This pdf of your paper in *Anthropological Approaches to Zooarchaeology* belongs to the publishers Oxbow Books and it is their copyright.

As author you are licenced to make up to 50 offprints from it, but beyond that you may not publish it on the World Wide Web until three years from publication (Deceme 2013), unless the site is a limited access intranet (password protected). If you have queries about this please contact the editorial department at Oxbow Books (editorial@oxbowbooks.com).
Contents

CONTRIBUTORS vii

INTRODUCTORY COMMENTS
Animals and Complexity: How Zooarchaeologists Contribute to the Study of Complex Society in the New and Old Worlds
by Justin Lev-Tov and Susan D. deFrance x

PART I: ARCHAEZOLOGY AND SOCIAL COMPLEXITY
(editors Susan D. deFrance and Justin Lev-Tov)
1. A Bird’s Eye View of Ritual at the Cahokia Site
   (Lucretia S. Kelly) 1
2. The Organization of Animal Production in an Early Urban Center: The Zooarchaeological Evidence from Early Bronze Age Titriş Höyük, Southeastern Turkey
   (Adam Allentuck and Haskel J. Greenfield) 12
3. Animal-Derived Artefacts at Two Pre-Columbian Sites in the Ancient Savannas of Central Panama. An Update on their Relevance to Studies of Social Hierarchy and Cultural Attitudes Towards Animals
   (Richard Cooke and Máximo Jiménez) 30
4. Body Parts, Placements and People in an Iron Age Town in Bulgaria
   (Sue Stallibrass) 56
5. Status and Diet at the Workers’ Town, Giza, Egypt
   (Richard Redding) 65
6. Chiefly Fare or Who’s Feeding the Cacique? Equality in Animal Use at the Tibes Ceremonial Center, Puerto Rico
   (Susan D. deFrance) 76
7. A Plebeian Perspective on Empire Economies: Faunal Remains from Tel Miqne-Ekron, Israel
   (Justin Lev-Tov) 90
8. Continuity and Change in Faunal Consumption Patterns at the Pre-Inka and Inka Site of Yoroma, Bolivia
   (Jose M. Capriles, Alejandra I. Domic, and Sonia Alconini) 105
9. Living on the Frontier: “Scythian” and “Celtic” Animal Exploitation in Iron Age Northeastern Hungary
   (László Bartosiewicz and Érika Gál) 113

PART II: ZOOARCHAEOLOGY AND COLONIALISM
(editors Pam J. Crabtree and Douglas V. Campana)
10. Archaeozoology and Colonialism: An Introduction
    (Douglas V. Campana) 129
11. Craving for Hunger: A Zooarchaeological Study at the the Edge of the Spanish Empire
    (Mariana E. De Nigris, Paula S. Palombo, and María X. Senatore) 131
12. Zooarchaeology in the Spanish Borderlands of the American Southwest: Challenges and Opportunities
    (Diane Gifford-Gonzalez) 139
13. Animal Husbandry at Pimería Alta Missions: El Ganado en el Sudoeste de Norteamérica
    (Barnet Pavao-Zuckerman) 150
14. The Adoption and Use of Domestic Animals at Zuni
    (Carmen Tarcan and Jonathan Driver) 159
15. “Romanizing” Ancient Carthage: Evidence from Zooarchaeological Remains
    (Michael MacKinnon) 168
16. Animal Keeping and Roman Colonization in the Province of Panonia Inferior, Western Hungary
   (Kyra Lyublyanovics)  
17. Zooarchaeology and Colonialism in Roman Britain: Evidence from Icklingham
   (Pam J. Crabtree) 

PART III: ANIMAL TRANSFORMATIONS
   (editor Alice Choyke)
18. The Bone is the Beast: Animal Amulets and Ornaments in Power and Magic
   (Alice Choyke) 
19. Skeletal Manipulations of Dogs at the Bronze Age Site of Százhalombatta-Földvár in Hungary
   (Maria Vretemark and Sabine Sten) 
20. Bovid Skulls in Southeastern European Neolithic Dwellings: The Case of the Subterranean Circular Room at Promachon-Topolniča in the Strymon Valley, Greece
   (Katerina Trantalidou) 
21. Symbolism of Sharks for Fisher-Gatherer Groups from the Sao Paulo Coast, Brazil
   (Manoel M. B. Gonzalez) 
22. Tupilak Transformations: Traditional Ivory Objects as Modern Souvenirs
   (Bonnie C. Yates and Margaret E. Sims) 
23. The Birds and Animals in Ancient Armenian Art
   (Ninna Manaseryan) 
24. The Transformations of the Quetzal Bird
   (Carmen Aguilera) 
   (Márta Daróczí-Szabó) 
   (Michael MacKinnon) 
27. The Composition and Interpretation of Associated Bone Groups from Wessex
   (James Morris) 
28. Making Themselves at Home: The Archaeology of Commensal Vertebrates
   (Terry O’Connor)
Animals and Complexity: How Zooarchaeologists Contribute to the Study of Complex Society in the New and Old Worlds

Justin Lev-Tov and Susan D. deFrance

Animals in complex human societies are often both meal and symbol, related to everyday practice and ritual. People in such societies may be characterized as having unequal access to such resources, or else the meaning of animals may differ for component groups. Here, in this book, 28 peer-reviewed papers that span 4 continents and the Caribbean islands explore in different ways in which animals were incorporated into the diets and religions of many unique societies. The temporal range is from the Neolithic to the Spanish colonization of the New World as well as to modern tourist trade in indigenous animal art. The first section is the most general, containing a variety of studies on the interaction of foodways with complex societies via themes such as status, stratification, feasting, and economics. The second section springs from the first, and in it authors all address one theme in particular, the interaction between diet and colonialism. Our final section explores the complex role that animals, and parts of animals, play in all human societies as religious, identity markers, or other types of symbols. Animals are not only passive actors but, as creatures living intimately with their human counterparts, are actively used by people to express beliefs about human interactions and beliefs.

This volume is organized according to these themes rather than according to geographic location or time period. We believe that – clearly – these issues crosscut both such divisions. In so doing, we hope that this book will present an opportunity for scholars divided by geography especially, but also by temporal period, to read about each other’s research and perhaps to bring these ideas into their own research, even if it is regionally and temporally divergent from the examples offered here. In other words, different archaeological settings can perhaps address the same problems cross-culturally.

Because the volume is arranged not along the lines of time and space demarcation, but rather as a series of case studies of revelations of diet for the study of social complexities, what follows are some general remarks about themes the essays address. Just as the papers presented here cover many of the subjects traditionally focused on within the study of complex societies (cf. Crabtree 1990), it is also interesting that they address their subject matters in distinct ways.

Research themes that emerged prominently in this realm of zooarchaeology include the origin of state societies and the development of centralized control over agriculture and specifically meat distribution to urban, presumably non-food producing, residents. Other subjects treated quite a bit in the literature concern the internally divided populations that typify and even define complex civilizations. Populations in such societies are divided by group origin or identification, that is to say ethnicity, by access to power and wealth, in other words status and class, as well as gender roles. Arguably, an offshoot from the study of status and wealth relations through diet has been the employment of zooarchaeology in the study of colonialism. Colonialism, since it is ultimately about relations of power and the negotiation of identity between intrusive and indigenous groups, or even two intrusive groups, lends itself well to the study of animal use and diet. Food is a locus of culture at once public and private, shared at the community level and held private within the family. As well, food has often been a means by which dominating groups have tried to complete their cultural conquests, consciously or not. Building on the theoretical chapter by Campana, the case studies by De Nigris et al. examine the role of hunger in a Spanish colonial setting in Tierra del Fuego. Elsewhere in the Spanish Empire, studies by Tarcan and Driver and Pavao-Zuckerman address the indigenous response to Spanish colonization of the American Southwest and northern Mexico. The paper by Gifford-Gonzalez provides an interesting critique of the questions being addressed by zooarchaeologists researching the American Southwest.

At times, the processes that shape diet in complex societies are woven closely together. Within the archaeology of colonialism, Dietler (2007) has argued that “goods, and especially foods, have not only been appropriated and indigenized, but they have also been used by both parties in colonial situations to attempt to control the other.” Several
authors in this volume examine ancient Roman colonialism in Europe and North Africa, seeking to separate indigenous from native carnivory. Crabtree as well as Lyubylanovics set out to study the effects of Roman colonialism on diet in different parts of Europe, but along the way wind up considering questions of identity, what is native and what is Roman, rather than purely economic and political questions. MacKinnon demonstrates the remarkable dietary changes which took place in ancient Carthage at the time of the Roman conquest, and how those trends waned as the Roman hold on the city weakened. In these colonial situations, subordinate groups may resist such actions by retaining pre-existing foodways or even cooking up a creole of traditions.

Other papers in this volume examine the intersection of diet and empires from alternative perspectives. Lev-Tov’s paper examines the effects the Neo-Assyrian Empire’s conquest of the Levant had on the diet of Philistines there, wherein the local people’s diet was changed to accommodate the commercial interests of the colonizers. A similar issue of the role of empire expansion on the local use of animals is addressed in the paper by Caprilles et al. in their examination faunal remains in pre and post-Inka contexts from the site of Yoroma in Bolivia. Despite evidence from surrounding sites to the contrary, the latter authors demonstrate that Inka political dominance at this site did not lead to dietary changes. DeNigris et al. present the sole study of a failed colonial adventure, this one in southern Argentina, where a Spanish settlement failed after only a few years, despite – or because – the colonists out of necessity had taken to hunting some of the wild animals that native hunter-gatherers had also pursued.

The animal link between many societies that were colonized, and the colonizers, has been, more than the dietary staples brought with them on the hoof and consciously, the commensal fauna that sometimes preceded but always accompanied such efforts. O’Connor discusses commensal animals, their importance and their categorization. These fauna occupy a gray zone between the wild and domestic, and therefore, escape our attention despite the key role such animals have played. Vretemark and Sten address another sort of companion to humans, dogs. They study how that animal played multiple societal roles, as pets, actual and symbolic guardians, and ritual food in their study of Neolithic canid remains from a Hungarian Bronze age fortified site.

While our conceptions of some animals are almost nonexistent, with others we entertain nearly uniformly negative views. In this volume Gonzalez demonstrates how sharks in Brazil formerly held special status, as seen in the frequency of different species’ skeletal elements as they occur in settlements vs. burial mounds. The implication, of course, is that rather than feared and loathed, certain shark and other elasmobranch species were instead sacred. If human societies of all kinds have complex and non-economic relationships with various species, certain animal body parts also have special status outside of food considerations. Similarly, Cooke and Jiménez address the cultural attitudes that ancient Panamanians had toward varied tropical animals and how animals and their products were used to establish hierarchy and status.

Clearly, one such arena of belief would be animal sacrifice, whether the custom involved is the selection of species to ritually slaughter and how to preserve the magic of the act, or which portions of the body might have more power than others. Two papers in this volume touch on these subjects, as Daróczi-Szabó examines a pagan Hungarian practice, continued into the Christian era, of burying sacrificed animals in upside down pots, while MacKinnon’s examination of side preference in ancient sacrificial portions focuses on ancient Greece. In the latter paper, the author draws an interesting parallel to human handedness that may have influenced sacrificial preferences. Morris addresses the ways people used Associated Bone Groups (ABGs) in distinct contexts in Neolithic to medieval period sites in southern Great Britain to create meaning including changes in animal use following “Romanization” of the region.

Gumerman (1997, 106, 114, 116) pointed out that food is intrinsically social, in that people choose to eat or avoid certain foods and base their decisions on concerns such as the status or identity values it connotes. Part of the reasons for this has to do with the fact that consumers are not always, the producers in such societies. Here, contributing scholars use different case studies from Europe to assess the extent to which studies of animal bones may help us understand the identity of the Celts in Europe. Stallibrass draws on evidence of articulated and burned bones deposited within pits at a Hellenistic period site in Bulgaria, to argue that the Celts were at least one component of the city’s population. In another study of identity and animal bones, Bartosiewicz and Gál draw on both unworked and worked bone data from multiple sites in a border area of Hungary to attempt to sort out which ethnic groups inhabited certain sites. The relative abundance of steppe animals within an earlier sample suggests that so-called Scythian peoples occupied the area at least in part, while the later collection, with higher amounts of pig bones, has more of a settled, Celtic character to them. The authors nonetheless argue that the assemblages do not provide profiles completely compatible with either group showing that the frontier area was typified by interaction rather than rigid cultural borders.

Other papers in the volume tread more familiar, but no less intriguing, ground, covering the important themes of provisioning, how urban residents obtained their food, whether through independent means or via governing officials, often elites, who distributed animals or meat to non-food producing classes of workers. The development of these types of distributive hierarchies is one of the general defining characteristics of the state, and it is therefore interesting that the two papers that explore that theme, both using datasets from the Near East, come to opposing conclusions regarding their sites. Redding examines the diet of the workers who built one of the pyramids of Egypt, and argues that the status of different workers is
visible in the types of meats they were provided. Status is not only visible in the (zoo)archaeological record, the state identified certain peoples’ statuses by prescribing a diet for them. Allentuck and Greenfield, however, found no visible link between status and diet based on their study of faunal remains from a similarly early state-level site, this in Turkey. While these two papers come to different conclusions, they both take a bottom-up approach to the study of diet.

The archaeological delineation of status has long occupied archaeologists and zooarchaeologists studying the sites of complex societies, deFrance’s recent (2009) review of zooarchaeological approaches to status highlights the challenges of the subject, perhaps the most critical being that class-based dietary choices vary highly from one time and place to another. In Mid-Continental North America Kelly examines how birds, or parts of them, were transformed from beasts to powerful symbols as a part of communal feasts that involved many segments of society at Cahokia. In the present volume, deFrance illustrates the difficulty in discerning high status food and animals that might have been used in feasts by an emerging Puerto Rican chiefly society. Although it is widely recognized that a stratified society existed in that study area, social differentiation evidently was not symbolized via access to different animals incorporated into the population’s diet.

State religion(s) and elaborate rituals are of course a hallmark of societies throughout time, so it is only natural that such worldviews would extend also to the realm of animals in culture. Not only what people ate, and sacrificed, but certain animals or even skeletal elements can themselves become ritual objects derived from cultural beliefs about the biological animals in which they originated.

Taking up these themes, a number of papers in this volume address the transformation of animals, and bones, into objects of special interest and/or devotion for past peoples. Choyke presents an overview of the topic, demonstrating how societies past and present have imbued various animals with magical properties. In addition, Choyke discusses bone amulets found in Hungarian early medieval graves as examples of the transformative process, from living animal, to bone, to carved object with prophylactic powers. Other examples presented here include the significance of the quetzal bird to the former state societies of central Mexico (Aguilermo) and the transformation of bird feathers and skeletal elements into powerful material symbols for Mississippian elites (Kelly). Using artwork from Bronze Age Armenian sites as a basis for discussion, Manaserian demonstrates that the depiction of animals using metal and other materials was done in such a way as to emphasize certain species’ behavioural or physical characteristics esteemed by ancient societies there.

The material and symbolic transformations through time of tupilaks, that is, items carved from whale ivory by the native population of Greenland (Sims and Yates) has relevance both to understanding the indigenous Inuit but also modern economics of trade in endangered animals. Thus, during the Neolithic period of southeastern Europe, as Trantalidou’s paper details, it was the skulls of cattle, both real and imitated in clay that held some kind of special, symbolic significance for those peoples.

The chapters that follow take up the above and other diverse themes, all in the pursuit of the ways in which past societies manipulated animals, meat, and the products derived from animals as raw materials, to give expression to a number of social processes. Zooarchaeology, however, is not an end in itself, but rather a subfield that contributes to the overall picture of past lives and societies unravelled through archaeological study. These essays demonstrate the utility of animal bone studies in aiding the understanding of past hierarchical and multiethic social systems.

References


1. A Bird’s Eye View of Ritual at the Cahokia Site

Lucretia S. Kelly

Over the last century, and particularly the last 50 years, large quantities of faunal remains have been excavated and studied from sites in the American Bottom, a region in Illinois where the largest Mississippian (AD 1020–1400) mound center, Cahokia, is located. A large faunal database has been amassed enabling the delineation of significant patterns regarding the use of various species of animals over time. In this chapter I examine the potential ritual significance of several rare bird taxa found at the Cahokia site in two locations separated in time by about 150 years. One area, sub-Mound 51 that dates to the Lohmann phase AD 1050, contains the remains of large communal ritual feasts. The second area, Mound 34 that dates to the Moorehead phase AD 1200–1275, was a significant locus for special activities, events, and religious ceremonies. I present three lines of evidence, zooarchaeological data, archaeological context, and ethnographic and ethnohistoric accounts of how American Indians in the mid-continent used and regarded the identified archaeological bird species to help elucidate what roles they may have played in ritual and ceremonial activities in the past. The bird remains present also contribute to ongoing studies regarding a significant change in symbolism and ideology in the region at the end of the twelfth century.

Keywords: ritual, bird, Mississippian, Cahokia, symbolism

Introduction

Within the North American mid-continent and southeast, the late prehistoric (AD 1000–1500) Mississippian Cultural Tradition includes communities that reflect relatively complex forms of socio-political organization, characterized as chiefdoms. They possess common features such as distinctive ceramic technology, the presence of platform mounds and plazas, dependence upon maize agriculture, extensive exchange networks, ranked socio-political structures, and a shared ideology. The Cahokia site, an early Mississippian center on the northern edge of Mississippian development, is located in the American Bottom region of the central Mississippi river floodplain, just east of St. Louis, Missouri (Fig. 1.1). As the largest Mississippian site with over 100 mounds within a 14 sq. km. area, Cahokia undoubtedly represents the most complex of all Mississippian societies. Over the last century, and particularly the last 50 years, large amounts of faunal remains have been excavated and studied from Cahokia and the surrounding region (Kelly 1997, Kelly and Cross 1984, Parmalee 1975) resulting in a large faunal database enabling the recognition of interesting patterns regarding various taxa of animals over time (Kelly 2000).

In this chapter I examine the ritual significance of several rare bird taxa found at two locations in the Cahokia site (Fig. 1.2) separated in time by nearly 150 years: sub-Mound 51 dating to the Lohmann phase AD 1050–1100 contains the remains of large communal ritual feasts (Kelly 2000, 2001; Pauketat et al. 2002) and Mound 34 dating to the Moorehead phase AD 1200–1275 is a significant locus where special events and religious ceremonies took place (Brown and Kelly 2000; Kelly et al. 2007). I present three lines of evidence to help elucidate the various roles in ritual and ceremonial activities that these birds may have played in the past: zooarchaeological data, archaeological context, and ethnographic and ethnohistoric accounts of how American Indians in the mid-continent used and regarded the identified archaeological bird taxa. The bird remains present also contribute to ongoing studies regarding a significant change in symbolism and ideology in the region at the end of the twelfth century (Kelly et al. 2007), referred to by James Brown (2001) as the Moorehead Moment.

A rich avian iconography exists from the late pre-contact Mississippian period throughout the Southeastern United States, including those of birdmen with hawk or falcon attributes (Brown 2007), owls (Aftandilian 2003), and
“duck effigies” (Kelly 1993). The symbol most associated with Cahokia is a birdman image (Fig. 1.3) found incised on a small sandstone tablet (Williams 1975) that dates late (ca. AD 1300) in the site’s history. But, ethnohistoric accounts illustrate that many species of birds played important roles in all aspects of American Indian life. Because Cahokia was abandoned late in the thirteenth century before European contact, there is no direct connection between historic American Indian groups and the inhabitants of Cahokia. Because of striking similarities between Dhegiha-Siouan speaking groups such as the Osage, Omaha, and Quapaw and Cahokian society, some scholars now believe these groups may be the direct descendants of Cahokian populations (Hall 2004, 2007; Brown 2007). Early European explorers that traversed the Southeastern United States came into contact with American Indian societies that archaeologists refer to as Mississippian peoples, and who historically are known as Muskogean-speaking groups such as the Creek, Choctaw, Chickasaw, and the Iroquoian-speaking Cherokee. Therefore the Dhegiha-Siouan and Muskogean ethnohistoric literature are potential sources for analogs to help interpret the birds found at Cahokia.

Cahokia Excavations and Contexts

The Cahokia site originally contained more than 100 earthen mounds. Monks Mound stands 30.5 m tall, covers about 6–7 ha at its base, and faces the 16 ha Grand Plaza...
Porter and Charles Bareis were allowed to conduct some excavation of the mound area prior to the final removal. They discovered that the mound was built on top of part of a Reclaimed burial pit (Bareis 1975). This pit is estimated to have measured at least 30 m north-south and 20 m east-west and was 3 m deep (Chmurny 1973, Peuket et al. 2002). It was rapidly filled in, possibly within 1 to 3 years by seven very distinct, stratified, fill zones that were quite homogeneous across the pit. Very large amounts of material were needed to create these fills. The animal and plant preservation in these zones was extraneous, in part because of the very rapid filling-in that created an anaerobic environment (Chmurny 1973, Peuket 2000, 2001; Peuket et al. 2002).

The experts who performed the analyses on the very large quantity of excavated materials from sub-Mound 51 concluded they were the result of ritual feasting activity that involved large numbers of people from all segments of Cahokian society (Kelly 2000, 2001; Peuket et al. 2002). The faunal assemblage was different from any other American Bottom site including other areas of Cahokia. It possessed classic feasting signatures including: low sample diversity (over 99% of total mammal bones were deer), high meat yielding species, bulk meat cuts, bulk cooking, little butchering debris, bones not completely broken or disarticulated, and large quantities of bone in a single deposit (Hayden 1996, Jackson and Scott 1995, Kelly 2000).

The Mound 34 area (Fig. 1.2), the second area of Cahokia with very large and significant faunal assemblages, is located northeast of Mound 51, and about 400 m directly east of Monks Mound. It is at the north edge of a line of mounds that define the western boundary of the Ramey Plaza. Past and recent investigations here are providing significant information about the site’s Moorehead phase (AD 1200–1275) occupation and about the mound’s morphology and contexts (Brown and Kelly 2000; Kelly et al. 2007). In 1950, James Griffin and Albert Spaulding (1951) conducted test excavations into the mound. In 1956 Gregory Perino (n.d.) of the Gilcrease Institute conducted extensive excavations into Mound 34. Excavations conducted by James Brown and John Kelly from 1998 to 2007 have been refining Perino’s earlier work to obtain detailed profile maps and to better understand the contexts of the material he recovered, which includes finely made arrowpoints, spatulate celts, a chert spade, real and chert efligys sharks’ teeth, wooden bowl fragments, negative painted pottery sherds, copper nuggets, among other items. A fragment of an engraved marine shell cup found in the Michigan test excavations, as well as 12 fragments from the Gilcrease excavations, provided the impetus for Jim Brown and John Kelly to conduct the recent investigations. These fragments are engraved with Braden style designs that epitomize the Southeastern Ceremonial Complex (SECC), a late pan-Mississippian iconography that was widespread in the US Southeast. They can now be placed firmly in the Moorehead phase, which puts Cahokia in the mainstream of SECC development (Brown 2004, Brown and Kelly 2000). In addition, it is being revealed that this area of the site in the Moorehead phase was a significant locus where special activities, events, and religious ceremonies were taking place and indicates the site was not yet in a state of social decline (Brown and Kelly 2000, Kelly et al. 2007, Trubitt 2000) as previously thought (Emerson 1997, Peuket 1994), although the population at the site had declined from its peak during the preceding Lohmann and Stirling phases (Miller 1998).

Perino’s excavations were approximately one acre in extent and included Mound 34 and nearby areas of the Ramey Tract to the north and west. He recovered a large quantity of well-preserved animal bone from both areas. Paul Parmalee (1957) identified nearly 9800 pieces of bone from Perino’s excavations, and published in a single list an impressive array of fauna: 10 taxa of fish, one of frog, 5 of turtle, 58 of birds, and 19 of mammals. I examined Parmalee’s original identification sheets on file at the Illinois State Museum and use the general provenience data they provide to separate the fauna from his single list into two assemblages—one from the Ramey Tract and the other from Mound 34. The Mound 34 assemblage is highlighted here. Although exact provenience data from Perino’s excavations is limited, Kelly and Brown’s recent excavations shed some light on where within Mound 34 Perino’s faunal material may have been derived.

**Faunal Remains**

Much of the animal bone may have come from the D zone, a deposit used in the construction of an initial platform, approximately 70 cm in thickness. Throughout the D zone are lenses or deposits of ash and charcoal and large amounts of animal bone can be observed in the profile walls. The D zone fills also extend into a large refuse trench (Feature 3) under the mound (Kelly et al. 2007). Although the context of the faunal remains from this area of the site is not as secure as those from sub-Mound 51, the amount of material suggests that feasting and other ritual activities were taking place as this stage of the mound was being created.

One of the striking features of the faunal assemblages from sub-Mound 51 and from Mound 34 is the rare bird taxa present. A total of 25 bird taxa, 13 of which are ducks, were identified from the sub-Mound 51 pit (Kelly 2000, Chmurny 1973). Two taxa, swan (Cygnus) and prairie chicken (Tympanuchus cupido) not commonly recovered archaeologically in the American Bottom region, however, together represent 37% of the bird assemblage. Three other rare bird species, bald eagle (Haliaeetus leucocephalus), possible red-tailed hawks (cf. Buteo jamaicensis), and peregrine falcon (Falco peregrinus), are represented in low numbers by wing elements.
The Mound 34/Ramey Field area had a much greater variety of birds present with 58 taxa identified (Parmalee 1957). After isolating the remains recovered from Mound 34 from those recovered from the Ramey Tract, and after grouping the waterfowl remains into categories of swans, geese, puddle ducks, and diving ducks, the number of taxa or bird categories represented is reduced to 36. The variety of waterfowl in Mound 34 is over three times greater than was found in sub-Mound 51. About three-fourths of the bird NISP from the 1956 Mound 34 excavations is waterfowl, which is typical for assemblages at Cahokia. Swans, however, make up 20.6% of the waterfowl remains at Mound 34 and this is unusual for the site. The remaining quarter of the Mound 34 bird assemblage reveals some other striking aspects. Nine bird species, great blue heron (Ardea herodias), swallow-tailed kite (Elanus leucurus), red-shouldered hawk (Buteo lineatus), rough-legged hawk (Buteo cf. lagopus), golden eagle (Aquila chrysaetos), kestrel (Falco sparverius), Carolina parakeet (Conuropsis carolinensis), great-horned owl (Bubo virginianus), and ivory-billed woodpecker (Campephilus principalis), are not reported from any other area of Cahokia. If the area is expanded to encompass assemblages from other areas of the Ramey Plaza, an additional 15 species occur only in this area of the site: pied-billed grebe (Podilymbus podiceps), white pelican (Pelecanus erythrorhynchos), great egret (Ardea alba), American bittern (Botaurus lentiginosus), Cooper's hawk (Accipiter cooperii), marsh hawk (Circus cyaneus), long-billed curlew (Numenius americanus), woodcock (Scolopax minor), whimbrel (Numenius phaeopus), upland sandpiper (Bartramia longicauda), sanderling (Calidris alba), barn owl (Tyto alba), screech owl (Otus asio), short-eared owl (Asio flammeus), and raven (Corvus corax).

What is anomalous about the birds in these two lists is that very few, if any, would be considered food items, and therefore, these remains may have been deposited here because of their use in ceremonies or rituals. Birds of prey, eagles, hawks, and owls, are more commonly associated with ritual because they are portrayed in Mississippian iconography. Swans and prairie chickens have not generated much attention as taxa for probable ritual use because they are rarely depicted (or at least identified) in Mississippian iconography.

Space does not permit analysis of all the birds that may have been used in ritual; therefore, 5 taxa of birds that appear to have been important ritually at Cahokia will be examined: swans, hawks, eagles, owls, and woodpeckers. Swans are emphasized to a greater degree than the other four because of their uncommon archaeological association with ritual.

**Swans**

One might think that swans, in particular trumpeter swans (Cygnus buccinator), being the largest waterfowl in the American Bottom with an estimated meat yield of 6.3 kg or 17 lbs (Smith 1975), would have been important economically, as were the other but smaller waterfowl of geese and ducks. But, in reviewing the distribution of the American Bottom swan remains spatially as well as temporally, an intriguing pattern is evident. While duck and goose remains make up the majority of American Bottom bird assemblages, swan remains are infrequent (Kelly 2000; Kelly and Kelly 2007). Several factors may explain why swan remains are infrequent. Non-cultural reasons might include their behavior, their availability in the area, and how well their remains preserve. Cultural factors might include either the mundane such as taste preference or the more esoteric where swans were symbolically important and used primarily in rituals and ceremonies. Access to swans may have been restricted to specific individuals depending on either status or their position within the society. Most non-cultural reasons can be ruled out, although the availability issue cannot be resolved completely because the trumpeter swan was almost extirpated in the 20th century. Belrose (1976) approximated its former breeding and wintering areas, however, and the American Bottom is within the former breeding area and just to the north of the wintering area in the lower Mississippi River valley. The flyway for tundra swans (Cygnus columbianus), on the other hand, extends across Alaska down through Canada to North Dakota and Minnesota then across the northern US to the east coast. The flyway excludes the American Bottom. However, it is possible some individuals may have occasionally migrated down the Mississippi River to be in the proximity of Cahokia (Bohlen 1989).

Cultural factors are more difficult to decipher. As mentioned, direct analogy and archaeological evidence for pre-contact American Indian belief systems are limited, but ethnohistoric and ethnographic accounts of southeastern groups and midwestern Siouan speakers, particularly Dhegha-Siouan speakers, can provide analogs.

The archaeological distribution of swan bones is distinct for the American Bottom region. Temporally, swan remains are restricted primarily to the earlier part of the Mississippian period, AD 1050–1275. Cahokia, the paramount center, has the majority of remains. There is also an interesting distribution of swan remains within the site. They occur in 14 of 16 areas of Mississippian occupation at the site that have been surveyed for bird remains; however, sub-Mound 51 and Mound 34 have the largest numbers by far.

At sub-Mound 51, 215 swan (both trumpeter and tundra swan) remains make up 19.8% of the bird NISP identified to a taxon below the class level. The majority of these remains were recovered from one of the zones, D2, where 195 swan NISP equal 25.5% of bird NISP from that zone. Wing bones commonly make up a greater percentage of the bird bones recovered in American Bottom assemblages; however, only 4 swan wing bones, 3 of which were cut, are present. In contrast to the swan remains, 31% (NISP=58) of the 187 prairie chicken remains from sub-Mound 51 are wings bones.

From Mound 34, 343 swan bones, mostly trumpeter...
swan, were identified. The interpretation of these specimens is more difficult because they were recovered from the 1950s excavations and knowledge of their exact contexts is limited. The Mound 34 swan assemblage differs from the sub-Mound 51 assemblage in the body parts represented. For the 343 swan remains associated with Mound 34, 149 or 43.4% are wing bones. Parmalee (1957) notes that many wing bones, particularly humeri from the Mound 34/Ramey Tract combined excavations, were cut.

Outside the Mound 34/Ramey Field and sub-Mound 51 areas only 60 swan bones or 9.7% of the total have been recorded from Mississippian contexts at the Cahokia site (Kelly and Kelly 2007). At Mississippian sites outside Cahokia in the American Bottom, few swan bones have been found and all are wing bones, of which 2/3 are modified. And, except for one bone, they occur at the three subsidiary mound centers of East St. Louis, Mitchell, and Horseshoe Lake (Fig. 1.1).

The spatial distribution of swan remains at Cahokia and the outlying American Bottom sites indicates that swans were treated differently from birds used for food. The body part distribution and bone modification suggests that wings were targeted for use. Few finished artifacts made from swan bones have been recovered in the Mississippian period. Most modified bones represent residue from the manufacturing process. Parmalee (1957) suggests the bones were being used for beads. Artifacts that have been found, however, are pointed tools that may be awls or shuttles. Apparently, the swan wings had special meaning and may have been regulated, most likely by ritual specialists at Cahokia, and distributed only to certain personages at other mound centers and possibly within Cahokia itself. What we cannot easily discern from the archaeological record is the special meaning and the role that swans may have played in Cahokia ideology, ritual, and ceremony.

A sample of the ethnohistoric and ethnographic literature is presented that provides insight into how swans have been used by American Indian groups in the mid-continent and what meanings may be associated with them. When swans are mentioned in the various sources (see below), the parts used are skies, feathers, and wings. Unfortunately, skies and feathers usually do not preserve archaeologically in the mid-continent so not all aspects of swan use are being recovered. Recently, however, a previously archaeologically hidden use of swans has come to light. Some of the fabrics recovered from the Mississippian site of Spiro in Oklahoma (Willoughby 1952) that were studied recently were found to be made of feathers from trumpeter swan, wild turkey, and Canada goose and were twisted together with other materials — such as rabbit, bison, and human hair (Rogers 2002). Rogers et al. (2002) believes the samples studied may belong to blankets or mantles worn by elite personages.

He said there was a holy bird which was the leader of all animals about the lake. This holy bird was the white swan and the birds flocked in sevens and fives. He said that the down near the left wing should be worn on the head. The left wing of the bird would be a symbol of its power. (Fletcher and La Flesche 1972, 514)

From the above quote the Omaha viewed the swan as a holy bird. I thought the importance of left wing and feathers may constitute a prediction that could be tested zooarchaeologically, until Bob Hall (personal communication 2002) cautioned that interpreting the importance of side based on ethnographic analogs is not straightforward, and the choice of side may vary depending on the tribe and the type of story or myth being interpreted.

Osage ethnohistoric accounts make it clear that the swan played a prominent role in a number of rituals. The swan was one of a number of life symbols for two different subclans. One was the "Radiant Star" subclan of the Bear Clan, the other was the "Porcupine" subclan of the Puma Clan (Bailey 1995). Life symbols were held up as exemplars for certain behaviors that help sustain life (Bailey and Swan 2004). The swan was chosen most likely as a life symbol because of its strength and endurance. Swans protect their nests to their death to ensure survival of the next generation. Long life and survival are emphasized in Osage society for tribal unity and perpetuation (Bailey and Swan 2004).

Purity and peace are symbolized by the white swan in the Osage Sky ritual (La Flesche 1939). Swan skins were also used on Osage War Standards. One type is a wooden staff 2 m long with a crooked top that was encased in a deerskin, and was then wrapped with one swan skin cut in a long strip. The swan skin has been plucked of its feathers but the down remains. Twelve eagle feathers were attached by thongs to the front of the standard (La Flesche 1939). On another type of War Standard the white tail feathers of the trumpeter swan are a primary war symbol as are feathers of crows and golden eagles. The great horned owl tail feathers at the top of this standard represent death as a holy bird. I thought the importance of left wing and feathers may constitute a prediction that could be tested zooarchaeologically, until Bob Hall (personal communication 2002) cautioned that interpreting the importance of side based on ethnographic analogs is not straightforward, and the choice of side may vary depending on the tribe and the type of story or myth being interpreted.

A pair of the crooked standards would be carried into battle and, when they were placed together to form a heart shape, it signified the Osage were completely unified in their war effort. The heart motif is an Osage artistic symbol that has strong cosmological association with life and death issues. It represents the mating of trumpeter swans, which are associated with the union of sky and earth that makes all things possible. White feathers represent sky, masculinity, and peace while the black feet and beaks refer to death, war, and femininity (Bailey and Swan 2004).

To the northwest of the Osage, the Hidatsa Goose Society, a woman's organization, performed a corn ceremony twice a year in honor of the mythical Old-Woman-Who-Never-Dies to ensure abundant corn crops. Certain water birds sent by Old Woman Who Never Dies symbolize various plants: geese: corn, ducks: beans, and swans: squash (Lowe 1916). At Cahokia there are a number of associations of swan bones and squash seeds or unique accumulations of water bird remains. A faunal assemblage of a pit on the edge of a plaza/courtyard in the residential area of the Interpretative Center Tract II, southeast of the Grand Plaza was made up of 96% bird bones of which 93% were wing elements. All the birds represented were water birds, two...
of which were swan (Kelly and Kelly 2007). The swan and squash connection may be present in the sub-Mound 51 pit where swan bones make up the 2nd largest number of bird bones and large quantities of uncarbonized squash seeds were recovered (Kelly 2000). Squash has been connected with fertility at Cahokia especially as depicted on the fireclay Birger figurine (Fig. 1.4) where squashes, identified as cushaw squash (Cucurbita argyrosperma spp. argyrosperma) (Fritz 1994), are growing up the back of a woman hoeing the back of a serpent (Emerson 1982).

The use of swan skin and feathers has been recorded for other groups, such as the Chickasaw who treated swans with respect and admiration (Price 1994). In Capt. Thomas Nairne’s journal (Moore 1988, 48), he states “Swans feathers are great ornaments among the Chickasaws. They are taken out of ponds, with lights in the night.” Depicted in the Great Seal of the Chickasaw, the band crossing over War Chief Tishomingo’s left shoulder and passing under his right arm is known as the Warrior’s Mantle and is made of swan feathers. It is a traditional decoration for great warriors (Anonymous 2007, Gibson 1971).

Swan skin and feathers also had a role in the Chickasaw Green Corn Ceremony. In this ceremony a high priest made the new fire and “on his head he wore a piece of swan skin, doubled and wrapped around so that only the white feathers showed, and on the crown of his head he wore a tuft of white feathers [swan?]” (Hudson 1976, 371). An “unsullied wing of a swan” was used to fan the flames of the new fire (Williams 1930, 111). Swan wings were also tied on top of poles that marked the graves of women and the pole was also decorated with white feathers, although it is not stated from what type of bird (Moore 1988, 49). These two accounts are rare instances where mention of a swan wing was made in the ethnohistoric literature survey. However, Wilma Mankiller, former principal chief of the Cherokee Nation in Oklahoma, is portrayed holding a swan wing as a clan emblem in a painting entitled She Speaks for Her Clan by Cherokee artist Dorothy Sullivan (n.d.).

Woodpeckers

The Ivory-billed woodpecker tarsometatarsal found in Mound 34 is a rare find. It is the only occurrence of a woodpecker remain recorded from Cahokia and, according to Parmalee (1958), places this bird 120 miles north of its former range. The best known representation of woodpeckers in the American Bottom area is the Ramey tablet (Fig. 1.5). This small sandstone tablet similar in size to the “Birdman” tablet is engraved with ivory-billed woodpeckers or possibly pileated woodpeckers (Dryocopus pileatus) on one side and severed human heads on the other. It dates from the Moorehead or Sand Prairie phase (Brown and Kelly 2000) and was found on the Ramey Tract in the late 19th century (Emerson 1982, Peet 1891). Similar woodpecker representations occur elsewhere as SECC motifs and may represent war. The severed heads on the Ramey tablet would reinforce this interpretation.

Historically ivory-billed woodpecker “scalps” were used by some American Indians, such as the Ponca, for peace pipe decorations or in headdresses. On an Osage turban headdress Ivory-billed woodpecker beaks are found projecting outward from a piece of swan skin. Bailey and Swan (2004, 200) refer to the ivory-billed woodpecker as
“a bird that inspires great courage through its strength, endurance, tenacity, and speed.”

The Osage Peace Ceremony was performed to maintain friendship between unrelated tribes as well as different segments of the Osage tribe. Pipes made in this ceremony used the skins of two peregrine or ivory-billed woodpeckers, the tail feathers of the golden eagle, and owl feathers. The red on the head of a peregrine woodpecker symbolized persistancy and perseverance for the Osage. The skin of the head with the upper bill attached was also put on pipe stems of the Omaha, Osage, and Pawnee (La Flesche 1939).

The red-bellied woodpecker (Melanerpes carolinus) symbolized war for the Cherokee, possibly because the red on the back of its head gives the appearance of it having been scalped. These woodpeckers were also perceived as being swift and cunning (Hudson 1976), attributes that would be valuable to warriors. For the Creek woodpeckers were omens of impending war, rain, approaching danger, or death (Granham 2002).

Owls
The five owl species present in the Mound 34 and Ramey Tract area are noteworthy because owl remains commonly are not found at American Bottom sites. At Cahokia, only one of the five owl species, the barred owl (Strix varia), has been identified outside the Mound 34/Ramey Tract area: from a context on the first terrace of Monks Mound (Parmalee n.d.). Twelve owl remains representing 2 owl species, great horned owl and barred owl, were identified by Parmalee (1957, 1958) from Mound 34. All are wing bones, except for one leg bone.

Mississippian owl representations occur primarily on ceramic vessels as adornos (Kelly and Koldehoff 1995) or as effigy pots (Milner 1983), but there may be some owl effigy pipes (Emerson 1982). Many from known contexts are associated with burials (Aftandilian 2003). The American Bottom Mississippian owl representations date primarily to the last phase of Mississippian occupation, the Sand Prairie phase, AD 1275–1375.

Southeast American Indians viewed the owl as an anomalous animal because it does not look or act like a “normal” bird (Hudson 1976). In reviewing the ethnographic literature, it appears the meaning or symbolism of the owl is many times anomalous as well. At times it has a negative, foreboding connotation and at others a more positive connotation by which owls can help bring about peace and goodwill (Wilson 1950).

The negative meanings that owls may convey include a somewhat universal belief among American Indian groups that owls warn of death or can cause death (Wilson 1950). For instance, the long-eared owl in particular was considered an ill omen by Southeastern tribes and may be a witch in disguise (Hudson 1976). For the Creek, witches could take the form of the great horned owl and in this form could steal and eat the hearts of its victims (Granham 2002). The Choctaw believe the horned owl prowls at night, killing men and animals. When the horned owl was heard screeching it meant sudden death. If a screech owl was heard it was an omen that a family member under age seven would die (Swanton 1993). As mentioned above owl feathers placed on an Osage war standard represented death and destruction (Bailey and Swanton 2004). Diegla speaking tribes to the west considered owls to be night war fighters and connected to the lower world (La Flesche 1939).

The more positive connotations for owls involve using its potentially dark powers advantageously. If the owl’s powers were used properly they would be of most benefit to medicine men and warriors (Wilson 1950). Because owls can see in the darkness and discern danger, they are able to keep a watchful eye on enemies. The Menominee included owls and owl skins in their bundles to help protect the bundle’s owner (Wilson 1950). In the Omaha and Ponca peace ceremonies songs were performed and owl feathers were put on the peace pipe to help promote peace and goodwill between different groups (Fletcher and La Flesche 1972). Woodpecker feathers were also used on the Ponca peace pipes for the same reason because they saw these two birds as “offering their aid” (Fletcher and La Flesche 1972, 47). Among the Mandan and Hidatsa the grey owl was believed to be a soothsayer and was kept as a live animal in their lodges (Wilson 1950). For other tribes such as the Pawnee, owls seem to be associated with children and are a source of power to help them (Wilson 1950). An owl effigy bowl found at the American Bottom Sand Prairie phase cemetery of East St. Louis Stone Quarry was associated with an infant burial (Milner 1983).

Hawks and Eagles
The large number of diurnal raptors present may hold the most significance for the Mound 34 fauna. Six species of hawk and two of eagle were identified from 54 bones. The species of hawks identified from 23 specimens include: swallow-tail kite, cooper’s, red-tailed, red-shouldered, rough-legged, and kestrel. Nineteen of the 23 specimens are wing bones and four are leg bones. In addition to a tarsometatarsus and a carpmetacarpus identified as golden eagle remains, Parmalee (1957, 1958) also identified 29 bald eagle bones from Mound 34. Of these, 25 are carpmetacarpals from at least 16 individuals. The other bones are a cranium, tarsometatarsus, and two phalanges. A small number of hawk and bald eagle bones have been found in other areas of Cahokia such as the examples in sub-Mound 51, in the Powell Mound (Baker 1941), Interpretative Center Tract (Kelly 1991, 1997), Tract 15A (Parmalee n.d.), and on the first terrace on Monks Mound (Parmalee n.d.). Clearly, however, the occurrence of hawk and eagle bones is concentrated in Mound 34.

Perhaps the most unique species among the hawk and eagle taxa is the swallow-tailed kite. A complete femur and tibiotarsus were recovered from Mound 34 (Parmalee 1958). Parmalee (1958) notes this species may have been common throughout the state of Illinois, but there have been no records of it since 1906. The Sibley Guide to Birds (Sibley 2000, 111) indicates the swallow-tailed kite
is primarily a southern species with its range being chiefly along the Gulf of Mexico coast with rare occurrences to the north.

Fletcher and La Flesche (1972) illustrate a “mummified” swallow-tail kite that was included in an Omaha Sacred War Pack. They indicate, “This bird is lined with cloth, native weaving of nettle-weed fiber. Several strands of native thread are fastened to the tail and a scalp lock is tied to the right leg” (Fletcher and La Flesche 1972, 413, Fig. 94). A falcon and a swallow-tail hawk were also part of this War Pack. Hawks were considered day war fighters by Dhegiha speakers and were associated with the upper world and sun and often battled the lower world owls (La Flesche 1939). Native Americans were always trying to achieve a balance in their World View, and finding owls (night) and hawks (day) together may be an example of an attempt to maintain such a balance.

Eagles and hawks are birds most commonly associated with ritual in the Mississippian Period because of their representations in its iconography. This is true more for hawks and falcons than for eagles. For Southeastern American Indian groups the eagle epitomizes the Upper World in their layered cosmology and is considered the grandfather of the falcon (Hudson 1976). The falcon, however, seems to play a more important role in their world view and iconography. In fact, “the falcon is one of the most conspicuous images in Mississippian Period iconography... Images of this bird have given rise to more interpretative interest than perhaps any other” (Brown 2007, 56).

In Osage world view, the golden eagle brought their people down from the sky at the beginning of creation (Bailey and Swan 2004). Eagles were a life symbol for Osage warriors. The Pawnee believe the eagle represents Heaven during creation (Weltfish 1965). The feathers of the immature golden eagle were used on pipes made as part of the Osage Peace Ceremony (La Flesche 1939).

In Creek society, eagle feathers were a war emblem. A single eagle had the value of 200 deer skins. A person who killed an eagle was honored with a title just as if he had taken the scalp of an enemy (Swanton 2000).

For Siouan and Caddo speakers the hawk is associated with the Morning Star deity who represents the capacity of rebirth, controls the generation of human life, and was the father of first man (Brown 2004, Murie 1981). The hawk or falcon for the Osage “is simultaneously an avatar of warriors in combat and an object for supplication, not merely to ensure success or failure on the field of battle, but more essentially to ensure a lengthy life, a healthy family; and a long line of descendants” (Brown 2007, 56).

The hawk was chosen by the Osage to symbolize courage and the combative nature of the warrior. Although the courage of hawks and eagles was considered to be equal, the hawk’s swiftness and decisive manner made it more admired by the warrior (La Flesche 1921). The hawk was the life symbol for the Men of Mystery clan. A hawk skin was the most sacred object in a clan bundle, which is sometimes referred to as the “hawk bundle” or “hawk”. In battle the leader of the war party carried a clan bundle (Bailey 1995, 50). When an attack was about to be made by a war party, the Sacred Warrior of the party put a hawk on the back of each of his eight commanders and then gave the signal to attack (Bailey 1995, 134), however La Flesche (1939) implies elsewhere that a single hawk was taken from the bundle and was placed on the back of the chief commander. Because falconoid traits are incorporated into birdman images that are so prevalent in late Mississippian iconography (Fig. 1.6) and have been associated with warrior symbolism, it does not necessarily mean that Mississippian peoples became more war-like. The quote by The Reverend William Vaill, an early missionary to the Osage, in Bailey (1995, 220) that states “the Osages are remarkable for always being at war, without being a war-like people” may also epitomize the nature of Late Mississippian peoples in the mid-continent.

Summary

Five taxa of birds (swans, woodpeckers, hawks, eagles, and owls) found at the Cahokia site have been investigated for possible ritual significance. Swans are emphasized more than the other four since their ritual significance is rarely reflected in Mississippian iconography. From the brief perusal of the ethnographic and ethnohistoric accounts of how these different birds were used and viewed within American Indian groups in the mid-continent and southeast, it is apparent that the meaning or symbolism of a bird is not straightforward, but is very complex. One must understand the nature of these American Indian societies and understand the organization of their world views. Much of the symbolism involved depends on the context in which an animal is used and that symbolism can change dramatically if elements are changed within a
ritual or ceremony. For example, within the Osage' s world view all natural phenomena including birds "was given a set of symbolic meanings and purposes based on its known physical and behavioral qualities" (Bailey and Swan 2004, ix). Each new object they would make had its own meaning and purpose, depending on which elements were used. Some objects were for domestic use while others were for ritual use, but all were considered sacred and their production was a religious act (Bailey and Snow 2004). If this is true for most American Indian groups, then we may never be able to decipher from one element of an object its meaning or what the symbolism of the object might have been. Then, the question becomes, why should we even try?

When trying to understand the meaning of certain animal remains at a site by studying potential ethnographic analogs for those meanings, we may not be able to decipher specific symbols or symbolism, but we can still gain a great deal of knowledge about the organization of societies and the incredibly complex roles animals had within them, besides providing sustenance. And, we may be able to decipher much broader patterns of use for specific animals.

In the case of the swans from Cahokian contexts, it is assumed the meanings they conveyed may differ from the early sub-Mound 51 ritual feasting context to the later Mound 34 ritual activity context. The ethnographic literature suggests a number of possibilities for their symbolic meaning. For instance, the swan’s white color is representative of purity and peace and their black beak and feet of war and death. An association with fire is another theme. The swan’s connection with fertility seen in the Osage, Pawnee, and Chickasaw groups may be particularly applicable to the sub-Mound 51 context. Fertility symbolism is especially prevalent in the late Emergent Mississippian and the early Mississippian phases of Cahokia, and a fertility theme may be found in sub-Mound 51 if the large communal feasts represented by the pit’s refuse were connected with harvest or renewal ceremonies.

War symbolism more prevalent after AD 1200 at Cahokia can be seen in the materials recovered from Mound 34. Swans were found in abundance here also, but swans are symbolic of both war and peace, depending upon the context in which they are used. The other four bird taxa of woodpecker, owl, eagle, and hawk, concentrated in the Mound 34 area all may have strong connections to death and warfare. During the Stirling and Moorehead phases there is a shift in Mississippian iconography from earth-mother-goddess fertility symbols to warrior symbols. These warrior symbols include depictions of falcon elements such as the forked eye, falcon tail and wing designs on Ramey beak and feet of war and death. An association with fire is another theme. The swan’s connection with fertility seen in the Osage, Pawnee, and Chickasaw groups may be particularly applicable to the sub-Mound 51 context. Fertility symbolism is especially prevalent in the late Emergent Mississippian and the early Mississippian phases of Cahokia, and a fertility theme may be found in sub-Mound 51 if the large communal feasts represented by the pit’s refuse were connected with harvest or renewal ceremonies.

During the Stirling and Moorehead phases there is a shift in Mississippian iconography from earth-mother-goddess fertility symbols to warrior symbols. These warrior symbols include depictions of falcon elements such as the forked eye, falcon tail and wing designs on Ramey beak and feet of war and death. An association with fire is another theme. The swan’s connection with fertility seen in the Osage, Pawnee, and Chickasaw groups may be particularly applicable to the sub-Mound 51 context. Fertility symbolism is especially prevalent in the late Emergent Mississippian and the early Mississippian phases of Cahokia, and a fertility theme may be found in sub-Mound 51 if the large communal feasts represented by the pit’s refuse were connected with harvest or renewal ceremonies.

War symbolism more prevalent after AD 1200 at Cahokia can be seen in the materials recovered from Mound 34. Swans were found in abundance here also, but swans are symbolic of both war and peace, depending upon the context in which they are used. The other four bird taxa of woodpecker, owl, eagle, and hawk, concentrated in the Mound 34 area all may have strong connections to death and warfare. During the Stirling and Moorehead phases there is a shift in Mississippian iconography from earth-mother-goddess fertility symbols to warrior symbols. These warrior symbols include depictions of falcon elements such as the forked eye, falcon tail and wing designs on Ramey beak and feet of war and death. An association with fire is another theme. The swan’s connection with fertility seen in the Osage, Pawnee, and Chickasaw groups may be particularly applicable to the sub-Mound 51 context. Fertility symbolism is especially prevalent in the late Emergent Mississippian and the early Mississippian phases of Cahokia, and a fertility theme may be found in sub-Mound 51 if the large communal feasts represented by the pit’s refuse were connected with harvest or renewal ceremonies.

War symbolism more prevalent after AD 1200 at Cahokia can be seen in the materials recovered from Mound 34. Swans were found in abundance here also, but swans are symbolic of both war and peace, depending upon the context in which they are used. The other four bird taxa of woodpecker, owl, eagle, and hawk, concentrated in the Mound 34 area all may have strong connections to death and warfare. During the Stirling and Moorehead phases there is a shift in Mississippian iconography from earth-mother-goddess fertility symbols to warrior symbols. These warrior symbols include depictions of falcon elements such as the forked eye, falcon tail and wing designs on Ramey beak and feet of war and death. An association with fire is another theme. The swan’s connection with fertility seen in the Osage, Pawnee, and Chickasaw groups may be particularly applicable to the sub-Mound 51 context. Fertility symbolism is especially prevalent in the late Emergent Mississippian and the early Mississippian phases of Cahokia, and a fertility theme may be found in sub-Mound 51 if the large communal feasts represented by the pit’s refuse were connected with harvest or renewal ceremonies.

War symbolism more prevalent after AD 1200 at Cahokia can be seen in the materials recovered from Mound 34. Swans were found in abundance here also, but swans are symbolic of both war and peace, depending upon the context in which they are used. The other four bird taxa of woodpecker, owl, eagle, and hawk, concentrated in the Mound 34 area all may have strong connections to death and warfare. During the Stirling and Moorehead phases there is a shift in Mississippian iconography from earth-mother-goddess fertility symbols to warrior symbols. These warrior symbols include depictions of falcon elements such as the forked eye, falcon tail and wing designs on Ramey beak and feet of war and death. An association with fire is another theme. The swan’s connection with fertility seen in the Osage, Pawnee, and Chickasaw groups may be particularly applicable to the sub-Mound 51 context. Fertility symbolism is especially prevalent in the late Emergent Mississippian and the early Mississippian phases of Cahokia, and a fertility theme may be found in sub-Mound 51 if the large communal feasts represented by the pit’s refuse were connected with harvest or renewal ceremonies.

I appreciate the comments of the two anonymous reviewers, particularly the one that directed my attention to an additional ethnographic source on swan wings.

References


Acknowledgements

I thank Terrance Martin and the Illinois State Museum for giving me access to the curated faunal records of Paul Parmalee. I also thank John E. Kelly for his insights and comments on this paper. John B. Taylor granted permission for the use of his photograph of the Big Horn Figurine. I appreciate the comments of the two anonymous reviewers, particularly the one that directed my attention to an additional ethnographic source on swan wings.


1. A Bird's Eye View of Ritual at the Cahokia Site

Perino, G. (n.d.) Mound 34. Manuscript on file at the University of Michigan, Museum of Anthropology, Ann Arbor.


