

The Promise of Global Environmental History

Sarah R. HAMILTON

sarahrha@umich.edu

abstract

This article offers a brief overview of the field of environmental history with special attention to its potential for global research projects. Section I offers a definition of environmental history and describes how historians first began to reimagine the relationship between nature and society following the “cultural turn” of the 1970s and 1980s. Section II outlines some of the intersections between environmental history and the developing field of Big History, and suggests ways in which the two fields may differ. Section III suggests some of the ways in which social, cultural, and economic historians might benefit from the inclusion of an environmental perspective in their work. Finally, section IV explains how the broader temporal and geographical framework necessary to understand the nonhuman world can be particularly useful to world historians.

key words

Environmental history, Big History

Environmental history, defined broadly as the story of the relationships between humans and their nonhuman surroundings, finds a place in almost every narrative of the past. The material world, specifically those nonhuman things generally categorized as “the environment” (land, plants, animals, weather, etc.), plays a crucial and often-overlooked role in historical outcomes. Unraveling the interactions between humans and nonhumans can illuminate connections between widely varied scales of analysis, linking local, regional, and global trends and events in surprising ways. The environment can thus serve as a tool for making other kinds of history better, enriching networks of connections in space and time by revealing new factors in causal chains and previously ignored repercussions of human actions. At times, it can offer entirely new interpretations of historical events and trends. As such, attention to the environment is not simply an additional lens through which a historical moment may be viewed; rather, it is in many cases a crucial component that can alter the historian’s overall conclusions.

I. What is environmental history?

The cultural turn and the new emphasis on the constructed nature of culture and society served in part to weaken traditional theories of the divide between the social and the natural by arguing that our understanding of nature itself is inherently constructed by human use and perception. With notable exceptions, pre-cultural turn histories, and even many incompletely theorized later works, implied an artificial separation between the social and nonhuman worlds. In Leo Marx's famous formulation, humans were often portrayed as "the machine in the garden," inherently different and independent from "nature."¹ This depiction encouraged descriptions of human interactions with the environment as generally triumphalist or declensionist. In these models, human actions on their material surroundings produce either increased control or ecological catastrophe, respectively. Each formula is unsatisfying as it masks the fact that both humans and the non-human world are the products of millennia of interaction.

The cultural turn, and most influentially the emphasis on geography and natural processes of the *longue-durée* histories of the *Annales* school, led many scholars to challenge the presumed dichotomy of nature and society. The recognition that categories of "natural" and "social" are themselves socially constructed and changeable became a valuable departure point for scholars seeking to move beyond narratives that assumed a static natural world upon which human actions could be imposed. What societies refer to as "nature" has in fact been altered countless times over the history of the world by human activities. Likewise, physical processes of geography and biology contribute significantly to cultural, economic, and social trends and events. The constructs of "nature" and "society," then, were not diametrically opposed as originally believed.

The first self-identified environmental historians thus began by thinking about the ways in which humans and the environment had shaped and re-shaped each other over time, and about the ways in which nature itself had been socially constructed in different times and places. Many of the early classics of environmental history employed the tools of the cultural turn to examine the various ways societies have thought about the environment, from arcadian idealization to imperialist utilitarianism to New Age environmentalism.² By the 1970s, encouraged and inspired by the political environmental movement, scholars such as William McNeill and Donald Worster tackled questions about how these ideas and ideologies shaped human actions, and what practical results they yielded.³ Likewise, William Cronon's first book, the now-iconic *Changes in the Land* (1983), described the ways

¹ Leo MARX, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (Oxford University Press, 1964)

² See, e.g., Samuel P. HAYS, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (1959); Roderick NASH, *Wilderness and the American Mind* (1967).

³ Donald WORSTER's *Nature's Economy: A History of Ecological Ideas* (Cambridge University Press, 1977) and *Dust Bowl: The Southern Plains in the 1930s* (NY: Oxford University Press, 1979); William MCNEILL, *Plagues and Peoples* (Garden City, NY: Anchor Press/Doubleday, 1976).

that differing understandings of the environment produced conflicts and misunderstandings between New England colonists and Native Americans.⁴

By 1990, Worster described three basic categories of environmental history: materiality-based histories of the physical interactions between humans and their environment, environmentally-informed economic histories about changes in the modes of production and technologies, and intellectual and cultural histories focusing on ideas and ideologies about the environment.⁵ The latter category, in particular, easily coexisted with other cultural and intellectual histories, but the other two, with their emphasis on the material world itself, raised hackles among some in the profession who accused them of physical determinism. Crosby, while encouraging environmental historians to continue their interdisciplinary work in search of connections between humans and the environment, nonetheless cautioned against established environmental historians' tendencies "to be more interested in dirt than in perceptions, per se, of dirt"⁶ The focus on the material world and the natural sciences could lend itself, he feared, to an old-fashioned belief among practitioners that they studied "real," rather than socially constructed things. "They may squabble about the details of the story of...megafaunal extinctions in North America at the end of the Pleistocene," he wrote, "but they have no qualms about assuming that these extinctions truly happened."⁷

Indeed, the analytical methods and evidence of the natural sciences, upon which environmental historians must frequently rely for a better understanding of the physical processes at work, are of course problematic and cannot be reified as objective truth. Recognition of the inherently constructed nature of science itself does not, however, preclude analysis of physical phenomena. It is not objectivism to recognize that all events in human history have been subject to certain physical limitations which we describe with the natural sciences: geology, physics, chemistry, biology, etc. Crosby himself has repeatedly described the way that the inherent physical properties of plants, animals, continents, and people have influenced historical events. While environmental historians must tread carefully when wielding scientific "facts," then, the environment cannot be reduced solely to a social construct. In Chris Lewis' words, "we cannot fully trust the answers given by the sciences, but we must use science to help describe the human impact on the natural world."⁸

⁴ William CRONON, *Changes In The Land: Indians, Colonists, and the Ecology of New England* (NY: Hill & Wang, 1983).

⁵ D. WORSTER, A. CROSBY, R. WHITE, C. MERCHANT, W. CRONON. "Environmental History Roundtable." *Journal of American History* 76 (March 1990).

⁶ Alfred CROSBY, "The Past and Present of Environmental History," *American Historical Review* (1995), 1188.

⁷ Ibid.

⁸ Chris H. LEWIS, "Telling Stories About the Future: Environmental History and Apocalyptic Science," *Environmental History Review* 17 (Fall 1993), 53.

In the 1980s, the work of sociologists of science Bruno Latour and Michel Callon offered new tools for environmental historians seeking a balance between constructivism and attention to the material world. They found experimental and observational data suggesting that the behaviors of organisms, chemicals, technologies, and other nonhumans could not be predicted with uniform rules of science or engineering.⁹ Explanations of social phenomena that take into account only human agency and assume that the environment will conform to predictable scientific laws, then, ignore the wide range of possible responses by these nonhuman actors. In so doing, they form an incomplete understanding of the phenomena themselves and risk misattributing causality or misunderstanding relationships.

Recent scholarship in environmental history has consequently approached the question of social-natural hybridity through the complex interactions of humans and nonhumans over time. The physical environment is central to the narrative as the site of action by and interaction between myriad human and nonhuman agents. For instance, Cronon's *Nature's Metropolis* (1991) described the ways in which the flora and fauna of the Great Plains both shaped and was altered by the growth of Chicago on swamplands to the north.¹⁰ White, meanwhile, coined the term "organic machine" with his description of the heavily altered landscapes of the Columbia River, highlighting the extent to which it had been coproduced by anthropogenic and geochemical forces.¹¹ Linda Nash has more recently pointed out that the permeability of the human body to diseases blurs the boundaries between humans and the nonhuman environment.¹² Each of these recent approaches to environmental history puts human and natural actors into dialogue, constructing nuanced new understandings of the ways in which humans conceive of the natural world as at once foreign and intrinsic to society itself.

II. Big History and Environmental History: What's the difference?

A new branch of world history, the Big History movement led by David Christian and Fred Spier, has much in common with environmental history, from its reliance on interdisciplinary research to its emphasis on the importance of the physical world. Big History situates humans within much larger webs, describing human societies as one factor among many in the course of planetary or universal history. Such a depiction largely eradicates the human-nature divide and places special emphasis on the role of the

⁹ Michael CALLON and Bruno LATOUR, "Unscrewing the Big Leviathan: how actors macrostructure reality and how sociologists help them to do so," in *Advances in Social Theory and Methodology: Toward an Integration of Micro- and Macro-Sociologies*, eds. K. D. KNORR-CETINA and A. V. CICOUREL (Boston: Routledge and Kegan Paul, 1981) and Michael CALLON, "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Brieuc Bay," in *Power, Action and Belief*, ed. John LAW (Boston: Routledge and Kegan Paul, 1986).

¹⁰ William CRONON, *Nature's Metropolis: Chicago and the Great West* (NY: W.W. Norton & Company, 1991).

¹¹ Richard WHITE, *The Organic Machine: The Remaking of the Columbia River* (NY: Hill & Wang, 1995).

¹² Linda NASH, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006), 209.

environment in humanity's biological and cultural evolution. The co-evolution of humans with domestic animals, demographic and genetic changes resulting from disease epidemics, anthropogenic changes to an environment that inadvertently affect other species' survival and development, and biotechnology and selective breeding practices that have dramatically modified plants and animals for human use are all examples of what Edmund Russell has called "evolutionary history," and which appear frequently in Big History discussions of human development.¹³

Practitioners have thus far failed to produce a clear definition of the difference between environmental and big history. Several self-described Big Historians have carried out studies largely indistinguishable from environmental histories, with heavy emphases on the role of the physical environment and reliance on interdisciplinary research from the natural sciences as well as written and archaeological sources. A recent essay by Craig Benjamin, for instance, links the founding and development of Jericho to the climatic change of the last Ice Age and to the specific geography of the city's surroundings.¹⁴ Benjamin himself calls this project a "little Big History," but his thesis – "that human history is as much about the physical environment in which it takes place as it is about superior technology or political structures" – could just as easily fall into the category of environmental history. Benjamin and other Big Historians do tend to work with significantly longer time scales than most environmental historians, often describing the long-term geological or biological processes that created a given environment in the course of explaining how that environment affected human behavior. Nonetheless, the utility of drawing hard lines between the two fields is dubious.

While the "little Big Histories" have only minor variations from many environmental histories, the general movement towards Big History has not yet achieved widespread acceptance among environmental historians. Because it focuses on the physical world itself rather than the way that world has been experienced and constructed, the discipline's foundational text, David Christian's *Maps of Time* (2004), has been criticized for eliminating human agency and veering towards the sort of history discouraged by Crosby in the immediate aftermath of the cultural turn.¹⁵ Christian clearly describes his narrative of the history of the universe as a "modern creation myth," emphasizing that the narrative has been constructed by scientific research and remains subject to change, but in practice the distinction has proven difficult to convey to readers. This difficulty has arisen repeatedly in the classroom, as evidenced by conversations among Big Historians at last summer's meetings of the World History Association. A few courses, notably one taught by Douglas Northrop at the University of Michigan, have avoided the portrayal of science and the physical world as absolute by focusing on the constructed and subjective nature of the various scientific disciplines themselves.

¹³ *Ibid.*

¹⁴ Craig BENJAMIN, "The Little Big History of Jericho," in *Big History Anthology*, ed. RODRÍGUEZ, B. (Los Angeles and Berkeley: University of California Press, forthcoming 2012).

¹⁵ David CHRISTIAN, *Maps of Time* (University of California Press, 2005).

Many academic historians, even those who recognize the importance of the physical world in human narratives, have questioned whether the de-emphasis on humanity in fact places Big History outside the discipline of history itself. *Maps of Time*—like Fred Spier's recent *Big History and the Future of Humanity* and other overarching Big History publications—ignores specificity in favor of a broad metanarrative of increasing complexity over time, from the origins of the universe to the present day and beyond. Human societies appear as the latest, most complex manifestation of that trend.¹⁶ Broad global environmental histories, conversely, remain focused on humanity as a species even when weaving their own metanarratives about how humans have always affected and been affected by their physical surroundings. While utilizing similarly interdisciplinary research, global environmental monographs are thus distinguished from Big Histories by their time frame, which is limited by the evolution of *Homo sapiens*. Most cut that time even shorter, beginning with the first human migrations from Africa or the end of the last Ice Age. Their metanarratives, likewise, are human-centered, usually focusing on the social and environmental ramifications of the shifts from hunter-gatherer societies, to agricultural, to industrial. Among nearly a dozen such monographs, Ian Simmons' stands out for its attention to the cultural and intellectual repercussions of physical changes, and its emphasis on how people's ideas change as a result of their interaction with the material world, even as that material world changes as a result of human actions.¹⁷ "Historical events happen within Newtonian principles and the laws of thermodynamics," he writes, "but after that there is a whole world of chance and contingency." [page?]. Though Big Historians would undoubtedly agree with this assessment, Simmons' and other environmental historians' analyses remain focused on human outcomes within that larger environmental story.

III. What can we learn from an environmental approach?

The central principle of contemporary environmental history is the understanding that materiality—the intrinsic physical properties of things—matters, and that the physical limitations and opportunities of a given environment contribute significantly to the way a society develops or individuals act in a specific time and place. All events in human history occur within the laws of physics and biogeochemistry, and material events have effects on opinions and actions. One of the most nuanced examples of this principle was provided by Timothy Mitchell's analysis of the Aswan dam, in which he showed how global networks had been profoundly affected by local chemical and biological processes along the Nile valley, and vice versa.¹⁸ Mitchell showed, first, that the dam's construction unintentionally created the biological conditions necessary to allow malaria-carrying mosquitoes to spread across the Nile valley, causing massive fatalities. At the same time, the river's new hydraulic

¹⁶ *Ibid.*; Fred SPIER, *Big History and the Future of Humanity* (Oxford: Wiley-Blackwell, 2011).

¹⁷ Ian G. SIMMONS, *Global Environmental History 10.000 BC to AD 2000* (Edinburgh: Edinburgh University Press, 2008).

¹⁸ Timothy MITCHELL, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002).

regime led to the loss of soil fertility in Egyptian croplands. The resulting reliance on imported fertilizers, a global scarcity during times of war, facilitated the centralization of economic and political power in a landowning aristocracy. Members of which eventually came to dominate Egyptian politics. The nonhuman actors in Mitchell's analysis – mosquitoes, soil chemistry, and others – formed the necessary links to join a set of seemingly unrelated events into a single causal chain directly traceable to the dam's construction.

As Mitchell's example showed, the integration of nonhuman actors in historiography has clear policy implications. Following James C. Scott's emphasis on local specificity, dozens of studies of modernizing governments have shown that state engineering projects that fail to take local, changeable physical conditions into account routinely suffer from chronic weaknesses and problems.¹⁹ James McCann's emphasis on the physical and genetic properties of maize, for instance, helped explain historical crop failures as the result of African administrators' efforts to impose uniform technologies on a highly varied environment.²⁰ Marc Cioc placed chemicals and water at the center of his analysis of development on the Rhine, describing the river's natural capacity to neutralize a certain quantity of foreign pollutants and how dams and drainage in one part of the river increased flooding in another.²¹ Cioc's study also provides an excellent example of how governmental responses tend to rely on further "technofixes" or adjustments to the original policy, which even at their best do little more than address one problem while creating another, and fail to understand the deep structural problems in their approach.

It is, of course, possible to overstate the importance of materiality, and environmental histories have frequently been accused (and are sometimes guilty) of physical determinism. Popular writer Jared Diamond, whose *Guns, Germs, and Steel* is certainly the most famous contemporary environmental history, has been particularly criticized for such assertions.²² However, over the past decade environmental historians have gone out of their way to emphasize that although materiality matters, it is not determinative of historical outcomes. Daniel Headrick, for instance, has gone so far as to substantially revise an early thesis on the determinative role of new technologies in Victorian-era European colonization with a later work recognizing that those technologies' success was contingent on a wide array of local factors ranging from social responses to environmental particularities.²³ As Headrick discovered, the physical properties of things, whether technologies, environments, or micro-elements of nonhuman nature, may have momentum or lend themselves more

¹⁹ James C. SCOTT, *Seeing Like a State: Why Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998).

²⁰ James MCCANN, *Maize and Grace: Africa's Encounter with a New World Crop, 1500-2000* (Cambridge, MA: Harvard University Press, 2005).

²¹ Mark CIOC, *The Rhine: An Eco-Biography, 1815-2000* (Seattle: University of Washington Press, 2006).

²² Jared M. DIAMOND, *Guns, germs, and steel: the fates of human societies* (New York: Norton, 2005).

²³ Daniel R. HEADRICK, *The tools of empire: technology and European imperialism in the nineteenth century* (New York: Oxford University Press, 1981); Daniel R. HEADRICK, *Power over Peoples: Technology, Environments, and Western Imperialism, 1400 to the Present* (Princeton University Press, 2010).

easily to certain uses and outcomes than to others, but they are not autonomous or self-directed. Instead, it is their interactions with other things – humans, beliefs, cultures, and environments – that produce a given outcome in a specific time and place.

IV. Global Approaches to Environmental Histories

As suggested by Headrick's comparative studies of local environments producing differing historical outcomes, a global or comparative environmental perspective offers significant potential for new research. There is, in fact, a broad overlap between environmental and world histories, and many if not most environmental histories necessarily incorporate transboundary phenomena, even when purportedly focused on local or regional environments. Environmental history is uniquely suitable for a global approach, as opposed to one of strict geographic limitation, for many of the same reasons that environmental policy and legislation frequently requires transnational cooperation. A national approach assumes continuity between the object of study and the political boundaries of the state, an inherently flawed premise for environmental phenomena. Nonhumans, from migratory birds to ocean currents, have little regard for political boundaries. Understanding their behavior in a particular environment therefore necessitates a broader perspective on their origins and external influences. Just as an isolated national law cannot protect a migratory species from hunting outside of the national boundaries, a historical inquiry involving that species must address the transnational trends and events that impact its migration patterns and population. Likewise, agricultural or economic policies set in national capitals or international summits have concrete, highly divergent impacts on different localities with physical and social ramifications for the humans and environments involved. To understand a local environment, it is therefore frequently necessary to trace the trends affecting that environment back to their transnational sources.

A global environmental approach may take many forms, depending on the particular nonhuman elements under examination. Some nonhumans, such as migratory animals, water currents, and traded commodities physically move between countries or continents. Others remain static themselves, such as geography or soil, but are profoundly affected by transnational phenomena including legislation, trade, and weather patterns. Like humans, nonhumans also tend to respond differently in different climates or locations to similar stimuli, as Headrick demonstrated, requiring a comparative approach that examines communities in geographically disparate but climatologically similar environments. Study of any of these nonhumans pulls the historical inquiry out of the microhistorical level and reveals some of the wider, longer-term processes that have helped shape local events.

Mike Davis' outstanding *Late Victorian Holocausts*, for example, uses local specificity and comparative methodologies to show how similar physical conditions combined with social, political, and economic factors in multiple contexts and produced vastly different results

for humans.²⁴ Whereas El Niño cycles produced decrease rainfall over much of Africa and Southeast Asia during the late nineteenth century, he explains, this led to widespread famine only when combined with colonial policies that set grain prices higher than people could afford, and deliberate mismanagement by colonial leaders intent on extracting profits. Like Mitchell's, Davis' work stands out not only for these sweeping claims but also for the depth of his interdisciplinary research and his careful use of a wide range of evidentiary sources to substantiate new conclusions about a series of seemingly unrelated events around the world.

With regard to commodities, world-systems theory can also benefit from an approach that focuses not on monetary exchanges between global cores and peripheries but on the physical properties of the things moving through transnational networks and the environmental impacts of their extraction, transportation, and consumption. A number of historians, starting with Sidney Mintz's historical inquiry into colonial sugar cultivation, *Sweetness and Power* (1985), have followed the profound social and cultural impacts of single commodities that resulted from the intersection of physical properties and social uses.²⁵ More provocatively, others have used materiality to highlight the ways that "core" nations and regions shift environmental burdens to "extractive peripheries" from which resources and labor are removed. Christian Brannstrom, for example, offers a series of case studies that shows not only how the climate, soil, and practices of Latin American countries both permitted and limited the production of certain export commodities, but how integration of those commodities into the global market came to transform local physical, demographic, and cultural landscapes through changed relations of production and exploitation.²⁶ John Soluri offers a deeply materialist perspective on banana plantations in Honduras, from the ways in which new varieties were marketed and received by foreign consumers to the different repercussions of soil-borne versus airborne banana pathogens on deforestation, indigenous land rights, and labor health.²⁷ Though these authors are fundamentally interested in economic and social histories, the materiality of nature plays a prominent role and highlights the importance of nonhuman actors in the historical narratives.

Nonhumans can also link violent conflicts to economic world-systems in unexpected ways. Economies of scale work in reverse for extractive industries such as mining, for instance, in that the more a resource is extracted, the more difficult, destructive, and expensive it is to extract further units and the more likely contestation of that resource becomes. Consequently, continued or increased global demand for a resource tends to lead to tensions in the local area where the resource is produced, and gives rise to violent or

²⁴ Michael DAVIS, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (London: Verso, 2001).

²⁵ Stephen MINTZ, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Penguin, 1985).

²⁶ Christian BRANNSTROM, *Territories, Commodities and Knowledges: Latin American Environmental History in the Nineteenth and Twentieth Centuries* (Institute of Latin American Studies, 2004).

²⁷ John SOLURI, *Banana Cultures: Agriculture, Consumption, and Environmental Change in Honduras and the United States* (Austin, University of Texas Press, 2005).

political struggles over land and authority.²⁸ Thomas Andrews has conducted analyses of this phenomenon with regard to coal, in which sustained extractive mining led to labor strife and violence.²⁹ Others have gone still further to describe how the physical properties of a specific resource itself can shape human interactions around it. The liquid nature of petroleum and its transport in highly vulnerable pipelines, according to Timothy Mitchell, has fomented oppressive state structures and extractive financial regimes, while economic and political interests strive to crush labor uprisings, nationalizing political movements and any other form of social unrest that could disrupt the flow of oil.³⁰ Likewise Paul Richards, in a site-specific analysis of diamond mining in Sierra Leone, describes how the physical properties of the stones ("a high-value but easily concealed item"), the covert nature of diamond digging operations, and the physical proximity of miners' villages to Revolutionary United Front encampments rendered the resource and the miners vulnerable to exploitation by guerilla fighters seeking to finance a war effort.³¹ In all of these cases, resource extraction in relatively poor regions for the benefit of industrialized cores externalized not only the environmental costs of production but also a wide range of social and cultural costs to the periphery.

Even absent outbreaks of direct violence, the shifting of burdens of production to peripheral regions of the world system has given rise to unequal distribution of environmental degradation, with cores reaping the benefits and peripheries bearing the burdens throughout the globe.³² Pollution and other environmentally destructive activities have also been routinely exported to peripheral regions, while individuals and corporations in the core nations reap the economic benefits. In the late twentieth century, for instance, many environmentally destructive industries physically moved out of the United States into Mexico to take advantage of weaker environmental standards, though corporate executives and shareholders remained overwhelmingly American.³³ This trend holds true on the regional scale, as demonstrated in Cronon's work on Chicago and its hinterland, as well as on the global one. In addition to world-systems theory's emphasis on the redistribution of social and economic burdens, then, environmental historians can add a whole range of globalization's costs to the physical and nonhuman world.

²⁸ A. HORNBERG, J. R. MCNEILL, & J. MARTINEZ-ALIER, eds., *Rethinking Environmental History: World-System History and Global Environmental Change* (Lanham, MD: AltaMira Press, 2007).

²⁹ Thomas ANDREWS, *Killing for Coal: America's deadliest labor war* (Cambridge: Harvard University Press, 2008).

³⁰ Timothy MITCHELL, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2008).

³¹ Paul RICHARDS, "Are 'Forest' Wars in Africa Resource Conflicts? The Case of Sierra Leone," in *Violent Environments*, eds. Nancy LEE PELUSO and Michael WATTS (Ithaca, NY: Cornell University Press, 2001), 73.

³² A. HORNBERG, J. R. MCNEILL, & J. MARTINEZ-ALIER, eds., *Rethinking Environmental History: World-System History and Global Environmental Change* (Lanham, MD: AltaMira Press, 2007).

³³ *Ibid.*

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