sawar Raj" brought back memories among cultivators and pastoralists of an era of pleasure, inseparable from pain. Ann Grodzins Gold and Bhoju Ram Gujjar write of a fierce regime of unpaid forced labor. No one could even act to secure crops from wild boars that could destroy a season's harvest in a matter of hours.

Wild boars lived in scrub jungles, open enough to be ridden down on horseback or hunted by the ruler and the landed nobility. The same lands not under the plough yielded wood for the cooking fire and fodder for livestock, berries to eat and tubers to cook. The economy of gathering was in conflict with the privileges of the ruler. The work of gathering and the access to the lands sustained many, but this experience

was bound up with having to endure the raids of the boars and the torment of their protectors. With the end of the British power, the princely states also vanished. With that, the lands were open, and in a short span of time, the boars and the *pilu* trees that bore berries were reduced to a memory.

Can nature and nation combine in a more just way than under the republics and empires of the last century? Pilsudski's Poland held bison in high regard but not all human fellow Poles. The princes in Ghatiyali did give boars a future, but on terms iniquitous to those who lived near or in the animal's habitat. Can a new emerging ethic overcome these legacies, and, if so, how? It matters, and not just to the bison and boars. To give ecology a future, we have to transcend such troubled legacies.

Balm for a dying planet, to heal the wounds in nature's body, to rescue the vanishing wild: these are evocative phrases used by those who speak in nature's defense.

The wonders of nature are here "nationalized" and harnessed by the nation state and its advocates. "Saving nature" means taking a step away from ideologies of conquest. But it is all too easy to reproduce the patterns of the past.

C. S. Lewis presciently wrote of how some men use nature as an instrument of power over other men. Where states draw boundaries—whether within or without—has consequences for the lines between humans and the natural world. The histories we write have to face the challenges unfolding in the world we live in.

Mainstreaming Environmental History

Martin V. Melosi
University of Houston

Which fields and questions have been neglected in the past and where should we go from here? The question is deceptively simple—or else impossible to answer. The easy part may be rattling off topics that may require more study. Although to be perfectly frank, environmental historians have tackled a wide range of issues over the years, in a variety of time periods, and throughout different regions of the world. I don't want to engage in a process of providing a laundry list of topics, because I don't think that is the central issue we are attempting to address. I will, for the sake of argument, list a few examples that speak more to where our intellectual hearts may be, rather than unexplored topics that are flying off our pens and computers.

Despite the fact that we, as environmental historians, come to the field from a wide variety of backgrounds, I think our scholarship over the years has been shaped by the current trends in our profession as a whole—primarily social history, exposure to wide-ranging ecological theory, and our political leanings as environmental advocates.

The history profession, especially in the United States, has been dominated for many years by social history, especially concerns growing from the grassroots, including race, gender, and class. In recent years, environmental historians have picked up on these themes, including a variety of postmodernist approaches. In our field this has been manifest in questions related to cultural construction of the environment.

Many environmental historians keep track of the broad issues in the natural sciences—probably more so than in the physical sciences—and often seem to borrow terminology and theory from the field: *ecosystem, climax, steady state, competition, chaos,* etc.

There is little doubt that most of us turned to environmental history because of an abiding concern about threats to our environment and the need to understand the value of our physical world. How could our scholarship not be influenced by such feelings?

Given these groundings, I'm not surprised that some topics get less attention than others. Quite conventional topics, often regarded as top-down or elitist themes, do not seem to be much in fashion. Environmental politics, beyond the study of the environment movement and protests, get inconsistent attention. The environmental history of a presidential administration, a political party, a parliamentary government, an autocratic regime, or the environmental history below the state/federal level is not always easy to find.

Personally, I save much of my frustration for limited attention to the intersection between environment and technology. Despite the efforts of groups like "Envirotech" and a few others, I see little scholarship that explores technology much beyond declensionism. We do take up technical themes indirectly, of course, when we look at issues such as cultivation, harvesting, hunting, city-building, and so forth. But there is a much bigger intellectual world out there to explore, if we look into issues more fully developed in the field of the history of technology.

Recently, I have been exploring, with my colleague Joe Pratt and a few other historians from around the globe, the phenomenon of "energy capitals." Several of us are taking up a variety of questions related to the intersection of energy and environment. While the topic is not new, *per se*, the range of questions has broadened beyond energy policy or energy-generated pollution. For example, in Pratt's and my work on Houston as an energy capital, we have tried to go beyond looking at the refining and petrochemical industries in our region as simply amassers of capital or serious polluters. The growth of oil-led development in Houston has had (1) marked effects on energy consumption (cheap gas for cars, cheap electricity for air conditioning); (2) major impacts on urban infrastructure (roads, water supply, sewage treatment, and air travel); and (3) land use and economic development impacts in general (including real estate development, and promotion of the Texas Medical Center, or Johnson Space Center). Other studies on Port Gentil, Gabon; Perth, Australia; Stavanger, Norway; Calgary/Edmonton, Canada; Los Angeles; Oklahoma City; the Louisiana Corridor; Pittsburgh; Oak Ridge, Tennessee; and Tampico, Mexico, are beginning to provide us with some broad patterns of energy-led development and its impacts worldwide.

I suspect I could go on and on with a litany of specific topics deserving more attention. However, from a broad intellectual perspective, trying to determine all the possibilities

of "an environmental history of… (fill in the blanks)" has a limited appeal. This is particularly true because environmental history has done much more than most fields to be bold, inclusive, and creative in pushing forward the value of the field of history itself. I know this is why I became interested in environmental history—because it established no clear boundaries, was accepting of new ideas, and was not afraid to look beyond disciplinary walls for those ideas.

However, the most daunting task, as I see it, that we face as environmental historians is integrating environmental history into every mainstream historical narrative that we can—from local to global. I always have considered environmental history "an angle of attack," a way to look at issues in a manner not typically considered in more conventional fields. But it is even more difficult to fold in environmental themes, issues, topics into the master narratives of our time, rather than setting them about as unique or complementary. I know this is what Ted Steinberg attempted to do in his text *Down to Earth* (2002), or what John McNeill did in *Something New Under the Sun* (2000). We need to do more of that for no other reason than to stop talking only among ourselves, but to a wider audience who might appreciate what we have to say. Environmental themes underpin so much of our human history. The relationship of humans to their physical environment is not incidental, but central to our understanding of human history itself.

Opportunities

Rising to the Challenge: Linking Humanities Research and Environmental Policy

Peter Coates
University of Bristol

Over the past quarter century, periodic audits of research at British universities have been conducted by the UK government's funding council for higher education. To date, this exhaustive assessment exercise has ranked disciplines according to performance in three areas. Firstly, in terms of research outputs (articles and books), secondly, with reference to esteem—which embraces indicators of scholarly reputation, such as invitations to give plenary lectures and membership of editorial boards. The third category is research environment, which covers activities such as research centers and grant income. The current assessment round (2009–2013) includes an additional category: impact. This does not refer to scholarly impact (that top rated research enjoys high academic impact is assumed). Nor is "impact" a synonym for public engagement. Being a public intellectual is not sufficient. What the assessors have in mind is *measurable* economic and public policy impact—which are obviously much harder for historians to demonstrate than they are for researchers in medicine, engineering, or chemistry. (A group of chemists at my university recently invented the world's first easily removable and degradable chewing gum.)

Yet environmental historians are better placed than many other historians to make a case for impact construed in these terms. Many of my colleagues, contemplating their own irrelevance to the impact agenda, certainly think so. "Of course, it's different for you," they say. "You're an environmental historian." What they mean is: "You're relevant, aren't you? Haven't you always claimed that if the world would only pay attention to you, then it would help get us out of the ecological mess we're in?"

In Britain, environmental history has finally arrived. The theme of this year's annual Anglo-American Conference of Historians—the flagship annual event (now in its seventy-ninth year) of the Institute of Historical Research (the UK's national center for history)—was "environments." One of the gathering's stated aims was to explore the "ways in which historians of the environment can inform global green awareness today," and the academic sessions were complemented by a policy forum entitled "Can

Policy Makers Today Learn from Histories of the Environment?" There still aren't that many of us—and some of our colleagues still tend to regard us as an interlopers—but it's undeniably a good time to be an environmental historian over here.

A recent five-year strategic initiative of the UK government's Arts and Humanities Research Council (AHRC) was "Landscape and Environment." And now things are getting even better. There was a recent funding call for research networks on the theme of "Arts and Humanities Approaches to Researching Environmental Change." The commissioning panel included natural scientists and research "users" (bodies that formulate and implement environmental policies). In my career to date, I've not knowingly served, to borrow a memorable phrase from John McNeill, as a "diplomat reporting from other terrains." I've not filed reports to fellow historians from the geo-archives and bio-archives created by natural scientists. But now I've got a chance to communicate in the other direction: to serve as an ambassador for historical studies, filing reports for the benefit of natural scientists. This is no accident. Proposals for the aforementioned research network scheme required collaboration with natural scientists and environmental managers.

This opportunity for an "applied" history exercise encouraged me and two other British environmental historians (David Moon and Paul Warde) to create a research network entitled "Local Places, Global Processes: Histories of Environmental Change." The group consists of a team of core participants and activities revolving around three site-specific workshops. These places are all historically and environmentally distinctive. Kielder Water and Forest, in Northumberland, is the largest artificial lake in northern Europe and Europe's largest artificially planted forest. Wicken Fen is Britain's first wildlife reserve—the last remnant of the watery fenlands of East Anglia. And the Quantock Hills, England's first designated "Area of Outstanding Natural Beauty" (1956). Located in Somerset, these hills have become one of England's most famous literary landscapes, having directly inspired the key tenets of the romantic celebration of wild nature. Each workshop will be held in conjunction with the site's owner or manager. These locations will demand, in a concrete way, that we can relate the concepts and wider histories that we study to material processes in actual places.

The application required a statement from each of our non-academic partners regarding how they would benefit from collaboration. One of them was particularly alert

to the transferability of environmental history expertise across national boundaries: "We have a good deal to gain from discussions with academic historians who have studied environmental change in other places and can place our region within a broader national and international context, encouraging us to connect at a wider level, both geographically and chronologically." The testimony supplied by another partner was particularly sweet music to our ears: "We think that this network will provide a vital, and currently missing link, between humanities research and the delivery of environmental policy. As we seek to develop and deliver sustainable adaptation solutions, we are finding that cultural understandings of the environment and environmental change are acting as a major barrier to engaging people in the management of change. The expertise involved in the network is often difficult for us to access and the inclusion of us in this network will help us to develop linkages with parts of the academic community who are not our usual partners."

So, in addition to the usual scholarly publications, we plan to generate materials on the understanding of environmental change at our various workshop locations that will serve as policy briefings for our partners and be suitable for circulation as a form of public outreach. We also hope to provide a framework for the further development of environmental history in the UK by drawing together specialists in stimulating environments that will help not just to identify common interests and future collaborative activities, but also insert environmental history more firmly into the mainstream of UK historical studies and strengthen our capacity to inform public policy.

Offering Solutions

Frank Zelko
University of Vermont

Is environmental history our best hope for the future? No. Cold fusion is our best hope for the future. Environmental history is mostly just the best hope for environmental historians. I'm just old enough, and have lived in the world of academic history long enough, to have lost most of my youthful idealism and my belief in the transformative power of historical truth with a capital T. Cool irony and a sardonic undertone have replaced the hot passion of youthful idealism. I used to abide by the young Marx's dictum: "Philosophers have hitherto only interpreted the world in various ways; the point is to change it." Now I'm more comfortable with the idea of mere interpretation, an activity that often leads me to conclude that history is farce, and not just the second time around. In the words of the great post-punk sage, Elvis Costello, "I used to be disgusted; now I try to be amused."

But perhaps my cynicism is more style than substance. I am, after all, the history editor for a new environmental magazine called, of all things, *Solutions*. It's a simple and straightforward title, though one that many historians seem to find vaguely threatening. The role requires me to abandon my cynicism and exchange it for a kind of practical idealism. I freely admit that in the beginning I was faking it. I took the job on because I was flattered that the chief editor, the ecological economist Bob Costanza, considered me worthy of the role. But after a while, Costanza's upbeat Weltanschauung started to rub off on me a little bit. Our editorial board meetings are characterized by an infectious kind of optimistic pragmatism. No revolutionary fervor or wide-eyed utopianism, but rather, a practical belief in the efficacy of incrementalism. Even if the best we can hope for is 100 steps forward and 99 steps back, it's worth celebrating that extra step.

In my new role, I'm constantly prodding contributors, most of them environmental historians, to clarify and emphasize the practical lessons of their work. "That's an excellent historical analysis," I tell them, pushing all the right buttons, "but what solutions are you proposing? What concrete lessons might your account of the past hold for policy makers or scientists or environmental activists?" After one year in this role I've concluded, to nobody's surprise, that historians are not particularly good at this. Even those who have

faith in humanity's ability to learn from our mistakes seem to struggle to develop solutions that are more than mere platitudes: "We over-fished in the past. We must not do it in the future." "Powerful corporations over-exploited a natural resource. We must pass legislation to prevent them from doing so again."

Rather than offering specific solutions, the best most of us seem to hope for is that influential people will read our work, draw the appropriate lessons, and then develop suitable policies or strategies to improve the future situation, or at least avoid the pitfalls of the past. It's the historian's version of the trickle-down effect. If our work points to historical errors of a technical or policy nature—they drilled too close to the wildlife refuge or the new tax encouraged the construction of shoddy buildings on the rural-urban fringe—then there is perhaps a slight chance that someone will pay attention and that our work will prompt some kind of change. But what about when we identify the problem as being systemic or cultural, which is frequently the case? If the answer to the question "what went wrong" is "capitalism" or "a Cartesian worldview," then what is the solution?

Some historians bristle at the idea that their work should be held to the same standard of social "usefulness" as that of engineers or economists. They argue that historians, like other humanities scholars, should be free to pursue "useless knowledge." While studies of the past can inform the present by revealing the hidden mechanisms of inequality or ecological degradation, they should not be expected to solve society's problems in any direct, let alone prescriptive fashion. Any such efforts would compromise the purity of our scholarship, as well as play into the hands of instrumentalist bureaucrats and right wing politicians. In general, I agree. No thoughtful historian would want to see independent scholarship undermined by the need to appear "useful" according to the dictates of free market ideology or a nationalist political agenda. At the same time, the fear of cooptation can be paralyzing, fostering a sense of intellectual timidity that can be almost as harmful as actual cooptation.

Environmental history is not going to save the world—assuming the world needs saving. But it is clear that some of our scholarship can, with a bit of tweaking, offer some quite useful solutions to certain well-defined problems. And if some scholars feel comfortable with, or excited by the idea of pushing their work into the realm of the practical, they should be able to do it without fear of disparagement from their peers.

Let me illustrate the kind of thing I have in mind with an article recently accepted for publication in *Solutions*. Neil Maher (2010) has drawn on his historical analysis of the Civilian Conservation Corps (CCC) to argue for a twenty-first century "Green New Deal." About two-thirds of his article summarizes his book, *Nature's New Deal*, demonstrating which parts of the CCC were successful and under what conditions. He then develops a solid case for replicating certain aspects of the Corps, appropriately updated to suit the economic, environmental, and social needs of recession-hit America in the age of Obama. It is the kind of piece that a policy advisor or—god forbid—a politician can easily digest and use as an outline to help craft a more detailed policy document.

So I will end by setting my fellow environmental historians a challenge. Go ahead and write your next brilliant book and your next forceful article: the one that will get you tenure or promotion or a Pulitzer or Bancroft. But when you're done, don't just go on a book tour and start work on your next project. Sit down for a few more days and ask yourself: is there anything of practical value that the non-specialist can draw from my work? Were there solutions in the past that could be adapted to today's problems? Could I craft a coherent policy statement or memo based on my study of the past? Then go ahead and submit an editorial to the *New York Times* or a think piece to the *Atlantic* or *Harpers*. Or better yet, write an article for *Solutions*. Here's the model: you get around two thousand words. The first thirteen hundred or so can summarize your historical analysis, but the rest must offer concrete solutions to specific problems. Imagine you've been approached by a policy-maker, a scientist, an environmental activist, or the guy down the street who's not sure what to do about the strange-tasting water coming out of his faucet. Each of them says: "I think your book is really interesting and compelling, but please, give me something I can work with." In the end, it might not lead to anything. But if nothing else, it can be a stimulating intellectual exercise that forces us to think in different ways about our research. And very occasionally, it might contribute to that one-hundredth step forward.

History for Global Anxiety

Libby Robin
Australian National University

Environmental historians are perhaps the best placed among historians to engage with planetary concerns about the future, not least because environmental historians are not always trained as historians first. Some come to history from historical environmental sciences, where the tradition of using the past to model the future is an established method. It is interesting that many "historically minded environmental scientists" call themselves environmental historians, at least in Australia, where I work predominantly.

In this round table forum on environmental history, I want to look at how the environmental history community can be defined more broadly to include scientists and policy makers, and how it might be colonized by environmental historians who use the traditional methods of history (including narrative). When I write of "we" environmental historians, I am referring to disciplinary historians, but I do not want to set up hierarchies where history is a more or less important player in the question of "what's next for the planet." Rather, I am arguing for the inclusion of historical methods to enriching a burgeoning interdisciplinary discourse about environmental crisis and anthropogenic global change.

First, some history! I first encountered this urge for historical thinking for planetary futures *outside* the history discipline. The new millennium opened with the definition of the Anthropocene, the era defined by the fact that people now affect every biophysical system of the planet. This definition did not come from geology, but from an interdisciplinary group working in climate science, and the Nobel prize-winning chemist, Paul Crutzen. Earth system science and history were both invoked by a chemist concerned about rising carbon dioxide levels in the atmosphere, which have been rising since the industrial revolution of the late eighteenth century, and increasingly since the Great Acceleration—the period of rapid human population, economic and technological growth since the 1950s. The ecologist Robert Costanza and others seek to combine the study of past climates and contemporary models to hypothesize about the future, conscious that all biophysical systems were now also human-modified systems,

so human history had to be part of their theoretical frameworks. Costanza is one of the founders of the ambitious, synthetic IHOPE project for an Integrated History and future Of People on Earth.

IHOPE was originally an initiative that connected science and social science, rather like Costanza's earlier work to measure "ecological services" that joined ecology to economics. IHOPE was broader again, adding earth sciences and archaeology, but history was not among its first choice of disciplines. Those of us historians, especially historians of science, who travel intellectually alongside scientists, have been used to discourse about the future, but perhaps were initially surprised that this "futures" project was explicitly historical in its intention.

Now, however, IHOPE has welcomed historians to its project. It urges historians (and others) to grab the "learning from the past" debate by the horns. Environmental pasts are integral to discussions about the environmental future of the planet. The challenge is to work out ways to shape the agenda historically, not merely to patch in case studies or data from the past for a debate that has already been framed elsewhere. Historians travel on different roads than scientists and usually are less experienced in big team initiatives. We often specialise in interdisciplinary synthesis "in one head," rather than by stringing a set of experts in different disciplines together. It is not always easy to find ways to join the discussion.

The "what's next" question embraces the past and the crisis of our times, but ideas about futures for the planet are changing fast. (Nothing dates faster than a "vision of the future!") The science around climate change has become very much more certain, and the issue has developed a consciousness of its "human dimensions" unforeseen even ten years ago. If environmental history is to be what Sverker Sörlin and Paul Warde suggest—something influential *both* in the academy and among environmental policy makers—we need to engage critically with the "what's next for the planet" question. Our disciplinary directions might include looking at how knowledge and science have worked in societies historically, and reflecting on what constitutes global expertise in different eras.

IHOPE is not the only group explicitly or implicitly urging historical thinking. For example, the discipline of invasion biology, another branch of "global change" think-

ing, has moved well beyond ecology. Most concern is focused on human-mediated introductions in "weeds and ferals" debates on every continent. Many ecologists are trying to get beyond the biogeographies of native and non-native, but these (historical) categories remain prominent in justifying management options for maximising biodiversity.

Invasion biology is perhaps a bit of a "sleeper" in Europe; the question of what "belongs" has additional political resonance in places with a post-colonial settler history. Belonging is about history, but not all of this history is cultural. Although we speak of Europe as the *Old* World, it was colonised both ecologically and by people relatively late after the Ice Sheet melted about 10,000 years ago. The before and after people distinction is harder to make in Europe. Many species do not have a long evolutionary history in that place (as, ironically, they do in the *New* Worlds). Late ecological colonisation, leading to tougher, resilient biota that either survived the Ice Age or was opportunist in colonising new niches, freed up as the permafrost thawed. In Europe, the colonial moment was largely ecological.

Global change is most often presented as a narrative about the future. Its roots in the past, however, challenge historians to contribute to public intellectual debate. Historians generally do history, not prophecy, and are struggling to find a voice for this "futures stuff."

Scientists and financiers are not the only futures experts. Fiction writers and social commentators also frame futures, often in terms critical of science and the societies it creates. The classic literary trope is the brilliant scientist unconscious of the possible social consequence of his monstrous creations. The social commentary trope of the future establishes a "struggle" between knowledge (science) and power (politics). Both tropes portray the scientist as *expert but inept*. Both tropes set up a contrastive role for moral expertise.

A history of ideas also points to a need for cultural expertise alongside natural science expertise. Environmental problems were under discussion from the early twentieth century, but initially taken one at a time by different experts: population, plagues, and pestilence, each in turn. The revolutionary idea of the century was the *integration* of environment: thinking of it as a total system on a planetary scale. For most of the

century the Earth system was conceptualized as "biophysical," as life beyond people, as driven by natural forces, and in the realm of natural science. Anthropogenic global change has changed this. Environment in the twenty-first century is more than "nature," and demands more than science to understand it.

Ulrich Beck argues that climate change by no means leads directly and inevitably to apocalypse, and points out that scientific agreement alone does not address the problem. The new discourse centers on the *consequences of decisions*. Disagreements have shifted to a different realm because of the near scientific unanimity on the subject of anthropogenic climate change. Environmental history, especially its transnational, comparative, and global dimensions, can contribute to this discourse. Now most scientists have reached consensus about the role of people in the biophysical functioning of the planet; future history is the scenarios of "consequences."

So if environmental history is to contribute to discussions about environmental futures, we need to build on our conversations and practical partnerships with science, social science, and public policy. What can we offer? We can best enrich these discussions with precision and perspicacity about the historical context of ideas, by cross-examining our present future scenarios with the knowledge of other eras. If we retreat and avoid these conversations, others will surely write a rather different history of the future without us.

The Cash Value of Environmental History

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"You must bring out of each word its practical cash-value, set it at work within the stream of your experience." — William James, *Pragmatism* (1907)

I belong to two communities. One is the guild of environmental historians and the other is the guild of people concerned with managing wildland fire. It is on the fireline that the rubber of my scholarship hits the road of practice. If my work in environmental history has any practical value, it is here. What do fire folks hope to find in it and in history generally?

This is a community that thinks with its hands, that hungers for action, that must respond to events outside its control. Its members look to history to satisfy three needs. They want data, they want lessons, and they want meaning, and they want it all in a form they can use. They want, in brief, to convert "history" into the cash value of practice.

Their training says that fire management should be a branch of applied science. So they look first for history as a source of data that they can insert into models and prescriptions. If cyberspace can be data-mined, why not the past? In more cartoonish moments they might imagine historian-miners trudging off to dank archives like the Seven Dwarves, whistling while they work.

The sad fact is, historical records were not written to satisfy existing models, and they can rarely provide the ready data that the fire community would like. Typically, there is too much or too little, and most of what is preserved is in a form that doesn't suit the I/O portals of software programs designed to process the output of controlled experiments. The issue is not simply that historical ore is refractory but that it's hard to distinguish the precious portion from the gangue. So while history is surely experimental, it is hardly controlled; and while it is sometimes possible to smelt that crude ore into more refined matter, the more usual response is a shrug. The stuff of history is dismissed as anecdotal; its cash value is suspect or worthless.

If data doesn't work easily, then perhaps lessons might. Isn't history mostly stories? Aren't we supposed to learn from experience and draw lessons from the past? But "lessons" are understood in a peculiar way, as part of a technological program in which experience is used to refine tools and sharpen behaviors that function as a tool. History, that is, is imagined to improve our practices and prescriptions in the same way that experience introduces continual improvements into the design of an automobile's U-joint or open heart surgery.

In this regard experiences—stories—are deemed interchangeable and universal in the same way that a faulty spark plug or poorly tied diamond hitch is independent of the life-history or psychology of an automobile driver or a mule packer. They are testimonies not tied to temperaments. The US Forest Service has even gathered volumes of such lessons from which the names of individuals have been erased. "Lessons" thus resemble "data" in that they exist apart from the actors who create and preserve them. Such a notion will seem odd to historians, but it illustrates again the extent to which the square pegs of a text-based historical scholarship don't fit into the round holes of quantitative models and the demands of legal and bureaucratic schemas.

The other difficulty with lessons, as with data, is that not all of them are equal, and they are simply too abundant. It is possible to assimilate dozens of fireline experiences, but not hundreds, and as the web now makes possible, thousands. Lessons gush out of history like a mountain spring. There must be a process for filtering, vetting, and editing. Otherwise the past becomes a jumble, or in this case, a digital junkyard in which one might, with persistence, find a rear bumper that will fit the 1936 Ford coupe that one wants to restore, but reduces historical scholarship to antiquarian hobbyism or vocational gossip. Lessons don't, by themselves, or when injected into other disciplines, make sense of the past or have the past makes sense of the present. That requires judgment.

This leads to the third expectation, that history can create meaning. Instead of pretending it is a social science or shoehorning it into a technological matrix, this vision accepts—encourages—history's status as a scholarship that deals with values, beliefs, personalities, and idiographic events, and with evidence that doesn't come from controlled experiment, which is to say, it accepts history as part of the humanities. Historians preserve and celebrate the deeds of the clan. They act as chroniclers and court poets.

The past becomes usable, that is, not just as data sets or scrolls of lessons but when it becomes informed by judgment. Historians add value when they speak to those issues of ethics, aesthetics, narrative, and perceived understanding of the world that do not reside in the sciences and in fact can help place those sciences within a social and intellectual setting. They provide meaning by comparison and context.

The American fire community understands and, within limits, welcomes this role for history. With equal measures of pride and perplexity, it recognizes that the most influential text published within the past 25 years did not come out of field or lab but from a book-lined study—a meditation written by a professor of Renaissance literature at the University of Chicago about a forest fire that happened in the Northern Rockies in 1949. Norman Maclean's *Young Men and Fire* (1992) helped connect wildland fire to the larger culture and forced the guild of practitioners to confront how they should deal with it. In Maclean's example the chroniclers and court poets found their voice, for he managed to silence the hall, and then to inspire those who heard him to do their work better.

Now that's real cash value for scholarship.

On the Edge of Environmental History

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I'm feeling edgy. The times will do that to a fellow. Global environmental damage is rampant, the world economy is sputtering, unemployment is catastrophic, and the political atmosphere is poisonous. Moreover, I come from California, where, as the Ohlone used to say, one is "dancing on the edge of the world," and where economic meltdown, strangulation of good government, and privatization of a great university are proceeding apace (Walker, forthcoming). It's not a good formula for dispassionate contemplation of the Future of Environmental History.

To be sure, I am a great admirer of the field, in large part because it speaks to the key questions of the human impact on the natural world and addresses many of the environmental concerns I hold to be critical to our collective future. Moreover, I admire the pluck of its practitioners for carving out a new domain of historiography over the last generation. Not only did environmental history seem like a diversion to most historians (who wouldn't know a salmon from a codpiece), it went against the grain of the times by being more materialist than cultural. And finally, this emerging subfield has done some impressive intellectual work that has forced scholars across the disciplines to sit up and take note.

But I also feel edgy about the state of environmental history. It is, after all, a branch of historiography and hence a careful, scholarly, dispassionate endeavor that necessarily moves slowly and speaks to a rarified audience. I recognize the necessity of this academic way of proceeding in the pursuit of knowledge and legitimacy, and I have no illusions about the gap between scholarship and the political fray. Nor do I put much stock in the kind of "relevancy" that means writing policy papers, unless there is very good scholarly research behind them.

Nevertheless, if environmental history (and academia in general) is going to make a dent in the public discourse on the big issues of our time, such as climate change, habitat loss, and species extinction, it needs to have an edge that it now by and large lacks. It needs to confront the big problems of the day (even if indirectly), ask the big

questions, and be willing to take hard, unpopular stands (inside and outside academia). To make this prescription more substantial than a general exhortation, I shall make several recommendations. The first set refers to basic principles of how to think about and practice environmental history. The second set is a group of concerns that derive from my own field of geography, both as to the objects of study and the geographic point of view on the world.

The Importance of Being More than Earnest

If environmental historians are to become more edgy in their knowledge and more consequent in their work, they might well adopt the following three principles of thinking about the topics they study. In this way, they could put a bit more iron fist behind the velvet gloves of their brilliant research and estimable narratives. To keep the tone from being too heavy, I take a page from postmodern architecture's bible, *Learning from Las Vegas* (Venturi, Brown, and Isenour 1977).

1. Learning from Weber

Historians tend to dismiss the shallow offerings of social scientists, with their often simpleminded sense of the present and of causality that can be prised from the data by regression analysis (Gaddis 2002). I couldn't agree more. So I call on the spirit of Max Weber, the father of modern sociology, who pioneered so much of systematic model building in social science (before it became just an exercise in mathematical and statistical gymnastics). By contrast, the great failing of historiography as a field is its frequent evasion of causality, allergy to theory, and preference for the narrative form. Historians think that you can't step into the same river twice, but you can, in fact, step into the same river system again and again; the hydraulic and geomorphic principles remain the same, even if the water molecules and eddies are ever-changing. This is not a call for false scientism, but a plea to find the strong current between plumbing bottomless detail and cranking out shallow analysis.

2. Learning from Marx

Karl Marx was simultaneously a historian and what came to be called a social scientist by the time of Weber. His model of capitalism was famously critical of the course of modern history and sought the agency of human liberation in the working class. There

were two sides to Marx's mode of analysis. The first was to discover the logic and trajectory of capital, with its relentless exploitation of everything, in search of endless accumulation. In this vein, environmental historians must never let capitalism off the hook as a fundamental force behind the global bulldozer. Marx's second key idea was how ideology arises from practical affairs and how political economy must always be critical of the illusions of capitalism. Modern academics would, I think, come in for the same barbs as the neo-Hegelians of his time; the point is not only to analyze the world, but to change it.

3. Learning from Foucault

The champion of poststructuralism, Michel Foucault, taught us to write "the history of the present," a challenge some radical historians have taken up with vigor (see the journal *History of the Present*). This is a double-edged sword. On the one hand, it refers to a concern with how we arrived at the present state of things, and how things might have turned out differently (as opposed to historical studies with no point of contemporary reference or a wooden Marxism that tried to explain history in mechanical terms). On the other hand, Foucault refers to the heavy hand of social power in keeping the course of history on track—and out of the hands of the subaltern. Foucault was unrelentingly critical of power in all its forms, as well as how knowledge is deeply implicated in modern oppression. Environmental historians should, in this light, be forward in challenging the blandishments of conservative *and* liberal thought that disguise the way modern society bludgeons nature into submission.

Seeing Like a Space

At the same time, I am a geographer among historians, making me edgy in a disciplinary sense. Though environmental historians are my favorite breed among that disciplinary herd, I want to play the geographic card. To this end, I argue for three critical dimensions of environmental study that need to be given more attention by historians, where there is something to be learned from geographers (for a fuller description, see Walker and Thomas 2010, 553-77. Apologies to James Scott for the titular pun).

1. Cities: The Centrality of the Urban

Among all the possible fields of study in environmental history, cities are the most important. While there have been some excellent urban studies by environmental historians, the dominant subject matter has been rural: wilderness, parks, forestry, fish, and so on. There are, to begin with, the vast resource appetites of cities, as Bill Cronon (1991) has shown, which continue to grow in an ever-more urbanized world. In addition, nature lives within the city, as second or even "third" nature (nature transformed and transformed nature resurgent), even as the scale of cities expands and the urbanization of the countryside brings more and more land into the urban realm (Walker 2007). Then, finally, cities serve as the principle hearths of contemporary environmental ideas and politics, particularly of resistance to the scourge of capitalist development and of alternative ways of life that might save the planet.

2. Political Ecology: The Political Economy of Nature

The subfield of political ecology grew up within geography at much the same time as did environmental history within its master discipline, and for similar reasons: confronting the pressing questions of environmental degradation. While the stream of "man and nature" studies has always been robust in geography, the discipline long suffered from a denial of theory comparable to historiography. Political ecology reacted against that by bringing to bear the great concepts of classical political economy: property, markets, class, and state. And onto these it has grafted race and gender, producing a tree of knowledge of great fruitfulness. It is also one of profound critique of modern social orders and the joint exploitation of people and the land (see as example Peet and Watts 1996).

3. Space, Place and Scale: Geography as History

The great scholars Marc Bloch and Fernand Braudel were as much geographers as historians, and the best students of environmental history walk in their footsteps. One thing they understood very well was that social history is directly tied to land, places, and material life. Another was that one had to think at all scales, from the local to the global, in a dialectical way, and that the latter was not just the sum of the former (just as the former is not simply the imprint of the latter). Indeed, there are key scales that defy the usual obsession with national histories, such as the Mediterranean world, Atlantic economy, and Indian Ocean realm. Finally, they grasped the key role of expan-

sion at the geographic frontiers of dynamic societies, from medieval Eastern Europe to the Caribbean sugar colonies. Perhaps, most of all, they never shied away from "Big History," with its global processes (I recommend Moore 2010, 33-68).

I am sure that many environmental historians would agree with one or more of my propositions, because they are, on the whole, a rather forward-looking group inspired by a serious concern with the fate of the earth. Nevertheless, it will not suffice to rest on a record of good behavior without thinking about how to break out of the prison of the academy and even of American liberalism. If we are to restore some measure of sanity to the mad conquest of the earth today, we'll need a bit more of a push-back from our best and brightest intellectuals.

From Modernity with Freedom to Sustainability with Decency: Politicizing Passivity

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When I first engaged the discipline of history, the overriding concern was freedom. Benedetto Croce's phrase "the story of liberty" encapsulated its purpose. The study of the past, in revealing political oppression, economic injustice, and cultural, linguistic, and structural determinations would help overcome unjust power relations and establish grounds for hope. Nature slunk to the borders, a beaten stray, mere backdrop if visible at all. It was treated with suspicion because nature was deterministic, and the goal of praxis was to reveal the extent to which we could be liberated from determinations. Since "deterministic" was a dirty word, nature was a dirty category. Climate collapse has destroyed, among other things, this original rationale for history. The search for liberty must be reformulated as the hope for survival with decency. Our future has changed our past.

I might pride myself on rebelling against history's originary consensus in *Reconfiguring Modernity: Concepts of Nature in Japanese Political Ideology* (Thomas 2001) because I took "nature" seriously, but in fact I hewed close to its purposes. I was, like the great political philosopher Maruyama Masao (1914–1996), stalking freedom, trying to understand Japan's political failure, its early twentieth-century substitution of imperialist wars for democratic progress, its postwar substitution of prosperity for political debate. Maruyama, in keeping with the (paradoxical) optimism of much political philosophy at mid-twentieth century, saw his task as "founding the absolute liberty of man, by eliminating everything which commonly seems to restrict freedom," to quote Sebastiano Timpanaro's ([1970] 1980) description of modernity's goals. My aims were slightly more modest, since I had taken on board Timpanaro's insistence on a naturally *conditioned* freedom, but I too felt the tug of utopian possibilities.

Today, these arguments have suddenly taken on the patina of antiquarianism. The quest for freedom that compelled historical research throughout the last two centuries no longer pertains, or, rather, nature's abundance and radical otherness that enabled that hope no longer pertain. It is not the collapse of the ideological separation between

nature and culture that need worry us now, but its physical reality, the Anthropocene era's erasure of "the age-old humanist distinction between natural history and human history" (Chakrabarty 2009, 201). What has vanished with climate collapse are the material conditions undergirding the original sense of "historicity" as "denaturalized" linear time imbued with "anticipatory content" (Koselleck 2002, 5 and 7-8). From the perspective of the social constructionists, the searing irony is that now that nature itself is becoming a social construct, produced by the geophysical agency of human beings, it is more ruthlessly deterministic than ever. More than Timpanaro ([1970] 1980) could have realized in 1970, we cannot "deny or evade the element of passivity in experience . . . Nor can we in any way reabsorb this external datum by making it a mere negative moment in the activity of the subject." The central challenge today is to figure out how to maneuver within the constraints of biological and geophysical determination. Recognizing these restrictions changes not only our hopes for the future but also the questions guiding our research into the past.

At this moment of unprecedented planetary and disciplinary crisis, historians have responded with a strange schizophrenia. Many continue to produce cultural histories, ignoring ecological materialism altogether; much of this research is irrelevant to the most important problem of our time. Conversely, environmental history, often with a materialism akin to that of the sciences, recovers physical bases of life at the pre-social and social levels, but often forgoes praxis for moralism, the analysis of power for righteousness. In toying with the temporal concepts "big" and "deep" and downplaying willful human agency in studies of catastrophe and animals, some environmental histories describe conditions without articulating what historians *qua* historians can contribute. What historians need to do, I would argue, is to return to the discipline's political roots, no longer with the hope of founding absolute liberty but with the hope of finding resources for ecologically sustainable democracies.

Let me posit three moments in the birth of a new historical materialism. The first step, largely realized already, redefines the human subject as determined in the last instance by nature. In highlighting our biological and geophysical selves, environmental history foregrounds the passivity of human experience alongside the activity. Contra R. G. Collingwood, it has shown that history is *not* only "a process of thoughts" but must also interest itself in "the fact that men eat and sleep and make love" and die, in our biological being as well as our deliberative selves (Collingwood [1945] 1956, 216).

This radical alteration in our understanding of the historical subject lays the foundation for grasping the climatological catastrophe that humanity passively receives as well as actively creates.

The next task for all historians, not just environmental historians, is to politicize this insight: in effect, to politicize passivity. The original goal of praxis was to redistribute activity, to give self-determining agency to the broadest possible swathe of the populace. Now, understanding that historical existence consists first and last in the bodies that we never chose, and in the air, land, and water that are life's non-negotiable requirements, we must work to recover political and social imaginaries that highlight sustainable existence. This move is a radical ratcheting down of the left's original hopes and liberalism's assurances which were based on abundance. Minimum egalitarian decency, enough to eat, clean air, and potable water are unglamorous compared with history's original promise of ever-expanding liberty, but they are revolutionary, indeed utopian, in our precarious circumstances. This suggests a need to return to the archives with new questions about social configurations, just as the imperatives of working class or women's history made us re-read the past. What we surely will find, as Mike Davis says, is that "there is no historical precedent or vantage point for understanding what will happen in the 2050s when a peak species population of nine to eleven billion struggles to adapt to climate chaos and depleted fossil energy," but, through archival research into modernity's byways and dead ends, history can offer leverage against the current destructive status quo and provide alternative social imaginaries for the future. As Davis says, "If this sounds like a sentimental call to the barricades, as echo from the classrooms, streets and studios of forty years ago, then so be it"(Davis 2010, 41, 42-43, and 46). This essentially political project returns to history to find discarded utopian articulations now made compelling because of their ecological logic.

Will the archives give us ground for hope? We cannot know. Much will depend on our skill in re-reading them not only "against the grain" of purely human power, but with the grain of biological, physical, and chemical power, the structures of nature to which we are all unavoidably beholden. The new materialism would downplay certain strands of environmental history such as narratives mimicking astrophysics or animal studies translating biology into cultural studies. Fascinating as that work might be, the core of history as environmental praxis must focus on the distribution of power in human societies, the distribution of activity and passivity in terms of class, gender,

and space (urban v. rural; northern v. southern hemispheres) that churns the global atmosphere and poisons or protects the planet.

The third moment in the development of the new materialism is to recognize the right-wing challenge and guard against it. The environmentally determined constriction of the future brings us into the perilous territory of fear and lack of human solidarity. Here the reason for politicizing passivity becomes most apparent because passivity, the recognition of what cannot be changed, is easily appropriated by the right, where it has always been more at home. Climate worries are already producing enclaves fighting for their own, be they nationalist enclaves (efforts to thwart refugees or Chinese commandeering of Himalayan water sources), class enclaves (corporate ownership of water supplies, gated communities), or authoritarian managerial regimes distributing resources to a political elite. In this new combative reality, a precise theoretical articulation of sustainable decency needs to emerge, one reliant on political, social, and economic structures modeling collective restraint with room for individual creativity, rather than on a sentimental hope of human decency. Accomplishing this will require the reconceptualization of humanity, the denaturalization of capitalism, modernity, and progress, and the recuperation and narrativization of experience as both active and passive. The climate catastrophe is the consequence of modern relations of power in human societies; therefore, it is human relations of power that require historical analysis and judgment, archival work, and theoretical engagement.

Recapturing Justice and Passion in Environmental History: A Future Path

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It may well be inevitable that as a scholarly field matures, and as the initial frisson of novelty and fresh thinking dissipates over time, practitioners think more deeply about philosophical and theoretical underpinnings. This appears to have been the history of environmental history. There is general consensus that it burst upon the scene as a dynamic historiographical trajectory under this name in the 1970s. Many scholars see its emergence as being connected with environmentalism, the global social movement spawned by Rachel Carson's ([1962] 2002) *Silent Spring*, the first Earth Day, and the wilderness movement of the 1960s. Others (e.g. Grove, 1995) locate its origins in earlier centuries of empire and colonialism. But no matter the debate over the source, this new direction in conceptualizing the past emanated from a passionate engagement with the dominant issues in the society of its time. These included direct relevance to the eco-politics in an era when profligate use of natural resources, global climate change, demographic growth, inappropriate conservation practices, and other environmental issues began to have visible adverse global as well as local and regional impacts and high public visibility, to the extent that "green politics" became emblematic of the period. It was generally believed that environmental history held great promise for catalyzing action towards human improvement and justice, by providing historical understanding and explanation of the interface between "culture" and "nature," and by connecting with growing ideas around sustainability and environmental equity.

Many prominent academics were attracted to this field, described by Donald Worster (1994) as being so fundamental that it was central to all historical study. A great future was anticipated; both David Lowenthal (1996) and Worster (1996) argued, for example, that environmental history even had the potential to close the gap between the humanities and the sciences, while Stephen Dovers (2000) considered it the most important interdisciplinary arena.

By the end of the 1990s, however, a more cautionary note could be discerned in the scholarly literature. Amy Dalton (2000) observed that environmental history had more inherent theoretical ambiguities and methodological dilemmas than other areas of

history. Some of these were explored in a special issue of *History and Theory*, in which John McNeill (2003) alluded to the "chaos" of environmental history. Ellen Stroud (2003), and also Sverker Sörlin and Paul Warde (2007), then noted that environmental history remained on the margins of the mainstream, and this they attributed to the absence of theoretical consensus and clear epistemological parameters. Sörlin and Warde even accused environmental history of having "relatively little coherence" as a discipline.

What is important in connection with challenges and future perspectives in international environmental history is that these critiques remind us that it is important to consider *why* we write environmental (or any other) history—merely writing it is not a sufficient objective. Historians need to be "engaged" with their topic: in other words, values and ideology should be involved, as they were—I believe—more evidently when the field emerged in the 1960s. If there is some concern that environmental history has less public and academic purchase than was the case when it was "new," then looking at its continuing dynamism and growth in African historiography may be instructive (Carruthers 2004). It is within African environmental history that politics, ideology, and purpose come most strongly to the fore, arguably more so than they do in the environmental histories that are characteristic of the developed world. In Africa specifically, environmental history originated from a strong African social history and Marxist paradigm that was closely connected to environmental justice (Beinart 2000), and this has continued to be a major trope. It would not be making too much of this point to describe it more as "eco-social history," than history relating to "environmentalism." Thus the theoretical lacunae that are often raised as a criticism against environmental history apply less to Africa than they do to studies elsewhere.

Stroud (2003) believes that conceptualizing how the environment should "be construed" in historical terms is imperative, and she has suggested that insights will emerge more fully when the environment is employed as a site for examining other axes of power. William Cronon would agree: "In the face of social history's classic categories of gender, race, class, and ethnicity, environmental history stands more silent than it should" (quoted in Nash 2000, 24). In 2005 Doug Weiner reminded the academy that environmental history in the United States had grown out of intellectual concerns that galvanized society, and once these connections are lost—or relegated

to the background—it is perhaps not surprising that some might think that the historiography has less to contribute.

African environmental history, with its emphasis on the environment as locus of power, has given something fresh to the discipline. Recovering ideas around justice with passionate (but not emotional) engagement may hold promise for future directions in environmental history elsewhere. Through careful and sophisticated historical scholarship, the postcolonial trap of simplistic divides that Aaron Sachs (2003) believes has crippled environmental history, may be avoided, and fresh perspectives on colonial, global, and other power structures may be unearthed.

The connection between history and society's concerns is vital, and in this regard environmental history has particular strengths upon which to capitalize. The ongoing, strong public interest in environmental issues is evident in the phenomenal, popular success of Jared Diamond's books *Guns, Germs and Steel* (1998) and *Collapse* (2005). Historians owe it to society to provide context to the important issues of their time. How people utilize natural resources and how they relate to each other through natural resource exploitation and use—particularly at this time of global climate change—is crucial. Environmental history is particularly attractive to the public because it has moral purpose and political purchase. It is not, of course, the only historical field to have shown passion, energy, and an ethical sense. Social history, too, had an agenda that aimed to broaden historical studies away from the society's powerful and to consider history from "below," to incorporate those who were exploited. Environmental history is political—it speaks to current concerns and, perhaps of all the historiographies, is the most activist (Mauch, Stolzfus, and Weiner 2006). To thrive and prosper, perhaps it should remain so.

The Magic of Environmental History and Hopes for the Future

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For me, environmental history has always held a certain magic. Perhaps this is partly because I was a late convert, coming into the field via a circuitous tour through literary and then political history. So much of my time had been spent in stuffy archives, reading mountains of bureaucratic documents, diplomatic records, and in particular secret intelligence files. Environmental history was different. Different, because unlike political history, it was not primarily based on written sources. Different, because it forced me to pack my hiking boots along with my laptop for research trips. Different, because it helped me realize that the relationship between nature and culture is defined not just by boxes full of documents, but also by explorations of nature's own archives. And, finally, it was different because it dissolved the normative categories of time and space. Territorial and national boundaries tend to play a rather minor role in environmental history; instead, the dynamics of nature—the growth and movement of species, the transformation of land, and natural catastrophes—become a more salient part of the story. Likewise, a focus on "nature" (however constructed) transcends the time periods that historians normally focus on. Environmental historians often need to incorporate both extremely long natural transformations (such as climate change) as well as very sudden natural events (such as volcanic eruptions) into their histories. In environmental history, humans are actors, but nature is an actor too. Just as a crystal ball will look different in different lights, some of the magic of environmental history comes from the change in perspective: from crossing boundaries in time and space, from telling stories in which sometimes human actors, and sometimes the forces of nature take center stage.

When Patty Limerick and I discussed the idea of a workshop that would address the future of environmental history, our idea was to discuss both the challenges *and* the opportunities—but in particular the opportunities, "the hopes" that environmental history might provide for the future. Some of these hopes lie in the very fact that historians tell stories. Stories have a beginning and an end. Their protagonists can at times anticipate and influence their future; at other times, circumstances (including environments) determine their fate. The stories that historians write enable readers

and listeners to identify with humans in decision-making situations. Thus, plots of stories are more accessible than the prose and analyses of scientists.

Now, one might concede, environmental history is perhaps not the best source of hopeful narratives. After all, environmental historians have been particularly good at telling end-of-nature stories, stories that explain and critique the human manipulation and destruction of the natural environment. They have been good at demonstrating human folly in dealing with nature: good at highlighting frustrated attempts to build cities with flowerbeds and fountains in the middle of the desert; at explaining how human engineering efforts, for instance in levee-building, are often doomed to fail. They are good at telling stories about the depletion of the ozone layer, about the destruction of space through urban sprawl, and, more generally, about the hubris that makes us forget indigenous knowledge.

But what about hope? Aren't there visions and hopes and lessons to be learned for the future from environmental history?

The short answer is: yes, of course. Environmental history offers a vast pool of optimistic stories that narrate our successes in the conservation and protection of livelihoods and landscapes. Think of the visions of a painter like Frederic Church in 1850s America. Church celebrated the extraordinary grandeur of the Niagara cataclysm as "nature pure." What he left out of his picture was the reality of the sawmills and power stations and of the long wooden fences that lined the edge of the Falls. Niagara Falls was an industrial landscape, but the American painters of the Hudson River School edited every trace of industrialization and civilization out of their works. Together with landscape architects such as Frederick Law Olmsted, the artists bought up parts of the industrial sites and established a park. Without their visions and imagined counter-worlds, the Niagara Reservation State Park would never have become reality.

The Niagara stories teach us that environmental visions have had the power to change our landscapes, to "move mountains." And there are many such stories in history. Works by the painter Thomas Moran, for example, helped to raise the profile of the spectacular landscapes of the American West in the nation's capital and thus to be designated national parks; coffee-table books produced by the Sierra Club helped to hinder the construction of a dam in the Rocky Mountains in the 1950s; and global

awareness of the fragility of the ecosystems in the Amazon rainforest led to the protection of vast regions. The fact that our ideas about nature, our visions and insights can indeed shape our livelihoods, environments, and ecosystems, makes for some optimistic and encouraging histories.

But perhaps the most important stories are the ones that provide us with an understanding of the double-edgedness of human intervention in the natural environment, stories and histories that tell us about pitfalls as well as successes: for instance about the unintended consequences of environmental visions that were developed on the drawing board but ignored the dynamics of nature. Stories about the straightening of rivers' courses are a good example: today we understand better than ever before that the manipulation of river beds often aggravated flooding and destroyed flora and fauna. Learning how past cultures adapted to more "natural rivers" helps us to envision new ideals for the fluvial landscapes of the future. Likewise, the story of the rainforest would not be terribly credible if it did not include the vast destruction (through industrial soy farming) of the cerrado areas that now flank the Amazon forest in Brazil. After all, the development of the cerrado is a direct consequence of Amazon forest protection. The stories of successful environmental visions would be stories of delusion if they did not reflect unintended consequences as well.

Environmental histories are at their best when they teach us the ambivalence of nature-culture relationships, thus highlighting the blind spots in other histories. Given its long view of developments, environmental history serves as an antidote to apocalyptic alarmism and to policymakers who draw their conclusions purely on the basis of current events: it teaches us, for instance, that environments have always been in flux, and that adaptability has been a feature of humanity, at least in more distant times (For instance, many of today's great cities in China, like Suzhou and Shanghai, were under water as recently as 5000 BC).

Environmental histories also teach us that humans have been able to survive under extreme conditions and with scarce resources—in high altitudes in the Swiss Alps, for example, or in the deserts of North Africa. Appreciating the value of resources and the necessity to share them and to distribute them fairly has been an important lesson of many stories.

Certainly, environmental histories remind us that humans cannot control everything. The eruption in about 1600 BC of a volcano two hundred times more powerful than the explosion at Mount St. Helen led to the downfall of the Minoic culture. Had this not happened, the Greeks, and for that matter the Romans, the Portuguese, and the Spanish, would not have come to dominate the Mediterranean. Nature is an actor in environmental histories, a narrator in our stories. But culture—and this is what environmental history also tells us—is no less powerful an actor: Mother Nature doesn't clear land for cultivation, nor draw up land development plans, and she doesn't legislate on energy use. Humans have enormous leeway for their own actions. What we on this planet make of our environment is to a large degree our own affair and is closely connected to the way we choose to tell stories about nature, culture, and history.

During our workshop at the Kluge Center Richard White mentioned an "old trick": when others say "history and culture," environmental historians ask "but what about nature?" When others say "culture and nature," environmental historians ask, "what about history?" There is power in nature and culture, and there is power in the way we tell stories about the relationship between nature, culture and history: this magic triangle holds plenty of lessons for our future—warnings, to be sure, but also hope.

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