

Nature and Power: A Global History of the Environment

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For readers like this reviewer, who do not read Germany fluently, the translation of Joachim Radkau's *Nature and Power: A Global History of the Environment* is a major event. This is probably the best available overview of the changing human relationship with the biosphere: a subject whose historiographical and political significance is becoming more and more evident. The book's center of gravity is in Europe; nevertheless, its reach is global and this will make it particularly attractive to those who (again like this reviewer) approach environmental history with world history questions in mind rather than as specialists in environmental history. For the specialists, Radkau's book will offer a wonderful, sometimes contrary, but astonishingly rich overview of many of the central themes of environmental history. It also offers a sustained and erudite discussion of the difficulties and the importance of seeing environmental history in a more unified way over the whole sweep of human history.

The German edition of this book, *Natur und Macht*, was published in 2002. The English edition, translated by Thomas Dunlap, includes revisions and a new preface. Radkau is an astonishingly prolific author. His first book was on German migration to the USA between 1933 and 1945; it was followed by a history of nuclear power in Germany, a history of wood, and histories of Germany and German industry. Only then did Radkau approach the subject of world environmental history. And he did so with skepticism and some trepidation, as someone who had long dismissed such large scale projects for their exaggerated claims and sometimes stereotypical conclusions. His skepticism about grand generalizations is one of the book's great strengths. The other is his determination to bring European perspectives to debates that have often been dominated by the view from North America and the English-speaking world.

The basic structure of the book is chronological, but not *just* chronological. The first chapter reviews many

of the central ideas and approaches of world environmental history, introducing historiographical issues that will be present throughout the book. From then on the key structural device is the notion that human ecological behavior and thought has been shaped in profound ways by the scale on which human relations with the environment are managed. 'The structure I have chosen arises from the geographic reach of environmental problems, the level of social authority that deals with them, and the type of knowledge that is employed in the process' (p. 36). Chapter two focuses on small-scale societies, within which 'environmental problems are usually local in nature and are resolved within the framework of the household economy and the neighborhood, and the solutions draw on an unwritten tradition of experiential knowledge. This is a time when subsistence economy is dominant, when humans produce for their own needs and the local market, when the cycle of nutrients is self-contained within local parameters' (pp. 36–7). Chapter three, 'Water, Forests and Power' deal with societies in which management is handled at larger scales and power brokers begin to mediate between the interests of different groups, creating a more complex and often less reliable feedback cycle between human behaviors and the environment. The chapter includes a rich and nuanced discussion of Wittfogel's ideas on the relations between irrigation and power. But Radkau is less interested in how large-scale irrigation sustained new power relationships than in the ecological dangers created by their complexity: 'the center expands the networks of irrigation and drainage to a size and complexity at which their vulnerability to crises – whether political or ecological in nature – increases to an alarming extent' (p. 92). Chapter four, 'Colonialism as a Watershed in Environmental History', describes a world in which those who took the crucial decisions often had little or no interest in their environmental impacts because they occurred so far away. Colonialism relaxed many of the constraints on ecological behavior that had existed in earlier societies because the costs of predatory behavior were rarely paid by those responsible for it.

Chapters five and six focus on the transition from an era of solar power to an era of fossil fuels, and then to the colossal increase in human environmental impacts in an age in which management is increasingly on a global scale. I think (but I'm not certain) that one of the underlying ideas of this section is that the sheer abundance of energy in the age of fossil fuels re-enforced the sort of ecological thoughtlessness once encouraged by colonialism. Oil in particular encouraged such thoughtlessness, as it 'launched an almost effortless exploitation of the earth's fossil resources ... which made possible a wasteful mentality that is without parallel in human history' (p. 252). The sheer scale of the modern economy also generated dangerous 'unintended synergistic effects' (p. 250). But Radkau also shows how the global scale of today's world has generated new ways of thinking about the human relationship to the environment. In an argument reminiscent of Norbert Elias' analysis of modern concepts of Time, Radkau argues that the modern notion of 'the environment' arises from rapidly expanding networks of human relations. 'As environmental problems became more pervasive and widespread, there were growing interactions between the various problematic areas, and this gave rise to a new awareness in the second half of the 20th century. Many older problems – for example, preserving the fertility of agricultural fields – were transformed into a problem of energy, and the energy problem in turn became an environmental problem. To a greater degree than ever before, the multitude of problems were perceived as aspects of one great and global problem, and in this way the term 'environment' acquired the meaning it has today' (p. 258).

Chapter two, on small-scale societies, sets the book's dominant tone of skepticism towards grand generalizations. These were not communities of natural environmentalists. (And he is surely right: the evidence is now very powerful that Paleolithic communities transformed both plant and animal communities at very large scales through over-hunting or practices such as fire-stick farming.) Nor, on the other hand, were these communities of naïve environmental predators. Instead, like all human communities, they learned, often through difficult times, rough rules of thumb about what behaviors and ideas were or were not sustainable. 'One must not imagine this first epoch as a self-contained time carried by a stable harmony between humanity and nature. It also included primeval experiences of a traumatic kind – of drought and cold, hunger and thirst, floods and forest fires. An alertness toward the environment is probably grounded not so much in a natural instinct as in such traumatic experiences' (p. 37). What was different about small-scale communities was not that their practices were always sustainable, but rather that environmental concerns were immediate, 'an integral component of life' (p. 37). The punishment for non-sustainable

behaviors was usually swift and painful. 'In the most basic state of affairs, environmental problems are usually local in nature and are resolved within the framework of the household economy and the neighborhood, and the solutions draw on an unwritten tradition of experiential knowledge. This is a time when subsistence economy is dominant, when humans produce for their own needs and the local market, when the cycle of nutrients is self-contained within local parameters' (pp. 36–7).

Later chapters show how, in complex and often contradictory ways, constraints on ecological behavior were lifted. Yet they never vanished. He argues, for example, that industries such as mining and salt works, which have earned a dubious environmental reputation, were often careful to protect the forests they depended on (pp. 142–51). It was where resources appeared unlimited that environmental behaviors were least constrained. 'We are bad farmers because we have so much land', wrote Benjamin Franklin (cited p. 177). But even this is not a simple tale of good and bad behavior. One of Radkau's central themes, and one that deserves to loom larger in the thought of environmental historians in general, is that sometimes the solutions created the greatest dangers. His wonderful short essay on malaria in world environmental history is a fine example (pp. 127–31). 'Since ancient times, malaria confronted humanity with a dilemma reminiscent of the alternative 'economy or ecology?' that is presented so often today: to achieve abundant harvests, it was advisable to settle in wet areas and, if possible to increase the moisture throughout irrigation systems; for health reasons, however, it was advisable to live in a dry climate' (p. 127). If irrigation was the solution to a shortage of water for farming, it was also a persistent source of malaria. Not until after the Second World War would a solution emerge. It was the use of DDT, the pesticide that, as Radkau points out, prompted Rachel Carson to write *Silent Spring* in 1962, a book that stands at the beginning of modern environmentalism.

In subtler ways, this theme of the dangers of sustainability is present throughout the book. The least sustainable behaviors were often punished. It was the sustainable practices that allowed long-term growth and threatened to generate subtler, deeper and more dangerous environmental challenges. Much of the book is about forestry, one of Radkau's favorite themes, and we learn much about the subtlety and skill of Europe's forest managers. Yet, he also points out that: 'precisely because the wood supply for the mining and metal industry in Central and Western Europe was relatively well regulated over centuries and environmental problems were more or less solved, this sector of the economy was able to generate a dynamic that, in synergy with other dynamic forces, eventually overpowered everything. This is the insidiousness of the partial resolution of environmental problems: partial success all too easily masks creeping crises, thus shutting off traditional braking forces that until then kept the relationship between humans and their environment more or less in balance. Precisely the daily experience that human existence is ecologically unstable amounted, in aggregate, to an element of ecological stability inherent in the human way of life' (p. 151). In Radkau's account of environmental history, the solutions all too often turn out to be new problems in disguise.

Another somewhat contrary insight that appears throughout the book is that human ecological behaviors are often most destructive when best aligned with the cycles and rhythms of the natural world. In such situations human behaviour and the cycles of the environment reinforce each other. In the Mediterranean, for example, he argues that it is simplistic to debate whether long-term erosion was mainly due to natural or human causes. Often, it was the relationship between the two factors that was most critical. 'When, after the waning of the last ice age, the climate conditions changed from being cooler and wetter to today's Mediterranean weather pattern, the forests corresponding to the moister climate presumably continued at first. The human impact must have accelerated the adaptation to the new climate conditions and intensified the erosion to which many Mediterranean mountain slopes were already susceptible. Unlike what is often believed today, human behavior often entails particularly heavy consequences when it occurs 'in harmony with nature', with natural trends' (p. 135).

Radkau's writing style is Braudelien. We do get sweeping generalizations (not all of them persuasive, as with his discussion of European environmental exceptionalism, pp. 184–193). But before we can agree or disagree, the generalizations are usually qualified by counter-examples, leaving us always with a sense of the complex tension between the specific and the general. Maintaining this tension is a challenge for all types of

world history, and Radkau's insistent skepticism helps him maintain a satisfying balance between detail and generalization. Lynn White famously argued that Christianity was hostile to the environment. Did not God tell humans to 'fill the earth and subdue it'? Yet, as Radkau points out, in 18th-century England, the same passage from Genesis could be used to protect animals. 'In the next verse of the same passage (Gen. 1.29), God mentions only plants and the fruit of the trees as food for humans, but not animals. Noah saved not only the human race in his ark, but also the diversity of the animal world' (p. 82). As with Braudel, the result of a constant questioning of established truths is a rich and diverse account of human relations with the environment. Yet I have to confess that occasionally I wished he would stop hedging his bets and risk some clear, unqualified generalizations. One reason for thinking this would be helpful is that environmental history on large scales tells a story of accelerating and poorly understood yet dangerous changes that are now happening too fast for exhaustive analysis. There will come a time when, with the guidance of those scholars who best know this history, politicians will have to move fast as they take hard decisions as to the best ways of averting serious crisis. To do that they will need answers clear enough to suggest what needs to be done.

For scholars immersed in the English-language literature on environmental history, one of the most fascinating aspects of the book will undoubtedly be its German perspectives on environmental history. Radkau is a great admirer of the large body of English-language scholarship in environmental history; but he also shows how much European perspectives can add to that literature. Above all, he argues, the societies of central Europe never experienced the sense of abundant, even unlimited resources familiar to European colonists or British imperialists. It is symptomatic, he argues, that N. American environmental historians have been fascinated by the notion of wilderness, of spaces not yet touched by humans and open to exploitation (or protection), while German historians have focused their scholarship on a more anthropogenic and more limited 'natural' world in which the problem of sustainability was always present. 'Unlike the Americans and the British with their immense colonial empire, continental Europeans have rarely lived with the illusion of unlimited resources. That there are 'limits to growth' was self-evident to them most of the time: hence it was clear that prudence dictated a careful harnessing of limited resources. That does not mean that this bit of wisdom was always followed in practice. Still, a striving for sustainability has deep roots in Europe as well as in other old cultures' (p. xvi).

A second, distinctively German quality of the book is its sensitivity at every point to the politics of environmental issues. This is a theme present even in the book's title. And it is perhaps unavoidable for German environmental historians, given the political role of the Greens in recent decades. German environmental thinking has been forced through the cauldron of real politics to a degree that is not true in most of the English-speaking world. Indeed, Radkau ends his book with a chapter entitled: 'How to argue with Environmental History in Politics'. It is this reality, I suspect, that accounts at least in part for Radkau's concern with the political complexities of environmental issues, with the fact that even sustainable environmental policies (perhaps *particularly* sustainable policies) are an expression of power. So, as human societies have expanded in scale, environmental issues, instead of being encountered more or less personally, as in most small-scale societies, are mediated through power structures. That may turn out to be one of the great dangers we face. In a course I once taught on world environmental history I set up a workshop in which students were asked to perform a sort of triage on world environmental problems: first, to analyze them, then to decide which problems were worth doing something about, then to list possible solutions, then to discuss the politics of implementing those solutions. They flew through the first three tasks; it was the politics that stumped them. Radkau's book is a timely reminder, even in its title, that human relations with the environment are mediated by power relations. And as the scale and complexity of the decision-making process has widened in today's global age, getting the politics right may be the hardest challenge we face.

A review like this cannot do justice to the richness of Radkau's account of world environmental history. And it is perhaps the richness, the diversity, and the complexity of this account that will be this book's most important legacy to world environmental history.

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