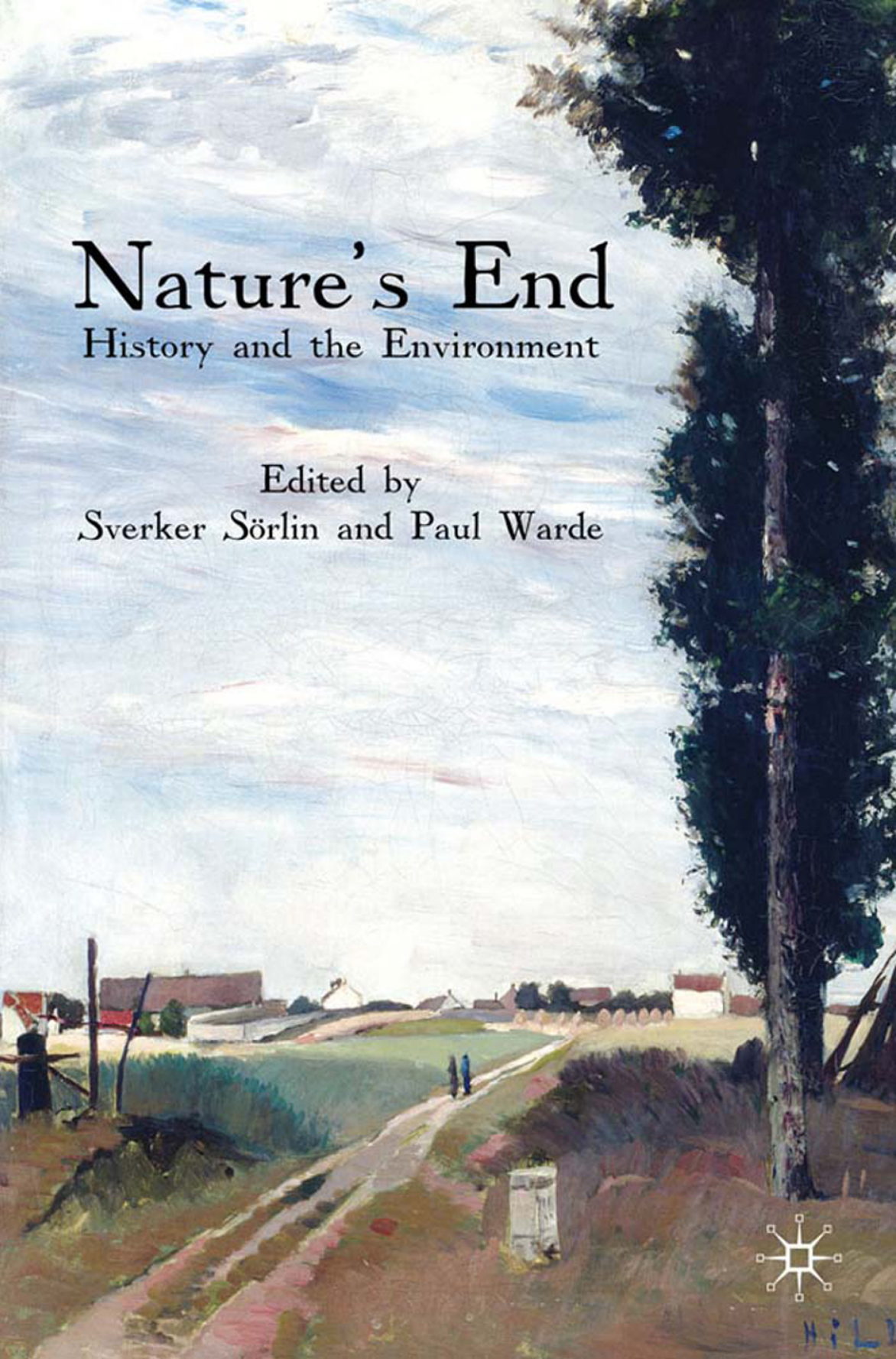
Nature's End

History and the Environment

Edited by
Sverker Sörlin and Paul Warde



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Sverker Sörlin
Professor of Environmental History, Royal Institute of Technology

and

Paul Warde
Reader in Early Modern History, University of East Anglia

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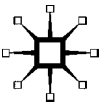

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Preface

This book is the result of an ambition to formulate an environmental history that cares for the environment, cares for the salience of all knowledge including the sciences and cares for a history that is ultimately about the human condition.

With this book we try to say two things. The first is that environmental history is expanding the realm of history to comprise nature and the environment and to weave together as far as possible human experience with the workings of nature into a fuller understanding of the past and how it affects human decisions and destinations. In this regard environmental history is changing historiography and has the potential to change history as well by providing narratives that are novel and different, with more explanatory factors, and more vivid images: a new understanding. The second thing we try to say is that this can only be done if environmental history retains and relentlessly refines its status as history, belonging in the humanist tradition of studying complex phenomena with respect for humans as, ultimately, persons with intentions and morals, and belonging in the realm of the polity.

It is this dual ambition that has guided us as editors. We wanted to see if it was possible to embrace the widening agenda, and the broadening scales, of environmental history and at the same time allow it to address the issues as 'history', in frames and with concepts that make sense to the historical community in its largest extent and that will attract both scholars and students. A further ambition has been to make the end result accessible in a form that should be readable not just to historians, but to anyone in the social sciences or the sciences with an interest in how we could re-articulate the ways and means that we use to understand what we, as humanity, are up to in the never ending coexistence with nature.

We set out during 2004 and 2005 when we were both affiliated with the Centre for History and Economics at Cambridge University and organized a series of seminars and workshops to which we invited a range of eminent speakers and commentators. We also presented a paper that summed up our own position, subsequently published in the journal *Environmental History* (2007:1) as 'The Problem of the Problem of Environmental History: A Re-reading of the Field'. Finally, we invited some of the best people we could think of to help us and asked them to present papers at a workshop in Cambridge in January 2006 which was co-hosted by the Centre for Research in the Arts and the Social Sciences, CRASSH, and by the Department of Geography. After the workshop we continued working with several of the contributors who put in tremendous

efforts into revising the papers to serve the purpose and design of this volume. As we went along we invited more contributors to get a reasonable coverage of themes and world regions.

Without trying to be exhaustive we would like to thank several people who have contributed, with papers, comments, or as referees, to help shape the project and this volume to what it finally became. Apart from the authors of this volume, who deserve our special gratitude, we are thinking of: Peter Alagona, Alan Baker, Dorothee Brantz, Peter Burke, Christopher Bayly, Michael T. Bravo, Mark Cioc, Stefania Gallini, Wilko Graf von Hardenberg, Gerry Kearns, Mike Lewis, Emma Rothschild, Chris Smout, and Gareth Stedman Jones. For economic support we would like to extend our heartful thanks to CRASSH and the Centre for History and Economics, where Inga Markan tirelessly served us with all kinds of logistical, and emotional!, support.

Cambridge in March 2009
Sverker Sörlin
Paul Warde

Notes on Contributors

William M. Adams is the Moran Professor of Conservation and Development at the University of Cambridge. He works on relations between society and nature, particularly on rural development and conservation, and with a particular focus on Africa. Books include *Against Extinction: The Story of Conservation* (Earthscan, 2004), and *Green Development: Environment and Sustainability in a Developing World* (3rd edition, Routledge, 2008).

Peter Burke is Professor Emeritus of Cultural History at the University of Cambridge. He has been a leading figure in the development of cultural history, especially of the Renaissance and Early Modern Europe. Research books include *A Social History of Knowledge* (Polity, 2000) and *Languages and Communities in Early Modern Europe* (CUP, 2004).

Tim Cooper lectures in history at the University of Exeter (Tremough Campus). His interests lie in the fields of urban, environmental and political history, and especially the combined histories of waste and environmental politics in the nineteenth and twentieth centuries.

Vinita Damodaran is Senior Lecturer in South Asian History at the University of Sussex. She has written extensively on the political, social and environmental history of South Asia. Together with Richard Grove and S. Sangwan. She has also edited *Nature and the Orient, the environmental history of south and southeast Asia* (OUP, 1998).

Althea Davies is a research fellow in the School of Biological and Environmental Sciences at the University of Stirling. Her research deals with environmental archaeology and palaeoecology, focusing on long-term ecological change and land-use history in upland environments. She has published widely in edited volumes and journals such as *The Holocene* and *Landscape History*.

Robert A. Dodgshon was Gregynog Professor of Human Geography at Aberystwyth University until the end of 2007. Now Emeritus Professor, he has written very extensively on the spatial aspects of social change, and on mountain communities, especially the Scottish Highlands and islands. Publications include *Society in Time and Space: A Geographical Perspective on Change* (CUP,

1998), and *The Age of the Clans. The Highlands from Somerled to the Clearances* (Historic Scotland, 2002).

Mark Elvin is one of the leading historians of China, with a particular interest in environmental history, demography, and the history of science. His many publications include *The Retreat of the Elephants: An Environmental History of China* (Yale, 2004), and *The Pattern of the Chinese Past* (Methuen, 1973).

Georgina Endfield is Reader in Environmental History at the University of Nottingham. Her research interests include: climate and environmental history; historical conceptualisation of climate change; social responses; and adaptation to climate change and extreme weather events. She has published widely on the climate and economic history of Mexico in journals such as *Climatic Change* and *The Journal of Historical Geography.*

Matthew Evenden is an Associate Professor at the Department of Geography, University of British Columbia. His interests focus especially on the environmental history of river development and fisheries issues in western Canada. Publications include *Fish versus Power: An Environmental History of the Fraser River* (CUP, 2004).

Richard Grove is a leading practitioner of environmental history working at the Australian National University and The Centre for World Environmental History at the University of Sussex. He has published very widely in the field, with particular attention to the global history of ideas about the environment and relationships between the history of science, colonialism, and environmental change. Works include *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600–1860* (CUP, 1995).

Alistair Hamilton is an ecologist and Programme Leader for Environmental courses at the Scottish Agricultural College. His research interests are in the applied management of upland and woodland habitats, as well as in exploring interdisciplinary studies in furthering our current and historical understanding.

Nick Hanley is Professor of Environmental Economics at the University of Stirling. He has published widely in the field of environmental economics, environmental valuation and agricultural economics. Books include (with A. Owen) *The Economics of Climate Change* (Routledge, 2004).

Kirsten Hastrup is Professor of Anthropology at the University of Copenhagen. Her range of interests spans environmental history, the anthropology of theatre, Arctic societies, and historical and epistemological theory. Publications

include *Nature and Policy in Iceland 1400–1800* (Clarendon, 1990), and *Action* (Museum Tusculanum Press, 2004).

Holger Nehring is Lecturer for Contemporary European History at the University of Sheffield. He has published widely on the comparative history of social movements in post-World War II Western Europe and is currently working on a monograph on the transnational history of the British and West German protests against nuclear weapons in the late 1950s and early 1960s. He has edited, together with Florian Schui, *Global Debates about Taxation* (Palgrave, 2007).

Libby Robin is Senior Fellow at The Fenner School of Environment and Society. She is a leading writer on Australian environmental history with interests spanning Australian and comparative global environmental history, the history of the environmental sciences, and the history of ornithology. Books include *How a continent created a nation* (UNSW Press, 2007), and (with Tom Griffiths), *Ecology and Empire: Environmental History of Settler Societies* (University of Washington Press, 1997).

Sverker Sörlin is Professor of Environmental History at the Royal Institute for Technology, Stockholm. His main research interests lie in the intersection of the history of ideas, the history of scientific practice, and environmental history. Publications include (with Anders Öckerman) *Jorden en ö: En global miljöhistoria* [The world is an island: a global environmental history] (Natur och Kultur, 1998), and (with Michael Bravo) *Narrating the Arctic: A Cultural History of Nordic Scientific Practices* (Science History Publications, 2002).

Paul Warde is Reader in Early Modern History at the University of East Anglia. His research focuses on the economic and environmental history of Europe, with a particular focus on wood resources and energy. Books include *Energy Consumption in England & Wales 1560–2000* (CNR, 2007), and *Ecology, Economy and State Formation in Early Modern Germany* (CUP, 2006).

Fiona Watson is a historian and was the Director of the AHRC Centre for Environmental History at the University of Stirling. She has published numerous works on Scottish medieval and environmental history, including *Scotland: A History* (Tempus, 2001), and (with Chris Smout and Alan Macdonald) *The Native Woodlands of Scotland: An Environmental History, 1500–1900* (Edinburgh UP, 2005).

Graeme Wynn is Professor of Geography at the University of British Columbia and is a leading and widely published environmental historian and historical

geographer of Canada. His wide research interests focus on the development of new world societies and the environmental impacts of European expansion around the world. Works include *Canada and Arctic North America: An Environmental History* (ABC-CLIO, 2007), and *Timber Colony: A Historical Geography of Early Nineteenth-Century New Brunswick* (Toronto UP, 1980).

Making the Environment Historical – An Introduction

Sverker Sörlin and Paul Warde

'History is a nightmare, from which I am trying to awake.' Stephen Dedalus' words in James Joyce's novel *Ulysses* are not just the kind of words that sound familiar to a student in school who just cannot get the point of learning about all the familiar details of history: wars (mostly wars), battles (surprisingly important), royalty, leading politicians and their deeds, lineages of the welfare states, Raj and Mandarins, liberation struggles here and there, reforms and revolutions. Joyce was part of a modernist revolution of thought and form, of literary and artistic expression in early 20th century Europe, and in the mind of modernists, futurists and nihilists history was indeed, if not a nightmare, at least a burden, an unnecessary set of fetters that constrained human ingenuity and human deed. Friedrich Nietzsche, in *On the Advantages and Disadvantages of History for Life* (1874), wanted to free history from its backward looking obsession and nostalgia. History was part of making a new world; only feebleminded *Ressentiment Menschen* would be interested in the fine tuning of ephemeral bygones. History should be part of action, and therefore the worst enemies of future-embracing history were the historians.

It is not surprising that Nietzsche's nihilistic credo has not had much success as historiography *per se*; his text has instead remained as a stimulating chapter in the history of the philosophy of history. But if we take a broader view his dissent, shared with Joyce and much of modernism, was nonetheless important. It heralded, long before it was realized by most historians, a historiography that departed from the ornamental national narratives that had become the mainstay of 19th century histories and that continued, often in popularized form, in the 20th. In that sense history *was* a nightmare, insofar that it seemed to tie eternally peoples and communities to the atrocities of war, to nations pitted against each other in eternal conflict, and to the heroism of *my* nation, not those of the others.

Long before it was generally discovered and discussed among professional historians, the modernists realized that there were more histories out there that

needed to be told and that had to do with realities, entire continents of human experience, that were not present in the moralist and metaphysical historiographies that dominated the 19th century. Even more importantly, they were right in assuming that history fundamentally reflected the preoccupations, interests, and anxieties of the society in which it was written. History was a nightmare because the world as it was known was a nightmare, and history did not provide a way out of it, rather the opposite: history built the minds of men that, just because of their minds, produced precisely these nightmares: above all the First World War, which Joyce lived through, as so many others, never to become the same again.

This may seem an odd digression to introduce a book on environmental history. It would be much more commonplace, as has been done in most collections and textbooks in the field so far, to start out with the long list of environmental concerns and challenges that face humanity and argue, as we certainly also do, the case for addressing these concerns with a deeper understanding of how they are products of history, of human action, and why we therefore have to learn about them as historical realities, and how they can be managed, even solved, by just the same sort of humans as those who created them. In that sense the editors of this book are Nietzscheans: history is not just about understanding, it is also about action and about moral predicaments and determinations to guide action.

We do digress because we wish to underpin a bolder statement that we believe follows from our kinship with those rebel modernist thinkers. History today, no less than in the previous century, does ultimately reflect the preoccupations, interests, and anxieties of our times. And our times are marked by the increasing role of the environment, as the Earth of wonders and resources, as the threatened Planet, as a Nature full of surprises who can 'hit back' on ignorant humans, or as the material Context of our everyday lives wherever we are. Environmental history is a meaningful enterprise for just that reason: it seeks to provide the history that can tell us how we arrived here and what we need to know to handle our global environmental predicament.

The overriding image of the Earth in the last several decades – you may say since the environmental 'awakening' heralded by Rachel Carson's iconic best-seller *Silent Spring* (1962), although certainly not caused by it – has been one of gloom and pessimism. The title of this book, *Nature's End*, echoes that, and harks back to books with similar, more or less apocalyptic titles over the past few decades. The sorrow and despair and sense of loss that is communicated in titles such as *The End of Nature* (Bill McKibben in 1990) and *The Ends of the Earth* (Donald Worster in 1988) must of course be respected. But we do not believe that nature has reached its end, nor that this will ever happen. Rather we understand nature's end as the beginning of the environment, or even the age of environment. Nature needs no humans, but there is an environment

only where humans live and where humans have entered into a self-conscious relationship with their surroundings. That is why the past of nature precedes the history of the environment – and why it will persist beyond the epoch of humans (if we can imagine such a future).

To talk of nature's end is therefore to talk of the purpose and uses of nature in the human context. Human societies are always dependent on nature, use its resources, and emit their refuse into it. Indeed, we humans ourselves are *of* nature. All that naturalness, from the physical laws of the universe to the inner workings of our own brains and hearts, is studied and can be understood scientifically. The environment must not be mixed up with nature in this respect. The environment is, in some instance, a human product, an alloy of nature, and the impacts of human labour which emerges as a historical category. It is a category of reality which has a history, and it is a history that it is possible, even necessary, to separate from nature's past. In this sense, there is and should be an end to nature. What we are saying comes close to what Roland Barthes prophetically wrote more than half a century ago, that

> Progressive humanism . . . must always remember to reverse the terms . . . constantly to scour nature, its 'laws' and its 'limits' in order to discover History there, and at last to establish Nature itself as historical.[1]

Writing in the 1950s, before the 'environmental' revolution, he does not use that concept. We would argue that when nature is established as historical, it has become environment. From the human(istic) point of view that is, in all senses of the word, nature's end. Geographically there may be no boundary, as the distinction is conceptual; we cannot look for the zone or site where nature ends and environment begins. The boundary itself is historical and it moves with time.

The protection of nature, a central feature of modern environmental politics, wants to preserve certain features of nature in a given area. We may, with some qualifications, accept that there is 'nature' there. At the same time, by defining it as a matter of politics, and by making it part of deliberate zoning of territories, and as one of the welfare instruments of society, it is also part of our environment. As such it is part of history. A nature reserve is also an institution; it has buildings, cabins, perhaps even a research station. It has roads, it may border on a major nature exploitation zone, with major infrastructure such as dams, power plants, electric transportation facilities, logging roads and camps, or oil rigs. They stand at nature's end, and they are formidable parts of the environment.

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[1] Barthes (1957), 101.

When we talk of sustainability as one of the most crucial environmental concepts in our time, codified by the United Nations Commission on Environment and Development in 1987, headed by Gro Harlem Brundtland, it is clear that we mean the environment. Nature cannot be unsustainable – can it? It is when we in societies transform it and create *environment* that we create the possibility of unsustainability. This quest for survival and sustainability is historical, the (eternal) sustainability of (pure) nature is not.

The deep roots of a vast field

History has already shifted towards thinking about the environment. It was Fernand Braudel who famously likened history with a house. Historians had always written about the finest people and the salons in the upper floors. In the 20th century they increasingly started to work themselves downward, to issues of economy, science, social welfare, food, health, and population. All of these topics and many more have become sub-fields of history. Around 1970 the environment arrived as another topic, creating environmental history as a sub-discipline, spurred on by the newly aroused political interest in environmental issues and ecology in the 1960s.

Environmental aspects of history had of course been treated before that, by economic and social historians – we may think of Karl Wittfogel's work on 'hydraulic cultures' in Asia, *Oriental Despotism* (1957), of works by the *Annales* school, for example Lucien Febvre's prophetically insightful *L'évolution et la terre humaine* (1922). Even Karl Marx's *Capital* (1880–87), despite its inevitable Euro- and anthropocentric leanings, is also an attempt to locate human societies as inextricably interwoven with nature and the economy as a giant transformation of external resources into social value. One could stretch the argument somewhat and claim that several of the major historians of the 19th century – Wilhelm von Riehl or Heinrich von Treitschke in Germany, Jules Michelet in France, Erik Gustaf Geijer in Sweden – did in fact include the land as a significant factor in shaping peoples and nations. But one should also be cautious to realize that nature's role in determining the *Volkscharakter* is not the same as identifying it as a dynamic historical category and a legitimate object of study as such. Nonetheless, if it is only a matter of finding the land as a historical factor the list of forerunners is clearly long indeed and should also include 18th century economic philosophers like Adam Smith, and the enormously rich discourse of early modern agricultural propagandists.

Environmental history *avant le mot* that comes closer to contemporary practice was written in the 20th century by specialists in other disciplines like anthropology, geography, archaeology, or ecology. If we wish to identify precursors of the modern, post-1970, environmental history we should look to scholars such as Carl Sauer, the Berkeley geographer, for his synthetic

descriptions in the 1940s through 1960s of the American landscapes under the influence of native Indians and European settlers, or his arch antagonist James Malin, the decidedly pro-settler Kansas ecologist.[2] Another strand of environmental writing can be found in the climate histories of Hubert Lamb in the United Kingdom, starting in the 1940s, or in the regionalist tradition, going back to 19th century German (Ritter) or 20th century French (de la Blache) geographers, and which was carried forward by the Scottish sociologist Patrick Geddes and his American disciple Lewis Mumford. Both of the latter connected the rural focus of regionalism with a strong interest in the city and its region as a metabolic entity, or 'conurbation' as Geddes called it. Regionalist environmentalism became particularly strong in northern Europe, in Scandinavia, and in the United Kingdom with geographers like W.G. Hoskins or H.C. Darby, but certainly had its followers in other parts of Europe and Russia as well.[3]

An intellectual history of Western ideas of the environment was compiled over a period of several decades after the Second World War by another Berkeley scholar, Clarence Glacken and published in 1967 as *Traces on the Rhodian Shore*, a seminal work which was labelled historical geography, since it was not history of science nor even intellectual history *strictu sensi*, and because Glacken himself taught in a geography department. And, most importantly, there was no 'environmental history', under that name, there to claim the work or for Glacken to identify with.

Defining the environmental historically

This short genealogy is well recognized among environmental historians, who understandably have found it important to establish a longer and deeper lineage of 'the environmental' as a factor in the historical understanding of societies than the conventional wisdom that points to the 1960s and the growth of environmental movements and politics. Both the shorter popular version and the slightly longer version are relevant. It is a fact that as an institutionalized specialty environmental history did not see the light of day until the early 1970s and it is essential that it was preceded by a political discourse of the environment, under that word. It is equally crucial to see that pioneering work

[2] Kingsland (2005).

[3] Excellent introductions to these aspects of early environmental history, often with leanings toward the spatial, are Buttimer (1982), Hall (1988), Livingstone (1992). Nonetheless, the intellectual history of environmental history in Europe is, surprisingly, not yet covered very well and important names are likely to occur as the history of geography, anthropology, ethnology in different countries is revisited in the search for early attempts at environmental history.

was done in a range of other disciplines, and it was a process that happened in many countries.[4]

However, there is a peculiar gap between this relatively recent and limited discipline-based historiography and the omnipresence of nature and natural resources as fundamentals of human societies that goes back to the very roots of human existence. We would like to suggest that there is a useful middle ground in understanding the importance of the environmental and that it can be understood historically as the emergence of self-conscious discourses of the environmental.

Several of the chapters in this volume sustain such a broader definition of environmental history. Richard Grove and Vinita Damodaran demonstrate that there is a colonial discourse, with important connections to British academia and to colonial intellectual centres, notably in India, that were preoccupied with understanding man–nature relationships in tropical settings. In the early decades of the 20th century this growing interest in climate, vegetation, and successionist ecology became increasingly professionalized among geographers, archaeologists, anthropologists, and of course, among scientists, not least ecologists, who were either based or did field work in colonial areas.

It was, as Grove and Damodaran point out, a 'de facto' environmental history that emerged from the colonial context, although the term itself was not used. It had clear applications, for example in wildlife preservation and protection of nature reserves, which became core missions of some of these early 'environmental historians'. Similarly, the environmental dimension appears as an element of regional histories such as Fernand Braudel's of the Mediterranean that started to appear from 1949. With this approach environmental history has a colonial and regional genealogy rather than a national one. Both chronologically and geographically it is therefore less an American product of the 'environmental sixties' than usually perceived, although Grove and Damodaran observe early examples of de facto environmental history there too. Similarly Bill Adams finds a discourse of wildlife and nature that is transformed into issues of nature reserves and national parks. Or rather, he finds a range of discourses that occur in different parts of the world, the United States, Africa, Europe, Asia, again with significant colonial bearings and with global interconnections: it was concerns of big game hunters from Britain that pushed the early creation of nature reserves in Africa and parts of Asia.

Both topics have been visited before. Richard Grove wrote importantly on nature protection as part of 17th and 18th colonial science discourse in *Green Imperialism* (1995) and Richard Drayton followed on his heels in *Nature's*

[4] See for example Sörlin and Öckerman (1998/2002) for Sweden. In more general terms the same observation is well argued in Hughes (2006), Chapter 1, with numerous references, most of them to the English-speaking world.

Government (2000). In this and the history of nature parks the role of knowledge as a structuring element in environmental understanding is exemplified: colonial science for sure, but as several authors in this volume demonstrate, using local and indigenous knowledge as well. These 'environmentalizations' of ever growing parts of the world are thus at the same time part of a globalization of the environment, a process that has been going on for centuries.

Still, it is surprising how little these insights seems to have affected our understanding of the environmental as a category in time and space. We may reason on several time scales here. One very long one may depart from the observation that human labour stands in interaction with 'raw nature'. Marx importantly noted that it is through labour that man enters history. But the wisdom of the papers by Grove and Damodaran, and Adams respectively is how they manage to demonstrate that element of structured knowledge in colonial scientific discourses that turned the environment from a philosophical category – nature that is transformed by human action into the realm of the human – into a historical category as part of the polity, and often at the service of the state. In that sense our common understanding of environmental history as a late 20th century invention with a few forerunners is not just too short on the historiographical time scale, it has not sufficiently integrated our new insights into how the environment has been shaped as an object of political thought and action.

Thus, the history of the environmental is therefore not a linear chronology, but rather a constantly growing set of historicizing projects, emerging in different fields of social and political discourse. Sverker Sörlin's chapter on the historiography of climate change is another case in point. Although there has always been a climate, and climate speculation was burgeoning already in Antiquity, the notion of historical climate with a distinct influence on human societies is comparatively modern, though still much older than the global warming phenomenon that has become scientifically acknowledged in the late 20th century. Twentieth century climate concern, that has reached gale force in the 21st, has in itself been a driver of the historicizing of the environmental. That climate has been part of history since at least the 19th century discovery of ice ages is obvious also because it is constantly part of controversy. Since the 1930s there has been a protracted argument as to whether climate change is forced by human societies. And well before that there was a discussion, with roots in older societies around the world, about the possible influence on climate on human psyche and culture. Climate determinism, with or without warming, is a political idea. Taking precautions against climate change, caring for places that are likely to be hit, mitigating risk through green taxes, are all measures that will be deliberated and fought out in the public realm.

The contributions in the first section of the book may be read as a sympathetic revision of the more hard-nosed constructivism of the 1980s and 1990s,

that followed the theoretical inroads of Foucault, Luhmann, and other historians and social scientists, stating that the environment, as well as nature, was produced socially and in the realm of ideas and only thus emerged in *discourses* of science, politics, and economics. But these contributions may even more be read as a revision of the earlier positivist notion of the environment as the outside 'other'. Although this notion became established in historiography only since the 19th century and perhaps most precisely in classic works of agricultural history from the middle of the 20th, Paul Warde demonstrates how this artefactual externality called 'environment' actually emerged in agricultural discourse since the 16th century. In a paradoxical way there is an evolution of the 'environment' as something on which the farm and farmer are of course dependent, while at the same time the ecological principles and the principles of soil chemistry and recycling, sustainability and circulation, are applied to the farm itself. With time, and with growing insights in what has been called the environmental sciences[5] (meteorology, ecology, geography, geology, etc.), the environment was increasingly taken into consideration, but then chiefly as an intervening force, ' "exogenous", that is, thunderbolt-like blasts of natural power from skies that farmers hoped would be forever blue'. Remarkably, in this line of agricultural history, the environment became as external to the individual household as the other unpredictable force that guided farmers, the market, another unquantifiable noun.

Historicizing the environment as the external other is, also paradoxically, quite similar to the discursive invention of the environment that postmodernists have advocated. Warde, however, suggests that there is a more productive middle ground: farmers are always interacting with whatever is on their farms (soils, cattle) and whatever is geographically farther afield (air, waters, forests, commons, markets). Agriculturalists are, writes Warde, 'environing' as they go along with their business. The environment does not start where the farmland ends, it is constantly being produced by the combined economic and cognitive practices that farmers and their families and farmhands undertake. Agriculture thus is a serious contributor to the rise of the environmental, but in ways that some strands of previous historiography have not fully appreciated. Even worse, agricultural histories, both those written by agriculturalists and those written later by professional historians, have restricted the realm of human action to the farm and, albeit involuntarily, pushed the environmental into a 'scientific' surrounding where history has had little mandate to speak. By thinking in terms of environing as a historical process we are invited to define much more of the 'natural environment' into the societal. The rise of the environmental is therefore also the parallel revising of the societal to mean a field of

[5] Bowler (1992).

activities and spaces that are also imprinted with the environmental, and vice versa.

The mutual imprint of the societal and environmental, and how the environment emerged in recent political discourse in West Germany, the nation where the Green movement has perhaps achieved greatest political recognition (if one takes the limited criteria of votes and ministerial seats), is undertaken in the contribution of Holger Nehring. His study demonstrates how political discourses engaging the environment belonged not only to an environmentalist social movement, or developments within the natural sciences, but were linked to the structure of political power and especially the role of planning within government. The 'environmental moment' was thus simultaneously a crisis of planning, which at times demonstrably failed to account for environmental risk, but also provided renewed impetus to a planning with a mission to spread environmentally conscious discourse throughout the activities of the state that themselves could facilitate that spread. Although Nehring's chapter ends before the heyday of 'sustainability', what is the latter concept if not a challenge and invitation to planning? We see the challenge of 'the environment' reaching roughly its contemporary form in political discourse: 'Environment thus served as the site at which the complexity of risk societies was negotiated.'

Perhaps the most rewarding insight drawn from these papers is that the rise of the environmental has a much more complex chronology, even if we restrict ourselves to the western context. It is neither a recent and merely political feature, as suggested by the '1962' (Carson) chronology, nor a discursive invention of '1864', the year of George Perkins Marsh's sweeping yet highly influential geographical tract *Man and Nature*, where man was elevated to the dubious role of principal agent of physical change. In thinking about the environmental as a much wider category, as the product of several environing processes that societies have undertaken over centuries, we suggest that the history of the environmental can be redefined in such a way as to both make it less narrow and specialist and at the same time reconnect it to wider strands of history. The implications of this is not just a longer, and we would argue much more interesting, chronology of the environmental as a historical category, but also a perhaps useful hint at how the environment can be studied historically.

Environmental history expands towards the sciences

We have seen that most of the development of the understanding of 'the environment', both as a political category and as the object of historical analysis, has taken place with relatively little input from historians. Indeed, those who studied history have until recently had very little to learn about 'the environment' from their professors. Syllabi have not allowed much space for it, required reading did not favour it. Texts considered path breaking or canonical

in the self-understanding of the historical discipline, like E.H. Carr's *What Is History?* (1961), or R.G. Collingwood's *The Idea of History* (1946) do not carry a single reference to nature or the environment. Their universe is that of human life and human mind, not the world that they formed or that formed them.

This has begun to change. Today there are already a number of textbooks and collections that cater to the increasing demand for guides to the emerging field, and reviews of current knowledge. The first of these appeared in the United States, where 'environmental history' as an academic sub-discipline first took shape: among the first collections to appear was Donald Worster's *The Ends of the Earth* (1988). It included both older texts – the earliest from 1950 by Swedish economic historian Gustaf Utterström on the demise of the Norse settlement on Greenland – and recent contributions. The geographical coverage was United States–Europe–Russia, in that order of significance, a priority which reflected the limitations of the actual research rather than any particular analytical perspective. Africanists, Indianists, Australasianists, or world historians were not as yet subsumed under the environmental banner. What is perhaps more significant is that few 'ordinary' historians contributed. Later collections have added in particular to the global coverage, and regional collections have followed for e.g. India, Australia, Canada, and the urban environment.[6] In languages other than English there are now an impressive number of environmental histories, be they national, global, or regional.

The composition of authors and topics in this growing corpus of literature is of course diverse. However, it remains remarkably dominated by non-specialists in history, a fact perhaps even more prominent among the popular 'environmental histories', such as the work of Jared Diamond, where writers with training in the natural sciences have played a leading role. Even to this day, environmental history – as can be judged from the most seminal collections in the field – is frequently written by geographers, archaeologists, anthropologists, and even ecologists. To take one recent example we may look at *Sustainability or Collapse: An Integrated History and Future of People on Earth* (2006), edited by Robert Costanza, L.J. Graumlich, and William Steffen, and not presented as an environmental history *per se*. This seems to us a tradition of 'environmental history', unusually for a field of historical study, incorporating a significant volume of work from scientists. In the case of *Sustainability or Collapse* this is because the initiative and design of the volume, and the Dahlem workshop in Berlin that it was drawn from, came from IHOPE (Integrated Histories of People and the Environment), a network of, principally, earth system scientists and archaeologists seeking to establish the long-term impact of humans on ecologies and other earth systems on all spatial and chronological scales. It seeks to

[6] Guha and Gadgil (1992); Griffiths and Robin (1997).

integrate environmental history into the broader understanding of how interactive social–ecological systems have developed over long periods of time, and contribute to a growing theory of how such change occurs. Indeed, there is a gathering impetus behind such theory that first and foremost comes from scientists in the so-called Global Change community.[7]

However, this work can raise a spectre in the imaginations of historians. The spectre has a double aspect. Firstly, if the study of the 'environment' (as defined by whoever is undertaking the study) is based largely on interpreting the data on long-term change provided by the natural sciences, do historians have a useful role at all? Secondly, if these 'histories' primarily study human response to environmental conditions and change, are we at risk of falling into 'environmental determinism', which has its own venerable but largely discredited (and at times disgraceful) past? Yet historians have always been aware that the constraints that individuals and societies are faced with confront them not with absolute necessities of action, but with the necessity of choice. As a discipline history has rightly been suspicious of approaches that seem to deprive human beings of agency in shaping their world. It is important to assert that environmental history does not retreat from this position, indeed it can demonstrate how human action can have a significant role in processes commonly thought to be 'autonomous', or belonging to the realm of pure 'science'. Darwin, after all, devoted the first chapter of the *Origin of the Species* to the domestication of animals, and these evolutionary pressures are exerted today at an ever-faster pace.[8]

Nevertheless, particular environments present people with particular sets of challenges and risks. A case in point is the history of human life in the mountains, areas all too frequently treated as marginalia in traditional histories of metropolitan centres, empire- and nation-building. The chapter of Robert Dodgshon provides case studies of Scotland and Switzerland that demonstrate both the particular risks with which mountain communities have wrestled down the centuries, but equally the profound role that humans have played in shaping these supposedly wild and untrammelled places.

Environmental history is thus well placed to undertake a role as a bridge builder between the humanities and other disciplines, and its role in communicating with the natural sciences stands out as particularly crucial. Few other disciplines can take that role, bringing together facts from a wide range of specialties, providing social relevance in a time of environmental crisis, and developing a compelling narrative that is the hallmark of historical scholarship.

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[7] Folke (2006); Berkes and Folke (1998); Robin (2007).
[8] Russell (2003).

An intersticing role

There has been a concern among environmental historians that their work has not reached the audience that it would merit. In the eyes of their fellow historians, those studying the environment can be tarred by association with the supposedly deterministic world of science. This was observed by William Cronon in a widely cited article as early as 1993 and it has been a recurring element of discussion since.[9] As environmental historians move into dialogue with scientists and anthropologists, and as broad brush historical syntheses are presented as our 'new history of the environment', it seems as if this inbuilt tension of environmental history is growing all the more acute. We do not wish to argue that there is anything like an either-or in this situation. On the contrary, we argue that environmental history may well serve its mission best if it manages to span the worlds held apart by methodological and discursive differences. Still, this mission can only be met if environmental history has a contribution that is distinctly its own and one that cannot be readily be provided by anybody else.

How, then, should historians and those with training in the natural sciences bring their expertise together? This problem has been addressed head on in cross-disciplinary studies developed at the University of Stirling and discussed in the chapter of Hamilton, Watson, Davies, and Hanley. Their approach, importantly, is 'cross-disciplinary'. It relies on the pooled expertise of the practitioners of very different approaches to data, in this case from history, palynology (the study of pollen), and ecology. It is not 'interdisciplinary' in the sense of individuals combining insights from a number of fields that they themselves have sought to master, or at the very least engage with.

History is a narrative enterprise. It can collect facts everywhere and weave them together into meaningful stories. It can connect what seems apart. It can use the findings of scientists and locate them into the broader analytical framework of societies and even have something to say about how societies handled crises and challenges in the past. Equally, historians are, or at least should be, sensitive to the dangers of fitting data to an already-existing narrative, of 'cherry-picking' information that appears to fit the story that one expects to be able to tell. This is a reflective standpoint that the sciences generally do not take and which is why history is an inescapable element of a synthetic understanding of the past. When scientists start writing complex narratives of cause and effect in human societies they become historians and will have to enter that game on the same principles as anybody else.

The model of work in Stirling, perhaps paradoxically, has sought initially to keep the disciplines apart. It has been an important point of principle that the disciplinary approach to particular data is not 'polluted' by expectations built

[9] Cronon (1993).

up in dialogue with colleagues from different backgrounds. In this model, the disciplines work best together when they are consciously kept at a distance. This is a challenge to understandings of interdisciplinarity that have been developed in the humanities in recent years. It is also a challenge to the traditional approach of historians, where there is no 'bad' data that should not be taken into account in developing an interpretation. Should environmental historians thus develop a different standpoint to their sources? Rather than simply playing a translatory role, or providing narrative direction, should historians also be adapting their own methods to those developed in the laboratory or on fieldwork?

The translation also works in the other direction, however. The sciences themselves, the institutions that sustain them and the manner in which funding has been directed have developed historically within particular contexts and been shaped by particular narratives. Not least of these is the sense of 'crisis' and 'decline'. Libby Robin's chapter on the history of conservation biology in Australia shows us how competing narratives of environmental change and theories of sustainability emerged in a particular national and international context, shaped by the prevalent scientific discourses, competition for space between those with different claims to it, and the units of analysis that as often as not were spaces demarcated by political, rather than 'scientific' decisions. She demonstrates how that history of defining 'the environmental', expounded in the chapters of Grove and Damodaran, Adams, and Sörlin, did not end after the first half of the 20th century. We remain, albeit more reflectively, part of an ongoing process.

History and humanity

A further virtue of the study of environmental history is that its topics easily transcend political and administrative boundaries. Although states have sometimes demonstrated a certain taste for defining their 'natural' boundaries according to coastlines, rivers, or mountain ranges, many (though by no means all) of these features, and the degree to which humans exploit or enjoy them, remain thoroughly impervious to the virtual world of bureaucracy. Environmental history also works on different time scales – days (the cataclysmic event), decades, centuries, millennia – and on different spatial scales from the local over regional and national scales to the continental and the global, including ecological and other physical zones in between. This is partly what makes it uniquely equipped to deal with different kinds of scientific data, which are increasingly collected in massive international databases.

It also may be a way of prioritizing humans and societies without being primarily entrapped within the 'wall-sized culturescapes of the nation', in Clifford

Geertz's expression.[10] The polity-based writing of history, from village and town to state and crown, can be complemented by a history that is 'humanity-based', taking its directions and agenda from the issues that link the fate of individuals and societies to the fate of the earth's physical and life-sustaining systems. Indeed, this can allow historians to study phenomena in their proper context, according to the relationships and decisions that actually affect them, rather than within the constraints of particular boundaries that have little direct relevance to the matter at hand.

Of course, historians of economies, gender, sexuality, ideas, and so on have been doing this for a long period of time, even if many of these histories in practice remain bound to particular political units. Environmental history brings new themes to this mix. One is 'waste', addressed here in the work of Tim Cooper, an issue that stretches from each room of our houses (most of which in the developed world are now provided with a wastepaper basket), to the politics of streets, municipalities, landfill, and sewage systems, and on to the international politics of dumping, resource transfer, and pollution. Much history has been written about the necessity of producing value, or desirable goods, and the manner in which that has shaped our world. What if we also examine the other side of that coin: how have systems dedicated to producing waste affected the ordering of our world during the last two centuries? In doing so, and highlighting the periodic crises that have punctuated discourses about waste, Cooper also calls into question boundaries that are too easily replicated in historical writing and study: between the urban and the rural, or even between what is 'valuable' and what is not.

Nevertheless, we are not calling into question the essential role that institutions, governments, and states have played in shaping how humans act, in influencing environmental processes, and in how we have come to think about such issues. Interrogating this double-edged sword, of how state boundaries have shaped engagement with the environment and our understanding of the environmental, is the task taken up in the chapter provided by Graeme Wynn and Matthew Evenden. The particular object of their attention is Canada, a neglected (at least outside of its own borders!) point of comparison to its powerful and more populous southern neighbour. Their historiographical survey demonstrates how the land and waters which demarcate Canada have provided considerable explanatory power in narratives of national identity and development. Equally, they show how the landmass south of the 49th parallel (from a landscape point of view, surely one of the most arbitrary boundaries in world history) has provided both an irresistible draw and an essential point of

[10] Geertz (2000).

differentiation in Canadian writing, and indeed environmental management. Environmental history may be able to transcend boundaries, but it ignores them at its peril.

We are familiar of course with the fact that nations, or advocates of them, have frequently rested claims to legitimacy on their supposed 'naturalness', or alternatively, on their ability to shape a particular, desirable 'natural world': an argument made forcefully in David Blackbourn's recent environmental history of modern Germany, *The Conquest of Nature* (2006). Indeed, Blackbourn's own study was in part a reaction to the new environmental historians of the American West, notably Donald Worster. Worster argued that far from America being built as a 'frontier society' (according to the famous thesis of Frederick Jackson Turner, forged through the experience of the pioneer), the creation of the American West was in fact an enterprise strongly shaped by centralized and technocratic institutions that created an infrastructure, especially in the management of water resources, for modern settlement. Thus we discover that the mobilizing forces of traditional historiography – the state, the nation, the corporation – sit squarely within, and can be reinvigorated by, environmental approaches. We can equally discover that mobilizing particular perceptions of the environment and how they have shaped it have been more important to these institutions than historians have generally realized.

Blackbourn's work seeks to highlight that the intersection of institution, identity, and environment, along with the relatively heavy hand of the state in shaping environments, is not just a phenomena of ancient societies (where the 'hydraulic' civilizations of the Far and Near East have long been an object for study), or of colonial expansion into supposedly pristine regions of the globe. Even at the heart of the Old World, where the landscape has unquestionably been 'cultural' for many centuries, the state has played a central role in major transformation associated with landscape planning, drainage, river straightening, dam construction, and infrastructure development.

At the other end of the old world, Mark Elvin makes a similar and provocative argument in this book about China. In the Chinese example, however, environmental transformation was not necessarily intentional, but saw the development of a certain path dependency determined by the taxation regime, and the 'lock-in' of irrigation and flood prevention measures that once created, could not easily be altered. Indeed, in this account the environment might be seen so much as a function of policy that Elvin can question the utility of an 'environmental history' at all. It may be that environmental history can just wither away once its insights are unquestionably absorbed by the historical mainstream. Yet it seems to us that (like the very idea of nature itself) it denotes a 'problem' that will stubbornly refuse to disappear for some time yet.

Elvin asserts that a major characteristic of Chinese agricultural and environmental development, involving long-term intensification and powerful (though far from all-powerful) centralized institutions, was not simply the consequence of a given environment and the eternal verities of a rice-based agriculture. His environmental history thus gives pre-eminence to a certain institutional and infrastructural development, akin to the account of world environmental history provided recently by Joachim Radkau, in his *Nature and Power* (2008, first published in German in 2002).[11]

Yet environmental history, or for that matter any other kind of history or study of human action, cannot convincingly be reduced to a study of institutions or institutional constraints. As with any other narrow approach to study, this risks circularity of argument. We must always remember that it is a certain irreducibility of nature and the choices with which it presents humanity that demands a 'politics of nature', an understanding of the 'environmental', that institutions are tasked to resolve. Indeed, it is Elvin's deep knowledge of changes in the Chinese environment that allows him to pinpoint the particular impact of institutions.

These issues are brought out explicitly in Georgina Endfield's study of early modern Mexico, where she employs comparative history to examine complex interaction of different landscapes and vegetative regimes, climatic impacts that vary over time, the developing colonial government, and local economies. The rhythms of plant growth, drought, and animal behaviour presented humans with the necessity of certain choices and dilemmas, and tantalizingly, she suggests that the both pre-Columbian and the Spanish colonial regimes may at times have come up with similar answers. Here environmental history can look across the chasm that opens up with the colonization and expropriation of the American peoples in traditional historiography. If different societies were perhaps limited in their ability to respond to particular environmental challenges, Endfield also describes how the more 'dynamic' aspects of historical change, such as social unrest, the development of welfare responsibilities, or legal systems responded directly but differentially to environmental challenge according to the choices made.

We argue thus that environmental history remains a history of humanity; a history (to quote Elvin) that is 'nowhere' in particular because its subject matter is 'everywhere'. Humanity is a huge word, almost too large to utter. It is centuries old, but in its modern usage to think and act on behalf of humanity has been part of political discourse only in the 20th century. It is a word closely akin with the institution of the United Nations and the Declaration of Human Rights from 1948. To make history speak to the issue of the fate of humanity

[11] Radkau (2008).

cannot just be done as a slight revision of the 'world history' that followed from the project of writing an evolutionary history of world cultures, a pet project of the early UNESCO under Joseph Needham and Julian Huxley.[12] To speak of 'humanity' does not mean that we think that all humans have, or have had, collective destinies and experiences.

The evolutionism is gone, what has replaced it is perhaps a humble feeling that if history could have something to say in the transition to an ever more *interdependent* world (and this includes ecological relationships too), it must break out of the domains where it served mobilizing purposes – the state, the bureaucracy, the nation, and even the academy. Environmental history provides one such avenue for such thinking. It is, as Kirsten Hastrup argues, a perspective that has as its perhaps chief virtue the insight that destiny is not the only word to evoke when the environment is talked about, nor is disaster. Destination may serve us better, to denote the intention that is always present in 'things human'. It is not always easy to reach one's destination. Disaster may intervene, destiny may have it otherwise. But things human are never limited to being the objects of nature's forces.

Hastrup's story centres on Iceland, an island in the north Atlantic that was the home of Norse settlers, who despite their hardiness came into deep distress following the Black Death, severe climatic cooling, and in the face of the constant irregularities of natural conditions. It would be tempting to write a natural history of Iceland with humans as part of a rich tapestry of geophysical and ecological features. But Hastrup is an anthropologist, and wishes to uncover the environmental history, which is human. She looks for destinations rather than destinies, which is also why she is not surprised that despite generations of unwise behaviour the gradually emerging Icelandic nation also managed to learn from its mistakes, to turn to the sea rather than rely stubbornly on agriculture, and finally to create what was, until very recently, one of the richest societies on earth, quite a feat for the wretched fragment of a people that clung to their bare lands only a few generations ago.

Hastrup's way of presenting her argument includes linguistic analysis of the concepts Icelanders used, the texts with which they shaped their land and gave it meaning as much as they used plough and axe. Quoting Tim Ingold, Hastrup maintains that humans are a doing and faring kind, they are 'waymakers' in an environment which they turn into a 'taskscape' as much as they live in a landscape of their own making. When the environment confronts them, or hits them mercilessly, it is not just a force from the outside that is acting. They have already, as a society and as acting individuals, shaped the circumstances under which that outer pressure is supposed to work on them.

[12] Robin and Steffen (2007).