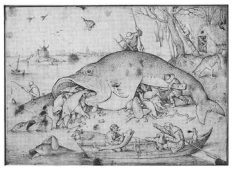
Review article

Historical ecology and archaeology in theory and practice

Peter W. Stahl*

Carole Crumley, Tommy Lennartsson & Anna Westin (ed.). 2018. *Issues and concepts in historical ecology: the past and future of landscapes and regions*. Cambridge: Cambridge University Press; 978-1-108-42098-3 £49.99.

Peter E. Siegel (ed.). 2018. *Island historical ecology: socionatural landscapes of the Eastern and Southern Caribbean*. New York: Berghahn; 978-1-78533-763-5 £92.



Although historical ecology has become a highly popular framework for contemporary archaeological research, archaeologists have always, in some form or another, been engaged with its study. Historical ecology and archaeology are inseparable; the techniques and methods of the latter are essential for accessing the deep time of human-environmental relationships, while interest in the former is implicated, whether explicitly or not, in all empirical, field-based archaeology. Two recent edited compilations, bringing together authors from a range of disciplines with a common interest in historical ecology, contribute significant theoretical and practical insights related to its study for archaeologists.

Issues and concepts in historical ecology presents 10 chapters originating from a three-day workshop held by the Swedish Centre for Biodiversity in 2013. Organised around problematic areas encountered in the practice of historical ecology (long-term history of human-environmental relationships, concepts and methods, and guidance from extant communities for better situating historical ecology), the chapters raise a number of key issues. A central theme connecting many of the chapters involves scalar perspectives of time and space. The dynamic relationship between humans and their landscapes is recursive and historically contingent, and therefore temporally and spatially variable. Events that can guide future directions regularly occur on different scales along continua from shorter to longer temporal phenomena, and in localised to pan-regional spatial contexts. Minimally, this has a confounding effect on any investigation of causality, and is a recurrent problem also encountered by archaeologists who regularly investigate time-averaged palimpsest assemblages. Various chapters visit issues of scale, whether through concepts of non-linearity and understanding complex systems incorporating multi-agency, contingency, contextual influence and the emergence of novelty (Chapter 2); via scalar differences between 'weather' and 'climate', and frequencies of repetitive events as important causal phenomena (Chapter 3); or, through spatial changes involving historical interactions between local and pan-regional contexts over time (Chapters 4 & 7).

Scalar issues are also involved in key concepts such as sustainability, baseline data and the notion of tradition. Sustainability can be a relative concept dependent upon temporal and spatial scales. For example, subsistence intensification can be viewed along a continuum as highly sustainable in specific locations at certain points in time, to catastrophic at larger spatial scales over longer periods of time. Extensive subsistence strategies may be heralded as examples of traditional sustainability in specific areas, yet may be the outcomes of recent historical events affecting displacement and demographic change. So-called 'marginal areas' are often recognised as persistent repositories of subsistence diversity and important areas for understanding resilience (Chapters 3 & 7), yet marginality is a relative concept strongly affected by historical contingency. Why are they marginal, to what, when and to whom? We are rightfully reminded that the baselines we seek are socially constructed and never objective (Chapter 5). Landscapes change in time and space,

* *Department of Anthropology, University of Victoria, Cornett Buidling, P.O. Box 1700 STN CSC, Victoria BC V8W 2Y2, Canada (Email: pstahl@uvic.ca)*

© Antiquity Publications Ltd, 2018
ANTIQUITY 92 366 (2018): 1677–1679 https://doi.org/10.15184/aqy.2018.238

Review

https://doi.org/10.15184/aqy.2018.238 Published online by Cambridge University Press

and, over time, the latest in a series of cultural landscapes can come to be perceived as the norm, especially in areas such as the Western hemisphere where large swathes of collective memory were obliterated. This might also explain the interest in marginal areas. Prime central real estate, potentially attractive because it required less need for resilient responses, was often historically usurped as vanquished others were dispersed into marginality, where greater resilience was necessary for survival. This also raises the important issue of how to define the 'traditional', a vague concept at best (Chapter 9). Contemporary cultures are similar to landscapes and archaeological sites in that they are themselves historical palimpsests created by longer-term, contingent conditions. Traditional ecological knowledge (TEK) is an adaptation to current, and not necessarily past, conditions.

A recurrent theme in the collection emphasises the fundamentally inter- and/or multi-disciplinary practice of historical ecology. This is well suited to archaeology, which is also fundamentally multi-disciplinary. We are urged, however, to transcend this and become transdisciplinary; instead of applying natural-historical perspectives on cultural phenomena, or cultural-historical perspectives on natural phenomena, we should seek explanatory potential from entangled cultural-environmental interactions (Chapters 6, 8, 9). The editors advocate that an historical source for current biodiversity can be understood through understanding the causal link between ecosystem formation and human action (Chapter 9). This can be fruitfully explored in TEK, as has been done for over a generation in the Neotropics, especially the Amazon Basin, where indigenous agroecologies are studied to understand the creation, maintenance and augmentation of biodiversity. When the editors ask, however, whether we can apply insights from historical ecology into the present and future, we have to be constantly aware of the possibility of circular reasoning, as all archaeological and retrodictive scientific interpretation is linked to the present through inferences based on analogy. Nonetheless, as volume editor Carole Crumley mentions in a concluding chapter (10), old things can be important and, employing a nice turn of phrase, adds that "the first thing to bring with us into the future should be a guidebook for the territory that has already been charted" (p. 299).

Island historical ecology shifts our focus on historical ecology to its empirical practice, undertaken with the tools of archaeological techniques and methods. Islands have long been important to science, particularly for the potential clarity that they can provide by coupling the appearance of humans with subsequent landscape modifications, especially through what they introduce and how they affect endemic insular biota. The chosen island archipelago in this study is the Lesser Antilles of the Eastern and Southern Caribbean. Here, human history and landscape creation along a string of islands encompassing a range of environmental variability can be traced over the course of 8000 years. The presentation is divided into three parts: 1) four chapters discussing the theoretical background for human colonisation, comparative perspectives on island colonisation, West Indian culture-history and the methods used for collecting independent proxies for interpreting anthropogenic change; 2) nine chapters presenting standardised island-by-island case studies in order to facilitate inter-island comparison; and 3) two chapters synthesising results and contributions to Caribbean archaeology and historical ecology, and a look to future directions.

Prior to the arrival of Europeans, the Caribbean islands were one of the latest areas in the Western hemisphere to have been colonised by humans. Island heterogeneity and often fragile insular ecosystems offer challenges for colonising humans, which is further exacerbated by their isolation from continental homelands. The West Indies are also variably prone to longer-term climatic fluctuations such as droughts and shorter-term catastrophic events like volcanic eruptions, hurricanes and tsunamis. Current data suggest that human colonisation was undertaken possibly by 6000 BC on islands that had not been connected to the South American mainland after the Pleistocene. This provides archaeologists with the possibility for sampling a long temporal span of history pre-dating initial occupation and continuing through early peopling and subsequent developments up to the arrival of Columbus. The archaeological technique of choice involves sampling cores from contexts chosen for their good preservation potential on nine islands in order to collect stratigraphically ordered and dated independent proxies including plant microfossils (pollen, phytoliths, particulate charcoal) and sediment chemistry (Chapters 1–4).

Chapters 5–13 present the project's core empirical data in a standardised and geographically sequenced presentation. Separate chapters describe each island's known culture-history, physiography, geology, climate, vegetation and soils. The locations and rationale for choosing specific study sites, along with data

© Antiquity Publications Ltd, 2018

https://doi.org/10.15184/aqy.2018.238 Published online by Cambridge University Press

recovered through the use of a modified Livingston rod-piston corer are detailed. Text is aided by numerous tables and graphs in a clear presentation of stratigraphically sequenced radiocarbon age estimations, sediment descriptions, including rates and chemistry, pollen percentages, phytoliths, particulate charcoal and occasionally recovered shell and ceramic specimens. The presentation begins with Trinidad (seven core samples), the "likely first stepping stone" for humans into the Caribbean, and proceeds serially with standardised presentations for Grenada (two core samples), Curaçao (two core samples), Barbados (one core sample), Martinique (two core samples), Marie-Galante (one core sample), Antigua (five core samples), Barbuda (two core samples) and St Croix (three core samples). Attention is paid to proxy environmental disturbance indicators used to interpret landscape modification through time and space, followed by synthetic discussion for each island location.

In a closing synthesis of *Island historical ecology* (Chapter 14), editor Peter Siegel considers the archipelago as a superhighway through which biota, including humans, were introduced into the Caribbean. Compared to continental riverine avenues in the Amazon and Orinoco basins, however, this corridor might have been more akin to an adventurous trip along a country lane. Nevertheless, the project admirably approaches historical ecology at various spatial and temporal scales, and its robustly integrated multidisciplinary research reveals the sustained presence of Archaic populations and early landscape manipulations since about 5000 BC. Final words provided by discussant John Cherry (Chapter 15) include an excellent review of problems associated with disentangling cultural and natural disturbances, particularly through fire proxies, and a caution that the effects of irregular volcanic eruptions, common to the area, are pan-island phenomena. Regardless, pre-Columbian landscape modification through time and space is visible through the interpretation of proxies recovered in core data, including charcoal, economically useful plants, disturbance indicators and sediment chemistry. Future directions might incorporate expanded multidisciplinary collaboration throughout the Caribbean, which has the potential to become transdisciplinary.

Island historical ecology summarises the activities and results of an exceptionally well-conceived and -executed multi-disciplinary project focused on the archaeological practice of historical ecology. Its geographic locations, techniques and methods provide the sort of temporal and spatial resolution required to contribute an empirically based understanding of human colonisation histories and anthropogenic landscape formation through time. One could quarrel with aspects of data interpretation. Cumulative amounts of examined soil are miniscule, especially after microfossil extraction from tiny core samples produces even tinier samples. Site selection is not random, but based upon logistical constraints and the need to locate accessible areas where the possibility of specimen preservation is promising. The validity and reliability of the proxy data for inference building, and how they are interpreted, can always be questioned. This is, however, the nature of our craft. We regularly deal with samples and differential preservation. We judiciously choose on-site and off-site locations for excavation. We constantly refine our methodological tool kits and bolster our interpretations through the use of multiple and corroborating datasets. Regardless of any possible reservations, this project is a stellar contribution to our understanding of poorly known times and places in the last region of the Western hemisphere to have been colonised by humans. Its multi-disciplinary rigour, recovery of multiple datasets in clear temporal and spatial contexts, and problem-oriented focus provide a major empirical contribution to historical ecology, and offer fertile ground for future research.

On a final note, as an archaeologist primarily interested in the pre-Columbian Neotropics, these contributions remind me of a significant difference between our allied interests in either hemisphere. The contributions in *Issues and concepts in historical ecology* focus mainly on Europe, especially Sweden and Romania, with some attention to Africa. Most of the volume's contributors are based in Europe, where cultural continuity through time is articulated with resident populations, historical actions of humans in local and regional landscapes are acknowledged and traditional expertise and history are valued. Indeed, the Swedish Parliament tasked the Centre for Biodiversity to create a management and policy structure for the country. Most contributors to *Island historical ecology* are based in the USA and regularly deal with contexts that are underappreciated or not even acknowledged, reflecting the tragic historic truncation of indigenous cultures and subsequent colonisation by others. Here, archaeologists operate in contexts where public interest in the past is less nuanced, and often engage in recovering empirical evidence to demonstrate that pre-Columbian history was not the result of ancient aliens or civilising elements from across the oceans, but the deep legacy of indigenous culture. It is time we caught up.

© Antiquity Publications Ltd, 2018

https://doi.org/10.15184/aqy.2018.238 Published online by Cambridge University Press