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Introduction

Global Perspectives on Provisioning Complex Societies

LEVENT ATICI AND BENJAMIN S. ARBUCKLE

This volume, which derives from a productive session at the meeting of the International Council for Archaeozoology in San Rafael, Argentina, addresses a major branch of zooarchaeological inquiry focused on the role of animals in complex societies. Examination of animals in the economies, rituals, and politics of complex societies has been one of the most productive foci of modern zooarchaeological research. From B. Maltby's (1979) *Faunal Studies on Urban Sites: Animal Bones from Exeter*, J. Boessneck and U. von den Driesch and colleagues' (1971) *Die Tierknochenfunde aus dem Oppidum von Manching*, to M. Zeder's (1991) *Feeding Cities*, and Elizabeth Reitz and Elizabeth Wing's (2010) *Mission and Pueblo Santa Catalina de Guale, St. Catherines Island, Georgia (USA)*, faunal specialists have been actively engaged in innovative research exploring the roles of animals in societies characterized by social hierarchies and specialization from the first urban states to European colonial settlements. Influential syntheses of faunal perspectives on complex societies by P. J. Crabtree (1990) and S. deFrance (2009) have defined the avenues that can be explored through faunal remains targeting

themes including political economy, specialization, ritual practices, ideology, identity, and dietary differences within and between communities.

In this volume, authors continue to explore these productive themes within a wide variety of complex societies ranging from Mississippian communities of the American Southeast, to the Great Settlement of Anyang in Bronze Age China, to the Aksumite kingdom of Northeast Africa. Taking a global perspective and including both prehistoric and historic case studies, the chapters in the volume reflect some of the current best practices in zooarchaeology, integrating faunal evidence with archaeological contexts, historical texts, iconography, and ethnohistorical sources to discern ways that animals are key contributors to, and cocreators of, complex societies in all periods and all places.

COMPLEX SOCIETIES

In this volume, we focus on the use of animals in complex societies, which begs the question “what is a complex society?” The line separating what is “complex” and what is not is not always clear and distinct. Thus, answering this question is not as straightforward as it may seem at face value. This ambiguity stems largely from the fact that human societies vary infinitely in their patterning of social, political, and economic organization. The frequent conflation and use without a clear definition of terms such as *city*, *urban center*, *urban society*, *urbanization*, and *state* exacerbate the problem. An inherent false assumption that states didn’t exist without cities and/or cities didn’t exist without states adds insult to injury. These assumptions make the co-occurrence of city and state superfluous (Cowgill 2004:526). As such, although archaeologists widely disagree on how to define complexity and to identify it in the ground, they may agree on baseline criteria to probe the issue.

From the outset, we acknowledge marked differences among complex societies and their patterns of sociopolitical and economic organization and institutions, as well as among their technologies, natural resources, and settlements. From a Childean vantage point, the study of complex societies requires a set of criteria to aid archaeologists identify and recognize complex forms of social, political, and economic organization. In his seminal work, *The Urban Revolution*, V. Gordon Childe’s first sentence reads: “The concept of ‘city’ is notoriously hard to define” (1950:3). He then goes on to introduce his renowned ten abstract criteria, the archaeologist’s *Decalogue*, to distinguish early cities (1950). More than six decades later, Norman Yoffee and Nicola N. Terrenato (2015:2) offer an updated and extended version of the *Decalogue* and postulate that cities

1. have permanent settlements that are large in area;
2. have quite a few people who live closely together;
3. have bureaucracies who keep track of people and things leaving and entering;

4. have a center with impressive architecture that affords and/or restricts political, social, and/or ideological activity;
5. feed people with foodstuffs produced in the related countryside or with imported produce;
6. acquire, through long-distance trade, luxury and utilitarian goods;
7. provide a sense of civic identity;
8. provide arenas in which the rulers demonstrate their special connections to the high gods and the cosmos;
9. contain potential social drama and discontent among various competing/cooperating social groups and their leaders;
10. create and incubate significant environmental and health problems.

Obviously, employing a laundry list approach would not necessarily generate the much-desired theoretical and methodological panacea that can be universally applied to any given ancient society across the globe, due to the plethora of human experience in time and space and to the lack of a uniform socioeconomic system. Hence, it is impossible to agree on a cross-culturally applicable definition of *the city* and *the state* (Cowgill 2004:526). Still, these criteria form a good starting point and offer us a useful explanatory framework to identify some regularity in patterning. Archaeologists, thus, tacitly agree to use criteria that can be summarized under more generic and broader categories as locational, artifactual, administrative, and mortuary with varying sets of tangible material correlates though those, too, are difficult to discern archaeologically. We would like to emphasize that we do not consider social change or a larger scale transformation as a linear evolutionary upgrade from one stage to the next. Following the complex systems approach set forth by J. B. Auban and colleagues (2012), complex societies can be thought to have *many interacting components organized into nested groups that can be represented as organizational hierarchies or hierarchically structured networks* that are governed by a multivalent, dynamic evolutionary process (Auban et al., 2012:23).

WHAT IS FOOD PROVISIONING?

It is no coincidence that food provisioning is on both the original and updated lists of criteria for identifying urbanism, owing to the fact that food is and has always been one of the primary biological needs regardless of the basic and dominant mode of livelihood. Beyond diet and nutrition, food preparation and consumption intersect with many other processes of social life and food systems have effects on public health, social justice, energy, water, land, transport, and economic development (Itulua-Abumere 2013; Morgan 2009). Variations seen in the ways people eat reflect differences of political power, social prestige, economic wealth, and overall health (Gumerman 1997:106).

Cultural anthropologists study food to probe a wide scope of research themes, including classic food ethnographies, single food commodities and substances, food and social change, food insecurity, eating and ritual, eating and identities, food supplies and seasonal rituals of conflict, food resource periodicity and cooperativeness, food avoidances, biological aspects of eating, infant feeding and weaning, and cannibalism, to name but a few (Mintz and DuBois 2002). Food systems have also been directly related to broad societal processes such as political-economic value-creation, symbolic value-creation, and the social construction of memory in anthropological theory building within the framework of cultural materialism versus structuralist or symbolic explanations for human behavior (Mintz and Du Bois 2002:100).

As far as archaeological approaches to food are concerned, one can trace a developmental trajectory from more subsistence and diet-oriented paradigms to ones that place food within a broader and socially oriented framework, mirroring the transition from scientific to interpretive archaeological theory building (Twiss 2012). This trajectory is evident in the field of zooarchaeology with the emergence of a distinctive “social zooarchaeology,” with its explicit emphasis on the social context of engagements with animals and animal products (Ewonus 2011; Orton 2012; Russell 2012). In the context of zooarchaeological research on complex societies, this study incorporates increased interest in exploring the intersection of animals and features of the urban “decalogue” not strictly limited to nutrition and subsistence. These features include recognition of the local and long-distance trade in animals and animal products (Orton et al. 2014; Sharpe et al. 2018); the use of food choice and preparation techniques in the construction of social identity (Crabtree and Campana 2016; Eryvynck et al. 2003); engagement with cosmology through food offerings and food symbolism (deFrance 2009; Yuan and Flad 2005); social competition via feasting and gift giving (Knudson et al. 2012; Rowley-Conwy 2018); and the impact on urban health of zoonotic disease, parasites, and animal waste and waste disposal (Bartosiewicz and Gal 2013; Fournié et al. 2017).

As a result of this turn towards the “social life of food,” it can be recognized that the study of food provisioning must be embedded within the broader context of political and ritual economies. Economic organization refers to the dynamic relationships among production, distribution or exchange, and consumption (figure 1.1). However, rather than taking place only within a limited range of centralized state institutions—the traditional focus on economic archaeology in complex societies—food and animal economies spill over into a myriad of political and ritual, public and private contexts. Other important attributes of complex economic systems include the management of production; organization of labor; power relationships among different socioeconomic segments; and access to and control of land, infrastructure (e.g., roads, irrigation

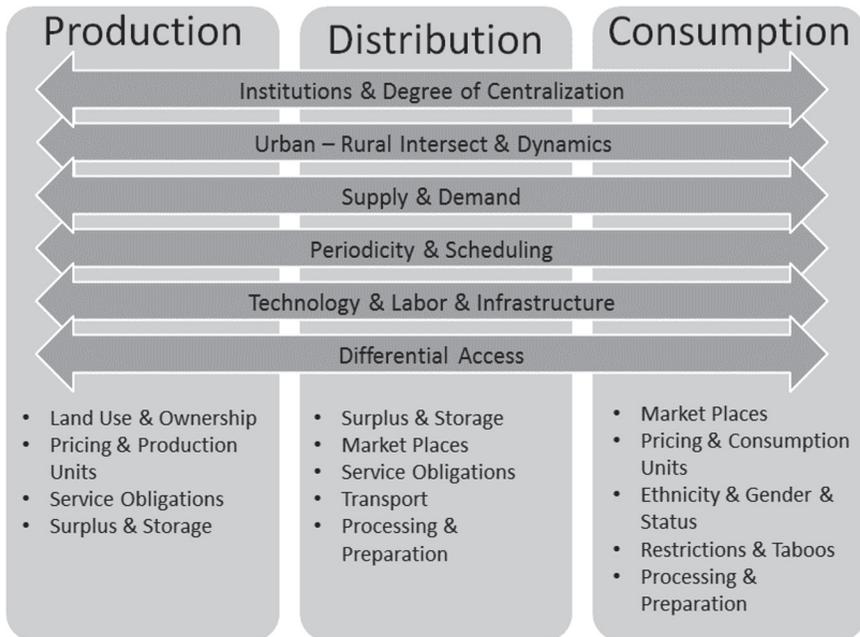


Figure 1.1. Schematic view of the dynamic variables associated with the production, distribution and exchange, and consumption of animals and animal products in complex societies.

canals), key raw materials, resources (e.g., beasts of burden), and technology (e.g., carts, wagons, plows, metal tools) (Evans and Webster 2001; Feinman and Nicholas 2004).

According to Melinda Zeder (2003), premodern urban economies are characterized by complex and varying scales of specialized and segregated interactions between centralized/regulated and diffused/unregulated activities during the production, movement, and consumption of goods. She also asserts that some properties of food resources—such as whether the production levels can be predicted and controlled, and whether the resources can be moved and stored to manipulate supply and demand—play significant roles, shaping the nature of urban food provisioning (Zeder 2003:160). J. C. Scott (2017) has further argued that it is the predictable and storable nature of some food resources that form the very basis of state power, social hierarchies, and the features of urbanism listed above.

In regards to animal resources specifically, Zeder (1991:1994) argues that urban settlements are often provisioned via specialized and indirect animal economies characterized by specialized distribution and processing systems reflecting the separation between rural producers and urban consumers. Systems of production may be variably under state control or “farmed out” to independent

producers, particularly when involving ruminants such as sheep, goats, cattle, and camels, which require extensive grazing areas. In the Mediterranean and Near Eastern regions, however, pigs and chickens tend to fall outside of the purview of centralized provisioning systems reflecting the presence of multilayered animal economies (Price et al. 2017; Redding 2015; Zeder 1998).

SCOPE AND VISION OF THE BOOK

In the present book, we aim to map out a research agenda for anthropological archaeologists in general and zooarchaeologists specifically, by defining some analytical parameters, perspectives, and concerns associated with food provisioning in complex societies. However, such an exercise will not be received without controversy. We are acutely aware of the fact that our spatiotemporal coverage is not comprehensive. Yet, the breadth shouldn't render what is included here as more important and primary and what is not included as secondary and unimportant.

Studies exploring various socioeconomic aspects of ancient societies have often relied on archaeological, textual, zooarchaeological, and archaeobotanical studies from an isolated perspective and within a disarticulated and fragmented explanatory framework. This volume seeks to develop a picture of food provisioning in complex societies in the Old and New Worlds by bringing together scholars working in Southwest Asia, East Asia, Africa, Europe, North America, and Mesoamerica. We seek to identify how food provisioning in early and more recent complex societies is manifested in the archaeological, historical, and zooarchaeological records.

Theoretically, we focus on centralization and bureaucratic control, asymmetrical access and inequalities, and production-distribution-consumption dynamics. As such, the individual chapters in this book relate to these concepts as a common thread throughout the book. Methodologically, we aim to bring together as many independent lines of evidence as possible, with special emphasis on the combined use of zooarchaeological and historical data to develop comprehensive and fine-resolution pictures of provisioning systems in early complex societies.

Since a book that probes food provisioning in state-level complex societies and/or urban centers across time and space currently doesn't exist, this book represents a first step toward compiling the scattered, disarticulated, and fragmented data on food provisioning. A primary goal of the book is to integrate the work of scholars engaged in archaeology and zooarchaeology with the historians and linguists as a first step toward developing a new synthetic research paradigm that can address issues of urban food provisioning in the ancient world. This book, therefore, represents a unique contribution to our understanding of how food provisioning systems developed in early complex societies. We also fill a gap by

shedding new light on a poorly understood, largely neglected, and underinvestigated research topic: urban food provisioning and animal management.

CASE STUDIES

The chapters in this volume are arranged geographically, with chapters 2–6 focusing on case studies from Eurasia and Africa and chapters 7–9 describing examples from the Americas. However, despite this rather predictable geographic bifurcation, themes including specialization, use of wild game, elite ritual, and animals as a reflection of political economy clearly extend beyond regional boundaries.

The first case study, chapter 2, focuses on wild animals in urban economies and evidence for specialized provisioning systems specifically targeting wild resources. Using the Bronze Age urban site of Achemhöyük in central Turkey as a case study and incorporating ancient iconographic and textual records with zooarchaeological analysis, Arbuckle develops a picture of the diverse roles wild animals played in sociopolitical and economic realms during the Bronze Age. Exploring multiple modes of independent and parallel urban-provisioning systems, the chapter documents sophisticated systems aimed at procuring wild animals and their remains at Achemhöyük. These systems include the hunting of aurochs and boar, hunting and perhaps keeping of bears and wolves, the capture of wild equids and breeding and training of equid hybrids, the importation of elephant and hippopotamus ivory for the production of luxury items, and the use of antler and horn in other palace industries. These animals played roles in visual displays, feasting events, ornamentation, and industrial purposes and were used in ways with broad parallels across courtly cultures in Syro-Mesopotamia. This chapter highlights the presence of diverse and specialized provisioning systems in Bronze Age cities designed to provide urban elites with highly valued wild animals and animal products as a means to establish, maintain, and reify economic, political, and social status and to reflect wealth, power, and prestige.

In chapter 3, Meier and colleagues integrate texts, zooarchaeology, and stable isotopes to discuss the roles of animals in wider redistributive economic systems during the Late Bronze Age in the Aegean. They investigate whether centralized palatial bureaucracies imposed on independent herders to support the specialized economy and its attached craftspeople. More specifically, the authors examine evidence for the provisioning at one nonpalatial household, Petsas House, in the Helladic period at the Mycenaean center Mycenae. Here, unique deposits from a well located within the structure are used to identify a combination of indirect and direct access (following Zeder 1991) of this household to animal resources. The analyses reveal the presence of household-level procurement of pigs, a sector of the animal economy thought to reside outside of institutional taxation schemes. Sheep and goat, on the other hand, likely intersected more with the palatial economies, with the Petsas household receiving from and perhaps

producing for state herds. This chapter documents how animal procurement varied by taxa and how residents practiced both direct and indirect provisioning in decentralized/domestic and centralized/palatial forms.

Chapter 4 moves to the western margin of Europe, where Beglane targets the dietary contributions of various livestock and animal products at four sites in Ireland, specifically challenging notions of historically constructed Irish diet through a combination of texts, faunal data, and model building. Through the application of textually informed dietary models, Beglane argues for an important role for dairy in the medieval Irish diet, though marked differences in the production and consumption of animal products are identified at three different types of sites: farm, abbey, and castle. This multisited approach reveals the complexity and spatial heterogeneity of animal provisioning systems reflecting differences in social status, religious laws, and economic activities with producer, consumer, and self-sufficient sites each noted archaeologically.

This approach emphasizes the use of livestock, especially cattle, for dairy products, labor, and also as a tangible symbol of wealth—features often difficult to “see” archaeologically—in addition to meat. This case study also emphasizes the benefits of reconstructing a historically informed socioeconomy using faunal remains that provide a higher-resolution understanding of this multisited medieval economy than texts alone. Similar to the previous chapter by Meier, Beglane emphasizes the presence of multiple, contingent provisioning systems structured primarily by social, political, and religious forces and with each individual settlement situated within a uniquely structured economy, the limitations, opportunities, and obligations of which were based on status, function, and wealth.

In chapter 5, Campbell continues to emphasize the importance of status, belief systems, politics, and cosmologies in structuring how food economies are organized. Addressing Shang period animal provisioning in the Yellow River valley in China, Campbell probes provisioning at one of the largest ancient urban centers in the world. This chapter places a special emphasis on the enormous scale of the provisioning system needed to fulfill the subsistence and sacrificial needs (the ritual economy) of the world’s largest Bronze Age urban center. More importantly, Campbell deliberately departs from the conventional discussions of subsistence with a singular focus on the roles food played in terms of simply feeding people. The chapter reminds us that both the dead and the living needed feeding; that food was employed as a medium, with differentiated value, to help negotiate sociopolitical status; and that direct and clear entanglement between cosmological and political domains created a ritual economy involving the daily sacrifice of huge numbers of livestock at the Shang capital, Anyang.

Campbell argues that although large numbers of livestock, especially cattle, were consumed in the “Great settlement” of Anyang, there is no evidence from ancient texts for a large-scale centralized provisioning system designed to provide

for the caloric, ritual, and political needs of the Shang capital. Instead, Campbell posits, the Shang animal economy was the result of a “myriad self-organized networks” (chapter 5), involving a combination of hierarchical lineage groups, specialist producers, and markets for acquiring needed animal resources. This framework presents a new model of an “acephalous,” diverse, and flexible urban provisioning economy, emphasizing the presence of many self-organized and segmented provisioning systems meeting the combined ritual, subsistence, and labor requirements of Anyang’s high- and low-status occupants as well as its industrial, commercial, and palatial needs. Here again we see an emphasis on a myriad contemporary provisioning systems operating in unison though not perhaps in direct coordination to meet the needs of a heterogeneous, hierarchical society.

In chapter 6, Woldekiros points out that scholarship on feeding African cities has focused on modern food insecurity and that systems for provisioning ancient cities have received little attention. Turning her attention to the kingdom of Aksum, modern Ethiopia, Woldekiros places a special emphasis on the importance of external trade routes in acquiring high-value resources, especially for elites and on the use of administrative technologies and “police” forces for monitoring, controlling, and maintaining long-distance trade corridors. Using a combination of texts, archaeology, and faunal analysis, Woldekiros argues that the Aksumite state developed a specialized agropastoral system primarily relying on cattle and involving both direct and indirect market-based provisioning of urban populations, thus providing a valuable African model complementing the widely cited model of urban provisioning presented by Zeder (1991) based on Near Eastern examples. Moreover, she also identifies the presence of local and direct access to animals at some sites, arguing that the participation of a wide range of state and nonstate actors in provisioning activities created a resilient and flexible system that was able to meet the diverse needs of both high- and low-status Aksumites. Thus, provisioning systems at Aksum have clear structural parallels with those described in Bronze Age Turkey and Greece, and Shang China.

Moving into the chapters on provisioning complex societies in the Americas, chapter 7 presents the first evidence for animal provisioning at the urban center of Monte Albán in Mexico. In this seminal contribution, Martínez-Lira and colleagues define an urban animal economy focused on a combination of wild (deer, peccary, and rabbit/hare) and domestic (turkey and dog) resources and identify spatial and temporal variations in access to animal products.

In terms of spatial variability, the authors identify differences in the abundance of taxa linked to different functional and status areas of the site, with public spaces exhibiting higher frequencies of deer remains than residential areas, indicating their role in the performance of feasting events. High-status areas are also found to be associated with rabbits—results with parallels at the earlier urban

economy at Teotihuacan (Somerville et al. 2017). In terms of change through time, the authors find no evidence for a decline in access to high-status wild game, including deer or peccary, as might be predicted by game depression models, though the frequencies of domestic taxa do increase through time, tracking the increase in population at the site. This increase in domestic taxa suggests that access to large game may have been restricted or controlled by state institutions in order to ensure consistent supplies to meet elite ritual and feasting requirements. Moreover, the authors identify concentrations of high-utility cuts of venison within the city, reflecting a complex and likely specialized system of indirect provisioning, perhaps via multiple mechanisms, including markets or state institutions or based on lineage or occupation. This finding has interesting parallels with Zeder's (1991) model of specialized animal economies in the complex societies of ancient Southwest Asia and suggests that control over the processing and distribution of animal products, whether they derive from wild or domestic taxa, is a central concern of state institutions and urban economies.

In richly illustrated chapter 8, Newman reviews ethnohistorical, iconographical, and zooarchaeological evidence for the role of deer in pre-Columbian Maya subsistence, politics, and cosmology. She shows the complex and multifaceted role of deer hunting as sources of animal products, prestige, and reflections of political and religious power. Deer were also exchanged as property as part of bride price and used as sexual metaphors—important features of complex animal economies rarely addressed in zooarchaeological work in the Americas. Further drawing comparisons with Old World big game hunting, Newman describes evidence that Maya elites engaged in group hunting events for political as well as economic reasons. Moreover, at least by the terminal Postclassic, it is also clear that Maya peoples raised deer within villages, though it remains unclear how deer populations were managed during the height of the Classic Maya period.

Newman follows this review of ethnohistorical sources with a detailed examination of hunting and animal husbandry at the site of El Zotz, Guatemala. She argues that with increasing hierarchy in the Classic period, deer hunting became increasingly intertwined with elite political and religious structures, resulting in an increased emphasis on the most prestigious big game in the region. In fact, white-tailed deer percentages map the rise and fall of the El Zotz ruling dynasty, and, like the case at Monte Albán, state institutions likely deployed wild cervid management strategies in order to maintain access to deer populations. Newman suggests that “garden hunting” was the foundation of wild animal procurement systems in the Maya region with an increase in specialized deer procurement during the Classic Maya. As an outgrowth of garden hunting, Newman recognizes landscape management practices, such as extensive land clearing, as an important mechanism that created increased carrying capacity for deer and other wild taxa and that provided a human-engineered foundation

for supplying the wild animals and animal products required to support Maya polities such as El Zotz.

In chapter 9, the final chapter, Peres examines the animal economies from two Mississippian period sites in the American Southeast. She explores how changes in regional settlement patterns from dispersed farmsteads toward population aggregation and more intensive agriculture led to changes in hunting and collecting animal resources. Similar to the previous chapter on Maya hunting economies, Peres places special emphasis on “garden hunting,” focusing on themes of risk reduction and resilience. Peres argues that “disturbance taxa” were targeted by garden-hunting strategies as part of a provisioning strategy closely integrated with the agricultural system. Comparing faunal remains from a small farmstead and a larger village, she identifies the development of a more complex provisioning system for the village site, where animals were provided for feasts and other social events as well as subsistence. According to Peres, overrepresentation of deer hind and forequarters suggests a complex and perhaps specialized deer procurement and distribution system, which has parallels at the larger Mississippian center of Moundville (Jackson and Scott 1995) and also in Martínez-Lira and colleagues’ chapter on the Zapotec center of Monte Albán.

CONCLUDING REMARKS

The eight individual chapters in this volume encapsulate a wide array of theoretical and conceptual approaches to food provisioning in complex societies, in addition to encompassing a wide spatiotemporal spectrum. Although the specific historical and environmental contexts of each case study are different, each chapter touches on a related series of themes relevant for understanding the nature of animal provisioning in complex societies.

First, in contrast to previous work, which has tended to focus on the role of centralized state institutions in feeding complex societies, based largely on Old World texts addressing palace herds and control over agricultural surplus, the chapters in this volume emphasize the presence of multiple, contingent provisioning systems, organized by a range of institutions, corporate groups, and individual actors. In this emergent model of provisioning complex societies, individual settlements and even households and individuals sit at the center of distinct provisioning systems, each with a unique albeit predictable and structured set of obligations, opportunities, and limitations, reflecting their place in the larger social system. A productive emphasis for future work is therefore on the heterogenous and contingent nature of provisioning systems (with an emphasis on the plural) within early complex societies.

In particular, chapters by Campbell, Woldekiros, and Meier highlight the presence of multiple, flexible, and perhaps acephalous networks utilized to produce, acquire, and distribute animal resources to fill a range of subsistence, industrial,

political, and religious obligations and needs at a range of scales from the household to the urban settlement. These systems may involve formal state bureaucracies, but they may also be largely self-organizing and based on social and kin relations rather than market and centralized forces. The diverse and flexible nature of these contingent networks may in fact be a key feature explaining the resilience of animal provisioning systems often evident in archaeological case studies.

A second, related theme is that the production, distribution, display, and consumption of animals and animal products are clearly embedded within social, political, and ritual relationships rather than residing primarily in subsistence-oriented markets. As almost all of the chapters in this volume highlight cleavages along status lines, religious order, sodality, kin group, and so on, they highlight predictable and repeated differences in who has access to what animal resources. In Beglane's chapter on medieval Ireland, access to animals, particularly cattle, is affected by one's position within society, with grange workers, monks, and high-status nobles situated within different provisioning webs, each governed by different sets of rules. Each chapter emphasizes linkages between status and access to specific animal resources, while Campbell, Perez, and Newman show that ritual obligations to feed ancestors and provide offerings for the living and the dead at feasting events are central rather than peripheral features of the economies of ancient complex societies.

In the chapters by Arbuckle, Martínez-Lira, and Newman, wild animals, including aurochs and boar in Anatolia and deer and peccary in the Americas, were accessible in high-status contexts, with suggestions that game reserves and restrictions on nonelite hunting may have been in place in both ancient Mesoamerica and Southwest Asia. In the Mediterranean region, although large sheep and goat herds may have been under the control of palatial authorities, Meier argues, pigs were outside of the obligations and requirements of this redistributive economy; instead, swine provisioning systems were likely organized in a more heterarchical way through personal contacts or kin relationships to local swineherds. This theme emphasizes that faunal assemblages are the aggregated products of social relationships reflecting the social systems in which they were produced. This is particularly the case in ancient complex societies not transformed by the alienating tendencies of later capitalist economic systems.

A third feature is that each case study reveals that elites in complex societies regularly and predictably go to great lengths to create distinctive and specialized provisioning systems designed to highlight their unique ritual and political roles. In many cases, high-status institutions focus on controlling the distribution (i.e., access to) and processing of animals and animal resources for specific events—such as feasts, celebrations, and public rituals—whereas production and acquisition regimes tend to be more distributed and heterogeneous, providing general support for Zeder's (1991) model of urban provisioning.

Because the display, distribution, and consumption of animal products and animals themselves are central parts of the performance and reification of status within hierarchical complex societies, animal remains represent a particularly effective proxy for assessing the nature of hierarchies and status in the archaeological record, particularly when intersite or intrasite contextual analyses are employed. This is the case in both Old and New World contexts, where elite-sponsored feasts are evident in the Mississippian period in the American Southeast, the Oaxaca Valley of Mexico, Bronze Age Anatolia, and Shang China. In addition, big game hunting was an obligation of Maya and Near Eastern kings alike, and lower-status populations accessed animal products through mechanisms such as garden hunting and household swine production as well as through other contingent and resilient strategies outside of centralized provisioning systems.

As a result of the importance of context and relationality in structuring the needs for and resulting uses of animals, the chapters in this volume emphasize the importance of integrating textual and/or ethnohistorical sources in the interpretation of animal provisioning in complex societies. Although the symbolic roles of some animals—particularly those characterized by large size or impressive physical features such as deer, horned cattle, large carnivores, and birds of prey—may fall into predictable cross-cultural patterns in many cases, it is difficult to adequately understand the uses and symbolic importance of many taxa or intrasite variation in foodways and diet in cases where direct historical parallels are not available. In addition, detailed cultural knowledge derived from texts allows zooarchaeologists in historical contexts to further explore the roles of hunting and herding practices in the performance of specific social roles (see examples in chapters by Arbuckle, Beglane, and Woldekiros), cosmologically significant practices, including the recapitulation of mythological events (Newman), or feeding ancestors and other supernatural beings (Campbell).

Finally, although each chapter explores the uses of multiple species in complex societies, the overwhelming importance of large mammals, whether as prey species or livestock, is evident in each case study. In Africa and Eurasia, cattle, and in specific cases camels and horses, are important points of intersection of the realms of wealth, power, production, vitality, alimentation, divinity, and bodily virtue. These large, impressive animals are disproportionately targeted by elites to project and reify positions of power and inequality. In the Americas prior to European colonialism, deer played a very similar role and were controlled, eaten, distributed, and displayed; their roles as nonhuman persons and as supernatural beings were emphasized in political and ritual contexts particularly by elites.

Overall, the chapters in this book provide an optimistic roadmap for ways to further explore the complex, diverse, resilient, and contingent mechanisms involved in provisioning complex societies on a global scale through creative

combinations of ethnohistorical evidence, iconography, and contextual analysis of faunal remains. Gone are the days when singular models of top-down, centralized economies can be used to reconstruct premodern urban economies. Instead, in order to address pertinent questions about how cities and complex societies were provisioned, archaeologists must delve deeply into the social lives of the foods that provisioning systems represent. This represents a productive way forward for understanding the unique, yet predictably structured, provisioning systems that emerged in the context of complex societies in all parts of the world.

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