

Bay. Most students of archaeology learn about the pioneer methodological approaches developed at this and other San Francisco Bay region shell mounds by Max Uhle and Nels Nelson. California archaeology has continued to innovate and influence over the last century despite its lack of many well-known sites. The recent volume by Terry L. Jones and Brian F. Coddling, *Foragers on America's Western Edge: The Archaeology of California's Pecho Coast*, offers a modern example of coastal California archaeology applicable to archaeologists practicing anywhere.

The volume reports on 13 years of research by Jones and his students at California Polytechnic State University, San Luis Obispo, along the rugged 20 km Pecho Coast in central California. It was occupied by the northernmost Chumash cultural groups, fairly far from the Channel Islands, which have received far more attention from ethnohistorians and archaeologists. The authors supplement their own investigations with data and interpretations from a major CRM project initiated in 1968 by Roberta Greenwood at the Diablo Canyon Nuclear Power Plant. The investigations at Pecho span 10,000 years of hunter-gather adaptations, including responses to climatic change such as the Medieval Climatic Anomaly, anthropogenic changes to the environment, and the impact of Spanish contact during the mission era. It is certainly the most authoritative project in central coastal California to date and provides innovative and cogent analytical discussions of the most common types of ecofacts and artifacts encountered throughout the west coast. All scholars of the archaeology of North America's west coast will want to have this reference at hand, especially when they are grappling with midden analyses.

The remainder of this review will focus on three major contributions made by the volume for those who are not particularly interested in California culture history. First, the study is a template of how to design, implement, analyze, and publish a long-term archaeological study following current professional modes and standards. This would particularly benefit advanced graduate students and other early career professionals in the midst of designing their own projects. It is an outstanding example of a modern archaeological monograph with clear and efficient presentation of background, methods, results, and significance. The authors have mastered the nuts and bolts of reporting archaeology: laying out chronology, line drawings, data tables, maps, and the design of appendices. One minor quibble would be the lack of color photographs.

A second reason this volume has broad appeal is the rigorous analytical methodology brought to bear on the past 10 millennia along the Pecho Coast. It would most benefit archaeologists studying hunter-

gatherer societies and coastal adaptations. Many would profit from what I consider to be a textbook example of the diet breadth model and techniques for calculating resource post-encounter profitability and resource encounter rates for marine (shoreline/intertidal, offshore, and deep-water) and terrestrial patches. Shellfish and other faunal data are investigated synchronically and diachronically through a series of tables and regression analyses that allow clear identification of changes within and across the resources of each patch. It is in short a recipe for how to do shell midden analysis—a modern California lesson building on the legacies of Uhle and Nelson.

The Pecho Coast project is also a model for what many academic archaeologists may and perhaps should try to achieve. The research was conducted by undergraduate students enrolled in field and laboratory classes rather than traditional summer field schools. Jones designed a project close to campus that built on existing CRM work in the region. Over the *longue durée* of classes (lab in fall and winter, field in spring) his students compiled the data. This has had the added benefit of producing outstanding undergraduates who have become colleagues, as is the case with Coddling. It also trained a new cadre of folks for the CRM industry. While most of the students involved did not become professional archaeologists, there can be little doubt that they benefited in diverse ways and add considerably to the ranks of public supporters of the worthiness of archaeology. Archaeologists at academic institutions faced with their own low resource encounter rates (funding, space, equipment, time, relevance) would be well advised to follow this efficient and productive example of the teacher-scholar approach.

Global Perspectives on Long Term Community Resource Management. LUDOMIR R. LOZNY and THOMAS H. MCGOVERN, editors. 2019. Springer, New York. x + 309 pp. \$119.00 (hardcover), ISBN 978-3-030-15799-9.

Reviewed by Lucas C. Kellett, University of Maine at Farmington

This volume offers a compelling interdisciplinary assessment of how prehistoric and modern indigenous societies have managed common pool resources in a multitude of successful (and not so successful) ways. In particular, the authors challenge Garret Hardin's argument in "The Tragedy of the Commons" (*Science* 162:1243–1248, 1968), which asserts that, without centralized management (e.g., elite decision making, government), the commons

will be overused and degraded through the accumulation of unsustainable individual actions. Using a range of prehistoric, historic, and contemporary case studies, the volume continues Elinor Ostrom's 1990 landmark revision of Hardin's thesis (*Governing the Commons: The Evolution of Institutions for Collective Action*), showing that communities have long conceived and undertaken effective ways to organize collectively and manage common property and common pool resources.

The introductory chapter offers a refreshing dose of optimism by stating that the volume highlights the "joy of the commons" (rather than the dimmer view of the "tragedy of the commons"), an approach that outlines how generosity and cooperation form the basis of collective action to mitigate risk and sustain community well-being. James Acheson offers an important theoretical chapter to guide much of the rest of the book. He uses case studies from Maine (e.g., common forest lands, common marine resources such as lobster) to connect classic economic theory to new conceptions of common property, which is defined by the difficulty of exclusion (of others) and subtractability (of resources). Michael Dove and coauthors continue this thread by highlighting the difficulty of defining the commons, especially when applied across diverse case studies. Especially compelling was their discussion of how the commons is defined by the socially constructed community and how, for example, class and identity distinctions (e.g., *tompon-tany* women in Madagascar) can translate into asymmetrical access to common resources. Their diverse case studies show how natural resource management of common pool resources is mediated by a web of cultural factors and power structures associated with city, state, national, private, and scientific institutions. A similar cross-cultural analysis is presented by Lee Cronk and colleagues with the Human Generosity Project, who highlight how risk management at its heart is a social and cooperative enterprise. In particular, they show how risk pooling can be exercised via need-based transfers to allow for social groups to absorb economic uncertainty in myriad, flexible ways.

The next two chapters—by Ragnhildur Sigurðardóttir and coauthors and by Ludomir Lozny—offer two excellent applications of interdisciplinary research of the commons over time and space. The former provides a fascinating study linking mythology, climate science, history, and archaeology in the Mývatn Basin of northern Iceland. The authors chronicle the sustainable nature of floodplain management of the *Framengjar* wetland since the first period of colonization (*Landnám*). In the latter chapter, Lozny offers a related study but from the Pyrenees of southern Europe, where he finds that sheep and cattle pastoralists in the upper mountain

valleys were able to manage these commons through a dialectic of cooperation and conflict dynamics.

Chapters by Tobias Haller and coauthors and by Mark Moritz and colleagues present anthropological research from across the continent of Africa. The former takes on the process of modern land grabs by multinational companies (facilitated by government entities) that look to privatize traditional common land for large-scale economic development; the latter highlights how pastoralists in Chad have designed an open access and communally managed system to oversee sustainable grazing practices.

The last four chapters of the volume focus on archaeological case studies, but only two directly address the issue of the commons. Frank Thomas employs a behavioral ecology approach to understand pre-European mollusk-harvesting patterns in Kiribati: he finds mixed results, with some negative (i.e., extinction of giant clams) and positive (i.e., management of mollusk "gardens") outcomes of indigenous resource management. Equally interesting was Michael Aiuvalasit's geoarchaeological analysis of anthropogenic water features in the precontact/contact period uplands of New Mexico, where he argues that the development of these common pool resources can co-occur, precede, or follow periods of drought, settlement formation, or both, as well as contribute to fragilities in other resource areas.

The volume's massive temporal and geographic scope is both its strength and part of its weakness. Lozny and McGovern ambitiously survey research on the commons from so many fields and perspectives that at times it felt hard to connect all the chapters. Yet, the volume offers a valuable "all hands on deck" transdisciplinary research approach, which can integrate traditional ecological/indigenous knowledge to tackle our earlier and ongoing challenges to effectively manage our common land and common resources on an already overexploited planet.

The Burial Record of Prehistoric Liangshan in Southwest China: Graves as Composite Objects. ANKE HEIN. 2017. Springer, New York. xv + 534 pp. \$139.99 (hardcover), ISBN 978-3-319-42383-8.

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Anke Hein's study of prehistoric burials in the Liangshan region of southwest China offers archaeologists an innovative analytical approach to studying the mortuary record. Hein skillfully emphasizes how human behaviors and actions at multiple points in time and space produce burial assemblages that can be