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Scott G. Bruce. *Ecologies and Economies in Medieval and Early Modern Europe.* Boston: Brill, 2010. xxii + 233 pp. $138.00 (cloth), ISBN 978-90-04-18007-9.

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The Challenge of Premodern European Environmental History

This collection of essays offers more evidence, if any were needed, for the much-discussed coming of age of the field of environmental history. This is true not only because of the high quality of the essays themselves, but also because this sampling of current research on preindustrial Europe shows how environmental history now reaches well beyond the contemporary and American foci that still characterize much of the work in this field. This collection is a fitting tribute to Richard Hoffmann, who continues to be, as Scott Bruce's preface details, both an innovative pioneer and a generous guide to other explorers of early European environmental history. Along with the preface, a list of contributors, a brief index, and a bibliography of Hoffmann's publications through 2008, this volume contains nine essays.

The first, by Richard Unger, serves as an introduction by putting Hoffmann's work into historiographical context. As Unger notes, Hoffmann's career exemplifies how environmental history began to emerge in the 1970s as a distinct field from heterogeneous roots. Prominent among these roots in the European context were the Annales school's social, economic, and agrarian interests, which clearly influenced Hoffmann's dissertation at Yale (1970) and subsequent prize-winning monograph, *Land, Liberties, and Lordship in the Late Medieval Countryside: Agrarian Structures and Change in the Duchy of Wrocław* (1989). Aside from an early article in 1973 on climate history, it was in the 1980s that Hoffmann turned more fully towards environmental history, as he began an ongoing series of path-breaking articles and books about fishing and aquatic ecosystems in medieval and early modern Europe.

Unger also draws on Hoffmann's work to offer stimulating reflections about the distinctive character of preindustrial or "premodern" environmental history. Here I will mention just two of his key themes, one concerning methodology and the other periodization. First, medieval and early modern environmental historians tend to share, as Bruce remarks of the contributors to this volume, "a broad interdisciplinary methodology" that integrates historical, archeological, and scientific evidence (p. xviii). As Unger notes, however, premodernists' relatively greater need for archeological and paleo-ecological evidence challenges both researchers' skill-sets and readers' comprehension. To confront these challenges, Unger, Hoffmann, and others rightly recommend more interdisciplinary training and collaborative work.

A second major theme is the problematic dichotomy between the modern period that began in ca. 1800 and everything that preceded it, to which Bruce, Unger, and others (myself included) refer with the recently repurposed and now widely used term "premodern." As Unger points out, this dichotomy, however expressed, has long seemed self-evident to environmental historians. When this field was emerging in the postwar period scholars and the broader public alike presumed that ecological concern was a response to, at most, the last two centuries of "rapid industrial and population growth" (p. 4). Although Unger retains the idea of a significant distinction between the pre- and post-1800 periods, he qualifies it by arguing both that the two are not as different as is often assumed, and that study of premodern history offers invaluable long-term perspective on modern times. Thus whereas recent environmental history has tended to focus on dramatic change, the threat of disaster, and irreversible ecological disruption, consideration of preindustrial eras reveals that humans modified their environments over centuries or even millennia, while almost always avoiding catastrophe. As Hoffman has argued, both agricultural exploitation and urban consumption altered preindustrial European ecologies, sometimes on vast scales. While such perspective by no means lessens the acuity of contemporary problems, it shows

that modern industrial change was not introduced into a stable or unspoiled world, as many scholars have imagined.[1]

The remaining eight essays are divided evenly into two parts, the first devoted to agrarian or terrestrial topics, and the second to fishing, rivers, and other aquatic matters. Thus part 2, "Aquatic Ecosystems and Human Economies," has a more obvious thematic unity, one that relates more directly to the work on rivers and fishing for which Hoffmann is now principally known. Yet to my mind part 1, "Premodern People and the Natural World," hangs together even better in terms of the arguments its authors advance. All four of these essays show how complex and sometimes precarious medieval and early modern Europeans' interactions with their agrarian ecosystems were. Three of these four authors argue explicitly for a view that Hoffmann has promoted, that premodern peoples had very sophisticated understandings of and capacities to intervene in their ecosystems. In contrast to an older perspective that saw traditional peasant economies as marked by lack of innovation and stubborn backwardness, these authors and to a degree this volume as a whole emphasize the ingenuity and adaptability of preindustrial farmers, fishers, agronomists, city planners, and others.

However, beyond this emphasis on the theme of adaptability and the use of richly interdisciplinary methods, this collection's range of topics makes it somewhat diffuse. Bruce claims optimistically that medieval and early modern environmental history has recently taken "a coherent shape" (p. xviii), but topically such coherence is not readily evident in this volume, even in its second, aquatically oriented part. This diversity undoubtedly reflects the vigor of the field and Hoffmann's multifaceted influence. But it also reveals the difficulty of defining environmental history more specifically than to say it explores how humans relate to and interact with the natural world. Indeed one might argue that the title phrase *Ecologies and Economies* more accurately represents the book's contents than the subtitle's description of *Studies in Environmental History*, at least if this field is understood to imply some examination of the human impact on the environment. For as Unger notes, some of the essays here, such as William Chester Jordan's study of the Great Famine of 1315-22, do not analyze the environment itself, but rather focus almost exclusively on the human economy and on how it was shaped by natural constraints. Yet such work–I would add here Maryanne Kowaleski's essay on the seasonality of English maritime fishing–is still relevant for the study of the environment.

Paolo Squatriti opens part 1 with a finely contextualized analysis of a charter of 1036 that details highly developed methods of cultivating chestnut trees near Amalfi, in southern Italy. Whereas earlier scholars relegated chestnut arboriculture to various marginal roles, most typically as a way of using less fertile land to produce a "back-up" or poor man's food, Squatriti presents a more positive view. Drawing on pollen studies and archeological evidence, he suggests that chestnut cultivation spread in the early Middle Ages partly as a response to the decline of population, since these trees produce abundant calories for relatively little labor. Yet far from being only a subsistence food for the impoverished, the carefully tended chestnut orchards near Amalfi were prized by aristocrats, who sold their dried nuts in the precocious maritime trade of the Tyrrhenian coast. This intensive arboriculture, which featured grafting and distinctions among several varietals, also reveals sophisticated vernacular knowledge and classification systems. This essay would have been even better if Squatriti had included a map and been able to discuss in greater detail the ecology of chestnut cultivation. What was this tree's range, in terms of altitude, precipitation, and soil, and how did its zones of cultivation fit into the agrarian landscape?

William Chester Jordan's essay on the Great Famine of 1315-22 transports us to a far better documented, but more troubled world. Jordan revisits the topic of his seminal monograph, *The Great Famine* (1996), updating it by analyzing a selection of newly edited primary sources and recent scholarly discussions. Historians' interest in premodern famines and other disasters has burgeoned since the 1990s, because, as Unger points out in the introduction, they provide "valuable knowledge about political and social structures and what people thought of themselves and the way their local societies were organized" (p. 17). Jordan argues that, despite the astonishing severity of this weather-induced famine and its attendant social disruptions, northern Europe soon recovered. Yet this recovery recreated the conditions of "blocage"–overpopulation, limited growth, pressure on common rights, etc.–that had existed before the famine struck. Europe remained vulnerable to powerful exogenous variables, such as the much worse disaster of the Black Death.

The next two essays return to the theme of how preindustrial people, notwithstanding the occasional disaster, creatively shaped their environments. Petra van Dam examines the changing relations between people and rabbits in the highly humanized landscape of coastal Holland between 1400 and 1700. Feral rabbits were first introduced here in the thirteenth century, when their free-

range grazing in the dunes was compatible with that of cattle. This symbiosis declined, however, as drainage canals were dug and the dunes became more intensively exploited for elite residences, market gardens and orchards, and linen-bleaching. Customs evolved to allow elaborate rabbit fencing that enclosed entire village territories with ditches, hedges, and wooden boards sunk into the ground. Rabbit grazing thus modified the "environmental infrastructure" of an entire region. Given the geographical complexity that underpins the analysis, this essay too would have benefited from one or more maps.

Verena Winiwarter's essay makes a strong case for the rehabilitation of premodern agronomical works as historical sources. She focuses on soil fertility, a topic that has been neglected in both agricultural and environmental history, except for work on the rise of modern soil science since the nineteenth century. For premodern times, this neglect extends to most learned discourse about agriculture, because as science developed it privileged experimental over experiential knowledge. Yet this kind of systematic practical learning is a rich source of "traditional ecological knowledge," the study of which offers a counternarrative to the prevailing story of scientific progress since the enlightenment. Ranging widely across agricultural manuals from tenth-century Byzantium and early modern England and Germany, with brief references to ancient and Arabic sources as well, Winiwarter shows that some basic ideas about soil types and methods for improving fertility, including the need to make adjustments for local conditions, were widely shared among agronomical writers.

Part 2 begins with Maryanne Kowaleski's essay, "The Seasonality of Fishing in Medieval Britain," which explores the interaction between fish biology and the human organization of marine fishing in Britain (mostly England). Marine fishing first commercialized on England's east coast, where from the eleventh century local fairs coincided with the fall migrations of herring and cod to their spawning grounds. Only in the late Middle Ages did commercialization spread to western fisheries, where a greater variety of fish and spawning times made seasonality less marked. But over the fifteenth and sixteenth centuries, new methods of preservation allowed mariners to make summer voyages to the distant fisheries of Ireland, Iceland, Greenland, and Newfoundland. Extended absences and high mortality rates affected fishers' families and communities, giving their wives in particular additional responsibility and stress.

Constance Berman reads twelfth- and thirteenth-century charters for the Hospitallers of La Trinquetaille, near Arles in southern France, to reflect on the distinctive environment of the lower Rhône river valley and its delta, the Camargue. She shows that this constantly changing wetland was characterized by an abundance of drainage ditches, levees, salt ponds, abandoned river meanders, and land reclaimed from newly formed islands or riverbanks. More specifically, she argues that two mentions of rents paid in eels, apparently a rarity in southern France, suggest that this marshy estuary was propitious for eels. She also speculates that these waters had been made more favorable for eels, and perhaps even eel farming, by silting and other changes resulting from land clearance, swamp drainage, and vine planting. More evidence is needed, however, to support these conjectures.

Pierre Claude Reynard's essay is the only one in this volume that focuses on an urban environment. He examines several eighteenth-century projects for expanding the city of Lyons beyond its traditional border on the Rhône river. Debates about these proposed expansions pitted those with a more "functionalist" perspective, who drew on new currents of Enlightenment thinking in their desire to rationalize and control urban space, against those with more traditional and "essentialist" views of what Lyon had always been and should remain: a trade emporium defined by its riverine borders. Both innovating planners and their opponents, however, still understood their city as a space that should be enclosed, and both appealed to the Rhône river as a "natural authority" (p. 188). While Reynard emphasizes the cultural dimensions of these debates, the river itself, which is wide, fast-moving, and difficult to control or even bridge, was "both agent and object" (p. 186).

The last essay, Wim Van Neer and Anton Ervynck's study of fish in the Scheldt river of Belgium, also stands out because of its policy orientation and greater use of scientific data. In response to a European Union directive calling for the integrated management of river basins, biologists have sought to define "minimally disturbed" conditions for particular rivers in terms of such indices as the variety and abundance of fish species (p. 195). Given the difficulty of determining what such pristine conditions would look like, they recommend that the relatively well-studied data generated by fishery scientists since about 1840 be supplemented by the study of archeological and premodern historical evidence. Preliminary analysis of such evidence shows that "human interference … started well before 'scientific' times" (p. 204). This interference includes deforestation and silting, dredging, diking, urban organic pollution, metallurgical pollution, overfishing of some species, the introduction of exotic species,

and the intensive farming of carp. Native species that migrate from estuaries or the sea upriver to spawn, like salmon and sturgeon, have been virtually eliminated in many rivers. The authors conclude by calling for more research that integrates different types of evidence and that focuses on areas, like river basins, that have been defined with ecological criteria in mind. Ending with this enthusiastic call for more research, this essay nicely ties together many of this collection's themes. It makes a compelling case for the importance of premodern environmental history.

This volume will appeal to a variety of audiences. For environmental historians of premodern Europe, it offers a convenient survey of the field, appropriate (except for its cost) for graduate and advanced undergraduate teaching. For researchers who specialize in any of its topics, from rabbit grazing to agronomy, fishing, and urban planning, specific essays will have lasting value. More broadly, this book should also be of interest to scholars in related fields of history, culture, and environmental studies who have occasion to reflect on interactions between vulnerable but surprisingly adaptable premodern humans and the natural world.

Note

[1]. In this paragraph I am also drawing on Paolo Squatriti's similar, but more critical reflection on the idea of "premodern" environmental history, in "Introduction: Natures Past and Present Environmental Histories," in *Natures Past: The Environment and Human History*, ed. Paolo Squatriti (Ann Arbor: University of Michigan Press, 2007), 1-15.

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