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# Desirable Meat: The Social Context of Meat Procurement at Albert Porter Pueblo, a Great House Community in the Central Mesa Verde Region

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The Albert Porter Pueblo great house, located in the central Mesa Verde region, was surrounded by numerous residential structures during the Pueblo II and Pueblo III periods. Using a variety of exploitation measures of wild game and turkeys, we test three hypotheses to see if there are meaningful similarities or differences in the faunal assemblages from the great house and the domestic households that surrounded it. Although the great house was a unique and prominent architectural feature at Albert Porter Pueblo, the faunas from the great house are generally similar to those from surrounding structures. However, there is some evidence that more meat of cottontails and turkeys was consumed in the great house compared to domestic structures during Pueblo III. Overall, all members from Albert Porter had equal access to animal food and those used in rituals and ceremonies. We explore different interpretations of social organization suggested by faunal remains.

La gran casa de Albert Porter Pueblo, ubicada en la región central de Mesa Verde, estaba rodeada por numerosas estructuras residenciales durante los períodos Pueblo II y Pueblo III. Usando una variedad de medidas de explotación de caza silvestre y pavos, probamos tres hipótesis para ver si existen similitudes o diferencias significativas en los conjuntos faunísticos de la gran casa y los hogares domésticos que la rodeaban. Aunque la gran casa era una característica arquitectónica única y prominente en Albert Porter Pueblo, las

faunas de la gran casa son generalmente similares a las de las estructuras circundantes. Sin embargo, existe cierta evidencia de que se consumió más carne de coletas y pavos en la casa grande en comparación con las estructuras domésticas durante el Pueblo III. En general, todos los miembros de Albert Porter tenían igual acceso a los alimentos para animales y los utilizados en rituales y ceremonias. Exploramos diferentes interpretaciones de organización social sugeridas por restos de fauna.

**KEYWORDS** Great house, Pueblo II and III, Social organization, Faunal analysis

Spectacular buildings known as great houses were constructed in Chaco Canyon between A.D. 800 and 1140 (Windes and Ford 1992). Early great houses outside of the canyon appeared during the mid-A.D. 800s to the west, primarily along the Chuska slope (Van Dyke 2008; Wilshusen and Van Dyke 2006; Windes 2015) and in the late A.D. 800s and 900s for the areas south and east of Chaco Canyon (Durand and Hurst 1991; Phippen 1987; Powers et al. 1983; Van Dyke 1999, 2008). Many suggested that Chaco Canyon was the center of a much larger regional system, although there is debate about the nature and organization of that system (Mills 2002). The Chaco regional system was an intricate structure that was most likely based upon social power concentrated in the hands of people who occupied the great houses. By A.D. 1080, the Chaco regional system expanded to its farthest extent and, for the first time, spread north of the San Juan River (Windes 2007). More than 250 outliers have been recorded in the Chaco regional system to date (Chaco Digital Archive 2015).

A distinct change in architectural practice occurred during the late A.D. 1000s and early A.D. 1100s when power shifted outside of Chaco Canyon into the middle San Juan region. Great house construction continued during this period in Chaco Canyon and in outlying areas; however, the massive, resource-laden constructions were replaced by smaller, more compact buildings with a masonry style first described by Vivian and Mathews (1965) as McElmo style. Often, McElmo style great houses consist of one or two square, compact units containing one or two aboveground kivas and are surrounded by several rows of rooms. These great houses often lack great kivas and enclosed plazas and there was less terracing of rooms since they are often two stories or less in height (Vivian and Hilpert 2002:160). Albert Porter Pueblo is an example of a McElmo style great house dating to the early A.D. 1100s (Ryan 2008, 2010, 2015).

Tied to the debate about the uses of great houses is the issue of social complexity within communities inside and outside Chaco Canyon, particularly during Pueblo II and Pueblo III periods. Many archaeologists agree that communities within Chaco Canyon were socially, politically, and economically complex (e.g., Earle 2001; Neitzel 1989; Wilcox 2004). Not all archaeologists agree with this interpretation. They view communities within and outside Chaco Canyon as egalitarian in nature. In this model, Chaco Canyon was a ceremonial center maintained by a cadre of ritual specialists and was mostly empty except during periodic influxes of

pilgrims (e.g., Mills 2004; Renfrew 2001:14–15, 2004). Plog (1995:192) calls for more realistic approaches to the past by emphasizing that, when viewed over centuries, both egalitarian and hierarchical relations probably existed in different areas and at different times.

## Zooarchaeology and Social Organization

Zooarchaeologists have suggested that various manifestations of social differentiation can be identified from faunal remains in socially complex societies. The basis of this approach is that differences in rank, wealth, or control of ritual and ceremonial practices may be expressed through privileged access to consumption or use of certain species, to preferred portions of edible animals and occasionally through prohibition of certain species. Major reviews by Crabtree (1990), deFrance (2009) and Twiss (2012, 2015) as well as numerous case studies (e.g., papers in Jones O'Day et al. 2004) demonstrate that these approaches work best in societies where there are sharply defined differences in social position that are reinforced through mechanisms such as inheritance, law, religion, or military force.

Most zooarchaeological studies of socially complex societies attempt to find differences in animal bone assemblages that are derived from spatially discrete features or structures that can be presumed to have been inhabited or used by individuals or groups with certain social status. Driver (2004) has shown that biased selection of archaeological contexts for studies of this type may exaggerate differences between faunal assemblages in some situations, resulting in self-fulfilling predictions about social differentiation, especially where social complexity has already been established through documentary evidence. Nevertheless, there are numerous convincing studies in the reviews cited above that demonstrate the ability of faunal analysts to identify social differentiation in hierarchical societies.

Although Twiss (2012:357) suggests that food studies in archaeology no longer focus solely on diet and subsistence, most of the examples she cites as moving beyond the traditional ecological/subsistence focus of zooarchaeology and paleoethnobotany are from societies with clear evidence of social differentiation. Her review draws heavily from the archaeology of state societies in Mesoamerica, the Andes, the Mediterranean and Europe, as well as the archaeology of European colonization. Similarly, deFrance (2009) cites numerous examples from the Andes, Southwest Asia, India, China and Europe, and Crabtree (1990) focuses on Southwest Asia, Medieval Europe and European colonization. Many of the studies cited in these reviews are able to draw on various kinds of documentary evidence to establish the nature of the social differentiation that is expressed in material culture and faunal assemblages. A common approach to analysis is to collect faunal assemblages from discrete spaces used by different social groups (e.g., nobles *versus* commoners; priests *versus* laity; colonizers *versus* indigenes) and to demonstrate that differences established through documentary or architectural evidence are reflected in faunal assemblages.

Russell (2012) argues that the social and symbolic meaning of animals should be just as important to the zooarchaeologist as food and subsistence practices, building

on a substantial anthropological literature about food (e.g., Ayora-Diaz 2015; Mintz and Du Bois 2002). Zooarchaeologists should assume that social behavior and ideology underlie human-animal relationships in all societies, and this approach should encourage zooarchaeologists to give more attention to a wide range of non-subsistence practices and beliefs.

Russell's (2012) approach is difficult to apply in less complex societies. Gifford-Gonzalez (2018:553–584) proposes that zooarchaeologists approach their analyses with a diverse “toolkit” of methods and theories that allow exploration of human behavior beyond reconstruction of subsistence. With the exception of studies of meat-sharing among foragers and refuse creation among pastoralists, many of the examples in her essay are still based on analysis of faunal assemblages from more complex societies.

Our analysis starts with the well-established practice of comparing faunal assemblages from different structures in a community. We consider some behaviors that should be detectable in zooarchaeological assemblages and that might be spatially structured in a society where social differentiation was present, but not strongly marked. To use Gifford-Gonzalez' (2018) terminology; our “toolkit” here consists of various middle-range theories that link social behavior to animal remains. We consider three social phenomena possibly reflected in faunal remains: provisioning, feasting, and sumptuary rules.

Jackson and Scott (1995, 2003) proposed that in chiefdoms (Earle 1987) the diets of elites would potentially differ from that of non-elites through the process of provisioning. One of the distinctive features of elite diets (especially in societies that lacked large domesticates) would be the ability of elite individuals and families to secure the most highly valued portions of animals that were hunted or raised by commoners, as well as the ability to gain exclusive access to certain highly valued species that were not part of the everyday diet. Provisioning can be reflected in the parts of bodies represented, the presence of rare and prestigious taxa in elite residential areas, and higher taxa diversity as a result of access to unusual species (Jackson and Scott 1995:107–108).

Feasts are defined as communal consumption events. They are important mechanisms to mobilize labor and for establishing and maintaining social relations (Dietler 1996:89–91; Hayden 2001; Wills and Crown 2004), but they are not in themselves indicators of any particular type of social organization. Twiss (2012:379) has noted that the term “feasting” covers such a wide range of behavior in such variable social contexts that the term may have little analytical value. We use the term here to mean events where there is public consumption of large amounts of food, sponsored by an individual or social group for the purposes of acquiring or maintaining social status. Hayden (1995, 2001:40–41) lists some archaeological signatures of feasts including: food remains; preparation and serving vessels; food-preparation facilities; special food-disposal dumps; feasting facilities and other special locations; associated prestige items; ritualized items of etiquette; paraphernalia for public rituals; existence of aggrandizers; recordkeeping devices; pictorial and written records of feasting; food-storage facilities; and resource characteristics (also Pauketat et al. 2002). Faunal signatures associated with feasting events include: the presence of rare or labor-intensive animal taxa which could include domestic animals and difficult-to-obtain

hunted animals; the quantity of food as reflected in bone waste; evidence for waste of food such as the deposition of articulated joints and unprocessed bone; bone dumps in special food-disposal features; prestige items; high number of storage facilities; and abundance and intense exploitation of certain taxa (Hayden 2001:40–41). Feasting models have been applied to Southwestern archaeology by faunal analysts (e.g., Dean 2001; Grimstead and Bayham 2010; Hockett 1998; Kelly 2001; Potter 1997, 2000). Feasting interpretations are often based on ethnographic and first-hand accounts from the Southwest (e.g., Bertram and Draper 1982:1027; Szuter 1991:23).

Hayden's (2001) criteria for feasting are sometimes difficult to apply in archaeological contexts where we lack knowledge about how people thought about animals. For example, domestic turkeys in the northern San Juan region may be seen as a labor-intensive animal considering the amount of surplus maize required to feed them (Rawlings and Driver 2010) and the need to protect them from predators, which would make them candidates for feasts in Hayden's system. On the other hand, turkeys may have been considered as relatively low value if they were conceptualized as household animals (Rawlings and Driver 2008). The abundance of particular taxa or body parts may be taken as evidence for feasting (Hayden 2001). However, establishing which taxa and/or body parts are over-abundant is not unproblematic. Element counts cannot be taken at face value to represent human behavior because of the wide range of taphonomic factors that structure skeletal part frequencies (Lyman 1994).

Sumptuary rules limit access to certain animals for food or for other purposes. Some individuals or groups may have exclusive or near-exclusive access to certain taxa, body parts, skins or feathers. Ideologies, including taboos, are systems of beliefs which are often manipulated by ruling elites to maintain their legitimacy (Johnson 1999:146; Johnson and Earle 2000:259). Ceremonies play an important part in maintaining ideologies. Elites often link themselves with the supernatural and the larger universe (Johnson and Earle 2000:252–253). A consideration of ritual taxa, such as birds of prey and bears in the northern Southwest may shed light on the role of these animals in ideological contexts. Rituals are a mode of social communication that creates authority (Sebastian 2004:99), a context for the construction and embodiment of symbolic meanings whose access can be controlled and manipulated (Potter 2000:297–301; Judge and Malville 2004). Particularly during Pueblo II and III periods, many animals such as bears and birds of prey probably had ritual importance for Pueblo people (e.g., Bishop and Fladd 2018; Judd 1954), perhaps similar to what has been recorded in more recent times (e.g., Gnabasi 1981; Ladd 1963). Identification of taxa that were unlikely to have been used for food, and that possess special properties (e.g., rarity, distinctive color, distinctive behavior) is a straightforward method of analysis.

### **Albert Porter Pueblo**

Albert Porter Pueblo (5MT123) is the site of an ancestral Pueblo village located in what is now southwestern Colorado near the modern town of Yellow Jacket

(Figure 1). Most of the site—including the structural remains that are most clearly visible on the modern ground surface—is contained within an 11.66-acre archaeological preserve owned by The Archaeological Conservancy (Ryan 2015). This parcel of land was donated to the Conservancy by members of the Porter family in 1988. Mr. Albert Porter, the site’s namesake, owned and farmed the property for several decades before ownership was transferred to the Conservancy. Albert Porter Pueblo was nominated to the National Register of Historic Places as an example of a habitation site with public architecture (Lipe 1999) and was placed on the register in 1999 (Ryan 2015).

The pottery found at the site suggest that ancestral Pueblo people inhabited the location at least as early as Basketmaker III (A.D. 600–725) and Pueblo I (A.D. 725–920) periods (Ryan 2008, 2010, 2015). However, the site was most intensively occupied during the Pueblo II (A.D. 920–1140) and Pueblo III periods (A.D. 1140–1280). Evidence indicates that the site reached its maximum extent from approximately A.D. 1100 to A.D. 1250.

Albert Porter Pueblo was part of the Woods Canyon community (Ryan 2015). This community is named for Woods Canyon Pueblo (Churchill 2002), the site of a large village located approximately 1.8 km southwest of Albert Porter Pueblo. Three large village sites are associated with the Woods Canyon community: (1) Albert Porter Pueblo, (2) Bass Site complex (Site 5MT136)—located approximately 2.25 km to the west-southwest, and (3) Woods Canyon Pueblo (Site 5MT11842). A fourth site, Woods Canyon Reservoir (Site 5MT12086)—located approximately 1.00 km to the south—was constructed during the Pueblo II period and was

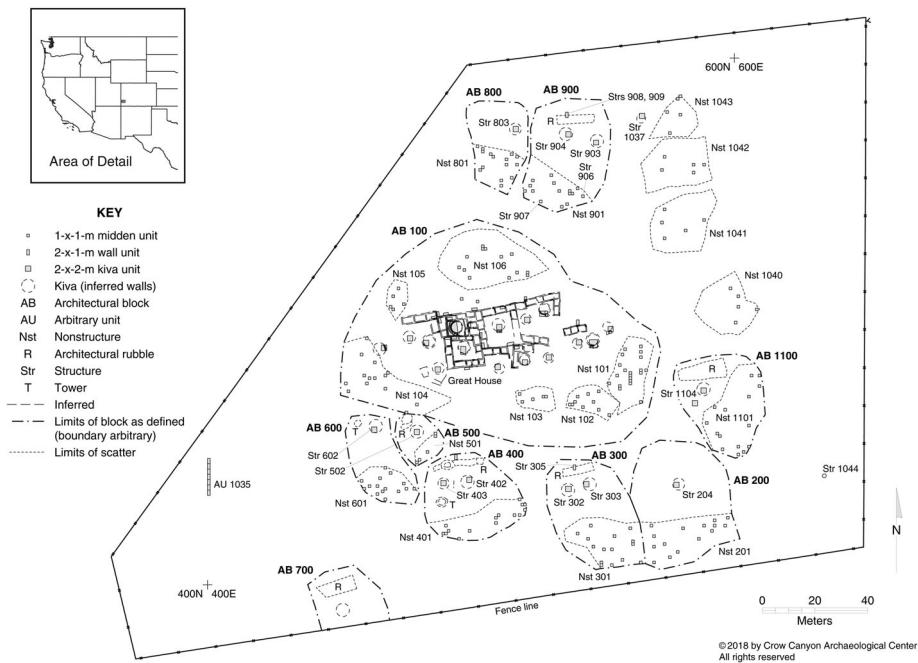


FIGURE 1. Plan and location of Albert Port Pueblo.

presumably used by residents of the Woods Canyon community until the region was depopulated about A.D. 1280 (Churchill 2002). Surface evidence at the Bass Site complex suggests that this settlement was contemporaneous with Albert Porter Pueblo. Pottery types, tree-ring dates, architectural styles, and site layout indicate that Woods Canyon Pueblo succeeded Albert Porter Pueblo as the center of the Woods Canyon community during the mid-to-late A.D. 1200s (Ryan 2015).

In 2000, the Archaeological Conservancy granted the Crow Canyon Archaeological Center (CCAC) permission to conduct a two-year testing project at Albert Porter Pueblo (Ryan 2015). Testing began in 2001 and continued through 2002. After obtaining permission from the Conservancy, CCAC conducted an additional two years of testing; excavation was completed at the end of the 2004 field season.

Research at Albert Porter Pueblo was guided by Crow Canyon's long-term research design, titled "Communities through Time: Cooperation, Conflict, and Migration" (Ryan 2015; Varien and Thompson 1996). This research design focuses on the development and depopulation of ancestral Pueblo communities in the central Mesa Verde region. The overarching goal of the Albert Porter Pueblo project was to reconstruct the historic development of the village and the associated community. The resulting reconstruction identifies multiple periods of occupation, documents population growth and decline through time, and addresses the emergence of the settlement as a community center. The presence of an early A.D. 1100s great house and a dense cluster of associated smaller habitations suggest that Albert Porter Pueblo served as a community center (Ryan 2008, 2010, 2015).

The most common architectural form found at Albert Porter Pueblo is the unit pueblo (Prudden 1903), "Prudden unit" (Lipe and Varien 1999), or "kiva suite" (Ryan 2015). Unit pueblos are a good example of vernacular architecture in that they are characterized by few building types, a framework with few individual variations, and architecture that is built by all members of society (Rapoport 1969). Unit pueblos at Albert Porter Pueblo were constructed on a southwest-northeast axis, forming rows of residences. Most of these units appear to be tightly clustered into architectural blocks surrounding the great house (Ryan 2008, 2015). Architectural blocks at the site were defined by CCAC researchers on the basis of archaeological remains visible on the modern ground surface, including rubble mounds, pit-structure depressions, and/or midden deposits with distinct boundaries. Each architectural block at Albert Porter Pueblo contains one or more unit pueblos. In some blocks—such as Architectural Block 1000—structural remains were absent in some cases from the modern ground surface but were present subsurface, as indicated by the results of a remote sensing survey. Eleven architectural blocks were defined on the basis of surface evidence; however, the results of the remote-sensing survey indicate the presence of numerous additional architectural blocks that are not included on the site map. On the basis of evidence from the modern ground surface, subsurface testing, and an electrical-resistance survey, Ryan (2015) identified 58 pit structures, three towers, dozens of surface rooms, a possible plaza, and one possible shrine. All roomblocks at the site are linear and are oriented east-west. This layout of



multiple, tightly spaced, often parallel aggregates of unit pueblos surrounding a great house is typical of large villages constructed during the Pueblo II and Pueblo III periods in the central Mesa Verde region (Varien et al. 1996:98). The great house is located in Architectural Block 100 (Figure 2).

Various aspects of the faunal remains from Albert Porter Pueblo have been presented elsewhere (Badenhorst 2008; Badenhorst et al. 2012; Badenhorst and Driver 2009, 2015). The total faunal assemblage representing all time periods from Albert Porter Pueblo consists of 19,439 specimens, excluding isolated teeth and eggshell (Badenhorst and Driver 2015). Of these, 9,978 (51%) were considered “identifiable”, meaning that the skeletal element (or fragment) could be specified. The assemblage consists of mammals, birds, fish, reptile and amphibian remains. Cottontails, jackrabbits, turkey and indeterminate large bird are particularly common. Most of the indeterminate large bird specimens are probably turkey (Badenhorst 2008; Badenhorst and Driver 2015). For the purpose of this paper, we combined all the faunas from the great house (including kivas and rooms) keeping Pueblo II and Pueblo III periods separate. We compared these two assemblages to combined faunas from the surrounding residential roomblocks dating to the same two time periods. We divided the fauna into these two broad categories in order to increase sample size, and to investigate potential social differences between those who used or conducted activities within and outside of the great house.

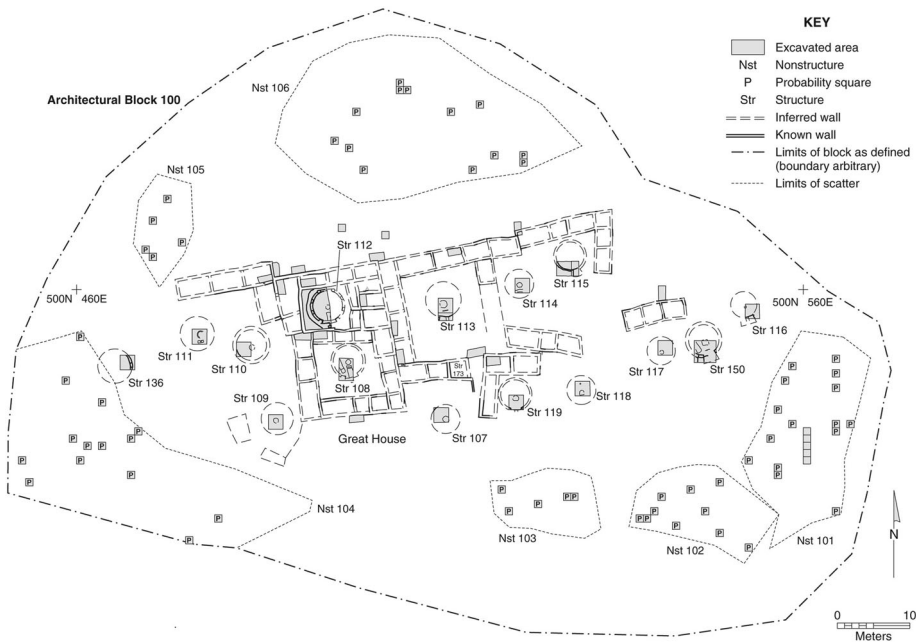


FIGURE 2. The great house feature (Architectural Block 100) at Albert Porter Pueblo.

## Methods

Small game was most likely obtained through garden hunting (Driver 2011; Driver and Badenhorst 2017). Turkeys were raised in the household, probably by women (Rawlings and Driver 2008). Artiodactyls were exceptionally rare, the result of centuries of resource depression (Badenhorst and Driver 2009; Bocinsky et al. 2012). The representation of these taxa in the great house and residential faunas are measured using three common, standardized indices, all based on NISP (number of identified specimens). First, the “lagomorph index” calculates the ratio of cottontails (*Sylvilagus* sp.) and jackrabbits (*Lepus* sp.) in samples (Driver and Woiderski 2008; Szuter and Bayham 1989). Both these taxa occur throughout the Southwest but occupy different microhabitats. Jackrabbits are usually associated with more open environments, whereas cottontails prefer habitats with more cover such as brush or rocky outcrops. The index has therefore been used as a proxy measure of habitat condition, resulting either from natural or anthropogenic factors. The index is calculated as (cottontail NISP)/(cottontail NISP + jackrabbit NISP). Lagomorphs that cannot be identified to genus are excluded from the equation for reasons discussed by Driver and Woiderski (2008). A value of 1.00 indicates all lagomorphs in a sample are cottontail, whereas a value of 0.00 indicates all the lagomorphs are jackrabbit. This index is widely used in the American Southwest (e.g., Driver 2002, 2011; Driver and Woiderski 2008; Roler Durand and Durand 2006; Szuter and Bayham 1989).

Second, the “artiodactyl index” (Szuter and Bayham 1989) has also been widely used throughout the American Southwest. Artiodactyls found in the region include deer, bighorn sheep, pronghorn, elk and bison, but deer is the most common artiodactyl in faunal assemblages in the central Mesa Verde region. The index compares the number of artiodactyl specimens in a sample with those of lagomorphs (cottontails and jackrabbits). Both lagomorphs and artiodactyls are commonly found in samples from the Southwest and are assumed to result from hunting activities, thus the index has been used to calculate the extent to which large game hunting was practiced. The artiodactyl index is calculated as (NISP all artiodactyls)/(NISP all lagomorphs + NISP all artiodactyls). An artiodactyl index value of 1.00 indicates a sample without any lagomorphs, whereas an index value of 0.00 represents one without any artiodactyls. Calculation of the artiodactyl index has resulted in numerous discussions about resource depression in western North America (e.g., Broughton and Bayham 2003). Variation in the index could be the result of environmental change, hunting strategies, resource depression, or the social context of hunting.

Third, we calculated a “turkey index”. When Spielmann and Angstadt-Leto (1996:90) proposed the turkey index, they did not include indeterminate large bird specimens. Driver (2002:151–152) modified the turkey index by including indeterminate large bird specimens. This was done because turkeys are by far the most common large bird in faunal samples from the northern San Juan region, and some analysts assume that all large bird specimens are turkey. While it is possible that a few eagle or crane specimens are included in the indeterminate large bird category, the effects are likely minimal. The modified turkey index is calculated as (NISP

turkey + NISP large bird)/(NISP turkey + NISP large bird + NISP all lagomorphs). An index value of 0.00 indicates a sample without any turkey or indeterminate large birds, whereas a value of 1.00 indicates that these are present but there are no lagomorphs in the sample. The index has been used to evaluate the extent to which communities relied on turkeys for food (Lange 1950), as opposed to small wild game. Lagomorphs are the ubiquitous small game in the American Southwest, and it is assumed that all communities would have exploited them as part of the subsistence base. One problem with the interpretation of the index is the presence of turkey burials which may increase their NISP (Munro 1994, 2006).

## Testing for Provisioning, Feasting and Sumptuary Rules

The primary source of food for centuries in the Southwest was plants like maize, beans and squash (e.g., Adams and Bowyer 2002). We formulated three hypotheses (Table 1) in order to test whether or not faunas from the great house differ from surrounding residential roomblocks. We use the hypotheses to evaluate whether or not residents in the great house were provisioned with artiodactyl meat, if the great house served as the focal point for rituals and ceremonies that would reflect sumptuary rules, or if feasting activities were associated with the great house. While these are not the only way to investigate faunal differences or similarities between different occupation regions at site, we have previously argued that these approaches may be useful in less complex societies (Driver 1996, 2002, 2011; Driver and Badenhorst 2017).

### Hypothesis 1: Great House was Provisioned with Artiodactyl Meat

Artiodactyls were probably highly valued as sources of meat, fat, hide and raw materials in the northern Southwest (Driver 1996; Grimstead and Bayham 2010). We first investigate whether or not the great house at Albert Porter Pueblo was provisioned with artiodactyl meat by using the artiodactyl index. The number of artiodactyl specimens is low for all time periods both within the great house and outside, resulting in very low index values in all contexts (Table 2). There is no basis for suggesting that great house inhabitants ate relatively more artiodactyl meat than those in residential structures.

TABLE 1.

HYPOTHESES AND POTENTIAL FAUNAL SIGNATURES TO INVESTIGATE SOCIAL BEHAVIORS.

Hypotheses	Potential Faunal Signatures	References
1) Great house inhabitants were provisioned with artiodactyl meat	High artiodactyl index; selected artiodactyl body parts	Dean (2001); Jackson and Scott (1995, 2003)
2) Great house was a focal point of rituals (sumptuary rules)	Higher concentration of "unusual" fauna	Roler Durand (2003); Muir and Driver (2004)
3) Feasting occurred at the great house	Relatively more artiodactyls and jackrabbits; higher quantities discarded bone	Dean (2001); Potter (1997, 2000); Varien (1999)

TABLE 2.

ARTIODACTYL INDEX (AI) AT ALBERT PORTER PUEBLO, WITH ARTIODACTYL NISP COUNTS IN PARENTHESES.

Time Period	Great House AI	Residential AI
Pueblo II	<b>0.01</b> (4)	<b>0.07</b> (44)
Pueblo III	<b>0.05</b> (80)	<b>0.08</b> (27)

To test whether or not the great house was supplied with meatier parts of artiodactyl skeletons, the contribution of different meat sections were compared (Table 3). “Meatier” sections include the skull, vertebrae, ribs, scapulae, pelvis and upper limbs. Lower limbs are assumed to be of lower value. Details are provided in Badenhorst and Driver (2015). A major limitation is the very low number of artiodactyl specimens in the Albert Porter Pueblo assemblage as a whole. In both time periods and when time periods are merged the great house assemblages contain a higher proportion of meaty body parts. This suggests that inhabitants of the great house may have been able to procure preferred carcass portions, although the small sample size cautions us not to accept Hypothesis 1 unequivocally.

## Hypothesis 2: Great House was the Focal Point of Rituals and Ceremonies

If great houses were focal points of rituals, we would expect to find more “unusual” taxa associated with this structure. Unusual taxa are those that were probably brought in by humans, were unlikely to have been food items, and could plausibly be associated with ritual or ceremonial activity based on ethnographic data. Unusual taxa are typically birds of prey and carnivores. Unusual taxa were found to be evenly distributed across Albert Porter Pueblo in middens, rooms, and kivas (see Badenhorst 2008 for details). There is a strong correlation between assemblage size and the number of unusual taxa (Figure 3), so we conclude that differences in the representation of unusual taxa are the result of sampling methods and do not reflect ancient behavior.

TABLE 3.

NISP OF ARTIODACTYL BODY PARTS FROM THE GREAT HOUSE AND RESIDENTIAL AREAS AT ALBERT PORTER PUEBLO.

Location	Date	“Meaty” Specimens (N)	Lower Limbs (N)	Total	% “Meaty”
Great House	Pueblo II	3	1	4	<b>75%</b>
Residential	Pueblo II	12	32	44	<b>27%</b>
Great House	Pueblo III	39	41	80	<b>49%</b>
Residential	Pueblo III	7	20	27	<b>26%</b>
Great House	Pueblo II+III	42	42	84	<b>50%</b>
Residential	Pueblo II+III	19	52	71	<b>27%</b>

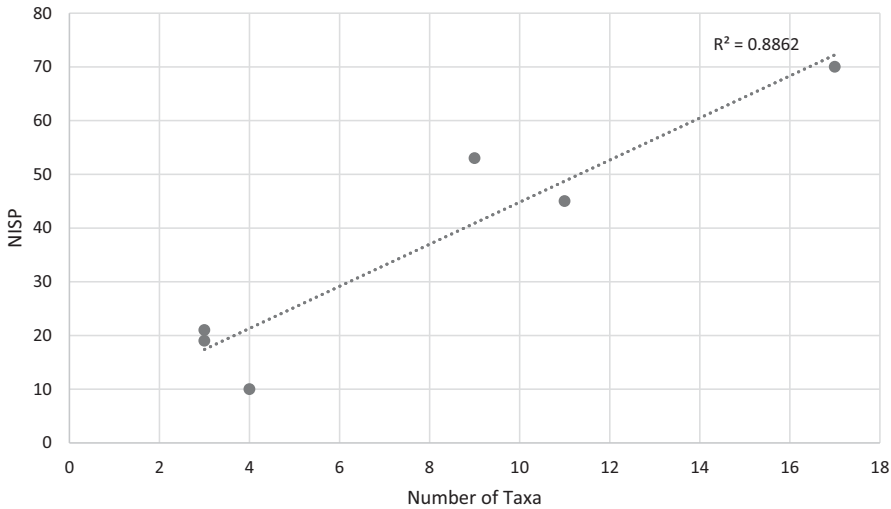


FIGURE 3. Total number of unusual taxa and the NISP of unusual taxa for the great house and outside roomblocks during different times at Albert Porter Pueblo (Badenhorst 2008:106–110).

Hypothesis 2, that ritual behavior was centralized in the great house, is therefore not supported by the data. Ritual animals occur in all contexts across the site during the Pueblo II and Pueblo III periods. Both Roler (1999) for Guadalupe Ruin and Mueller (2006) for Cox Ranch Pueblo found a similar distribution of ritual animals.

### Hypothesis 3: Feasting at the Great House

Varien (1999) proposed that feasting activities may be associated with great houses at outlying communities. We used three methods to investigate the possibility of feasting in the Albert Porter great house based on Hayden's (2001) criteria for feasting. First, the percent NISP of common taxa in the great house and surrounding residences were compared, to see if great house residents had preferential access to certain food species. Second, the lagomorph and turkey indices for the great house were compared to surrounding residences. Third, we attempt to assess whether the quantity of meat consumed in the great house was greater than in residential structures by comparing quantities of discarded bone with quantities of discarded pottery.

### Percent NISP

We compared the abundance of the most common taxa in the assemblage—cottontail, jackrabbit and turkey/large bird—from the great house and the surrounding residences by time period (Tables 4 and 5). During the Pueblo II period, all the common taxa are found in similar proportions within and outside of the great house. During Pueblo III times there is a significant increase in turkey relative to other taxa, but this increase occurs in all contexts and is consistent with the regional trends (Badenhorst and Driver 2009; Driver 2002). We have already shown that

TABLE 4.

NISP AND PERCENT NISP FOR COMMON TAXA AT ALBERT PORTER PUEBLO DURING THE PUEBLO II PERIOD.

Common Taxa	Great House	Outside Great House
<i>Sylvilagus</i> sp.	238 (60%)	514 (66%)
<i>Lepus</i> sp.	41 (10%)	70 (10%)
<i>Meleagris</i> /large bird	115 (30%)	189 (24%)

large mammals, which might be expected at feasts, are rare in all contexts (Table 2). In summary, utilization of the more common food species was similar among the users of the great house and those occupying surrounding residences during the Pueblo II and III periods at Albert Porter Pueblo.

### Indices

The lagomorph index (Table 6) from the great house was compared to surrounding residential units. The index is nearly identical for the Pueblo II and Pueblo III periods in the great house and Pueblo II residences. However, the index is lower in residences in Pueblo III times. Overall, the lagomorph index values do not provide any conclusive evidence for more feasting in the great house when compared to surrounding residences.

### Accumulation Rates

Accumulation research in the northern Southwest examines the rate at which cooking vessel sherds accumulate at archaeological sites. This establishes an average annual accumulation rate per household for cooking-vessel sherds. The accumulation rate is then used to measure the length of a site's occupation (Varien 1999:6). The archaeological applications of cooking vessel weights in the northern Southwest have been discussed elsewhere (Lightfoot 1994; Ryan 2010; Varien 1999:6; Varien and Ortman 2005:149; Varien and Potter 1997:194–196). Assuming that cooking vessel sherd weights are related to the overall intensity and length of human occupation, the ratio of bone to cooking vessels could provide an ordinal estimate of the use of animal foods in relation to overall cooking activity. We compared cooking vessel accumulation rates (weight of sherds) to bone deposition of all taxa (Table 7), and then of artiodactyl, cottontail, jackrabbit and turkey remains

TABLE 5.

NISP AND PERCENT NISP FOR COMMON TAXA AT ALBERT PORTER PUEBLO DURING THE PUEBLO III PERIOD.

Common Taxa	Great House	Outside Great House
<i>Sylvilagus</i> sp.	1,224 (34%)	184 (22%)
<i>Lepus</i> sp.	199 (6%)	111 (13%)
<i>Meleagris</i> /large bird	2,174 (60%)	535 (65%)

TABLE 6.  
LAGOMORPH INDEX AT ALBERT PORTER PUEBLO.

Period	Great House	Outside Great House
Pueblo II	0.85	0.88
Pueblo III	0.86	0.62

(Table 8) from Albert Porter Pueblo. These taxa were selected as they formed the mainstay of the meat economy.

Results indicate there is overall more than double the number of animal bones per kilogram of cooking vessel sherds at the great house compared to outside contexts during Pueblo III, but not in Pueblo II times (Table 7). The increase during Pueblo III at the great house is a direct result of an increase in the ratio of cottontails and turkeys but not jackrabbits and artiodactyls (Table 8). The bone to pottery ratio may give some support to feasting on cottontails and turkeys in the great house in Pueblo III times. However, feasting is not the only explanation for the presence of more faunal specimens, and the data could simply indicate that the inhabitants of the great house were able to obtain and consume more meat, an issue that we discuss below.

## Discussion

We have commented elsewhere on the “sameness” of assemblages in Pueblo II and Pueblo III settlements in the central Mesa Verde region, and noted that the presence of a great house seems to make no difference to the composition of faunal assemblages (Badenhorst and Driver 2015). Even on large villages from later Pueblo III times it is very difficult to find any variation in the spatial distribution of fauna, and what has been found most likely relates to the special deposition of unusual taxa associated with ritual only in the very largest sites (Muir and Driver 2002, 2004). Traditional approaches to identifying social organization in zooarchaeology rely upon the identification of pronounced differences in faunal assemblages (Crabtree 1990; deFrance 2009; Twiss 2012). Differences in assemblage composition are then equated with differences in status, ethnicity, gender and so on. There has been little discussion of the interpretation of assemblages that do not differ significantly.

Moving away from the more traditional approaches to the analysis of social complexity, we return to Russell’s (2012) concept of social zooarchaeology and to

TABLE 7.  
ALL TAXA NISP/COOKING VESSEL WEIGHT (KG) FROM ALBERT PORTER PUEBLO.

Period	Great House	Outside Great House
Pueblo II	(644/371) = <b>17.4</b>	(1079/654) = <b>16.5</b>
Pueblo III	(4,714/1672) = <b>28.2</b>	(1274/1034) = <b>12.3</b>

TABLE 8.  
COMMON TAXA NISP/COOKING VESSEL WEIGHT (KG) AT ALBERT PORTER PUEBLO.

Cottontail NISP	Great House	Outside Great House
Pueblo II	(238/371) = <b>6.4</b>	(514/654) = <b>7.9</b>
Pueblo III	(1,224/1672) = <b>7.3</b>	(184/103.4) = <b>1.8</b>
<b>Jackrabbit NISP</b>	<b>Great House</b>	<b>Outside</b>
Pueblo II	(41/371) = <b>1.1</b>	(70/654) = <b>1.1</b>
Pueblo III	(199/1672) = <b>1.2</b>	(111/103.4) = <b>1.2</b>
<b>Turkey/Large Bird NISP</b>	<b>Great House</b>	<b>Outside</b>
Pueblo II	(115/371) = <b>3.1</b>	(189/654) = <b>2.9</b>
Pueblo III	(2,174/1672) = <b>13.0</b>	(535/103.4) = <b>5.2</b>
<b>Artiodactyla NISP</b>	<b>Great House</b>	<b>Outside</b>
Pueblo II	(4/371) = <b>0.1</b>	(44/654) = <b>0.7</b>
Pueblo III	(80/1672) = <b>0.5</b>	(27/103.4) = <b>0.3</b>

Gifford-Gonzalez' (2018) suggestion that zooarchaeologists experiment with different methodological and theoretical “toolkits” to examine the social construction of animal bone assemblages. Here we offer some thoughts that might be explored further—although not necessarily through zooarchaeological studies.

One interpretation of the faunal data from Albert Porter Pueblo is that there were no differences in social status between the people who lived in (or used) the great house and other inhabitants of the site. Every household participated in acquisition of meat and other animal products, such as fur or feathers. It is still possible that these activities were structured by gender or age within each household (Rawlings and Driver 2008) or that a subset of people within the community were responsible for certain procurement activities, especially for rare species used in ritual or ceremonial contexts (see examples in Muir and Driver 2004). However, within these limitations everyone could participate (Grimstead and Bayham 2010). This interpretation is consistent with most of the faunal data from Albert Porter Pueblo, and from other central Mesa Verde sites where spatial analysis of fauna has been conducted (Muir and Driver 2002). We also suggest that the production and consumption of turkey supports this interpretation. Domestic turkey appears to have become an important source of food as access to wild game declined (Driver 2002). A great deal of household labor went into raising turkeys; they had to be fed and watered regularly and protected from predators. Their diet consisted largely of maize (Rawlings and Driver 2010), and this required further effort in the fields. Given the labor involved and the possibility that turkey was a low status food, we might expect that high status households would participate less in this activity—yet the use of turkey is similar between great houses and other contexts.

In spite of the many similarities between assemblages, there is one consistent difference between the samples from the great house and the surrounding residential



areas: the relationship between the number of faunal specimens (cottontails and turkeys in particular) and amount of pottery during Pueblo III times. There are, of course, numerous methodological problems in comparing ratios of bone to pottery and concluding that the great house inhabitants consumed more meat than other members of the settlement. For example, there may be cultural and natural taphonomic factors that affect these ratios; and we know very little about how primary refuse was deposited at sites in this region and whether midden material was subsequently moved around a village. But taking the pattern at face value, we propose that the inhabitants of the great house were able to eat relatively more meat than their neighbors during the Pueblo III period.

Eating artiodactyl meat was a rarity, and the meats consumed most often were cottontails and domestic turkey. When turkey use increased in Pueblo III times across the region and at this village, the change in behavior occurred throughout the village. We also suggest that the inhabitants of the great house were engaged in the same modes of meat production as their neighbors. Inhabitants of great houses participated equally in these various methods for obtaining animal protein, and presumably also increased their efforts in the fields to produce surplus maize to feed a growing turkey population (Rawlings and Driver 2010). Residents of the village would see great house families participating in the same subsistence activities on a daily basis. A similar situation seems to have prevailed with regard to animals that were used for ritual purposes. Great house inhabitants did not display status differences through greater access to birds and mammals that had special meaning—their household behaviors were the same as others. Just as with food, great house inhabitants apparently wanted to look like their neighbors.

The way in which communities organized themselves, and questions of power, status and egalitarianism have been long-standing themes in Southwestern archaeology, with debates about social typologies giving way to reconstruction of more fluid and varied arrangements of power and influence (McGuire 2011). The animal bone assemblages from Albert Porter Pueblo suggest a number of aspects of social organization that might be explored further in Pueblo III communities. First, we propose that great house inhabitants went out of their way to downplay differences between themselves and other community members. They ate the same species in roughly the same proportions (although not necessarily the same absolute amounts). They participated in a diverse array of meat production strategies at the household level. They used similar animal products in similar rituals. We suggest that great house inhabitants used a variety of strategies to obtain more meat than their neighbors during Pueblo III times. They ate larger amounts of all the main subsistence species and they may have been able to obtain more “meaty” portions of artiodactyls such as deer. We have no evidence for what these strategies may have been, but they could include organization of feasts or communal hunts, the ability to mobilize more labor at the household level, or receiving gifts of meat in exchange for management of ritual and ceremony.

Traditional zooarchaeological approaches to describing social organization work best in analysis of ancient societies where status was clearly defined and maintained, and symbolized through differential access to material goods, including animal products. This approach is of limited value in the later horticultural communities of the

American Southwest where social organization seems to have been more fluid, less proscribed, and highly contingent on a range of circumstances. Analysis of faunal assemblages from contexts at Albert Porter Pueblo show that distinctive structures do not necessarily contain distinctive assemblages. However, we do not conclude that this necessarily indicates an egalitarian, status-free form of social organization. We propose that inhabitants of the site's great house were able to advance their nutritional status using various strategies during Pueblo III times.

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