

Beamers, Bobwhites, and Blue-points: Tributes to the Career of Paul W. Parmalee. Edited by James R. Purdue, Walter E. Klippel, and Bonnie W. Styles. Springfield: Illinois State Museum Scientific Papers, Vol. XXIII, and Knoxville: University of Tennessee, Department of Anthropology Report of Investigations No. 52, 1991. Pp. ix, 436. \$30.00 (hardcover); \$19.50 (paperback). ISBN 0-89792-133-X (hardcover); 0-89792-134-8 (paperback).

This *festschrift*, consisting of 31 papers presented to Paul Parmalee, of the University of Tennessee, Knoxville, is a fitting tribute to one of the pioneers of North American zooarchaeology. The volume begins with a biography of Parmalee (McMillan) and a complete bibliography of Parmalee's writings (Morris and McMillan). Parmalee's own diverse interests are mirrored in the wide range of topics present in the remainder of this volume. Several of the papers deal with paleontology, osteology, and taxonomy, including studies of black bear (Graham), prairie vole (Martin), peccary (Robison), musk ox (McDonald et al.), redeer sunfish (Colburn et al.), harelip sucker (Manzano and Dickinson), yak (Olsen), and reptiles and amphibians (Holman). Issues in estimation of body size are discussed for fish (Morey et al.) and deer (Purdue). Mussels and gastropods are well-represented (Bogan and Grady, Klippel and Turner, Mead, Theler, Warren), as are domestic dogs (Snyder, Wing).

Particularly welcome are several articles that deal with taphonomy, a subject that has often been ignored by Eastern Woodlands archaeologists. This concerns the pre- and post-burial processes that differentially modify or destroy bones. The presence of these articles in this volume is appropriate, given Parmalee's early recognition of the role of carnivores, birds of prey, and other taphonomic factors in patterning zooarchaeological assemblages. Lyman expands on his earlier research on the relation between utility indices and bone density by examining several previously published archaeological and ethnoarchaeological sites. He finds that skeletal part profiles from over 40% of the 67 assemblages are correlated with bone density, indicating the possibility that density-dependent destruction has patterned those assemblages. Furthermore, he argues that even if there is no correlation with bone density, a causal relation between element abundance and

transport decisions still must be demonstrated, rather than assumed. Skeletal part profiles are not enough, by themselves, to interpret prehistoric behavior. The taphonomic processes that affect skeletal element abundances must also be understood and controlled.

Munson reviews the use of white-tailed deer mortality profiles to infer hunting techniques. Introducing taphonomy into the discussion, he shows that the under-representation of fawns in many archaeological mortality profiles may be due not to prehistoric hunting techniques, but rather to destruction of the less robust immature mandibles by dogs. He derives a correction factor based on previously published survival rates of different-aged mandibles. When applied to a "natural" deer population profile, the resulting mortality profile is similar to many (but not all) archaeological assemblages, suggesting to him that deer hunting was rarely selective.

Munson's paper is a very significant one, and should be widely read. While (as Munson notes) Parmalee and John Guilday long ago recognized the possible biasing effect of taphonomic processing on mandibles, few studies of mortality profiles have adequately addressed them. Important as it is, Munson's study serves only as a cautionary tale, albeit a much-needed one, because he fails to address the fundamental question: how can archaeologists determine whether the absence of fawns is due to scavenging by canids, or to hunting techniques that did not select for fawns? Uncritical use of Munson's correction factor risks making the opposite error of assuming destruction. What is needed is a taphonomically informed analysis of faunal assemblages to determine the extent of carnivore (and other) modification. For example, the possibility that juvenile mandibles have been destroyed could be tested by examining surviving adult mandibles for evidence of carnivore gnawing.

Styles and Purdue attempt to distinguish differences in ritual and secular site use by comparing the fauna from three Middle Woodland sites in Illinois: a small village, a mortuary camp, and a burial mound group. The village assemblage has low, medium, and high utility deer elements, high taxonomic diversity, and low proportions of nonlocal species of worked bone. The mortuary camp assemblage is dominated by deer, particularly high-utility parts, while the burial mounds lack deer remains but have high proportions of nonlocal species, bone tools and ornaments. The differences in the skeletal part representation of deer at the village and mortuary camp are intriguing, especially in light of Lyman's article in this volume and other recent taphonomic research. Styles and Purdue, aware of the possibility that differential destruction may affect skeletal part profiles, show that relatively low density bones are present at both sites, which argues against differential destruction as a dominant factor. The meaning of different skeletal part profiles, however, is still widely debated, as the influence of economic anatomy, transport decisions, density, differential destruction, processing techniques, and analytical methods becomes better understood.

Grayson defends his earlier interpretation of small mammal remains from Gatecliff Shelter. Yet his statement that we cannot securely distinguish natural from cultural accumulations of small mammals in caves and rockshelters (pp. 107-108) ignores both recent research on small-mammal taphonomy and earlier, more qualitative observations of Parmalee and others. In fact, two other articles in this

volume develop ways to distinguish natural accumulations of small mammals from cultural accumulations. Semken and Falk use information on species diversity, relative abundances, and animal behavior to determine whether small mammal remains from archaeological pit features can be attributed to natural or cultural accumulations. Whyte conducted actualistic experiments to determine what animals are likely to become trapped in open refuse pits.

Three papers deal with faunal assemblages from historic sites. Rietz and Zierden conclude that patterns of cattle skeletal part profiles from sites in Charleston, South Carolina, may be more indicative of site function than of status. Martin emphasizes modified animal bones in his investigation of interaction and acculturation at French Colonial sites in the Midwest. Breitburg adds to the now-voluminous literature on the relative merits of MNI (= Minimum number of individuals) and NISP (= Number of identified specimens) to quantify relative abundances, and, based on several historic assemblages, comes out in defense of MNI.

Other papers emphasize paleoenvironment and paleoecology. Warren develops an elegant and flexible procedure for reconstructing aquatic paleoenvironments by weighting habitat preferences of freshwater mussels. This is applied to several Midwestern and Great Plains molluscan assemblages. While data presented are limited to Mississippi River basin taxa, the procedure could potentially be adapted for use in other geographic areas, or with other taxa.

Bogan and Grady report on mussels from Pleistocene cave sites in West Virginia. In contrast with Pleistocene mammalian and avian fauna from these and similar sites that indicate boreal or tundra environments, the molluscan fauna are composed of the same taxa living in the area today. Holman's review of North American reptiles and amphibians provides a similar case of apparent stability through time.

Like many *festschriften*, this volume lacks a unifying theme, other than that the articles in it are all tributes to Paul Parmalee. Furthermore, some articles, such as those by Lyman and Grayson, expand only slightly on previous publications. Although this volume will be of greatest value to those interested in the zooarchaeology and paleoecology of the Eastern Woodlands, several articles, including those by Munson, Warren, and Semken and Falk, have a significance that extends beyond geographic boundaries and should be of interest to all zooarchaeologists.

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