1 Thinking Big
The Broad Outlines of a Burgeoning Field

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It has become conventional wisdom among scholars that environmental history has grown up. From a marginalized field caught between counterculture activism and professional rigor, it has developed into an established part of the scholarly community that no self-respecting history department would ignore. Environmental history meetings routinely attract audiences in the hundreds, the number of books and journal articles on the topic has expanded enormously, and the field has matured in methodological terms as well. Whereas declensionist narratives were still a powerful current only two decades ago, declensionism now features as a subject entry in Carolyn Merchant's *Columbia Guide to American Environmental History*.[1] Environmental historians know well that growth usually comes at a cost, however. The field has certainly benefitted from this boom, but the growth has also changed its general character. Most crucially, studies have become more specialized in recent years. While the first generation of environmental history books often covered centuries and multiple countries, or even continents, recent studies are more limited in chronological and geographic terms.

This development is certainly not peculiar. Specialization is a frequent trend in booming fields, and arguably an inevitable one, and it does have its merits. Few scholars would doubt that a growing specialization of environmental history research has helped to boost a diversity of themes and methodologies, which has made the discipline richer than ever. But at the same time this boom is making the big trends of environmental history increasingly obscure. For the first generation of scholars, environmental history was not just a set of case studies but

a fundamental challenge to our understanding of history. This challenge is still there, although somewhat hidden under a growing pile of specialized studies. Environmental history is more than a cluster of interesting fields: it points to the need for more comprehensive thinking about the past that includes animals and plants, the land, the sea, and the atmosphere, and to the wide range of ideas and practices that link these entities with human societies. It is time for scholars to survey the field in a broad way to widen our view from case studies to the key trends that now define the field. And that is what this book intends to do.

Turning Points

For environmental historians seeking a broader understanding of history, turning points are a great way to start. After all, the implications of turning points are enormous: they define time frames and chronologies, they highlight certain trends at the expense of others, they provide structure and focus—in short, turning points provide a backbone to narratives that no scholarly study of history can do without. Discussions over periodizations have been an enduring concern among students of history, a perfect way to stimulate conversation between subdisciplines. For all the diversity of scholarship today, most historians still agree that turning points are important. In fact, when it comes to environmental issues, looking at turning points is far more than an academic endeavor. The issue goes right to the heart of environmental thinking: since the nineteenth century, notions of "decline" and "renewal," of a "fall from grace," and of a "turnaround from the brink" have permeated the environmental discourse and continue to resonate in modern environmentalism. Countless environmental initiatives have been touted as "a watershed" or even a "last chance," invoking a notion of prospective turning points that has spurred many laws and other measures. Even the dystopias and horror scenarios so dominant in environmental discourses mirror thinking in grand chronological schemes. It is difficult to talk about environmental issues without talking about turning points.

Returning to the big questions hanging over environmental history begs us to reconsider some of the classic studies in the field. Specifically, it deserves attention that some of the early landmark publications were essentially reflections on turning points. A classic example is Lynn White's famous essay on "the historical roots of our ecological crisis," which put the blame for environmental destruction on the rise of Christianity, with the honorable exception of St. Francis.[2] A second example is Rolf Peter Sieferle's attempt to structure world history with a view to its energy base, which had a solar energy regime dominating since the

Neolithic Revolution, to be replaced by a new one based on fossil fuels in the wake of the Industrial Revolution.[3] These are two of the better-known arguments for turning points; other authors saw the crucial shifts in antiquity or in eighteenth-century Enlightenment thinking.[4] But even where chronologies differ, it is worth noting that these studies adhere to the same concept of turning points. For the first generation of environmental historians, the turning points of environmental history were essentially shifts from an "ecologically benign" (that is, "good") life to a "destructive" (that is, "environmentally unsustainable") one.

It goes without saying that these early histories played an important role in stimulating further research on environmental issues. It would be arrogant indeed to look down from a twenty-first-century perspective on these first attempts to define the field and chastise their naïveté. Historiographic revolutions are inevitably bound to start with daring assumptions and speculations. It is equally clear, however, that these grand narratives have fared badly. Many critics have focused on important details, such as the disputed "wood scarcity" that figured prominently in Sieferle's interpretation.[5] But beyond these specifics, two general problems stand out in hindsight. One is the issue of monocausalism. Early narratives routinely sought to identify a single cause for environmental decline: energy resources, environmental thinking, and so on. The search for the single factor that put the environment on a downward slope was bound to prove elusive, and corresponding attempts were regularly defied by the complexity of history.

The second general problem was the Manichean structure of the arguments: they made a sharp distinction between "before" and "after," with environmental stability being given before the turning point and monotonous decline thereafter. In short, the turning point was usually a fateful "point of no return," a secular watershed that had the course of history flowing in only one direction henceforth. Therefore it was tempting to dismiss these periodizations as overly simplistic, and it seems that this is what the field has been doing ever since. Most recent studies no longer discuss these general turning points; rather, they abandon the topics altogether. In doing so, environmental history may have lost more than it has realized.

Of course, one should be mindful of the shortcomings of these early proposals when reopening the debate over turning points. In the twenty-first century the periodizations of environmental history should be more complex, more nuanced, and leave more room for opposite and multidirectional trends. But in what way? The search for overarching periodizations is exceedingly difficult, and turning points can be identified more easily in specific, broadly conceived fields of research like urban history or agricultural history. The contributors to this

volume were asked to respond to two general questions: (1) Where do you see the key turning points in your respective field of scholarship? (2) What are the reasons for your choice? Needless to say, this forced choice gave headaches to the contributors, and some of this uneasiness can be felt in the chapters. John McNeill put it most eloquently when he notes in his chapter that he rushes "where prudent angels fear to tread, to the realm of long-term global-scale history." If this book were a medication, it would certainly need to include a legal disclaimer: "Warning! This book contains sweeping generalizations and significant omissions!"

In defense of the overall enterprise, the authors did approach the topic cautiously. The issue was first discussed during a workshop at the Bielefeld University Center for Interdisciplinary Research in June 2005. In light of the topic's trickiness, participants were asked to provide short "thought pieces" of some three pages, which they were to present and defend during the conference. After lively and stimulating discussions, many participants felt that the debate should be continued, and that is how the idea for this book was born. The majority of the following chapters are essentially revised and expanded versions of these informal thought pieces; some chapters were added to broaden the focus of the volume. The contributions are open to debate at many points and from numerous angles, and readers will appreciate the authors' courage to draw clear lines when it would have been easier to mutter about "complexity" and "difficulties." The contributors were encouraged to provide minimal annotation—no plethora of chapter notes could possibly mirror the richness of the fields in question, although some authors have tried their best nonetheless.

An endeavor of this kind inevitably hinges on a balanced selection of topics, which was difficult to achieve. At the risk of stating the obvious, the list of themes included herein is by no means comprehensive. In fact, any claim at comprehensiveness would be defeated by the absence of a universally agreed-upon definition of what "environmental history" in fact is. As McNeill has remarked elsewhere, the limits of environmental history are, as disciplinary boundaries go, "especially fuzzy and porous."[6] He has identified three main fields of environmental history inquiry, and this book made a point of looking at all three: the material (the forests); the cultural/intellectual (the knowledge society); and the political (the nation-state).[7] The contributions also cover such topics as agriculture and urban environmental history, which include all three fields. Emphasizing the costs of energy in Western societies after 1945, Christian Pfister's piece starts on the material level but adds a discussion of cultural and political implications. His phrase "1950s syndrome" has become a household term among en-

vironmental historians of Central Europe and probably deserves more attention in the English-speaking world. This book includes a chapter on the environmental revolution—a self-proclaimed turning point that, as a side effect, opened the historiographic niche for the discipline of environmental history. A chapter on the fight against desertification provides a much-needed antidote to a Western bias that all too easily creeps into discussions of world history. McNeill's chapter puts it all into an even bigger perspective with his grand discussion of "the first hundred thousand years."

There is no sense in dwelling on the omissions, but the absence of a chapter on the Industrial Revolution deserves a few words of explanation. There can be no doubt about the transformative potential of modern industrial capitalism, but three arguments ruled against such a chapter. First, the concept of the Industrial Revolution has recently come under fire from economic historians who insist that growth rates were lower than presumed for a long time; some have abandoned the concept altogether. Furthermore, industrialization was a decidedly regional phenomenon, as Sidney Pollard has argued, and the differences between regions pose enormous problems for a project that seeks to move beyond specific localities.[8] Finally, the Industrial Revolution was not a causative factor in its own right but merely the product of a complex confluence of trends. Research on the environmental impact of industrial companies has long shown that their behavior was not so much an outgrowth of a quintessential industrial point of view (that is, the desire to make money) as a reaction to certain institutional settings: to laws and state agencies as well as public pressure that encouraged or discouraged certain forms of behavior. With that, it seems more worthwhile to focus specifically on the agents that molded the behavior of industry, rather than to conflate them in a single chapter treating a bewildering mixture of factors.

Toward a Comprehensive Chronology

It would be a missed opportunity if we did not try to bring these chapters into a dialogue with each other, to identify common overlapping themes. One thing that emerges is that turning points in environmental history are not necessarily momentous events. Surprisingly, that does not mean that politics was generally unimportant from an environmental history perspective. This collection of essays shows that environmental historians have overcome the early antipolitical bias that Thomas Lekan mentions in his chapter. Instead, in various chapters the book gives credit to the Napoleonic Wars (Bernd-Stefan Grewe), the two world wars (Deborah Fitzgerald), and even single events like the Sandoz Fire of 1986

(Lekan). But eventually these events take a backseat, being important primarily as accelerators of ongoing developments or indicators of more general trends. Most turning points discussed herein are not points in a literal sense, as they extend over a certain period of time. Typically, the turning points of environmental history are periods of accelerated and correlated change in different areas.

Surprisingly, the recent boom of research on natural disaster did not leave its mark in this volume. Alon Tal's chapter is the only one in which disasters figure prominently. Tal details the creation of the U.S. Soil Conservation Service in the wake of the Dust Bowl of the 1930s, and he goes on to describe the Sahel famine of 1968 that defined desertification as an "African" issue. The other contributions pay little attention to catastrophic events; in fact, Joel Tarr's discussion of urban environmental history emphatically denies that disasters had any impact in the long run, although post-Katrina New Orleans may make for an exception. The contrast deserves some closer scrutiny. Should we take this as a sign that natural disasters are really less important in the long run than the current wave of scholarly interest suggests? Or is the underlying factor the geographic focus of this volume? Maybe frontier regions and Third World countries possess a vulnerability to disasters that makes them more prone to their impact than, say, large urban settlements?[9] Perhaps the general character of the field of environmental history plays a role here, too: with natural processes usually proceeding at a rather leisurely pace, long-term processes probably gain prominence in environmental history narratives. With that, the relative marginality of disasters writ large would be merely one facet of a general immunity toward sharp turning points: *natura non fecit saltus*, meaning "nature does not jump." It would be unwise to suggest a definitive answer at this point, but the scarcity of disasters as turning points in this book points to the need for further reflection.

The porous character of turning points in environmental history is especially strong when it comes to the early modern era. Of course, the Columbian Exchange that figures prominently in McNeill's synthesis makes for an exception given the disastrous epidemics that depopulated large parts of the New World and the introduction of new megafauna, but that only holds true for one area and one moment in time. After all, Alfred Crosby made a point of stressing the divergent speeds of the transformations in America and the rest of the world. Whereas the new continent changed dramatically, transfer processes in the Old World were much slower and geographically diverse.[10] McNeill's chapter acknowledges these divergent chronologies, as he presents the year 1492 merely as the beginning of a biological exchange that continues through present day. The

same holds true for McNeill's most recent turning point: the shift to fossil fuels. While traditional hagiographies of industry present the introduction of coal as a revolutionary step, McNeill says it was really a prolonged process. It took several generations to get from wood-based economies to the dependency on coal, oil, and gas that figures so prominently in current political debates. At the end of many small steps, Western societies finally found themselves locked in a reliance on fossil fuels that nobody had envisioned, let alone desired.

The fuzziness of turning points in the early modern era is also evident in the history of forestry. For several centuries early modern rulers enacted forest ordinances, but these have only very slowly transformed forest use over time. The same holds true for the agricultural revolution in Great Britain, which stretched roughly between 1500 and 1750. It seems that turning points during the early modern period were to a much greater extent defined by the specific context of a certain country. Grewe, in his chapter, mentions the example of Colbert's nationalization of forestry in 1669 and the expropriation of church and nobility during the French Revolution, two defining events of forest history in France without much relevance beyond the country's borders. Likewise, the British agricultural revolution moved only slowly beyond the confines of the island, and the same holds true for the plantation economies in the Caribbean. It was not until the nineteenth century that turning points developed more in sync with each other, a trend easily attributed to the growing international exchange that led to what some have called the first era of globalization around 1900. In a way the rapid worldwide spread of modern environmentalism around 1970 was the endpoint of a global synchronization of turning points in environmental history.

Does the environmental history of the countryside ask for a periodization that differs from that of urban environmental history? My general impression is that the answer may be a cautious yes. Although the late nineteenth century emerges as a crucial time of change in the urban environment, the turning points in agriculture were both earlier and later. In fact, Deborah Fitzgerald's chronology for agriculture in this volume looks remarkably similar to Grewe's time line of forest history. In both cases crucial turning points occurred in the first half of the nineteenth century and in the second half of the twentieth, although the reasoning is by no means congruent. While Fitzgerald and Grewe both emphasize the impact of railroad construction, Tarr sees the streetcar as more important for urban environmental history. His case for the "networked city" as a key turning point in the environmental history of cities seems well argued, and yet it is striking how little urban events spread into the countryside, or into other

chronologies for that matter. Thirsty cities may drain certain places of precious water, and dump their wastes on others, but the impact of these practices was spatially limited. Of course, that was little consolation for people in places like Owen's Valley, but the environmental implications of the modern city seemingly remained strongly urban in their reach until far into the twentieth century. Those who have read William Cronon's *Nature's Metropolis* may be tempted to object, but Chicago was probably less than typical in that respect.[11]

The turning points of environmental history were not necessarily characterized by direct changes in humankind's impact on the natural environment. Several contributions in this book stress developments that primarily changed the *structure* of environmental debates, rather than their environmental implications. In Lekan's discussion of the nation-state, it is the rise and fall of high modernism that defined the turning points. The nation-state emerged as the prime political actor of environmental policy during the nineteenth century and then gradually lost its grip after World War II. In other words, the key event was a penchant for centralized planning and expertise that was aloof from local concerns, rather than a specific impact on the environment. Likewise, I argue in my chapter on the modern knowledge society that although the direct implications of knowledge are too diverse to allow a summary assessment, the change in discursive patterns was uniform. Since the mid-nineteenth century, it has become increasingly difficult to participate in environmental debates without resorting to academic expertise. In Jens Ivo Engels's presentation of West German environmentalism, the much-touted "ecological turn" looks impressive only as a transformation of prevailing political styles.

With surprising stringency, the mid-nineteenth century emerges as a general watershed of environmental history, figuring prominently in the chapters by Fitzgerald, Grewe, Lekan, and my own. The link here to industrialization is weaker than one might guess. Fitzgerald stresses the application of science and technology to agricultural production as an important shift around 1850, but these were only modest beginnings in a process of industrialization of agricultural production that did not gather steam until the mid-twentieth century. In forest history a direct link is counterintuitive, as wood was not the favored fuel of the industrial era (though it continued to be an important building material). The rise of high modernism had much to do with improved communication links and richer state coffers, but the reforms of state administrations that inaugurated what the historian Charles Maier has called the age of territoriality had roots that were far more diverse.[12] Finally, the rise of academic expertise was certainly related to industrial development, and yet it was far more than its direct offspring. In short, the rise of industrial might looms through all four turning

points, and yet it was only one part of a much broader story. As a force of environmental history, industrialization was a far more complex phenomenon than the first generation of researchers would have guessed.

The Twentieth Century: Environmental Perspectives

After a cluster of turning points in the nineteenth century, the first half of the twentieth century looks notably scarce of turning points. Tal points to the Dust Bowl and to the institutionalization of soil conservation expertise, while Tarr stresses the start of suburbanization in the 1920s. However, suburbanization did not gather steam until after World War II, making the scarcity of turning points in the first half of the twentieth century even more clear. This finding is all the more surprising because the early decades of the twentieth century were by all means eventful in political terms. Two world wars, the Great Depression, the collapse of many European democracies, and the unrest in the colonial world may serve to demonstrate this point. So how does one correlate a turbulent political history with an environmental history largely devoid of turning points?

A plausible argument might see the interwar years as something of a hiatus for turning points. With the Depression and the repetitive demands of war economies, the shift to consumer societies with severe environmental implications was postponed for several decades. A similar argument may be made for environmental policy. With the attention of policymakers being consumed by other topics, the interwar years lacked the long-term stability that usually preconditions environmental policy debates. The latter correlation, however, is by no means cogent. The New Deal was obviously a response to the Great Depression, and yet it helped to reinvigorate the conservation drive of the Progressive Era. It was instrumental for, among other things, the creation of soil conservation institutions with global reach. In Nazi Germany conservationists were jubilant after the new leaders pushed through a national nature protection law in 1935 that bore the hallmarks of an authoritarian state. But then, Nazi Germany was the only European country with a boom of conservation work in the 1930s.[13]

In general, environmental issues played more of a marginal role during the interwar years, and conservation movements were, with some exceptions, at bay. Environmental history followed pre-1914 trends in a more or less halfhearted way. The striking thing about the twentieth century as discussed here is the multitude of turning points *after* World War II and their scarcity *before* 1945. But how does one correlate this finding with McNeill's well-known argument in his *Something New under the Sun* that "the twentieth century was unusual for the intensity of change and the centrality of human effort in provoking it"?[14] One

should probably not take McNeill's argument too literally, as his book freely refers to events in earlier centuries without much ado. A more worthwhile target for criticism may be the notion of a "long nineteenth century" so popular among European historians, which starts with the French Revolution and ends in 1914, to be followed by a "short twentieth century" that ended with the collapse of communism in Eastern Europe around 1990. This periodization obviously has its roots in political history, and it seems that it is of little use when it comes to environmental history. Instead, environmental historians may find it more useful to speak of a "long twentieth century" that started somewhere around 1850, with changes in agricultural production, new transportation networks, a growing importance of national institutions, and the environmental repercussions of urban growth. To be sure, the idea of a "long twentieth century" is not completely new. In a recent article by Will Steffen, Paul Crutzen, and John McNeill, the coauthors proposed to speak of an "Anthropocene"—a new chapter in the earth's geophysical history—because sometime around 1800 or 1850, humans were starting to overwhelm the great forces of nature. However, their definition hinges on a single indicator—the concentration of carbon dioxide in the global atmosphere—and it should be obvious that this choice was inspired by the current debate over global warming.[15] One might read this book as a call to put the debate on the Anthropocene on a much broader base.

Another striking feature is the bewildering mix of turning points in the years after World War II. Nearly all the chapters argue that crucial events took place during the second half of the twentieth century, but in a somewhat cacophonic way. Fitzgerald's discussion of agriculture and Pfister's argument for the "1950s syndrome" both emphasize a crucial shift toward more resource-intensive, exploitative practices. For Fitzgerald postwar agriculture saw a new intensity in the use of scientific and technological expertise, a boost in productivity, and a near-totality in the industrialization of agricultural production, which together marked a new stage in the environmental history of agriculture. Pfister sees the human ecological footprint expanding enormously since the 1950s, with cheap energy prices and new consumption patterns paving the way for unprecedentedly wasteful societies.

But when one moves from material consumption to politics, the picture becomes more confusing. A conventional narrative sees a conversion to the environmental cause taking place in Western societies around 1970, but that interpretation fares poorly in Engels's interpretation, which depicts the famous "ecological turn" as a rather limited event. In fact, two chapters in this book depict the environmental revolution as a rather unlikely event. Lekan notes that the age of high modernism

was coming to a close around 1970, and the forces of economic globalization were gradually eroding the regulatory power of the nation-state. In my later chapter, the modern knowledge society reached the apogee of its power in the postwar years, with the trust in science-based expertise culminating in atomic-age fantasies.

So did modern environmentalism produce little more than—in Fernand Braudel's famous formulation—"surface disturbances, crests of foam that the tides of history carry on their strong backs"?[16] More specifically, were the truly crucial trends of the postwar years the transformations in material production, with the "age of ecology" being a merely ephemeral phenomenon by way of comparison? Grewe sees an impact of modern environmentalism on forest management, and Tarr envisions a new era of urban environmentalism beginning around that time as well. But those accomplishments clearly shrink in scale when one moves beyond the confines of Western industrialized countries. It is difficult to read Tal's narrative of the agonizingly slow progress in the fight against desertification without a feeling of remorse. If desertification is indeed the environmental problem affecting the largest number of people around the year 2000, as the 2005 Millennium Ecosystem Assessment contends, then why was it so difficult for African nations to put the topic on the agenda of the 1992 UN Conference on Environment and Development (UNCED) in Rio? In my reflections on the future of the knowledge society, I speculate that with the dependence on expert advice, it has become so difficult for environmentalists to separate important from unimportant issues that the "great environmental awakening" may one day look more like a "great deception." Perhaps that day has already arrived, at least on the issue of desertification.

Tal's essay ends on a cautiously optimistic note, as the fight against desertification has been gathering momentum in recent years. His discussion shows that the future of arid and semiarid lands may not lie solely in grand political schemes, but also in small changes with huge implications. The technology of drip irrigation emerges as one of the hidden heroes of environmental history in Tal's narrative, a force that was much more important to the fight against desertification than the wave of environmental activism in the 1970s. His chapter shows that environmental history, as a profession, has come a long way from its 1970s roots. From an emphatic embrace of environmental values and environmental activism, researchers have moved to a more balanced and even skeptical perspective on environmentalism, seeking to include accomplishments as well as failures in their narrative. We rarely hear statements from environmental historians nowadays that it is a "right of historians to be advocates and moral critics."[17]

But in the process we have certainly not become apolitical or devoid of politi-

cal relevance. As it happens, this book was going to press just as environmentalists all over the world were stressing the importance of the climate summit in Copenhagen in December 2009, hoping that it would mark a turning point for global climate policy—the "last exit" from our fatal addiction to fossil fuels. This volume certainly offers an ambiguous impression in this respect: in the history of humans and the natural world, turning points were rarely political events. At the same time, however, humans have never been so tightly connected globally and so well informed about their ecological footprint. Turning points were usually unexpected and often came from a confluence of initiatives and efforts that even the wisest blueprint (or global climate deal, for that matter) could barely envision. We do not know when the next turning point of environmental history will come or what it will mean. But at the very least, we can be sure that the debate over turning points, politically as well as historically, will not end with this book. In fact, as we have tried to show, it has barely begun.