

Book Reviews

PREHISTORIC LIFEWAYS IN THE GREAT BASIN WETLANDS: BIOARCHAEOLOGICAL RECONSTRUCTION AND INTERPRETATION. Edited by Brian E. Hemphill and Clark Spencer Larsen. Salt Lake City: University of Utah Press. 1999. 394 pp. ISBN 0-87480-603-8. \$45.00 (cloth).

Until recently, bioarchaeological research in the American Great Basin has been hampered by the lack of well-documented human skeletal remains. However, during the 1980s, flooding in the Great Basin resulted in soil erosion and exposure of numerous human burials as water levels retreated. The availability of these new human remains and the fear of losing them to collectors and destructive taphonomic processes encouraged federal, state, and tribal authorities to oversee their collection and analysis. As a result, the number of Great Basin skeletal remains available to researchers nearly doubled in the Great Lakes (Utah), Stillwater Marsh (Nevada), and Malheur Lake (Oregon) regions, and *Prehistoric Lifeways in the Great Basin Wetlands* is the collective result of bioarchaeological analyses on these newly uncovered human burials.

Prehistoric Lifeways in the Great Basin Wetlands is a collection of research papers presented in a symposium at the 1994 meeting of the Society for American Archaeology by archaeologists and physical anthropologists working independently in the Great Salt Lake, Stillwater Marsh, and Malheur Lake regions. Chapters in this book examine the origins, biological history, diet, general health, and adaptive strategies of the prehistoric peoples from these three regions of the Great Basin, and a common theme in most chapters is how these prehistoric peoples utilized the wetlands. As R.L. Bettinger put it in his summary chapter, the research focuses on “Who were they?”, “What did they eat?”, and “Do marshes bring happiness?” (p. 321).

The book begins with a Foreword by David Hurst Thomas, followed by 15 chapters divided into six parts. The first section (chapters 1–2) contains an introduction to the volume by B.E. Hemphill and C.S. Larsen, and a discussion of repatriation issues by S.R. Simms and A.W. Raymond. The second part (chapters 3–6) covers the bioarchaeology of the Great Salt Lake region, and the third (chapters 7–10) deals with the Stillwater Marsh area. These latter two parts are generally organized into four chapters: 1) archaeological overview, 2) dietary reconstruction, 3) population history, and 4) osteological indicators of stress. The Malheur Lake region is discussed in the fourth subdivision (chapters 11–13).

This also begins with an archaeological overview, followed by an assessment of osteological stress indicators, but does not include chapters on diet or population history. Instead, B.E. Hemphill compares the mobility patterns of inhabitants of the Malheur Lake region to those of the Stillwater Marsh and Georgia coast. The fifth part of the book consists of a single chapter by C.B. Ruff, who addresses activity patterns as reconstructed from long bone cross-sectional geometry. In the final section, R.L. Bettinger presents a discussion of the bioarchaeological research and an overview of the lifeways of the prehistoric peoples who inhabited the Great Basin wetlands.

As anyone who studies archaeologically derived human remains from North America knows, scientific goals can often be in direct conflict with those of American Indians. In the first part of the book, S.R. Simms and A.W. Raymond discuss the issues surrounding the reburial of human remains from the Great Basin, and the difficulties and rewards anthropologists encounter when working with federal, state, and Native American authorities on issues regarding human remains and archaeological artifacts. In this chapter, Simms and Raymond strongly and splendidly argue that no one has the right to own the past, but rather we are obligated to hold the remains in guardianship. The authors contend that the fallacy of reburial laws such as NAGPRA are they have the “underlying assumption that archaeological human remains are ‘property’” (p. 17) and “if we simply rebury without study, and with no provision for access to those remains in the future, we have succumbed to ownership” (p. 19). Simms and Raymond pronounce that reburial issues should be handled at a local level among interested parties.

S.R. Simms, R.L. Kelly, and A.C. Oetting provide archaeological overviews for the Great Salt Lake region, Stillwater Marsh, and Malheur Lake region, respectively. All three authors address in some depth the adaptive strategies and mobility patterns of the Great Basin populations.

Two chapters explore the diet of Great Basin wetland inhabitants, using stable isotopes. J.B. Coltrain and T.W. Stafford show that in the Great Salt Lakes region, dietary diversity decreased significantly after AD 1150 as the Fremont peoples abandoned agricultural practices and concentrated on foraging. There may have also been sex differences in diet prior to AD 1150, with males consuming more varieties of foods. By reconstructing the diet of peoples in the Stillwater Marsh area, M.J. Schoeninger was able to demonstrate that the marsh provided adequate food supplies, and the increased population density in the Carson Desert was not due to people following the spread of piñon.

Molecular data are examined by D.H. O'Rourke et al. for the Great Salt Lake region and by F.A. Kaestle et al. for the Stillwater Marsh. O'Rourke et al. investigated temporal trends in the distribution of mitochondrial DNA markers and concluded that the data best support "a polymorphic and continuous population base occupying much of the eastern margin of the prehistoric Great Salt Lake" (p. 95). Kaestle et al., on the other hand, use mitochondrial haplotype groups and albumin allele frequencies to test the Numic expansion hypothesis, which contends that Numic-speaking peoples spread into the eastern Great Basin after 650 BP. They conclude that the Stillwater Marsh population is probably not ancestral to the Numic-speaking peoples who inhabited the Great Basin at contact, but may be ancestral to Northern Hokan or California Penutian.

Osteological indicators of stress are examined by J.R. Bright and C.J. Loveland for the Great Salt Lake wetlands and by Larsen and Hutchison for the Stillwater sample in order to gain an understanding of the general health and lifestyle of the prehistoric Great Basin peoples. In general, it appears that the Great Basin peoples were extremely healthy but led laborious lives. Bright and Loveland attribute the overall health of the Great Salt Lake populations to an adaptive strategy that shifted back and forth from foraging to agriculture.

Osteological evidence of activity behavior is directly investigated by Hemphill using osteoarthritis prevalence, and by Ruff using long bone cross-sectional geometry. Most interesting to me is Ruff's conclusion "that geographical terrain is the most

critical factor determining relative structural strength of the lower limb" (p. 320). Ruff bases this conclusion on a comparison of the mountainous groups (i.e., Great Basin and Pecos) to the Georgia coast and Great Plains groups. Mountainous groups differ significantly from groups in the other regions, but Georgia coast and Great Plains groups do not differ significantly.

I commend Hemphill and Larsen for bringing together this volume. *Prehistoric Lifeways in the Great Basin Wetlands* is definitely a welcome and needed addition to the Great Basin prehistory literature. This volume does what it set out to do, and that is to show the diversity of Great Basin adaptations and how effectively the prehistoric inhabitants utilized the wetland environment. The chapters in this volume are a little repetitious and do not cover the complete range of bioarchaeological analyses, but they clearly demonstrate how important it is to conduct bioarchaeological analyses if we truly want to understand the lifeways of prehistoric peoples. I recommend that any professional anthropologists interested in the Great Basin buy this book and urge their library to buy it so that it is available to students.

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CHIMPANZEE AND RED COLOBUS. THE ECOLOGY OF PREDATOR AND PREY. By Craig B. Stanford. Cambridge, MA: Harvard University Press. 1998. 296 pp. ISBN 0-674-00722-0. \$20.00 (paper).

Few topics generate more debate than the role predation plays in the evolution of primate social evolution and behavior. While some argue that predation represents a major selective factor, others minimize its impact. The paucity of direct observations of predatory events in the wild fuels this debate, but arises naturally because kills are made infrequently by shy and difficult-to-observe predators. Given these circumstances, studies of predators themselves rather than their primate prey have provided the best information on predation. Field observations of primates who prey on others have been especially illuminating in this regard. In *Chimpanzee and Red Colobus*, Craig Stanford takes advantage of the long-term field research on chimpanzee predators conducted at the Gombe National Park by Jane Goodall and colleagues. He combines these observations with data on red colobus prey

recorded during 21 months of study over 5 years. The result is a comprehensive picture of predation in a wild population of primates.

The first chapter outlines the three major questions addressed in this book. How do red colobus respond to chimpanzee predation? Does chimpanzee predation have a measurable impact on red colobus populations? What factors influence chimpanzee hunting? Chapters 2, 3, and 5 supply the necessary background to investigate these questions by reviewing the Gombe study site, field methods, and the behavior of chimpanzees and red colobus monkeys. Chapter 4, "Chimpanzees as Predators," provides descriptive data on chimpanzee predation, including prey choice, hunting success, and temporal variation in hunting. Here we learn that the Gombe chimpanzees prey selectively on the young of red colobus. Adult males are responsible for most kills. Chimpanzees are extraordinarily successful predators, making captures in over half of all hunting attempts. Although chimpanzees typically hunt in groups, there is considerable interindividual variation in hunting success: some males are quite successful, while others are not. Hunts do not occur

uniformly over time. Long-term data indicate that at Gombe, hunting takes place primarily between the dry-season months of July and October. Occasional binges erupt during which hunting escalates to a point where chimpanzees are pursuing red colobus prey once every other day.

Chapter 6, "Before the Attack," examines some of the adaptations red colobus have evolved to reduce their vulnerability to chimpanzee predation. Here Stanford shows that chimpanzees attack large groups of monkeys more frequently than small groups. Members of large groups appear to be more vigilant than individuals in small groups. Red colobus do not initiate or maintain associations with other monkeys, but scan more frequently when in such associations than when alone. All of these findings run counter to predictions derived from conventional theory. Theory predicts and observations from other empirical studies show that individuals in large groups gain predator detection and deterrence advantages and are thus more effective in reducing predation than are monkeys in small groups. The mismatch between theory and observation remains curiously unexplored by Stanford. Instead, he notes that adult red colobus prey at Gombe respond adaptively to the threat of chimpanzee predation by decreasing their nearest-neighbor distances to conspecifics. Nearest-neighbor distances average about 1 m in the presence of chimpanzees, while these distances average about 2 m when chimpanzees are absent. Although this difference is reported as statistically significant, it is difficult to understand how reducing one's distance to neighbors by 1 m actually deters predation. The next chapter moves from evolutionary adaptations to the proximate behaviors adopted by red colobus to reduce predation risk. Here we are given a detailed description of the events surrounding hunts and red colobus anti-predator behavior, including alarm calling and mobbing by adult male red colobus.

The following two chapters address the impact of predation on the red colobus population and the factors that influence hunting by chimpanzees. Chapter 8 outlines some posited effects of chimpanzee predation on red colobus life history. Here the author suggests that female colobus at Gombe experience short gestation lengths and interbirth intervals. In areas where chimpanzee predation is severe, red colobus groups are reported as small, with few immatures. Finally, comparisons across populations indicate that red colobus groups are small, with few adult males at sites where chimpanzees are absent. Where chimpanzees are present, red colobus groups are large, with relatively few juveniles. While Stanford offers these observations as compelling examples of the strong impact of chimpanzee predation on

red colobus prey, small sample sizes temper most of these conclusions.

Chapter 9 takes up the fascinating question of why chimpanzees hunt. Stanford suggests that several ecological, nutritional, and social factors are involved. Chimpanzees and red colobus monkeys share some food resources, and hunting may occur simply when specific trees attract both predators and prey to the same areas. While this hypothesis proposes that favorable ecological conditions facilitate hunting, other hypotheses stress its obligatory nature. For example, one hypothesis suggests that chimpanzees hunt because they are hungry; hunting occurs when plant food scarcity leads to nutritional shortfalls. Alternatively, hunting may be implemented in chimpanzee mating and social strategies. Male chimpanzees at Gombe have been proposed to swap the meat they procure with estrous females from whom they obtain matings. In addition, males may be motivated to obtain meat so that they can share it with others to develop and maintain social alliances. Throughout his discussion, Stanford is careful to emphasize that no single factor is likely to explain why chimpanzees hunt. Nevertheless, he does speculate that social factors, especially the use of meat to gain mating access to estrous females, have been underestimated as causal explanations. Speculations such as this underscore the need for more data. Detailed observations of feeding behavior, food availability, and meat sharing, though clearly warranted, are not presented to assess any of the proposed hypotheses critically.

The penultimate chapter reviews comparative evidence and argues that male primates form social groups to protect themselves and others against the constant threat of predation. The book closes with a summary of findings and conclusions. To what extent do these findings pass careful scrutiny? Some readers will be disappointed by the lack of rigorous tests of hypotheses. For them and others familiar with the current literature, this paperback reissue of a book originally published in 1998 will already show its age. The book will nonetheless be welcomed by those who seek a general description and overview of a model predator-prey system. Though it may not provide all of the answers, *Chimpanzee and Red Colobus* certainly highlights the significant questions and points the way to understanding.

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WHAT IT MEANS TO BE 98% CHIMPANZEE: APES, PEOPLE, AND THEIR GENES. By Jonathan Marks. Berkeley: University of California Press. 2002. 312 pp. ISBN 0-520-22615-1. \$27.50 (cloth).

This is a collection of opinion pieces about genetics and anthropology, written with an attractive, mischievous style. I read the book, and then the instruction to reviewers, and realized I was in trouble. I am supposed to "discuss what the book is about," and that is not so easy. Marks suggests that the book is about molecular anthropology, but he defines it like this (p. 6):

Molecular anthropology acts as mediator between reductive genetics and holistic anthropology; between formal knowledge and ideology; between facts of nature and facts produced by authorities; between what science can do and what scientists ought to do; and most fundamentally, between human and animal.

I don't understand this definition, and I looked in vain for clarification. He gives the second simple rule of molecular anthropology on p. 114 ("Similarity among relatives is not necessarily, and often isn't, genetic"), but I couldn't find the first rule. There is a whole section (p. 41) titled "The Central Fallacy of Molecular Anthropology," but nowhere are we told what the central fallacy is.

Marks has lots of opinions. I agree with some of them, think some of them are disgusting, and don't know enough about others to have any opinion of my own. For example, he does not think that chimpanzees should be given human rights. I myself never thought about the issue, and now that I have, I regret the wasted time. Other opinions are given about race, genes and IQ, the Human Genome Diversity Project, what mammals ought to be called, genetics and homosexuality, the Kennewick fossil, and many others.

I can identify two themes in these essays. The first is that genetics is not very important, we can ignore it, geneticists make overblown claims, and human genetics needs to be tempered by input from the humanities and social sciences. This was cutting-edge stuff in the early decades of the twentieth century, and it seems oddly out of place today.

The second theme is that scientists are all really pursuing personal agendas. Here, for example, is the introduction to Chapter 8 (p. 180):

When we talk about whether antisocial behaviors are innate or not, we are making anthropological pronouncements and invoking what looks like genetics in support of a social and political philosophy.

I suppose he really believes this. I have a neighbor who thinks that black helicopters under the control of the New World Order are responsible for cattle mutilations in the American Southwest. I enjoy lis-

tening to this sort of thing, in a patronizing way, but it is important to realize that most of the "anthropology of science" (one of the "hottest intellectual areas today" according to Marks) is put out by folks who couldn't pass calculus. For an introduction to this literature, which is completely ignored by scientists, see Sokal (1996).

If one believes that lurking behind science is a collection of agendas and that it is important to uncover these agendas, then words become salient in a way that they aren't to scientists. There is a long and interesting discussion of Linnaeus' interest in the wet-nurse controversy and how this led him to give us the name "mammals" in honor of mammary glands. Marks sees this as an example of an agenda determining science, but scientists realize that the name is just a word, that it could as well be a number, and that the treeness of life was the contribution of Linnaeus, not the words. As another example of the concern with words, Marks thinks that Neanderthals should not be named as a separate species because doing so would leave the semantic niche of subspecies open and people might name races as subspecies.

There is certainly much of value in the book, but it will be of more interest to laymen than to professionals. Marks jousts with science as filtered through journalists, not with science as scientists do it. Unfortunately, the stream of papers that hits the press in our discipline is a stream of sound bites and anecdotes, like the shared Y markers of the Cohanim or the Sykes, the alleged locus that increases the risk of male homosexuality, or the Neanderthal mitochondrial DNA sequences. Anyone who follows human evolutionary genetics in the press, even the best science press like the news columns in *Science* or *Nature*, has at the end no real sense of what has happened in the discipline (Klein and Takahata, 2002). My overall impression after finishing this book is that we have been chasing the cape rather than the bullfighter, and perhaps this was the author's intention.

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