

Environmental Archaeology: Approaches, Techniques & Applications

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Environmental archaeology concerns itself with the study of the paleoenvironment, or the floral, faunal, and geological assemblage of the human past. It also studies paleoeconomy, or the ways and processes in which humans interacted with and figured in this assemblage. And with this, it reconstructs the physical landscapes in which people lived, hunted, and farmed. It is a broad sub-discipline in archaeology and this book attempts to cover it all. What sets it apart from the previous environmental archaeology literature is that it does this in a rather simple and uncomplicated way easily grasped by anyone (See Butzer 1972, Evans 1978, Butzer 1982, Evans and O'Connor 1998, Dincauze 2000 for some of the preceding literature).

Wilkinson and Steven's *Environmental Archaeology* is divided into six sections. These sections are as follows: "Approaches to environmental archaeology" (Section 1); "Paleoenvironments: the study of the archaeological landscape" (Section 2); "Paleoeconomy: ancient subsistence and production from biological evidence" (Section 3); "Environmental archaeology and ideology" (Section 4); "Environmental archaeology: theory without theorists" (Section 5); and "Planning, interpreting and writing environmental archaeology" (Section 6). In three hundred twenty pages, the authors bring the discipline closer to those who do not have the in-depth understanding of the environmental sciences that scientists like botanists, sedimentologists, and zoologists have. This scheme of division sets it apart from previous literature. Furthermore, the sections are not cut down into the specific and detailed features of environmental science and archaeology like "sediments and soils," "geomorphology," or "climate" (For an example, see Dincauze 2000). Instead, they are expanded from the topic discussions. Some topics are raised as queries; for instance, "What does environment mean?" or "What is a river?" Other topics are presented as big picture scenarios: "Biological evidence for ancient economies" and "Myths, metaphors and natural rhythms." As discussions progress key ideas and features of the discipline are highlighted and explained as concisely as possible. In the context of flowing text this is not just easily read but it is also easily understood.

What is remarkable about this book is its brevity and division of sections. The initial section successfully introduces the broad field of environmental

archaeology in just thirty-two pages. The authors ask what environmental archaeology is, and then proceed to define it. They present the subdivisions of the discipline and its development. As a well-meaning introduction, they define the materials studied by environmental archaeologists in detail as materials are divided into those studied by bioarchaeologists and by geoarchaeologists. Because of this, the authors contrast with Evans (1978) whose concise introductory textbook for environmental archaeology does not fully explain this division of materials. This difference is of course understandable. Evans work is for students of archaeology who are beginning their environmental archaeology courses with a good knowledge of the environmental sciences and its material, while Wilkinson and Stevens target a larger readership—those with a keen interest in environmental archaeology but without a background in the environmental sciences. Subsequently, the section even introduces the general ways in which environmental archaeologists work and is a substantial preparation for a fuller discussion of environmental archaeology in the fifth section of the volume. And though I did not really see the need to discuss ecology and ecosystems as much as paleoecology, the section actually did this. Finally, the authors discuss how ecology and what materials comprise it becomes paleoecology and what processes fashion it.

The sections “Paleoenvironment” and “Paleoeconomy” benefit the readers’ understanding of environmental archaeology. They define and discuss the details of both areas as comprehensively as possible but not as detailed as the more specialized texts. The benefits these discussions offer are not only for the targeted readers but generally also for archaeologists doing this work. Their distinction from each other and its context within the greater discourse of environmental archaeology bear great implication on the criticism that environmental archaeologists receive from mainstream archaeologists. Apparently, these criticisms are real and recognized since the authors present it in the initial section (See also Thomas 1990 for an in-depth reading). In addition, I also think that environmental archaeologists are thought to be environmentally deterministic as regards their interpretation because of the very fact that many highlight their work in reconstructing paleoenvironments and their bias in discussing environmental processes rather than cultural ones. There is no doubt that being equipped with the practical skills and epistemology of the environmental sciences is a prerequisite to doing such work. However, when the paleoeconomic aspect of environmental archaeology is highlighted many may not readily be able to criticize the nature of environmental archaeology as other faculties are called for here. After all, in answering questions of economies, subsistence, and interactions between humans and their physical landscape one cannot discount

the need to also be equipped with the skills and epistemology of a mainstream archaeologist, especially of an anthropological archaeologist, palaeo-economist, or, simply, a sociologist.

Section 4 is a rather novel feature for a book of this discipline as few of the previous and similar literature actually have a section dedicated to these discussions. These are, as the authors put, "alternative explanations for biological data that are conventionally interpreted in a functionalist economic manner, namely the vexed subject of ancient ritual." And for this matter, this section also counters criticism that environmental archaeologists are naïve in their interpretations. The authors show that this is not the case. I took note that both authors were environmental archaeologists in every sense. Still, both, especially Chris Stevens, who wrote the section, exhibit more than ample knowledge of the ideological world that bears on the physicality of the landscape. I further noted that the presentations and discussions do not revolve generally on ideology, but rather, they touch on specific topics and issues like natural spirits, gods in the environment, myths, metaphors, natural rhythms, offerings and celebrations to gods, and, and, surprisingly, consuming/consumerist ideologies.

Section 5 presents the theoretical aspects, debates, and future directions of environmental archaeology in the wider perspective of archaeology and environmental science. This shows all the more that environmental archaeologists are not just methods people reconstructing prehistoric landscapes, or that the reconstruction of paleoenvironments and paleoeconomies is a task that is fully dependent on the empirical data recovered and generated by environmental scientists. However, many scholars and researchers within this realm of work know all too well that the physical reconstruction of the past is not exclusively confined to environmental archaeology. Geologists, geographers, climatologists, and even general ecologists are very much involved in such work. The fact remains that it is almost difficult to do environmental research within a human timescale without considering the human, or even homo species in the general picture of things. Unfortunately, such debates and issues are not much considered in the environmental science of these other disciplines. Unlike archaeology, theirs is not the business of the human past, which is why texts such as Michael Walker's *Reconstructing Quaternary Environments* (1997) was written for geographers. However, apart from their own discipline, their published researches cannot be denied a place in the discourse of environmental archaeology. That is especially true since these scientists are very well-grounded in the scientific analysis, methods, and interpretation aspect of the environment, a quality that is rather admired by many hardcore science people. Thus, such researches can innocently open up environmental archaeology to criticism and contempt from the more mainstream

and traditional archaeologists. As an example, whenever I leaf through the pages of *Geoarchaeology*, an international journal, where many of the contributors and even referees are not archaeologists, but rather geographers and geologists, I see the point of many mainstream archaeologists who feel the need to abolish the discipline and maintain a pure archaeology where there are only archaeologists who specialize in the analysis of, for example, mollusks, stone tools, plants, and the like. Indeed, many articles published in *Geoarchaeology* reflect good science. However, I also believe that many do not reflect the real culture that once painted the landscape. For this reason, this section is one of the more important sections in this book. Suffice it to say that I wouldn't have minded reading a longer section on this topic from the authors. However, I see that a good range of issues like the middle-range theory in environmental archaeology, human ecology and agency, as well as the nature of science in environmental archaeology have well been covered, even if only as introductions for the targeted readers.

Finally, and as a point to confirm the text's distinctiveness, the sixth section is a "how to" on planning, interpreting, and especially writing environmental archaeology. As reflected in the list of references used for this section, a great deal of which are reports and case studies, it is clear that Wilkinson and Steven's *Environmental Archaeology* is probably the first to articulate these important processes in doing environmental archaeology. And as much as this may be covered in a number of courses in environmental archaeology around the world, the authors' articulation of these may mean that no standard has yet been achieved to do such work. Reading on and applying these would be a good point to start with in actual environmental archaeology to generally see if, indeed, such standards may be achieved.

The use of tables to present a suite of inter-related data in the sections is also commendable because these aid in understanding the text. Ninety-six of them, minus tables, were included in the book. Though this number a bit scanty for a publication of this sort, they remain very informative and appealing as the illustrations were digitally produced. I can only assume that the authors also provided these illustrations, apart from the text. As such, I see the comfort that these scientists have with new technology. This reflects a lot about the future directions that such disciplines will take, especially with people like these at the helm. Many of us readers, whether coming archaeology or not, will have many more similar literature to look forward to.

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