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***Capitánes, Físicos, y Mercaders: Special Status and Inequality during the Late Prehistoric Toyah Interval***

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***Capitánes, Físicos, y Mercaders: Special Status and Inequality during  
the Late Prehistoric Toyah Interval***

**by**

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## **Dedication**

In loving memory of my mother

Elizabeth (Dot) Schroeder

August 2, 1937 – February 17, 2014

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## **Abstract**

### ***Capitánes, Físicos, y Mercaders: Special Status and Inequality during the Late Prehistoric Toyah Interval***

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Despite prevailing archaeological interpretations that the Toyah Interval (ca. 1200/1250-1700 CE) in Texas archeology was largely comprised of highly mobile bands of economically independent family groups of hunter-gatherers, early Spanish colonial accounts dating from 1528 to 1716 suggest that complex social arrangements were a common feature of Late Prehistoric Toyah society. Using the ethnographically-derived models of feasting, violence, and craft specialization, I explore the material culture of inequality and special status from both the aspects of Toyah ethnohistory and archaeology. Evidence for inequality and special status was sought in the mortuary data, while burned rock middens and bone concentrations documented at Toyah sites were analyzed for evidence of feasting behavior. Classic Toyah pottery was evaluated as a specialized craft industry, and a model for the native itinerant trader/crafter was developed and tested with respect to Toyah blade caches. As a result, it is hoped that this study will motivate future investigation toward more socially-based approaches in Toyah research, and that it establishes a dialog around the social factors behind the Toyah phenomenon in Texas archeology.

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## **Chapter 1**

### **Introduction**

Traditional archaeological interpretations with regard to Toyah society have generally been based on a model of simple, economically independent hunter-gatherer bands marked by a distinctive tool kit that provided an adaptive advantage in response to large influxes of bison into Central Texas from the Southern High Plains that began around 1200/1250 CE. Models of both migration and diffusion have been applied under the rubric of cultural ecological theory to explain the sudden appearance of the Toyah Horizon, but nonetheless have resulted in a somewhat limited understanding of Toyah society. Recent studies have begun to challenge this view however, and have suggesting that Toyah society practiced more intensive strategies of mobility and resource exploitation marked by routine aggregation and feasting behavior, inter-tribal violence, commodity production, and sophisticated systems of regional and long-distance exchange. Despite that these recent interpretations represent behavioral aspects that have all been viewed as epiphenomenal to emergent social complexity, researchers have yet to approach this topic with respect to the Toyah archaeological horizon in any detail.

In contrast to cultural ecology, which is primarily concerned with large-scale behavioral processes involving the adoption of adaptively advantageous technologies and behaviors to mitigate the effects of environmental stressors, complex hunter-gatherer theory recognizes that small-scale processes related to surplus production and unequal distribution of resources also has the propensity to shape human society. The principal driving process in complex hunter-gatherer theory is the notion that the status quest is endemic to all human societies from hunter-gatherers to states, and that based on

ethnographically-derived models, aspiring individuals in these societies are known to often employ certain strategies such as feasting, violence, and craft specialization as ways to undermine the hunter-gatherer egalitarian ethic, gradually replacing it with systems of power and social control.

The intent of this study is to use complex hunter-gatherer theory to further interrogate the prevailing archaeological interpretation that Toyah society was comprised of economically independent family groups of generalized foragers who were primarily organized at the band level. Under this theoretical framework, the current investigation approaches the available ethnohistoric and archaeological data guided by four general research questions: (1) what is the textual evidence for inequality and status with respect to the phenomena in general and more specifically for the socially complex behaviors of feasting, violence, and craft specialization in Toyah society, and do the colonial accounts identify contextual information that will help construct models of social complexity that can be tested with the archaeological data; (2) what is the direct evidence of social inequality and status as encoded in the mortuary data, and what is the character and magnitude of skeletal evidence in support of violence; (3) what is the archaeological evidence for feasting activity, and in what ways is food being prepared, distributed and consumed that would reflect the existence of differential social status and inequality in Toyah society; and (4) what archeological evidence is there for specialized crafting and what does it say in terms of how specialized production and distribution of craft goods may have been socially and economically configured?

The theoretical approach and definitions pertinent to this study are outlined in chapter 2. The chapter begins with a review of the various theoretical debates concerned with Toyah as an archaeological unit of analysis and highlights how it was originally envisioned as the diffusion of ideas spread by a certain type of special status individual



who traveled vast distances to manage widespread social networks. Although a migrationist model was later proposed, today the diffusionist argument still persists, but instead of being explained in terms of social differentiation, both mechanisms are unilaterally subsumed under the explanatory framework of cultural ecology. In that chapter the concept of complex hunter-gatherers is defined and the theory behind it is explained with respect to the recent archaeological literature on the topic. An approach based on the analysis of the ethnohistoric and archaeological data is introduced that encompasses a number of ethnographically-derived models highlighting a range of complex social behaviors that supply proxy evidence in support of inequality and special status.

Chapter 3 sets the temporal and spatial context of the Toyah phenomenon. It accomplishes this by tracing the development of the concept from its earliest beginnings in the late 1940s to its current configuration in the academic dialog. It also establishes and defines the concept of the Toyah Cultural Sphere, a term originally coined in the Toyah literature and resurrected in this study as the primary spatial unit of analysis.

Chapter 4 is an analysis of the ethnohistoric data for textual evidence pertaining to the phenomena of social inequality and special status in general, and evidence of violence, feasting, and craft specialization in particular. It pulls from a litany of ethnohistoric sources to construct a model that defines and exemplifies the particular brand of status and inequality that may have existed within Toyah society and then sets this model up for interrogation by the archeological record. A key element that surfaces from the analysis of the records is the Cabeza de Vaca model for the trader/crafter, which is later evaluated in chapter 6.

In chapter 5, an assessment of the mortuary data is conducted to evaluate the evidence for inequality and special status with particular attention paid toward identifying

the magnitude of violence that may have existed within Toyah society. Approaching status and inequality in the Toyah mortuary record involved the application of recent hunter-gatherer studies that conclude that differential wealth in these particular societies is not measured solely along material lines as traditionally understood, but that it also can be expressed in terms of embodied and relational forms as well. With respect to the skeletal evidence in support of violence this effort focused on evaluating whether it reflects non-specific random events carried out on an individual basis, or rather indicates large coordinated events executed by and against special status individuals, as the case of factional competition would suggest.

Chapter 6 is an assessment of the archeological evidence for the socially complex behaviors of feasting activity and craft specialization. The former is investigated by examining a certain category of archeological features that might have been used to support the feeding of large numbers of people, or alternatively how they may have been associated with the production of special quality foods used to define and reinforce status-related boundaries. Evidence of craft specialization was approached through the medium of Classic Toyah pottery vessels and lithic blade caches and what these types of artifacts can say in terms of how the specialized production and distribution of craft goods may have been socially configured within Toyah society. This involved an uncoupling of outdated traditional concepts on craft specialization as only existing in ranked societies and states, and alternatively introduces and analyzes the concept of the travelling trader/crafter.

Before moving on to the bulk of the analysis in this study it is important to point out that it does not involve the traditional approach used in “Texas archaeology,” which primarily employs a processual methodology by starting the analysis at the level of individual artifacts and working up to arrive at general interpretations of human behavior

and processes of cultural change. Alternatively, this study approaches the problem from the perspective of high-level theory on social complexity, and with the aid of ethnographically-derived, intermediate-level models focused around the socially complex behaviors of feasting, violence, and craft specialization, it attempts to render a view of Toyah society based on a certain set of assumptions about how societies work, and more importantly to identify avenues of further inquiry in this fascinating area of anthropological research.

## Chapter 2

### Situating the Toyah Phenomenon within a Framework of Social Complexity

The Late Prehistoric Toyah Interval refers to a widespread cultural phenomenon in Texas that appeared abruptly on the scene around 1200/1250 CE, and quickly spread regionally throughout Central Texas and adjacent regions until approximately 1700 when these areas were overtaken by European colonization and mass Native American migrations. Although researchers of this period of prehistory have defined the Toyah complex in a number of regionally nuanced ways, in the broadest sense, it is comprised of a distinctive lithic tool kit marked by Perdiz arrow points, beveled bifaces, endscrapers, perforators, and blade technology (Figure 2-1). This archaeological



Figure 2-1: The Toyah lithic tool kit (figure courtesy of Texas Beyond History)

assemblage has been documented at a number of sites stretching from the Trans-Pecos in the west, through the Edwards Plateau, into the inner coastal plain, and south to the Nueces River valley (Figure 2-2). Johnson (1994) distinguished between the wider distribution of the Toyah lithic assemblage, which he termed the *Shared Toyah* area, from his *Classic Toyah* culture area by including those assemblages accompanied by relatively low numbers of crudely-fashioned, bone-tempered plainware ceramic vessels. Rather than focusing on the pottery as the defining element of Toyah culture, Ricklis (1992) centered his concept of Toyah on the lithic assemblage by referring to it as an adaptively advantageous “technocomplex” that various groups adopted specifically because it provided a technological advantage for the exploitation of bison.

In contrast to earlier models citing that Toyah people spread into Central Texas from the Southern Plains or the Jornada Mogollon (ref. Johnson 1994; Shafer (1971), Ricklis (1992) opined that Toyah material culture likely spread through diffusion as a number of territorially circumscribed groups interacted with one another, adopting elements of the Toyah lithic assemblage, while at the same time retaining certain aspects of their own material culture. Like Ricklis, Arnn (2012a) also considered the Toyah material assemblage in its broadest sense, as representing the interactions of groups of various identities within a cultural-geographical space that he referred to as the “Toyah Social Field”. Recent research on the phenomenon has suggested that Toyah society was likely more socially and technologically complex than originally thought. For instance, ethnohistoric evidence indicates that Toyah people seasonally aggregated into groups much larger than bands to collectively engage in social activities including trade, and communal bison hunting (Kenmotsu and Arnn 2012; Wade 2003). Others have suggested that Toyah groups may have practiced a more intensified strategy of resource exploitation based on seasonally available and regionally restricted resources (Mauldin et

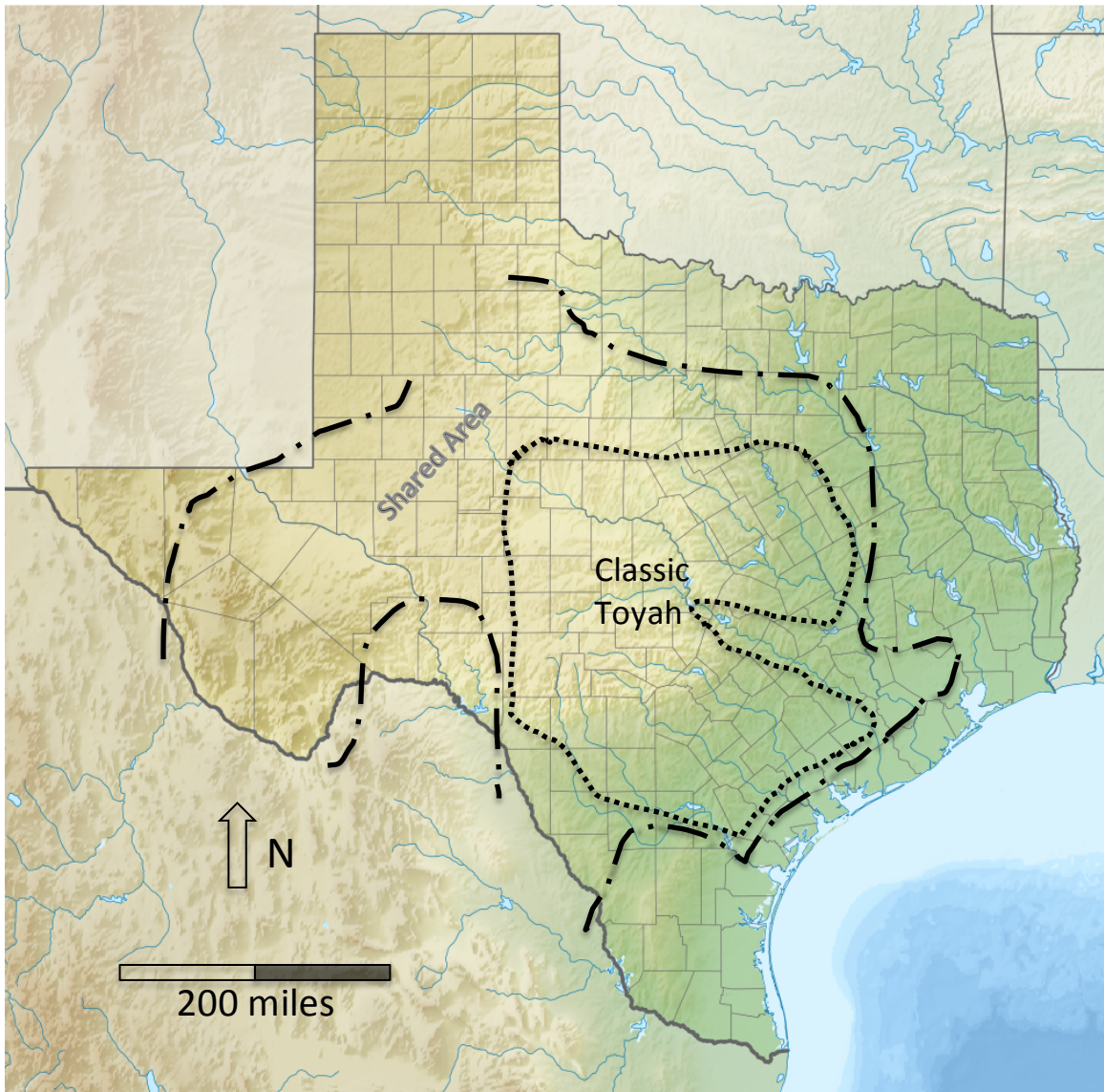


Figure 2-2: The shared and classic Toyah areas of the greater Toyah cultural sphere (Johnson 1994:243)

al. 2012), to one focused on a dual economic strategy of seasonal hunting and farming (Brosowske 2005; Carpenter 2017; Speth 2004), as well as those who see how Toyah society may have also been integrated into a larger exchange economy that focused on the production and distribution of bison commodities (Brosowske 2005; Creel 1991).

Because technological intensification is often associated with more complex forms of social organization, questions arise as to whether the current prevailing interpretation of Toyah society as one based on economically independent, egalitarian family groups of generalized foragers is entirely accurate.

The intent of this study is to explore the question of social inequality and status in Toyah society. Most archeologists working in this field have largely accepted the idea that Toyah society largely lacks the kinds of evidence that have been traditionally considered indicative of more complex forms of social organization such as farming, elaborate burials, and communal architecture. Despite this, the last few decades have witnessed many debates within the discipline of archaeology showing that prehistoric mobile forager societies can be characterized by quite complex systems of social organization (Ames 1995; Arnold 1991, 1993, 1995; Clark and Blake 1994; Hayden 1995; Hayden and Cousins 2004; Prentiss and Kuijt 2004; Price 1995; Price and Brown 1985). In this respect, many of these archaeological studies have used a broad spectrum of intermediate theory derived from ethnographic and ethnohistoric data including recent work in the areas of feasting, violence, and craft specialization as ways to address the higher order theory of status and inequality with the material record. This study will follow suit using the available ethnohistoric and Toyah archaeological record of Central Texas and surrounding regions to address whether behavioral elements related to status and inequality such as feasting, violence, craft specialization can help elucidate a deeper understanding of how Toyah society may have been organized. As previously stated, in approaching this topic I hope to address the following questions: (1) what is the textual evidence for inequality and status with respect to the phenomena of feasting, violence, and craft specialization in Toyah society, and do the colonial accounts identify any contextual information that will help construct models of social complexity that can be

tested with the archaeological data; (2) what is the direct evidence of social inequality and status as encoded in the mortuary data, and what is the character and magnitude of skeletal evidence in support of violence; (3) what is the archaeological evidence for feasting activity, and in what ways is food being prepared, distributed and consumed that would reflect the existence of differential social status and inequality; and (4) what archeological evidence is there for specialized crafting and what does this say in terms of how specialized production and distribution of craft goods may have been socially configured? Before delving into these specific questions in more detail, it is crucial to provide some context with regard to previous debates in Toyah archaeology, as well as to define some important concepts that will be employed in this investigation.

#### **PREVIOUS DEBATES AND THEORETICAL APPROACHES**

Long before the current Toyah debate, Kelley (1955:989) approached these problems and described the spread of Toyah culture as a form of “stimulus diffusion,” where special status individuals traveled undetermined distances to manage widespread social networks. Referencing early Spanish colonial documents, Kelley speculated that such individuals were responsible not only for transmitting technological knowledge, but that they were also key in disseminating news and information, as well as cultural norms among disparate groups. Individuals such as these have been well documented cross-culturally in the ethnographic data, where itinerant specialists such as traders, artisans, jurists, poets, musicians, healers, and orators provided valuable goods and services as craftsmen, mediators, ambassadors, and information brokers within non-politically centralized societies (Helms 1993; Kelley 1955). To be more specific, it is suggested that specialists such as these may have played an important role in the emergence of inequality in small-scale societies, largely due to their association with distance-related



phenomena, which in turn often endowed them with supra-human qualities, esoteric knowledge, and supernatural power (Helms 1993). These qualities not only provided them safe passage through territories that were dangerous to others, but at the same time had the propensity to elevate these professional travelers beyond their immediate roles as skilled specialists into highly influential supra-communal political entities (Helms 1991, 1993).

Early contact-period documents have provided a number of examples that cite direct evidence for the existence of special status individuals among Late Prehistoric hunter-gatherer and semi-sedentary village-dwelling populations in Texas. The earliest account comes from the *Relación* of Álvar Núñez Cabeza de Vaca who, while he was among the native groups of the inner Texas coastal plain, was encouraged by them to become an itinerant trader. He later wrote,

And this office [of trader] was good for me, because going about in it I had freedom to go where I wanted and was not obligated to anything and was not a slave, and wherever I went they treated me well and gave me food, out of regard for my merchandise (Krieger 2002:32).

Cabeza de Vaca also writes about another type of special status individual to whom he referred as healers and how they were given special treatment both in life and death, facts that have particular archaeological implications with regard to the Toyah mortuary data. He states, that although the people had the custom of burying the dead, healers were ceremonially cremated, and their ashes mixed with water and consumed by their relatives in elaborate funerary rituals (Krieger 2002:184). In addition to being treated differently in death, Cabeza de Vaca tells us that in life, while the prevailing norm

with regard to sexual union was monogamy, healers, on the other hand, were permitted to practice polygyny (ibid). Furthermore, it appears from archival records that in contrast to ordinary individuals who had few possessions and generally maintained an egalitarian ethic, healers were allowed to generate surplus wealth (ibid). This is demonstrated by Cabeza de Vaca when he tells us that when called to perform healing ceremonies, it was customary for the families of those being healed to surrender all their worldly possessions to the healer (ibid). Cabeza de Vaca experienced this unique form of exchange first hand when he and his fellow Spaniards later assumed the role of healers and were led by an entourage of Natives traveling from one ranchería to the next healing the sick and infirm. Upon arrival at a particular ranchería, Cabeza de Vaca commented that the host Natives presented him with large quantities of hides and other goods, that Cabeza de Vaca quickly turned over as gifts to the native entourage that accompanied him from one settlement to the next (Krieger 2002:220).

Knowledge of distant lands and people is one of the defining attributes of traveling professionals, and this is why there has been conjecture that the native guide that Francisco Vázquez de Coronado called the Turk was either a trader, a shaman, or both, and that the Turk was originally from the Arkansas River valley in modern-day Kansas, and that he drew from his knowledge of Mississippian chiefdoms to concoct his elaborate tales about Quivira (Castañeda 2002:139). In like fashion, the ethnohistoric data single out other apparently influential individuals among native populations in Texas. For instance the Jumano Native known as Juan Sabeata is reported as a widely traveled ambassador and purveyor of news and information who was especially adept at managing widespread social networks (Arnn 2012a:244; Hickerson 1994; Kelley 1955, 1986; Kenmotsu and Arnn 2012; Wade 2003) (Figure 2-3). This project is an attempt to investigate the broad overarching question of whether social inequality and special status

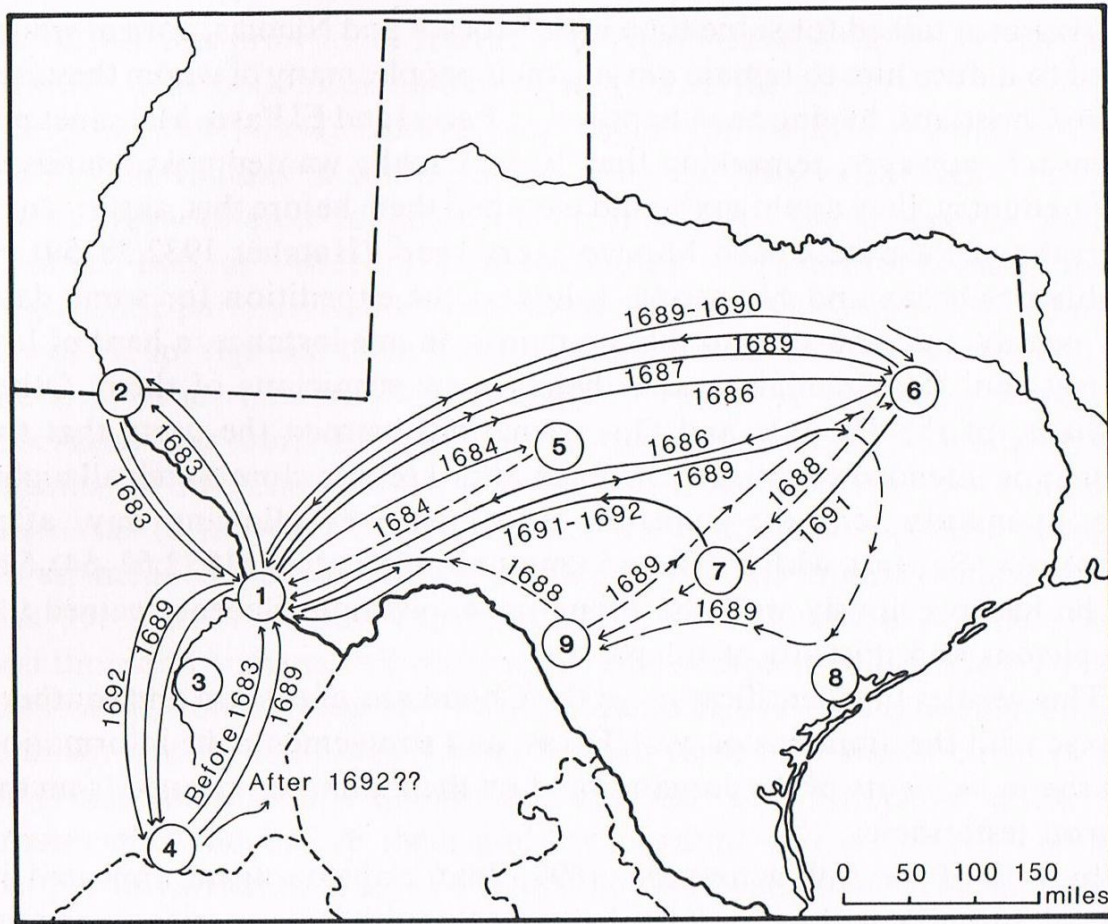


Figure 2-3: The travels of Juan Sabeata circa 1683-1692 (Kelley 1955:983)

as described in the ethnohistoric records might have been a defining feature of Toyah social organization and one that may have played a key role toward the regionally widespread adoption of Toyah material culture among what is believed to have been a disparate population of territorially circumscribed, largely egalitarian, multiethnic native groups.

Given that the Toyah Interval (1200/1250 – 1700 CE) shares a considerable temporal overlap with the proto-historic period in Texas (1528-1700 CE), the Toyah

phenomenon offers a unique opportunity to employ an historical approach, using the ethnohistoric record as a means to provide some contextual models to bridge the gap between general anthropological theories of emergent social complexity and observable patterns in Toyah

material culture. J. Charles Kelley (1986) used just such a conjunctive approach in his seminal work, *Jumano and Patarabueye: Relations at La Junta de los Rios*, and despite the dominance of processualist research trajectories in “Texas archaeology,” a number of contemporary scholars have found it useful to combine the disciplines of history, cultural anthropology, and archaeological archaeology to construct an interpretive framework for observed patterns in Toyah material culture (Arnn 2012a, 2012b; Boyd 2001; Carpenter 2017; Creel 1991; Hester 1999; Kenmotsu 2001; Kenmotsu and Arnn 2012; Mallouf 1999; Wade 2001, 2003). But as many researchers have pointed out, using such an approach does require a bit of caution. For instance, the disciplines of history, cultural anthropology, and archaeological archaeology are all separate epistemologies unto themselves, and what is considered a completely valid way to structure an argument in one field, may not be acceptable in the others (Abler 1982; Trigger 1978; Wilson and Rogers 1993). Also, although each of these disciplines is concerned with issues of culture change, archaeology tends to approach the topic at broad spatiotemporal scales (i.e. regions or continents over centuries or millennia), while history and cultural anthropology view the phenomenon at the scale of personal interactions or events that occur over no more than a few decades in time or a generation or two (Wilson 1993). Furthermore, it has been argued that since colonial documents are often politically inspired and ethnocentrically charged, many archaeologists working on aspects of Toyah material culture consider their use to be somewhat problematic. Then there is the notion that since many archaeologists lack sufficient language skills to translate original

documents, they tend to rely on translations from a myriad of secondary historical sources, which often contradict one another. Despite these potential pitfalls, the advantage of combining these disciplines is that sometimes small-scale processes revealed in the ethnohistoric or ethnographic accounts (i.e. special status individuals) that are, except in the most unique of circumstances essentially invisible to the archaeologist, can indeed affect larger-scale patterns such as settlement, technology, and economic factors that are susceptible to archaeological evaluation (Wilson 1993:27).

Anthropological archaeologists who focus on prehistoric hunter-gatherer research rely on a considerably diverse body of well-established social theory as a means to provide a coherent analytical framework for observed patterns in material culture (Bettinger et al. 2015; Crothers 2004; Hodder 1991; Johnson 2010). In spite of this, much of the research conducted on the Toyah Interval has overwhelmingly been committed to a largely processualist approach, where analysis starts at the artifact level and then works toward general interpretations regarding human behavior. In approaching archaeology in this way, one falsely assumes that biases have been minimized, but the fact of the matter is that regardless of where one starts the analysis, either from the aspect of high-level social theory working down to material culture, or from material culture and inferring general theories, neither approach can escape inherent biases. I submit that a reason why Texas archeologists are partial to the processualist approach can largely be attributed to the fact that the overwhelming majority of the archaeological record in the state has been done in the context of cultural resource management, which by design is primarily documentary in nature as opposed to being more theoretically driven. As a consequence of this mindset, a great deal of effort in archaeological investigation in the State is directed toward describing and typing archaeological collections and contexts to reach general interpretations with regard to the cultural-historical thematic categories of

technology, subsistence, and exchange, and where the driver behind cultural change is largely relegated to normative cultural-ecological explanations. Under this prevailing analytical framework, it is no surprise that the perspective on Toyah society is largely minimalist, and interpreted as composed of highly mobile, economically independent family groups of generalized foragers having an egalitarian social organization no more complex than that of the band level. Alternatively, if we compare this perspective with the information provided by the ethnohistoric data, we find evidence that indicates that rather than being highly mobile, Toyah groups may have practiced a more intensive strategy of seasonal mobility, during which time some constituents would organize into larger communal aggregates for the purpose of participating in communal ritual activity as well as in a regionally-focused bison economy (Creel 1991; Gilmore 2012; Kenmotsu and Arnn 2012; Mauldin et al. 2012; Wade 2001, 2003). This latter way of characterizing Toyah implies a level of economic and social complexity that is inconsistent with the prevailing interpretation of Toyah society as one consisting of highly-mobile egalitarian bands of generalized foragers, and argues that if one were to approach the topic of status and inequality with regard to Toyah society, such an endeavor might be better served if it were situated within the context of recent theoretical debates on complex hunter-gatherers.

#### **DEFINING COMPLEX HUNTER-GATHERERS**

Complex hunter-gatherers have been distinguished from societies comprised of generalized foragers as those who have more sophisticated structural elements and more connections between them, whereby organizational heterogeneity and social differentiation, or specialization, are major aspects of these societies (McGuire 1983; Price 1995; Price and Brown 1985). In comparison to generalized foragers who are

typically egalitarian, practice high residential mobility, possess an ethic of sharing, and organize into bands with flexible group membership, complex hunter-gatherers are typically more sedentary from the perspective that they tend to practice a more seasonal pattern of residential mobility; have formal group membership in the form of lineages, sodalities, and the like; and display a distinct ability to acquire and use wealth for purposes of status differentiation (Prentiss and Kuijt 2004; Rowley-Conwy 1983). This dichotomy can be misleading as ethnographic data show that there exists a wide degree of intermediate variation between these two ideal types. In fact, some researchers have eschewed the use of the term egalitarian to describe hunter-gatherer political systems, as they view all human societies as inherently complex, citing that even mobile, low-density populations of hunter-gatherers are known to exhibit asymmetrical relationships between individuals over access to basic subsistence resources, marriage partners, and goods (Flannery and Marcus 2012; Kelly 1995; Prentiss and Kuijt 2004; Speth 1990; Wiessner and Schiefenhövel 1996). It is for this reason that complex hunter-gatherers have been grouped within a broad range of societies termed “transegalitarian,” meaning neither egalitarian nor politically stratified (Clark and Blake 1994; Hayden 1995). This highlights the considerable disagreement over how to define the idea of complex hunter-gatherers, with definitions either being too broad or too narrowly constructed to account for the wide degree of ethnographic variation observed among these populations. In light of this debate, archaeologists have generally approached the aspect of complexity in at least two ways: (1) ethnographically derived trait lists, and (2) theoretical constructs based on specific regional, cultural, and historical parameters that allow for comparative analyses.

Although the development of trait lists was an effort to distance human social organization away from the schism of “progressive” evolutionary ideas espoused by nineteenth century social Darwinists, ironically, such taxonomic systems were unable to

fully disconnect from these long-held beliefs, as they largely depended on unilinear processes that almost always trended toward increasing hierarchy as the eventual outcome. According to Service's (1971) taxonomy of band-tribe-chiefdom-state, and Fried's (1967) egalitarian-ranked-stratified-state, cultural evolution (meaning the progression from one type of political organization to the next) was measured in relation to changes in social structure in response to stressors, such as greater population density and an increase in the number of groups, which together were more or less resolved through processes of intensification (i.e. greater functional specialization and the emergence of new ways to integrate larger populations). Other critiques point to the fact that since these taxonomic systems were rooted in neo-functionalist arguments derived from ecological models, they tend to relegate all cultural change exclusively to the group level, thereby ignoring the actions of individuals and reducing all human agency solely to adaptive responses to external factors (Hodder 1991; Johnson 2010).

In an attempt to address the shortcomings of these unilinear taxonomic constructs and to establish a more meaningful dialog around the topic of complex hunter-gatherers, a few researchers worked to better define the developments that led to complex hunter-gatherer societies by isolating: (1) the conditions that foster complex foragers; (2) the consequences of these conditions; and (3) the causes for intensification (Price and Brown 1985:8-13). Along this trajectory, it was proposed that conditioning factors common to the development of complex hunter-gatherers include circumscription, abundant resources, and population growth, while the consequences or social responses to these conditioning factors almost always involved the intensification of productivity, which can be manifest in various ways (i.e. the diversification and specialization of technological and subsistence strategies, a reduction in mobility, larger and more differentiated settlements, territoriality in the form of identity signaling, conflict and competition, as



well as more pronounced social differentiation). In terms of the causes for intensification, many studies emphasize demographic, population, and structural causes, but what is unique among the proponents of this position is that despite the rather large body of literature that linked cultural complexity to changing ecological conditions, this new rubric clearly downgraded the environment, increasing population, and circumscription to conditioning factors rather than causes (Price and Brown 1985:10).

As research on complex hunter-gatherers continued, it became clear that in order to account for the range of cultural variance observed ethnographically, one must consider that societies or cultures exist as discrete and essential units of analysis, and that from this perspective the level of complexity varies in accordance with the scale at which a given population is observed (Marquardt 1985; Rogers 1995; Sassaman 2000, 2004). In other words, at the scale of the individual household where no spatial division of labor or evidence of higher social status are detected, the assumption would be that the society was egalitarian; however, if these same households were found to be linked to a ceremonial complex where there is evidence of extramural feasting, warfare, or elaborate burials then one could see how these egalitarian households were integrated into a larger regional, more complex form of social organization. In addition to this aspect of scale, many of the ensuing theoretical models also viewed complexity as relating to greater differentiation in organizational structure, which can be reflected along two independently variable dimensions, heterogeneity and inequality (Fitzhugh 2003; McGuire 1986). Heterogeneity refers to a greater differentiation of structural parts and is reflected in the number of different social positions that can be occupied by individuals, and consequentially to their relative statuses and roles, whereas inequality relates to the relationships between these structural elements, such as having differential access to resources and information. Within this construct, the differentiation of the different

structural elements can either be intensified horizontally or vertically. In the case of horizontal intensification, hunter-gatherer groups elaborate on existing structures by incorporating or creating more elaborate social forms (e.g. technologically through storage, new forms of artistic expression, or either the introduction of new or the broadening of existing social roles, etc.). Vertical intensification on the other hand is where hierarchical structures in the form of hereditary leadership roles emerge from more informal ones as a way to integrate the increasing number of social forms as a means to alleviate scalar stress. For example, Marquardt (1985) approached social differentiation in the mortuary data of the Kentucky Archaic Green River valley's fisher-hunter-gatherers, and based on the distribution of exotic grave goods, which favored adult males, was able to determine that structural differentiation within Green River society was intensified horizontally, reflected in the expansion of social roles to include that of the trader-diplomat. Referring to a body of ethnographic data on the topic, Marquardt inferred that trade may likely have been the purview of certain males, perhaps from a particular lineage or corporate group, who traveled undetermined distances to contact formal trading partners. Although Marquardt's interpretation of the Green River Archaic is debatable, he reminds us that the rigid framework by which archeologists have envisioned complexity as a society that is highly differentiated, hierarchical, redistributive, sedentary, and populous needs to be rethought to include specialized hunter-gatherer societies that appear to be marked by sophisticated politics, ecologically knowledgeable, as well as being acquainted with distant regions and novel ideas (such as new technologies and cultivation).

Many of the theoretical constructs proposed to account for the diversity of complex hunter-gatherer societies tend to favor evolutionary-ecological and historical materialist approaches as explanatory frameworks largely because both employ general

systems theory as an operating principle. Under these theoretical paradigms, analysts cite either resource abundance or population pressure as conditioning factors behind emergent complexity. In the case of resource abundance, it is stated that people could be sedentary, raise more offspring, collect more resources, store them, and subsequently be free to engage in economic and prestige competition (Brumfiel 1994; Gould 1982; Hayden 1981, 1995). Arguments that center on population pressure propose that hierarchies emerge due to stress on the subsistence base created by population pressure, temporally or spatially variable resources, and reduced residential mobility (Ames 1985, 1994; Arnold 1991; Johnson 1982; Kelly 1995; Potter 2000). In contrast, some researchers have critiqued the ahistorical and reductionist nature of evolutionary and behavioral perspectives citing that the archaeological data suggest that the genesis of many foragers can be traced to centuries of past interactions with farmers and herders (Chang 1982; Denbow 1984). In response to this critique, Sassaman (2004) argued that despite environmental conditions, cultural tradition (practice) carries forward and enables a transformation in structure (greater complexity), and offered a case study along these lines to explain the rise of late prehistoric period chiefdoms in the San Francisco Bay area as well as those in the Atlantic Southeast. His evidence in reference to the architectural complexity of shell mound construction demonstrated that the preceding Mid-to-Late Archaic shell mound cultures in both of these regions had social structures based on internal ranking, suggesting that the late period chiefdoms that followed did not necessarily arise from egalitarian foragers, but rather were predicated on social principals with roots dating back four millennia. In another break with these neo-evolutionary models, Wilson (2007:174) argued that the emergence of social inequality and politics in the Greater Antilles was not only marked by increasing population and cultural change,

but also by an increasing trend on the significance of community activities reflected in the creation and proliferation of ball courts and ceremonial centers.

#### **ARCHAEOLOGICAL PATTERNS ASSOCIATED WITH SOCIAL INEQUALITY AND SPECIAL STATUS**

Archaeologists have pursued a suite of direct and proxy evidence to address social differentiation in general and special status in particular. Typically, direct evidence is sought in the mortuary data with unique mortuary practices including interment within distinctive sorts of tombs, and/or association with particular types of high value grave goods, and since individuals of special rank are noted in some cultures to have more than one spouse, a correlating marker can include additional individuals within individual interments, or disproportionate patterns in health and nutrition. Other markers for special status frequently cited include special residence, dress, marital patterns, and treatment at death. Domiciles of special status individuals are often distinguished by a number of attributes in comparison to commoner households such as larger size, unique decoration, construction materials, interior furniture, location, and unique or unusual refuse disposal patterns (Feinman and Neitzel 1984; Hayden and Adams 2004; Jackson and Scott 2010; Kelly 2001; Knight 2004; Olsen 1990; Pauketat et al. 2002; Welch 1991; Yerkes 2005). Distinctive kinds of dress such as various ornaments, regalia, tattoos, body paint, and insignia of office can also reflect special status. Arguments in support of special status individuals, particularly medico-religious practitioners such as shamans, have involved identifying the tools of their trade and symbols of office to include smoking pipes, noise-makers, crystals, fetishes, sucking and blowing tubes, rock art, as well as evidence of psychotropic substances (Van Pool 2009; Tomaskova 2013).

Because material goods are generally sparse in Toyah mortuary contexts it is typically assumed that individuals were all of equal status. However, recent ethnographic studies on wealth transmission and inequality in contemporary hunter-gatherer populations found that in addition to material forms, wealth was manifest in other ways including both embodied and relational forms (Smith et al. 2010). Embodied wealth refers to issues of somatic endowment including factors such as body size, health, physical strength, as well as cognitive ability, which in turn affect basic fitness components such as mortality and fertility rates, but also productive success (i.e. better hunting and gathering returns). Relational wealth, on the other hand, has to do with having a network of advantageous social relationships, such as in the case of being able to attract desirable marriage and exchange partners. All three forms of wealth exist together, but are expressed at different levels of importance within a given hunter-gatherer population. In the five contemporary hunter-gatherer populations Smith and his fellow researchers studied, on average embodied wealth was assessed by far to be the most important, with relational wealth coming in at a close second. In all of the populations studied, material wealth was decidedly the least important factor relating to the status of a particular individual (Smith et al. 2010). I intend to approach the issue of embodied wealth through an analysis of skeletal and dental pathologies evidenced in the Toyah mortuary data to evaluate whether there is any variation in health along various population demographics, while an assessment of material and relational wealth will be approached through the analysis and interpretation of associated grave goods.

In addition to the mortuary data, using the construct of complex hunter-gatherers as an organizing principle for this study provides access to a number of intermediate-level anthropological theories such as feasting, violence, and craft specialization, that help to better link higher order theory on social complexity with material culture. It is

important to recognize that approaching the topic from such a theoretical perspective inherently has the potential to inject certain interpretive biases; however, the intent of this study is not to offer any definitive comments about Toyah society, but rather to provide a heuristic to pave the way for further debate. Nevertheless, these concepts originate from studies conducted on “Big Man” systems and the emergence of chiefly elites along the Northwest Coast, New Guinea, and the California Coast. Many of the researchers in these areas view emergent complexity in hunter-gatherer societies as primarily a top-down driven phenomenon that focuses on the motivations of certain self-interested individuals or groups who develop exclusive control over a particular set of resources and/or surpluses, and use them in competitive ways to promote social inequality (Ames 1995; Arnold 1991, 1993, 1995; Brumfiel 1994; Clark and Blake 1994) and reciprocal, contractual debt (Hayden 1981, 1995). In contrast to ecological explanations of culture process, models based on emergent complexity acknowledge that all human societies, whether simple or complex, inherently contain elements of social stratification and as such are concerned with the quest for status (Paynter 1989; Potter 1997; Weissner 1982; Weissner and Schiefenhövel 1996). According to these models, heads of households or of particular lineages employ tactical power that take a number of different forms to include competitive feasting, violence, and the specialized production of household commodities and prestige goods, all as a means to expand their influence, organize labor, as well as to generate and exploit surpluses.

### **Feasting**

The archaeological study of feasting behavior is rapidly growing in notoriety as a powerful cross-cultural explanatory concept that offers a more socially focused dimension toward the interpretation of culture processes and dynamics ranging from the

production and utilization of surpluses, the emergence of inequality and complex social organizations, the creation of prestige technologies, and to the underwriting of elites in complex societies (Bray 2003; Clark and Blake 1994; Flannery and Marcus 2012; Hayden 1995, 1996, 2001, 2014; Hayden and Villeneuve 2011). Feasts have been defined as any sharing between two or more people of special foods generally not served in daily meals for the purpose of creating and maintaining important relationships among social aggregates, but at a different scale of analysis, can also be used as a strategy to promote the interests of certain self-interested individuals to create personal wealth, power, and prestige through mechanisms of contractual debt (Hayden 1995, 1996, 2001, 2014). According to Dietler (2001), feasts also involve the sharing of special food items, but in contrast to Hayden's definition, Dietler sees feasts primarily as communal events that almost always involve the performance of rituals for the purposes of negotiating relationships, pursuing economic and political goals, competing for power, and for reproducing and contesting ideological representations of social order and authority. Whatever the motive, it is important to emphasize that feasts also involve the consumption of special or luxury foods, which are those that offer a refinement in texture, taste, fat content, or other quality (such as a stimulant or inebriant), and can provide distinction because of either their quantity or quality (van der Veen 2003). Feast foods have also been referred to as the rarest, the most difficult to procure, or the most labor-intensive to prepare (Hayden 1996:137). In fact, some ethnologists have suggested a link between social stratification and feast foods, arguing that societies that lack strong social stratification emphasize larger quantities of everyday staples over quality foods, and that quality foods are a hallmark of societies with more institutionalized forms of social stratification (Gariné 1976; Goody 1982).

The use of special recreational substances such as tobacco, alcohol, and other intoxicating substances has been a topic of interest among social anthropologists for some time, especially given its integrative role in maintaining social cohesion, as well as its use as a practice in healing, marking social categories, boundaries, and identities (Dietler 2006; Douglas 1987; Wilson 2005). Along these lines, New World archaeologists have viewed the prehistoric use of intoxicating substances as a significant component of feasting behavior, and by this association have linked it to the origin and spread of maize and tobacco from their initial beginnings as items shared and exchanged among elites to affirm status and social ranking (Clark and Blake 1994; von Gernet 2000).

Given the idea that feasts are supra-household events involving the special preparation, presentation, and consumption of foodstuffs, Hayden (2001:40-41) cited a comprehensive list of archeological signatures for feasts ranging from rare or labor intensive and/or recreational foods, specialized food preparation facilities, unique or unusual food preparation and serving utensils and containers, unique or unusual food-disposal features, as well as the presence of associated prestige and ritual items. Recent archaeological studies at a number of Formative Period sites in the Southeastern United States have employed the feasting model in a number of ways including the investigation of unique or unusual refuse disposal pits (Jackson and Scott 2003; Pauketat et al. 2002; Yerkes 2005); the disproportionate occurrence of faunal remains associated with ritual activities (Potter 1997, 2000; Wallis and Blessing 2015); unusual numbers, sizes, forms, quality and the differential distributions of food preparation and serving vessels (Blinman 1989); the rapid adoption and dissemination of unique and innovative ceramic vessels (Graves and Spielmann 2000); unusually high breakage rates in pottery vessels (Toll 1985); and the presence of special structures (Hayden and Adams 2004). Several researchers have also argued that feasting is indicated in the material record as a bimodal



size differentiation expressed in cooking or serving vessels, especially when larger vessels possess features in addition to size, such as decoration, that suggest unusual functions (Crown 1994; Graves and Eckert 1998; Spielmann 1998).

Another archaeological correlate of ceremonial feasting especially in transegalitarian societies centers on the technological aspect associated with the preparation of large quantities of food. Typically, large earth ovens or roasting pits fall into to this category and have been used together with other evidence to indicate the existence of commensal politics among prehistoric populations in the southwest, northern Mexico, as well as the southeastern United States (Di Peso 1974; Hayden and Cousins 2004; Lindauer 2000; Lowell 1999; Mitchell 2008; Whalen and Minnis 1996, 2000). Such large cooking features and bone concentrations/clusters are common among Toyah assemblages and offer excellent opportunities to investigate their potential role in feasting behavior.

## **Violence**

In addition to feasting, complex hunter-gatherer societies have also been linked to high rates of violence, usually in the form of warfare and raiding between different groups as opposed to within the group (Ferguson 1983; Kelly 1995:303). At one scale of observation it would seem that such violence largely occurs over group territorial claims, but at another scale it has been attributed to competitive status-building among rival political/religious leaders as they seek personal wealth, power, and prestige (Brumfiel 1994). In contrast, violence in small-scale egalitarian societies occurs largely among individuals of the same group, and as such tend to be infrequent, spontaneous, based largely on status leveling as opposed to status elevation, and primarily concerned over sexual access to women (Knauff 1987:479). As opposed to the infrequent and

spontaneous nature of violence in small-scale societies, Keeley (1996:65-67) noted that the most common forms of primitive warfare employed by transegalitarian societies included raids and massacres. According to Keeley, both raids and massacres are forms of coordinated intertribal warfare. The difference being that raids are usually directed at small camps away from major population centers and as such, only involve a small number of casualties, mainly women, with wounds largely inflicted from behind as the individual attempted to flee. Massacres on the other hand, produce larger numbers of casualties among mostly males, as the women and children are generally able to escape in the mayhem that ensues during the attack. Raids usually result in individual burials that occur some distance away from major habitation sites, but such casualties can also be recovered and buried in a communal cemetery, while the signature of a massacre is most clearly indicated by the presence of a mass gravesite.

With regard to violence and its association with status-seeking individuals, Vehik (2002) considered the mounting mortuary evidence for violence, the appearance and proliferation of defensive works, and the occupation of defensive terrain after 1450 CE on the Southern Plains as a pattern reflecting the work of competing political/religious leaders as they sought to exploit such social disruptions to increase and consolidate their control over non-local resources as well as to ritual/ceremonial knowledge. She argued that archaeological evidence reflecting the presence of political/religious leaders within Plains groups included evidence from households/sites that appear more focused on specialized production and/or religious activities, and that this was represented in the archaeological record by the more discriminate distribution of non-local materials or status items among households, kitchen middens, and burials. In addition to providing both direct and indirect evidence for special status individuals in the archaeological record, it has also been argued that the Garza Complex marked by its intensive focus on

bison hunting and processing, combined with a noted decrease in women's access to non-local materials, and the presence of Rio Grande pueblo-style pottery made from locally available clay sources at Southern Plains sites, together reflects a pattern relating to the rise of status-seeking men at the expense of the role of women in Southern High Plains society (Habicht-Mauche 2005:53).

My dissertation approaches the phenomenon of violence and its relationship to special status by synthesizing the available Toyah mortuary data in terms of identifying traumatic injuries to include instances of where arrow wounds were documented by the analyst as the cause of death. It follows that if such violence reflects competition among status-seeking men, then we would expect to see evidence of coordinated, high profile attacks such as mass burials and violence associated with status individuals. Furthermore, if women's roles were being marginalized by those of status-seeking men, it is expected that this would be reflected in the mortuary data in terms of a marked disparity in the overall health of women as opposed to that of men.

### **Craft Specialization**

Craft specialization has been viewed as a form of economic intensification that has typically been reserved as a characteristic of more organizationally stratified societies, despite the fact that recent studies have considered it a large part of the household economy of complex hunter-gatherers (Ames 1995; Arnold 1991; Brumfiel and Nichols 2009; Hayden 1995). Costin (1991:4) defined craft specialization as, "a differentiated, regularized, permanent, and perhaps institutionalized production system in which producers depend on extra-household exchange relationships at least in part for their livelihood, and consumers depend on them for the acquisition of goods they do not produce themselves." Brumfiel and Earl (1987:5) saw that rather than being rigidly

defined, specialists varied along a continuum. At one end there are attached specialists who produce goods and services under a contractually-bound relationship for a particular patron, while at the other end are independent specialists, who rather than being attached to a specific patron provide goods and services for an unspecified demand crowd. Ames (1995:158), in his work on Northwest Coast groups, later added a third type, that is an embedded specialist, in which he defined as a full or part-time specialist, who rather than producing for a patron or a demand group, produces for members of a particular lineage or for a member of the elite, whose social roles are linked to ritual or ceremonial performance as well as to the production of prestige goods. Increasingly, craft specialization has been seen more as a social practice operating under a set of complex rationales, whereby craftspeople actively participate in the negotiation of social hierarchies as opposed to just being a practice epiphenomenal to them. Craft specialization generally appears in small-scale societies in the form of part time, independent specialization focusing on the production of goods for domestic or ritual purposes, and then as conditions allow, it may intensify toward full time embedded or attached specialization involved primarily in the production of goods for extra-domestic consumption (Clark and Blake 1994; Cross 1993; Flad and Hruby 2007; Helms 1993; Sennet 2008; Spielmann 1998).

Viewed within an evolutionary framework, craft specialization is an intensification strategy that maximizes household production as it creates economies of scale that in turn function to reduce risk (Costin 1991; Eerkens 2008; Rice 1981, 1991). For example, the production of ceramic vessels is more efficient than the production of basketry, because many ceramic vessels can be made and fired as a batch in comparison to the more labor-intensive and time-consuming pursuit of weaving baskets. Moreover, some researchers have argued that diversified craft production in the form of intermittent

and multi-crafting comprise the majority of household production from hunter-gatherers to states, and can generate efficiencies in other ways such as by providing “just in time” inventory practices that save on storage facilities and transportation costs, or as in the case of multi-crafting, can maximize production skills and facilities to produce a greater range of products that appeal to a wider population of consumers (Brumfiel and Nichols 2009). However, in the context of the apparent economic benefits of craft goods, it is important to understand how such goods acquire value. The traditional view is that value is ascribed based on its association with elite goods, which tend to be items of non-local origin obtained through long-distance exchange networks. Alternatively, value can also be acquired when materials worked by commoners are inputs to a final stage of manufacture performed by elites; while lastly and more esoterically, value may have been assigned to craft goods based on the “performances” that accompanied their production and distribution – in other words, “ritual production.” In contrast to traditional top-down driven approaches to craft specialization, Spielmann (2002) argues for a bottom-up approach, where economic intensification in small-scale societies is often the result of ritual elaboration and participation by “ordinary” members of society. In this context, ritual and belief define the rules, practices, and rationale for much of the production, allocation, and consumption of craft goods as opposed to the political aspirations of a few aggrandizers.

Craft specialization has been approached archaeologically by identifying standardized production sequences that likely involved special training as well as some degree of labor specialization. Furthermore, the products of specialized crafting usually occur as finished pieces, where the production debris indicative of ad hoc or infrequent production is generally absent in consumer household contexts. Ceramic and chipped stone blade technologies have long been recognized as the result of craft specialization,

especially in prehistoric Mesoamerican and Mississippian contexts, where craft workshops have been clearly documented and likely represent the work of an attached specialist in the service of a particular patron (Arnold 1991; Clark and Parry 1990; Hirth 2012; Perry 1994). However, when items of this nature are found in hunter-gatherer contexts, it is usually assumed that they were either acquired through trade or the result of ad hoc production by generalists within the population.

Although the Toyah assemblage contains both blade and ceramic technologies, no researchers to date have approached them within the framework of craft specialization, largely because the term has exclusively been applied to societies with more institutionally defined social roles. Approaching the topic of craft specialization with respect to the Toyah archaeological assemblage, involved evaluating whether Toyah pottery and lithic blades could have been the work of specialized crafters, and if so, what could be said about their relationship to social complexity, and whether there is a case to be made for the individual itinerate crafter/trader as modeled after Cabeza de Vaca's account.

#### **SUMMARY AND THE WAY AHEAD**

The intent of this study is to interrogate the prevailing archaeological interpretation that Toyah society was comprised of economically independent family groups of generalized foragers who were socially organized at the band level. Unlike most published sources in "Texas archaeology" which employ a processual methodology, which start the analysis at the level of individual artifacts and work up to arrive at general interpretations of human behavior, this study approaches the problem from the perspective of high-level theory on social complexity, and with the aid of intermediate-level models focused around the socially complex behaviors of feasting, violence, and

craft specialization as interpretive tools, link social theories to observed patterns in the material record. This is not to say that one way of examining the archeological data is better than the other as both methodologies carry their own unique set of inherent biases. However, the object of this study is not to reach some level of Cartesian scientific truth about Toyah society, but rather to render a perspective based on a certain set of assumptions about how societies work, and more importantly, to identify avenues of further inquiry.

## Chapter 3

### The Archaeological Context of the Toyah Cultural Sphere

The notoriety of the Toyah phenomenon began with the work of J. Charles Kelley, when he reported on excavations undertaken on a private ranch in Gillespie, County at the Lehmann Rockshelter in 1935-36. Within the upper 18-inches of Stratum II, which had been capped by a modern sterile zone of loose sand, Kelley found 47 delicately knapped arrow points, the majority of which belonged to a type he referred to as “Perdiz Pointed Stem.” Associated with this haul of arrow points were snub-nosed scrapers, small perforators, Harahay knives, many “well chipped” blades, tubular bone beads, bone awls, a fish-bone needle, together with sandy paste, bone-tempered potsherds with a red washed and polished surface that he named, “Doss Redware” (Kelley 1947:123). Finding that this assemblage matched others recovered at sites as far north as the middle Brazos valley in Hill County, along the Colorado River south of Austin and upriver at least to the mouth of the Llano River, and as far west as the Trans-Pecos, Kelley named this cultural tradition the Toyah focus, and later saw it as the most likely candidate for the material assemblage of the Jumano Indians (Kelley 1986:110).

Similar Late Prehistoric components were later recovered from a collection of other rockshelter sites in Hill and Travis counties, and adding to the list of Toyah assemblage traits were Clifton arrowpoints and a locally made plainware pottery given the name Leon Plain (Suhm et al. 1954). Based on his analysis of these data, Jelks (1962) elaborated on the broader cultural, geographic and temporal character of Toyah, concluding that both it and its cultural predecessor, the Austin Focus, were clear departures from a Late Archaic way of life. He argued that both Austin and Toyah foci



people were largely multi-spectrum hunter-gatherers who occasionally practiced maize horticulture, and that both were related cultural developments indigenous to Central Texas. This idea was somewhat short-lived as new information retrieved from excavations at Lake Waco, Aquilla Lake, and a number of other Central Texas sites which further substantiated Jelks' claims that Toyah was clearly a separate development from the Austin Focus, but added the notion that Toyah involved the introduction of a plains-style assemblage geared largely toward a bison economy (Green and Hester 1973; Shafer 1971; Story and Shafer 1965). The idea of Toyah as a plains-related assemblage used mainly for bison exploitation was drawn from the fact that certain Toyah artifacts, such as beveled bifaces and pottery, had antecedents in Plains Village complexes, as well as the fact that the Toyah interval emerged suddenly in Texas about the same time that plains bison populations resurged around A.D. 1200 (Dillehay 1974; Huebner 1991).

As more information began to accumulate from the growing number of investigated sites, it quickly became clear that the mounds of individual data amassed on Toyah components needed updating. Prewitt (1981) took up the challenge and in his revision of Central Texas cultural chronology he compiled a comprehensive list of Toyah characteristics for his proposed Central Texas Archeological Region. In doing so, he followed Shafer's (1977) lead and elevated Toyah from an archaeological focus to a phase: a move that was later criticized and as a consequence has not been widely adopted (Johnson 1987:10), with some researchers preferring to be more cautious by using the term horizon (Black 1989) or interval (Collins 1995; 2004). Prewitt's 'phase' concept for Toyah included Perdiz and Clifton arrowpoint styles as the assemblage's main archaeological index fossils, and that these were often accompanied by other lithic tool specimens such as Covington bifaces, four-beveled bifaces, and drills. Leon Plain and Doss Redware were seen as common pottery types of the Toyah Phase, as well the recognition

of a number of other non-local ware types in the assemblage likely imported from the Caddoan region in east Texas and from Rockport peoples along the Texas coast. To these durable materials, was added a list of more perishable items found in dry rockshelters such as wooden arrow foreshafts, digging sticks, basketry and cordage. Toyah mortuary practices were described as mostly individual semi-flexed burials and occasional cremations, but Prewitt also allowed for cemeteries with multiple interments, with some individual interments showing evidence of a violent death. Prewitt noted that hunting big game was either equal to or more important than gathering, and based on corn cobs found at various rockshelter sites he also promoted the possibility that Toyah Phase people may have also engaged in maize horticulture (Prewitt 1981:84).

Sometime prior to the publication of Prewitt's Central Texas Chronology there were reports that Toyah-like components also extended south of the Edwards Plateau to the Nueces River basin and eastward just short of the Coastal Bend where it interfaced with elements of the Rockport Phase (Black 1986, 1989; Hester 1995; Hester and Hill 1971; Hester and Parker 1970; Highley 1986). In South Texas, Toyah cultural traits are very similar to those found in Central Texas except that Harahey bifaces are rare, and are replaced with a local variant with two beveled edges. In addition, many of the formal lithic tools tend to be diminutive in overall size in comparison to their Central Texas counterparts and mostly made from local lithic sources as opposed to Edwards chert. Although bone-tempered Leon Plainware dominates the ceramic assemblages in South Texas, added to the list of ceramic items are ceramic figurines and ceramic tubular pipes, but pipes made from ground sandstone are also represented. Other items include marine and freshwater shell ornaments, tubular bird bone beads, and bison bone spatulate implements (Hester 1995: 444). A wide range of faunal species is represented, but work at the Hinojosa (41JW8), Possum Creek (41LK201) sites, and at a handful of other sites

in South Texas produced bone beds comprised mostly of deer and antelope remains, as well as indications that these animals were taken during warm season hunts as opposed to the cold season bison hunts that took place on the western Edwards Plateau (Black 1986, 1989; Hester 1995; Highley 1986).

In comparing radiocarbon dates, Black (1986:255) suggested that Toyah arrived in South Texas some 100 to 200 years after it appeared in Central Texas. However, it does not seem to have been a wholesale acceptance of northern traits, as South Texas Toyah people did not adopt the four-beveled edge Harahey biface, and in some instances Perdiz arrowpoints were absent (Hall et al. 1986). Although it is recognized that the spread of the Toyah phenomenon into South Texas could have occurred through a migration scenario as originally proposed, some researchers believe that while South Texas folks chose to adopt some traits and not others from their northern neighbors, Toyah should be considered a horizon rather than a phase (Black 1986, 1989; Collins 1995, 2004).

Reinforcing the notion that the Toyah people of Central Texas were engaged in a bison economy was the discovery of a number of open campsites in the upper and middle Colorado River basin. Sites such as East Levee (41TG91), Rush (41TG346), Rocky Branch (41RN169), Currie (41CC131), and Buckhollow (41KM16) on the western Edwards Plateau, all revealed evidence of intensive bison processing. Cut marks found on metapodials and axial areas on skulls together with high numbers of formal endscrapers and beveled knives in these sites' assemblages, all indicate that hides were taken and processed on site (Creel 1990; Johnson 1994; Quigg and Peck 1995; Treece et al. 1993). Evidence for hide processing is not only marked by the ubiquity of specialized tools such as endscrapers and Harahey bifaces, but at the Rocky Branch site, for instance, a number of bison rib peg alignments were found and interpreted as areas where hides

were likely stretched and worked (Treece et al., 1993:116). Based on the presence of fetal bison specimens and tooth eruptions, these kills likely occurred in the fall or mid-winter season (Treece et al. 1993).

An interesting exception to these bison hunting base camps on the western Edwards Plateau is a site located on the far eastern edge of this region along the Balcones Escarpment. At the Mustang Branch Site (41HY209-T) a large bone bed was discovered, but in contrast to a focus on bison hunting, deer and antelope were the main quarry of the occupants (Ricklis and Collins 1994). Based on the presence of cut marks on medipodials and the high number of formal scrapers recovered, it was evident that the hides were removed from these animals and processed on site. The high number of individuals combined with their age distributions argues for a whole herd taken during a single event that likely took place in the spring. Another interesting variation that separates this kill site from those to the northwest is that a few of the pottery vessels found at the site appear to be crude copies of Caddoan brushed jars (i.e. Boothe Brushed).

Aside from clear examples of stone-based wickiup structures of the Cielo Complex, habitation structures or windbreaks have been inferred based on distributional patterns in occupational debris at a number of Toyah sites in Central Texas. For instance, at the Currie Site a roughly circular shallow trench, measuring approximately eight meters in diameter, encompassed an area containing several post molds, a hearth, and a concentration of daub (Treece et al. 1993: 235). At the Buckhollow site a structure or windbreak was inferred in excavation area 2 based on a clearly defined, circular concentration of occupational debris, measuring approximately six meters in diameter, and consisting of at least one, possibly two small hearths, a cluster of potsherds, crushed bison bone, several utilized flakes, arrowshaft abraders, and some core debitage that includes blades (Johnson 1994:227). In addition, a structure was also inferred at the

Mustang Branch site from a roughly circular concentration of bone debris, measuring approximately six meters in diameter and positioned around a hearth (Ricklis and Collins 1994: 283). A similar pattern was also identified at the McKinzie site in Nueces County, where a semicircular accumulation of occupational debris around a central hearth, a number of small pits, and several post molds provided strong evidence for a habitation structure (Ricklis 1987). With new data from both Central and South Texas, Johnson (1994), isolated what he believed was a distinct, regionally defined “Classic Toyah culture,” which occurred over much of the Edwards Plateau and South Texas, although recognizing a much broader Toyah horizon that extended throughout most of Texas and northern Chihuahua (Figure 3-1). The area was termed “classic” not in the sense that it represents the original Toyah society, but rather because it is distinguished from other Toyah-like assemblages by the occurrence of a distinctive type of sometimes crudely fashioned, bone-tempered, plain-ware pottery often referred to by previous researchers as Leon Plain (Suhm et al. 1954). Johnson re-conceptualized Toyah ceramics in large part because he believed that the types Leon Plain and Doss Redware were basically meaningless, preferring instead to use the term “Classic Toyah wares” which he used to refer to a distinct Central Texas pottery-making tradition dating to CE 1300 to 1650 and opined that Classic Toyah vessel forms, most of which were bowls with deep concave sides, were very similar to those from northeastern Mexico (Johnson 1994: 270). Aside from bone-tempered plainware pottery, Johnson suggested that conical or tubular stone pipes were also elements of a Classic Toyah assemblage, while at the same time he recognized some regional variations in artifacts. For instance, items such as sandstone shaft abraders only occurred at sites near the Southern High Plains, and Harahey knives extended from the Shared Toyah area in the plains south into the Edwards Plateau and Blackland Prairie, while only knives with two-beveled cutting edges dominated

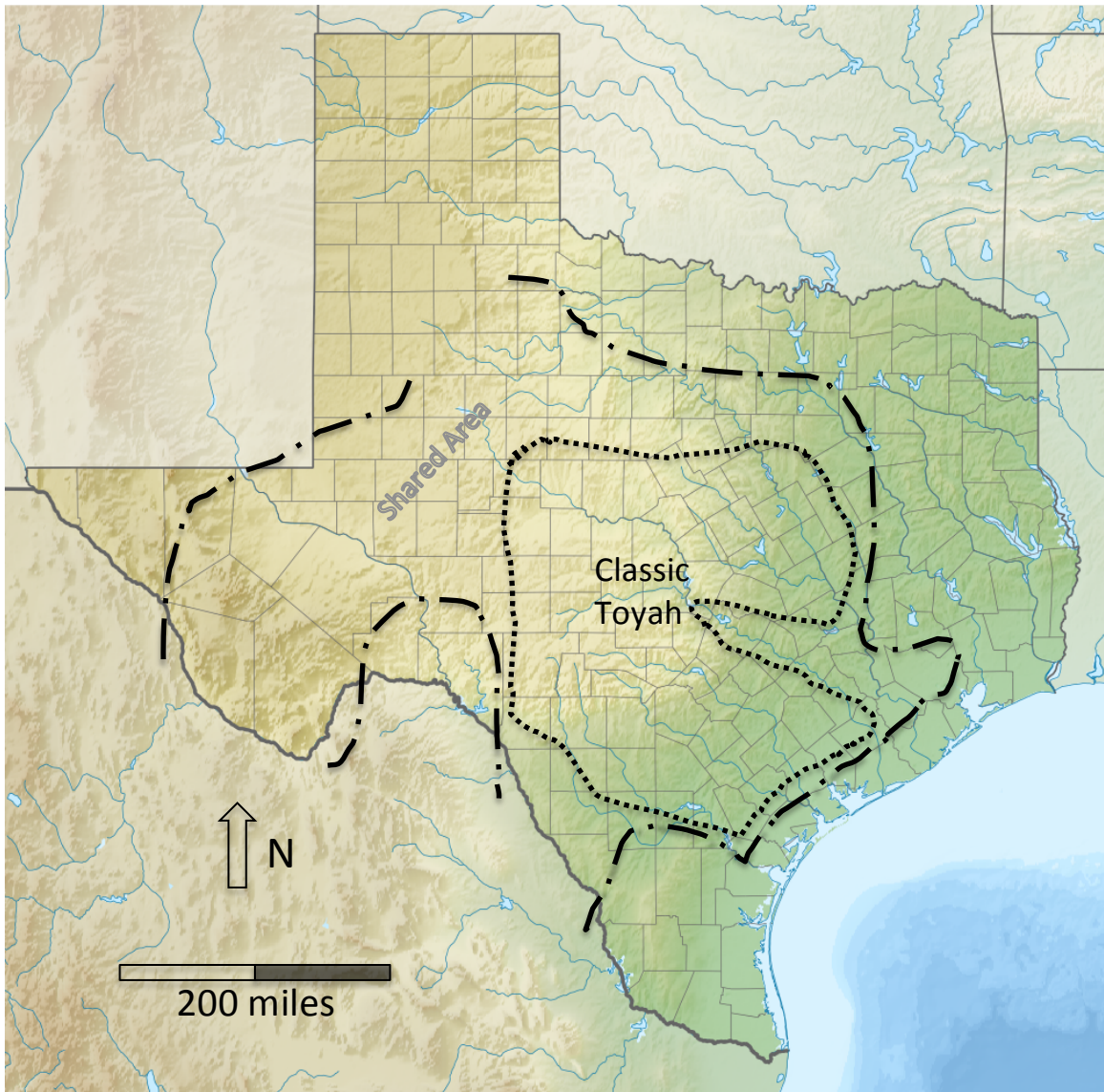


Figure 3-1: Geographic distribution of the classic and shared Toyah Areas (Johnson 1994:243)

assemblages southward below the Edwards Plateau. Furthermore, although he never discounted Ricklis' (1992) notion that Toyah reflected an advantageously adaptive techno-complex that spread largely through diffusion, he stated that the most likely scenario included both mechanisms and suggested that Toyah probably was the result of

an initial migration of a few foreign interlopers whose ideas took hold and diffused among the local Natives (Johnson 1994: 271). Johnson adds that if one were to look for antecedents to Classic Toyah culture, “it would be best to cast a wide net,” as he inferred that Classic Toyah pottery bared affinities with ceramic traditions out of the Mogollon area, while composite shaft arrows tended to be more akin to those found in the Southwest or northeast Mexico than on the plains, while shaft abraders and Harahey bifaces could be traced to Plains Village communities to the north. Whatever the case, Johnson makes it clear that Classic Toyah culture arrived from the Gulf Coast to northwest Texas at about the same time, approximately CE 1300.

Recently, there has been growing consensus among researchers that Toyah society was characterized by a trend of increasing resource intensification (Black and Creel 1997; Carpenter 2017; Creel 1991; Dering 2008; Gilmore 2012; Kenmotsu and Arnn 2012; Mauldin et al 2012). Using multiple paleoclimatic datasets Mauldin et al. (2012) demonstrated that for the larger part of the Late Archaic and Late Prehistoric periods grasslands were in a state of accelerated decline, and combined with evidence for high year-to-year variability in precipitation, he and his fellow researchers suggested that bison herd sizes and hunter-gatherer mobility fluctuated seasonally. They further add that this situation would have in turn created a considerable degree of resource stress, particularly for Toyah people who, if not dependent on, at least preferred to hunt these animals as a highly efficient means to supply much of their resource needs (i.e. meat, fat, clothing, tents, shields, etc.). Mauldin (ibid: 107) adds that such stress was alleviated through intensification, marked by a technological shift reflected in the adoption of a specialized tool kit and a concomitant move from generalized foraging to a more logistical strategy of resource procurement (*sensu* Binford 1979, 1980). A number of recent studies seem to corroborate this theme of resource stress and intensification during

the latter part of the Late Prehistoric period. For instance, the broad range of small animal and macrobotanical species recovered from a number of Toyah sites has been interpreted as an intensification strategy marked by the broadening of diet breadth as opposed to a pattern of narrowing it if resource stress was absent (Dering 2008). Intensification due to resource stress during the Toyah Interval is also indicated by special production activities such as bone grease processing (Quigg and Peck 1995; Ricklis and Collins 1994) and food storage in the form of pemmican production (Quigg 1997), as well as the increased density of specialized production facilities including burned rock middens (Black and Creel 1997), the production of hide commodities (Creel 1991), long distance trade in exotic goods (Kibler 2012), violence (Boyd 2012), and the emergence of dual economic strategies based on a combination of hunting and farming (Carpenter 2017). Social mechanisms linked to hunter-gatherer resource intensification include population aggregation, feasting, craft specialization, and violence, which in turn implies more complex forms of social organization and control (Bamforth 1988; Bender 1985; Carneiro 1970; Kelly 1995). These are areas that scholars interested in the Toyah phenomenon have only recently begun to consider.

#### **ARCHAEOLOGICAL EVIDENCE FOR REGIONAL INTERACTION: DEFINING THE TOYAH CULTURAL SPHERE**

At least three separate kinds of models have been advanced to account for the origin and proliferation of Toyah culture, namely a migration model, a diffusion model, and some models that focus on interactionist approaches. To summarize, Shafer (1971) was the first to propose a migration model, which stated that plains-based people moved into Central Texas following the expansion of bison herds into the region around 1200-1250 CE. Alternatively, Ricklis (1992) posited that Toyah was a largely indigenous



development, that rather than originating from a specific cultural group, spread among many different territorially circumscribed populations in the form of a technological complex composed of specific tools, technologies, and ideas that were particularly efficient at harvesting and processing bison. The primary critique of these bison-based models is their emphases on cultural ecology as the main *raison d'être* for Toyah society, which has been viewed as too reductionist with its decidedly normative approach to cultural interpretation. Efforts to address these concerns have been met with various interactionist models including mutualistic exchange relationships (Kelley 1986; Kenmotsu 1994, 2001; Spielmann 1983), as well as the idea of a “Toyah Social Field” (Arnn 2012a, 2012b). These models argue that Toyah does not reflect one particular society, but rather the result of interactions between many culturally distinct groups (Arnn 2007, 2012a, 2012b; Kelley 1986; Kenmotsu 1994, 2001; Kenmotsu and Arnn 2012; Wade 2003). A major difference between cultural ecology and interactionist approaches is that the former is primarily concerned with the core culture area, while the latter considers the influences of social forces from the peripheries, as well as the actions of individual agents. Therefore, in approaching the Toyah phenomenon from the interactionist aspect of special status individuals (i.e. traders, healers, information brokers, etc.), I offer the following discussion on those cultural manifestations that border the Classic Toyah Area with the intent of highlighting the broader regional cultural contexts with which Toyah groups interfaced.

Although not specifically favoring an interactionist approach, it could be argued that Johnson (1994) acknowledged such a view in his assignment of a “Shared Toyah Area.” Within its bounds he considered the wider distribution of Toyah-like assemblages as a situation where Perdiz arrow points along with other various combinations of the Classic Toyah stone tool kit occurred alongside distinct ceramic assemblages in which

Classic Toyah pottery was either absent or rare. Among these are those cultural manifestations within the Blackland Prairie, where assemblages are distinguished from Classic Toyah by the presence of brushed Caddo-like jars, or where Toyah stone tools are comingled with Rockport ceramics along the inner coastal plain. Similarly, in the Eastern Trans Pecos and the La Junta District the stone tool kit either occurs associated with aceramic assemblages, or among those dominated by the Jornada Mogollon ceramic tradition. It also overlaps with assemblages on the Southern High Plains where Perdiz points and beveled knives often occur with other point styles associated with a mixed ceramic assemblage of local and Southwestern wares. With respect to the broader geographic extent of the Toyah technocomplex, I will refer to it in the temporal-spatial sense as the Toyah Cultural Sphere, defined as the maximum penetration of Toyah material culture, and essentially encompassing both the Classic Toyah and Shared areas as defined Johnson (1994) (Figure 3-2).

Along the northeastern edge of the Classic Toyah area and scattered along the Middle Brazos River and its tributaries, Toyah stone tools occur alongside mainly grog-tempered pottery of clearly Caddoan origin. Currently there is much debate as to whether these represent Toyah people who acquired pots through trade with the Caddo, or if it represents Caddoan migrants from the east who seasonally settled in the area around the Middle Brazos to exploit bison and other resources along the margins of the Edwards Plateau and Blackland Prairie (Brown et al., 1987; Gadus et al., 2006; Mehalchick and Kibler 2008). Shafer (2006) has argued for the latter case, proposing that early Caddoan groups, affiliated with ceremonial mound centers like the George C. Davis site, periodically traveled to the area to fulfill particular resource needs. He refers to these groups as the “Prairie Caddo,” indicating that they lived in the area from 1000-1300 CE, and later became separate prairie groups following the collapse of early Caddoan mound

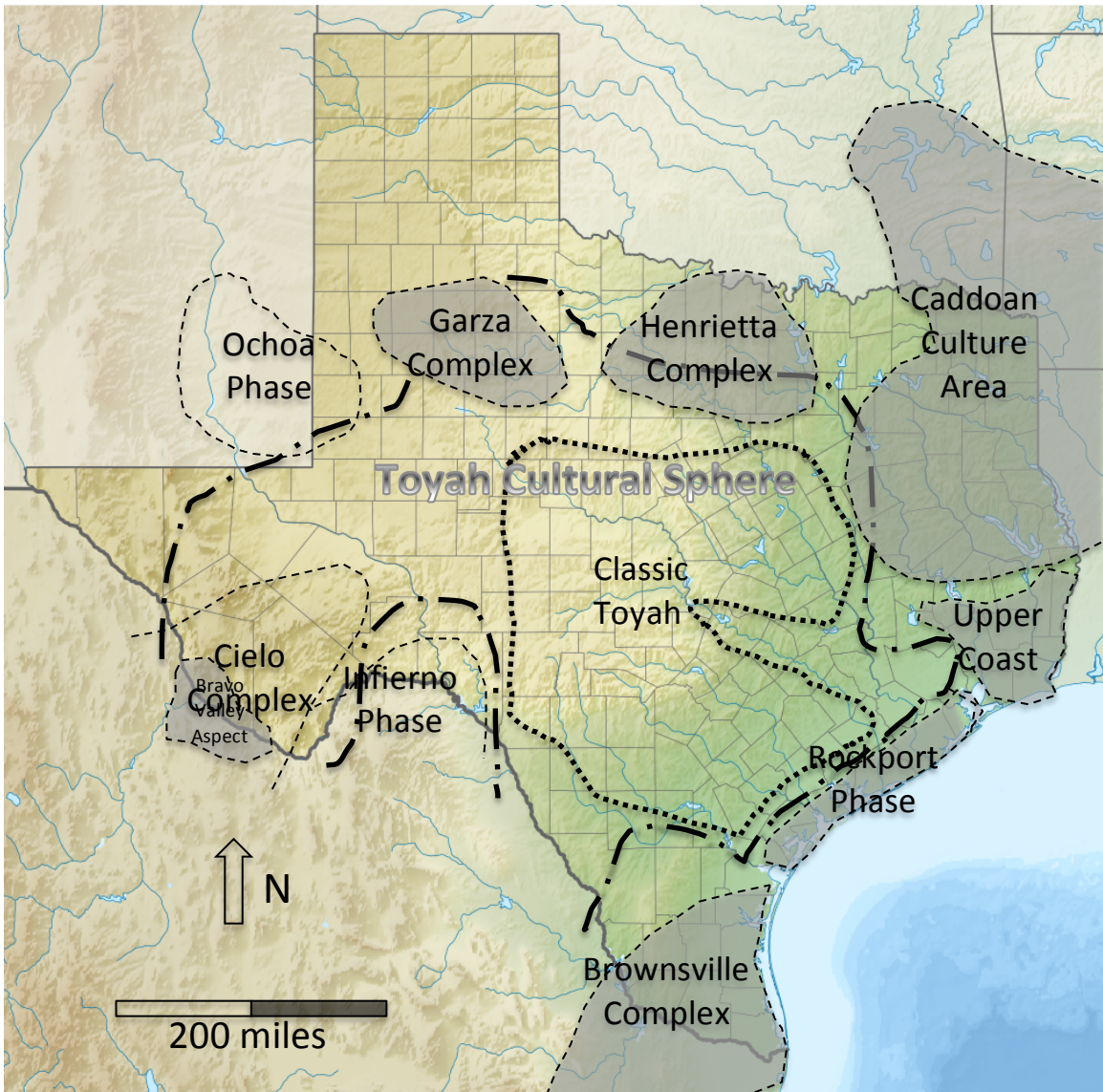


Figure 3-2: The Toyah Cultural Sphere and adjacent cultural areas (figure by author)

centers and the economic shift from village farming to bison hunting. Although currently at the level of a working hypothesis, Shafer goes on to suggest that an assemblage marked by early Caddoan pottery, Bonham-Alba arrow points, Gaghan bifaces, metapodial beaming tools, and bone needles is indicative of these Prairie Caddo migrants. A Caddoan connection with Toyah peoples is also suggested by the occasional

occurrence of late Caddoan pottery among largely classic Toyah assemblages found at sites along the margin of the Edwards Plateau, and Blackland Prairie (Ricklis and Collins 1994; Suhm 1955, 1957).

Further east into the Post Oak Savanna, elements of the Toyah lithic assemblage, mainly Perdiz points, occur alongside ceramic assemblages clearly related to the Caddoan pottery tradition. Settlement and subsistence systems in this area are rather diverse and include semisedentary horticultural farmsteads and hunter-gatherer base and logistical camps (Fields 2004).

The Toyah stone tool kit extends all along the central and upper Texas coast, and although some specimens are diminutive in size, it is largely indistinguishable from the type assemblages that originate from the Edwards Plateau. The primary difference that occurs between these assemblages is reflected in the pottery as people along the central coast preferred to retain their indigenous Rockport wares, while assemblages from inland sites are marked primarily by Leon Plain ware. Interestingly, although assemblages from inland sites in South Texas include mostly classic Toyah pottery, some bone-tempered vessels have asphaltum and red fugitive paint decoration, indicating a distinct connection to Rockport people indigenous to the central coast. However, because this decoration was applied to vessels with bone temper and silty pastes as opposed to sandy pastes, they are not considered to be ‘authentic’ Rockport wares, but rather considered a distinct pottery tradition that “shares” Rockport attributes (Black 1986: 96-97). Likewise, with the exception of stone drills, clamshell knives, and whelk shell adzes, there is strong evidence indicating that Rockport people borrowed the Toyah lithic assemblage and also engaged in communal bison hunts with inland Toyah groups (Ricklis 1992, 1996, 2004). For instance, interaction between inland south Texas Toyah people and coastal Rockport Phase groups is evidenced at the Melon site (41RF21) in Refugio County, where

excavations revealed a clear horizontal separation between two culturally distinct occupations. Among the bone bed at the site, which was comprised of bison and deer remains were found many Perdiz arrow points, endscrapers, and perforators; however, Rockport pottery occurred at one end of the bone bed, while the bone-tempered Leon Plain ceramics were found at the opposite end (Ricklis 1989, 1996). Given this distributional pattern, combined with the overall tight range of the radiocarbon assays from the two components, it was inferred that the site represented a communal warm season hunting event (Ricklis 1996: 100-101). Although sparse, there is also evidence to suggest that South Texas Toyah people were connected into a north/south plains long-distance trade network, as a number of obsidian artifacts recovered from sites in Medina County were all sourced to the Malad volcanic deposits in Idaho (Hester et al. 1991).

Similar to cultural developments along the central coast, Mossy Grove cultures along the upper Texas coast also adopted the Toyah tool kit. Although bison hunting is represented, the bulk of the animal food resources include fish and other marine species. Accompanying these stone tools are simple bowls, jars, and constricted-neck ollas that constitute mainly grog-tempered plain and decorated Goose Creek and San Jacinto ceramic wares (Ricklis 2004). The cemetery found at the Mitchel Ridge site on Galveston Island is unique, as the distribution of grave goods indicates an incipient level of social differentiation and emergent complexity among Late Prehistoric coastal groups (Ricklis 1994).

Working down the coast to the Rio Grande Delta and several miles inland, Late Prehistoric sites attributable to the Brownsville Complex occur as cemeteries containing multiple burials, campsites, and shell ornament workshops (Hester 1969; Hester and Ruecking 1969; MacNeish 1947; Prewitt 1974). Associated artifact assemblages include *Oliva sayana* shell beads, *Busycon* conch columella disc-shaped beads, tubular bone

beads, perforated canine teeth, conch shell ornaments, as well as Cameron and Starr arrow points. Burials tend to be flexed and include both single and multiple interments with grave goods consisting mainly of shell and bone ornaments, with the remains of some individuals showing evidence of traumatic and fatal injuries taken to represent evidence of violent conflict (Turney 2005). Items of jadeite, serpentine, and small fragments of obsidian from sources in central Mexico found at Brownsville Complex sites suggest links to Aztec trade networks via Huastecan settlements in northern Tamaulipas (Hester 2004; Ricklis 2004). Although contact with Toyah culture is relatively sparse within the Brownsville Complex area, a few sites located along the northern frontier around Baffin Bay produced a suite of arrowpoints including Perdiz, Fresno, Clifton, Cameron, Starr, and Scallorn; a collection of lithic tools consisting of multiple forms of scrapers, drills, and prismatic blades; as well as numerous shell beads, perforated canine teeth, and Rockport pottery sherds (Hester 1969).

Moving up the Rio Grande valley into the Eastern Trans-Pecos, Late Prehistoric occupations consisting of large feature/site complexes have been found along the western edge of the Edwards Plateau and further west on the Stockton Plateau. Both the Ram's Head (41PC35) and Squawteat Peak (41PC14) sites are exemplars of these occupations, which generally occur nestled in protected canyons and along ridgelines overlooking nearby spring-fed arroyos. Among the numerous surface features recorded at these sites are clusters of pavement hearths, bedrock mortars, rock overhangs/shelters, and stone wickiup rings. Much of what is known about these sites comes from the excavation and the dating of deposits from large ring middens, which indicate that these features are clearly Late Prehistoric in age. In spite of the fact that surface collections made at these sites produced primarily Late Archaic dart points, significant numbers of arrow points (including Perdiz) were also represented in the diagnostics collected. In addition to

projectiles, bifaces, and endscrapers, as well as a number of modified and utilized flake tools collected from these sites, many of these specimens appear to have been made from blades or blade-like flakes (Young 1981, 1982).

To the far west in the La Junta District, the entire suite of the Toyah lithic assemblage is represented together with pottery associated with the semi-sedentary villagers of the Bravo Valley Aspect. From his excavations at the Loma Alta and the Millington sites, Kelley (1986) derived three cultural phases of village occupation, the first two being contemporaneous with Classic Toyah assemblages to the east. The earliest of these is the La Junta Phase, which dates from 1200-1450 CE. La Junta Phase developments include both rectangular and circular semi-subterranean pithouses associated with polychrome pottery vessels reflecting contacts with Jornada-Mogollon populations to the north and with Casas Grandes to the west. The intermediate period, the Concepción Phase, dates from about 1450-1684 CE and is marked by an architectural shift toward larger rectangular structures and the replacement of 'foreign' pottery with a majority of locally-made plain and small numbers of decorated ceramics, termed Chinati, Copote, and Paloma wares (Cloud et al., 1994; Cloud and Piehl 2008; Kenmotsu 2013; Shackelford 1951, 1955). Large ring middens are also found at these village sites, but such features have received little attention from researchers who have primarily focused their studies on the pithouse structures. Like the ring middens, another interesting facet of the La Junta assemblage is that the lithic tool kit is virtually identical to that found at Classic Toyah sites along the eastern Edwards Plateau (Kelley 1986:74).

Toyah-like stone tools have also been found among rockshelters and open terrace sites in the eastern foothills of the Chisos Mountains along Bear Creek. Here, Toyah components, primarily Perdiz arrowpoints, bifaces, and endscrapers, have been reported at rockshelter and cave sites sometimes accompanied by large accumulations of burned

and fire-fractured rock that form talus slopes that spill out onto adjacent valley floors. Such sites have been interpreted to represent ovens associated with the roasting of agave (Marmaduke 1978:174). Assemblages containing Toyah stone tool elements have also been found in rockshelter and terrace sites that occur along major passes in the Cienega and Chinati mountains. These rockshelter sites contain Perdiz points, grinding slabs, El Paso Brownware sherds, and cordage. Some even display elaborate rock art panels. Researchers who have investigated these shelters infer that they possibly represent intermittent occupations by La Junta Phase villagers who, in addition to farming along the Rio Grande valley, also hunted and foraged for plant and animal resources, such as sotol, lechuguilla, deer and rabbits in the Presidio Bolson and the adjoining Marfa Plain (Mallouf 1993; Seebach 2007). Mallouf (1993) also remarks that in addition to plant and animal resources, prehistoric peoples who occupied the Presidio Bolson were drawn to these passes due to the high-quality chert sources exposed along the channels of Alamito and Cienega creeks, and that these stream courses likely served as major transportation corridors for mobile populations for thousands of years. In addition to rockshelter sites, a unique occupational assemblage marked by circular stacked-stone wickiup rings is generally found on prominent landscape features throughout the Big Bend region and extending for an unknown distance into northeastern Chihuahua (Mallouf 1985, 1993, 1995, 1999). Termed the Cielo Complex, type sites have been documented along high terraces overlooking the Rio Grande valley near La Junta Phase villages. These Cielo Complex base camps contain not only clusters of multiple stone-based wickiups, but also temporary structures such as ramadas (a poled structure usually with open walls and a roof that is used for shade), small circular to oval hearths, small trash pits, simple annular and ring middens, stone cairns, linear stone alignments, stone-lined cists, stone storage platforms, and basin-shaped refuse and storage pits (Mallouf 1993, 1995, 1999) (Figure



3-3). It has been noted that these base camps reflect as many as four occupations radiocarbon dated from as early as 1335 CE and lasting until approximately 1650 to 1690. Although an intriguingly aceramic manifestation, the earliest of these occupations is marked by a stone-tool kit that is remarkably similar to Toyah assemblages, containing all the main hallmarks including Perdiz arrow points, preforms, flake drills, side and end scrapers, among numerous expedient tools made from flakes and blades. Though rare, even occasional fragments of four- edged beveled bifaces have been recovered. Other

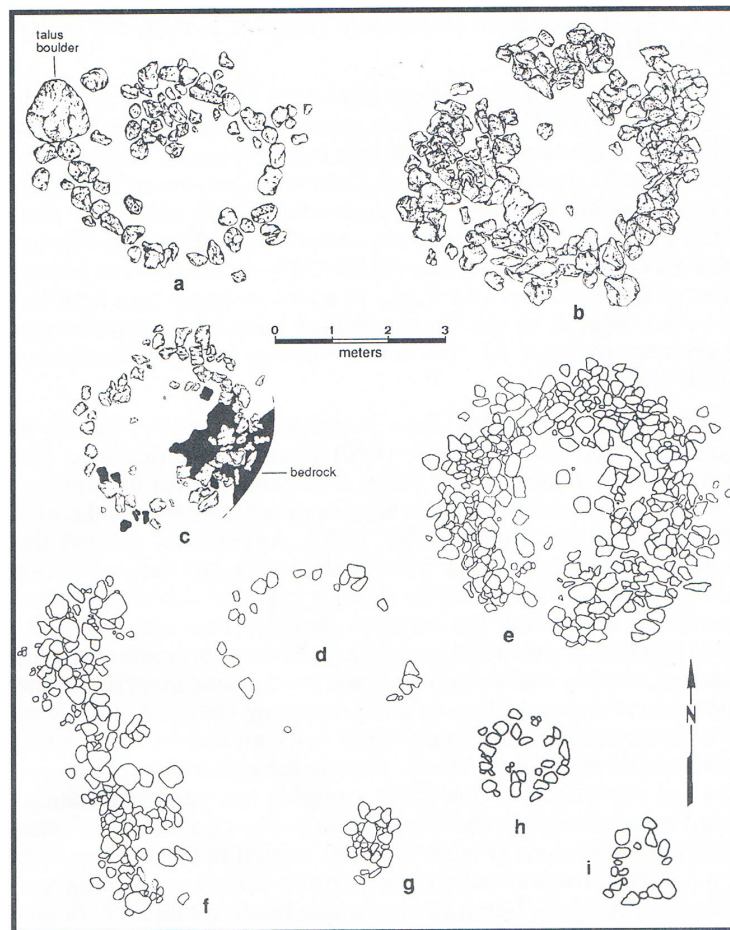


Figure 3-3: Some examples of Cielo Complex features (Mallouf 1999:66) (a-c, e) stone-based wickiups; (d) ramada; (f) linear alignment; (g) cairn; (h-i) hearths

items include a few oval pestles, manos, and end-notched sinker stones. Items indicative of long-distant trade have also been noted at Cielo Complex base camps and include small amounts of obsidian, turquoise, and *Olivella* shell beads (Mallouf 1999:69).

In the far southeastern corner of New Mexico extending into adjoining areas of Texas a few small pueblo village sites have been tentatively assigned to the Ochoa Phase (1300 – 1450 CE). Only a few Ochoa Phase settlements have been studied and even fewer have been fully reported. Sites that are available in the literature include the Merchant Site in Lea County, New Mexico (Miller et al., 2016) and the Salt Cedar site in Andrews County, Texas (Collins 1968). The assemblage includes small square pit houses with stone foundations, some being aligned as contiguous rooms. Large circular pit structures are also represented and are thought to reflect community architecture. Collared floor hearths are documented, but occur mostly within the larger structures. Refuse areas containing large quantities of large and medium-sized mammal remains have also been reported and connected to feasting activity (Miller et al., 2016:284). Among the portable assemblage consisting mainly of a variety of Ochoa wares mixed with occasional sherds of Late Pueblo IV Period imported ceramics, lithic specimens include four-edged-beveled knives, endscrapers and mainly Harrell, Washita, Fresno, and Garza arrowpoints. Interestingly though, Perdiz arrow points were found imbedded in two individual burials at the Salt Cedar Site near Midland, Texas (Collins 1968),

Other than isolated occurrences of Perdiz arrow points at a few late phase pueblo villages in the Roswell, New Mexico area (see Speth and Newlander 2012), a more substantial Toyah-like assemblage occurs in the northwestern plains of Texas. Here, recent studies have preliminarily defined a Northern Toyah Area characterized by site assemblages carrying multiple styles of arrow points including Perdiz, Clifton, Harrell, Fresno, Lott, Garza, and Washita; beveled knives; as well as many distinctive pottery

types including Tierra Blanca wares as well as examples of bone-tempered Classic Toyah wares (Boyd 2012:137). Evidence for regional group interaction is also found at Toyah sites on the northwestern Edwards Plateau marked by high numbers of Perdiz arrowpoints, mixed among a wide range of plains-type arrow points including Harrell, Garza, Lott, and Fresno types. This, taken together with the fact that these “foreign” styles are surprisingly all made of locally available Edwards Plateau chert rather than from sources on the plains, suggests a close connection between Central Texas Toyah people to those of the Garza Complex to the northeast. But aside from arrow point types, the most salient evidence for regional interaction occurs in the ceramic data. Among the commonly occurring bone-tempered Classic Toyah wares found at Northern Toyah sites, there are also small numbers of sherds imported from the eastern Pueblos as well as a few sherds of rather crude reproductions of Caddoan vessels with brushed exterior surfaces (e.g. Boothe Brushed or Bullard Brushed). Marine shells consisting of three *Olivella sp.* beads and one cylindrical shell bead found at the Currie site (41CC131), indicate that Toyah groups were linked into trade networks that extended to the Gulf of Mexico or possibly as far as the Pacific coast of California (Treece et al., 1993:262). Alternatively, Boyd (2012:144) infers that this pattern reflects the comingling of many different social groups that interacted in complex ways including communal bison hunting. However, contrary to previous interpretations that placed Toyah groups as middlemen in a Plains-Caddoan and Plains-Pueblo interaction sphere (*sensu* Baugh 1984; 1991; Ericson and Baugh 1994; Speilmann 1983, 1991), Boyd (2012:142) argues that Classic Toyah groups more likely interacted independently with Garza Complex populations, as well as with many other Southern Plains groups to the north, and cites a lack of evidence to show that items such trade pottery were transiting through Central Texas.

To the north of the Classic Toyah area between the Upper Brazos and the Red River valleys is a unique, largely understudied cultural development related to the village societies of the Texas Panhandle-Plains. Termed the Henrietta Complex, this cultural manifestation is defined by the occurrence of habitation sites consisting of a number of substantial circular pole structures, rock hearths, trash middens, storage pits, human burials and mass graves that occupy sandy knolls or terraces overlooking major drainage valleys (Brooks 1989; Hughes 1942; Krieger 1946; Lorrian 1969; Martin 1991). Common artifacts include numerous arrow points, the most prevalent being Fresno, Washita, Harrell, and Scallorn, while Alba, Bonham, Eddym and Perdiz occur in small numbers. Scrapers, knives, and drills are also common suggesting that hunting and hidework were major activities at Henrietta Complex sites dating from approximately 1100-1450 CE (Boyd 1997; Martin 1991; Prikryl 1990). Shell and/or limestone-tempered plainware pottery, known as Nacona plain, dominates the ceramic assemblage, but low numbers of Puebloan and Caddoan tradewares are also represented. Other items of the assemblage include bison and deer scapula hoes and awls, bone fishhooks as well as bone and marine shell beads and ornaments. These latter items are especially found in association with burials, which tend to consist largely of flexed interments, and some burials have been known to exhibit evidence of dismemberment and violent death. In addition to trade wares, other evidence of interaction includes items made from obsidian, Alibates chert, and copper ornaments. Although Henrietta Complex society likely practiced some level of maize horticulture, researchers argue that they were a semisedentary population largely focused on bison and deer hunting/hide production, and that they acted as trade intermediaries between Puebloan and Caddoan groups (Boyd 1997; Martin 1994; Prikryl 1990).

## SUMMARY AND CONCLUSIONS

The intent of this chapter was to provide some historical context regarding the development of the Toyah cultural construct and to place it within a broader regional perspective. Although current interpretations have not directly approached the notion of Toyah social complexity as yet, many have speculated on the topic. Nonetheless, it does appear that the dialog seems to be moving in this direction by citing evidence in support of such phenomena as technological intensification reflected by a stone tool technocomplex and the intensive use of bulk food processing facilities; commodity production; evidence of violence; and trade in exotic goods; all of which are well-established characteristics associated with of complex social arrangements.

Furthermore, because in reality no society exists in isolation, I also reintroduced the Toyah Cultural Sphere as the primary geo-spatial unit of analysis, which includes the maximum extent of the Toyah technocomplex. Although this concept is essentially the same as Arnn's, "Toyah Social Field," and Johnson's (1994) Greater Toyah Cultural Sphere, I prefer to use this latter term as a matter of clarity and to distinguish this study on social complexity from those that focus on social identity.

In the next chapter, I will approach my first research question: What contextual information does the ethnohistoric record provide with respect to inequality and social status, violence, feasting, and craft specialization in Toyah society? The purpose of this exercise is to identify and define some models of Toyah social complexity that can be used in the evaluation of the material record presented in subsequent chapters.

## Chapter 4

### **Special Status and Inequality in the Ethnohistory of the Toyah Interval**

In the previous chapter I presented a synthesis of the most recent archaeological literature on the Toyah phenomenon and how researchers have considered it a hunter-gatherer society characterized by a certain degree of technological sophistication with respect to increasing resource intensification (Black and Creel 1997; Creel 1991; Dering 2008; Gilmore 2012; Kenmotsu and Arnn 2012; Kibler 2012; Mauldin et al. 2012; Ricklis 1992). Some researchers have also posited that the technological sophistication of Toyah society argues for a more complex social arrangement, one that cannot be adequately explained by the current generalized, egalitarian forager model, and have approached the social aspects of Toyah society by applying more scrutiny to the ethnohistoric data. In doing so, they have begun to address such socially complex phenomena as group aggregation for the establishment and maintenance of intertribal alliances, communal hunting, warfare, and trade (Boyd 2012; Carpenter 2017; Hickerson 1994; Kenmotsu 2001; Kenmotsu and Arnn 2012; Wade 2003). Yet, despite these efforts, much of the research in this topical area remains largely couched as suggestive comments and unexamined hypotheses. Contributing to the hesitation to explore this topic is not only a function of the limitations of the Toyah archeological record and the theoretical and methodological frameworks under which it has traditionally been studied, but also a lack of clarity in the records regarding the structure and dynamics of indigenous leadership. For instance, some colonial sources have often referred to an overall lack of a governing structure among the native populations encountered in Texas by Europeans, yet at the same time others have described the native social organization,

particularly that of hunter-gatherers, in rather sophisticated terms. A number of ethnohistorians have suggested that the confusion lies in the fact that such descriptions were most often given by the colonial recorder from an emic perspective, indicating that the form of government the colonial writers observed had no correlation with the ridged hierarchical forms with which the Europeans were familiar (Reff in Ribas 1999:38–39). An example of this is provided by Cabeza de Vaca, when on the Island of Malhado he writes that, “There is no chief among them, and all the people of one lineage live together” (Favata and Fernández 1993:63), yet later when he begins his transcontinental journey and is visiting the Avavares at the tuna fields in South Texas, he talks about staying in the houses of fellow healers (Krieger 2002:199). This example demonstrates that when using the ethnohistoric sources there are many things to consider including the larger situational context in which individual statements were recorded.

With these events in mind, I have identified numerous references regarding particularly noteworthy indigenous individuals and their activities that, when taken in their entirety, provide compelling evidence for the existence of complex social arrangements within Toyah society. Colonizing Europeans referred to these special status individuals as healers, traders, and captains. The following analysis of the ethnohistoric data seeks to better define these individuals, their role in Late Prehistoric native society, and the political-economic landscape in which they operated. In doing so, I relied heavily on two translations of Álvar Núñez Cabeza de Vaca’s *Relación* one provided by Favata and Fernández (1993) and another by Krieger (2002).

## **NATIVE HEALERS**

Álvar Núñez Cabeza de Vaca wrote that while he was among the Natives of the Isla de Malhado (Galveston Island) he and his fellow Spaniards were cajoled into

becoming healers (*fisicos*). It is through Cabeza de Vaca that we learn that healers enjoyed special status, rights, and privileges in native society, which were not afforded to any other segment of the native population. These included special marriage rights and burial treatment as confirmed in the following passage:

Their custom is to bury the dead, unless the dead man is a medicine man, in which case they burn the body, all dancing around the fire with much merriment. They grind the bones to powder. A year later, they honor the dead medicine man, scar themselves, and his relatives drink the powdered bones with water. Each one [common Indian man] has a recognized wife. The medicine men have the greatest of freedom, since they can have two or three wives, among whom there is great friendship and harmony (Favata and Fernández 1993:60).

Cabeza de Vaca and his companions used their status and notoriety as healers to travel vast geographic distances, visiting many native settlements along the way and conducting healing ceremonies. According to Krieger (2002:134) the four Spaniards traveled a distance of about 330-350 miles in approximately 45-days starting in South Texas, across the Rio Grande, and around the Sierra Oriental, before ending the first segment of their transcontinental journey at La Junta de los Rios.

Cabeza de Vaca tells us that healers performed their healing ceremonies by, “making some cuts where he [the patient]<sup>1</sup> has the pain, and they suck around them [the cuts]. They cauterize with fire, which is a thing among them they consider very advantageous and I have experienced it and got good results from it. And after that they blow on that place that hurts them and with this they believe that the ailment is taken



away” (Kreiger 2002:185). Likewise, we find that healing ceremonies in northern Mexico also involved blowing and sucking at the place on the body from where the pain emanated (Ribas 1999:97). This suggests that healing ceremonies exhibited a remarkable amount of similarity over a relatively large geographic area, indicating that the practice was not only standardized to some extent, but may have also had a considerable degree of time depth.

Later colonial documents provide additional contextual information about traditional healers particularly in ecclesiastical writings, which cite healing as one of the duties of native sorcerers (*hechiceros*). In addition to healing and communing with spirits, sorcerers were cited as having exceptional oratory skills and that they would often deliver extraordinary speeches given in council with other Indian leaders for the purpose of organizing war and making peace, as well as for celebrating the taking of the heads of their enemies (Ribas 1999:97). Although the term sorcerer was used by the Spanish friars to demean and undermine the legitimacy of these traditional religious practitioners, today these individuals would likely be called shamans, and defined as mediators between the human world and the world of the spirits (Jakobsen 1999:1; Tomášková 2013:2). Other Spanish records indicate that native shamans were also responsible for directing camp movements, the procurement of resources, organizing buffalo hunts, and conducting rites of passage (Wade 2008:45).

#### **NATIVE CAPTAINS**

In addition to healers, Spanish accounts indicate there were also special status individuals in native society referred to as caciques or captains. Captains were warriors, usually the heads of families or rancherías, whose duties consisted of organizing war or arranging peace settlements with other nations (Ribas 1999:92), and some native captains

were also sorcerers prior to their conversion to Christianity (Ribas 1999:97). Some of the earliest native captains were documented by late sixteenth century Spanish explorers as residing among forager and semi-sedentary villager populations in the La Junta area: however, little is known of them other than their names and group affiliations. For instance, when the Chamuscado-Rodriguez expedition traveled through the La Junta area in 1581, they wrote that they encountered a native cacique, who was obeyed by the others to such an extent that they carried a seat for him consisting of a very large tanned buffalo skin (Hammond and Rey 1966:75). Later in the expedition, Hernán Gallegos writes that among a group of buffalo hunters his expedition encountered along the Pecos River he could clearly identify the caciques as they readily stood out from the other Natives (ibid:92). The following year, the Espejo-Luxán expedition also passed through La Junta and named Baij Sibiye as a captain of the Abriaches Nation; Guixi, a Caguata captain; and Casica Moyo and Q. Bisise, both Otomoaco captains, the latter of which was noted as respected by many other captains in the La Junta area (Hammond and Rey 1929:61–67). From the writings of Fray Alonso de Benavides, the Religious Superior of the colony of New Mexico from 1626 to 1630, we are able to piece together some information about a Jumano captain named Tuerto, who in July of 1629 led a 50-member delegation of Natives to the convent of San Antonio de la Isleta in New Mexico, and with his miraculous story of the Lady in Blue<sup>2</sup> convinced the Franciscans to visit Jumano rancherías on the plains to Christianize his people (Ayer 1965:58, 275; Hodge et al. 1945:141). It is noteworthy to mention that like Captain Tuerto, a later Jumano captain, Juan Sabeata, also used the technique of invoking supernatural events for the purpose of forging a Spanish-Jumano alliance, indicating that the role of the native captain and that of the shaman could be embodied in the same individual.

In later writings, the Spanish sometimes refer to specific native individuals as *capitáns grandes*, often translated as ‘principal captains’. These seem to be captains whose primary mission was to form and lead coalitions comprised of multiple native nations for the purpose of making war or peace arrangements. For instance, in his *Memoria* published in 1674, Fr. Juan Larios writes about four native coalitions and their principal captains who frequented the Spanish missions in Coahuila, and notes that some of these groups at certain times of the year occupied rancherías in the Dacate area in West Texas (Larios 1674 in Wade 1999:34, 2003:16–18).

The Jumano principal captain, Juan Sabeata, was one of the most well documented individual of this type chronicled by the Spanish. In August 1683 Juan Sabeata traveled from his home at La Junta de los Rios to appear before the governor of El Paso del Norte in a bid to reestablish former trade ties with the Spanish, and to implore the governor to assist his people in their campaign against the Apache (Wade 2003:236). Likely due in part to his skills as an orator and astute diplomat, Juan Sabeata was able to convince the Spanish to authorize the Mendoza-Lopez expedition, a move that resulted in the establishment of missions at La Junta de los Rios, as well as Spanish military assistance in Jumano lands on the Rio de las Nueces in west central Texas (Scholes et al. 2012:190–192). During the expedition Juan Sabeata and Mendoza quarreled and it is believed that Sabeata returned to La Junta, where it is suspected he may have played a role in instigating the Suma insurrection against the Spanish (Kelley 1955:985).

In the years following the Mendoza-Lopez expedition, Juan Sabeata is referred to in the records as principal captain of the Jumano and Cibolo nations, and that he often made annual treks from La Junta de los Rios to attend trade fairs throughout Central Texas and as far east as Caddo territory in the vicinity of the Trinity River (Foster

1998:205). In 1686, French emissaries report Jumano ambassadors among the Caddo in east Texas (Cox 1905:234-235 in Kelley 1955:985), and in the spring of 1687 Father Colima, the priest at La Junta, saw the Jumano and Cibolo off once again as they traveled east for the trade fairs (Hackett 1926:240-241 in Wade 2003:138). Based on reports from Cibolo<sup>3</sup> and Ervipiame<sup>4</sup> informants there is evidence to suggest that the Jumano and the Cibolo spent the winter of 1687 and all of 1688 in east Texas and along the middle coast of Texas attending trade fairs and campaigning against the Apache with their allies the Tejas, the French, and the Ervipiame (Portillo 1984:184 in Wade 2003:140).

Depositions taken from Juan Sabeata and several other Cibolo captains at Parral in 1689, confirmed that these annual travels took place, and that the French settlement on the coast had been sacked, likely by a coalition comprised of Natives from the coast. Speaking of their travels, one of the Cibolo captains, Cuis Benive, told Governor Pardinias in Parral that he would leave La Junta de los Rios in the spring and journey east to the Tejas, and then return in the fall. Cuis Benive noted that it would take 12 days to make the trip provided the most direct route was taken (Hackett 1926:272-276 in Wade 2003:144). Juan Sabeata stated that when he left La Junta for the trade fairs he would stop several times along the way at well-known Cibolo and Catqueza rancherías (Hackett 1926:260-267 in Wade 2003:143). Two other Cibolo captains who gave testimony to the governor at Parral, Muygisofac and Don Miguel, confirmed the testimonies of Sabeata and Cuis Benive and told the governor that every year near their rancherías there were large herds of buffalo and that they had wars with other Natives over hunting rights (Hackett 1926: 268-272, 276-280 in Wade 2003:143-144).

Although not as visible in the Spanish records as Juan Sabeata, it is fitting that we also consider a Catqueza captain by the name of Don Nicolas because what the Spanish friars record about him adds additional understanding in reference to the special inherent

qualities of a native captain and what defined him as prestigious among his people. Captain Don Nicolas first enters the Spanish records as a result of an encounter documented by Fray Massanet who was part of the Terán de los Ríos expedition. In June of 1691 in the vicinity of the Guadalupe and San Marcos rivers, Fray Massanet reported meeting a large coalition of Natives from the southwest led by Don Nicolas, Juan Sabeata, and by another captain of the Cibolo (Foster 1995:57–58; Wade 2003:147). Don Nicolas was a Native of Coahuila, and Massanet took a special interest in him, as Nicolas could speak a number of “Mexican dialects” as well as being fluent in Spanish. He noted that Don Nicolas was from Parras and was revered by his people, since they respected an individual who was proficient in cruelties and in war (Foster 1995:59). The encounter with Don Nicolas not only reinforces the desired qualities of a native captain but also makes the point that language skills were likely another defining characteristic of principal captains, as it gave them the ability to better navigate the multi-ethnic native landscape.

#### **NATIVE TRADERS**

Cabeza de Vaca writes that certain privileges were also afforded to native traders. He says that after he fled from the Island of Malhado to the mainland, he was living among a group of Natives who coerced him to become a trader (*mercader*), and that he should travel from certain parts to others to trade for things his Natives needed. We learn from his account that the Natives could not do this due to the continual wars they fought among themselves; but likely because Cabeza de Vaca was an outsider, a situation that may have facilitated his role as a trader, he was allowed the freedom to pass from one territory to another in relative safety, and he was treated well and respected by the groups

with which he came in contact (Kreiger 2002:187-188; Favata and Fernandez 1993:64-65).

In the context of native trade, Cabeza de Vaca says that while he was an itinerant trader living among the Charruco Indians of the mainland he would travel sometimes nine months out of the year acting as a trade intermediary between the Natives of the mainland and those of the coast. He says that the commodities of his trade included pieces of seashell and shell beads he would obtain from the coastal Indians in exchange for inland items including hides, red ocher, flints for arrows, glue, hard canes, and painted deer-hair tassels (Krieger 2002:188). Cabeza de Vaca wrote that his travels would take him far inland and forty or fifty leagues along the coast visiting different groups (Favata and Fernandez 1993:89). As a consequence of his travels as a trader, he was able to render a rather detailed accounting of the numerous distinct groups that inhabited the region all along the coast from Galveston Bay to Corpus Christi Bay, as well as those that frequented the areas inland up the Lower Guadalupe and Lower Nueces watersheds (Campbell and Campbell 1981).

Although it is difficult to know for certain, there is evidence to suggest that Cabeza de Vaca may have been an itinerant trader in the service of a particular patron, possibly a native captain or shaman, and that he may have engaged in trade on this individual's behalf. This interpretation is supported by a number of statements Cabeza de Vaca made regarding the context of his apparent servitude among the mainland Indians. First, although he says that he is allowed to freely travel to trade with the Natives who inhabited the coastal and inland areas and that he was treated well by his trading partners, during the estimated four years that he was engaged in this profession he states his captors periodically beat, harassed, threatened him with death should he try to escape, and later traded him as a captive to a one-eyed Native from a neighboring mainland

group, the Mariames (Krieger 2002: 189-191). The fact that the principle items of his trade included shells that were utilized to cut a bean-like fruit used in healing ceremonies (ibid:187), suggests that his mainland masters were perhaps powerful shamans. Moreover, Cabeza de Vaca says that he made mats, combs, and various other trinkets that he would trade, indicating that certain individuals in Toyah society could be both an itinerant trader and a craft specialist. For instance, after fleeing their Charruco masters, he and his fellow Spaniards link up with the Avavares at the gathering of the tunas in the late fall of 1535 to become full-time healers. There, he recalls the previous year when he arrived in the area as a trader:

I traded with these Indians (Avavares, Cutalches, Malicones, Coayos, Susolas, Atayos, Arbadaos, Those of the Figs), in bows and arrows and nets and made combs for them. We made mats, which they need very much. Even though they know how to make them, they do not want to be occupied in doing other things because they have to search for food instead. When they work on them, they suffer a great deal of hunger. At other times they would tell me to scrape and soften skins. I was never better off than the days they gave me skins to scrape, because I would scrape them very well and eat the scrapings. What little food we had we earned from the trinkets we made with our own hands (Favata and Fernández 1993:82-83).

Cabeza de Vaca's account as an itinerant trader/crafter possibly working on behalf of a patron implies that Toyah society may have involved a hybrid model of craft

specialization, one that incorporated the entire spectrum of the office ranging from independent, as well as that of an attached or embedded specialist.

#### **SPECIAL STATUS INDIVIDUALS AND IMPLICATIONS FOR A TOYAH POLITICAL ECONOMY**

Based on the data presented, the evidence suggests that the political organization of the protohistoric native populations that roamed the Toyah Cultural Sphere was one characterized by a number of achieved status individuals who, through their special abilities, were responsible for organizing and overseeing the activities of their own kin-based groups as well as larger native coalitions, primarily in the areas of exchange and warfare. Records seem to depict that the three roles (captains, healers, and traders) could be embodied in the same individual; therefore, the way in which the roles are separated and defined essentially functions more or less as an ideal type. If this interpretation of the records is indeed accurate, then the next logical question would be: “how might this type of political structure have operated?” The records tend to be a bit lacking in this aspect; however, two statements made by Benavides in his 1630 *Memoria* when considering their full scope seem to provide some insight into this matter. The first has to do with Benavides’ characterization of pre-Hispanic Pueblo society, while the latter refers to an account regarding the conversion of the Jumano Indians on the Plains. Benavides writes:

All these folk and nations were in their gentilism divided into two factions, warriors (*guerreros*) and sorcerers (*hechiceros*). The warriors tried, in opposition to the sorcerers, to bring all the people under their [own] dominion and authority; and the sorcerers, with the same opposition, persuaded all that *they* made the rain fall and the earth yield



good crops, and other things at which the warriors sneered (Ayer 1965:30-31).

And directly, by the medium of the Indian sorcerers, he (the Devil) broadcasts the word that they should change their location to seek [their] food; and that now the Religious whom they were sending to summon would not come; since in six years that they had waited for them they did not go; and this time they were already delaying so much that they had not to expect them. And the captains ordered that they should strike their tents to go the next day at dawn. And at the break of day the Saint [feminine] spoke to each one of them individually, and told them that they should not go; for already the Religious, whom they were sending to seek were drawing near. And all of them having discussed it among themselves, they sent twelve captains in whom they most confided, to see if it were so (Ayer 1965:59).

In both statements the same leadership individuals, warriors (captains) and sorcerers (healers), are referenced as comprising the organizational structure of both the Salinas Pueblos and Plains societies, but interestingly, although not as overt in the first passage as in the latter, both statements seem to characterize the political dynamic expressed between the two factions as one that is of a competitive and contentious nature. Pursuing this argument a bit further, we turn to three ethnographically derived organizational models to better explain the political dynamics associated with this type of social organization. These include the concepts of sequential hierarchy, corporate/network strategies, and the conflict model.

Sequential hierarchy is defined as a means by which a number of smaller groups without any marked status differentiation can temporarily or seasonally aggregate into larger social formations under loose knit leadership structures (Johnson 1982, 1989). Leadership positions within sequential hierarchies are shared or tend to be event driven, with the formation of coercive political entities minimized as individual lower order constituencies retain the option to practice mobility as a leveling mechanism in their effort to sustain an egalitarian ethic. An interesting facet of sequential hierarchy is that in an attempt to reach some degree of integration and cohesion among a given number of social units, sequential hierarchies are known to place a heavy emphasis on ritual and ceremonial activities (Johnson 1989:379).

The corporate/network strategy is a somewhat more sophisticated model used to explain small-scale transegalitarian politics, as it refers to a dual strategy employed by aspiring political leaders to reach and or maintain hierarchical organization (Feinman 2000). The idea is that both corporate and network strategies exist together in a sort of dialectical tension with one another, where one or the other often dominates in a given spatiotemporal setting. Therefore, in societies where the corporate mode dominates the spectrum, the emphasis is on communal ritual, public construction, food production, large cooperative labor tasks, social segments that are woven together through broad integrative ritual and ideological means, and suppressed economic differentiation. In contrast, the network mode places greatest significance on personal prestige, wealth and power accumulation, elite aggrandizement, highly individualized leadership, lineal patterns of inheritance and descent, personal networks, long-distance exchange, exotic wealth, princely burials, and the specialized manufacture of status-related craft goods. The advantage of the corporate/network model is that as a concept it moves us away from thinking in terms of reified “either/or” dichotomies (e.g. egalitarian or ranked, tribe or

chiefdom, etc.) to one that operates in a more pragmatic manner, allowing for the examination of particular agents and their motives.

A third model and one that seems to fit well within the character of Benavides' description is the conflict model proposed by Vehik (2002). Basically, Vehik argues that on the Southern Plains political/religious leaders took advantage of social disruptions and other demographic upheavals to enhance their own individual wealth, power, and prestige. She states that former traditional cultural norms associated with conflict and trade were likely coopted by these ambitious men to obtain the resources and wealth necessary to participate in competitive status-building activities. Other researchers have stated that a common correlate of conflict is population aggregation for the purpose of mutual defense, but as population increases so does scalar stress allowing the emergence of more complex forms of social control (Earle 1987:288; Feinman and Neitzel 1984:69–70; Kelly 1995:304). They also cite that in addition to comparatively rapid population increases the rising uncertainty of group survival, create opportunities for political leaders to intensify their control over power and resources (Brumfiel 1994:3; Clark 2000:98–99; Clark and Blake 1994:17,19; Earle 1991:3; Hayden 1995; Helms 1993:157-162). In the case of trade, political leaders can exert greater control by converting nonsubsistence items such as tanned hides, decorated ceramic vessels, personal adornments, and exotic lithic materials into visible symbols of status and as objects of wealth (Habicht-Mauche 2005:40). This by no means is to suggest that the extent to which a political leader can acquire wealth, power, and prestige is altogether unconstrained, but rather that it requires constant negotiation among society members over the degree to which a political leader can exercise control. It is important to remember that the wealth, power, and prestige a political leader has acquired are not necessarily disadvantageous, but that they can also be mobilized in times of need to benefit the entire community, as prestigious leaders can use

these to attract supporters, produce success in warfare, and broker more advantageous alliances and peace agreements (Baugh 2008; Clark and Blake 1994:9–10; Earle 1997:109).

With these models in mind together with the ethnohistoric data, one could infer that the Toyah political economy, composed of special status individuals (i.e. healers, traders and captains), appears to have been transient and situational in nature and driven by two political-economic mechanisms: exchange and warfare. Exchange in this sense includes both reciprocity and trade. In terms of reciprocity and how it may have functioned within the particular social context of Toyah society, I would like to refer back to one of Cabeza de Vaca's comments regarding native healers, as it seems to provide some insight as to how these special status individuals would have acquired the necessary resources to compete with other status-seeking individuals. While still on the Island of Malhado he wrote that, "when they are sick, they call for a medicine man, and after they are cured they give him not only all their possessions, but also seek things from their relatives to give him." (Favata and Fernández 1993:62)

Cabeza de Vaca demonstrated how this reciprocal exchange relationship actually operated while performing his duties as a healer during his transcontinental journey. Cabeza de Vaca tells us that in exchange for his services as a healer on the Island of Malhado, he and his companions would receive food, hides, and other small things (Favata and Fernández 1993:62). Later, probably in the fall of 1535 after he and his companions left the island and arrived at the annual gathering of the tunas, they encountered a large aggregation of Natives including the Cutalches, Avavares, Malicones, Coayos, Susolas, Arbadoas, and Atayos, and for their healing work among the native groups the Europeans were presented with bows and arrows, flints (knives?), and baskets of tunas (Krieger 2002:201-203). After leaving the tuna fields and crossing the

Rio Grande River into northeastern Mexico, the Spaniards were guided by a group of Natives who took them to several villages along the way where the custom of exchange changed considerably. In this instance, gifts were not given to Cabeza de Vaca for his healing services, but rather gifts such as bows and arrows, shoes, and beads were presented to the Natives who were his guides (Krieger 2002:213). As Cabeza de Vaca progressed further along his journey to the west, he notes that the Natives who were guiding him began to plunder the native villages they visited.

This mode of reciprocal exchange bears a striking similarity to what Marshal Sahlins described as a relationship between reciprocity and kinship distance. According to Sahlins (1972:194–199), reciprocity can take as many as three forms: generalized, balanced, and negative. Generalized reciprocity is a form of exchange that involves more altruistic transactions whereby assistance rendered is returned without the accumulation of obligations such as sharing, hospitality, and generosity, which are generally associated with exchanges that occur within the same household, lineage group, or village. Balanced reciprocity refers to direct exchange and includes transactions in which an equivalent return is expected within a finite and narrow period of time, and operates at the margin between the tribal and intertribal spheres. Transactions that involve theft, bribery, haggling, and seizure all represent negative reciprocity and are largely associated with exchanges that occur solely within the intertribal sphere. In applying this model to the exchanges observed by Cabeza de Vaca, we can conclude that the nature of the transactions progressed from balanced to negative reciprocity as the Natives who were guiding him moved further away from their affines. Alternatively, Wade (2001:51) views these exchanges as evidence of redistribution rather than reciprocal transactions made to a particular individual or group on the basis that the gifts from the groups being healed were not made to Cabeza de Vaca, his companions, or his guides, but instead to

the spirit world, of which Cabeza de Vaca and his accompaniment were acting only as proxies. In either case, Wade (ibid) makes the point that this example demonstrates the inherent complexity involved in the distribution of goods with clear ramifications with regard to archaeological assemblages.

Before I move on to discuss trade, I would like to first discuss another form of reciprocal exchange researchers have also linked to emergent social complexity, namely the exchange associated with marriage relations. Cabeza de Vaca describes two forms of patrilocal marriage relations practiced among the Natives along the coast. He explains that when the Natives on the Island of Malhado, as well as those inland for a distance of 50 leagues take a wife, the husband is responsible for provisioning his in-law's household (Krieger 2002:184), a situation known as brideservice. He also writes that some of the Natives of the mainland, the Mariames and the Yguazes, exchanged a fine bow or a net for a wife (Krieger 2002:194), which indicates a society that practiced equal bridewealth.

Collier (1988) examined the ideologies of three patrilocal marriage systems in Plains Indian societies and argued that the social tolerance for inequality varied considerably among them. In her study, Collier concluded that in equal bridewealth societies marriages were usually arranged by the groom's seniors in which a standardized bride price was paid to the bride's parents. In this instance, a man remained obligated to his seniors and was compelled to do their bidding. In unequal bridewealth societies, brideprice was not standardized but negotiated, and those who provide a wife can extort labor from the husband and his immediate family under threat of taking the wife back; hence, unequal bridewealth societies present the greatest potential for coercion and as such tend to be more tolerant of social inequality and status differentiation. In brideservice societies, men usually acquire a wife by provisioning his in-laws household

for a period of time, and as men in these societies acquire wives through their own actions, these societies tend to exhibit the least tolerance for status ranking.

Other researchers have viewed bridewealth as a system that is highly susceptible to manipulation by status-seeking men as a means to acquire more desirable wives by just simply paying higher prices for them than other men in their community can afford. They can achieve this by extorting labor from younger men, and entangling them in complex webs of debt and obligation (Lemonnier 1990:79–80); or, as in the case of polygyny, where the ability to acquire multiple wives carries with it the added advantage of providing more productive household labor that can then be employed for the generation of surplus goods (Hayden 1995:43; Lightfoot and Feinman 1982:67; Perkins et al. 2008). This is an important point and provides some insight on the mode of production in Toyah society, especially given what Cabeza de Vaca says in reference to the fact that healers can have as many as three wives. This piece of evidence taken together with the comments made by Cabeza de Vaca regarding the considerable amount of work native women did with respect to that done by men (Krieger 2002:183,195) seems to suggest that there existed an asymmetric division of labor in Toyah society: one that disproportionately favored men, and that this along with systems of bridewealth, polygyny, and slavery may have provided the capacity for special status individuals to produce surpluses that could be directed for competitive exchanges.

Moving on to a discussion about trade and how special status individuals may have employed it to promote status differentiation within Toyah society, I would like to begin by exploring how previous scholars have defined and contextualize this particular form of exchange. From a substantivist point of view, scholars have argued that prior to European contact trade could be dichotomized into two ideal types, namely individual and ceremonial trade (Blakeslee 1975; Brosowske 2005; Habicht-Mauche 2005; Jablow

1950; Wood 1980). As implied, individual trade characteristically involved the exchange of food, utilitarian goods, and items for personal use that were generally exchanged within the domestic sphere, exclusively among individuals and primarily between kin relations. Both men and women can engage in individual trade, but in plains society it was most commonly documented among women. In contrast to trade among individuals in kinship relations, ceremonial trade is a more institutionalized form, as it involves exotic and high-value goods, and the act of exchange is embedded in elaborate ceremonies, rituals, and competitive displays (Jablow 1950). A distinguishing aspect of ceremonial trade is that it usually occurs in the context of large intertribal or inter-ethnic aggregations, which are referred to in the literature as trade fairs, trade centers, or rendezvous, and incorporated a multitude of activities other than trade, which in turn contributed toward the importance of these gatherings as centers for the diffusion of cultural traits (Blakeslee 1975:33; Brosowske 2005; Wood 1980:100).

There is evidence that indicates that large multi-ethnic native gatherings coincided not only with seasonally available resource patches, but that they also functioned as opportunities for ceremonial trade and other forms of intertribal exchange. For instance, Cabeza de Vaca records that the native nations that attended the fall tuna gatherings engaged in activities such as trade and the performance of ceremonial dances and songs (Favata and Fernández 1993: 68, 72; Krieger 2002: 190, 195). From Juan Sabeata's deposition to the governor of El Paso in 1683 we learn that at least 36 native nations engaged in trade in the area of the Rio de las Nueces (Concho River Valley in northwestern Texas), and that these events coincided with the annual buffalo hunts that took place during the spring and early summer months (Wade 2003:145). Spanish accounts also seem to corroborate the notion that annual trade fairs were events that involved the exchange of high value goods where captives, horses, and European items



were emphasized. Instead of referring to these events as trade fairs, I prefer to use the term *exchange gatherings* to reflect the fact that these events encompassed a myriad of exchange activities other than just the trade in goods.

Discussing trade in terms of individual versus ceremonial necessitates a more thorough examination of these forms of exchange. As stated before, individual trade occurs at the level of the subsistence economy, where exchange largely involves the transaction of food and technology. Low density hunter-gatherer populations manage the availability of food by practicing high mobility over relatively large areas combined with the practice of food sharing (Wiessner 1982), but as population densities increased and territories became more constrained, mobility gives way primarily to the intensification of food production together with a concomitant increase in the importance of not only exchanges of food, but more critically the exchange of technology and raw materials (Earle 1994:422). It has been generally accepted that such circumstances favored those individuals and groups that had more advantageous exchange networks, as well as control over access to ritual knowledge (Graves and Spielmann 2000a; Helms 1993), which together provided them opportunities to exercise control over access to raw materials, and production and distribution systems (Vehik 2002). Essentially, prestige economies developed as aspiring leaders sought to increase their power and dominance through competitive displays of wealth, most commonly expressed in the form of ceremonial trade in exotic goods (Brumfiel 1994; Brumfiel and Earle 1987; Clark and Blake 1994; Earle 1994; Friedman and Rowlands 1977). In order to maintain their competitive edge, aspiring leaders must travel, or have vassals who travel on their behalf, so that they can develop and maintain social networks outside of their respective communities and as a means to acquire exotic materials, esoteric knowledge, foreign technologies, and

information, which on an individual level provides them opportunities to increase their power, wealth, and prestige (Clark and Blake 1994; Hayden 1990; Helms 1993).

Improving on the concepts of individual and ceremonial trade, Whallon (2006) adds the dimension of travel with his model of non-subsistence-related mobility. Basically, he posits that in addition to residential and logistical mobility (*sensu* Binford 1980), which are both primarily concerned with the mobility associated with the acquisition of subsistence resources, Whallon (2006) accounts for non-subsistence-related movement with his concepts of network and informational mobility. According to his model, network mobility is travelling between adjacent regions for the purpose of “visiting,” which essentially involves the maintenance of social networks generally among kin, where mainly utilitarian items such as lithic resources, and some non-utilitarian items (i.e. shell ornaments) are exchanged, sometimes in ritual or ceremonial contexts of gift-giving. Alternatively, informational mobility entails travel between geographically far removed regions primarily for the purpose of gathering or refreshing information. Mobility such as this emphasizes the exchange of decorative or symbolic items, and is almost always conducted in the context of ritual and ceremony. Although the distances traveled in these two forms of mobility can vary widely depending on certain environmental and social variables, archeological case studies have shown that the distances traveled for network mobility range around 200km, and from 200-600km for informational mobility (ibid 2006:264).

Comparing Whallon’s model of network and informational mobility to the ethnohistoric data certainly provides some interesting insights. For instance, if we consider the distance Cabeza de Vaca traveled as a trader (50 leagues = 208km)<sup>5</sup> and the kind of goods he peddled (hides, lithics, cane shafts, glue, ocher, tassels, and conch shells), both would suggest that he was primarily engaged in network mobility on behalf

of his mainland masters. Under this model, one could argue that based on the distances traveled by the principal captain Juan Sabeata and his Cibolo counterparts that they were involved mainly in informational mobility, but this argument could be considered tenuous as it fails to account for the increased mobility the horse provided. To address this criticism, we need to go back to the events of 1629, arguably a time when the horse was rarely if at all available to mobile groups on the Spanish colonial frontier. According to Benavides' account, Tuerto, a principal captain of the Jumano, was the spokesperson for his 50-member native delegation that had traveled from their gathering on the plains to Isleta, a distance of over 550km, to deliver a symbolic plea (the story of the Lady in Blue) for the purpose of forging a Spanish/Jumano alliance. This event certainly strengthens the argument that travel for symbolic exchanges (informational mobility) was the purview of principal captains even before horses were widely available.

Because symbolic exchanges invoke the notion of prestige economies it is important that archeologists have at least a rudimentary understanding of how prehistoric societies ascribed value to certain material goods. Many studies have approached this problem by assuming that goods acquire their value as a function of geographic distance, and that a higher value is placed on goods found far from their source (Earle 1982, 1994; Jackson and Ericson 1994; Renfrew 1977). But such an assumption has been criticized for being too unilinear in scope, as it fails to account for goods that acquire their value in ritual or ceremonial contexts, as in the case of religious paraphernalia and special high quality foods, where the production and distribution of such items are driven primarily by the participatory needs of individual households, as opposed to being controlled by political-religious leaders (Spielmann 2002:202). What Spielmann (ibid) and others stressed is that in small-scale societies, the amount of control exercised by any given political-religious leader was largely negotiated rather than coerced, and that events like

exchange gatherings provide the venue for the employment of symbolic objects and special quality foods to establish, maintain, and reinforce social divisions (Wills and Crown 2004).

In any event, within Cabeza de Vaca's narrative there are a few references as to what can be considered socially valued goods in Toyah society. For instance, while at the gathering of the prickly-pear tunas in 1535, he mentions that in compensation for his healing services, the Cutalchiches gave him and his companions flints (*pedernales*) that were a palm and half long and that among the Natives these were things of great value. Later, while he was among the Avavares, he wrote of a similar cutting implement that was used by the evil thing (*mala cosa*) to pierce his victims (Krieger 2002:203). Hester (1999:21–22) suggests that these cutting implements were likely the long, thin bifaces that have been found archaeologically both in mortuary and non-mortuary caches throughout Texas. Referring back to the cutting of the patient in the native healing ritual described by Cabeza de Vaca with the fact that he was acting as a healer when he received these tools, it is intriguing to think that such cutting implements could be an item directly associated with a shaman's kit. Other items that Cabeza de Vaca singles out as having value and also possibly associated with shaman's gear are sea shells and the cores of conchs (collumela hearts), which he said were used to cut a bean important in healing rituals and ceremonies involving dances and celebrations (Krieger 2002:187). He also mentions that the Natives valued a substance that they smoked and that they would give all they had to acquire it (Krieger 2002:211). Based on later accounts, it is clear that tobacco was a valued substance shared and exchanged among special status individuals in the Toyah Cultural Sphere (Wade 2003:237), and the high value attributed to tobacco probably extended back into Toyah prehistory as fragments of smoking pipes have been

reported from many Toyah sites (Black 1986; Boyd et al. 1993; Creel 1990; Highley 1986; Kelley 1986; Ricklis and Collins 1994).

Slaves and captives seem to have been high value commodities exchanged among special status individuals at exchange gatherings. For instance, at the gathering of the tunas in 1534, Cabeza de Vaca was traded as a slave to a one-eyed Mariame Native (Krieger 2002:190-191). Later, Governor Alonso de León trades with the Tejas Indians for French captives at an exchange gathering near the Colorado River in 1689, and during a subsequent expedition the following year he trades with the Karankawa Indians along the coast for three captive French children (Foster 1995:44). At another gathering site on the San Marcos River in 1691 the Jumano traded five captive Muruam Indian boys to Governor Terán de los Ríos for horses (Foster 1995:87).

As an example of this feature elsewhere, the wealth of Northwest Coast chiefs depended heavily on slave labor, and it was the only labor they exclusively controlled to procure and produce the surpluses they required to participate in the potlatch (Ames 1995; Donald 1983, 1985). Slaves were acquired by chiefs through warfare or trade, and made a significant contribution to the chief's household economy (Arnold 1995; Hayden 1995), and since they were acquired in this manner they were considered outside the norms associated with the sexual division of labor, so they could be employed at any task (Ames 1995:174). The indigenous system of slavery in the Southwest borderlands was in many ways similar to that on the Northwest coast in that slaves were acquired through the taking of captives during warfare. Captives symbolized social wealth, performed services for their masters, and produced material goods under the threat of violence, but with one exception: in the Southwest captives could be assimilated into native society through marriage or other institutions of kinship (Brooks 2002:31).

As a trader representing inland groups, Cabeza de Vaca tells us that he dealt with a number of mainland commodities including hides, red ocher, flints for arrow points, glue, hard canes to make arrow shafts, and tassels made of deer hair (Krieger 2002:188), but of these, he particularly refers to the importance of buffalo hides to the native people.

These [the bison] come from towards the north through the land as far as the coast of Florida, and they stretch [their range extends] through all the land more than four hundred leagues. All along way through the valleys through which they come, the people come down that live along there and they live off them and bring into the land a great quantity of hides (Krieger 2002:196-197).

Cabeza de Vaca also emphasizes the fact that buffalo hides are used as raw material by the Indians to make robes, shields, and shoes. The importance of buffalo hides is further reinforced when during his transcontinental journey Cabeza de Vaca arrives at La Junta and encounters a group of people he referred to as “the Cow People,” on account that they, and the people who lived 50 leagues up the Rio Grande, would go to seasonally hunt the animals, and that while he was among them they gave him many buffalo robes (Favata and Fernández 1993:101; Krieger 2002:223).

Later Spanish colonial accounts mention that hides were a valuable trade commodity exchanged between Plains groups and Pueblo settlements. In 1541, Castañeda, the chronicler of the Francisco Vázquez de Coronado expedition, writes that, “Over these plains there roam natives following the cattle, hunting and dressing skins to take to the pueblos to sell in winter there, each group to the nearest place (Castañeda 2002:297).” Again, in October of 1590, Castaño de Sosa reports encountering a group of

Natives on Live Oak Creek in the Lower Pecos valley where they presented the Spaniards with “many skins of buffalo and antelope, very good shoes made in their style, and much meat” (Schroeder and Matson 1965:50).

Researchers have referred to these accounts and suggested the wide spread existence of an indigenous economy involving the production and distribution of hide commodities. For instance, based on archeological and ethnohistoric evidence for the production and exchange in bison hide products, Creel (1991) proposed that after 1300 CE bison and possibly deer hides were important commodities in the pre-Hispanic Southwest. This implies a level of economic and technological sophistication beyond that usually considered typical of small-scale egalitarian hunter-gatherer populations, one that likely involved the organization of labor under more complex forms of social arrangements. Albeit temporary, seasonal exchange gatherings not only facilitated such events as communal hunting, and surplus food production and exchange, they also provided the concentration of a readily available labor force that could be mobilized for the production of labor intensive commodities (Bamforth 1988:24–26).

Considering the context of exchange discussed, we can now move to warfare and the relationship it has with emergent social complexity. Despite the fact that some researchers have conceptualized Toyah society as one based on mutualistic exchange relationships many colonial accounts indicate that warfare was quite common. For instance, Cabeza de Vaca says that one of the reasons he was made an itinerant trader of the Charruco Natives was because they were in a continuous state of war with their neighbors (Krieger 2002:187). There is also a rather fantastic account of a pre-Hispanic Native siege of Pecos Pueblo and other settlements in the Galisteo Basin that was orchestrated by the Teyas<sup>6</sup>, a Plains group. According to Castañeda, this episode occurred some sixteen years before the Coronado expedition arrived there in 1541 (Castañeda

2002:283). Other colonial references to conflict and warfare within the Toyah Cultural Sphere include those of personal testimony provided by Natives. For instance, in 1689 a number of depositions were gathered from Jumano and Cibolo captains in Parral. Two Cibolo captains, one by the name of Don Miguel and the other Muygisofac, both testified that large herds of buffalo occurred near their rancherías and that they would often engage in wars with other Natives over the killing of these animals (Wade 2003:143-144).

Many researchers have noted the association of warfare with transegalitarian communities and have argued that it is directly related to population pressure and competition over scarce resources (Carneiro 1970; Ferguson 1984; Johnson and Earle 1987; Sanders and Price 1968), while other ethnographic studies on small-scale societies have concluded that violence is largely driven by the individual desire to exact revenge (Chagnon 1968:154; Redmond 1994). Alternatively others link violence to one of many strategies ambitious leaders use to gain and maintain power and wealth (Arnold 1995; Brosowske 2005; Brumfiel 1994; Earle 1997; Hayden 1995, 2001; Hayden et al. 1985; Knauft 1987; Redmond 1994). For example, it has been well documented that Northwest Coast chiefs used raiding and warfare for the purpose of obtaining slave labor, which they employed to generate surplus goods (Ames 1995). In much the same manner as they generate support for many of their other political objectives, ambitious leaders often act to create webs of debt and obligation as a way to overcome one's reluctance to engage in violence by exploiting individual desires and jealousies and organizing a raid on one's behalf. Ambitious leaders may then call in these debts as a way to mobilize support in warfare, where the spoils are used as investment capital to increase their own individual wealth, power, and prestige (Hayden 1995; Sillitoe 1979; Spencer 1994). In reference to warfare as being related to a strategy ambitious leaders use to gain and maintain power



and wealth, it is important to recall the reason behind why Juan Dominguez de Mendoza and Juan Sabeata, a principal captain of the Jumano, had their falling out during the expedition, as the account says that Mendoza basically got fed up with Sabeata's spurious attempts to get the Spaniards involved in a pitched battle with the Apache (Wade 2003:109).

Keeley (1996) provides one of the most comprehensive studies to date on the topic of prehistoric warfare. He offers that the most common form of combat employed by small-scale societies are raids and ambushes, which only involve a handful of attackers who sneak into a village and only kill one or a few people. Since victims of raids are usually surprised, outnumbered and unarmed, most tend to be women, and they generally exhibit evidence of wounds inflicted from behind as they attempted to flee. Alternatively, massacres tend to involve a much larger attacking force whose purpose is to annihilate an enemy social unit. This form of indiscriminate killing often claims the lives of more men than women, and can produce a 5-20 percent casualty rate (Keeley 1996:67-68).

Cabeza de Vaca noted that enemy raids were a primary concern of the groups he lived among, and he provided detailed descriptions regarding the steps the Natives took to defend against them, including the techniques of emplacing defensive trenches near their huts, and constructing decoy camps to deceive attackers (Krieger 2002:208). He also describes a raid conducted on the Aguenes in which three Natives were killed and several wounded, and the next day when the Aguenes retaliated against their attackers they killed five and wounded many others (Krieger 2003:208). Another account given by Juan Sabeata in his deposition to Governor Cruzate at El Paso del Norte in October of 1683, appears to describe what could be considered a massacre executed by the Jumano and their allies on an Apache ranchería. Based on Sabeata's testimony, the massacre took

place around 1679. Apparently, as the account goes, a large group of Apache Natives invaded Jumano lands, and although Sabeata does not specify the exact area where this event took place, it is inferred based on previous mention in the deposition that Jumano lands were located in the area of the Rio de las Nueces (modern-day Concho River Valley in west-central Texas), therefore one could rightly assume that that was where the massacre occurred. Sabeata goes on to say that he and his allies, the Jumano and the Gediondo, rallying around a Christian cross that apparently descended to them from the sky, attacked the Apache ranchería that consisted of 78 tents and destroyed them all (Wade 2003:239). If we assume that a tent represents a domicile for an extended family unit and that it housed an average of five people, then we can estimate the population of the Apache ranchería at 390. Applying this number to the casualty figures of 5-20 percent provided by Keeley (1996:67-68), we can estimate that the massacre involved anywhere between 20-78 casualties.

I previously noted that Vehik (2002) argued that after A.D. 1450, political/religious leaders on the Southern Plains used violence as a means to gain access and control over nonlocal resources as well as to ritual/ceremonial knowledge. Although Baugh (2008) recognizes that Vehik's conflict-driven prestige economy provides a more robust explanation of exchange for a number of different social economic situations (i.e. exchange between farmers and hunters, foragers and foragers, or between two food producing societies), he criticizes it as being too unilinear in that it fails to account for the role that conflict resolution plays in the exchange that occurs between enemies. For example, although an ambitious leader can gain power, wealth and prestige by being a warmonger, he can also achieve the same by brokering peace deals and forming alliances. For instance, around 1535 when Cabeza de Vaca attended the gathering of the tunas for the second time, he mentioned that the Mariames and the Anagados Natives, who usually

were at war with each other, met at the gathering and made peace (Favata and Fernández 1993:74; Krieger 2002:197). Another account in which the Natives made peace in order to trade was associated with the Teyas siege of Pecos Pueblo, where upon realizing that the pueblo was too strong to defeat, the Teyas made peace with the pueblo inhabitants (Bandelier 1892:116–117; Castañeda 2002:283). Baugh (2008) interpreted this event as characteristic of the pre-Hispanic Southwest political economy where violence was transformed into mutually productive exchange relations (*sensu* Brooks 2002:17) under a sacred canopy of trade involving the exchange of religious objects such as eagle feathers, turquoise, and tobacco, while more mundane items (i.e. obsidian, chert, seed corn, pottery, bison hides, and meat) were bartered among individuals in the background.

#### **EXCHANGE GATHERINGS AND SPECIAL STATUS INDIVIDUALS**

Cabeza de Vaca provides us with the most detailed accounting of the activities that transpired at exchange gatherings. He states that at the gathering of the tunas the Natives remained there for three months out of the year feasting on the fruit of the cactus (Favata and Fernández 1993: 68-72; Krieger 2002: 190-196). He also writes that while he and his fellow companions attended these gatherings they engaged in trade and information exchanges (Krieger 2002:190-191, 199), and practiced healing rituals which were conducted in the context of large celebrations that involved dancing and singing, which often lasted for days (*ibid*:195, 199-203). The fact that these exchange gatherings involved feasts, and ceremonial and ritual events is an important aspect bearing on the problem of political development, particularly as it pertains to the emergence of complex social formations. In the case of small-scale transegalitarian communities, these events served a broad integrative function for social aggregates, as they were used to consolidate labor, share information, attract good mates and military allies, as well as to create social

relationships beyond the family, all of which clearly provided adaptive advantages to those able to generate the required surpluses to support these activities (Bamforth 1988; Bettinger et al. 2015; Wobst 1974; Wood 1980). Alternatively, from the perspective of status-seeking individuals, these events provided the pretext for engaging in competitive displays for the purpose of negotiating relationships between people, legitimizing structures of social control, and for affirming status rankings (Brumfiel 1994; Earle 1997; Hayden 1995, 2001; Potter and Perry 2000; Sahlins 1981; Wills and Crown 2004). Perhaps the best way to explain this process is to refer back to Marshall Sahlins' (1981) seminal work on the Sandwich Islands. In this work, Sahlins describes how contact period Hawaiian chiefs maintained their monopoly over European goods by manipulating trade through taboos. For instance, one of the commodities the Europeans most desired from the Hawaiians was pigs. Seeing this, Hawaiian chiefs immediately issued the proclamation that since pigs were for feasts and ceremonial occasions, it was taboo for a commoner to trade them to a European, but since chiefs presided over these events, only they had the authority to trade pigs. Although this is a rather simplistic example, it demonstrates how political/religious leaders can employ prestige, esoteric knowledge, ritual, and ceremony to slowly erode traditional egalitarian value systems, while at the same time institutionalizing the unequal distribution of wealth.

In addition to regulating exchange through the manipulation of taboos, political/religious leaders use a number of other strategies to achieve their objectives. In the case of feasts on the Northwest Coast, food was not only given to supporters but to non-supporters as well (Oberg 1973:123; Young 1971:225), and such displays of generosity had the effect of suppressing any discontent or open hostility against an aggrandizer's designs (Hayden 1995:46). In the conspicuous consumptive displays of competitive feasts, of which the potlatch is one example, 'big men' sought to outdo their

competitors in a number of ways; either by growing the largest yams, introducing new and exotic plants, or by destroying surplus comestibles in plain sight of onlookers (Clark and Parry 1990; Graves and Spielmann 2000b; Hayden 1995, 2001).

Fortunately for archaeologists, feasts, rituals, and ceremonies involve specific kinds of artifacts endowed with particular symbolic meanings. Such symbolic artifacts are often tightly controlled and monopolized by status seekers who then actively manipulate their symbolic meaning to legitimize their access to power and authority (Earle 1997; Potter and Perry 2000; Shanks and Tilley 1982). In the context of the healing rituals performed by Cabeza de Vaca we know that they involved elaborate feasts and exchanges of goods. In fact, one symbolic artifact that Cabeza de Vaca said was only brought out during healing ceremonies was a hollowed-out gourd containing pebbles used as a rattle (Krieger 2002:213), and later in his transcontinental journey some native shamans presented the Spaniards with these ritual objects (Krieger 2002:217). It is due to Cabeza de Vaca that we also have a detailed description of a pre-contact funerary rite. As mentioned previously, this involved the cremation of the healer's body in the context of much celebration. The ashes were then curated until the following year at which time everyone was scarified and the ashes were mixed with water and then consumed by the relatives of the deceased (Krieger 2002:184). Hayden (1995:65) tells us that in most transegalitarian societies funerals are major mechanisms that involve reciprocal feasts and displays of wealth, during which the debts and obligations held by the deceased are symbolically reaffirmed or regenerated by the exchange group.

Several colonial accounts refer to the rituals and ceremonies associated with these consumptive gatherings often involving the ingestion of inebriating substances. Cabeza de Vaca makes the following remarks regarding this type of activity as practiced by all

the native groups he encountered along the Gulf Coast and on the mainland, which suggests the use of tobacco and other intoxicating substances:

In all this land they get drunk with a [kind of] smoke and they give all they have for it. They also drink another thing which they draw from the leaves of trees like the live oak [*como de enzina*], and they roast it in some vessels [*y tuestavla en unos botes al fuego*]. And after they have roasted it they fill the vessel with water and thus keep it over the fire, and when it has boiled twice they pour it into a dish<sup>7</sup> [*vasija*] and cool it with half a gourd. When it is very foamy they drink it as hot as they can stand it, and then from the time they take it out of the vessel until they drink it they utter cries saying, “Who wants to drink?” (Krieger 2002:211)

A later seventeenth century account made by the Jesuit Pérez de Ribas also associates large multi-ethnic rituals and ceremonies with the consumption of intoxicating beverages such as wines made from prickly pear tunas, mesquite beans, honey, and mescal (Ribas 1999:90). Of particular note is Pérez de Ribas’ account of the peyote ceremony that was widely practiced among the indigenous people of Chihuahua. He writes that:

He (the devil) would induce them to hold barbarous dances that were always celebrated by a throng of people. The people would form a circle and crown, and keeping the beat with their steps, the entire ring seemed to be one. Because his dances were usually held at night and would last until sunrise, there were bonfires and torches in the middle and all around the

dancers. Even when the men and women danced separately, these diversions and festivities were not free from the abuses that the devil promotes. Moreover, these were celebrations of great drunkenness, which further deprived the Indians of the scant senses that remained in such heathen darkness. He introduced them to the habit of the weed called peyote, which is very famous among the Indians of Nueva España. Although it is of medicinal value when used in moderation, in excess it makes a person lose their senses and causes diabolical fantasies (Ribas 1999:657).

Pérez de Ribas also mentions the use of tobacco among the Indians of northern Mexico, and that it accompanied celebrations that involved the forming of coalitions in war. It worked as follows: if one nation intended to invite another to join them in a campaign, they would send them reeds filled with tobacco and if the Indians accepted this offering it acted as an agreement that cemented a formal alliance between the two (Ribas 1999:90).

Archaeological evidence suggest that the use of tobacco in Native American society may date as far back as 9000 years ago with the discovery of an early tubular pipe at a site in Colorado; however, the latter appearance of Hopewellian platform pipes in the Upper Mississippi valley substantiates the ritual use of tobacco as early as 1000 BCE (Hall 1997:119). One theory proposed to explain the origin of tobacco use among prehistoric native populations in the New World is tobacco shamanism, in which tobacco was added as another psychotropic substance employed by these medico-religious practitioners to reach altered states of consciousness for healing and communing with the spirit world. As a trend toward a more sedentary way of life took hold in food-producing

economies, these independent developments afforded opportunities for the intensive cultivation of tobacco (*N. rustica*), which over time gradually eroded the monopoly shamans held over the plant and in turn led to its availability to a much wider audience (Von Gernet 2000:79–80). In any case, European accounts often refer to the ritual use of tobacco by the Natives in a specialized ceremony known as the calumet. These accounts indicate that the purpose of this ceremony was to establish and maintain peaceful relations between the various bands, clans and villages of the same tribe, as well as being used to forge fictive kin relationships among those considered outside the group. It was also known for mediating tensions between former enemies, played a key role in native trade and exchange, and was even used to consolidate alliances in war (Blakeslee 1975; Fletcher and La Flesche 1972; Hall 1997; Wood 1980).

Although it is clear that the ritual use of tobacco is rooted in prehistory, the origin and spread of the calumet ceremony remains a subject of much debate. In terms of the ceremony at large, Turnbaugh (1979) argues for its relatively late florescence sometime in the seventeenth century, and identifies its spread throughout the Great Lakes and down the Mississippi Valley primarily as a revitalization movement in response to the decline and fragmentation of native society by European pressures. Others contend that the ceremony had earlier antecedents on the eastern plains, and that it spread eastward not as a nativistic response to cultural disintegration, but simply as a result of native trade and exchange among plains and eastern groups (Blakeslee 1981:766). Along these same lines, Hall (1997:120) suggests that the calumet pipe with its long wooden stem can be traced back 2000 years to its archetypical form, the wooden atlatl.

One of the earliest recorded accounts of a calumet-like ceremony is recorded in the Inquisition records in Mexico City. In the account, a New Mexican colonist by the name of Diego Romero renders testimony of an event he took part in among the Vaquero



Apaches on the buffalo plains in the late summer of 1660. He tells his inquisitors that he and a Pecos Pueblo Indian chief by the name of El Carpintero happened upon an Apache ranchería and that he and his companion were carried away by several warriors into the Apache camp where they were placed on a pile of hides in the center of several hundred chanting Apaches. They were then grabbed by the shoulders and swayed from side to side. Then a mock battle ensued where an Apache brave beat back a number of warriors who acted out their intent to harm the Spaniard and his companion. After this, the two visitors were laid out as if dead and then two Apaches lifted them up and a third approached with a lighted pipe of tobacco on a long stem. The Indian with the pipe smoked it, lowered it, and then offered it to Romero who smoked it three times. Slowly the pipe made its way around the circle of Natives, while all this time they continued to chant. Romero explains that the purpose of the ceremony was to make him an adopted chief of the Apache (Kessel 1978:13-15).

Another calumet-like ceremony was documented in the fall of 1718 when Governor Martín de Alarcón visited the Hasinai somewhere near the middle Trinity River in Texas. Francisco Celíz, the chronicler of the expedition writes of the governor's reception by the Natives:

...the reception of the said governor was continued on the part of the Indians according to their custom, and it is in this manner: the straw house having made ready where he was to lodge, they took him from his horse, and having placed him on his feet, an Indian chief took his sword and pistols, and another took him by the shoulders and another by the feet, and in this manner they arrived at the said door of the house, where, while he was standing, they washed his hands and face gently and dried them with a

cloth which they had requested for that purpose. They carried him in, two Indian chiefs holding him by the shoulders, and after they had seated the governor on a small bench, they gave him the pipe of peace, and after having reciprocally performed this ceremony, they gave him to understand how greatly they enjoyed his coming.....(and that) since he (the governor) had permitted to let himself be received according to their custom, they no longer looked upon him as a stranger but as if born among them (Céliz 1935:74).

It is important to note that both these events not only evidence the presence of a calumet-like pipe ceremony among the Natives in Texas, but also that this ceremony was conducted in the context of establishing peace and trade relations among special status individuals.

#### **EXCHANGE GATHERINGS IN THE ARCHIVAL RECORD**

It has long been recognized that large social aggregates or population nucleation is a phenomenon linked to more complex forms of social organization (Carneiro 1970; Feinman and Neitzel 1984; Johnson 1982). In his cross-cultural study on the population dynamics of small-scale societies, Feinman (1995) concluded that the threshold for organizational complexity occurred at a population density of around 2,500 +/- 500. In a political economic sense, seasonal population aggregation provides the basis for exchange, and the performance of ritual and ceremony that not only provide opportunities for acquiring advantageous marriage and trade partners for the group at large, but also offer opportunities for aspiring leaders to engage in competitive displays as a means to negotiate systems of power and control (Arnold 1995; Clark and Blake 1994; Hayden

1995, 2001). Sixteenth and seventeenth century colonial records provide a considerable amount of evidence for large aggregations of multi-ethnic mobile groups in the Toyah Cultural Sphere, and it has been suggested that the accounts allude to the existence of a more complex form of native leadership beyond simple egalitarian social relations (Kenmotsu and Arnn 2012:42; Wade 2003:232). Building on the work of previous scholars in this area, the following discussion is an analysis of the colonial records that seeks to identify the general locations and population densities of social aggregations within the Toyah Cultural Sphere.

As noted before, the earliest colonial reference to the existence of social aggregations among the indigenous population in the Toyah Cultural Sphere was given by Cabeza de Vaca, when in the Fall of 1534 and again in 1535 he writes that he attended a large multi-ethnic gathering of Natives at an expansive prickly-pear cactus patch, likely somewhere within the Nueces River watershed near Alice, Texas (Campbell and Campbell 1981) (Figure 4-1). During his first visit, he mentions the names of at least three Indian groups at this seasonal gathering, the Mariames, Yguazes, and the Avavares, and during his second visit in 1535, he reports being among the Mariames, Cutalches, Anagados, Avavares, Malicones, Coayos, Susolas, Arbadoas, and Atayos (Favata and Fernández 1993:68-72; Krieger 2002:190-96). Cabeza de Vaca reports encountering five villages and numerous rancherías in the area of La Junta de los Rios in September 1535 (Favata and Fernández 1993:101; Krieger 2002:223), and this was confirmed by later colonial expeditions as a major site that involved the congregation of numerous native ethnic groups, many of whom were transient (*ref.* Hammond and Rey 1966:70–73; Hammond and Rey 1929:59–64; Wade 2003).

Another early account of an exchange gathering was noted by the Coronado expedition in 1541, in which the Spaniards reported a large gathering of Teyas Indians

along the eastern edge of the Llano Estacado at a place the Spaniards called “Cona.” Although Castañeda provides no population numbers for this group, he does comment on how the area was so densely populated that the army traveled for three days before they were able to pass through the dense cluster of Teyas Indian camps (Castañeda 2002:207).

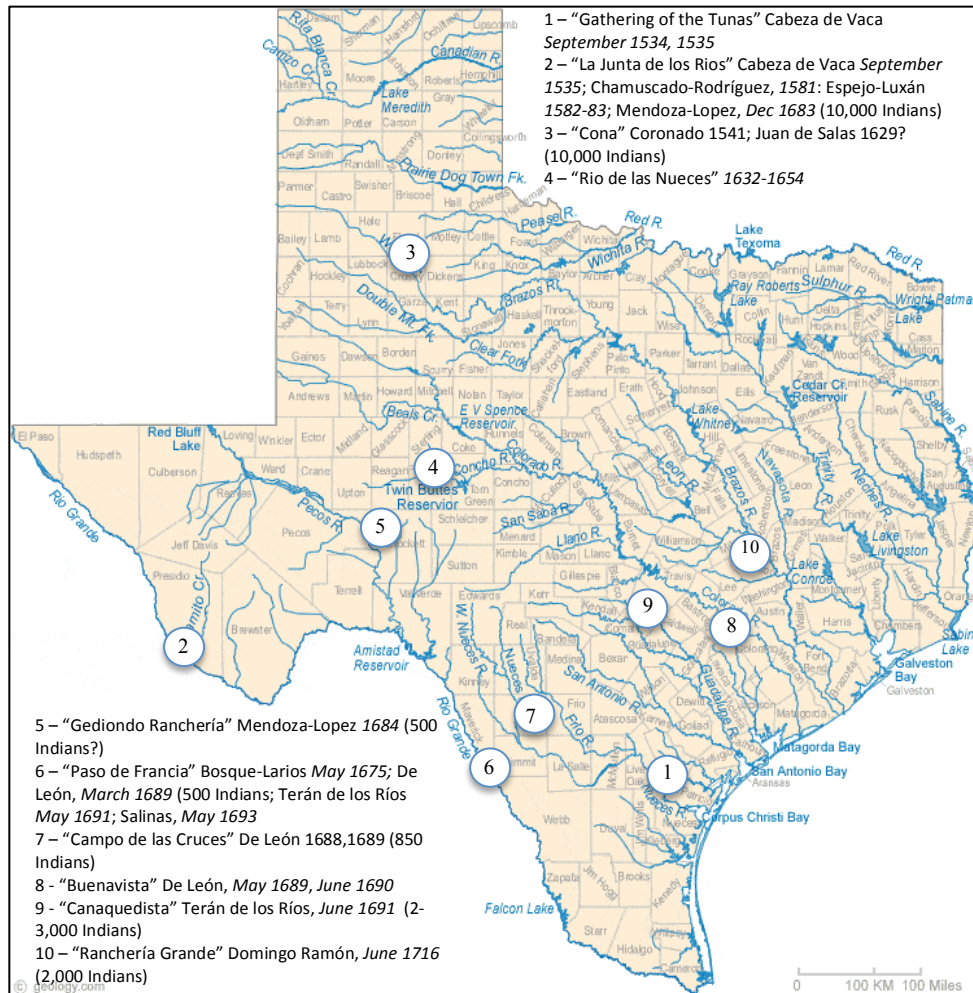


Figure 4-1: Approximate locations of native exchange gatherings in accordance with the archival record circa. 1534-1716 (map by author)

Most of the later encounters with large aggregations of Natives also fail to provide population estimates, but instead refer to the encounters in terms of the names of the native nations present. However, one of the more noteworthy accounts is provided by Fray Alonso de Benavides when in July 1629 he documents a gathering of over 10,000 Indians of the Jumano, Iapes, and Xabatoas nations on the buffalo plains some 112 leagues east of Santa Fe (Ayer 1965:57-63). Based on the direction and distance of travel given by Benavides, it is likely that this group reached the former Teyas gathering of Cona visited by Coronado 88 years before.

One of the most complete accounts of large seasonal native exchange gatherings comes from Juan Sabeata himself, and it is worthy of detailed elaboration given that it provides so much more information on the native populations of the Toyah Cultural Sphere than most other colonial accounts. It begins in the late Summer and Fall of 1683 when Sabeata, with a delegation of other native captains, met with the Spanish authorities in El Paso del Norte to request that the Spanish reestablish trade ties with the Jumano Nation, as well as to assist them militarily against their enemies the Apache. At this meeting he testified that he lived among many people of the Jumano Nation in the vicinity of La Junta de los Rios and with a farming group known as the Julimes, and that together they numbered “ten thousand souls”. Sabeata added that the Jumano were friends and trade partners with as many as 36 nations in the area of the Rio de las Nueces located some six days travel from La Junta, and that he was also in contact with emissaries of the Tejas Nation who were waiting to receive the Spanish and guide them to their lands some 15 to 20 days journey east from La Junta de los Rios (Wade 2003:236-240). In recognition of their status, the governor gave a number of gifts to Sabeata and his accompaniment of 11 captains including tobacco, machetes, a cow, a dozen earrings, and to Sabeata personally the governor gave two red feathers. The

records indicate that the governor gave these gifts to Sabeata and his companions in recognition of their special status (Wade, personal communication).

In response to Juan Sabeata's request the Spanish governor authorized Dominguez de Mendoza and Fray Nicolas Lopez to undertake an expedition to La Junta and then on to Jumano lands on the Rio de las Nueces. The expedition set out in mid-December and arrived at La Junta on December 29, 1683. Mendoza writes in his journal that both the Julimes and Humanas live there in rancherías situated on both sides of the Rio Grande, and that the Julimes sowed wheat and corn (Wade 2003:90). Later, in his Memorial written over two years after the expedition in 1686, Fray Nicolas Lopez remarks that there were nine Indian nations living in the La Junta area, and that they encountered 66 nations in the area of the Rio de las Nueces during the winter of 1684 (Scholes et al., 2012:325).

Neither Mendoza nor Fray Lopez provide any population estimates for the Indians they encountered during their expedition to the Rio de las Nueces, but we do know from various versions of the expedition diary that apart from the Jumano, the expedition was accompanied by at least 15 other nations (Wade 2003:94). In any event, after leaving La Junta and traveling northeast for 18 days the expedition encountered a large native ranchería on the east side of the Pecos River. Mendoza wrote that the Gediondo, the Jumano, and a number of other nations occupied the ranchería, and that the party remained there for seven days to provision themselves before moving on to the Rio de las Nueces. Based on the fact that the Mendoza party killed 27 buffalo during their seven-day stay at the Gediondo ranchería, Wade (2003:103) estimates using an average daily consumption rate of three pounds of buffalo meat per person per day (*ref.* Ewers 1985:550) that a maximum of about 515 people were encamped there during the seven-day period the expedition remained in the area. Using the same method of estimation,

Wade also posits that later on in the expedition during the 46-day period that the Mendoza party stayed at San Clemente, the amount of buffalo killed there (4,030 animals) would have easily fed more than 11,700 people (Wade 2003:123).

In an effort to provide an independent evaluation of these estimates, I looked at the number of buffalo killed at San Clemente (4,030) and turned to nineteenth century accounts of Northern Plains Indian tribes in which dressing hides was considered woman's work, and that a Cheyenne woman could prepare as many as ten buffalo hides per year (Jablow 1950:20). At this rate, it would have taken approximately 3,560 women at San Clemente to dress the hides of 4,030 animals, and if we assume that adult women represented a third of the population (the other 2/3rds being men and children respectively), then we arrive at an overall population estimate of 10,680. Surprisingly, the figures from San Clemente are remarkably similar to those given for the Jumano Nation and their associates the Iape and Xabatoas by Benavides in 1629, as well as the number of Natives living at La Junta de los Rios given by Juan Sabeata in his deposition to the governor of El Paso del Norte in 1683. In both these instances the number 10,000 was given.

Following the Mendoza-Lopez expedition, accounts of large gatherings of Natives on the frontier were reported by Alonso de León, the governor of the Province of Coahuila. In his efforts to interdict French incursions into Spanish territory north of the Rio Grande, De León learned of a very large native ranchería that apparently was headed by one of La Salle's party, Jean Gery. In May 1688, De León traveled some 62 leagues from Monclova, and arrived at a ranchería, called Campo de las Cruces, somewhere in the vicinity of the Frio River. There he found Gery among a gathering of 350 Natives and escorted him back to Monclova for interrogation. The Governor noted in his diary that although he found 350 Natives at the ranchería, an additional 500 had recently left to hunt

buffalo prior to his arrival (Wade 2003:138). A year later, De León organized an expedition and set out from Monclova to locate the French settlement on Matagorda Bay, taking Jean Gery with him as a guide. When the party reached the Rio Grande the Spanish encountered a large native encampment (Paso de Francia) of about 500 Natives, many of whom were the same groups he encountered at the Frio River camp the previous year, namely the Jumano and the Iape (Foster 1995:18; Wade 2003:145). The following year De León led another expedition into Texas to recover French captives and encountered the same large native encampment on the Rio Grande and remarked that he saw many of the same native groups he had met there the year before (Foster 1995:36). When the expedition reached the Colorado River he reported another large native camp located near a hill, which he named Buenavista, which is believed to be the high ridge on the south side of the Colorado River at the modern townsite of La Grange (Foster 1995:34, 36). Massanet, the Franciscan friar who accompanied the expedition, reported that the Toho, the Emet, the Tohaha and other unidentified nations occupied the camp. Governor Salinas also visited this same Colorado River encampment in 1693 and reported that the Cantona Nation occupied it. Also, while on his second expedition into Texas, De León's party reported a large native camp on the Navidad River that contained as many as 3,000 Na'aman Natives (Foster 1995:43).

On an expedition to bolster the mission effort among the Tejas Indians in 1691, Governor Domingo Terán de los Ríos and Fray Massanet reported several native camps between the Rio Grande and Guadalupe rivers, all comprised of multiple nations. Following much of the same route as De León, Terán's party reports that they encountered several native nations at Paso de Francia on the Rio Grande and that Terán was visited by thirteen native nations while he camped at Campo de las Cruces on the Frio River on the 9<sup>th</sup> of June 1691. That same month while passing through the area that



is today San Antonio, the party happened upon a large ranchería of the Payaya Nation, and later, as they moved through the upper San Marcos River basin at a place called Canaquedista (the headwaters), the Spaniards encountered 2,000 to 3,000 Natives comprised of the Jumano, Cibolo, Cantona, Chalome, Chaynaya, and the Casquesa nations (Foster 1995:57; Wade 2003:147). Again, just east of the Colorado River crossing near Buenavista in the vicinity of modern-day La Grange, Texas, Governor Alarcón's expedition in 1718 encountered a large congregation of Natives, he described as "too many to count" and representing six nations: the Xanac, Emet, Too, Malleyes, Huyugan, and the Curmicai (Céliz 1935:69).

A number of subsequent expeditions and entradas following Terán's also report large aggregates of Natives both on the San Antonio and Brazos rivers. In April of 1709 a large encampment of 500 Natives that included groups from south of the Rio Grande were found along the San Antonio River by Fray Espinosa (Foster 1995:99), and later that month Espinosa encountered 2,000 Natives including the Cantona, Yojuan, Simomo, and Tusonibi encamped on the Colorado River near modern Wilbarger Creek (Foster 1995:103). Again, in June of 1716, just before crossing the Brazos River, Domingo Ramón reports finding what he called "Ranchería Grande," a gathering that was comprised of around 2,000 Natives including the Ervipiame and several other nations (Cunningham 2006:59).

## **SUMMARY AND CONCLUSIONS**

Unlike the ethnohistoric records where evidence for inequality and special status tends to be much less ambiguous in comparison to that in the archaeological record, much of the ambiguity in the latter is largely attributable to the particular way it is approached in relation to how it is encoded in the material evidence, a point that was

made earlier in chapter 2. To address inequality and special status in the hunter-gatherer archaeological record requires context, context provided by ethnohistory and ethnographically-derived models of human behavior. The analysis of the archival record was focused on investigating the textual evidence for social complexity in Toyah society and to assess whether certain phenomena connected to socially complex behaviors such as feasting, warfare, and craft specialization are reflected in Toyah culture. The analysis of the archival record found that despite the prevailing notion that Toyah society largely consisted of mobile bands of economically independent family groups, the data appear to indicate otherwise, one in which Toyah society was actually characterized by a range of special status individuals engaged in an array of socially complex behaviors. First, the records provide robust descriptions of numerous individuals who possessed special status, and were referred to in the records as captains, healers, and traders, and that they were recognized as such due to their individual notoriety and personal achievements. European accounts clearly associate these special status individuals with a range of complex social phenomena including population aggregation, ceremonial ritual and feasting, warfare, itinerant trade and craft specialization.

Status ranking among captains is indicated by the status position of principal captain. Principal captains appear to be somewhat unique in comparison to captains who represented only specific bands or tribal groups, as it appears that the former traveled long distances to conduct warfare and diplomacy. For instance, Juan Sabeata, the principal captain of the Jumano and Cibolo nations is documented as traveling nine months out of the year conducting diplomatic visits and attending exchange gatherings, as well as engaging in warfare all throughout central, coastal, and eastern Texas.

The status of trader appears to be an individual who traveled moderate distances engaging in the exchange of primarily domestic goods. Most intriguing though is that the

records indicate that in addition to being itinerant, traders also produced some of the goods themselves, and if we considered the evidence provided by Cabeza de Vaca, this individual perhaps produced goods and traded on behalf of a particular patron.

The special status of healer or shaman is particularly noteworthy in terms of status because it appears that this type of individual was afforded certain unique rights and privileges that facilitated their potential rise to power. For instance, in addition to having special burial rites, healers can have multiple wives, and in this way possess a means of surplus labor that could be employed for the generation of ritual goods. Furthermore, based on what Cabeza de Vaca says about the redistributive behavior embedded in their healing practices, it would seem that healers also possess the capacity to amass wealth in other ways.

The capacity for extra-domestic travel seems to be a characteristic common to all special status individuals. For instance, the principal captain Juan Sabeata and Cabeza de Vaca, the trader/crafter, both traveled nine months out of the year visiting native groups for both political and economic purposes. The distances traveled, however, are quite different and may reflect the varying reasons status individuals chose to travel. Juan Sabeata, for instance, traveled long distances in excess of 500 km mainly for political and informational purposes and his journeys almost always involved ceremonial and ritual activities, while Cabeza de Vaca traveled distances under 200 km largely for domestic trade and the maintenance of more localized social networks. Studies have shown that these patterns of travel produce different archaeological signatures. For instance, long-distance travel for political or informational purposes tends to involve exotic or symbolic items that are almost always exchanged in ceremonial and ritual contexts, while more localized travel for economic purposes tends to be marked by

surpluses of utilitarian items such as lithics or items of personal adornment (i.e. shell beads) that are meant more for domestic purposes.

The record also provides context for a number of different ceremonies and rituals that likely involved symbolic exchanges and, by association, special status individuals. Along these lines the analysis of the archival record resulted in the identification of ten exchange gatherings. Exchange gatherings are areas where the record evidenced an encounter with relatively large aggregations of multi-ethnic native groups. The record documents that these were sites where Natives practiced ceremonies and rituals that often involved activities such as feasting, exchange, and the negotiation of both peace and war alliances, and special status individuals, particularly principal captains, were often noted at these locations. Given the unique social context associated with exchange gatherings, it is anticipated that they would produce a distinct archaeological pattern comprised of things like: large food processing facilities for the production of bulk quantities of foodstuffs; facilities for the processing of special quality foods; unusually high breakage rates in pottery, ceremonial items, particularly smoking pipes or non-local pottery vessels; unusual disposal patterns; and exotic goods. For example, inequality and special status may be argued from the standpoint of a disposal pattern reflective of a disproportionate distribution of faunal bone concentrations, which show evidence of different quality cuts of meat and different methods of food preparation.

As mentioned before, ethnohistory and ethnography both provide contextual information that allow the development of models for archaeological examination. The analysis of the ethnohistorical record resulted in a rather robust argument for inequality and special status in the Toyah society. A key take-away from this analysis and one that will be examined further in later chapters involving the archaeological record, is the

Cabeza de Vaca model for the trader/crafter as well as the Juan Sabeata model of the principal captain.

## End Notes

<sup>1</sup> Brackets [ ] indicate annotations made in the original reference, while parentheses ( ) represent annotations made by this author.

<sup>2</sup> The story of the Lady in Blue is an early seventeenth century native narrative describing a number of miraculous visits apparently made by the Franciscan Abbess, Maria de Agreda, in which she teleported herself from Spain to the Plains of west Texas to tutor the Jumano Natives in Christian doctrine (see Ayer 1965:58; Hodge et al 1945).

<sup>3</sup> The Cibolo are a native nation first mentioned by the Spanish in 1675. They were often found traveling with other native nations, such as the Jumano and the Catqueza, hunting bison and campaigning against the Apache (see Wade 2003).

<sup>4</sup> The Ervipiame are a native nation first mentioned by the Spanish in 1675 as roaming the territory in and around Coahuila. By the early eighteenth-century Spanish documents report them in Central Texas at “Rancheria Grande.”

<sup>5</sup> A conversion factor of 4.16 kilometers (2.6 miles) was used to convert the Spanish league.

<sup>6</sup> Archaeologically speaking, it has been hypothesized that the Teyas were likely Garza Complex people (ref. Boyd 2001), and there is material evidence that they interacted with Toyah people to the south.

<sup>7</sup> Krieger translates the Spanish word *vasija* to mean ‘a dish,’ but a more accurate English translation would be ‘a container.’ (Wade, personal communication)

## Chapter 5

### **The Mortuary Evidence: Special Status, Inequality, and Violence in the Toyah Archaeological Record**

The most important exercise one must undertake when dealing with the material culture of social inequality in general and special status individuals in particular is the mortuary record. Although there have been a few regionally specific studies regarding mortuary patterns during the Late Prehistoric period (Piehl 2009; Prewitt 1982; Reinhard et al. 1989), as far as I am aware, a synthesis of the available Toyah data on this scale has never been attempted. This investigation approached the mortuary data with the intent of addressing the following questions: (1) is there any direct evidence of inequality and differential social status encoded in the mortuary data; and (2) what is the magnitude of skeletal evidence in support of violence and does it represent largely small-scale random events or large-scale coordinated attacks involving mass fatalities? In assembling the data, care was taken to ensure that the burial assemblages used in the analysis contained Toyah material elements, correlating radiocarbon dates, or materials considered contemporaneous with the Toyah Interval. Regardless of this effort to discriminate between burials of Toyah age from those of the preceding Austin Phase, it must be noted that the boundary between the two cultural-temporal periods remains somewhat ambiguous and poorly defined. For instance, not all researchers are in agreement as to when exactly the Austin Phase ended and the Toyah began, and it is expected that there is some overlap; however 1200-1250 CE is when most generally agree the Toyah Interval began. Adjudicating the age of the burials was fairly straight forward when it came to published radiocarbon dates, but a bit more tricky when dealing with older data since

both absolute dates and skeletal materials were generally lacking, and it essentially came down to a relative assessment of age based on association with diagnostic arrow points (i.e. Perdiz arrow points, or those of similar age such as Harrell, Washita, or Clifton) either occurring in the same strata as, or in direct association with the interments. This too created some problems especially in cases where Alba, Bonham, and Moran arrow points are somewhat morphologically similar to Perdiz, but tend to extend further back in time than the latter. Despite these issues the application of the temporal criterion resulted in a data set comprised of 94 individual interments spread throughout 26 sites across the Toyah Cultural Sphere and adjoining regions (Figure 5-1). Because the wide distribution and adoption of the Toyah technocomplex crosscuts populations with different settlement/subsistence strategies and in some instances extends outside the Toyah Cultural Sphere, the burial contexts of both foragers (Table 5-1) as well as those of semi-sedentary villagers (Table 5-2) were compiled and compared resulting in some important interpretive correlations and contradictions. The following burial descriptions are broken down by river valley to facilitate a regional analytical approach.

### **MIDDLE BRAZOS BASIN**

Aycock Shelter (41BL28) is located in Bell County a few miles north of the City of Belton. Aycock is the largest of several small shelters spread along the rim of a prominent canyon that forms the upper reaches of Kell (also spelled Cel) Branch, a tributary of the Leon River. The shelter faces east and measures about 109 feet north/south and cuts 25 feet deep into the face of the bluff with a ceiling height of approximately 5 feet. Excavations at the shelter were undertaken from November 1935 to January 1936 by members of the Central Texas Archeological Society under the direction of Frank H. Watt. Work at the shelter resulted in the discovery of over 30 burials

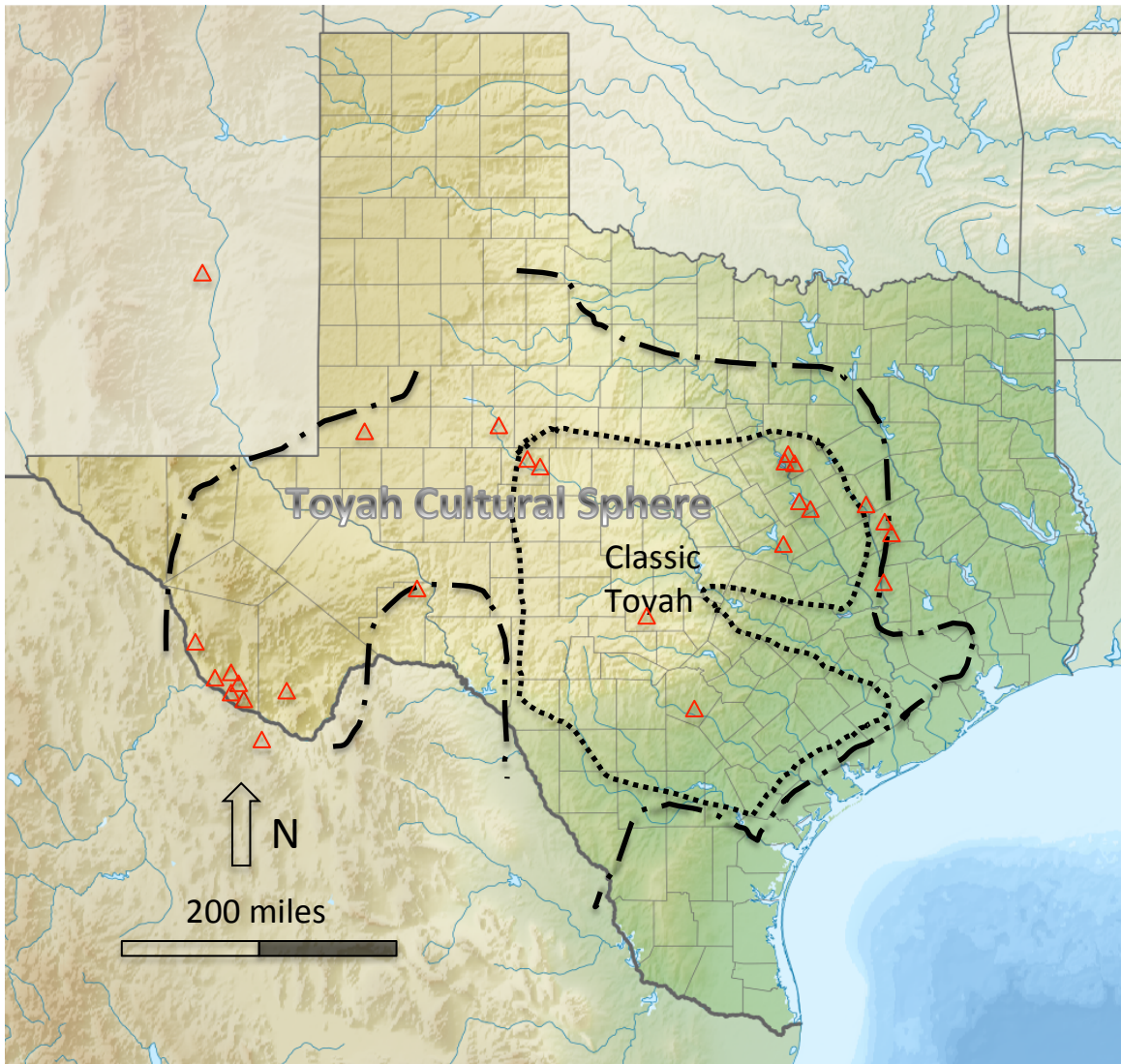


Figure 5-1: Mortuary sites within and peripheral to the Toyah Cultural Sphere included in this study (figure by author)

consisting of 12 semi-flexed and six tightly flexed interments with one bundle burial and three head burials comprising the remaining mortuary assemblage (Watt 1936). A number of large, flat limestone slabs covered the majority of the burials and in some instances flattened or crushed many of the skeletal elements. Except for a few arrow and



<b>River Basin</b>	<b>Site</b>	<b>Number of Toyah-Age Burials</b>	<b>Reference</b>
Middle Brazos Basin	Aycock Shelter (41BL28)	1	Watt 1936
	Kyle Shelter (41HI1)	1	Jelks 1962
	Pictograph Shelter	1	Stevenson 1970
	Sheep Shelter	2	Stevenson 1970
	Waco Mass Burial	23	Meroney 1936
	Asa Warner	2	Watt 1956
Upper Navasota Basin	Union Bridge (41LT12)	1	Mallouf 1979
	Cottonwood Springs (41LN107)	1	Fields and Klement 1995
	Moccasin Springs (41LN247)	1	Fields et al., 1991
	41GM205	1	Rogers 1993
Llano Basin	Lehmann Rockshelter (41GL1)	1	Kelley 1947
Upper San Antonio Basin	Coleman Site (41BX568)	20	Potter et al., 2005
Upper Colorado Basin	Mitchell County Cave Burial	1	Ray 1936
	Underwood Site (41CK275)	1	Unpublished data
	41CK217	1	Collins and Caddell 1984
Trans Pecos and the Rio Grande	Rough Run Burial	1	Cloud 2002
	La Haciendas	1	Mallouf 1987
	Palo Blanco (41PS1005)	1	Piehl 2009
	Ghost Ridge	1	Piehl and Mallouf 2013
	Fire Spirit Crevice Burial	1	Piehl and Mallouf 2013
	Wroe Ranch	1	Turpin 1998

Table 5-1: Burial data from the forager population

<b>River Basin</b>	<b>Site</b>	<b>Number of Toyah-Age Burials</b>	<b>Reference</b>
Upper Colorado Basin	Salt Cedar (41AN2)	2	Collins 1968
Trans Pecos and the Rio Grande	Millington (41PS14)	16	Kelley 1939, 1985; Cloud and Piehl 2008
	Polvo (41PS21)	5	Kelley 1949; Shackelford 1951, 1955
	Loma Alta (41PS15)	2	Holliday and Ivey 1974
	Williams (41PS53)	1	Kelley et al., 1940
	Shiner	1	Kelley et al., 1940
Upper Pecos Basin	Bloom Mound (LA 2528)	3	Speth and Newlander 2012

Table 5-2: Burial data from the semi-sedentary villager population

dart points, a broken biface and a few mussel shell valves, grave goods were sparse. Some demographics of the burial population include 12 male skeletons ranging in age from 17 to 60 with a mean age of 46 and median of 45, and nine females from 17-60 with

a mean age of 41 and a median of 35. There were also four child/infant burials ranging from age 7 months to 2 years. Four male skeletons, and possibly one female, exhibited evidence of potentially fatal injuries based on the positioning of projectile points in the thoracic region of the body and evidence of blunt trauma to the head.

Underneath a layer of eight limestone rocks was Burial 1, a semi-flexed male interment found lying on his right side with his hands touching his face, and head oriented to the northwest. The man was above average stature (approximately 6 feet tall) and estimated to be 55 years of age (Figure 5-2). Two Perdiz arrow points were found embedded in the thorax region of the skeleton between the ninth and eleventh thoracic vertebra, as if the individual had sustained two arrow wounds: one in the left breast and another in the upper abdomen. This individual appears to have also received a traumatic blow to the left parietal region of the cranium (Watt 1936:11).

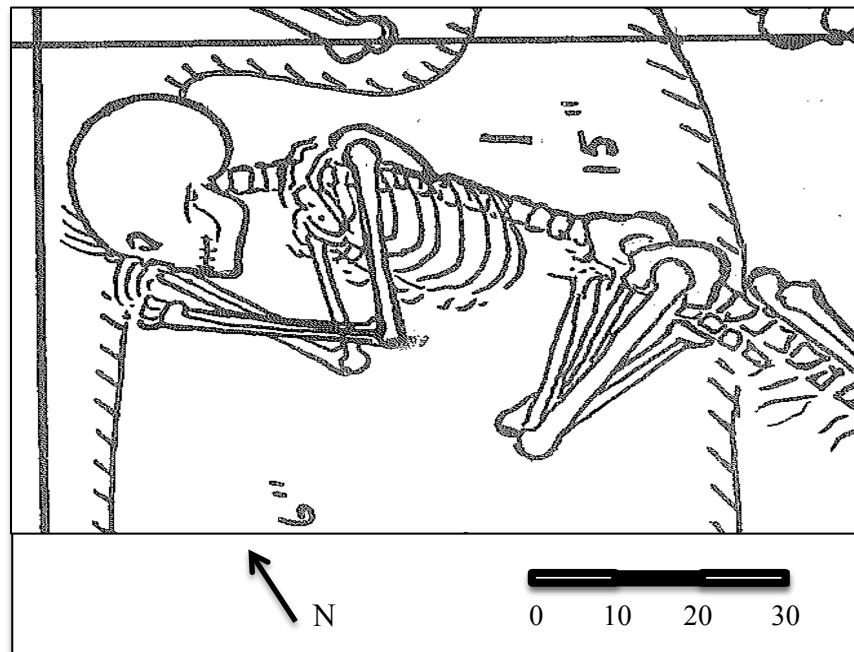


Figure 5-2: Burial 1 at Aycock Shelter (Watt 1936:1)

At least three mortuary rockshelters were found in the Lake Whitney area of Hill County that produced several burials contemporaneous with the Toyah Interval. These include Pictograph, Sheep, and Kyle shelters. The most well-known of these is Kyle Shelter (41HI1), which lies at the head of a limestone canyon overlooking the Brazos River. Open to the west, the shelter is approximately 300 feet wide and inset 40 feet deep into the canyon bluff, and the ceiling stands about 10-12 feet above the unexcavated floor of the shelter. Excavations at the shelter were conducted first by the Texas Archeological Salvage Project in 1959, and later by volunteers of the Dallas Archeological Society. The Toyah occupational debris at the site was dispersed within three distinct strata altogether containing 48 Perdiz and 16 Clifton points, 46 sherds of a Hickory Engraved bottle, Covington bifaces, and a slew of other tools made of chipped and ground stone as well as items made from bone, antler, and wood. In addition to these more common items made of stone were several painted pebbles. Features included a number of hearths, a large fire pit containing fire cracked rock, and a couple of rather unique features, one of which will be discussed in more detail later. Among these materials was the cremated burial of a young adult female (Burial 1) estimated at 17-18 years of age, which was found near the south wall of the shelter. The remains, consisting of badly fragmented and warped bones, were wrapped in an unwoven fiber mat secured with cordage, forming an oval-shaped bundle measuring 1.25 feet in length, 0.75 feet in width and a maximum thickness of about 0.4 feet (Figure 5-3). No grave goods were found in association with the burial, and it was not clear as to whether a large flat stone found lying above the interment was intentionally placed due to the fact that other similar stones were scattered throughout the shelter deposits. Two additional burials were found in the shelter, one an adult female and the other a child; however, both of these were assigned to the earlier Austin Phase (Jelks 1962:21).

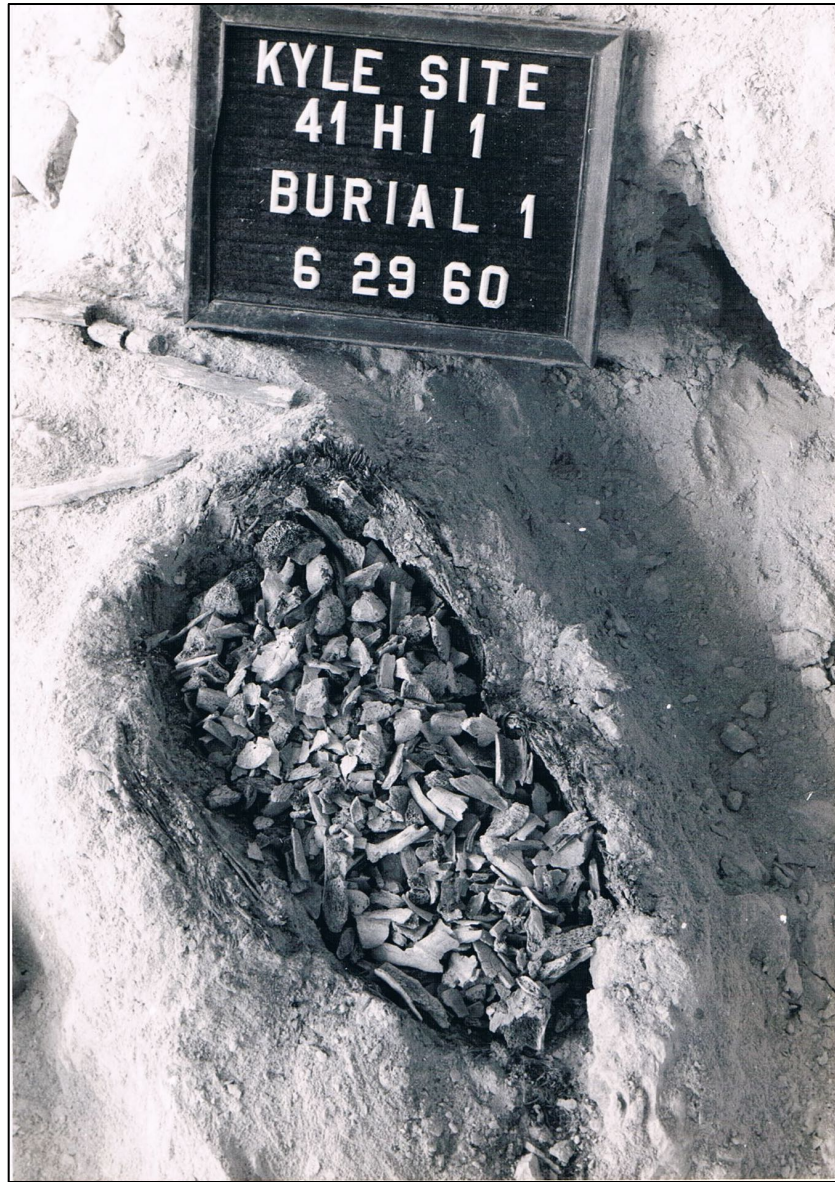


Figure 5-3: Cremated remains of a young adult female (Burial 1) at Kyle Shelter (from Jelks 1962:20)

Another Toyah-age burial was also found at Pictograph Shelter (Stevenson 1970). This shelter is poised along a steep limestone bluff overlooking the now inundated Brazos River Valley of Lake Whitney. The shelter measures 53 feet wide, 23 feet deep, and 7 feet from floor to ceiling. In the same stratum where three hearths were found

along with 19 Perdiz points, some Leon Plain and Caddoan pottery sherds, blades, lithic and bone tools, a child burial was discovered (Burial 1). The child, assessed at 3 to 4 years of age, was located at the back of the shelter and placed on top of what seemed to be a hearth or fire pit. The skeleton was lying on its left side, head to the east, and tightly flexed. Vegetal matter surrounded the interment, suggesting that the body had been wrapped in leaves and twigs and that the fire pit had been extinguished by the time the burial was placed on it (Figure 5-4). A few other human bone fragments were also found scattered in the Toyah-age stratum, but these were interpreted as the remains of a disturbed burial (Stevenson 1970:125). Interestingly, the shelter was named after a series of six rock art panels that adorned its rear wall. All panels reflect frontal views of anthropomorphic figures painted in red and occurring at a uniform height of 50-60 inches up from the floor and spread laterally 20-30 inches apart along the back of the shelter. Four of the panels consist of pairs of images comprised of a tall figure with an accompanying short one, both with arms outstretched, yet the short figures exhibit cleft heads. The two remaining panels represent only individual figures with outstretched arms. Stevenson (1970:128) reasoned that if the prehistoric artist(s) were comfortably standing while painting the images, the level of the Toyah zone would have corresponded to the shelter floor at that time, and roughly along the same surface associated with the child burial. The similarity of the paintings to the Lower Pecos River Red Monochrome style supports the assessment that the paintings are Late Prehistoric in age.

Sheep Shelter is located to the north of Lake Whitney along a 30-foot high limestone bluff that outcrops at the edge of a small intermittent tributary of Nolans River (Stevenson 1970). The shelter opening is about 125 feet long, 38 feet deep, and a maximum of 14 feet from the shelter floor to the bluff overhang. The shelter fill ranged



Figure 5-4: Child burial (Burial 1) at Pictograph Shelter (TARL files)

from 47 to 78 inches thick and was comprised of four strata, the first of which was lying directly on top of the underlying bedrock floor. The upper 7-8 inches of the third stratum was assigned the Toyah-age component, containing about three-dozen sherds of various Caddoan type pottery associated with Perdiz, Clifton, and a few Alba arrow points. Among this occupational debris one, or possibly two, of the five burials discovered at the site was assigned to the Toyah zone by Stevenson. Clearly within the Toyah component were the remains of an adolescent female (Burial 4) who had been laid in a pit, semi-

flexed with the head oriented southwest. Although the association is unclear, a second burial (Burial 5) that might also be Toyah in age was found near the head of the aforementioned interment, and is that of a child, possibly male, who also was placed flexed in a pit with the head facing to the southwest. No grave goods were reported in direct association with either burial.

In February 1936, on the west terrace of the Brazos River some 300 yards downstream of the Highway 81 (Interstate 35) bridge in Waco, a number of skeletons were unearthed by city workers as they were digging around the city's sewage disposal plant. Word of the discovery reached W. P. Meroney, a member of the faculty at Baylor University, and with several of his students and members of the Central Texas Archeological Society they uncovered 23 skeletons, all packed within a tightly confined area measuring 12 x 14 feet in size. Buried at depths between 48 and 60 inches below ground surface the mortuary population represented 20 adults and three children. None of the burials were arranged in any particular fashion, but instead it seemed that they were all haphazardly placed in the ground, some of them lying on top of others. There were almost no grave goods found among the burials, as if they were stripped of all their belongings before being thrown into a pit and buried. The only exception to this was the discovery of an ear spool made of stone and three arrow points. All three of the arrow points could be typed as Perdiz, and were found lying in the thoracic region of one skeleton. One of the points appeared to have entered the individual directly from the rear where it seems to have lodged in the intervertebral cartilage between the 9<sup>th</sup> and 10<sup>th</sup> thoracic vertebrae. The remaining two points were in positions suggesting that they may have glanced off of bony structures and apparently did not penetrate the thorax (Meroney 1936:59).

The Asa Warner site is a cluster of four open campsites (site numbers 1, 2, 11, and 12) found on a small rise that projects outward onto the floodplain of the Brazos River a few miles southeast of Waco near the town of Downsville (Watt 1956; Wright et al. 1997). The locality came to the attention of Frank Watt through artifact collectors who reported finding large numbers of potsherds in the plowed field that then encompassed the local area of the site. In May 1941, the Central Texas Archeological Society undertook excavations at site number 2, which was located along a narrow sandbar situated on the west shore of an oxbow lake. The excavations took the form of several hand-dug test pits and trenches that stretched in a line measuring about 80 meters long. The excavations exposed an occupation zone consisting of a layer of dark ashy soil that extended from the surface down to a depth of 0.5 meters that contained flint chips, burned rock fragments, snail and mussel shell, along with occasional Caddoan decorated pot sherds, a few dart points, but mostly arrow points and bifaces. Below the occupation zone to a total depth of 1.4 meters below surface was sterile yellow sand from which five burials were documented lying at depths of 0.9 meters below the surface. Based on diagnostic artifacts found in association, two of the burials could be temporally assigned to the Toyah Interval.

The first of these, Burial #53, was found during the excavation of trench 10. It consisted of a male, aged 25-30 years who was found in a pit, flexed, lying on his left side with the knees at right angles to the spine and with the heels jammed up against the buttocks. The body was oriented along a northwest to southeast axis with the head at the northwest end of the skeleton. The skull was turned up with the face pointing northeast. The upper arms were pressed alongside the body with the right forearm at a right angle to the body and the left extending down as if touching the knee. Seven Perdiz arrow points were found in association with the burial. One was found in the chest cavity behind the



sternum, while a second was resting along the right humerus and pointing backward. A third was inside the thorax resting against the left rib, while two were in the abdominal cavity. Of the remaining two arrow points, one was over the right shoulder and the other was positioned over the right hip. Three of the points were complete, while four exhibited some damage expressed as broken tips, barbs, and stems. A second Toyah-age burial was found during the excavation of test pit 12. It was in a poorer state of preservation than the others, but enough of the burial remained to allow its description. Like Burial #53 this interment, Burial #54, was also flexed with the legs out at right angles to the body and the heels tucked up against the buttocks. In contrast to Burial #53, this burial was lying on its right side. Two projectile points were found in positions relative to the skeleton, which suggested that they were embedded in the body and likely the cause of death. One was a rather large dart point similar to a Gary that lay inside the left thorax, apparently entering from the side and ranging upward into the left lung. The other projectile was clearly a Perdiz arrow point that was found lodged in the left arm socket (Watt 1956:15).

#### **UPPER NAVASOTA BASIN**

Along the eastern margin of the Toyah Cultural Sphere in the Navasota River Basin, several Toyah-age inhumations were documented at a number of sites in the Jewett Mine/Lake Limestone areas. Site 41LT12, the Old Union Bridge Site, is a residential base camp located on the banks of the Navasota River in Limestone County. A concentration of human teeth and some fragments of a mandible were found in the Toyah component of the site. Although no grave pit was discernable, Toyah-age deposits recovered from the site include Perdiz and Clifton arrow points and a large number of ceramic sherds representing a single Poyner Engraved vessel. Additionally, three

fragments of a clay short-stemmed elbow pipe were also found in the Toyah component of the site (Mallouf 1979:15).

Another burial was discovered at the Cottonwood Springs Site (41LN107) in Leon County in the Navasota River basin along Lambs Creek. Primarily interpreted as a late Archaic/early Woodland cemetery containing the remains of at least four inhumations and three cremations, a single flexed burial identified as that of an adult male was found isolated from the other interments at the site (Feature 11). Although the skeleton was in a poor state of preservation, there was enough of it remaining to say that the individual was lying on his left side with the head oriented to the northwest. No evidence of a burial pit could be discerned, nor were there any grave goods found in association with the skeleton. A sample of bone taken from the burial yielded a radiocarbon date with a 1-Sigma calendar calibration of 1400-1441 CE, and with a  $\delta^{13}\text{C}$  value of -21.1, suggesting that it was unlikely that the individual's diet centered around maize and therefore, indicating that he was more accustomed to a hunter-gatherer way of life (Fields and Klement 1995:63).

A third burial recorded within the Jewitt Mine area was documented at the Moccasin Springs Site (41LN247). The site is largely a buried occupational debris midden situated on a small toeslope that extends onto the floodplain of Silver Creek. The interment (Feature 16) was found in a burial pit that extended in profile from about the center of the midden deposit down into the underlying bedrock (the Carrizo Sand Formation). It consisted of a poorly preserved skeleton represented by a highly fragmented skull, mandible, several teeth, and a few limb bones, but as most were in anatomical position the interment was described as that of an older adult male who had been placed in the pit on his left side in a tightly flexed position with the head pointing north (Figure 5-5). Although no grave goods were found with the interment to assist in

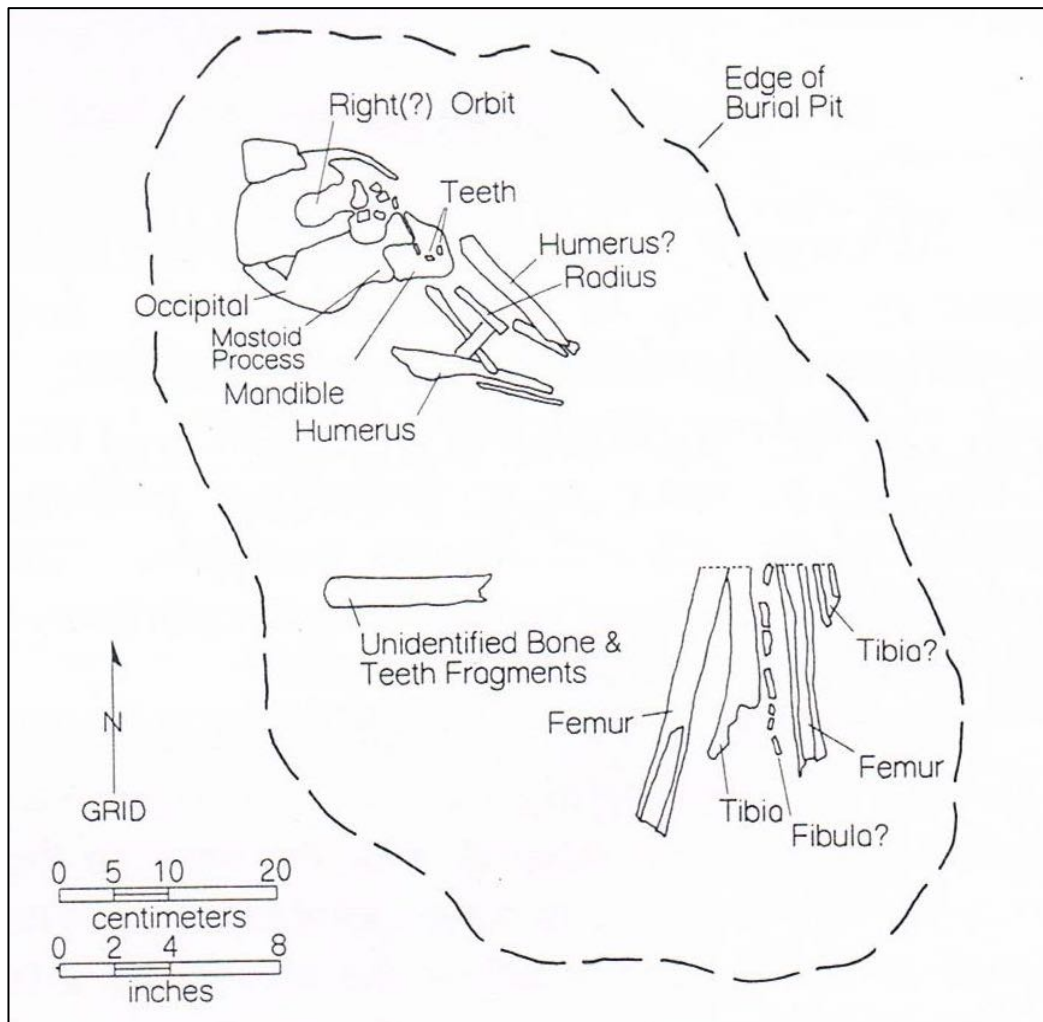


Figure 5-5: Flexed burial (Feature 16) found at the Moccasin Springs Site (from Fields et al., 1991:441)

assigning a temporal context to the remains, a fragment of bone was submitted for radiocarbon analysis resulting in a 2-Sigma calibrated age of 1160-1430 CE. Like the burial found at the Cottonwood Springs Site, these remains produced a  $\delta^{13}\text{C}$  value (-22.4) indicating a diet inconsistent with the consumption of maize, suggesting that this individual likely led a more mobile lifestyle (Fields et al. 1991:230).

Further down the Navasota River basin near its confluence with Gibbons Creek in Grimes County, a single interment was uncovered at site 41GM205. The inhumation was that of a female aged 25 to 35 years. The body was found lying on its left side in a semi-flexed position with the head oriented to the west. A large portion of the skeleton was present except for the thorax, which had been intersected by a pit sometime during its burial history. Since no grave pit could be discerned it was difficult to associate a few sand tempered pottery sherds found centimeters above the cranium as grave goods. Despite this, it was inferred that two features (a cluster of nutting stones and a small cluster of burned sandstone) found just above the burial were contemporaneous with the interment. Matrix collected around the remains produced a humate date of 610+/-90 years B.P., that was calendar calibrated to between 1250-1430 CE. Isotope analysis of the bone indicated that the individual's diet did not likely involve maize, but mostly C3 plants, and animals that consume these types of plants such as deer. This suggests that this individual practiced a hunting and gathering way of life (Rogers 1993:186).

#### **LLANO RIVER BASIN**

Located on a prominent limestone bluff overlooking the confluence of Threadgill and Onion creeks in Gillespie County is the Lehmann Rockshelter (41GL1) (Kelley 1947). The opening of the shelter faces southwest and measures about 240 feet wide, and is cut back into to the limestone bluff at a distance ranging between four and 60 feet from the bluff face. The unexcavated floor of the shelter in relation to the ceiling stood from eight to 12 feet high from back of the shelter to the front. Almost two-thirds of the back wall and ceiling of the shelter were covered in mostly red (some black and some white) pictographs consisting of anthropomorphic and zoomorphic figures (the latter being mainly motifs representing deer and birds), as well as parallel lines, circles, circles with

dots, long wavy or zigzag lines, dot designs and a motif that appears similar to a Southwestern-style stacked rain cloud. Fallen limestone slabs marked by some mortar holes were positioned intermediate between the fine-grained deposits of the back of the shelter and a small accumulation of boulders that were mounded along the front opening. Undertaken by a small crew led by A. M. Woolsey beginning in December 1935 and lasting through January 1936, excavations at the shelter resulted in the definition of three stratigraphic zones, the uppermost of which dated to the Toyah Interval that contained two red-washed bone tempered pottery sherds, mostly Perdiz and Clifton arrow points with a few Fresno, Garza(?), and Harrell (?) points together with scrapers, stone drills, and knives. A single interment of a young adult female was found dug through the Toyah zone and inset into the upper 10 or so inches of the underlying stratum. The body was lying on the right side with the legs loosely flexed and the arms folded up on the chest. The head of the burial generally pointed east and rested directly on a small boulder with the face turned to the north. Large, flat stones were placed on end around the head and feet, and a large stone slab lied on top of the burial. Over this there were two large stones that were tilted at an angle. The only offering associated with the skeleton was a small tubular bone bead found on the left foot or ankle (Kelley 1947:123).

#### **UPPER SAN ANTONIO BASIN**

In the fall of 1995 human remains were discovered eroding out of the edge of a gravel and sand quarry near the confluence of Medio Creek and the Medina River in Bexar County by members of the South Texas Archeological Association. The site was recorded as 41BX568 and named the Coleman Site after the landowner. Subsequent salvage excavations discovered that it is a prehistoric cemetery with sixteen graves containing the skeletal remains of at least 20 individuals (Potter et al., 2005). A little

over half (n=12) of the individuals had all or most skeletal elements represented, and based on the analysis of the remains the demographic profile included six adult males, four adult females, and of those where sex could not be determined, these included two adults, five subadults, and two neonates. Seven of the interments were clearly placed in pits in a flexed position and lying either on their left or right sides, and many of these had capping stones placed on top of the burials. One of the elderly males exhibited severe degeneration of the spine indicative of hard labor/carrying heavy loads, while one adult female had healed fractures in both her lower arms. Based on the discovery of a Scallorn arrow point with impact damage found in a fill deposit near one of the adult male skeletons, it was speculated that this individual might have sustained an arrow wound; however, this could not be clearly substantiated. Although the Scallorn arrow point found at the site seems to place the cemetery within the Austin Phase, radiocarbon dates obtained on charcoal from two thermal features and on bone collagen from seven of the burials indicate that the 2-sigma calendar calibrated age range of the site spans from 1225-1445 CE (Mauldin et al. 2013:1375; Potter et al. 2005:25).

#### **UPPER COLORADO BASIN**

On one of his many investigations in the Abilene area in the mid 1930s, Dr. Cyrus Ray reported a burial site in Mitchell County that based on artifact associations appeared to date to the latter part of Toyah Interval. During the summer of 1935, while examining a number of individual interments on Mr. E. W. Douthit's ranch near Colorado City, Dr. Ray and his associate Mr. M. B. McClure happened upon what they described as a small shelter located along a bedrock exposure that outcropped about half way up the south side of a small mountain. A large boulder blocked a considerable part of the shelter's entrance, but after squeezing through the small opening both men dug into the floor at the

west end of the shelter and discovered the charred remains of a cremated adult. Although scorched, the long bones of the skeleton were nearly intact, and by their configuration in-situ it was determined that the individual was laid in the shelter in a flexed position. Ray noted that he recovered four serrated arrow points and one heavily rusted metal button in association with the interment (Ray 1936:15). The photograph of the arrow points in Ray's article appears to represent the Perdiz type, and this along with the metal button suggests an early proto-historic affiliation. Although Ray questioned the depositional context of the button, he recalled that in another burial he investigated near Abilene he had not only found the same type of serrated arrow points, but also a cobalt glass bead in association with the remains. This bead was later verified as a type of Venetian glass that had not been made since the seventeenth century (ibid:15). Taken together, the contexts of both burials provide strong evidence in support of a late Toyah temporal association for these interments.

Along the Callahan Divide a few miles north of the town of Robert Lee in Coke County occurs a rather expansive lithic quarry/workstation that lies on top of a low prominence that overlooks Messbox Creek, a seasonally dry headward-cutting tributary of the Colorado River. Named the Pamela Underwood Site (41CK275) after the former property owner, the cultural manifestation consisted of numerous fragments of lithic debitage mixed among naturally occurring chert nodules, some of which had been tested. Although the majority of site can be described as a light to moderate scatter, the lithic material was mostly concentrated at the portion of the landform that overlooks Messbox Creek. In the middle of this concentration, and with good views of the surrounding landscape, was a small circular rock ring structure. The structure was comprised of a mounded ring of locally occurring, tabular limestone rock measuring approximately 3 meters in diameter along its outside edge (Figure 5-6). This rock ring encircled a slight



Figure 5-6: Rock ring structure at the Underwood site (photo by author)

interior depression that measured approximately 2-meters across. The author, with the assistance of several members of both the Iraan and Concho Valley archeological societies, undertook the excavation of the structure in the summer of 2015. The excavations revealed that the structure was built of as many as three courses of dry-stacked stone with a 0.6-meter wide opening oriented southwest. The feature's central depression extended below the natural ground surface forming a shallow pit that was apparently dug into the soft underlying bedrock to a depth of around 0.3 meters below surface. Artifact materials recovered in and around the structure included numerous fragments of debitage (represented primarily by decortification flakes), some expedient



flake tools, blades and microblades. Examination of a stone-lined cyst extending out from the exterior wall to the northwest led to the discovery of three arrow points of which one was identified as a Perdiz, another a Harrell, and a triangular point with a concave base and a single side notch (possibly a Guerrero with a token notch), all found within the interior of the cyst. In addition, several poorly preserved human bone fragments and two human molars were recovered near the bottom of the feature's central depression. A fragment of bone was submitted for radiocarbon analysis and produced an AMS date of 644 +/- 29 BP, which based on the Oxcal method calendar calibrates at the 2-sigma range to 1282-1395 CE (unpublished data in possession of author).

In the upper Colorado River valley at Lake E. V. Spence in Coke County, human remains were reported by the lake ranger eroding out of the shoreline. Although local collectors had removed one of the burials, salvage excavations conducted by the Midland Archeological Society under the direction of M. B. Collins documented a second interment. After arriving at the site (41CK217), the investigative team examined the lakeshore and the remains were observed eroding out of a vertical cut bank exposed by wave action along the shore, and rather than being placed in a burial pit, it was concluded that the interments were carefully laid in a gully and then covered over with soil and about 20 small to medium-sized boulders. Upon removal of the overburden, a partially articulated skeleton was discovered, including portions of the lower thoracic vertebra and ribs, the lumbar vertebra, left leg and foot, and a portion of the left arm. Other elements such as the occipitus of a skull, a right hand, a right foot, and fragments of the pelvis were present but had been disturbed. The position of the articulated skeletal elements suggested that this young adult was tightly flexed and lying on their right side at the time of burial. Although no grave goods were evident, five arrow point fragments were found in the lower thoracic/lumbar region of the interment, and it was suggested that the

projectile fragments were the likely cause of death. One arrow point fragment was a distal tip of an unknown type. Three were proximal fragments representing side-notched triangular forms similar to Washita points, while the fifth was a multiple side-notched form similar to the Huffaker point type from Oklahoma. Although it was suggested that burial dates from around 1100 to 1550 CE (Collins and Caddell 1984:102), if the identification of the Huffaker point is correct, then such an assemblage of arrow point types indicate that the burial is likely contemporaneous to the Washita River Phase, which dates from 1250-1450 CE (*ref.* Brooks 1989:78-79).

#### **THE SALT CEDAR SITE**

In the upper reaches of the Colorado River up on the southern edge of the Llano Estacado, the main channel of the river diffuses into multiple draws punctuated by playa lakes. Andrews Lake is one of these draw-fed playas and along its shoreline lies the Salt Cedar Site (41AN2). Known to local artifact collectors for some time, excavations at the site were eventually undertaken in 1965 and 1966 by the Midland Archeological Society under the direction of Michael B. Collins, who documented a number of semi-permanent dwellings, stone walls, several clay-lined and stone-lined hearths, caches, bone concentrations, and several burials. Collins tentatively assigned the site to the Ochoa Phase (1300-1450 CE) of the Eastern Jornada Mogollon tradition, but also it was clear that a plains assemblage was present. This assemblage was marked by a mix of arrow point types consisting mainly of Fresno, Harrell, Washita, and Perdiz associated with an equally mixed pottery assemblage comprised mainly of Ochoa Indented Brownware, late Puebloan glazewares, and Henrietta Phase pottery (Nacona Plain). All this suggests that the site may have served as a seasonal rendezvous for both Pueblo and plains hunters. Four burials were documented, two of which (Burials 2 and 3) were clearly associated

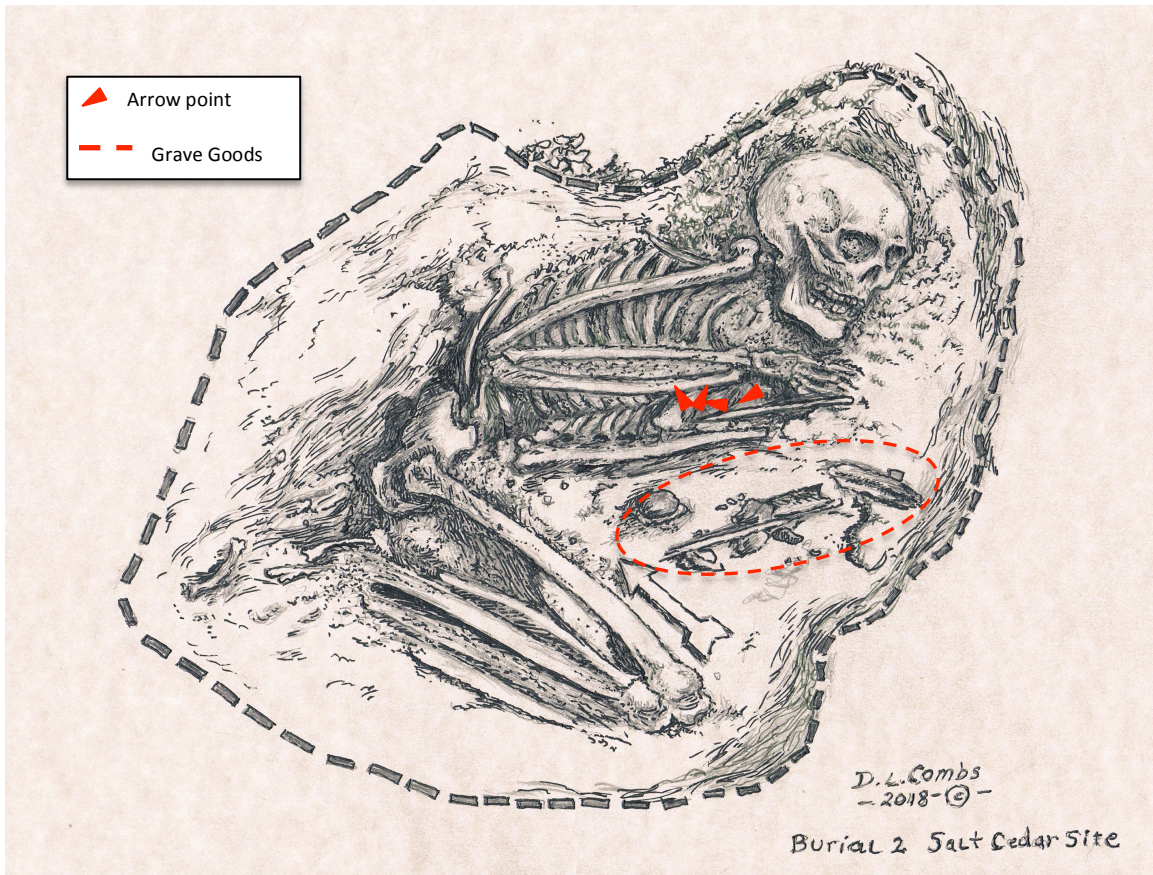


Figure 5-7: Burial 2 at the Salt Cedar Site (illustration prepared for author by D. L. Combs)

with the latter occupation of the site. Burial 2 was that of an adult male, age 40+/-5 years that had been laid into a conical burial pit in a loosely flexed position on his left side (Figure 5-7). The skull was pointing northeast, with the face oriented to the southeast. The legs extended at a 90-degree angle to the spine with the heels tucked under the buttocks. The lower arms were bent at the elbows and laid along the chest with the hands lightly clutched and lying in the vicinity of the neck. A small cluster of items was found resting near the chest of the individual, suggesting that they were once in a perishable container that roughly measured 1.0 x 0.3 feet in size. These items included one bone



Figure 5-8: Grave goods from burial 2 at Salt Cedar Site (photo by author)

awl, two notched scapulae, a sphere of cancellous bone, four flakes, a couple of scrapers, a fragmentary dart point, a fragmentary arrow point, and three pieces of hematite (Figure

5-8). There were as many as six arrow points (Harrell and Washita) in association with the burial, five of which were found in the thoracic region of the skeleton, and are believed to have been the cause of death. Two of the points found inside the chest cavity were oriented in such a way as to suggest that the arrows entered the individual from the back. Two additional points found near the thorax appear not to have entered the chest cavity, but instead may have glanced off bony structures. A fifth point fragment was found embedded in the centrum between the third and fourth lumbar vertebrae, and it too seems to have entered the individual from the back. This individual also displayed evidence of head trauma indicated by a puncture wounds on left and right parietals accompanied by cut marks across the frontal and right temporal cranium. In addition, many of the bones showed evidence of being burned, particularly those in the feet, the epiphyses of the long bones, as well as the sternal ends of the ribs (Collins 1968:64; Jackson 1986).

The individual designated Burial 3 also seems to have met an untimely death due to arrow point wounds. The body was buried in a pit with vertical walls. This adult male individual was lying on his right side in a semi-flexed position. The long axis of the body was oriented northeast/southwest with the cranium on the southwest end and facing southeast. The legs were at right angles to the body with the lower leg tucked underneath, with the heels almost touching the buttocks (Figure 5-9). Grave offerings included numerous *Olivella* shell beads and a *Canis sp* (?) terminal phalange that were positioned near the hands, possibly representing the remains of a bracelet or a necklace. Two fragments of hematite were found underneath the right arm, and a sphere of green pigment was found lying against the spinous process of the third and fourth vertebrae (Figure 5-10). Nine arrow points were found associated with the interment, six of which

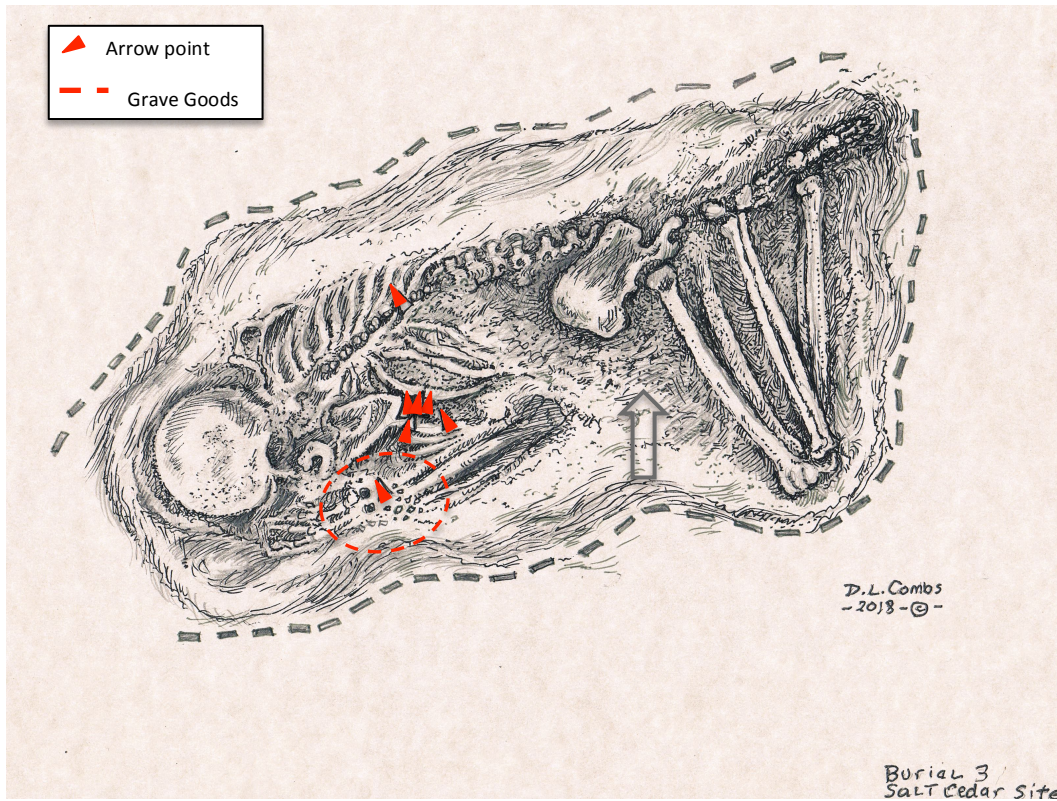


Figure 5-9: Burial 3 at the Salt Cedar Site (illustration prepared for author by D. L. Combs)

were tips of projectiles that were embedded in various places in the body: a fragmentary side-notched point found in the left wrist and another one at the inferior margin of the sternum. A number of stemmed points was found: one embedded in the centrum of the eleventh thoracic vertebra, another at the anterior margin of the thoracic cavity, and four more arrow points were found inside the chest cavity. Enough of one of these points was left to identify it as Perdiz (Collins 1968:69).

### **BLOOM MOUND**

In the Roswell area of southeastern New Mexico and near the confluence of the Hondo and Pecos rivers, is a small village site known as Bloom Mound (Speth and



Figure 5-10: Grave goods from Burial 3 at the Salt Cedar Site (photo by author)

Newlander 2012). Amateur excavations have occurred intermittently at the site since the 1930s, uncovering a pueblo ruin comprised of nine contiguous rooms and an adjacent “ceremonial structure”. The resultant assemblage from the site was quite remarkable. It was comprised of many non-local items ranging from foreign pottery, marine shells, obsidian, turquoise, and copper bells. Even more important, the excavators reported that the village appeared to have met an abrupt end due to a raid, as many of the rooms seemed to have been consumed by fire, and sprawled out along several of the room floors were numerous human skeletons, many of which were also burned (Kelley 1984:437). Beginning in 2000, a series of subsequent excavations were undertaken at the site by the

University of Michigan, and as many as ten to fifteen additional rooms were discovered along with six inhumations. All six burials were tightly flexed and placed in pits underneath room floors.

At least three individual burials showed clear evidence of a violent death. One individual, a 35-45 year old male, exhibited depressed fractures on the skull and was missing part of his facial structure, indicating that he had received a crushing blow to the head and face. Two other individuals also had evidence of violent death: one, an older adult male (aged 40-45 years), had a Perdiz arrow point in his abdominal area; and a Washita arrow point was discovered in the body of an infant (3-12 months old). Other burials also exhibited a considerable amount of facial bone loss, suggesting that they too may have received a traumatic blow to the face; however this could not be conclusively substantiated (Speth and Newlander 2012:171-172).

#### **TRANS PECOS AND THE RIO GRANDE**

The Rough Run site is situated in southern Brewster County within the boundaries of Big Bend National Park (Cloud 2002). There it can be found as a large concentration of over 100 individual hearths scattered across an expansive, relatively flat sandstone ledge measuring approximately 1.6 hectares in size that is strategically positioned at the confluence of several arroyos. Among the many hearths there was one stone feature that looked similar to a hearth but the stones used in its construction were not from the local area nor did they show evidence of significant burning. The feature consisted of a small pavement of stones, measuring approximately 1-meter in diameter, that were somewhat closely packed together. About 2-meters outward from the center of the pavement was a discontinuous crescent-shaped ring of rock fragments surrounding the central core of the feature from 6 to 3 o'clock. In addition, two unburned Perdiz arrow points were found on



the surface adjacent to the feature's central core. Excavation of the feature resulted in the discovery of an oval to circular burial pit. The dimensions of the pit measured approximately 75-cm in diameter near the top, and gradually tapered downward to 60-cm in diameter upon reaching a maximum depth of 83-cm below surface. The upper 60-cm of the pit was essentially plugged with as many as 300 tabular stones. An incomplete skeleton of a 35-year-old male, consisting of all major long bones as well as the skull was encountered both within the stone plug of the pit and below it (Figure 5-11). Both femoral heads were found to exhibit evidence of cut marks, suggesting that the remains represent a secondary burial. Also found within the burial pit fill were 64 Perdiz arrow points, a Harrell arrow point, a blade, a micro blade, and a tertiary flake (Figure 5-12). About two-thirds of the arrow points exhibited evidence of snap fractures that led the investigators to suggest that the breakage of the points was perhaps part of the funerary rite. Two radiocarbon age estimates taken from charcoal samples found among the remains place the age of the burial between 1440 and 1460 CE. Cloud (2002:74) suggested that the Rough Run burial was most likely associated with the Cielo Complex.

South of the Rio Grande River in eastern Chihuahua near the town of Paso de San Antonio (also known as Las Haciendas) lies a 2-km long cuesta that overlooks the town from the north. At the western end of this prominent landform local relic hunters discovered and subsequently looted a large rock cairn containing a burial that had been placed there several centuries before. Robert J. Mallouf, the State Archeologist for the Texas Historical Commission, learned of the burial and traveled to Las Haciendas in the summer of 1986, and upon his arrival he met with one of the relic hunters who accompanied him to the site. At the site, Mallouf (1987) reported that there was a large ring of loose stones that surrounded a small oval pit, measuring 1.5-meters long and no more than 0.25-meters in depth, that had been dug into the soft limestone. Apparently,

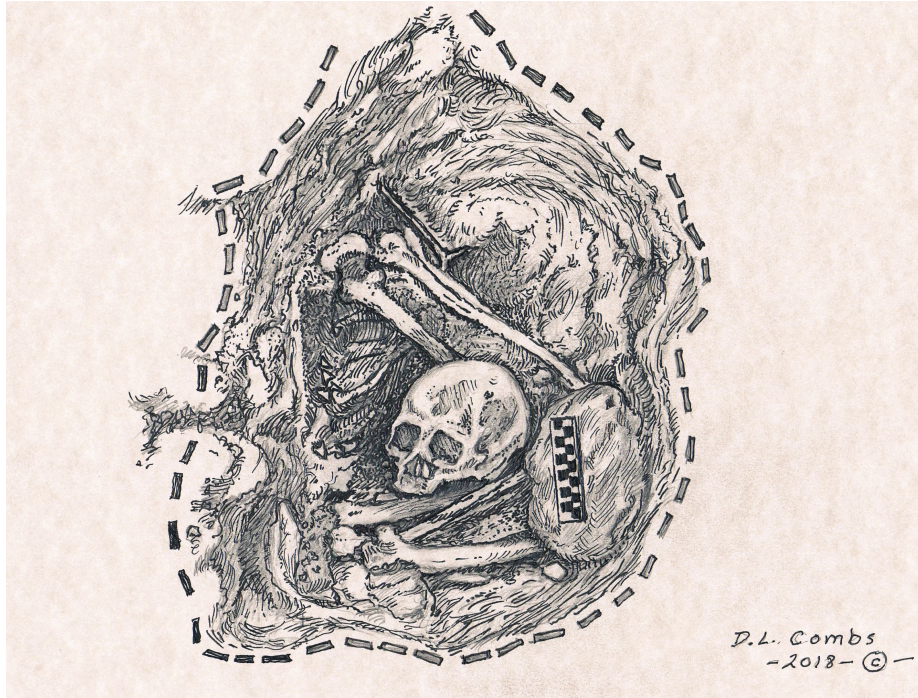


Figure 5-11: The Rough Run Burial (illustration prepared for author by D. L. Combs)

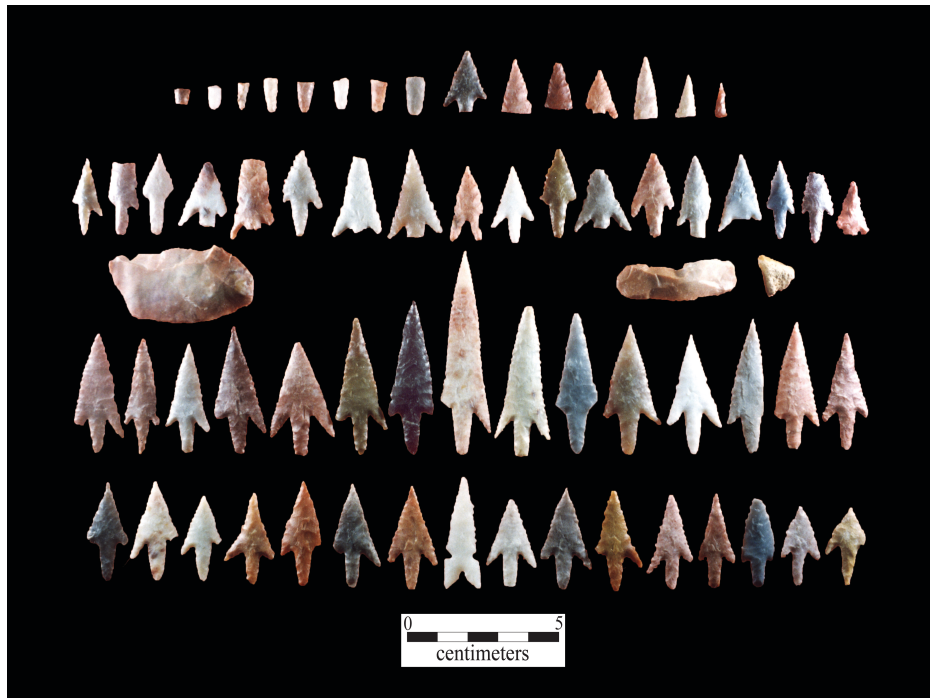


Figure 5-12: Grave goods from the Rough Run Burial (photo courtesy of the Center for Big Bend Studies)

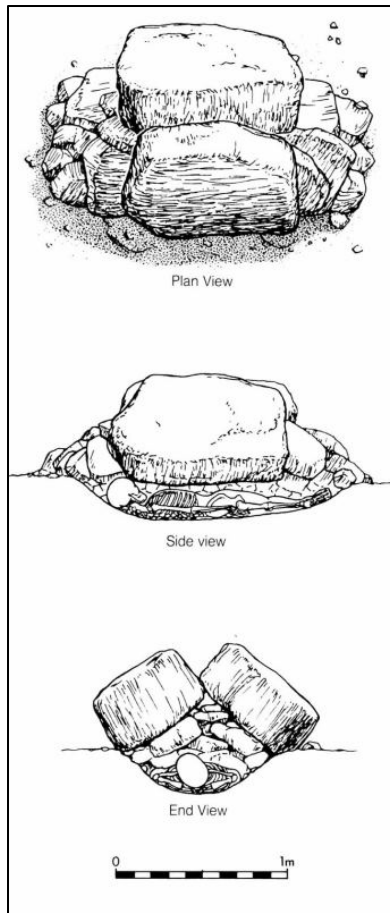


Figure 5-13: Reconstruction of the Las Haciendas Burial (from Mallouf 1987:15)

this pit contained the remains of an unsexed adolescent who was found lying on its back with the knees slightly flexed and oriented along a north/south axis with the skull positioned at the south end of the pit<sup>1</sup>. The informant explained that when he and his accomplices found the burial many of the rocks that surrounded the oval pit were stacked neatly on top of the skeleton forming a low cairn (Figure 5-13). He noted that capping the top of the cairn were two large rhyolite slabs that were placed in “tent-like” fashion effectively sealing the burial. Associated grave goods included 194 arrow points (180 Perdiz, nine Garza, two Fresno, two Side-Notched, and one Toyah), one small green

malachite pendant, and a kaolinite bead (Figure 5-14). According to his informants almost all of the projectile points and the malachite bead were found just below and on either side of the skull. Although cautious, Mallouf posited that based on the dental evidence, it was possible that the grave included a second individual. In any case, he reasoned based on the temporal information provided by the collection of arrow points that the burial dated from about 1500 to 1750 CE, and that it reflected a mortuary pattern consistent with the Cielo Complex (Mallouf 1987:64-65).

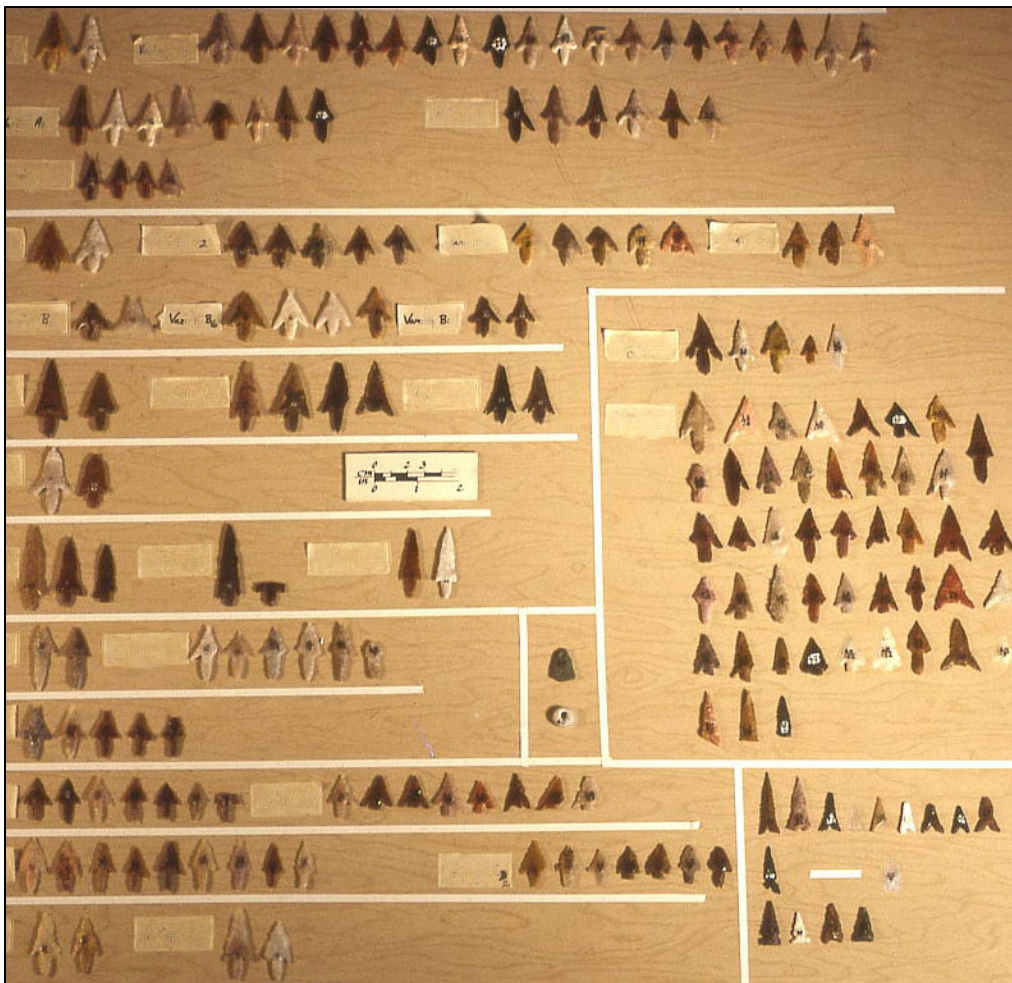


Figure 5-14: Grave goods from the Las Haciendas burial (from Texas Beyond History website)

The Palo Blanco Site (41PS1005) is a prehistoric open campsite consisting of a burned rock midden, a hearth, and an associated lithic scatter located along Arroyo Palo Blanco in Presidio County. In February 2007, acting on a tip from a local landowner who reported a human burial eroding out of the vertical arroyo cut, a team of archeologists from the Center for Big Bend Studies visited the site, examined the find and conducted a salvage recovery of the burial. The burial lay at the edge of the aforementioned burned rock midden, and midden fill consisting of sandy silt with small pebble inclusions mixed with charcoal flecks and an occasional river cobble. The midden fill was removed and a layer of large to medium-sized stones and highly mottled soil was encountered. Only after the removal of the overlying stones could the outline of a burial pit be discerned. Lying in the pit in a flexed position was the almost complete skeletal remains of a single human interment. The individual was placed on their left side with the head oriented to the southwest, and subsequent analysis showed that the interment was that of a 45-59-year-old female. Although a number of lithic artifacts were found during the excavation of the burial, none of these items were found inside the burial pit and were hence considered not to be associated with the interment. Nonetheless, carbonized wood was found surrounding the burial and macrobotanical analysis of a sample of this material identified willow, a common wood species used in basket-making. A charcoal sample taken from the fill that surrounded the burial produced a two-sigma calendar calibrated date of 1220-1300 CE (Piehl 2009:110).

Ghost Ridge is a relatively flat and narrow ridgeline of deteriorating conglomerate bedrock that roughly trends along a north-south axis, overlooking an elevated grassland basin in Brewster County. In 1968, local relic hunters were inspecting one of many rock crevices along the ridgeline and in one of the crevices they happened to observe an accumulation of human skeletal remains. The remains were recovered along with their

associated grave goods and were remarkably kept separate from the other artifact collections that the relic hunters had accumulated over the years. In 2005, the Center for Big Bend Studies acquired the remains from the descendant of one of the relic hunters, and conducted a field reconnaissance in an effort to relocate the site. The site relocation effort concluded with the identification of the burial crevice, which was roughly oriented east/west and measured ca. 1.0-meter-wide by 2.55 meters long, and had a post excavation depth of 1.75 meters. A pile of stones found nearby attests to the notion that the crevice was probably sealed.

Subsequent analysis of the remains resulted in the identification of a minimum of eight adult and subadult secondary interments in various degrees of completeness. A two-sigma calibrated age estimate taken from a bone collagen sample from Individual B, a 16-18-year-old female, dated between 1170-1280 CE. Grave goods were comingled, so it is unclear as to which items were associated with which interment; nonetheless, items recovered from the crevice include stone tool debitage, a number of thin and thick bifaces, two dart points, a Perdiz arrow point stem and two preforms, shell beads and pendants, and the skeletal remains of numerous small animals (Piehl and Mallouf 2013:46).

The Wroe Ranch Shelter is located in northern Terrell County along a ridgeline that overlooks Dry Creek, a tributary that flows into the Pecos River some 10 miles downstream. Following reports that relic hunters had uncovered the mummified remains of a child burial at the site in 1986, the landowner confronted these individuals, recovered the remains, and turned them over to the Witte Museum for investigative analysis. The relic hunters reported to the museum personnel that the burial was found in a grass-lined grave pit that was defined by bent sotol stalks that formed somewhat of a three-sided enclosure around the remains. According to their account, the body was in a flexed

position and covered by an antelope-skin robe, two mats, a large rock, and several prickly pear pads. Analysis of the remains concluded that the body was that of a 9-12-year-old child who apparently suffered from severe malnutrition. Radiocarbon measurements made from the burial produced an age of 660-670 B.P. with a calendar calibration of 1280-1290 CE (Turpin 1998:26).

Later, archeologists working for the University of Texas Lands-West Texas Operations organized data recovery excavations at the site in 1996, and found that the site contained a wealth of data with regard to rare and unique perishable archeological materials such as sandals, fiber mats, and basketry. Excavations at the shelter resulted in the documentation of 28 cultural features ranging from clusters of burned rocks, ash pits, and most surprisingly, pits lined with preserved vegetal matter. Amazingly, among a concentration of these grass and prickly-pear-pad lined pits, a second bundle consisting of a tanned antelope hide robe stuffed with hair and bound with a leather cord was found resting within the pits. Although no human remains were found inside the bundle, based on its size and shape it was considered to be the burial shroud of an infant who had been placed in these pits some 2,000 years prior. Other human skeletal elements were found scattered throughout this area of the shelter, and were considered to represent the remains of at least two other sub adult individuals (Turpin 1998:26).

The Bravo Valley Aspect of the La Junta District refers to an archeological phenomenon comprised of a number of Late Prehistoric semi-sedentary village sites located around the confluence of the Rio Grande and Conchos rivers in the western portion of the Trans-Pecos region. Much of what we know about the cultural developments of this particular archeological manifestation originates from five sites that were initially investigated in the late 1930s by J. Charles Kelley (1939; see also Kelley et al. 1940), namely Millington (41PS14), Polvo (41PS21), Loma Alta (41PS15), Williams

(41PS53) and Shiner. Two of the three cultural phases identified at these sites, the La Junta Phase (1200 – 1450 CE) and the Concepcion Phase (1450 – 1684 CE), temporally overlap with the Toyah Interval, as well as contain numerous elements of the Toyah material assemblage with concentrations of non-local and later local pottery assemblages, all distributed among rectangular semi-subterranean pit houses (Kelley 1986). In addition to this material, excavations conducted at these sites by Kelley and several subsequent investigators yielded a total of 25 interments to date, including 16 inhumations at the Millington Site (Kelley 1939, 1985; Cloud and Piehl 2008), two at Loma Alta (Holliday and Ivey 1974), five at Polvo (Kelley 1949, Shackelford 1951, 1955), and one at Williams and another at Shiner (Kelley et al 1940).

Burial data from these five sites have been discussed in Piehl (2009). In summary, of the 25 Bravo Valley Aspect mortuary contexts, all are single interments, and in those instances where the data are available, most (84%) were placed in pits underneath the floors of or adjacent to La Junta Phase or Concepción Phase structures, while a lesser number (16%) appear to be associated with midden deposits. Body position is decidedly flexed or tightly flexed, and supine positions (69%) are favored over being placed on the side (23%). Cranial orientation roughly correlates to the age and sex of the individual, with the heads of adult males primarily pointing in an arc within 45 degrees of due north, while those of adult females point in an opposite southerly arc. Recent data from the Millington site indicate that capping stones or loose cobble cairns were placed above burial pits, perhaps as a way of sealing the grave. Grave goods are sparse and were only accounted for in three of the interments.

Although she recognized the dangers of drawing foregone conclusions from such a small sample, Piehl (2009) identified some interesting preliminary trends in the La Junta data in comparison to those of the neighboring archeological cultures. First, she



proposed that the preference for subfloor interments and supine burial positions, together with the cranial orientation with respect to adult males and females, appeared to reflect a discrete and separate mortuary tradition from that recognized within the larger regional area. This, she surmised, indicated that La Junta society was an independent local development unrelated to those of the Jornada Mogollon and other surrounding developments recognized for the Eastern Trans-Pecos and the Lower Pecos areas as originally proposed by Mallouf (1993, 1999). In terms of skeletal pathologies, Piehl noted elevated levels of cranial porosity, infections, and dental hypoplasia in both the adult and subadult specimens in the La Junta sample, which was a pattern not as prevalent in the hunter-gatherer populations to the east, yet also not as pronounced in relation to the more sedentary groups to the north. Another area where the La Junta data appear to diverge from regional trends in village settlement is born out by the isotopic data, which indicate that the inhabitants depended very little on a maize diet, and that this taken together with the high instances of trauma evident in the lower extremities of the La Junta skeletal sample suggest that La Junta villagers were likely much less sedentary than their village-dwelling El Paso Phase neighbors to the north. This finding is supported by the ethnohistoric evidence, which characterizes the La Junta villagers as a largely semi-sedentary population that would frequently range far afield not only to supplement their diet, but also to engage in warfare, as well as maintain trade relations with other more mobile groups to the east (Kenmotsu 1994, 2001; Wade 2003).

#### **STATUS AND INEQUALITY IN THE MORTUARY SAMPLE**

All burial data summarized above were tabulated in accordance with sex, age, burial context, head orientation, and position to facilitate comparison of the data and identification of mortuary patterns (see Appendix A). As stated before, because the

Toyah tool kit was adopted widely by both mobile foragers as well as by semi-sedentary village dwellers, this offered an opportunity to compare and contrast the burial data from both populations.

Although the sample is small and many of the individual skeletons were incomplete, the compilation and examination of the available data exposed some interesting preliminary trends in the mortuary data with respect to inequality and special status of the groups that occupied the Toyah Cultural Sphere. First, as expected, there are some clear differences as well as some marked similarities between the mobile forager data set and that related to village dwellers. Most obvious in the comparison of the two data sets is that forager populations appear to favor the placement of interments on their sides as opposed to the La Junta village sample where the preference is in the supine position. There seems to be no clear explanation for this difference or for that matter why individuals in the forager population are placed on either their left or right side.

The pattern of head orientation with respect to age and sex between the two data sets (mobile forager and villager) is surprisingly consistent, where the heads of adult males tend to be oriented in a northerly arc, while those of adult females largely point southerly. First recognized in the La Junta mortuary data by Piehl (2009:41), its continuity in the forager population suggests a common burial custom shared between the two populations, which may possibly point to a kinship relationship. It is unclear as to why a number of adolescents and adults from both populations fail to conform to this pattern, but this discrepancy in the data provides an opportunity to explore some intriguing possibilities.

With regard to the subadults, one possible explanation regarding head orientation with respect to sex could be a cultural expression of the fact that in most native groups, especially those that experienced high childhood mortality, the sex of an individual was

not determined until a certain age had been reached and/or the individual had undergone certain rites. Some supporting evidence for this is provided in the early European accounts that state that some Coahuiltecan groups marked the passage from childhood to adult with a tattooing ceremony (Foster 2008:92; Newcomb 1992:49-50). As for some of the adults not conforming to this pattern, this could perhaps reflect someone who lives outside traditional gender roles such as in the case of a transgender individual, or even a slave. For instance, Cabeza de Vaca refers to an event where he witnessed the marriage of one man to another and commented that such men dressed like women and did both women's work as well as fulfilling the roles of men to include "drawing the bow" (Favata and Fernandez 1993: 90; Krieger 2002: 211). Earlier ethnographic accounts referred to these individuals as *berdache*, a culturally inaccurate label later replaced by the term "two-spirit" people (Jacobs et al. 1997:3). In the case of slaves, ethnographic studies indicate that they could be employed at any labor task irrespective of their specific gender (Ames 1995:174; Brooks 2002:187), suggesting that these individuals were culturally genderless. Evidence that slaves were genderless can be traced back to Cabeza de Vaca when he writes that he was often put to the task of working hides by his Charruco masters (Krieger 2002:205), a job that at least among later Plains tribes was considered women's work (Fletcher and La Flesch 1972:342; Jablov 1950:20).

The placement of capping stones used to seal burial pits is a characteristic shared by both villager and forager populations. In the villager sample, capping stones either partially line the openings of burial pits and in some instances completely plug the upper part of the pit. In the forager sample, large stone slabs are laid on top of the burials and in some instances loosely stacked stones are used to mark interments. Cairn burials can include both primary and secondary interments, but crevice burials appear to consist of the latter exclusively. In the case of cairn burials, it has been suggested that in order to

construct such elaborate burial features as Las Haciendas and Rough Run, implies that the individuals interred perhaps held some level of special status indicating that their respective parent societies were at least organized at the band level (Cloud 2002:77; Mallouf 1987:66). Another salient facet of the forager data is that most burials tend to be single interments as opposed to being associated with a cemetery and it can be argued that single burials can point to an emphasis on the individual as opposed to a more communal mindset.

Cremations only occur in the forager data set and appear to be associated exclusively with subterranean features including rock shelters, caves, and rock crevices. This apparent association presents an interesting nexus worthy of further elaboration especially as it concerns the association of special status individuals, burial rites, and places of interment. For instance, in his writings, Cabeza de Vaca clearly associated cremation as the preferred burial practice used for healers: how the bones of the deceased were ground into a powder, and the following year when their funerary honors were observed this powder was mixed with water and consumed by the deceased's relatives. Two cremations occur in the forager data set, one an adult female found at Kyle Shelter, and another, a male, placed in a cave in Mitchell County. Very little is known about the cave burial in Mitchell County other than since it was reported as being in a flexed position, the individual was likely placed in the cave prior to being burned with his grave goods of four Perdiz points and one metal button. The cremated female at Kyle shelter was wrapped in a mat without grave goods and interred with a number of earlier burials dating to the previous Austin Phase.

Given the general lack of grave goods in the mortuary sample it would appear that the Toyah Interval populations in question perhaps measured the wealth and status of a particular individual in somewhat less material terms. Smith et al. (2010) evaluated

wealth transmission and inequality among contemporary hunter-gatherer populations and found that in addition to material forms, such as household goods, wealth was manifest in other ways including both embodied as well as relational forms. Embodied wealth refers to issues of somatic endowment including factors such as body size, health, physical strength, as well as cognitive ability, which in turn affect basic fitness components such as mortality and fertility rates, but also productive success (i.e. better hunting and gathering returns). Relational wealth, on the other hand, has to do with having a network of advantageous social relationships, such as in the case of being able to attract desirable marriage and exchange partners. All three forms of wealth exist together, but are expressed at different levels of importance within a given hunter-gatherer population. In the five contemporary hunter-gatherer populations Smith and his fellow researchers studied, on average embodied wealth was assessed by far to be the most important, with relational wealth coming in at a close second. In all of the populations studied, material wealth was decidedly the least important factor relating to the status of a particular individual (Smith et al. 2010).

The idea that status in hunter-gatherer societies depended more on embodied forms of wealth over material, could perhaps be one explanation as to why grave goods are significantly underrepresented in our mortuary sample. To assess whether embodied wealth may exist as a factor related to special status, I came up with a rough index for nutritional health using the available dental and other skeletal pathologies identified on 18 of the most complete skeletons in the sample. It has been shown that developmental dental pathologies such as hypocalcifications and hypoplasia on the enamel of teeth are conditions that roughly correlate with childhood malnutrition (Goodman and Armolegos 1985:479-480), while other non-specific skeletal lesions such as cranial porosity and more severe forms of hyperostosis have also been found to roughly correlate with

nutritional stress (Ortner and Eriksen 1997; Salvadei et al. 2001). Guided by these basic principles the nutritional index of each individual burial was assessed by assigning a number from 0-3, “0” being no incidences of abnormalities observed while an index of “3” was scored when all three pathologies (hypocalcifications, hypoplasias, and cranial porosity) were represented in a single individual and were therefore assessed as severe. Another index I calculated was related to the severity of osteoarthritis expressed in a particular individual, such that the higher the index on a scale of 0-3, the more severe the incidence of osteoarthritis. Although osteoarthritis can be caused by a number of factors including genetic makeup or old age, it has also been linked secondarily to degenerative joint disease and joint trauma caused by chronic occupational stress (Piehl 2009:60).

Though the sample is small and in some cases incomplete thereby preventing any sweeping conclusions, the available data present some preliminary patterns with reference to the population being studied (Table 5-3). First, it would appear that although malnutrition is a common malady in the early childhood years of both males and females, the data suggest that women experience it at higher levels earlier in life than males, suggesting that perhaps males had access to better nutrition than females especially during early childhood. In addition, although it would appear that osteoarthritis is severe in both sexes by age 50, it seems that women have higher incidence of the disease as young adults than do men in the same age bracket. These two trends taken together suggest that in Toyah society on average males not only had access to better nutrition than females, but also were subject to less chronic occupational stress. This pattern in the data is supported by several statements made by Cabeza de Vaca regarding the groups he lived among both along the Texas coast and further inland. On the Island of Malhaldo he says that, “the women do the hard work” (Favata and Fernandez 1993:59), and later while among an inland group, the Yguazes, he makes the following remarks:

Site	Burial ID	Sex	Age	Stature (cm)	Nutritional Index	Osteoarthritis Index	Trauma/Skeletal Pathologies
Waco Mass Burial <sup>1,2</sup>	Burial 44	F	16-17	-	-	0	-
Ghost Ridge <sup>3</sup>	Individual B	F	16-18	-	3	0	Healed porotic hyperostosis reflecting childhood anemia; Porosity in one cervical vertebra reflecting minor trauma
Waco Mass Burial <sup>1,2</sup>	Burial 35	F	18-20	-	-	2	Slight Degenerative Joint Disease (DJD) in spine
41GM205 <sup>4</sup>	Burial 1	F	25-35	156	-	3	Harris lines on tibiae suggesting chronic malnutrition in childhood
Millington <sup>5</sup>	2450A B3	F	35-45	-	3	2	Healed cranial porosity; healed rib fracture; Non-specific infections; Dental hypoplasias indicating severe childhood stress
Millington <sup>5</sup>	Burial 5	F	45-55	-	2	2	DJD primarily in ribs and vertebral column; Healed infection on maxillary sinus; Healed fracture left ulna and radius
Palo Blanco <sup>6</sup>	Palo Blanco Burial	F	45-59	-	3	3	DJD primarily in spinal column; hypoplasias on molars indicating childhood stress
Waco Mass Burial <sup>1,2</sup>	Burial 39	M	20	-	-	0	Minor bowing of tibiae suggesting early rickets
Rough Run <sup>7</sup>	Cairn Burial	M	35	165-173	0	1	Slight DJD in lower extremities; minor trauma to right patella
Millington <sup>5</sup>	Burial 2	M	30-40	-	2	2	Healed porotic hyperostosis; Periostitis in left ulna indicating healed injury
Millington <sup>5</sup>	Burial 4	M	35-40	-	2	2	Healed cranial porosity; DJD primarily in spine; healed periostitis in lower legs; localized trauma in foot
Salt Cedar <sup>8</sup>	Burial 3	M	35-40	170	0	0	Arrow wounds to chest and left wrist
Salt Cedar <sup>8</sup>	Burial 2	M	45	175	0	0	Arrow wounds to chest; blunt head trauma, and cut marks across the frontal lobe
Waco Mass Burial <sup>1,2</sup>	Burial 40	M	50-60	-	-	3	Extensive DJD in spine
Aycock Shelter <sup>9</sup>	Burial 1	M	55	183	2	3	Arrow wounds to chest; blow to left parietal
Waco Mass Burial <sup>1,2</sup>	Burial 41	M	60	Robust	-	3	Extensive DJD in spine
Waco Mass Burial <sup>1,2</sup>	Burial 38	M	65	-	-	2	Healed indentations on tibiae (trauma? or poss. Periostitis)
Waco Mass Burial <sup>1,2</sup>	Burial 45	M	65	-	-	3	Extensive DJD in spine
<b>References</b>							
<sup>1</sup> Turner 1937 <sup>2</sup> Lux 1937 <sup>3</sup> Piehl and Mallouf 2013 <sup>4</sup> Rogers 1993 <sup>5</sup> Cloud and Piehl 2008 <sup>6</sup> Piehl 2009 <sup>7</sup> Cloud 2002 <sup>8</sup> Collins 1968 <sup>9</sup> Watt 1936							

Table 5-3: Burial data on skeletal pathologies related to health and nutrition

Among these people men carry no loads, nor anything heavy. This is done by women and old people who are the people they least esteem. ....The women are worked very hard with many tasks, and out of the twenty-four hours in a day, they rest only six. They spend the rest of the night stoking their ovens to dry those roots that they eat. At dawn they dig and carry firewood and water to their dwellings and to take care of other important needs (Favata and Fernández 1993:71).

Another pattern in the data is the fact that, unlike the female specimens where early onset osteoarthritis occurs primarily in the spinal column, most men, especially from between ages of 30 and 40, have degenerative joint disease and periostitis primarily in the lower extremities. Periostitis is caused by inflammation of the periosteum, which is the sheath of tissue that encases the bones. In addition to localized trauma and specific infections of the bone, periostitis in the lower extremities may relate to a chronic condition found among runners, more commonly referred to as shin splints. The fact that native men were runners is confirmed by Cabeza de Vaca when he comments that the Natives, “are so used to running that they can run from morning to night chasing deer without resting or becoming tired. This way they kill many of them, because they pursue them until the deer tire” (Favata and Fernández 1993:71).

Getting back to Smith’s model of wealth and status and how they are expressed in hunter-gatherer populations, one of the anomalies that stands-out in the data is the overall lack of nutritional deficiencies and degenerative joint disease found in the Rough Run burial, as well as on the two burials recovered at the Salt Cedar Site. Such would suggest that these individuals had access to better nutrition and that they also did less physical labor and hence possibly less hunting than most other men in their respective age bracket,



indicating that these individuals had a relatively high degree of embodied wealth. Furthermore, these three burials were the only interments in the sample that had associated grave goods, suggesting that they also possessed some level of material wealth. Evidence of relational wealth among these three interments is marked by the *Olivella sp.* shells found in association with Burial 3 at Salt Cedar, indicating that at least one of these men had access to long-distance trade networks. Although this is a rather gross assessment of a somewhat limited data set, according to the model proposed by Smith et al. (2010) it could be argued that these three interments might possibly represent relatively high-status individuals.

#### **EVIDENCE OF VIOLENCE**

Evidence of violence is prominent in the sample, where approximately 11 burials out of 94 interments exhibited evidence of arrow wounds, head trauma, or both (Table 5-4). Considering the other 22 interments that accompanied the one individual with arrow wounds at the Waco Mass Burial Site, this figure increases to 33 burials that appear to be associated with violent events. This comes out to a rather bleak statistic that suggests that out of every 5 individuals in Toyah society, at least 2 could expect a violent death. With respect to the regional distribution of violence, it would appear that it can be isolated to two areas, one being the Southern High Plains periphery and the Middle Brazos Basin peripheral to the Blackland Prairie (Figure 5-15).

In the previous chapter, I discussed how violence was one device employed by special status individuals to acquire personal power, wealth, and prestige. For instance, Knauff (1987:479) noted that violence in egalitarian hunter-gatherer societies was often interpersonal, infrequent, and primarily related to social leveling, while in transegalitarian societies violence tends to be culturally sanctioned, intertribal, and related to the degree

Site	Burial ID	Date	Sex/Age	Context	Position	Head Orient	Grave Goods	Evidence of Violence
Coleman (41BX568)	Burial 9	1305-1420 CE	Male (20-24)	-	Poss. on L side	NE?	-	Scallorn point found in immediate area. Speculated as possible arrow wound
Aycock Shelter	Burial 1	Toyah	Male (55)	Capping stones place over top of burial	Semi-flexed, Right side	NW	No	Two Perdiz arrow wounds in chest, blow to the head
Waco Mass Burial	20 adults, 3 children	Toyah	Adults (5 male, 2 female)	23 individuals placed haphazardly in large pit	-	-	Yes	One individual with 3 Perdiz arrow wounds to chest
Asa Warner	Burial 53	Toyah	Male (25-30)	Laid in pit	Flexed on L side	NW	No	Seven Perdiz arrow wounds spread throughout the body
Asa Warner	Burial 54	Toyah	-	No pit visible	flexed on R side	-	No	Gary dart point ? wound to chest and one Perdiz arrow wound to hip
41CK217	-	Washita River Phase 1250-1450 CE	Young adult	Placed in gully and then buried by earth and stones	Tightly flexed, Right side	-	No	Five arrow wounds spread throughout chest and abdomen (3 Washita, 1 Huffaker)
Salt Cedar	Burial 2	Ochoa Phase 1300-1500 CE	Male (45)	Laid in a burial pit	Loosely flexed on L Side	N	Yes	Six fragmentary arrow points (Harrell and Washita) found throughout the chest, evidence of blow to the head and cut marks across the scalp
Salt Cedar	Burial 3	Ochoa Phase 1300-1500 CE	Male (35-40)	Laid in a burial pit	Loosely flexed on R side	SW	Yes	Arrow wounds throughout chest and Left forearm (1 Perdiz)
Bloom Mound (LA2528)	Feature 4	1300-1450 CE	Male (35-45)	Subfloor pit underneath domicile	Tightly flexed	-	-	Blunt trauma to the head
Bloom Mound (LA2528)	Feature 20	1300-1450 CE	Male (40-45)	Subfloor pit underneath domicile	Tightly flexed	-	-	Poss. Perdiz arrow wound in abdominal area
Bloom Mound (LA2528)	Feature 19	1300-1450 CE	Infant (3-12 mos.)	Subfloor pit underneath domicile	Tightly flexed	-	-	Poss. Washita arrow wound found in body

Table 5-4: Burials with evidence of violent death

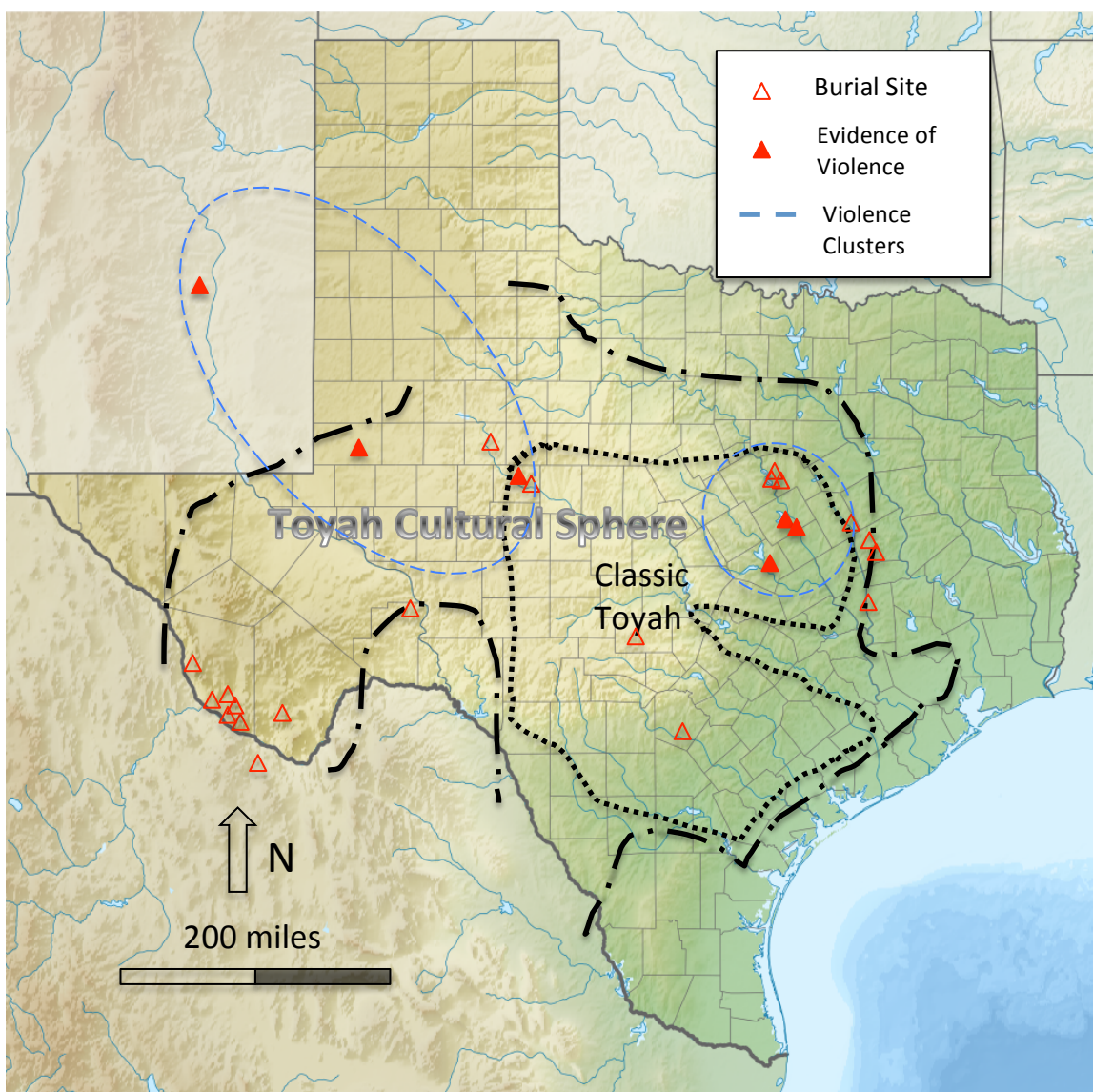


Figure 5-15: Location of burials in the Toyah Cultural Sphere with evidence of violence (figure by author)

of status differentiation between men, as the use of violence in the latter usually raises one's status as opposed to lowering it as in the case of former. Remarkably, the association of special status individuals, particularly principal captains, with large-scale intertribal violence occurs as a common theme in the ethnohistoric record of the Toyah

Interval. Notwithstanding Juan Sabeata's account of the aforementioned 1679 massacre on an Apache ranchería (Wade 2003:239), other principal captains such as Muymisofac and Don Miguel of the Cibolo Nation also speak of their involvement in intertribal warfare (see Wade 2003:143-144). Furthermore, Don Nicolás, a Catqueza captain, was noted by Fray Massanet of the Terán de los Ríos expedition as being highly regarded by his people due to his expertise in war (Foster 1995:59).

Ethnographic data on warfare within hunter-gatherer communities indicate that it largely takes one of two forms: either as small raids or as massacres. In the case of raids, Keeley (1996:66) noted that this form of warfare involved small-scale surprise attacks on small campsites, and that raids would generally take the lives of only a few individuals, and surprisingly more women than men, as the tendency was to kill individuals isolated in small groups. Because raids involve small-scale surprise attacks, a large proportion of wounds would be sustained from the rear as those under attack attempted to flee. Massacres on the other hand, are a larger and more complex form of surprise attack with the intent of annihilating the enemy's social unit. This form of warfare largely produces more male fatalities, as higher proportions of women and children would likely escape, while the men would engage the enemy in an attempt to fend off the attack.

Examining the eleven individual interments with embedded arrow points more closely it seems that in three cases some of the arrows entered the chest cavity from behind. These include one individual of unidentified sex from the Waco Mass Burial Site, and burials 2 and 3 at the Salt Cedar Site. Burial 2 at the Salt Cedar Site was that of an adult male where at least three of the six fragmentary arrow points found in association with the interment had clearly entered the individual from behind: two in the thorax and one embedded in the fourth lumbar vertebra. In addition, Burial 2 had also received a traumatic blow to the head, was possibly scalped and partially burned.

Examining the photos of Burial 3 at Salt Cedar, a younger male individual, it appeared that at least one of the nine points entered the individual from behind. Although it is clear that these two individuals obviously met a violent death, the small sample size prevents us from determining whether these deaths were the result of a raid or a massacre.

On the other hand, at the Waco Mass Burial Site, one of the three arrow points found with the skeleton was embedded in the thorax region with the tip of the point oriented toward the front of the individual. Although the data from the Waco Mass Burial Site are unclear, if we consider that it was related to a single violent event, we find that of those skeletons that were identified by sex, it would appear that men (mostly elderly) were killed, suggesting that the site might have involved a calculated massacre in which the attackers chose the time to strike when most of the able-bodied warriors were away. If, as Keeley suggests, massacres tend to produce a casualty rate of between 5 to 20 percent, then we can infer that the Waco Mass Burial Site reflects that the population of the defending camp might have ranged in size between 115 to 460 people. If these assumptions are correct, such figures are consistent with Juan Sabeata's account of a massacre his group carried out on an Apache ranchería on the Southern Plains on or around 1679 (Wade 2003:239).

#### **GRAVE GOODS, RITUAL ITEMS, BURIAL PLACES, AND SPECIAL STATUS INDIVIDUALS**

Only 13 of the 94 burials were found to have some degree of grave goods, and burials associated with semi-sedentary villagers (n=17%) were only slightly more likely to have them than those of foragers (n=13%). Two cairn burials in the Trans Pecos Region, both males (one a young adult and the other an adolescent) were interred with large numbers of apparently ritually broken arrow points as offerings, while a shelter burial in the Llano River Basin, a young female, was buried with only a single bone bead

found in the vicinity of her left ankle. Some of the most notable grave goods were found with Burials 2 and 3 at the Salt Cedar Site. Burial 3, a 35 +/-5-year-old male, was interred with a large number of *Olivella sp.* shell beads, two fragments of hematite, and a sphere of green pigment. Burial 2, a 45 +/- year old male, was buried with a unique collection of items that were found in a tight cluster at the individual's chest, suggesting that they had been in some sort of perishable container. These items included a bone awl, two notched scapulae, a sphere of cancellous bone, four flakes, two scrapers, fragments of both a dart and an arrow point, and three pieces of hematite. Other than the bone awl, the two scrapers and the flakes, which could conceivably be tools associated with more practical purposes, the remaining items in the collection escape most functional analogies, and therefore provide an opportunity to explore some alternative prospects related to particular special status individuals and their material associations.

I recognize the fact that the following discussion does not pull exclusively from the Toyah database per se, but rather it is intended to establish long-term material patterns of behavior and provide some interpretive context to the Toyah mortuary data in terms of grave goods and special status individuals. For instance, there are a number of ethnohistoric accounts as well as archaeological evidence that associate hematite or ocher with ritual contexts including funerary as well as for personal adornment. For instance, ocher was reported as occurring about the head and chest areas of 19 of the 140 Group 2 burials documented at the Ernest Witte Site (Hall 1981:60); red and yellow ocher also occurred in association with inhumations at the Loma Sandia cemetery in Live Oak County (Taylor and Highley 1995:377); with burials at the Cayo del Oso Site (Jackson et al. 2004); and at Buckeye Knoll (Ricklis et al. 2012:647). In addition to funerary purposes, the ritual use of ochers and other pigments as personal adornment also occurs in the context of warfare and is cited as such by the seventeenth century Jesuit, Pérez de

Ribas who wrote: “To go to war they decorate themselves with a kind of paint that is made from the fat of worms and red ocher or soot from their cook pots. They paint their bodies and their faces in such a way that they appear to be ferocious devils from hell” (Ribas 1999:93).

Material items particular to shamans include notched bones, which have been documented among the modern Tarahumara natives of southwestern Chihuahua as noisemakers used by sorcerers to project evil magic, and that this association may be traced back into prehistoric times, as the Tarahumara word for a particular kind of shaman (*sukurúame*) literally translates to “one who rasps” (Lumholtz 1987:323; Kennedy 1978: 136).

Although rare, items potentially associated with the activities of shamans have been recovered at a handful of sites in Texas. For instance, one of the oldest finds of this nature included a unique cache of items recovered from a Late Paleoindian double burial at Horn Shelter #1 in Bosque County. The interments consisted of the remains of an adult male (age 30 to 40) and an adolescent, likely a boy. Lying under the skull of the adult was a cache of items similar to those found in Burial 2 at the Salt Cedar site that included three turtle shell bowls, two deer antler billets, two sandstone abraders, a deer metapodial awl, a biface blank, and a nodule of red ocher. Also, found in the adult’s neck region were several notable items believed to be part of a necklace that included several perforated canine teeth, two unperforated raptor claws, and an oliva (*Oliva sayana*) shell with the spire removed (Redder 1985; Redder and Fox 1988).

One of the more remarkable finds was a cache of items found in a dry mortuary rockshelter in Val Verde County (41VV171). Discovered near the entrance of the shelter, wrapped in several layers of matting and a rabbit skin blanket, was a woven bag measuring approximately 16 inches long by 14 inches wide and seven inches thick. The

bag contained mat fragments, numerous buckeye and mountain laurel seeds, a dart point, three biface blanks, 10 flakes, two antler punches, an antler pressure flaking tool, a hammerstone, sinew, cordage, a small piece of deer skin, a mussel shell, a turtle shell carapace, and red and yellow pigment stones (Butler 1948:17-19) (Figure 5-16). In addition to these items several jackrabbit mandibles were also contained in the bag. Based on a few references in the colonial records regarding the use of rodent teeth as scarifying implements in both funerary rituals and as a form of punishment, these mandibles suggest that such items were perhaps components of a shaman's kit. A buckeye seed taken from the bag produced a radiocarbon age of 4200 +/-40 BP (Shafer 2009).

An Austin Phase burial found at Lemans Rockshelter in Somervell County included a cache of items. The cache was buried with a male aged 35-45 years old, and included two ulna flakers, an ulna tool, three bifaces, a hammerstone, three antler flakers and an antler awl, two antler punches, a broken Scallorn arrow point, two polished pebbles and a freshwater mussel shell (Smith 1994).

Contemporary with the Toyah Interval is a unique collection of items found in an individual burial at the Rockport Phase Mitchell Ridge cemetery site on Galveston Island. The items were found in a grave alongside a single semiflexed interment of a male, 35-39 years of age that was radiocarbon dated at 1281-1439 CE (2-Sigma calibration) (Ricklis 1994:252). The items buried with the individual included a finely flaked drill, two small bifaces and a biface fragment, a broken prismatic blade, a number of retouched flakes, all found around the lower abdomen and waist. Two small shark teeth were also found among the phalanges of the left hand, and positioned near the man's right elbow was an odd implement consisting of 13 sharpened rodent teeth mounted in an asphaltum handle (Figure 5-17). Ricklis (1994:261) cited a seventeenth century account given by the



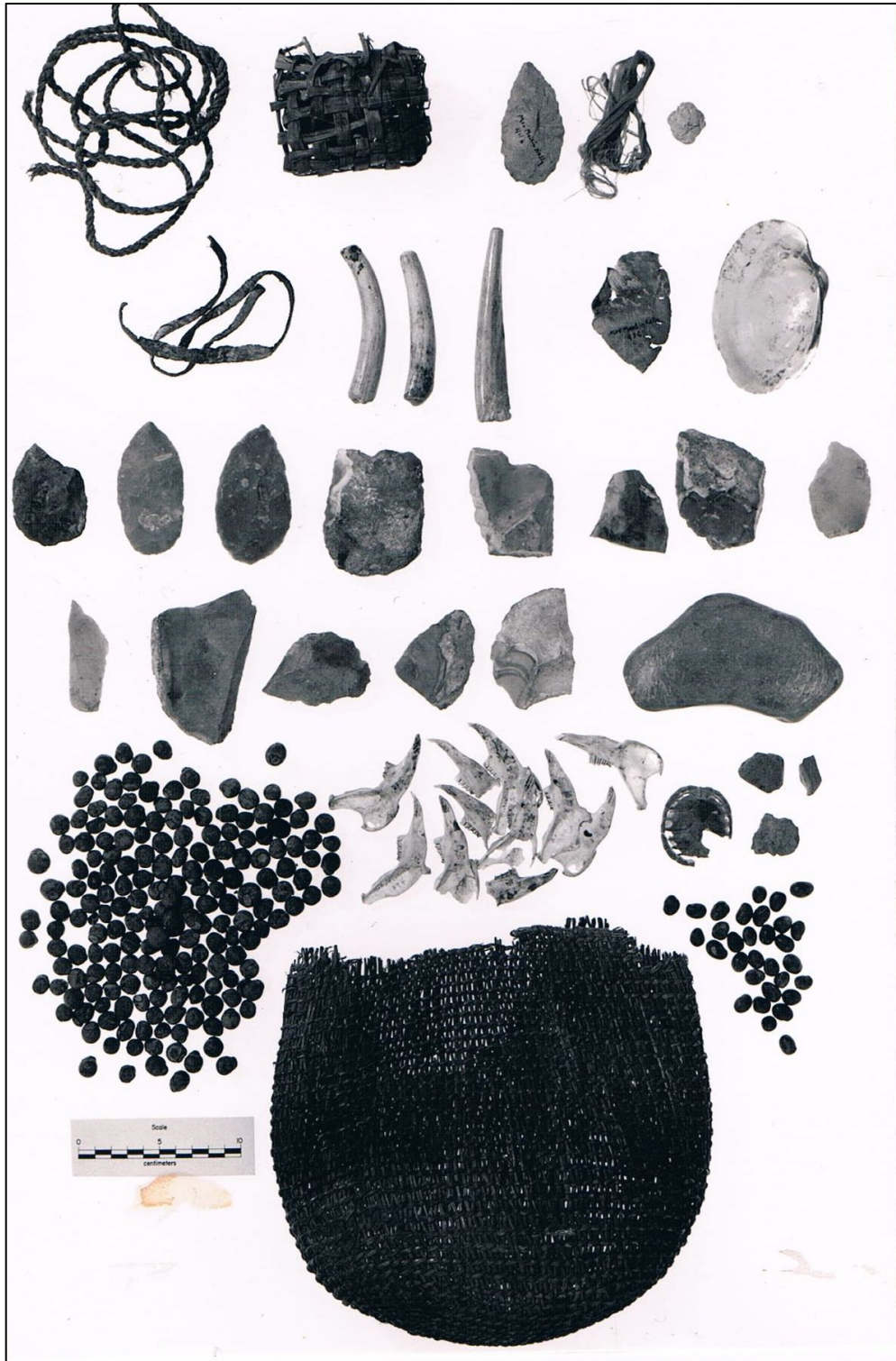


Figure 5-16: Bundled kit bag found at 41VV171 (TARL files)

Frenchman Jean-Baptiste Talon, who as a boy lived as a captive among the Karankawa, who described that just such an implement was used by native shamans to draw blood in healing ceremonies. Ricklis (ibid) also commented that a similar asphaltum artifact was discovered during excavations at Mission Espiritu Santo near present-day Goliad.

In addition, many of the burials in the sample are associated with natural features such as rock shelters, caves, rock crevices, rock cairns, and other entries into the earth (i.e. springs). Places of this nature have all been well documented cross-culturally among many pre-state societies as liminal or sacred spaces that lie intermediate between the

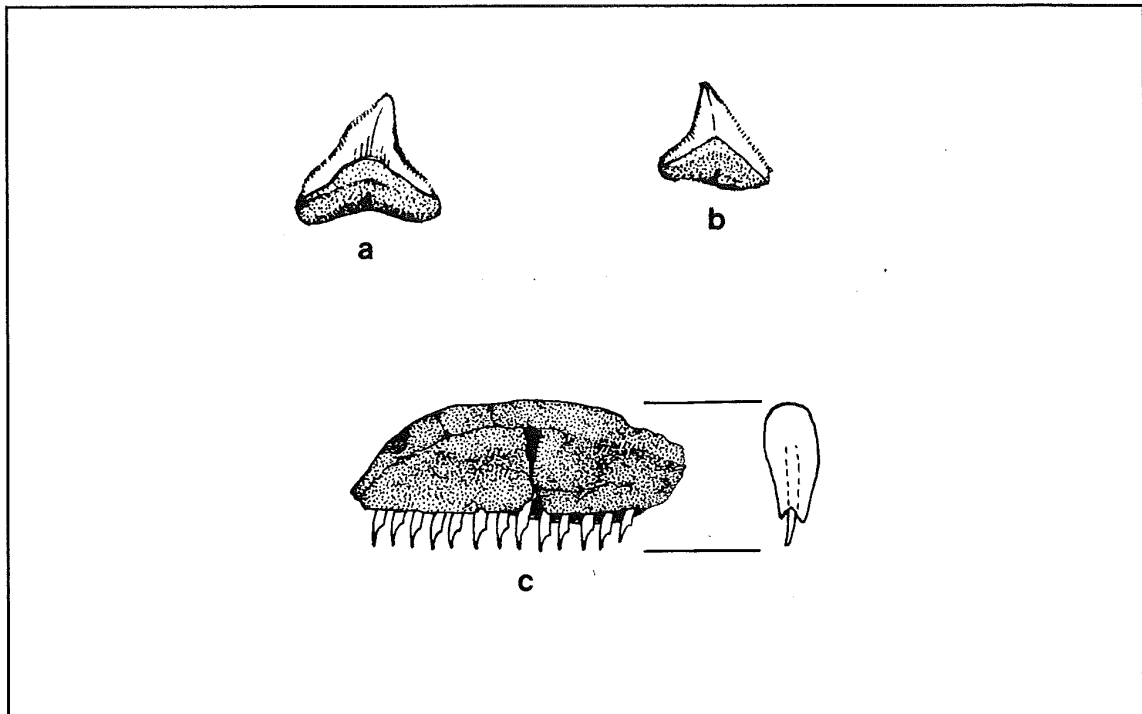


Figure 5-17: Grave goods from Feature 87 at the Mitchel Ridge cemetery site; (a, b) shark teeth, (c) shaman's bloodletting tool (from Ricklis 1994:261)

physical and spirit worlds, and because of this they provide ideal places for interment and the associated rites and rituals usually performed by specialized medico-religious practitioners such as shamans (Boyd 2003:49; Eliade 1964; Kennedy 1978: 150; Van Pool 2008). To illustrate this relationship, I would like to return to Kyle Shelter to describe a rather unique arrangement of items located in the back of the shelter that adds to the notion that sites like Kyle were perhaps not only liminal places for the interment of the dead, but that they also functioned as ritual space likely used by shamans. The arrangement of the items in question consisted of several painted pebbles and a fragment of a large basket that were all lying on top of a roughly woven mat with several Perdiz points positioned around it (Harris 1960:5) (Figure 5-18). Although the specific meaning of this feature is lost to time, if we subscribe to the argument that the shelter represents liminal space, and that painted pebbles are high context symbolic items, then one possible interpretation is that the feature may represent some form of shrine or altar. In the regional archaeological data, the term “altar” has been somewhat conjecturally used to describe small, raised platforms found in some La Junta Phase pit houses, and in more formally constructed structures in El Paso Phase villages in the Trans Pecos Region (Kelley and Kelley 1990 in Miller and Kenmotsu 2004:257). Although not specifically called shrines or altars, similar raised-platform-type features have also been documented in some Antelope Creek Phase structures (Lintz 1986). In the more recent past, it is known that some nomadic plains groups such as the Cheyenne, Pawnee, Arapaho, and others employed buffalo skull altars in the Sun Dance, and in some instances these altars involve a raised platform, which was either situated in a central place in the camp designated for ceremonial performances, or sometimes kept inside ritual dwellings (Hall 1997:97).

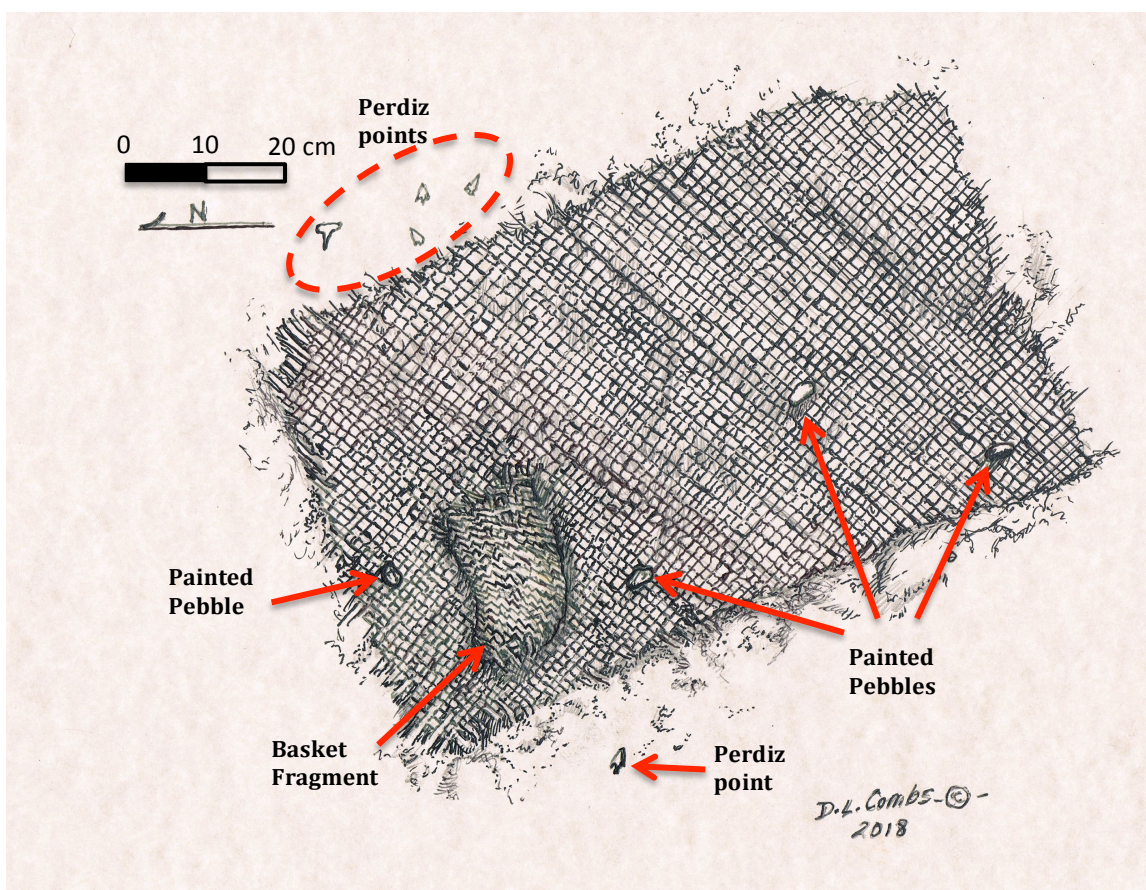


Figure 5-18: Possible Toyah-age altar or shine found in Kyle Shelter (illustration prepared for author by D. L. Combs)

Despite these few examples, ritual items such as pipes, sacra, blowing tubes, robes, and staffs as well as material evidence for ritual activities (i.e. feasting, funerary, etc.) tend not make it into the Toyah dialog, largely because the cultural historical and cultural ecological frameworks with their normative approach toward cultural interpretations do not allow for it. Contributing to this is that many of these items are admittedly rare, and tend to be made of more perishable materials such as wood, hide, feathers, and vegetal matter, all of which degrade rapidly in open and unstable environments. It may also be that we just simply overlook them since we usually do not

consider the sort of pattern a particular item of this nature might leave behind once the more perishable materials have degraded away; such as in the case of a gourd rattle where the vegetal material has long since decayed leaving behind only a small cluster of pea gravel, or in the case of sacra where only a few odd pebbles or quartz crystals are left behind in the grave fill. There also may be any number of cultural reasons as why ritual items such as these are not found. For instance, in some mobile plains groups sacred items tend not to belong to a particular individual, but rather to the community or to a particular sodality within the group, where the individual politico-religious leader is merely the custodian of the item, not its owner, and therefore it may not enter the mortuary record. Instead such items may be ritually killed and left at a site, possibly as a medicine bundle, when its ritual use-life can no longer be rejuvenated.

#### **SUMMARY AND CONCLUSIONS**

The intent of this chapter was to address evidence for inequality and special status in the mortuary data and evaluate the scope and magnitude of violence in Toyah society. A synthesis of the available literature resulted in the identification of 26 mortuary sites containing 94 interments spread throughout the Toyah Cultural Sphere. Although the data are affected by differential preservation that impacts the completeness of individual skeletons, as well as the visibility of certain skeletal pathologies, the available information did allow for several interesting preliminary observations that at least substantiate the viability of pursuing further investigation into the idea of social inequality in general and special status individuals in particular with the mortuary data.

For instance, in terms of inequality, there seems to be a clear distinction in the burial patterns expressed between adult men and women, regardless of whether they are villagers or mobile foragers, whereby the heads of males tend to be oriented in a

northerly arc, while those of females are generally oriented in the opposite direction. In addition, the heads of adolescents and children do not seem to conform to any pattern with regard to biological sex, suggesting that there may be some cultural explanation for this anomaly, such as the idea that gender may not be assigned until one achieves a certain age or the person has undergone certain rites. This aspect is usually a situation among societies that experience a high degree of childhood mortality, which is another feature the data presented here seem to bare out. Even more important is why some adult males and females also fail to adhere to this engendered pattern of head orientation. Other than assigning this as an artifact of sample size, an alternative explanation might be that these anomalous adults could possibly represent individuals who identified outside the boundaries of biological sex, such as in the case of either two-spirit people or slaves, both being social categories in Toyah society that are clearly supported by the ethnohistoric data.

Another aspect of gender inequality that the data seem to address is the disparity in health and nutrition in accordance with age and sex. In the analysis of the available data in this area, it would seem that preadolescent males have access to higher nutrition than do females of the same age, and that young adult men from the ages of 20 to 35 seem to do less physical labor than women in the same age bracket. If additional data would continue to bare this preliminary observation out, this would have all sorts of implications in reference to the status of men in Toyah society. For instance, questions like, what role did this apparent disparity in the sexual division of labor play in relation to the status of men? In other words, given the high degree of violence suggested by the data could it be that men were simply favored over women to ensure the protection of the group, and under these conditions, could it be that aggrandizing men manipulated

violence as a means to chip away at the egalitarian ethic, by essentially using it to justify the exploitation of women's labor, as well as the accumulation of wealth for themselves?

Shifting to material wealth, it is evident in the data that grave goods are decidedly rare, and in the low number of cases in which they occur, they appear to be so diminutive they make it difficult to argue for any clear distinctions with regard to status differentiation. However, if we combine the limited material evidence with the notions of embodied and relational wealth, then it becomes possible to construct a more robust argument in support of status differences within Toyah society. Applying these concepts to the available mortuary data, supported by regionally specific ethnohistoric and ethnographic accounts, it would seem that one could argue at least tentatively, that certain special status individuals may have indeed existed in Toyah society.

I have suggested that one way special status individuals may have promoted not only their own status, but also social inequality at large was through their manipulation and use of violence. Evidence in the ethnohistoric record suggests that special status individuals such as principal captains were responsible for traveling long-distances for the formation of large native coalitions principally for warfare. If such was the case we would expect archeological evidence for large-scale, coordinated attacks or massacres, and the archaeological data do not disappoint. Evidence of large massacres are reflected in the mortuary data at the Waco Mass Burial Site, where as many as 23 fatalities were stacked together in a spatially confined mass grave, and at Bloom Mound where several scorched bodies were found inside house structures and at least two burials were identified with arrow wounds. In addition to this there are a number of individual burials with evidence of traumatic and potentially fatal injuries caused by blows to the head and arrow wounds, and at least one individual appears to have been scalped. Although caution must be exercised in applying the mortuary data to the larger population, numbers

suggest that about two out of every five individuals in Toyah society were likely to meet a violent death.



## Chapter 6

### **Assessing Feasting and Craft Specialization in Toyah Material Culture as Proxy Evidence for Special Status**

In previous chapters, evidence for inequality and special status in Toyah society was approached through the ethnohistoric and mortuary data. This chapter examines the Toyah material culture with respect to the socially complex behaviors of feasting and craft specialization. It has been noted before that feasts serve as proxy evidence for social status as they provide a means for special status individuals to consolidate resources and labor, as well as offer opportunities to gain personal power, wealth, and prestige (see Chapter 2). Evidence for feasting was approached in the material record through an examination of case studies involving burned rock middens and faunal bone concentrations located at key sites with Toyah components. The intent of the following analysis is to examine the available data on Toyah-age burned rock middens and faunal bone concentrations to assess how food was prepared, distributed, and consumed, and whether the patterns revealed are consistent with those of feasting behavior.

Craft specialization also relates to special status in that it requires an individual to have specialized knowledge and expertise that they direct toward the production and exchange of surplus goods. Although craft specialization has traditionally been associated with some degree of elite control, data show that it can also form a large part of production within hunter-gatherer societies. Within this framework, this portion of the study is focused on evaluating what evidence exists for craft specialization as it relates to the production, distribution and consumption of Toyah material culture and how may it have been socially configured. Evidence for craft specialization was approached by identifying standardized production processes in Classic Toyah wares as a means to

assess whether these wares were produced primarily by individual craftspeople primarily for domestic purposes, or for extra-domestic purposes such as trade. In terms of trade, one dimension by which status is measured in hunter-gatherer societies is relational wealth, which hinges on the notion that those individuals with the most advantageous relationships tend to have comparatively higher social status. In this respect, I examine Cabeza de Vaca's role as an itinerant crafter/trader and assess whether this model can be used to explain the production and distribution of Toyah lithic blades.

### **TOYAH FEASTS: BURNED ROCK MIDDENS AND BONE CONCENTRATIONS**

Scholarly dialog with respect to feasting has only recently emerged as a topic of debate in the hunter-gatherer archaeology of prehistoric Texas despite the fact that in addition to ecological factors, feasting behavior is currently one of the most powerful cross-cultural explanatory concepts for understanding an entire range of cultural processes and dynamics spanning from the generation and transformation of surpluses, to the emergence of inequality and status, and to the underwriting of elites in complex societies (Dietler 2001; Hayden 2001, 2014; Wills and Crown 2004). To date, many of these discussions have centered on prehistoric burned rock earth ovens particularly in Central Texas, which are also referred to in the literature as burned rock middens. Some researchers argue that by the Late Archaic period (ca. 2500 BCE) these features represent an intensification strategy involving the processing of bulk quantities of carbohydrate-rich plant foods. For instance, Black and Creel (1997:302) speculate that earth ovens during the Late Archaic through the Late Prehistoric periods were at least partially linked to higher regional population densities together with shrinking territories, and explain how this might have led to the demand for a dependable year-round resource, such as acorns, and not necessarily to the need to feed larger numbers of people. More recent

work on this topic tends to agree with the idea of a greater emphasis on burned rock midden use beginning in the Late Archaic, but in contrast these latter studies see midden use as somewhat intermittent over time and reflect more emphasis on the seasonal exploitation of geophytes (Black and Thoms 2014; Boyd et al. 2014; Mehalchick and Kibler 2008; Thoms and Clabaugh 2011; Thoms et al. 2015; Thoms and Mandel 2006). It has also been speculated that the intermittent and intensive use of burned rock middens likely reflected a specialized Late Archaic settlement strategy involving the activities of social aggregates, possibly comprised of multiple bands that repeatedly congregated at specific midden locales during the spring season when geophytes would have been the most nutritious (Mehalchick and Kibler 2008:367).

By definition, feasting almost always involves social aggregates, and I have demonstrated in Chapter 4 that there are numerous colonial accounts where Toyah populations routinely congregated into large multiethnic groups at specific locales to perform rituals, healing ceremonies, mitotes, as well as for the exchange of material goods. Along these lines it is important to keep in mind that feasts provide many practical benefits to individuals and groups who are able to host them including the mobilization of labor, the creation of political and social safety nets (Clarke 2001), and in the formation of political and military alliances to control lucrative trade (Junker 2001). Furthermore, feasts can also be used as a means to consolidate political and economic power (Dietler 2001) and in turn increase socio-economic inequalities (Dietler and Herbich 2001). In order to capitalize on these benefits, hosts generally try to demonstrate the specialness and importance of their guests by presenting them not only with large quantities of food, but also special quality foods, drinks, gifts, or ritual displays as indications of how highly their guests are valued. Trying to impress one's guests for

whatever reason, means obtaining and preparing labor-intensive foods, drinks, serving vessels, and prestige and ritual items (Hayden 2001:30, 2014:64).

### **Burned Rock Features and the Question of Toyah Feasts**

In the archaeological literature, arguments in support of feasting behavior are usually predicated on demonstrating the unusually large size of a particular cooking feature, the amount of labor used to gather the materials needed and to construct the features, as well as the volume of food collected and processed (Hayden and Cousins 2004; Wills and Crown 2004). For instance, in Central Texas a rather large Late Archaic/Austin Phase burned rock midden investigated at the Tank Destroyer Site (41CV1378) led researchers to estimate that given the size of the heating element, the feature represented from 62 to 246 separate cooking events over its 3,150-year period of use, each of which produced 1,000 liters of baked geophytes, an estimate far exceeding the needs of a minimum band of 18 to 20 individuals (Boyd et al. 2014:149). Nevertheless, estimates such as this should be tempered by the fact that feature size is not necessarily related to the number of people being fed, but rather could be related to a range of variables including the relative bulkiness of food items being prepared, the processing of food items for storage, and the number of subsequent use events for a particular feature. For instance, it is also possible that a number of smaller burned rock mounds could reflect the actions of special task groups that were linked to larger burned rock middens at residential base camps (Boyd et al. 2014:150).

With these caveats in mind, some regional studies have demonstrated that in Central Texas not just burned rock middens, but cooking features in general have increased both in number and size from the Late Archaic through the terminal Late Prehistoric periods with the most dramatic increase in both of these variables occurring

during the Toyah Interval (Black and Creel 1997:304; Dozier 2018a; Thompson et al. 2012:187). A study conducted by Thompson et al. (2012) was based on a large database of 221 burned rock features located within a 150-km radius from the Flat Rock Road site (41KM69) in Central Texas, and where the majority of the dates assigned to the features were derived from associated diagnostic artifacts. On the other hand, a later study conducted by Dozier (2018a), relied on published and unpublished data on burned rock features with associated radiocarbon dates from the Fort Hood Military Reservation in northeastern Central Texas (Boyd, personal communication 2017 in Dozier 2018a). By excluding features with multiple dates that fell outside the same period and burned rock middens that were clearly the result of multiple use episodes, Dozier (ibid) took these data, and applied it to the working typology on single-use burned rock features as proposed by Thoms et al. (2015:162-163), which equates the diameter and rock weight of a particular feature with respect to a specific group size: family (40-99 cm, 5-49 kg), intermediate (100-175 cm, 50-150 kg), or communal (>176 cm, >151 kg). From this she concluded that during the Toyah Interval the number of family-sized features increased by 360 percent, intermediate features by 425 percent, and communal features by 180 percent over previous periods. She then deduced that this pattern was likely not related to dietary changes, nor did it reflect storage, as the regional faunal and botanical database supports neither of these alternatives. Instead, she suggested that the increase in the frequency of large earth ovens during the Toyah Interval in relation to earlier periods is more likely related to larger numbers of people being fed: in other words, feasting.

To evaluate whether this pattern of midden use is unique to Central Texas or if it is representative of a much broader geographic phenomenon across the larger Toyah Cultural Sphere, I applied the same protocols as those used by Dozier to examine burned

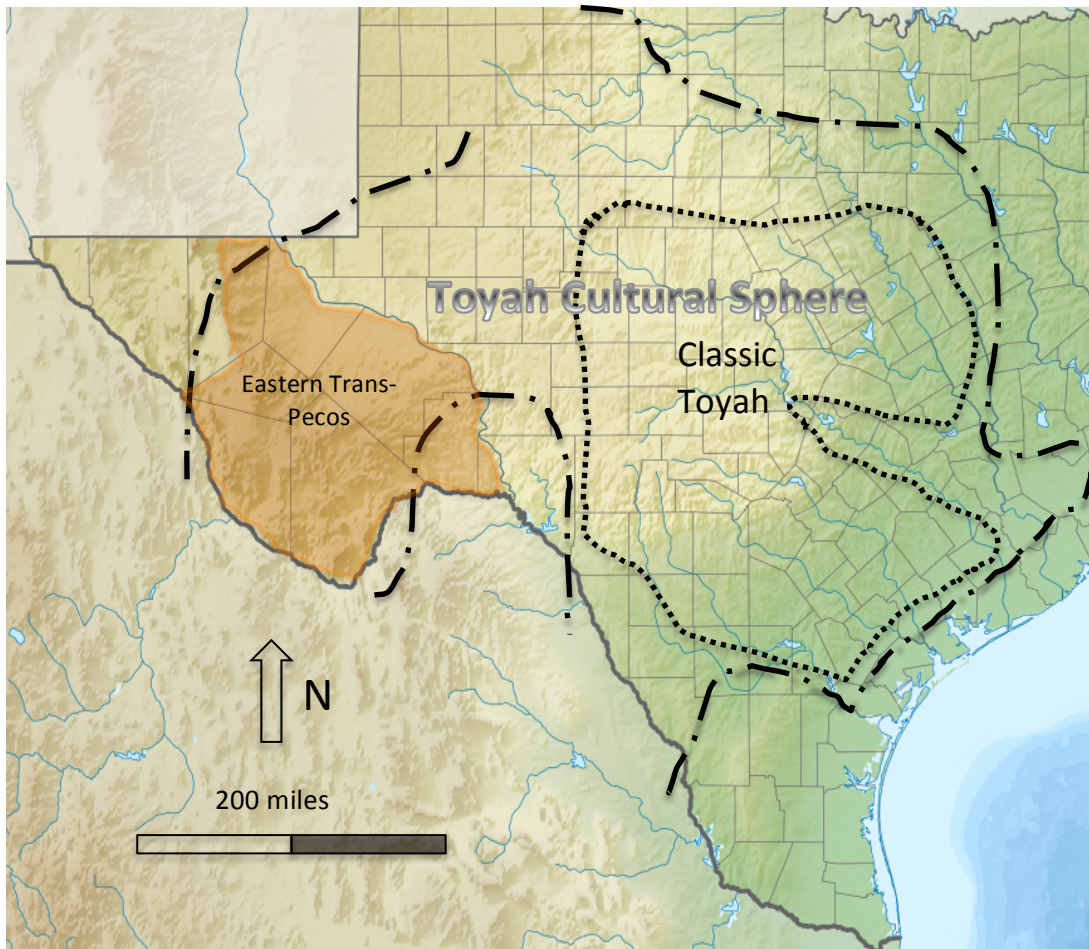


Figure 6-1: The Eastern Trans-Pecos Region (figure by author)

rock feature data from the Eastern Trans-Pecos region (Figure 6-1). Although the sample size for radiocarbon dated burned rock features in the Eastern Trans-Pecos is somewhat small ( $n=30$ ), the available data seem to reflect a similar pattern to that observed in Central Texas, with Toyah-age burned rock features in the Eastern Trans-Pecos also showing a marked increase in both size and number in comparison to previous time periods (Figure 6-2). Despite this apparent similarity in the two regional datasets, in contrast, burned rock features in the Eastern Trans-Pecos assigned to the Toyah Interval

tend to be on average almost 2.5 times larger than those in Central Texas. This marked size difference among the features between these two regions might at least partially be explained by regional differences in the kinds of foodstuffs being processed, as macrobotanical evidence indicates that burned rock features in Central Texas were used largely for the processing of a diverse variety of bulk plant foods including acorns, walnuts, prickly pear (*Opuntia sp.*), sotol/yucca (*Dasyilirion/Agavaceae*), pecan (*Carya sp.*), and *Camassia sp.* (Dering 1997:578-581; 2012:340), while in the Eastern Trans-Pecos the kinds of plant materials processed in these features are much less diverse and appear to be largely focused on the roasting of *Agavaceae sp.* (Dering 2004:205; Godwin et al. 2002:225).

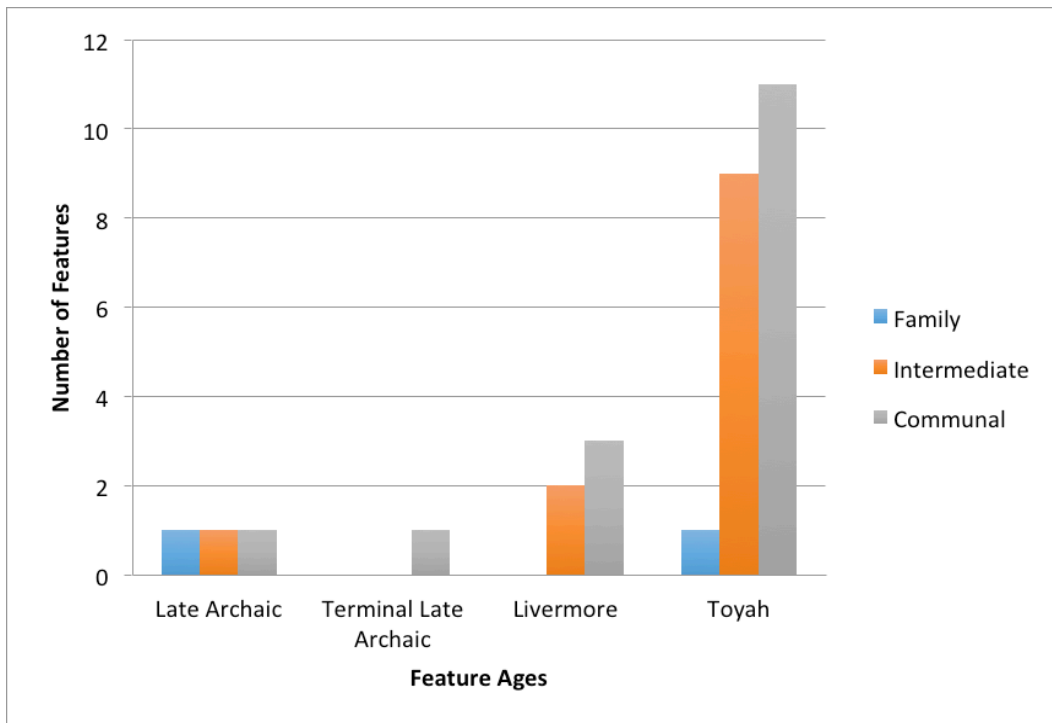


Figure 6-2: Number of burned rock features by size through time in the Eastern Trans Pecos

The question then is whether this pattern of increased burned rock feature density and size in the Eastern Trans-Pecos is reflective of feeding large numbers of people. To investigate this question further, I gathered metric data on the sizes of individual heating elements from three Toyah-age ring middens in the Eastern Trans-Pecos. Generally, ring middens have been defined regionally as donut or crescent-shaped accumulations of burned rock with an obvious central pit feature believed to be used for the processing of sotol or mescal (Greer 1965) (Figure 6-3).



Figure 6-3: Example of a ring midden in the Eastern Trans-Pecos study area (Site 41PC14) (photo by author)

Radiocarbon dates obtained from these features clearly indicate that they are a Late Prehistoric phenomenon beginning in the Livermore Phase and increasing in size and number throughout the Toyah Interval (Table 6-1). To evaluate whether ring middens



Site	Feature ID	Feature Diameter (cm)	Lab #	Measured Age (rcyBP)	Calendar Calibration 2-sigma	Reference
41PC14	1	1981	Tx-2055	1050 +/-60	AD 778-1155	(Young 1981)
			Tx-2057	980 +/-130	AD 774-1270	
			Tx-2054	860 +/-60	AD 1038-1264	
			Tx-2063	800 +/-70	AD 1040-1297	
			Tx-2056	630 +/-100	AD 1190-1453	
			Tx-2060	610 +/-50	AD 1285-1414	
			Tx-2061	450 +/-60	AD 1324-1634	
	2A	366	Tx-2062	650 +/-70	AD 1252-1424	
41PC827	M2	520	D-AMS 018315	419 +/-31	AD 1426-1619	TARL Site Files
41PC35	1	1219	Tx-1500	940 +/-50	AD 1016-1211	(Young 1982)
	2	1219	Tx-1505	560 +/-70	AD 1286-1446	
			Tx-1502	410 +/-60	AD 1419-1636	
			Tx-1504	350 +/-50	AD 1452-1642	
41PC502	3	2400	N/A	1000 +/-70	AD 900-1190	(Godwin et al. 2002)
			N/A	930 +/-80	AD 980-1270	
			N/A	790 +/-60	AD 1160-1300	
			N/A	740 +/-30	AD 1250-1290	
			N/A	690 +/-50	AD 1260-1400	
			N/A	650 +/-60	AD 1270-1420	
			N/A	560 +/-40	AD 1300-1430	
41CX5	1	180	Tx-310	940 +/-120	AD 778-1285	(Greer 1968)
			Tx-351	670 +/-80	AD 1215-1425	
			Tx-357	630 +/-90	AD 1224-1441	
			Tx-359	570 +/-100	AD 1227-1618	
41CX131	C	610	Tx-358	540 +/-100	AD 1267-1630	(Luke 1983)
			Tx-2789	290 +/-50	AD 1458-1949	
			Tx-2791	290 +/-60	AD 1450-1801	
			Tx-2797	260 +/-60	AD 1461-1811	
41CX217	D	1676	Tx-2790	170 +/-50	AD 1653-1909	(Luke 1983)
			Tx-2777	1200 +/-60	AD 682-969	
41CX216	D-B	1067	Tx-2778	660 +/-60	AD 1261-1411	(Luke 1983)
	D-C	914	Tx-2780	730 +/-60	AD 1169-1393	
41CX30	Ring Midden	1200	Tx-2779	520 +/-50	AD 1304-1453	(Sommer 1968)
			Tx-647	980 +/-70	AD 899-1214	
			Tx-646	900 +/-70	AD 1020-1258	
41SU2	2	762	Tx-645	790 +/-70	AD 1043-1382	(Jarvis and Crawford 1974)
			Tx-1508	920 +/-70	AD 997-1253	
			Tx-1507	910 +/-60	AD 1019-1245	
41PS800	7	400	Tx-1509	860 +/-60	AD 1038-1264	(Cloud 2004)
			Beta-155179	1260 +/-40	AD 660-860	
			UGA-12105	1010 +/-40	AD 780-1020	
			Beta-155185	1060 +/-40	AD 880-1020	
			UGA-12105	1010 +/-40	AD 780-1020	
			Beta-155185	1060 +/-40	AD 880-1020	

Table 6-1: Radiocarbon dates on ring middens in the Eastern Trans-Pecos

were used to process large volumes of food, I calculated an estimated pit volume in cubic meters on the central pits of three ring middens, and based on the average size of a single agave heart ( $n=0.2\text{-m}^3$ ), an estimated processing capacity was calculated for each feature (Table 6-2). The data are admittedly small, but not from the standpoint that there are few recorded features in the area, but largely because only a few researchers recorded the sizes of central pit features or individual heating elements, as well as failing to provide radiocarbon dates for those features. In addition, one must also be weary of the data for the reason that there could be any number of non-cultural, post depositional factors that affected the sizes of these features. Nonetheless, the available data do offer some interesting preliminary inferences worthy of further targeted investigation. The first is that the overall feature diameter appears to have little bearing on the volume of agave being processed, as the features at 41CX216D and 41PC502 were both roughly the same size, yet appear to have significantly different processing capacities. Secondly, if we consider that one medium agave heart produces 0.828 liters of pulp and juice, which roughly equates to approximately 420 calories (Niethammer 1999:4-5), one agave heart only supplies about 17 percent of an average adult's daily caloric requirements. This would mean that feature 3 at 41PC502 would only produce enough calories to feed a little over three people, a considerably small return for the amount of labor effort invested to dig the pit; gather the fuel, rock, and packing material; combined with the fact that it also takes from 24-48 hours to fully cook the agave before it can be eaten. Therefore, in terms of a cost-benefit analysis, processing agave for basic sustenance would seem to be a losing proposition, especially if the goal was to feed large numbers of people. However, such a conclusion does not consider the fact that many ring midden features occur within larger midden site complexes consisting of several features over a relatively small area.

Site	Feature	Outer Diameter (m)	Pit Diameter (m)	Pit Depth (m)	Pit Volume (m <sup>3</sup> )	Agave Heart Capacity
41PC35	2A	12.19	2.13	0.56	1.99	10
41CX216D	B	10.67	1.52	0.43	0.78	4
41PC502	3	10.67	2.0	1.5	4.71	23

Table 6-2: Agave processing capacity of ring middens in the Eastern Trans-Pecos

For instance, The Ram’s Head Site (41PC35) consists of two adjacent ring middens (features 1 and 2) that contained several roasting pits of relatively similar size (Young 1982). Within a one-mile radius of 41PC35 there are at least seven additional sites that together contain a total of 21 individual ring midden features, as well as a number of associated hearth areas, rockshelters, wickiup rings, and bedrock mortars (Figure 6-4). The same situation applies to sites 41PC14 (see Young 1981) and 41PC827, which together contain as many as five composite ring middens and associated hearths and wickiup rings clustered in an area approximately 80-acres in size. Although radiocarbon dates obtained from these features do overlap considerably within the Toyah Interval, establishing whether two or more of these features were being used contemporaneously is a level of fidelity that the radiocarbon data do not currently support.

So, if ring middens in the Eastern Trans-Pecos do not reflect the feeding of large numbers of people, then what might they represent? One alternative is that instead of being used to process large quantities of foodstuffs, ring middens might have been used to produce special quality foods such as intoxicating beverages that were also used in feasts. Many anthropologists and archaeologists alike have touted the social benefits of alcohol and recognize its integrative role in maintaining social cohesion; however, like other sumptuary or special foods, alcohol can also be used to distinguish social categories

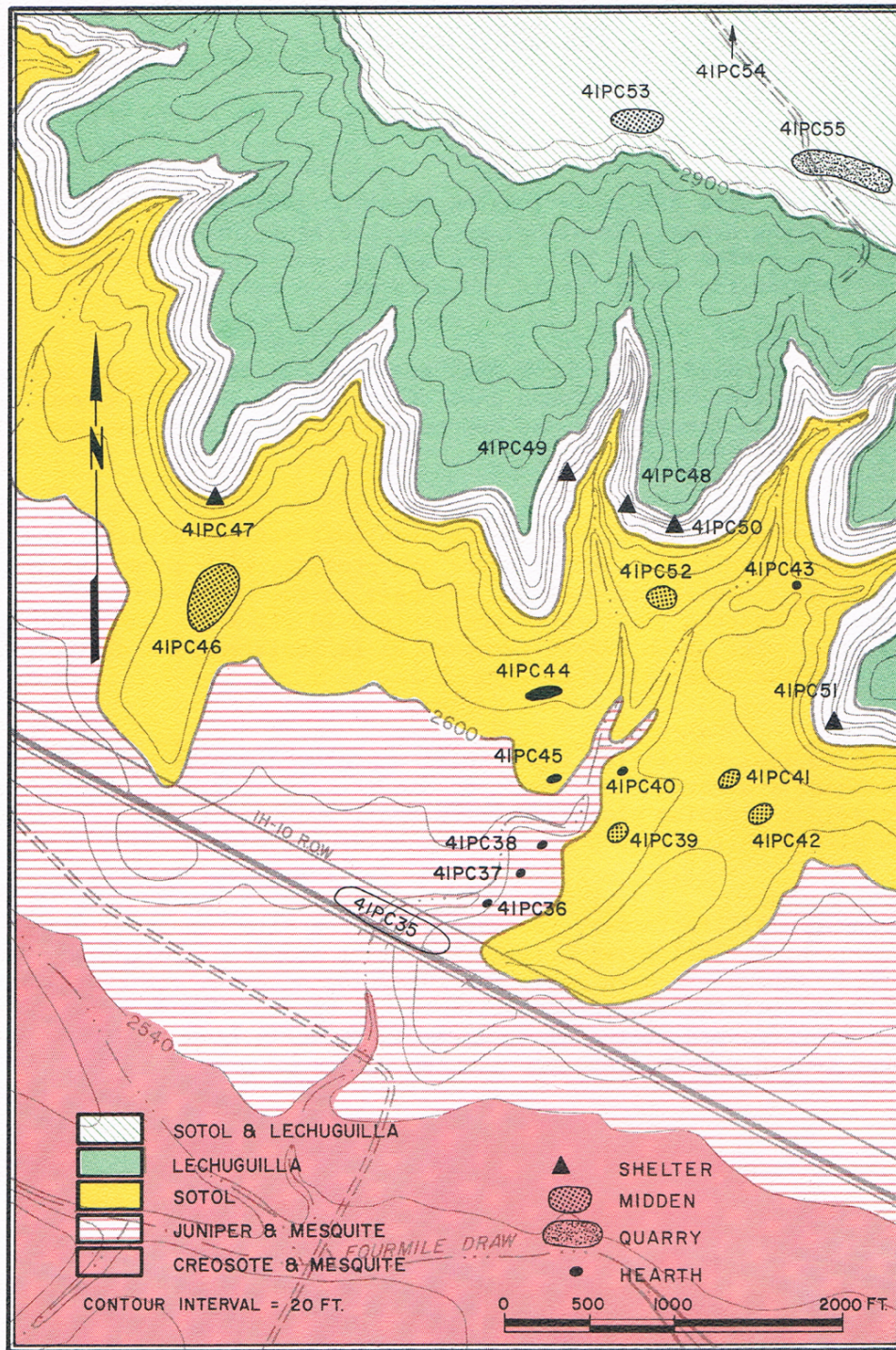


Figure 6-4: Site 41PC35 and its associated ring midden complex (from Young 1982:60)

and boundaries (Dietler 2006; Douglas 1987). For instance Mesoamerican elites maintained tight control over the manufacture and consumption of alcoholic beverages by limiting its sale in the marketplace exclusively during ceremonial events, and then only to the sick, the socially privileged, and the elderly (Anderson and Dibble 1982). In contrast, in societies that lack institutionalized political structures alcohol serves as a significant factor in the creation of prestige and social capital, which in turn is a fundamental condition of leadership that can be used to influence group decision-making. In this context overt hospitality and lavish displays are ways in which hosts acquire formal titles and ritual positions through social indebtedness (Dietler 2006; Hayden 2014). For example, in Tarahumara society in north-central Mexico political influence is obtained by hosting a *tesgüinada* – a ceremony involving the making and drinking of *tesgüino* (corn beer). These ceremonies are held to either organize communal labor, or to hold a curing ritual for the sick, the land, or for crops. Most of these ceremonies are hosted by individuals who already possess some level of political clout in the community, and in preparation for the event, they are responsible for making the beverage. The ceremony usually begins with an initial ritual in which the medicine man (*owerúame*) and other high status men in the community drink the beverage in the order of their respective status before the concoction is offered to the attendees at large (Kennedy 1978:115-118).

Pulling from the ethnohistoric record, some archeologists have posited the use of alcoholic beverages and other inebriating substances among prehistoric native peoples for some time (see Greer 1965; Tunnell and Madrid 1990). For instance, the seventeenth century Father Pérez de Ribas (1999:90), associated the Natives of Chihuahua and Sonora with making and drinking wines made from various plants like mescal, prickly pear tunas, mesquite beans, and honey. Cabeza de Vaca also refers to a drink made from roasting leaves that looked similar to those of the live oak (Krieger 2002:211). Drawing

largely from ethnographic accounts, researchers for a long time have associated earth ovens as facilities used in the processing of plants like sotol and agave not only for food, but also for making intoxicating beverages (Greer 1965; Lumholtz 1987; Pennington 1969). In one instance, in his excavations of one of the plazas at Casas Grandes, Di Peso (1974:268) found hundreds of charred agave hearts packed in a large pit oven dating to the Medio Period (1200-1450 CE), and speculated that these features were directly connected to the processing of bulk quantities of agave for the production of ceremonial alcoholic beverages, namely *tlacametl*, which was produced by roasting the agave heart and then pressing it to extract the juice for fermentation. Interestingly in the Eastern Trans-Pecos, Greer (1965) observed that bedrock mortars often co-occurred with ring middens, and hence speculated that these features may have been functionally associated and represented a material pattern related to the production of fermented beverages. Supporting this assertion is the way the Tarahumara and other Indians of Chihuahua make maguey wine, which involves roasting agave hearts in earth ovens, and then placing the hearts in a rock basin filled with water, where it is pounded with a mallet fashioned from an oak limb. A catalyst is then added to the mixture and it is allowed to ferment for two days before it is passed through a sieve to extract the mildly alcoholic juice (Bruman 2000:20-22; Kennedy 1978:114; Lumholtz 1987:256; Pennington 1969:109). Recently, samples taken from Classic Toyah ceramic vessels have produced microfossils and biochemical residues indicating that they contained intoxicating beverages such as black drink and grape wine (Dozier 2018b).

### **Faunal Bone Concentrations: Feasting and Status at the Hinojosa Site**

In addition to earth ovens, archaeologists have considered unusual patterns of faunal disposal as correlates for feasts and in turn as proxy evidence of social status. For

instance, the presence of “exotic” species in faunal assemblages has been considered one archaeological correlate for elite provisioning and feasting (Kelly 2001; Olsen 1990). In Mississippian contexts the wing elements of swan skeletons were exploited for their use by elites as fans (Kelly 2001; Pauketat et al. 2002). The abundance of unusual faunal remains belonging to such animals as song birds, raptors, foxes, various cats, passenger pigeons, prairie chickens, squirrels, bison, fish, turtles, as well as different patterns of food preparation (i.e. roasting versus stewing) have all been associated with feasting or with elite consumption (Jackson and Scott 2003, 2010). Some researchers have also argued that the lack of primary butchering debris accompanied by the abundance of “high quality” versus the rarity of “low quality” deer skeletal elements in faunal assemblages, in which high quality portions of deer include ribs and hind quarters, while low quality portions include skulls and feet, is a material pattern often cited as evidence for elite feasting behaviors (Jackson and Scott 1995, 2003; Knight 2004; Welch 1991; Yerkes 2005). In applying this pattern of feasting and elite consumption to the Toyah archaeological record, I examined unique faunal bone disposal patterns recovered from a well-known Toyah site in south Texas.

The Hinojosa Site (41JW8) is located in the northwestern quarter of Jim Wells County about 9-miles northwest of the City of Alice, Texas (Figure 6-5). The site was discovered in 1974 perched atop a high terrace bluff overlooking Chiltipin Creek (Hester and Bass 1974). The Hinojosa site is particularly suited for the study of feasting activity and social status as it has been suggested that this area of Jim Wells and neighboring Duval counties constituted a portion of the large tuna fields visited by Cabeza de Vaca in the summer of 1534 and again the following year, where they reported the annual congregation of large, multiethnic native groups (Campbell and Campbell 1981:14). Two

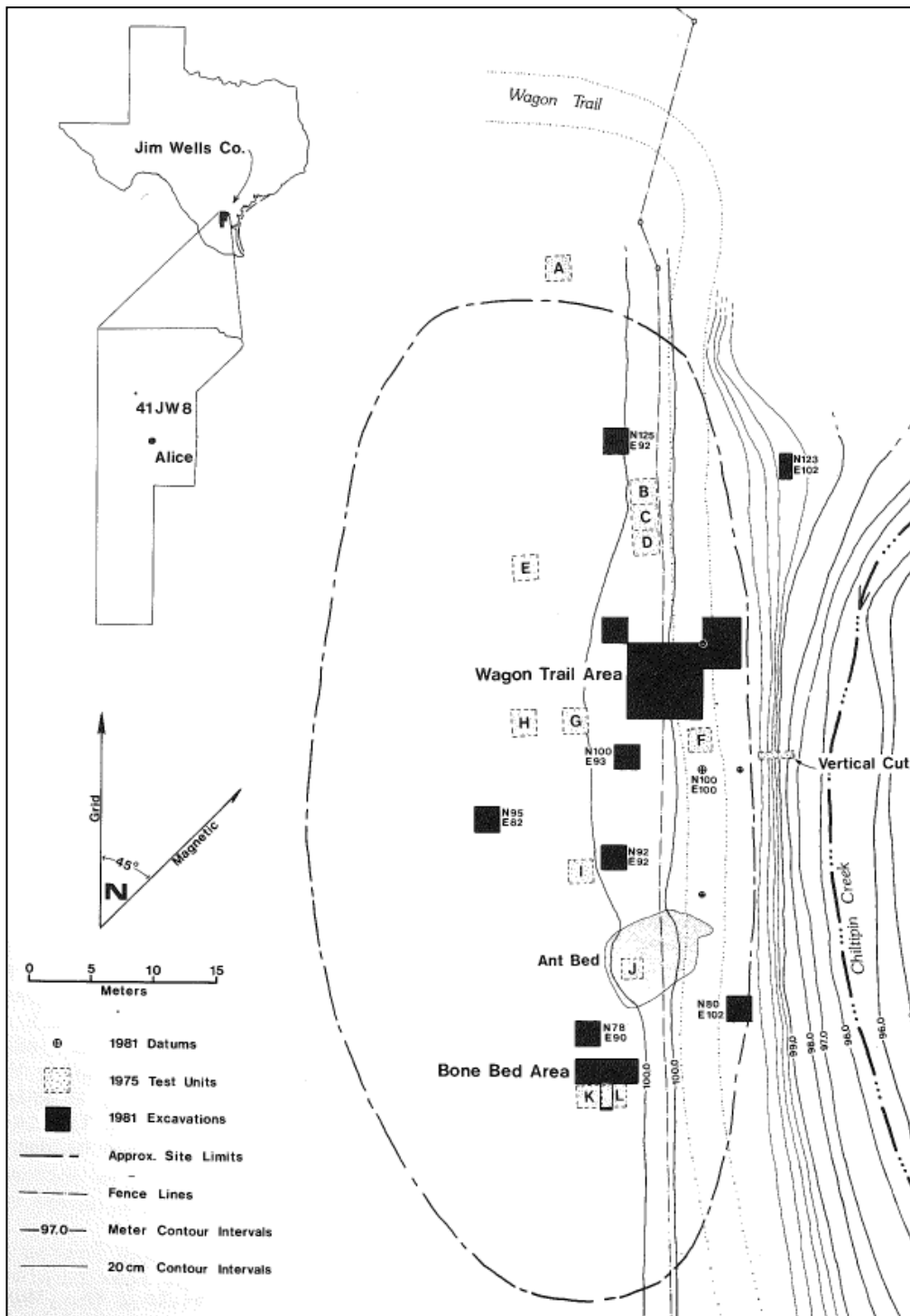


Figure 6-5: Location of the Hinojosa Site (from Black 1986:11)



seasons of archaeological investigations were undertaken at the site, one in 1975 and the second in 1981 (Black 1986; Hester 1977). These investigations discovered that the site was quite large, covering an area approximately 2,600m<sup>2</sup> in overall size. Two large block excavations resulted in the exposure of two main loci of cultural activity: the Wagon Trail Area in the northern portion of the site and the Bone Bed Area located some 40-m to the south. In addition to recovering a suite of Toyah artifacts including 130 Perdiz arrow points, beveled knives, endscrapers, ceramics, shell ornaments and evidence of a blade core technology, a number of clustered burned rocks and several interesting faunal bone features were defined.

In the Wagon Trail Area of the Hinojosa site, a large living surface and an associated activity area were documented, each consisting of two discrete clusters of animal bone mixed with other cultural debris (Figure 6-6). The living surface (Feature 11) was comprised of a thin lens of cultural debris measuring no more than 5-cm thick and covered an area at least 22-m<sup>2</sup> in size. A cooking hearth (Feature 6), and a bone-filled pit (Feature 10) were associated with feature 11. Approximately 4 to 5-meters to the north of feature 11 is feature 8, another thin lens of animal bone with an accompanying cluster of burned rock and charcoal, that represents the second living surface in the Wagon Trail Area of the site. Based on depositional contexts observed during their excavation, both living surfaces were interpreted as activity areas attributed to butchering activities. Black (1986:210-214) made the case for a single occupational episode for the two activity areas by citing the rather thin cultural deposits; the preservation of a number of delicate shell and bone tools, numerous clusters of *rabdodus* shell; and that feature 8 appeared to have been deliberately buried, possibly with basket loads of fill from features 5 and 6. This observation extended to feature 10, which was viewed as the deliberate placement of faunal material within a pit. Although initially

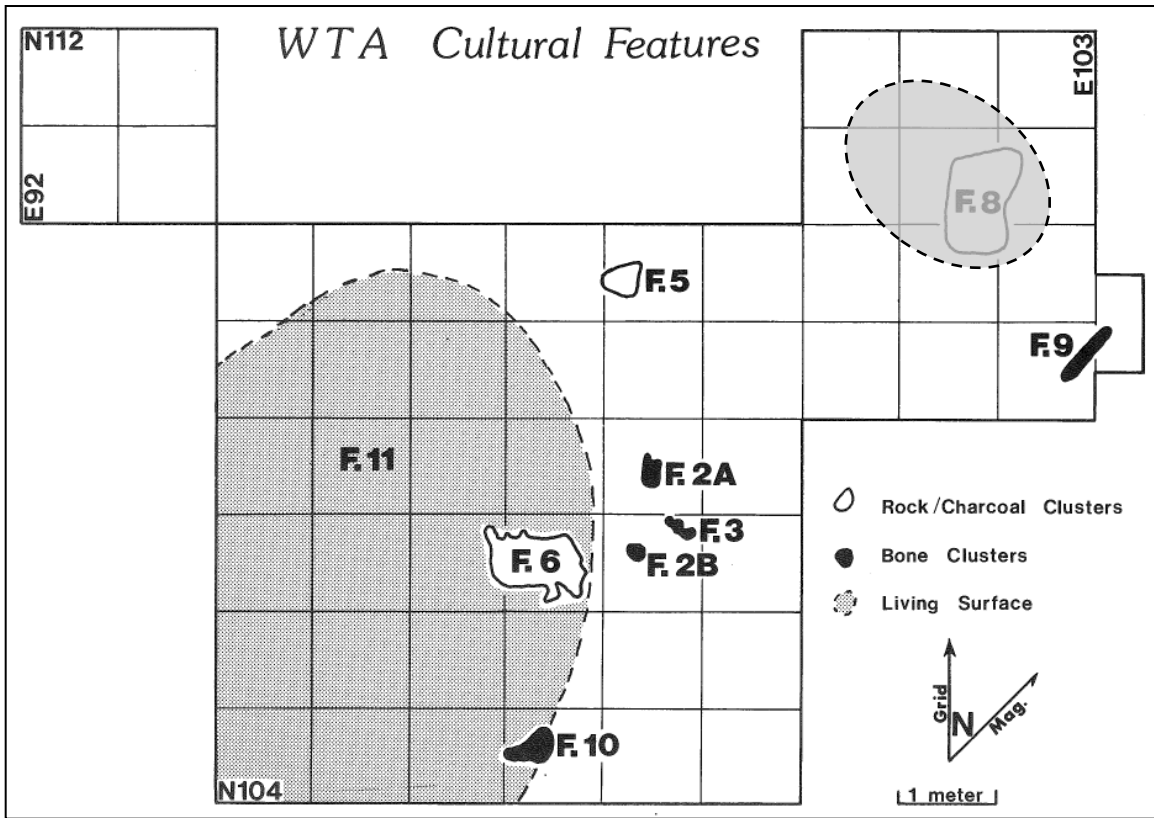


Figure 6-6: Wagon Trail Area at the Hinojosa Site (adapted from Black 1986:226)

Date ID	Provenience	Age BP	Sigma +/-	1-Sigma Range	2-Sigma Range	Median Age
41JW8-L290	N111/E100 Level 2	305	28	AD 1522-1644	AD 1489-1650	AD 1563
41JW8-S172	N107/E97 Level 2	312	28	AD 1521-1642	AD 1489-1648	AD 1563
41JW8-L263	N105/E97 Level 2	321	28	AD 1518-1639	AD 1482-1645	AD 1563

Table 6-3: Rabbit bone AMS Radiocarbon dates from the Hinojosa site (data from Mauldin et al., 2013)

standard radiocarbon data resulting from charcoal samples taken from these features proved somewhat problematic, later AMS dating of bone collagen taken from rabbit bone specimens recovered around features 10, 6 and one from near Feature 8, all resulted in producing median radiocarbon ages of AD 1563<sup>1-Sigma</sup> (Table 6-3) thereby corroborating

the observations of the excavators that these features were likely contemporaneous (Mauldin et al. 2013).

A reanalysis of the faunal materials from features 10 and 8 found that they exceptionally well-preserved and lacking the usual surface cracking and desiccation normally associated with long periods of exposure to the elements prior to burial (see Appendix B). Overall the faunal material comprising feature 10 includes a total of 343 NISP with an MNI of 16, while feature 8 tallies to 370 NISP with an MNI of 14. Comparing the two (Figures 6-7 and 6-8) we find that the majority of the biomass represented in feature 10 is from bison and bison-sized mammals (n=75%), while alternatively most of the biomass from Feature 8 is whitetail deer and similarly-sized mammals (n=86%). Aside from these differences in large mammals, both features contain a rather diverse range of small animal species, which not only includes rabbits and various rodents, but also amphibians, turtles, snakes, fish, and several different sizes and species of birds including intermediate sized birds (possibly turkey), and raptors. Drilling down to the bone elements of deer size animals or larger, forelimbs and hindquarters dominate the identifiable specimens in Feature 10, and of these the left sides of these animals appear to be favored over the right and axial portions of these elements (Table 6-4). With respect to deer-sized animal elements in feature 8, it is the axial portions of the skeletal elements that are favored (i.e. skulls and vertebrae), with the appendages of these animals being relatively underrepresented (Table 6-5).

So how does the body of data from the Hinojosa site relate to feasting and status? To begin, the radiocarbon dates obtained on the rabbit bones along with the burial contexts make it plausible, if not probable, that both features 10 and 8 are representative of a single occupation. The taphonomic evidence also appears to substantiate the notion of a single occupation, as the bone lacked evidence of substantial weathering indicating

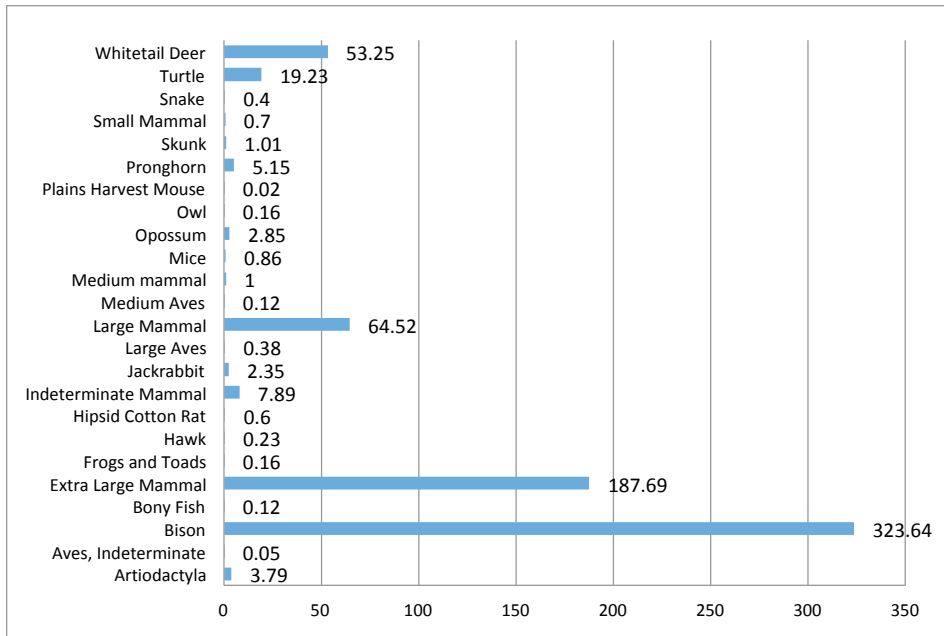


Figure 6-7: Taxa represented by biomass in grams for feature 10 at the Hinojosa site (compiled from data provided by Corl 2018: see Appendix B)

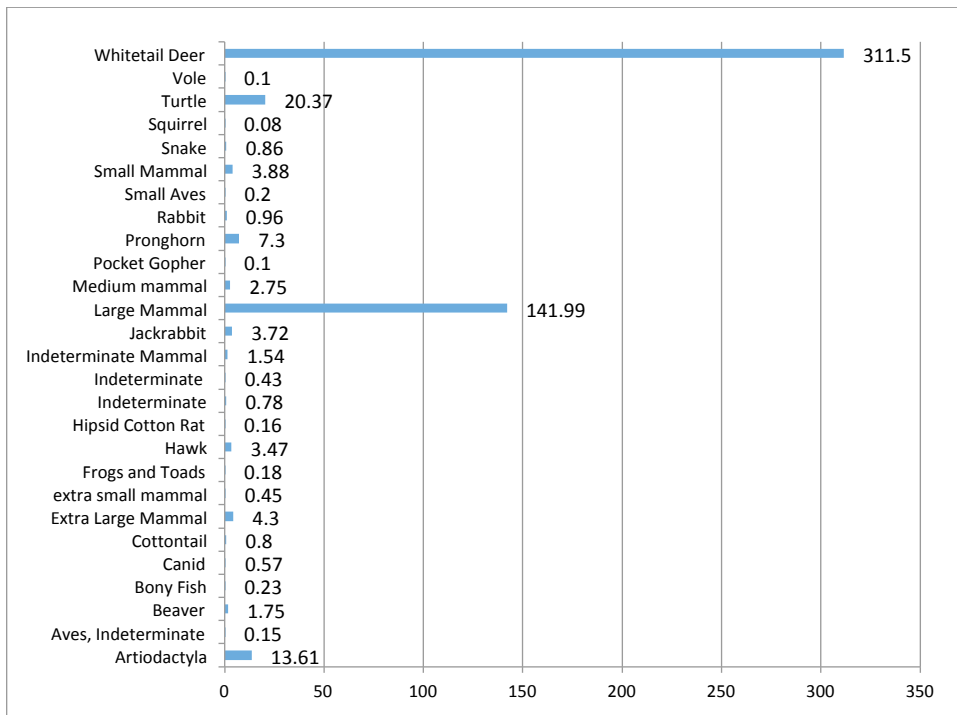


Figure 6-8: Taxa represented by biomass in grams for feature 8 at the Hinojosa site (compiled from data provided by Corl 2018: see Appendix B)

Sum of Weight (g) Element	Skeletal Element Side			Grand Total
	Indeterminate	Axial	Right Left	
Cancellous bone	42.31			42.31
Femur			80.8	80.8
Humerus			25.04 71.33	96.37
Incisor		0.33		0.33
Indeterminate fragment	15.62			15.62
Intermediate Carpal			8.23	8.23
Long bone fragment	215.91			215.91
Lumbar Vertebra		12.24		12.24
Metapodial	18.77			18.77
Phalange			11.11 1.55	12.66
Rib	35.88	5.48		41.36
Tibia			42.15	42.15
Tooth Fragment		0.45		0.45
Ulna			1.01	1.01
Ulnar Carpal			6.65	6.65
Vertebra		58.26		58.26
<b>Grand Total</b>	<b>328.49</b>	<b>76.76</b>	<b>37.16 210.71</b>	<b>653.12</b>

Table 6-4: Biomass by faunal element deer-sized and larger feature 10 at the Hinojosa site (compiled from data provided by Corl 2018: see Appendix B)

Sum of Weight (g) Element	Skeletal Element Side			Grand Total
	Indeterminate	Axial	Right Left	
Axis		23.19		23.19
Calcaneus	15.43			15.43
Carpal or tarsal	1.93			1.93
Cervical Vertebra		82.02		82.02
Cranial Fragment	2.38			2.38
Long bone fragment	152.89			152.89
Mandible		7.02		7.02
Metacarpal	12.14			12.14
Metapodial	3.82			3.82
Metatarsal	16.01		13.08	29.09
Molar		3.79		3.79
Phalange	2.28		3.39	5.67
Radius	68.76		21.5	90.26
Rib	26.22		7.3	33.52
Scapula	0.94			0.94
Tooth Fragment		2.2		2.2
Vertebra		12.41		12.41
<b>Grand Total</b>	<b>302.80</b>	<b>130.63</b>	<b>32.19 13.08</b>	<b>478.7</b>

Table 6-5: Biomass by faunal element deer-sized and larger feature 8 at the Hinojosa site (compiled from data provided by Corl 2018: see Appendix B)

that both features were rapidly buried. This corroborates the observation made by the archaeologists that both features were intentionally placed and buried by the inhabitants. Such a context together diminishes the plausibility that these deposits were the result of multiple seasonal occupations, but rather a single occupational event. Therefore, it would follow that given the diverse types of species present and the total biomass that 30 or so whole animals represent, would make it unlikely that such a haul could be procured, let alone consumed, by a single household. Evidence that these deposits were the result of a supra-household event is corroborated by other characteristics of the assemblage. For instance, two distinct bone-tempered plainware ceramic traditions were differentiated at the site, and a small fraction of these same type of sherds were found decorated with asphaltum lines and dots, indicating association with Rockport people from the coast (Black 1986:96). Furthermore, both stone and clay smoking pipes were recovered at the site, and their presence in association with these intentionally placed faunal features containing several unique species that are known feast foods in adjacent regions (i.e. turkeys and rabbits) are further evidence in support of the notion that the Hinojosa site is arguably a locality where a considerable number of ethnically diverse groups gathered and engaged in feasting activity.

Arguing status with the data from the Hinojosa site is somewhat more challenging, especially since it lacks one of the more accepted areas of evidence along these lines, namely exotic goods. However, if as evidence suggests, feasts are political events involving the negotiation of relationships between individuals and groups, and embedded in the materiality of how food is prepared, displayed, and consumed, then we can move beyond interpretations of mere subsistence resources and explore more relational aspects of human behavior. With this in mind, a number of aspects of the assemblage suggest that status individuals may have been present at the Hinojosa site.

For instance, if we consider the differences in the kinds of deer and larger-sized animal bone elements represented between features 10 and 8 (see Tables 6-4 and 6-5) we find that feature 10 is composed of a greater biomass of elements (i.e. femurs, humerii, tibia, ribs, radii, metapodials and long bone fragments) that reflect higher quality cuts of meat than those represented in feature 8, where axial portions (i.e. skulls and vertebrae) of these animals dominate and represent cuts of lower quality. Differences in the way these cuts of meat were prepared are also indicated by the sharp contrast in the degree of burning observed on the specimens from both features. Bone specimens of deer and larger sized animals from feature 10 show a much higher degree of burning than those of feature 8 (Figure 6-9). A high degree of burning on faunal specimens is a situation that more often occurs as a result of roasting meat on the bone, while lower instances of burning can be more representative of other methods of preparation such as jerking, bone greasing, and stewing. All these methods of food preparation can be linked to different status-related behaviors. For instance, although roasting can be considered a situation where meat is in abundance, it can also be linked to the elite behavior of conspicuous consumption since the drippings from high quality cuts of meat are wasted to the open flame. In contrast, jerking, bone greasing, and stewing are all linked to conservative strategies associated with resource stress (Quigg 1997; Rush 2013; Vehik 1977), and some archaeologists have tied these processing methods to the economizing behaviors of common households (Jackson and Scott 2003; Marshall and Wrangham 2007; Outram 2004). Other aspects of the assemblage contribute to the idea that this pattern of bone distribution is likely status related. For instance, the fact that the faunal remains from features 10 and 8 appear to be intentionally buried and consisting of distinct skeletal elements from specific parts of the animal also suggests ritual feasting deposits. The ritualized deposition of faunal materials into prepared pits is a practice identified at

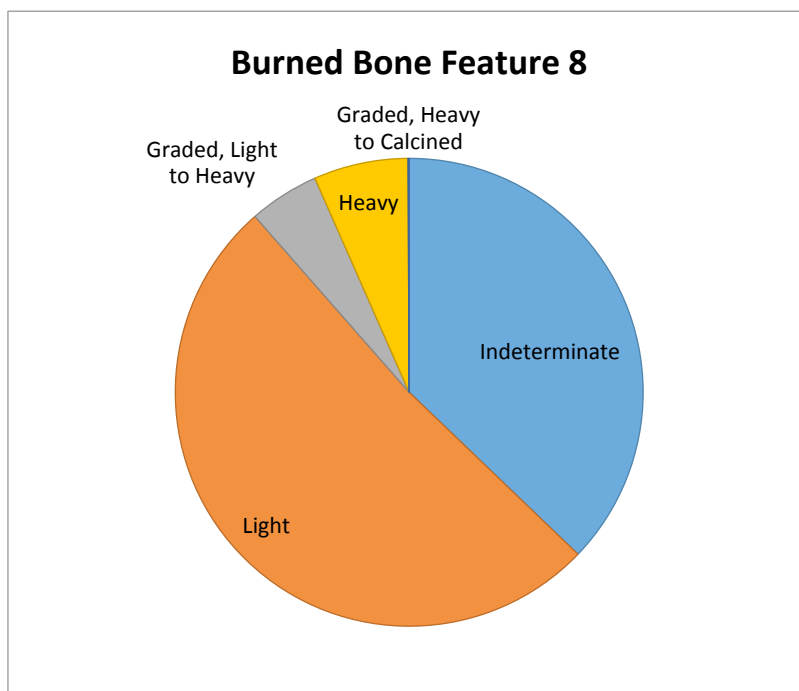
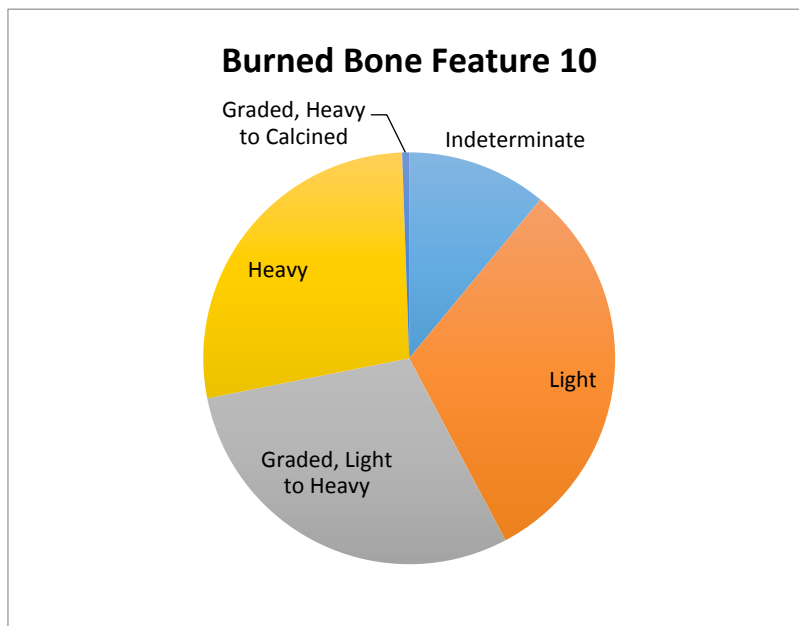


Figure 6-9: Degree of burning on faunal material from features 8 and 10 (compiled from data provided by Corl 2018: see Appendix B)



Mississippian ceremonial mounds and late pre-Columbian hunter-gatherer sites in the southeastern United States, where this type of treatment of the faunal remains reflects a practice referred to as ritual bundling (Pauketat 2013; Wallis and Blessing 2015). These kinds of interpretations recognize that in contrast to Western perspectives that are based on rigid subject/object taxonomies and the analysis of their constituent parts, Native American ontologies are relational and involve the materiality of these relationships, such that the placement of a ritual deposit might be done as an act of supplication to a particular animal or cosmic force to ensure a successful hunt, guarantee fertility, or to cure certain societal ills. The idea that features 10 and 8 at the Hinojosa site could possibly represent ritual deposits is bolstered by the recovery of stone and clay smoking pipes in the same excavation block, and the fact that the ethnohistoric data associate these kinds of artifacts to ceremonial rituals involving status individuals (see Chapter 4). Further evidence of special status is the fact that shell ornaments and associated shell manufacturing debris were also found in the deposits adjacent to feature 10 (see Black 1986:104), indicating that some level of rudimentary craft production occurred in the Wagon Trail Area of the site. Added to this is the evidence of group aggregation noted by the presence of Rockport-style decorative motifs on bone-tempered pottery at Hinojosa indicating cultural interaction with coastal Rockport groups.

To summarize, burned rock middens and bone concentrations provide unique vantage points to investigate Toyah feasting behavior, and because feasts involve the negotiation of social relationships, they are political events that get embedded in the materiality of how food is prepared, distributed, displayed, and consumed. Despite the evidence presented above, more research is needed in this respect to test whether this argument holds up on an intersite level across the broader extent of the Toyah Cultural Sphere. A cursory analysis to this effect has identified a number of promising candidates.

For instance, the Mustang Branch site in northern Hays County in many ways is quite similar to Hinojosa in that it has a sizable bone bed, a number of bone concentrations, an earth oven, a clay smoking pipe, and a mixed pottery assemblage containing both Classic Toyah and Caddoan wares (Ricklis and Collins 1994). Other sites with similar assemblages include the East Levee site (41TG91) (Creel 1990), the Rush site (41TG346) (Quigg and Peck 1995), and Buckhollow (41KM16) (Johnson 1994).

#### **ASSESSING CRAFT SPECIALIZATION AND ITINERANT TRADE: TOYAH POTTERY AND BLADE CACHES**

In addition to feasting, craft specialization is another epiphenomenal aspect of emergent social complexity, in that it constitutes a fundamental shift in the way domestic labor is manipulated toward the generation of surplus goods for exchange purposes. Craft specialization has been defined as a differentiated, regularized, permanent, and perhaps institutionalized production system in which producers depend on extra-household exchange relationships for their livelihood, at least in part, and consumers depend on them for acquisition of goods they do not produce themselves (Arnold 1987; Brumfiel and Earle 1987; Clark and Parry 1990; Costin 1991; Thomas 2009). There are two generally accepted mindsets we have to overcome in dealing with the idea of craft specialization with respect to hunter-gatherer societies. First is the notion that all production in hunter-gatherer societies occurs independently and exclusively at the household level, and secondly, that hunter-gatherer households only produce enough goods for their own immediate needs. Such mindsets are evident throughout the Texas literature despite the accumulation of a wide body of evidence that shows that craft specialization is not exclusive to ranked societies and states, but that it also comprises a large part of the household economy of hunter-gatherer societies (Ames 1995; Arnold

1991; Brumfiel and Earle 1987; Hayden 1995; Sassaman 1998; Spielmann 1998, 2002). Studies along these lines have shown that craft specialization varies across a spectrum: from the intermittent production of excess household goods used for social exchanges, such as in the case of the !Kung *hxaro* exchange (Wiessner 1982); part-time production by individual households for ritual obligations (Spielmann 2002); to the full-time production of specific ritual or status-related items manufactured on behalf of a particular patron or lineage group, as in the case of attached or embedded specialization (Ames 1995). Alternatively, rather than being attached to a specific patron, craft specialists can also be independent, providing their goods and services to an unspecified demand group (Ames 1995; Arnold 1992; Arnold and Munns 1994; Brumfiel and Earle 1987). With respect to hunter-gatherers and their mobile lifestyle and need to establish and maintain extra-communal social relationships based on exchange, there is an additional requirement especially in non-state societies for specialists to be itinerant, largely because non-state societies lack the surpluses required to support a craft specialist over an extended period of time. Even if itinerant specialists do not produce their own goods for trade, it has been argued that the mere capacity for successful travel, especially long distance travel, in and of itself requires a considerably high level of specialized skill and knowledge, such as navigation and language skills, as well as a broad spectrum of ecological and ritual knowledge, all of which are necessary for the successful negotiation of geographic and cultural space for the maintenance of exchange networks (Helms 1993:43).

Certain technologies such as those associated with the production of pottery and lithic blades are most often associated with craft specialization (Clark and Parry 1990; Shafer and Hester 1991). Approaching the topic of craft specialization with respect to the Toyah archaeological assemblage, involved evaluating whether Toyah pottery and lithic

blades could have been the work of specialized crafters, and if so, what could be said about their relationship to social complexity, and whether there is a case to be made for the itinerant trader/crafter as modeled after Cabeza de Vaca's personal account.

### **Classic Toyah Pottery as a Specialized Craft**

Sometimes called Leon Plain ware, Classic Toyah pottery is a distinctive type of bone tempered-sandy paste plain earthenware that occurs in relatively low numbers, often no more than a few hundred sherds, at a handful of Toyah sites scattered across central and south Texas. The few vessels that have been reconstructed include forms such as wide mouthed jars, constricted neck globular-bodied ollas sometimes with handles, long-necked bottles, and bowls, but by far jars and ollas are the most common vessels found in Toyah ceramic assemblages (Figure 6-10). Bottles, on the other hand, tend to be a uniquely South Texas vessel form. It is evident from the many descriptive analyses carried out on Toyah pots (*ref.* Black 1986; Highley 1986; Suhm and Jelks 1962; Suhm et al. 1954 and others) that they involved a considerable level of knowledge and skill to produce. Johnson (1994) provided the most comprehensive characterization of the production sequence of Classic Toyah pottery to date, and the following summary paraphrases his work.

Like most prehistoric pottery found in the Americas, Classic Toyah pottery is made by the coil method. Bases are formed either with a pad of clay molded in the hand or by coiling a rope into a spiral. The vessel is formed by stacking coils or ropes progressively upward and individual coils are welded together by simultaneously pressing the inside of the vessel down with the fingers while upward pressure is applied with the fingers on the outside. In effect this method increases the size of the body by

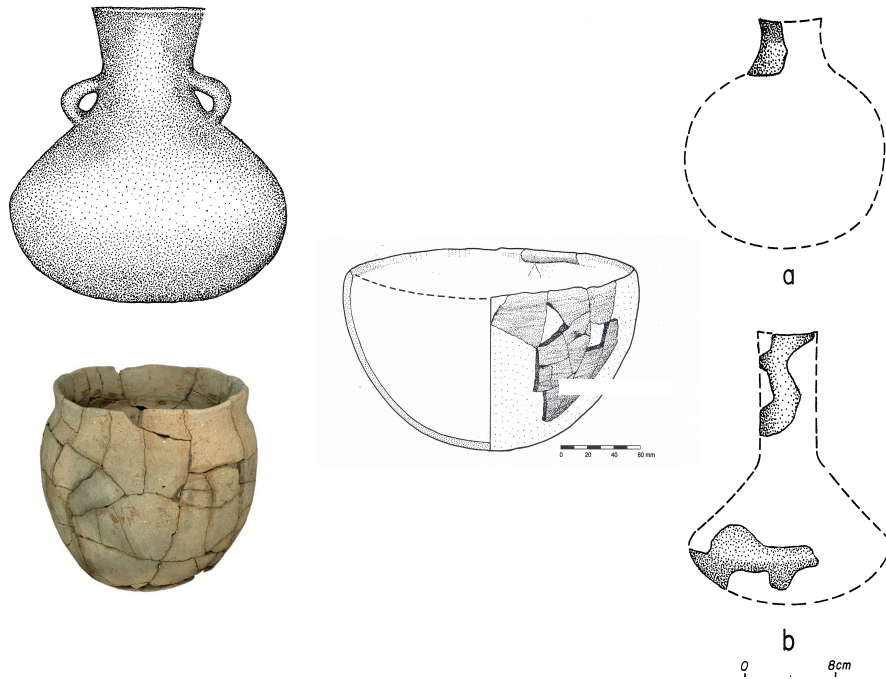


Figure 6-10: Range of Classic Toyah vessels (from Highley 1986:121; Johnson 1994:190; Treece et al. 1993:75)

expanding it upward and outward. Unlike most of their surrounding neighbors who used a rounded potsherd, piece of leather, or a gourd to shape and roughly smooth the vessel, Toyah potters apparently used the end of a frayed stick to achieve the initial stage of smoothing the vessel walls. Most exterior, and to a lesser extent the interior surfaces, appear to be floated or burnished with a rounded stone, a procedure that involves applying a thin coat of water to the surface of the vessel after it has dried to the leather-hard stage and then rubbing the stone across the vessel until fine clay particles are brought to the surface producing a luster. Although it is difficult to tell for certain, some Toyah pots appear to be slipped. Vessels are then placed around an open fire to drive out

the remaining water, and after drying is complete, the vessel is then fired by propping it up on small stones, and a cone of wood or dung placed around it to create a rudimentary updraft kiln to fire it. Fire clouds are quite common on Toyah vessels and denote uneven oxidation during the firing process. After firing, some vessels have a wash applied, mostly to the interior surface, which often produces a dull matte finish. Rim elements tend to be underrepresented in the data, but in instances where they are present they mostly take on everted as opposed to inverted forms, and their shapes in cross-section are either rounded or beveled.

Assessing the degree of craft specialization involved in the production of Classic Toyah pottery relied on the employment of a “standardization hypothesis,” which hinges on the assumption that in order to meet increasing demands for their products, specialists will seek economies of scale to minimize the cost of production. In terms of material culture, this means that craft products that exhibit a relatively low degree of variability could be seen as being produced by highly specialized crafters, such as in the case of attached specialists whose full-time profession is the production of craft goods, whereas a relatively high degree of variability would be more in keeping with the work of independent specialists who produce goods on an intermittent, part-time basis.

In an effort to test the standardization hypothesis with respect to Toyah pots, I collected a range of published metrics on a sample of vessel groups from 18 different sites (*ref.* Creel 1990; Hall et al. 1986; Highley 1986; Jackson 1938; Johnson 1994; Quigg and Peck 1995; Ricklis and Collins 1994; Suhm 1957; Treece et al. 1993), and then subjected the published data to statistical analysis. The resultant sample breaks down to 14 ollas, 9 bowls, 7 jars, and 6 jars/ollas. The category jars/ollas reflects the limitations of the available data in which no necks or rim sherds were identified indicating that the vessel could be either form. Metrics collected on the sample included

surface treatment; sherd thickness; rim, body, base, and neck diameters; and degree of core oxidation. Available petrographic data were compiled and compared with respect to vessel form. To evaluate the degree of variance within the sample, the standard deviation (SD) and the corresponding coefficient of variation (CV) were computed by vessel form. Recognizing that certain vessel forms may be manufactured to more ridged specifications than others, this study was focused on assessing the degree of variability within the assemblage.

Although there is a range of variation in the finishes applied to the exterior surfaces of all vessel forms in this sample, most vessel exteriors (n=28) tend to be evenly smoothed and burnished, while slipping, washing, and painting are exterior surface treatments that are clearly in the minority (Figure 6-11). Interior surface treatments, on the other hand, are highly variable across the range of vessel forms (Figure 6-12). In terms of interior surfaces, four of the nine bowls exhibit uneven smoothing. Only two bowls appear to be burnished and in only one instance was a wash applied. Four out of seven jars have even smoothing on their interior surfaces and only two of these have been burnished and slipped. Half the ollas (n=8) have unevenly smoothed interior surfaces, while those that are evenly smoothed (n=6) exhibit the application of additional surface finishing in the form of burnishing, slipping, and washing. Clearly ollas received the most attention of all the other vessel forms in terms of having multiple combinations of surface treatment.

Firing conditions appear to be almost equally distributed between oxidizing and reducing conditions (Figure 6-13). Experimental studies indicate that pots showing oxidized cores reflect high firing temperatures above 900°C, while lower temperatures generally produce reduced cores (Parsons 1982 in Johnson 1994:192). Vessels that have graded cores likely represent uneven firing conditions where the overall temperature was

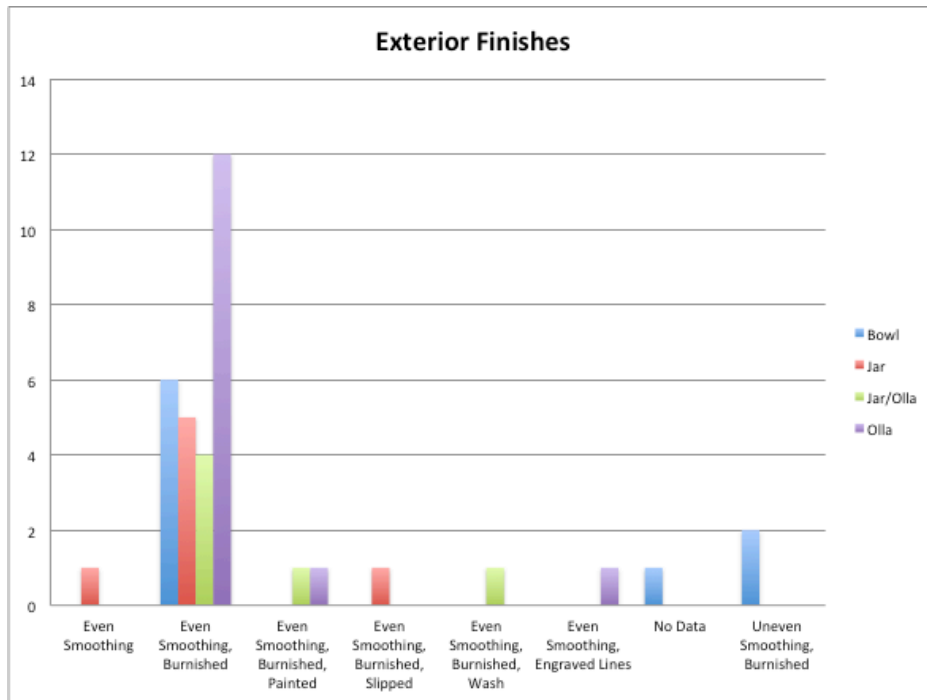


Figure 6-11: Exterior treatments on Toyah vessels

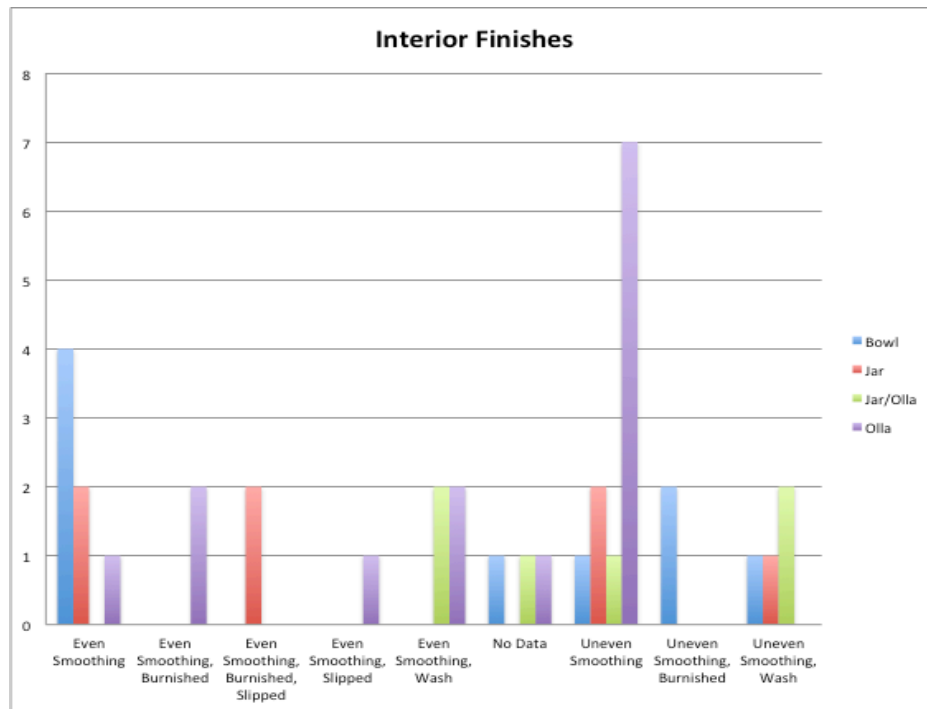


Figure 6-12: Interior treatments on Toyah vessels



high, but experimental studies show that if wood embers are allowed to fall on the vessel as the fire burns down, this will prevent the full and uniform oxidation of the vessel walls (Parsons 1982 in Johnson 1994).

To evaluate whether there exists a standard recipe for the materials used in the paste, the results of previous petrographic analysis were compiled and compared by vessel form (*ref.* Johnson 1994; Quigg and Peck 1995; Ricklis and Collins 1994; Treece et al. 1993). Although there were differences in the way the analysts grouped and defined the various data sets, for this analysis some were grouped under more general categories. For instance, while some analysts used specific mineral identifications such as quartz, feldspar, orthoclase, calcium carbonate, etc. in their terminology, this study simply grouped all those specific types of minerals under the category “minerals”. All the other categories used matched those of the previously defined and were expressed in terms of a percent of the whole. Table 6-6 presents the analysis results of the petrographic data in terms of the mean percentage, standard deviation, and coefficient of variability for each ingredient in the paste with respect to vessel form. Although the data are small, making it difficult to place a high level of confidence in the results, the preliminary calculations would seem to suggest that the amount of clay used in making ollas is much more homogeneous than that used in jars or bowls. On average the ratio of clay to temper appears to be 2:1 in ollas, while it can be as much as 3:1 in the case of jars and as much as 4:1 in bowls. This rather high coefficient of variation with respect to the amount of bone additive in all vessel forms could reflect adding different volumes of bone to reduce the tackiness found in many clays (Miller 1984:3). The high variation in minerals, limestone, and hematite could relate to the varying mineralogy reflected in the range of different clay sources used in the pots. One would expect such a high dispersion in the

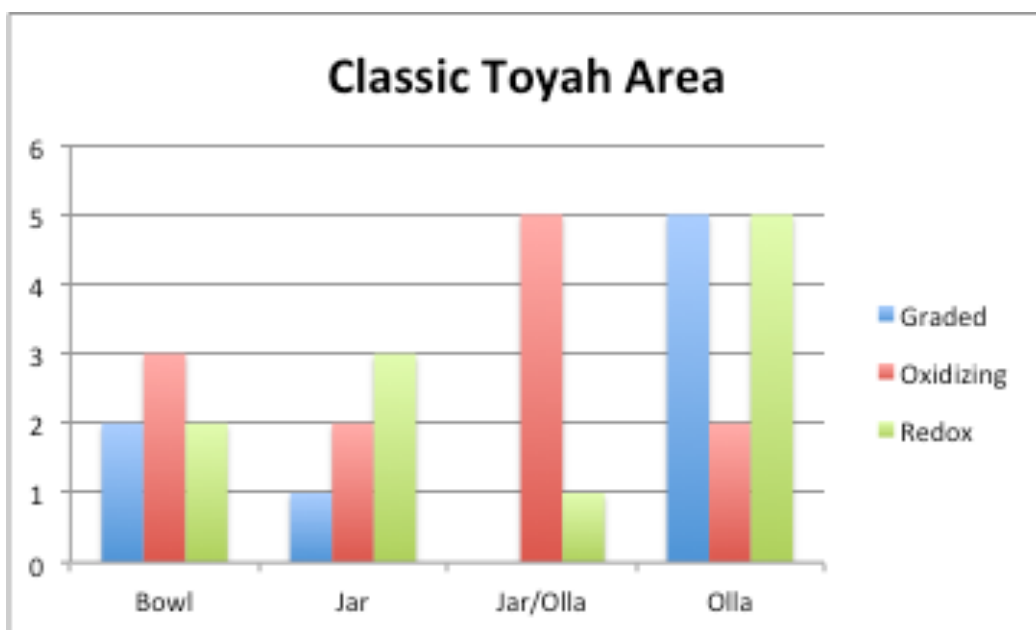


Figure 6-13: Degree of firing in Classic Toyah vessels

	Matrix			Bone			Minerals			Limestone			Hematite		
	Mean %	SD	CV	Mean %	SD	CV	Mean %	SD	CV	Mean %	SD	CV	Mean %	SD	CV
<b>Bowls</b>	66.2	18	27	20.2	5.439	27	7.5	1.767	23	1.5	8.832	-	2.4	0.7	29
<b>Jars</b>	47.1	14.7	31	23.8	6.733	28	14.2	9.961	70	5.8	6.874	-	3.4	1.45	43
<b>Ollas</b>	49.8	0.35	<1	25	7.77	31	10.3	7.142	69	1.1	0.778	70	3.6	1.56	43

Table 6-6: Petrographic data on Classic Toyah vessels

mineralogy of the clays given that these are mobile potters who are obtaining raw materials from different local sources over large regional areas.

The same descriptive statistics were used to evaluate variation in vessel dimensions (Table 6-7). Here, preliminary results appear to indicate that bowls have a high degree of variation in size and shape. With the exception of the resulting

	Rim			Body			Neck			Height			Wall Thickness		
	Mean (mm)	SD	CV	Mean (mm)	SD	CV	Mean (mm)	SD	CV	Mean (mm)	SD	CV	Mean (mm)	SD	CV
<b>Bowls</b>	120	30	25	180.8	47.2	26	-	-	-	115.5	42.12	36	5.83	1.30	22
<b>Jars</b>	157.3	6.42	4	180	14.4	8	100.3	51.3	51	190.7	14	7	5.93	0.85	14
<b>Ollas</b>	83.33	15.27	18	242.9	43.0 1	18	86	16.7 3	19	207.5	22.17	11	5.66	2.10	37

Table 6-7: Dimensions on Classic Toyah vessels

calculations with regard to their neck dimensions, which likely reflect an error in estimating their diameters based primarily on partial vessel reconstructions, jars seem to exhibit a relatively narrow range in size. Moreover, although on average jars appear to have the thickest walls of the three vessel forms, the thickness of these walls varies less than 1 millimeter. The relatively large standard deviation particularly with respect to the maximum diameter of ollas suggests that ollas come in a number of different sizes. Interestingly though, if we compare the mean diameter of the neck and body elements of ollas it would appear that these measurements co-vary by an average factor of approximately 2.84 +/- 0.06, suggesting that although ollas may come in a number of different sizes, all sizes appear to conform to a standard body to neck ratio with respect to their design.

Recent Instrumental Neutron Activation Analysis on over 600 ceramic vessel and clay samples indicated that, although there are a few localized outliers related to extramural local production or trade, the bulk of the INAA data suggest that Classic Toyah pots were produced and used locally within two broad geographic subareas. These

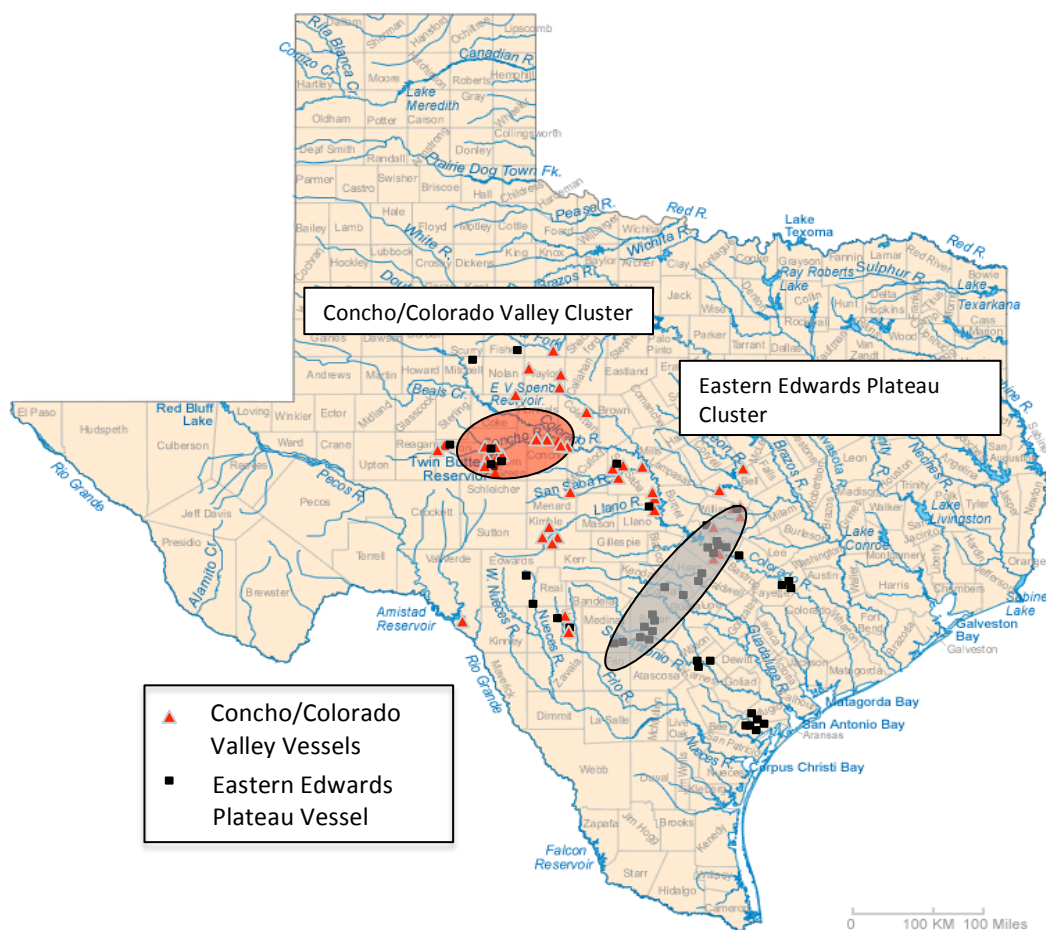


Figure 6-14: Results of INAA study indicating two clusters of Classic Toyah pottery manufacture and use (figure by author after data provided in Creel et al. 2013)

include: (1) the area of the Concho and Colorado river valleys in West-Central Texas; and (2) along the Eastern Balcones Escarpment in Central Texas proper (Creel et al. 2013) (Figure 16-4). This study also concluded that this distribution correlated well with the locations of seasonal gatherings of large native groups, as noted in the early colonial accounts. This is an interesting correlation with respect to pottery, and potentially its use in feasting because in order for pots to be worthwhile for mobile groups, potters have to have large populations to take advantage of the economy of scale that making pots as opposed to baskets provides.

Although the sample size in the current study was too small to meaningfully compare the data with respect to the two focal areas of production, some interesting preliminary results seem to suggest that certain Classic Toyah vessel forms, namely ollas, exhibited more homogeneity in their design than other vessel forms. First, ollas tend to have higher ratios of bone with respect to the clay matrix than any other vessel form, as higher volumes of temper may be needed to increase the strength and durability of the vessel, or alternatively there may be a cultural reason for this aspect. Secondly, higher percentages of ollas appear to be worked more finely, marked by more evenly smoothed and burnished exteriors than exhibited in other vessel forms. Furthermore, it would also seem that although ollas varied in terms of size, the necks and maximum body diameters appear to co-vary within a specifically defined range suggesting that ollas may have been made in accordance with a somewhat uniform design criterion. It can also be argued that ollas take considerably more skill and knowledge to form than jars or bowls, as particular expertise is required to successfully execute the inward curve of the vessel's shoulders and necks.

Whether all this relates to craft specialization may seem unclear, especially given that overall there is a considerable amount of variation expressed in the sample as a whole; however, such a level of variation might not be wholly unreasonable to expect. Other than sample size, another explanation for this might be that because independent, part-time craft specialists focus on the manufacture of domestic goods and items for ritual purposes, their work tends to be relatively less systematic and highly variable in comparison to attached specialists who focus their work at the extra-domestic level and on the production of prestige items, hence the variability in the former's work tends to be comparatively high (Brumfiel and Earle 1987:8). It may be unrealistic to expect such an assemblage to produce clear evidence with respect to craft specialization as studies on

prehistoric hunter-gather pottery-making in the Great Basin indicate that hunter-gatherer potters face numerous challenges when it comes to making pots (Eerkens et al. 2002:201). Among these is the fact that making pots requires the potter to remain in a particular location for a lengthy period of time in order to collect and process the required raw materials, and to form, dry, and fire vessels. These activities directly compete with high residential mobility and the gathering of foodstuffs that may only be available for brief periods of time. Because of this, potters in mobile groups tend to lack consistent access to ideal clay sources, and due to this they most often have to make do with what is available and use various additives in different amounts to achieve a medium that will respond sufficiently to the production process. All these factors work together to inhibit the development of a consistent ceramic technology despite the knowledge and skill of the potter. So, in view of these circumstances, maybe it is not so out of the ordinary for an assemblage of this nature to exhibit a relatively high degree of internal variability in comparison to pottery production among more sedentary populations.

As to the function of Toyah pots, there are only a few references in the colonial records of Natives using them. The first is from Cabeza de Vaca in which he mentions that one of his men took an olla from a deserted native settlement (Krieger 2002:179), and later he describes how some native men used a container to brew a tea made from roasted leaves (Krieger 2002:211). Other functional references to pots include one made by the Frenchman Joutel who says that the Natives use earthenware pottery to cook meat and roots (Foster 1998:173). Nevertheless, I speculate that since ollas appear to be manufactured to a higher standard than other Classic Toyah forms they are the most likely of the vessel types to be linked to nascent, likely part-time, craft specialists, possibly for some sort of ritual purpose. I infer this principally from the large body of ethnographic evidence indicating that craft specialization usually emerges in small-scale

societies as a means to produce objects for ceremonial and ritual reasons. With this in mind, I refer back to the elaborate funerary rituals performed on behalf of a healer as described by Cabeza de Vaca, in which the cremated remains of the deceased are curated for a year or so before they are mixed with water and consumed by his relatives (Krieger 2002:184). Alternatively, ollas and other Toyah vessels may have also been used to process, store, and/or serve intoxicating beverages or other inebriating substances consumed during ceremonies involving feasts. Within the last decade the analysis of chemical residues extracted from prehistoric pottery has resulted in the identification of certain biochemical compounds such as tartaric acids and yeasts that all form during the fermentation process (Isaksson et al. 2010; McGovern et al. 2005; McGovern and Hall 2015). In addition these same analysis techniques have also been applied toward the identification of certain alkaloids such as caffeine and mescaline related to the prehistoric use of cacao in Mesoamerica, black drink in North America, as well as the use of peyote in Texas and northern Mexico (El-Seedi et al. 2005; Rafferty 2007). Recent work on biochemical residues and microfossils obtained from Classic Toyah pottery sherds has produced evidence that Toyah pottery vessels may have contained grape wine and/or black drink (Dozier 2018b). Work along these lines should continue to amass a database for biomarkers that reflect the fermentation of substances like agave, prickly pear, and mesquite beans as detailed in the ethnohistoric accounts.

### **Toyah Blades, Specialization, and Itinerant Trade**

Late Prehistoric blade technology has largely been viewed in the context of specialized production for the purpose of exchange, whereby the motivation behind the production of blades is the desire to produce large quantities of relatively uniform, standardized tools for the purpose of attracting desirable trade partners and to telegraph

messages related to social status (Hofman 1987; Morrow 1988; Perry 1994). On the other hand, in situations of abundant source material, blades may have acted as a standardized modicum of exchange, or perhaps offered a more efficient means of transport as in the case of a specialized blade-core trade commodity (Hofman 1987; Yerkes 2003).

Blades have been defined in a number of different ways ranging from flakes that are at least twice as long as they are wide (Bordes 1961), to a specialized flake with parallel to sub-parallel lateral edges; having plano convex, triangular, subtriangulate, rectangular, trapezoidal cross sections; and with two or more crests or ridges along the blade's dorsal surface (Crabtree 1982:16). Johnson (1983:50) slightly modified Crabtree's definition by replacing the requirement to have two or more ridges along the dorsal surface to having at least two parallel flake scars along the dorsal surface.

True blades are the result of blade technology, which in contrast to the unintentional production of the occasional blade-like flake, reflects a particular set of knowledge, skill, strategy, material, activities, and equipment to intentionally produce blades (Collins 1999:8). Aside from true blades, blade technology can also be oriented toward the production of microblades, which are small blades that measure no more than 3 cm long by 1 cm wide (Collins 1999:10). Toyah blades run the range of blade sizes, but caches are mostly comprised of true blades. From an economic point of view, the systematic production of blades acts not only to conserve raw material, but at the same time produces a stronger, more efficient cutting tool than any other form of lithic technology (Price and Feinman 1993:47). Blade technology in particular is ideally suited for craft specialization as it permits a single skilled individual to produce large numbers of uniform and standardized tools well in excess of their own internal household needs (Clark 1987).



From Cabeza de Vaca we know that one mechanism in which trade occurred during the Toyah Interval was by way of an itinerant trader, and that he traveled for nine months out of the year visiting various native groups not only trading a wide range of different items, but also producing some of them himself. One type of item he mentions in particular that he traded for was flints for arrows (Krieger 2002:189). Although it cannot be certain that the flints Cabeza de Vaca traded for were blades, there is a line of evidence to suggest that they more than likely were. For instance, blade technology is represented in many Toyah assemblages from far western Texas to the Gulf Coast (Collins 2004; Hester and Shafer 1975; Patterson 1975). At many of these sites, blades occur both in their primary form as modified flake tools, as well as being recognized as preforms used in the manufacture of many formal tools such as endscrapers, burins, and Perdiz arrowpoints (Carpenter et al. 2012; Johnson 1994; Mallouf 1987; Ricklis and Collins 1994; Tunnell 1989). Attesting to the linkage of craft specialization to itinerant trade are three Late Prehistoric-age caches consisting of numerous blades made from high-quality Edward's Plateau chert found hundreds of kilometers away from their raw material sources.

Discovered by two linemen installing a power line in rural Kent County on a small sandy knoll overlooking the Salt Fork of the Brazos River, the Weaver-Ramage Cache consisted of over 800 high-quality Edward's chert artifacts. While excavating the cache the two linemen, Don Weaver and Mike Ramage, reported that the artifacts were recovered from a circular pit measuring 0.3 m in diameter and approximately 0.5 m deep, and that the edge of the pit was lined by a thin ring of organic staining, suggesting that the items were originally buried in a basket or perhaps a leather bag. The Weaver-Ramage Cache is an isolated cache, meaning that it was not located at or near an occupational site or quarry, and therefore likely the result of a single caching event as

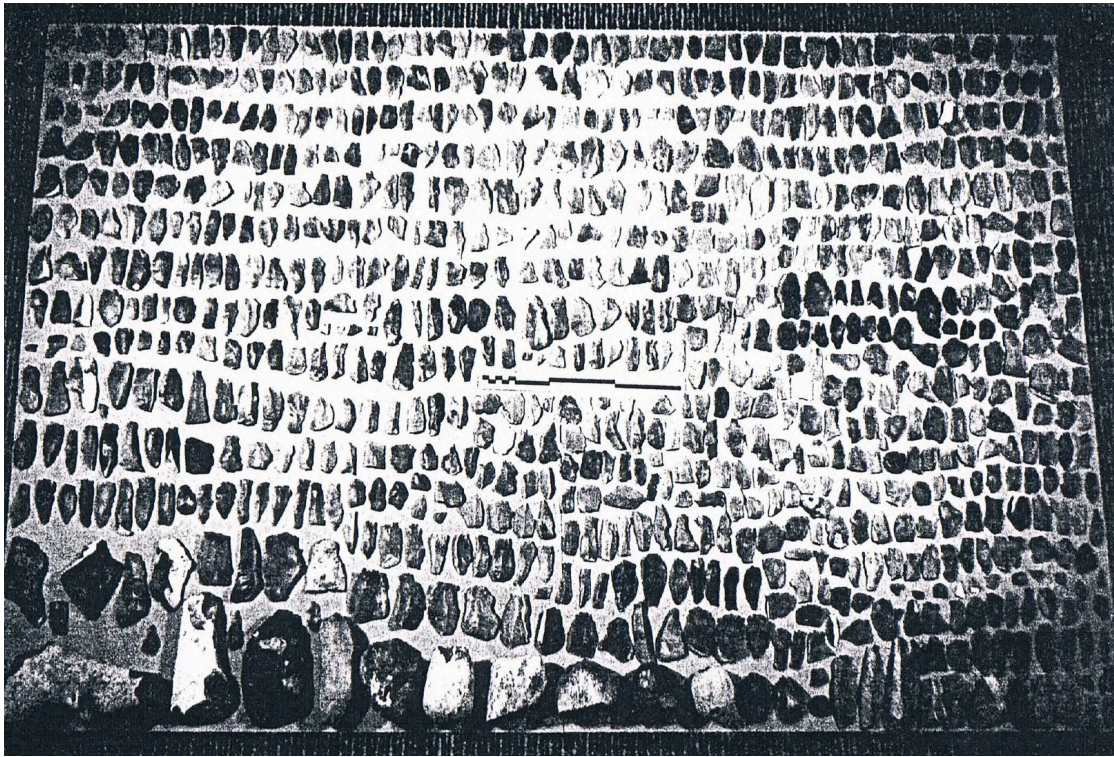


Figure 6-15: Weaver-Ramage Cache (from Tunnell 1989:371)

opposed to several events over a period of time. Subsequent analysis of the collection revealed that it consisted of 654 blades, most of which ( $n=384$ ) were intact; 24 unifacially trimmed modified flakes; 21 biface thinning flakes; 102 flakes and chips; eight tested nodules; and a core and large biface both in the process of being reduced (Figure 6-15). Also included in the cache and placing it squarely within the Toyah Interval was a Harahey beveled knife, a broken thin oval biface, together with a single Perdiz arrow point (Tunnell 1989:370). Closer inspection of the collection revealed that many of the specimens could be refitted into 75 individual, partially reconstructed cores from which the blades were struck. In one instance, a group of ten blades were refitted to reassemble a small core, and 16 bifacial thinning flakes were identified as being struck from the very same large biface found in the collection, some of which could even be refitted to it.

Many of the blades (n=383) were struck in sequence from small cores, possibly river cobbles, with the intent to systematically and efficiently create a high volume of arrow point preforms, while a few large blades (n=3) exhibiting high curvatures and steep-angle terminations were likely intended as prototypes for endscrapers (Tunnell 1989:390). From the standpoint of craft specialization and itinerant trade, what is more interesting was the inferences made from totaling all the flake scars observed on the specimens that did not have a refit, which suggested that the knapper or knappers could have originally reduced over 200 cores, producing over 2,000 blades. Tunnell (1989:388) inferred from this that many of the missing blades were either broken during manufacture, or were traded and utilized during their trip from the nearest raw material source areas along the Callahan Divide.

A second cache of Edward's chert artifacts was documented at the Bridwell Site in Crosby County, Texas. The Bridwell Site is one of several archaeological sites located along the eastern edge of the Llano Estacado in Blanco Canyon that have all been assigned to the Garza Complex dating from 1350-1650 CE. The cache was discovered in the 1960s by Mr. C. D. Cash, a longtime resident of Crosby County, when he visited the site and happened upon a small animal burrow in which he observed several flakes protruding from its interior walls. Mr. Cash removed about 10 cm of overburden and exposed a tightly stacked cluster of chert items measuring approximately 20 cm in diameter and 12 cm in depth. The cache was originally reported in a manuscript produced by Wayne Parker on the Bridwell Site (Parker 2000; also see Baugh 1992), and since that time the cache has been on display at the Crosby County Historical Museum in Crosbyton, Texas.

In the winter of 2016, I was allowed to document the collection and found that it consists of 127 chert artifacts, and oddly a single valve of a large freshwater mussel. The



Figure 6-16: The Bridwell Cache (41CB27) (photo by author)

assortment of chert artifacts can be further broken down into 50 blades, 66 flakes, and 11 formal tools comprised of both end and side scrapers (Figure 6-16). All artifacts are made from Edward's chert. At least 13 different chert varieties are represented; however, of those a little over half of the specimens (n=68) are made from a particular variety of high quality gray-colored chert often referred to as Georgetown flint, which is named after its well-documented source area in Williamson County, Texas. Seventy-six specimens have some degree of cortex remaining on their outer surfaces along with large single faceted platforms, together suggesting that they were reduced mostly from nodular cores using direct percussion with a hammerstone. Most flakes in the cache (n=57) have various degrees of edge modification in the form of nicking as well as a range of light to heavy polish, while few blades have edge nicking (n=5) and a little less than half (n=23)

exhibit a range of light to heavy polishes. This evidence suggests that the Bridwell Cache is likely a tool cache that was stored as “passive gear” insuring that tools were available for the processing of a particular resource (see Binford 1979:256).

A third blade cache is the Brookeen Creek Cache that was found in a plowed field overlooking a tributary drainage of Tehuacana Creek in Hill County, Texas. Like the Weaver-Ramage Cache, this one was also isolated from any prehistoric habitation or quarry site, and consisted of a collection of chert artifacts. Aside from the 26 specimens recovered from the remnants of a small caching pit measuring approximately 0.15 m in diameter and 0.17 m deep, a total of 147 additional specimens had been scattered laterally within a distance of 5 meters from the pit by past agricultural cultivation. Subsequent analysis of the 173 total specimens in the collection identified that 141 were made from high quality gray-colored Edward’s chert (likely of the Georgetown variety), while the remaining 32 smaller blades and flakes were manufactured from locally occurring, tan-colored, fine grained chert (Mallouf 1981) (Figure 6-17). Although no temporal diagnostic artifacts were recovered from the cache, the overall small size of the blades, their slight curvature, and relatively large single-faceted platforms indicating direct hard hammer percussion, are all characteristics consistent with other blade caches that date to the Late Prehistoric Period (Tunnell 1978:53). In the case of the Weaver-Ramage and the Bridwell caches, the closest source area for the high-quality, gray-colored flint represented in those collections has been documented at outcrops along the Callahan Divide (Thoms 2000; Tunnel 1987:369), a distance of over 160 km to the south. With respect to the Brookeen Creek Cache the nearest source area for the high-quality Georgetown flint that makes up the majority of the collection occurs 200 km to the south along the Edwards Plateau (Figure 6-18). This northern movement of large quantities

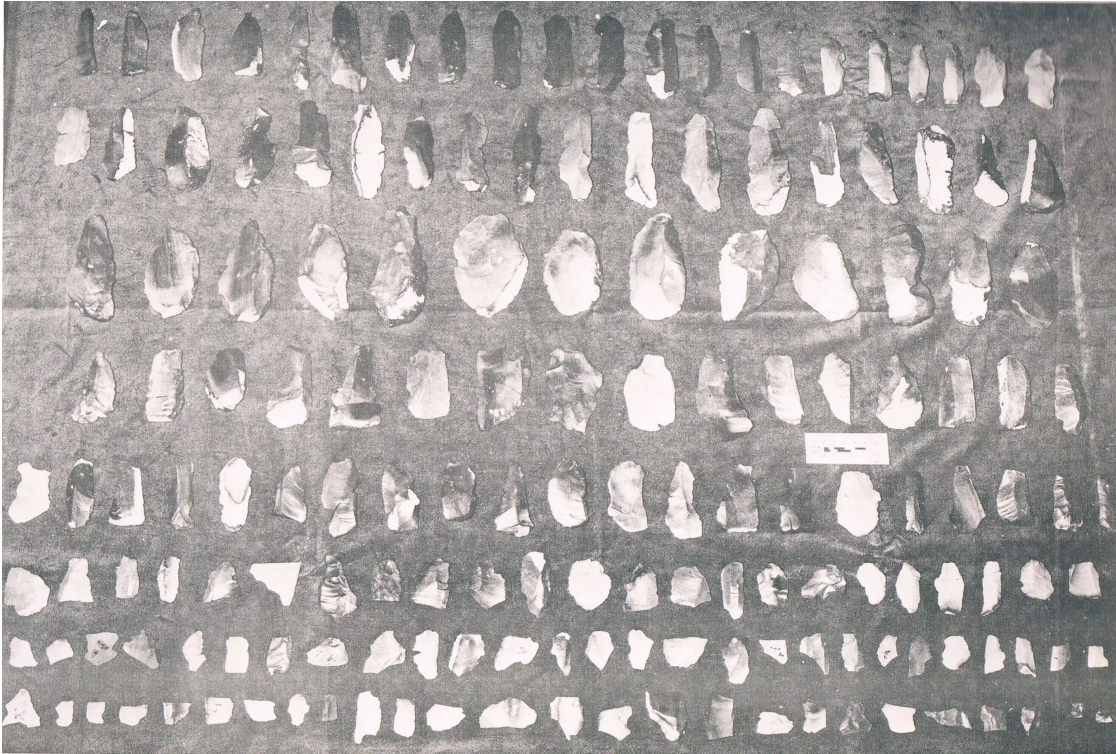


Figure 6-17: The Brookeen Creek Cache (from Mallouf 1981:ii)

of high-quality tool stone as mostly blades has all sorts of behavioral implications, but of primary interest for this study is whether this type of caching behavior is reflective of craft specialization and itinerant trade in accord with the Cabeza de Vaca model described in chapter 4.

Studies on the diversity of lithic core reduction strategies with regard to prehistoric assemblages have been useful in providing general estimates as to the ratio of producers to consumers within a particular society (Goodale et al. 2008), and in turn can provide some relative measure of specialization. It is important to note that when referring to diversity with respect to a particular core reduction strategy, those artifacts that are highly diverse represent the use of a rather unsystematic reduction strategy, such

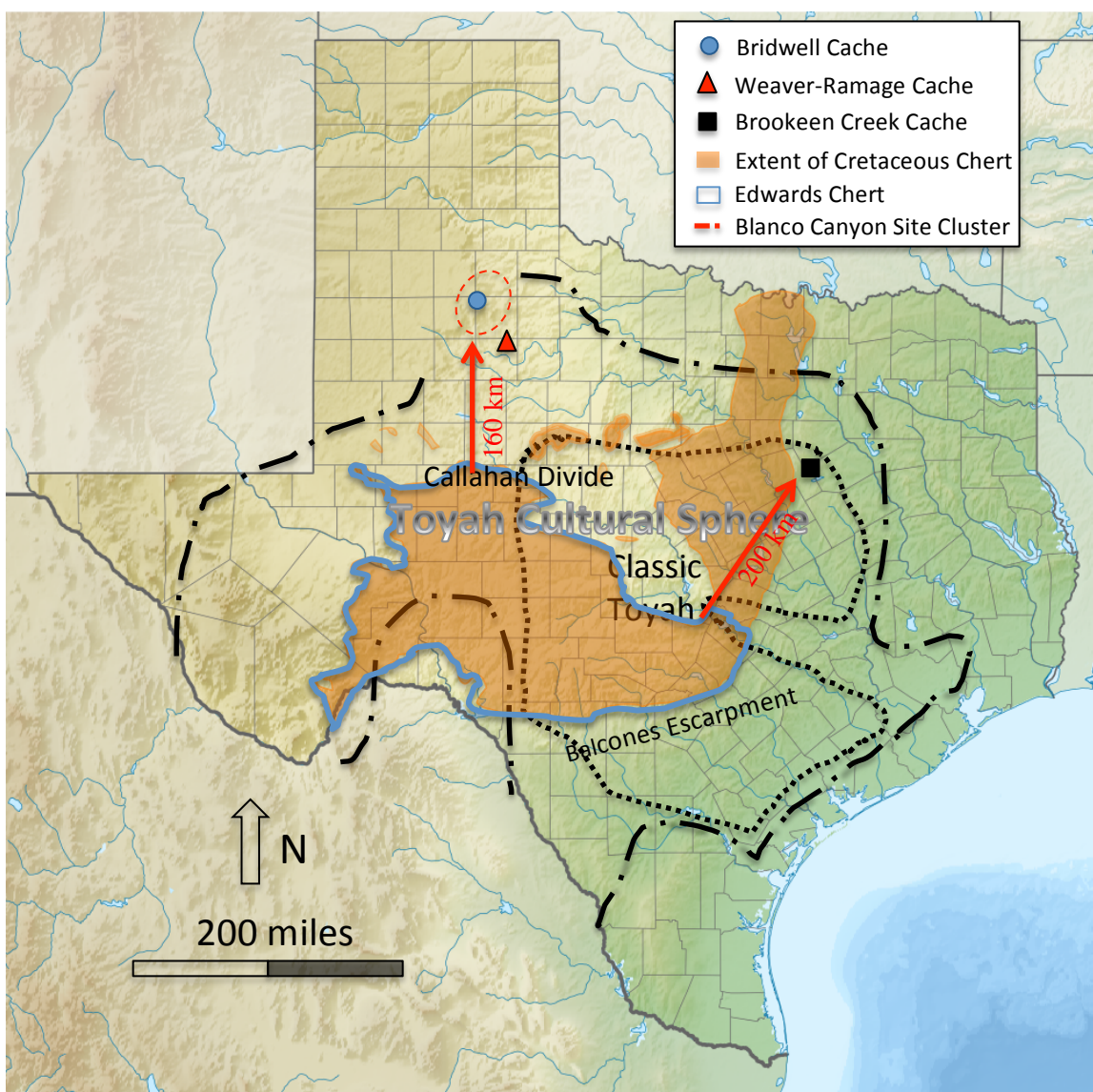


Figure 6-18: Locations of Late Prehistoric blade caches and their distance from source areas (figure by author)

as in the case of an expedient core technology, while those that exhibit low diversity tend to be more systematic, as in a blade core technology. Although diversity in this regard has a rather complex relationship with the availability and quality of raw materials, in general it can be said that when the availability of high quality tool stone is constrained

either by geographic distance or group territoriality, the diversity of a core reduction strategy decreases, reflecting in a lower ratio of producers to consumers (Goodale et al. 2008:325). With this in mind, one could certainly argue that the individuals who produced the caches were highly knowledgeable about where to find high-quality raw material, or they had social networks that were robust enough to allow access to it through intermediaries. In addition to how raw materials were acquired, the fact that the knapper(s) responsible for the caches were: (1) largely using a systematic lithic core reduction strategy that maximizes tool edge while conserving raw material, and (2) were making high volumes of tool preforms as opposed to finished tools, suggest the knappers were likely specialists working toward an economic goal rather than one focused purely on their immediate household subsistence needs. It is evident in the case of the Weaver-Ramage and the Bridwell caches that the intended consumers were likely Garza Complex people occupying sites in and around Blanco Canyon (see Figure 6-18). All three of the Late Prehistoric sites in this area that have been investigated are contemporaneous with the Toyah Interval and contain relatively high amounts of Edward's chert debitage. In fact, Edwards Plateau chert makes up about 88% of the flaked stone material recovered from the Bridwell site (Parker 2000:50); over half (n=54%) of the flaked stone material recovered from Area 1 of the Floydada Country Club site, a documented major exchange gathering (Word 1989:74); and almost 40% of the flaked stone material from the Montgomery Site (Northern 1979:84).

Although it is clear that these caches occur a fair distance away from their material source, arguing that itinerant specialists were responsible for their transport presents a difficult challenge from a purely archaeological point of view. Research on the acquisition of raw materials for the manufacture of "utilitarian" items suggests that they could be obtained in several ways either through direct procurement as in the case of



special tasks groups, through acquisition embedded within normal residential mobility, or through exchange (Binford 1979; Eriksen 2002). However, it is well documented that hunter-gatherers also practice certain forms of non-subsistence-related mobility (Jochim 1998; Kelly 1995; Whallon 1989). Reasons behind hunter-gatherer mobility for non-subsistence purposes have been described in terms of network mobility and informational mobility (Whallon 2006; Whallon and Lovis 2011). Network mobility refers to the movement of hunter-gatherers, whether individually or in groups, for the maintenance of regionally important social relationships, and because group membership in hunter-gatherer societies tends to be quite fluid, non-subsistence related travel is necessary to maintain economic ties, as well as for conflict resolution among groups in adjacent regions. Informational mobility, on the other hand, relates to extra-regional travel for purposes of refreshing environmental and social information. Because it entails movement over much larger distances than that of network mobility, it usually occurs principally for symbolic reasons. Generally, network mobility is recognized archeologically as the regional movement of utilitarian items such as in the case of lithic raw material, and although the distance traveled can vary in accordance with specific regional and social parameters, network mobility commonly occurs within a range of 200 km, while informational mobility generally involves the movement of symbolic or ritual items within distances of between 200 to 600 km (Whallon 2006:269).

The idea of the itinerant crafter/trader is not new to archaeology, and as a concept can be traced back to V. Gordon Childe. Childe contended that since small-scale self-sufficient village societies of Early Bronze Age Europe generally lacked the surpluses required to support full-time craft specialists, such individuals compensated for this deficit in surplus by becoming itinerant. In other words, craft specialists had to make their living “on-the-road” providing their services to many chiefs and villages. He added

that caching behavior was a common practice among these traveling specialists as they buried the items of their trade for safe keeping along their routes (Childe 1930:44). Considering the physical evidence, it would seem that there was some degree of specialization involved in the production and possibly the transport of all three caches. The fact that the caches appear to represent systematic production by a single or a few specialists, that they were found hundreds of kilometers from their parent lithic source area, and combined with the notion that the caches are made up of primarily utilitarian items apparently for domestic exchange, are all factors that seem to accurately fit the Cabeza de Vaca model for the itinerant trader/crafter.

#### **CONCLUDING REMARKS**

This chapter set out to evaluate the Toyah archaeological evidence for the socially complex behaviors of feasting and craft specialization. Specific questions addressed in this analysis included: (1) what is the archeological evidence for feasting activity with reference to how food is being prepared, distributed, and consumed that would reflect differential social status; and (2) what evidence is there for craft specialization, and if any, what can it say in terms of how the production and distribution of craft goods may have been socially configured?

Because feasts are largely seen as political events involving the production of large quantities of food as well as special quality foods, the assessment of the Toyah archeological record in this regard centered on an analysis of burned rock middens and faunal bone concentrations. Although recent studies show an increase in the numbers and sizes of burned rock features during the Toyah Interval with respect to earlier periods as a pattern indicative of the processing of large volumes of food, this same pattern as seen in the Eastern Trans Pecos appears not to represent the production of higher food quantities,

but rather points to the possibility that ring middens were used in the production of special quality foods (i.e. intoxicating substances). Moreover, because feasts are political events involving the negotiation of relationships between individuals and groups that are embedded in the materiality of how food is prepared, displayed, and consumed, an analysis on the distribution of faunal bone concentrations at the Hinojosa Site was interpreted to potentially represent a pattern indicative of the existence of social differentiation.

Questions related to craft specialization were approached with an analysis of the available data on Toyah ceramic vessels and blade caches. In the former instance, the analysis involved collecting a set of descriptive and metric data on the range of Toyah vessels and evaluating the data with respect to the standardization hypothesis. Although the data are small and incomplete, preliminary findings suggest that among the vessels examined, ollas appear to display the most homogeneity and represent the most likely vessel form to have been produced by craft specialists. It is also implied through the study of three blade caches and their distributions in relation to their material source, that they too appear to indicate a nascent form of craft specialization involving the systemic production and transport of high volumes of blades for economic exchanges and potentially other social reasons.

## Chapter 7

### Concluding Thoughts

The traditional interpretation for Toyah society as one consisting of bands of economically independent egalitarian hunter-gatherers is in its early stages of being reviewed and challenged by a number of aforementioned recent studies. The picture of Toyah society that is emerging from this research is one characterized by increasingly sophisticated technological and economic intensification involving periodic group aggregation, commodity production, a dual economy based on a semi-sedentary hunter-gatherer/farmer strategy, integration within regional and long-distance exchange networks, and group conflict and violence. Because such attributes have all been documented in the ethnographic record as aspects associated with emergent social complexity, this dissertation was intended to be an initial investigation into defining the nature of inequality and status in late prehistoric Toyah society. As traditional social organizational frameworks (i.e. band, tribe, chiefdom, state) tend to be too rigidly defined to facilitate an analysis of what appears to have been a technologically and economically sophisticated mobile population, this study was organized with respect to more recent theoretical debates on complex hunter-gatherers. In addition to providing a more robust contextual structure toward the understanding of emerging social complexity in small-scale societies, complex hunter-gatherer theory also provides a number of intermediate-level behavioral models that facilitate linking patterns of material culture to the high-level theory of social complexity. Specific behavioral models approached in this investigation included feasting, violence, and craft specialization. Embedded within these behavioral models are all the characteristics observed above in previous research (i.e. group aggregation, exchange, commodity production, technological and economic

intensification, etc.). With these topics in mind, this dissertation approached the available ethnohistoric and archaeological data guided by four general questions: (1) what is the textual evidence for inequality and status with respect to the phenomena of feasting, violence, and craft specialization in Toyah society, and do the colonial accounts identify any contextual information that will help construct models of social complexity that can be tested with the archaeological data; (2) what is the direct evidence of social inequality and status as encoded in the mortuary data, and what is the character and magnitude of skeletal evidence in support of violence; (3) what is the archaeological evidence for feasting activity, and in what ways is food being prepared, distributed and consumed that would reflect the existence of differential social status and inequality; and (4) what archeological evidence is there for specialized crafting and what does it say in terms of how specialized production and the distribution of craft goods may have been socially configured?

Because the Toyah stone tool assemblage is defined as an adaptively advantageous stone tool kit with a much wider geographic distribution than just the extent of Classic Toyah pottery, the unit of study used in this investigation included the maximum geographic extent of the larger Toyah horizon, but to maintain continuity with previously established terminology, this study adopted Johnson's term, the Toyah Cultural Sphere to refer to the greatest extent of the Toyah technocomplex, which in cognitive terms represents the maximum penetration of what could be considered a Toyah worldview. The following discussion is intended to convey the general findings of this exploratory study into the ethnohistory and archaeology of the Toyah Cultural Sphere.

## THE ETHNOHISTORIC RECORD

The analysis of the colonial records found numerous accounts referring to status and inequality among the Native American populations the Europeans encountered during their movements in and around the Toyah Cultural Sphere during the sixteenth through the early eighteenth centuries. The earliest of these dates back to the early half of the sixteenth century with Cabeza de Vaca. In his accounts he refers to at least two kinds of special status individuals, healers and traders, as well as another category of individual whom he identified as slaves. He also remarks that males were favored over females, and that Toyah society had accommodations for two-spirit people. From Cabeza de Vaca's own example and from what he writes about the trader, this type of special status individual travels nine months out of the year within a range of approximately 200 km visiting other hunter-gatherer groups, and trading in both domestic items and those used for personal adornment. Because he tells us that while he was a trader he made combs, mats, and other trinkets, this indicates that traders also engaged in some level of craft production. What is interesting about Cabeza de Vaca's personal account as a trader is that at least initially, he seems to be performing his duties as a slave working on behalf of a patron, but yet is allowed to travel considerable distances to engage his various trading partners. According to Cabeza de Vaca, healers have the greatest freedom as they are permitted to have more than one wife, and since he outlines that it is the custom for the patient of a healer to surrender all their possessions to him after receiving treatment, presumably healers are allowed to amass wealth. Healers are also venerated in death, and unlike common people who are buried, healers are cremated and given special funerary rites. Like traders, healers also seem to be traveling individuals.

Later sixteenth century documents identify specific native leaders of both village-dwelling and mobile groups within the area of La Junta in far western Texas as captains,

and it is even noted that one particular captain was respected by the others, and from this it can be inferred that there existed an internal ranking among captains in Toyah society, a notion that becomes engrained in later Spanish colonial documents as the office of principal captain. According to a mid-seventeenth century document written by Father Pérez de Ribas, captains are heads of particular households or *rancherías* whose duties consist of organizing for war or arranging peace agreements with other nations. Although there is no particular verse or passage in the colonial documents that specifically outline the duties of a principal captain, it can be inferred from what the Spanish write about the Jumano captains Tuerto and Juan Sabeata, and the Catqueza captain Don Nicolas that they travel long distances, sometimes as long as nine months out of the year and in excess of a 500 km range to attend trade fairs, and to garner the support of other captains, as well as to lead large native coalitions in the execution of war or in the forging of peace alliances. It is clear in the records that the offices of captain and principal captain were not hereditary, but that such an individual achieved the status primarily due to their notoriety as fierce warriors, effectiveness as purveyors of news and information, and their ability to deliver persuasive oratories.

The colonial accounts also refer to large native gatherings comprised of anywhere between 300 to 10,000 people representing from nine to 66 individual nations. It appears from the analysis of these accounts that these events occur routinely at specific locations and likely on a seasonal basis. In Central Texas it would seem that these events largely coincide with the seasonal abundance of bison, while in South Texas they appear to primarily overlap with the ripening of certain plant foods such as prickly pear cactus fruits and possibly mesquite beans. Activities reported to have occurred at these gatherings included feasting, ceremonial singing and dancing (i.e. *areitos* and *mitotes*), rituals involving the consumption of tobacco and other inebriating substances, and

healing ceremonies. These events provided opportunities for various types of exchange from marriages and domestic goods to captives and other forms of prestige items.

The colonial records also contain numerous accounts of native violence and warfare. One of the most detailed accounts was given by Cabeza de Vaca when he explained how the Natives constructed defensive works and decoy encampments as methods of defense against attacking marauders, and even recalls a series of raids that took place against a group he was visiting. There is also an early report of a large coordinated siege carried out by a plains group known as the Teyas on a number of pueblo villages in the Galisteo Basin of New Mexico. Juan Sabeata, a principal captain of the Jumano and the Cibolo, recounts before the Spanish governor at El Paso a massacre that he and his allies carried out against a large Apache ranchería somewhere on the plains, where it is estimated that the defenders numbered in the hundreds. Other references to warfare were given by two Cibolo captains in a deposition to the Spanish governor of Chihuahua stating that they would often have violent disputes with other native groups over the killing of buffalo near their camps. Although these accounts appear to credit these intertribal conflicts to meta-level causes such as territorial claims and disputes over hunting rights, from at least one early account provided by Fray Alonso de Benavides it can be inferred that such conflicts may be traced to internal factional competition among special status individuals, an idea supported by a considerable amount of ethnographic research on emergent social complexity in small-scale societies.

Despite the fact that the colonial records have presented some unique interpretive challenges for archaeologists, their use in this investigation proved exceedingly valuable in building testable hypotheses for archaeological inquiry and in providing regionally nuanced interpretive context for the evaluation of observed patterns in material culture. Among the hypotheses generated was what can be called the Cabeza de Vaca model of



the itinerant trader/craft specialist. Contextual information provided by the records included a number of working definitions for the range of special status individuals who comprised Toyah society, and to help conceptualize the kinds of activities and the types of archeological signatures that might be associated with the behavioral models employed in this study, namely feasting, violence, and craft specialization.

### **THE MATERIAL RECORD**

Archaeological evidence for inequality and status was approached through the mortuary data and through patterns represented in a number of occupational assemblages spread throughout the Toyah Cultural Sphere. The analysis of the mortuary data was guided by two general questions: (1) what is the direct evidence, if any, for social inequality and status in the mortuary data, and how is it encoded in the material record; and (2) what is the magnitude of skeletal evidence in support of violence and does this reflect either small-scale interpersonal violence or large-scale intertribal conflict? Addressing these questions involved synthesizing numerous published and unpublished reports in the grey literature, and compiling and analyzing the data to identify patterns relative to issues of social inequality and status in hunter-gatherer societies. As a result, a total of 94 interments spread out over 26 sites were identified in the records as occurring within the Toyah Cultural Sphere.

Although some researchers disagree on temporal grounds with the inclusion of some of the burials in the mortuary sample presented in this dissertation, none can offer a clear resolution to the problem of when the Toyah Interval began or to what degree it might overlap with the previous Austin Phase. Despite this apparent impasse, I offer the following comments as preliminary observations for further study. To begin, although certain aspects of the burial traditions vary regionally and in accordance with the degree

of relative sedentism among the populations examined, there were some consistent mortuary practices observed across the Toyah Cultural Sphere including the use of burial capping stones to cover individual interments as well as similarities in cranial orientation. For instance, head orientations in adult males tend to be positioned with their crania pointing in a northerly azimuth, while in adult females they tend to be oriented oppositely in a southerly direction. However, this pattern does not always carry over to adolescents where regardless of the sex of the individual, the crania can be oriented in any direction. Despite the fact that sex is sometimes difficult to tell from the skeletal remains of subadults, this pattern suggests that the sex of an individual in Toyah society was not determined until a certain age and when certain rites were performed, a condition commonly associated with many hunter-gatherer societies marked by relatively high childhood mortality. Although the connection is admittedly weak given the small data set, it is interesting to speculate on why some adult individuals fail to conform to this pattern of head orientation. One possible explanation is that those individuals may have been intersex or considered two-spirit people, or possibly even slaves – a situation that is confirmed in the colonial accounts. For instance, in many plains hunter-gatherer societies it was not required that slaves follow strict rules with regard to the sexual division of labor, but that they could be set to any task their masters deemed necessary, and hence it is plausible that such sexual ambiguousness connected to the labor of slaves may have also become encoded in burial practices.

Despite the similarities addressed above, aspects of the burial assemblage that set Toyah apart from their less mobile neighbors of the Bravo Valley Aspect is the fact that the Toyah sample includes cremations and secondary burials. Moreover, while burials of the Bravo Valley Aspect were placed under house floors, many Toyah burials were found in rockshelters, caves, crevices, rock cairns, and in areas around springs. With

regard to the locations of Toyah burials, such places are generally considered sacred or ritual spaces by many indigenous societies cross-culturally, and tend to be laced with high context symbolic items like shrines, altars, rock art, and other ritual objects. The discovery of an altar among mortuary remains at Kyle Shelter in Hill County is substantiating evidence that this may have also been the case with Toyah society.

Finally, evidence of violent death was found to occur in over 35 percent of the burial data, and include interments found with multiple arrow point wounds, blunt head trauma, scalping, as well as the haphazard stacking of individual bodies within a tightly confined mass gravesite. Such patterns were found to be indicative of both individual raids in which only a few people were killed, and large complex massacres that can include dozens of related fatalities. All the interments that reflect evidence of violent death, occur either along the periphery of the Southern High Plains in northwestern Central Texas, or in the Middle Brazos River Valley along the northeastern boundary of the Toyah Cultural Sphere. It can be argued that violence of this magnitude is not only reflective of status differentiation but also factional competition and political development within hunter-gatherer societies.

Although the magnitude of violence provides indirect evidence for the existence of special status individuals, direct evidence in this regard is generally sought in the mortuary data, such as in the case of grave goods that differentiate the wealth and status of one individual from another. Incidentally, in only a few cases have burials in the Toyah Cultural Sphere produced much in the way of grave goods and studies show that too much emphasis has been placed on them as status indicators in hunter-gatherer groups. In an effort to assess relative wealth among individual interments, this dissertation used a multi-dimensional approach in the analysis of the mortuary data, which not only considered material wealth, but also measures of embodied and relational

wealth, which together have been seen as factors influencing status in hunter-gatherer populations. Embodied wealth pertains to the overall physical health, strength and cognitive ability of an individual, which all relate to productive success, and in this study was based on a qualitative assessment of the dental health and skeletal pathologies expressed in an individual. Relational wealth is based on the idea that those individuals having more advantageous social relationships tend to be physically healthier and more successful overall due to having more consistent access to a broader range of raw materials, food resources, trade and marriage partners. Particularly in hunter-gatherer societies, it has been shown that individual wealth is measured more in terms of embodied and relational forms than materially.

Based on the analysis of the available data in this regard preliminary results suggest that in Toyah society adult males overall tended to have better nutrition than adult females and adolescents, and that males did less heavy labor than females, a pattern that is also substantiated by the colonial accounts. In comparison to adult females, who generally exhibited more severe skeletal pathologies and traumatic injuries in the upper extremities, most adult males expressed these in the lower extremities indicating that adult males perhaps suffered from localized inflammation and traumatic injuries to the legs, a condition that can be caused, among other things, by excessive running. With respect to all three dimensions of wealth, three individuals stood out the most in the data as lacking both nutritional deficiencies and skeletal pathologies. This included burials 2 and 3 at the Salt Cedar Site, and the single secondary interment recovered from the Rough Run Site in Presidio County. In addition to above average embodied wealth, these individuals also appeared to have more material wealth and relational wealth than any of the other interments found within the Toyah Cultural Sphere, suggesting that in life, these individuals may have enjoyed some form of special status. Additional substantiating

evidence that these individuals might have been regarded in this fashion is the fact that both individuals at Salt Cedar appear to have met violent deaths, a situation in which the violence model attributes to issues of factional competition and competitive status building among aspiring aggrandizers. Although the individual at Rough Run lacked any skeletal evidence of violence, the fact that it is a secondary burial indicates that an extra amount of effort was expended to care for and ultimately inter his remains.

Effort was spent in the analysis of the mortuary data attempting to identify what type of special status individual was represented, but this proved to be difficult and largely inconclusive. The difficulty arose because identifying individuals such as captains, healers, and traders often rely on particular mortuary contexts and how they relate to certain emic categories assigned to specific symbolic objects. For instance, in small-scale societies such as these that lack hereditary elites, such symbolic objects tend not to be the exclusive property of the status individual, who rather is only the temporary custodian of the object, and because of this the object may never actually enter the mortuary data as grave goods. This is further complicated by the likelihood that certain status individuals may have also performed the role of more than one status category, such as in the case of Cabeza de Vaca, who oftentimes conducted healing ceremonies while also functioning in the role of trader. Despite the inherent difficulties in assigning specific objects to particular categories of special status individuals, a few colonial accounts allow certain objects to be assigned to particular symbolic activities associated with special status individuals in general. These include specific references to gourd rattles, scarifying implements, and possibly large thin bifaces, as being associated with healing ceremonies; bone rasps as being involved in hexing rituals; and clay and stone pipes and other tobacco smoking implements (i.e. tobacco-packed reeds) as objects involved in ritual trade and diplomatic purposes.

This dissertation emphasized the importance of feasting and craft specialization as behavioral aspects linked to emergent social complexity, and like violence, how these phenomena are considered proxy evidence in support of special status individuals. Because feasting behavior is marked by the production and consumption of large quantities for comparatively large numbers of people, the analysis of the occupational data in this regard focused on assessing the numbers and sizes of burned rock features as a general indicator. Previous research in this area has indicated that an exponential increase in the numbers and sizes of Central Texas burned rock features from the Late Archaic through the Late Prehistoric periods was reflective of the increasing importance of feasting behavior during the Toyah Interval. Although the current study seems to show continuity with this pattern for burned rock features in the Eastern Trans Pecos, preliminary findings for this region do not appear to support the idea that burned rock features such as ring middens were used to process bulk quantities of feast foods. This is due to the fact that in the Eastern Trans Pecos ring middens appear to lack the capacity to produce the calories required for the feeding of large numbers of people. However, this does not necessarily mean that these features were not used to produce feast foods, but may indicate that ring middens, rather than being focused on the production of large bulk quantities of food, may have otherwise been used to produce special quality foods for feasts such as alcoholic beverages. In any case, to bring more clarity to this type of research question will require the collection of temporal data on sites containing midden complexes combined with the excavation of these middens in an attempt to collect better metrics on the sizes of the features, their internal structure, and processing capacity. It would also be useful to collect samples from nearby bedrock mortars and subject these to residue and mass spectrometer analyses to determine if specific biomarkers for alcohol production can be identified.

Feasting behavior was also sought through an assessment of differential distributional patterns related to faunal bone concentrations at an important Toyah site in South Texas. Analysis of faunal bone concentration features from two apparently contemporaneous living surfaces excavated at the Hinojosa Site, resulted in the identification of a marked difference in the distribution of faunal materials. One feature was found to contain a high biomass of large mammal bone that represented high quality cuts of meat that appeared to be prepared by roasting the pieces directly over a flame, while another feature located nearby contained faunal elements representing meat portions of much poorer quality that were seemed to be prepared using more conservative strategies such as stewing, bone greasing, or jerking. These distributional variances in the quality of meat portions and the different ways they appear to have been prepared in the two features, as well as evidence of ritual items (i.e. stone and clay smoking pipes) are consistent with patterns associated with differential social status. Given the small sample size these conclusions can only be considered tenuous, as more work needs to be conducted on the faunal assemblages of other Toyah exchange gathering sites like Hinojosa to evaluate if this a larger pattern reflected across the broader Toyah Cultural Sphere.

In addition to feasting behavior, material evidence of craft specialization and an evaluation of the Cabeza de Vaca model of an itinerate trader/crafter was approached through an analysis of Classic Toyah pottery and Toyah blade caches. With respect to pottery, the analysis involved collecting a set of descriptive and metric data on the range of vessel forms, and statistically evaluating these data with respect to the standardization hypothesis, which states that the production of goods tends to become more systematic and homogenized with respect to greater technological specialization. Although the sample size in the current study was small, and in some cases incomplete, some

interesting preliminary results suggest that certain Classic Toyah vessel forms, namely ollas, exhibited more homogeneity in their design than did jars or bowls. First, ollas tend to have higher ratios of bone with respect to the clay matrix, and since the functional advantage of temper is that it strengthens the vessel, this suggests that ollas were required to be stronger and more durable than other vessel forms. Ollas also appear to have higher quality finishes overall, marked by more evenly smoothed and burnished exteriors than those exhibited in bowls and jars. It would also seem that although ollas may come in different sizes, the necks and maximum body diameters appeared to co-vary within a specifically defined ratio, suggesting that ollas may have been made in accordance with a somewhat uniform design criteria. Moreover, because ollas are more difficult to form than bowls or jars, it can be argued that they require more skill and knowledge in comparison to other vessel types to produce. All this would suggest that a certain degree of specialization would have been required to produce this particular vessel type, a point that should be pursued in future studies.

In a similar vein to Classic Toyah pottery, it would appear that the production and distribution of Toyah blades may have involved individuals with specialized skills and knowledge. This is evidenced by the high-quality lithic material represented in the three caches studied along with the extended distance reflected between where the caches were found and the known location of the raw material source, indicating that the individuals responsible for the caches were highly knowledgeable about where and how to acquire raw material. Secondly, because blade technology involves a systematic strategy of core reduction designed to conserve raw material while at the same time produce large quantities of relatively uniform flakes for tool preforms, together suggests that those who produced and transported the caches likely had a commercial objective in mind as opposed to producing implements for their immediate household needs. Although it is



somewhat safe to say that the individuals who produced and moved the blades were likely specialized crafters, the data are somewhat more ambiguous around the notion of the itinerant trader/crafter, particularly when it comes to demonstrating that the transport of the blades was not merely embedded within a group's normal seasonal mobility. However, contextual information supplied by the ethnohistoric and ethnographic data seems to support the existence of extra-domestic travel for the purpose of trade.

In closing, this study was intended to largely be an exploratory examination of the available ethnohistoric records and material culture to evaluate whether theories of inequality and social status might provide an alternative perspective on Toyah society in contrast to that derived from ecological models. A key objective of this investigation was to assess the prevailing archaeological notion that Toyah society was comprised of economically independent family groups of hunter-gatherers organized primarily at the band level who spread through Central Texas largely in response to expanding bison populations. Although at a certain scale of analysis this most certainly is a convincingly valid argument; however, evidence revealed in this study suggests that perhaps this is not the full story. In view of the data in support of inequality and special status, it might be more accurate to add that at certain times and at particular places these family groups aggregated and periodically participated in more complex social arrangements that were either orchestrated or coopted by special status individuals. In this sense, a theory of special status individuals should be considered a powerful driver of cultural change and just as meaningful and important as that arising out of ecological factors.

In traveling down this path, a number of important tangential research topics were identified that might prove useful toward a better understanding of Toyah social complexity. Among these would be: (1) additional studies to investigate Toyah exchange gatherings as identified in chapter 4; (2) more theoretically-driven research toward the

investigation of midden complex sites in the Eastern Trans-Pecos region; and (3) investigation into residue analysis on Toyah pottery and bedrock mortar samples to specifically identify biomarkers for intoxicating substances.

## **Appendices**

### **APPENDIX A: BURIAL DATA**

## Forager Burial Data

Site	Burial ID	Date (CE)	Sex/Age	Context	Position	Head Orient	Grave Goods	Comments
Coleman (41BX568)	Burial 1	Toyah	Male (45-55)	Stacked stone slabs over upper legs	Flexed on R side	NE	No	-
Coleman (41BX568)	Burial 2	Toyah	Male (35+)	Oval pit with capping stones over top	Flexed on L side	NE	No	-
Coleman (41BX568)	Burial 3	1299-1408 CE	Child (6-7)	Oval pit with capping stones on top	Flexed on L side	E	Yes	Grave goods- Hammerstone
Coleman (41BX568)	Burial 4	1295-1399 CE	Child (6-7)	Oval pit	Flexed on L side	E	No	-
Coleman (41BX568)	Burial 5	Toyah	Male (45+)	Sub-circular pit with capping stones on top	Flexed on R side	S	No	Compression of lumbar spine indicating severe physical stress from lifting/carrying heavy loads
Coleman (41BX568)	Burial 6	Toyah	Child (6-7)	Oval pit	Flexed on R side	E	No	-
Coleman (41BX568)	Burial 7	Toyah	Female (20-35)	Oval pit	Flexed on R side	E	Yes	Grave Goods- antler Possible healed fractures of right ulna and left fibula
Coleman (41BX568)	Burial 8	Toyah	Child (4-5)	-	Flexed on R side	W	No	-
Coleman (41BX568)	Burial 9	1305-1420 CE	Male (20-24)	-	Poss. on L side	NE?	No	Scallorn point found in immediate area. Speculated as possible arrow wound
Coleman (41BX568)	Burial 10	Toyah	Neonate	-	-	-	No	-
Coleman (41BX568)	Burial 11	Toyah	Adult	-	-	-	No	-
Coleman (41BX568)	Burial 12	Toyah	Female ? (13-16)	-	Flexed on L side	E	No	-
Coleman (41BX568)	Burial 13A	Toyah	Child (5-7)	-	-	-	No	-
Coleman (41BX568)	Burial 13B	1329-1445 CE	Adolescent (12-15)	-	Flexed on L side	SW	No	-
Coleman (41BX568)	Burial 13C	1296-1401 CE	Female Adult	-	-	-	No	-

Coleman (41BX568)	Burial 14	Toyah	Adult	-	-	-	No	-
Coleman (41BX568)	Burial 14B	Toyah	Neonate	-	-	-	No	-
Coleman (41BX586)	Burial 15	Toyah	Female ?(Young adult)	-	-	-	No	-
Coleman (41BX568)	Burial 16A	1296-1403 CE	Male? (18-25)	-	Flexed on R side	SE	No	-
Coleman (41BX568)	Burial 16B	1299-1415 CE	Male (15-17)	-	-	-	No	-
Aycock Shelter	Burial 1	Toyah	Male (55)	Capping stones place over top of burial	Semi-flexed, Right side	NW	No	Arrow wounds in chest. Blow to the head
Kyle Shelter	Burial 1	Toyah	Female (16-18)	Cremation wrapped in fiber mat buried in rock shelter	-	-	No	-
Pictograph Shelter	Burial 1	Toyah	Child (3 to 4)	Wrapped in leaves and twigs and placed in back of shelter on top of a large hearth	Tightly flexed, Left side	E	No	-
Sheep Shelter	Burial 4	Toyah	Female Adolescent	Laid in a pit	Semi-flexed	SW	No	-
Sheep Shelter	Burial 5	Toyah	Male child	Laid in a pit at the head of Burial 4	Flexed	SW	No	-
Waco Mass Burial	20 adults, 3 children	Toyah	Adults (5 male, 2 female)	23 individuals placed together in large pit	-	-	Yes	Grave goods- stone ear spool. One individual with arrow wounds to chest
Asa Warner	Burial 53	Toyah	Male (25-30)	Laid in pit	Flexed on L side	NW	No	Seven arrow wounds spread throughout the body
Asa Warner	Burial 54	Toyah	-	No pit visible	flexed on R side	-	No	Dart wound to chest and one arrow wound to hip
41LT12	-	Toyah-age	-	Concentration of teeth and a mandible frag	-	-	No	-
41LN107	-	1400-1441 CE	Adult male	In cemetery site, pit not discernable	Flexed on L side	NW	No	Carbon isotope -21.1
41LN247	Feature 16	1160-1430 CE	Older adult male	Laid in pit	Flexed on L side	N	No	Carbon isotope -22.4

41GM205	-	1250-1430 CE	female, (25-35)	-	Semi-flexed, L side	W	No	-
Lehmann RS	Burial 1	Toyah	Female (young adult)	In burial pit with capping stones	Flexed on R side	E	Yes	Grave good - bone bead
Mitchel County	-	Toyah	Adult	Cremation in cave	Flexed	-	Yes	Grave goods -Metal button, Serrated arrow points
Underwood (41CK275)	-	1282-1395 CE	Adult	Subfloor pit underneath Cielo Complex structure	-	-	No	-
41CK217	-	Late Prehistoric II	Young adult	Placed in gully and then buried by earth and stones	Tightly flexed, Right side	-	No	Five arrow wounds spread throughout chest and abdomen
Rough Run	-	Cielo Complex 1440-1460 CE	Male (35)	Semi-subterranean cairn	Bundled and vertically aligned in pit	Secondary interment	Yes	Grave goods - see description in text. Cut marks on femoral heads reflecting disarticulation likely as part of the secondary burial process
Las Haciendas	-	Cielo Complex 1500-1750 CE	Adolescent, possibly male	Semi-subterranean cairn	Supine, slightly flexed	S	Yes	Grave goods- see description in text
Palo Blanco	Burial 1	1220-1300 CE	Female (45-59)	In pit capped with stones	Flexed on R side	SW	No	-
Ghost Ridge	Individual B	1170-1280 CE	Female (16-18 years)	Crevice burial comingled with the remains of at least eight individual interments	-	Secondary interment	Yes	Grave goods - see description in text
Fire Spirit Crevice Burial	-	1480-1640 CE	-	Crevice burial of cremated individual	-	Secondary interment	No	-
Wroe Ranch	-	Fletcha Period 1280-1290 CE	Sub-adolescent (9-12)	Mummified bundle burial found in rockshelter by relic hunters.	-	-	No	-

## Village Dweller Burial Data

Site	Burial ID	Date	Age/ Sex	Context	Position	Head Orient	Grave Goods	Comments
41PS14	1937 B1	Concepcion Phase	Adult male	Subfloor pit under stones	Flexed, R side	NE	No	none
41PS14	1938 B10	La Junta Phase	infant	Subfloor pit	Flexed, supine	S	No	none
41PS14	1938 B11	La Junta Phase	-	Subfloor pit	-	-	No	none
41PS14	2450A B3	La Junta Phase	Female 35-45	Subfloor pit	Flexed, supine	S	No	none
41PS14	2450B B5A	La Junta Phase	Ind. 3-4	La Junta village	Flexed, supine	NE	No	none
41PS14	2450C B5B	La Junta Phase	infant	La Junta village	-	-	No	none
41PS14	2450D B6	La Junta Phase	Ind. 30+	La Junta village	Flexed, supine	NW	No	none
41PS14	2450E B7A	La Junta Phase	Adult male	midden	Flexed, supine	NW	No	none
41PS14	2450H B7B	La Junta Phase	Ind. 5 +/-1.5 years	midden	-	-	No	none
41PS14	2450F B8	La Junta Phase	Ind. adult	La Junta village	Flexed, supine	N	No	none
41PS14	2450G B9	La Junta Phase	Ind. 5 +/-1.5 years	Subfloor pit	Flexed, supine	S	No	none
41PS14	Burial 1	1680-1930 CE	Ind. Adolescent 13-15	pit with capping stones	flexed	W	No	none
41PS14	Burial 2	1325-1624 CE	Male 30-40	pit with capping stones	tightly flexed, L side	N	No	none
41PS14	Burial 3	1290-1410 CE	Ind. adult	Burned rock midden	Ind.	Ind.	No	none
41PS14	Burial 4	1281-1407 CE	Male, 35-40	Substructural pit	Tightly flexed, supine	W	No	none
41PS14	Burial 5	1159-1293 CE	Female, 45-55	Subfloor pit under stones	Flexed, supine	SE	No	none
41PS21	B1	La Junta Phase	infant	Subfloor pit	Flexed, R side	S	No	none
41PS21	B2	La Junta Phase	infant	Subfloor pit	-	-	No	none
41PS21	B3	La Junta Phase	infant	Subfloor pit	-	-	No	none
41PS21	B4	La Junta Phase	infant	Subfloor pit	-	-	No	none

41PS21	3649 B5	La Junta Phase	Ind. adult	Subfloor pit	Flexed, R side	SW	Yes	Stone bowl and pestle
41PS15	3401A	La Junta Phase	Ind. adult	La Junta village	-	-	No	none
41PS15	3401B	La Junta Phase	Ind. adult	La Junta village	-	-	No	none
41PS53	3195	Late Prehistoric	Adult male	Subfloor pit	Flexed	-	Yes	Polychrome vessel
Shiner	-	Late Prehistoric	infant	Subfloor pit	Flexed	W	Yes	<i>Olivella</i> sp.
Salt Cedar	Burial 2	Ochoa Phase 1300-1500 CE	Male (45)	Laid in a burial pit	Loosely flexed on L Side	N	Yes	Grave goods – see description in text Six fragmentary arrow points found throughout the chest, evidence of blow to the head and cut marks across the scalp
Salt Cedar	Burial 3	Ochoa Phase 1300-1500 CE	Male (35-40)	Laid in a burial pit	Loosely flexed on R side	SW	Yes	Grave goods- see description in text. Arrow wounds throughout chest and Left forearm
Bloom Mound (LA2528)	Feature 4	1300-1450 CE	Male (35-45)	Subfloor pit underneath domicile	Tightly flexed	-	-	Blunt trauma to the head
Bloom Mound (LA2528)	Feature 20	1300-1450 CE	Male (40-45)	Subfloor pit underneath domicile	Tightly flexed	-	-	Poss. arrow wound in abdominal area
Bloom Mound (LA2528)	Feature 19	1300-1450 CE	Infant (3-12 mos)	Subfloor pit underneath domicile	Tightly flexed	-	-	Poss. arrow wound found in body



**APPENDIX B: ZOOARCHAEOLOGICAL ANALYSIS**

# **Zooarchaeological Analysis of Faunal Remains from the Hinojosa Site (41JW8)**

**by Kristin L. Corl, Center for Archaeological Research**

## **Introduction**

This report summarizes the faunal remains from the Hinojosa Site 41JW8, associated with identified bone clusters. The Hinojosa site (41JW8) is considered a single component Late Prehistoric site occupied around 1250-1500 A.D. Two thousand four hundred and thirteen (2,413) bones and bone fragments making up 1,880 specimens and weighing 5687.25 g were associated with the six identified bone clusters. These six features are identified as the 1975 Bone Bed, Feature 2, Feature 3, Feature 8, Feature 9, and Feature 10, each of which has been separately analyzed and summarized below. A detailed zooarchaeological analysis for the bone cluster assemblages has been completed to allow for a more in depth analysis performed by Eric Schroeder as related to his dissertation investigating patterns related to feasting behaviors. All specimens have been recorded using the same element and variable code lists, and characteristics of each assemblage will be discussed within each general analysis.

## **Methods**

All faunal remains were processed at the Center for Archaeological Research (CAR), all specimens were generally curated and stored in clear plastic bags with identifying tags. Using modern comparative specimens from The Center for Archaeological Research (CAR), and published taxonomic keys (Adams and Crabtree 2012; Balkwill and Cumbaa 1992; France 2009; Gilbert 1980; Hillson 1992; Olsen 1964, 1968, 1972; Schaefer et al. 2009; Sobolik and Steele 1996; White et al. 2011) the specimens in the zooarchaeological assemblages were identified to the most specific

taxon possible. The Vertebrate Species list for Central Texas was compiled using species range maps (Burt and Grossenheider 1952; Hall and Kelson 1951; Presley 2003; Sibley 2008; Stebbins 1966; Stokes and Stokes 1996), and when appropriate additional more general taxonomic categories such as *Genus sp.* were added in order to provide the most accurate identification possible. All species were cross-referenced in the Integrated Taxonomic Information Systems or ITIS (<http://www.itis.gov>), to verify validity of taxonomic name.

When possible, specimens were identified to a skeletal element, but often a more general element code was assigned like phalanx or tooth fragment. When possible, broken bones were refitted (cross mended) and each specimen was identified to a taxon (species when possible, but most often to a broader category like Genus, Family, Order, Class, or common name category) (Reitz et al. 2010). Due to the fragmentary nature of the assemblage, size class categories (such as extra small, small, medium, large and extra-large mammal/aves) were created as the lowest level of specificity apart from unidentifiable vertebrate. Size classifications are based on the shape and thickness of the bone as well as calcification and trabecular structure, and are subjective, so identifications were left at a conservative level. In the case of mammals, extra small mammals are rodent size, small mammals are rabbit size, medium mammals are coyote size, large mammals are deer size, and extra-large mammals are bison or cow size. Similar labels for birds have also been used, with small bird referring to sparrow size, medium bird is quail size, and large birds are turkey size. Animals that fell into these general taxonomic categories were recorded as part of the Number of Identified Specimens, but per recommendation of Lyman (2008) they will not be used in subsequent calculations or quantifications such as MNI.

Additional data such as side, portion, and age was recorded (using epiphyseal closure, development of bone and size), additionally for each bone cluster general environmental taphonomic modifications, such as weathering, erosion, or root traces were noted. Animal taphonomic modifications include gnawing by rodents or carnivores. Human cultural modifications such as cut marks, burning, or polish were also recorded. Human taphonomic modification can help to answer questions about how people used the animal, and alterations like burning were also noted by intensity (tan, black, or calcined). In order to cut down on analysis time, bone fragments that were unable to be identified further than a general size class or to a specific element were grouped together and analyzed as a single unit. For example, if a Lot had 20+ bone fragments that could only be identified as ‘large mammal long bone fragments’, they would be grouped together and recorded on one line, and would contribute 20+ to the total NISP count.

### **Analysis Theory**

As previously mentioned, the analysis/reanalysis of these assemblages is designed to identify patterns of feasting activities or presence of feast foods. As communicated to me by Eric Schroeder and as defined by Hayden (Hayden 2001) feasting is a supra-household event involving the special preparation, presentation, and sharing of special or unique food items. Dietler (2001), goes further by defining feasts as communal events that almost always involve the performance of rituals for the purpose of negotiating relationships, pursuing economic and political goals, competing for power, and for reproducing or contesting ideological representations of social order and authority. Along these lines, feast foods are sometimes referred to as the rarest, the most difficult to procure, or the most labor intensive to prepare (Hayden 2001). Feast foods often offer a refinement in texture, taste, fat content, or other quality (i.e. inebriant) that can provide

distinction particularly because of either their quality and/or quantity. However, it is somewhat well known that rabbits, although a staple contribution to the diet, were considered a feast food in the southwest due to the method of procurement generating a large quantity and not necessarily known for their quality. Therefore, in addition to the characteristics discussed above, simply the quantity of remains can also indicate feasting activity. Ethnographic research has revealed that an emphasis on quantity of food and elaboration of common staples is found mostly in societies without strong social stratification, while an emphasis on quality and style tends to be more characteristic of societies with more institutionalized forms of social ranking (van der Veen 2010).

Given this definition of feasting and feast foods, we need to keep a variety of informational categories in mind, as each bone cluster is analyzed and interpreted. Since feasting is a multi-household event we expect the deposits to be fairly well contained and to be representative of that event by occurring in a large enough quantity to feed more than one household or an exceptionally high variety of species present. Because of this, it is important that we try to estimate a biomass for the deposit as well as an MNI for each species identified. Species identified as feast food resources could include domestic animals such as turkeys or dogs as well as non-domestic birds, mammals, turtles, snakes, and fish. Additionally, certain high quality cuts of meat have also been considered evidence of feast foods, and particularly reflect the establishment and maintenance of social boundaries either to denote deferential status or social identity. Therefore, it is important that we are not only able to identify species, but also the particular element represented. High quality cuts of meat include portions such as ribs, forelimbs, and hindquarters, while low quality portions often include the axial portions such as vertebrae and skulls. In terms of addressing the connection of feast foods to the idea that they are the most difficult to procure and the most labor intensive to prepare, we need to look for

things like green bone breakage and other evidence of processing efforts. For example, bone grease processing and extraction of marrow can be considered labor intensive (only done under feast or famine circumstances), and will be evident from a large number of unidentifiable fragments and green bone breaks for medium to extra-large mammals.

Since feasting is identified as a social activity often associated with the performance of rituals, the analysis will also note any patterns in the data that might relate to ritual activity, such as bundling or uncommon element/species representation. Ritual deposits can take a number of forms but evidence of ocher, tally marks carved on bone, as well as the disproportionate occurrence of faunal species or bone elements in bone concentrations will be used for this analysis.

## **Analysis**

Three common methods to measure the relative abundance of various taxa within a faunal assemblage are the Number of Identified Specimens (NISP), the Minimum Number of Individuals (MNI), and Biomass/Estimates of Dietary Contribution. The NISP is the measured variable, whereas the taxonomic abundance figures (MNI, Biomass, or Heterogeneity and Evenness Indices) is the target variable. NISP means that each bone, tooth, antler, or any other part of an animal (unless it can be cross mended) is counted as a single unit, regardless of percent of original element remaining. As long as it can be identified to the skeletal element and taxonomic category of family or below, it is included. However, as discussed earlier, bone fragments that could only be assigned to a general size class have been grouped, so calculating NISP for vertebrate remains not identified to a Taxon will be calculated simply by counting the total number of fragments present.

Minimum Number of Individuals (MNI) is a derived statistic that calculates the minimum number of animals needed to account for the identified bone in each species. Estimates of the MNI are based on paired elements and age (Reitz et al. 2010: 227). MNI's are calculated using bones that occur in pairs and that occur with the same frequency in all vertebrates appearing in the assemblage. These elements include mandible, humerus, radius, ulna, femur, and tibia. The most frequent element for each taxon within the same age class was obtained and then separated by side, when side could not be accurately assigned; the average of the un-sided specimens was added to the more frequently represented side of that element. All taxonomic categories of Family or below were calculated based on the assumption that each bone cluster is a separate and discrete event (MNI was not calculated for the total site).

Biomass or Estimates of Dietary Contribution is calculated using specimen weight. Specimen weight is a basic unit of primary data and does not need to be manipulated any further to have meaning, it can be used to measure the relative importance of each taxon, and it can but used to study the relative dietary contributions (Lyman 2008; Peres 2010; Reitz and Wing 2008). The estimation of biomass is based on the allometric principle that the proportions of body mass, skeletal mass, and skeletal dimensions change with increasing body size (Reitz and Wing 2008). There are two ways to measure the biomass, first is through the estimates of dietary contribution of whole animals, and the second, the method used here, is to estimate dietary contributions from specimen weight. This method is represented by kilograms of organic material where the archaeological specimen weight is used and is another way to estimate the relative taxonomic abundance. The estimated biomass for major categories of animals found were calculated using the formula:  $Y=aX^b$ . Where Y represents the calculated biomass represented by the zooarchaeological assemblage,  $a$  is the Y-intercept of the linear

regression line,  $b$  is the slope of the regression line, and  $X$  is the total weight of bone specimens for each taxon group (Lyman 2008; Reitz and Wing 2008). The resulting  $Y$  value is a conservative estimate of meat and other soft tissues obtained from the zooarchaeological materials of identified animals recovered from the site. This calculation will give us an idea of how much meat would have been associated with each bone cluster deposit, and help to identify feasting deposits.

### **Analytical Unit 1-1975 Bone Bed:**

The “Bone Bed” uncovered in 1975, appears to have been a large bone cluster with discrete boundaries, making up more than half the total assemblage analyzed for this project (Black 1986). The zooarchaeological material from the 1975 Bone Bed (units K and L included lots 31-36, 38-40, and 42-49) has a NISP of 1,032 and an MNI of 24 individual animals. Generally the bones are in relatively good condition with evidence of burning associated with most taxonomic categories along with the evidence of spiral and impact fracture patterns found on bones of most species indicating they were the result of human consumption. Additionally, given the large number of bone fragments identified only as extra-large and large mammals, we can assume they were effectively butchering these animals and investing in more intensive labor processes such as extracting bone marrow from these animals. Given the frequency and diversity of various species present and the heavy representation of more common species such as bison and deer, I would not associate this deposit with a ritual deposit, however, it does seem possible it is the direct result of discard from a feasting event.

Given the size of this assemblage, it does seem to fit the profile of a feasting deposit. First of all the quantities of bone represent enough meat to feed a large number of people from multiple household's (with more than 1.9 kg of soft tissue estimated to



have been generated by this deposit). Additionally, the assemblage represents at least 22 species, which is a much greater variety than represented in any of the other analytical units, and includes animals not found in any other feature. Animals uncommon across the site occur with greater frequency in the Bone Bed, and animals such as the opossum, pheasant, and turkey vulture/eagle don't occur anywhere else providing further evidence of the uncommon nature of this deposit. However, even with this variety we still see that more than 90% of the biomass calculated from the Bone Bed assemblage is from bison and artiodactyls, indicating this deposit was the result of both quality resources (in terms of the variety of species represented) and a large enough quantity of biomass to feed a large number of people. Furthermore, the presence of animals such as candid, turtles, snakes, fish, and large carnivorous birds such as hawks or turkey vultures (which have been considered feast foods) may be interpreted as evidence of feasting behavior. Additional evidence of feasting behavior may come from a greater representation in the Bone Bed of bones like humerus and femur, which may have been considered high quality cuts of meat.

The Hinojosa Site report states that the 1975 Bone Bed, along with the other bone features, has been interpreted as discard piles resulting from efficient butchering and processing techniques used by the inhabitants of the site. I go on to argue that because there doesn't seem to be much scattering or weathering they appear to be part of a temporally distinct event where they were deposited and quickly covered. If this bone deposit was the result of regular household discard we would not expect a quick burial or the diversity of species, instead we would expect a general more scattered deposit where various layers were more or less exposed to environmental and taphonomic processes such as weathering and carnivore/scavenger scatter or gnawing evidence.

### **Analytical Unit 2-Feature 2:**

Feature 2 is identified as an irregular deposit of bones separated into two areas (A & B). The zooarchaeological material analyzed from Feature 2 includes lots 165 and 183, and were later identified from the report as representing 2B only (Black 1986:190). Lots 156 & 182 are identified in the report as feature 2A and contain deer, turtle, bird and bison, but these bags were not found in the CAR collection boxes (Black 1986). Feature 2 is described in the 1986 report (pg. 190) as “two clusters of fragmented animal bone.....no difference was observed between the feature matrix and the surrounding soil.”

Feature 2B consisted of 30+ bone fragments but only 1 identified specimen. A single right Bison femur was identified from the 20+ grouped fragments, the majority of which refit. There is some evidence of burning on a few of the fragments and a spiral fracture indicating bone marrow extraction. However, the Hinojosa report notes that some of the fragmentation may be the result of traffic on the “wagon trail” based on where the feature was located. The tight nature of the clusters and relatively good condition of the bone suggests they were quickly covered with soil, with the most prominent environmental alteration on the bones being root tracing. Given the small size of this deposit (biomass of only about 200 g) and only one species represented, I believe it is unlikely to represent a deposit related to feasting behavior.

1975 Bone Bed Feature – Identified Taxa							
Taxa	Common Name	NISP	MNI	Weight g.	Biomass g.	Biomass %	Notes
<i>Reithrodontomys sp.</i>	Harvest Mouse	1	1	0.05	0.076	0.004	There are at least 4 species of harvest mice found in the region (most likely either the Plains or Western species). Harvest Mice are common across the region in grasslands, low vegetation and open desert and are common in human disturbed environments. This specimen was a femur, unburned, indicating it is intrusive.
<i>Geomysidae sp.</i>	Pocket Gopher	1	1	0.19	0.251	0.013	There are at least 4 species of pocket gophers found in the region (the most likely either the Plains or Mexican species). Pocket Gophers are burrowers common across the region, they prefer loose soil in grasslands and open vegetation, and are common in human disturbed environments. This specimen was a femur, unburned, indicating it is intrusive.
<i>Didelphidae sp.</i>	Opossum	3	1	1.8	1.901	0.100	Opossums are nocturnal, have diverse diets, and are found across this area. They tend to be rare in the archaeological record, possibly because nocturnal hunting was not common, or because they were not as common. Identified elements include a tooth, vertebrae, and scapula which appear to be lightly burned.
<i>Sylvilagus sp.</i>	Cottontail Rabbit	4	1	2.18	2.259	0.118	There are two species of cottontail rabbit in this region, the Eastern and Desert species. Cottontail rabbits are commonly found in open plains or brushy areas, and common in human disturbed environments. The specimens attributed to this genus exhibit light burning, indicating they were consumed.
<i>Lepus californicus</i>	Blacktail Jackrabbit	16	4	36.7	28.669	1.502	Only hare in the area, found on open prairies, and sparsely vegetated deserts. Specimens were mostly burned, and MNI of 4 was calculated based on age and adult right humeri.
Bison	American Bison	42	5	2234.54	1157.410	60.639	Presence/absence of Bison in Central Texas follows environmental trends through time. Range on open grassland, browsers, and are found in large herds. Most bison remains show spiral fracturing and about 1/2 showed some charring. 104+ fragments refit into 42 elements representing at least one juvenile and between 4-6 adult Bison. Using right femurs (6) and the portion represented, I calculated a conservative MNI estimate of four adults.
<i>Artiodactyla</i>	Even-toed Hoofed Mammals	11	2	66.54	48.977	2.566	This order includes deer, antelope, peccary, and bison, but all specimens identified to this category are either whitetail deer or pronghorn antelope (both present in the area) but because of the difficulty separating these two species I created a category. Many burned, and MNI of 2 based on age.
<i>Odocoileus virginianus</i>	Whitetail Deer	13	2	82.62	59.511	3.118	Whitetail deer are common through out the area, they are browsers who tend to stick to forests, and more mesic environments and are common in archaeological sites. Deer in south Texas are recognized as some of the largest extant whitetailed deer, and are exceptionally large, this was confirmed by my observations and complicates differentiation. Includes an ulna, humerus, metapodials and phalanges, many show evidence of burning. MNI of 2 based on age.
<i>Antilocarpa americana</i>	Pronghorn	4	1	19.03	15.875	0.832	Pronghorn were present in the area and have been previously reported from this site, however species identification is tentative because it is difficult to distinguish between pronghorn and whitetail. In this case it was done based on size, but should not be seen as an absolute identification. Includes one rib burned.
<i>Canidae sp.</i>	Dogs, Wolves, Foxes	3	1	1	1.120	0.059	This family includes dogs, wolves and foxes, previous faunal analysis identified coyote, dog, and the grey wolf. Material was generally too fragmentary to identify further and was classified based on size as likely coyote. Identified adult specimens included a molar, ossified cartilage, and phalange, light burning present.
<i>Canis latrans</i>	Coyote	2	1	7.77	7.089	0.371	Coyotes are widely distributed, and occupy prairies, open woodlands, desert areas, and are common in human disturbed areas, they will eat almost anything animal or vegetable. This specimen was identified confidently as coyote by the maxillary fragment, and does not appear to be burned. Unsure if this should be counted as an additional individual or if it is the same individual identified to the family canidae.
<i>Meleagris gallopavo</i>	Wild Turkey	1	1	12.4	10.281	0.539	Turkeys are most numerous in the Edwards Plateau and coastal prairies extending to the Rio Grande, live in woodlands, thickets and prairies roaming in small flocks. Identified specimen was an unburned humerus from a younger individual, but no cut marks were identified.
<i>Tympanuchus sp.</i>	Prairie Chicken	1	1	1.52	1.522	0.080	Specimen was originally identified as a pheasant, they are not native to Texas, instead it is most likely a Prairie Chicken (either the Greater or Lesser variety) native and common to the area. They are chicken like birds, larger than quail, and similar to pheasants. Specimen was a carpometacarpus with cut marks.
<i>Accipitriformes</i>	Hawks	1	1	0.66	0.713	0.037	This order includes hawks and falcons as well as most of the diurnal birds of prey, they have a wide range across North America and can be found in most open forest, grasslands and deserts. Includes one carpometacarpus not burned.
<i>Anatidae sp.</i>	Duck, Geese, and Swans	1	1	0.93	0.974	0.051	These species are well adapted to water and have an extensive range, they migrate based on the availability of water, they are herbivorous and breed in the summer making nests on the ground, material is not burned, and compares best to the duck comparative.
<i>Accipitriformes sp.</i>	Hawks	2	1	1.76	1.740	0.091	This specimen is listed separately because it has specifically been identified as either a Turkey Vulture or Eagle. A left and right coracoid, possibly representing the same individual, not burned.
<b>Total Identified Remains:</b>		<b>104</b>	<b>24</b>				
Extra Large Mammal	Bison/Cow Sized	375		696.36	405.292	21.234	Too fragmentary to further identify, very thick cortical bone, likely Bison, especially given the abundance of bison bones in this feature. Most burned.
Large Mammal	Deer Sized	204		206.54	135.744	7.112	Most likely deer, but too fragmentary to identify, included an awl fragment.
Medium Mammal	Coyote Sized	20		8.48	7.670	0.402	Too fragmentary to speciate further, but at least an MNI of 2 based on size differences.
Small Mammal	Rabbit Sized	50		11.56	10.136	0.531	Too fragmentary to speciate further, many burned, overwhelmingly long bone fragments.
Extra Small Mammal	Rat/Mouse Sized	16		0.84	0.957	0.050	Too fragmentary to speciate further, only one was burned, so most are likely to be intrusive.
Large Aves	Turkey or Vulture Size	2		0.68	0.792	0.041	Too fragmentary to speciate further, light burning on the rib and long bone fragment.
Medium Aves	Quail size	9		1.76	1.863	0.098	Too fragmentary to speciate further, appeared to be the same size as the prairie chicken.
Small Aves	Sparrow Sized	2		0.08	0.104	0.005	Too fragmentary to speciate further, not burned.
Testudines sp.	Turtle	60		39.37	5.975	0.313	Too fragmentary to speciate further, but based on size there is at least an MNI of 3, and although we were not able to speciate further, they likely represent either the western box turtle ( <i>Terrapene ornata</i> ) or the Texas tortoise ( <i>Gopherus berlandieri</i> ).
Colubridae sp.	Snake	8		1.52	1.786	0.094	Not able to speciate further.
Indet. Vertebrate	Unidentified bone	180		47.96			Too fragmentary to speciate further.
<b>Total Vertebrate Remains:</b>		<b>1032</b>		<b>3484.84</b>	<b>1908.687</b>	<b>grams</b>	

### Feature 2B – Identified Taxa

Taxa	Common Name	NISP	MNI	Weight g.	Biomass g.	Biomass %	Notes
<i>Bison Bison</i>	American Bison	1	1	310	195.63	96.6	Presence/absence of Bison in Central Texas follows environmental trends through time. Range on open grassland, browsers, and are found in large herds. Most bison remains show spiral fracturing and some charring. Of the 20+ fragments most refit, resulting in 1 right femur.
<b>Total Identified Remains:</b>		<b>1</b>	<b>1</b>				
Extra Large Mammal	Bison/Cow Sized	9		7.01	6.46	3.2	Too fragmentary to further identify, very thick cortical bone, most likely bison.
Large Mammal	Deer Sized	1		0.31	0.39	0.2	Most likely deer, but too fragmentary to identify.
<b>Total Vertebrate Remains:</b>		<b>11</b>		<b>317.</b>	<b>202.4</b>		
				<b>32</b>	<b>8</b>		

### Analytical Unit 3-Feature 3:

Feature 3 is identified as a tightly compact crescent cluster of fragmented animal bone with no difference between the surrounding soil and feature (Black 1986). The zooarchaeological material from Feature 3 includes lot 184, with a NISP of 33 and an MNI of 10. This assemblage is interesting because of the diversity of species represented despite a small NISP (33). It appears that at least 11 animals contributed to this assemblage, including bison, whitetail deer, jackrabbit, woodrat, mice, small bird, two different kinds of turtle, snake and turkey. The bones are in relatively good condition with little to no evidence of burning, and although they are fragmented there are relatively few large mammal fragments.

The Hinojosa Site report (pg. 191) states that this feature appears to be a discard pile of butchered and processed animal bone, and the tight stacking and clustering suggests intentional placement (Black 1986). They go on to argue that because there doesn't seem to be much scattering or weathering, they may have been intentionally placed and buried (Black 1986). While it is difficult to get at intentionality through the archaeological record, I do think their argument is supported. The fact that there is such a variety of animals represented with relatively little bone fragments, suggests that skeletal elements were intentionally selected and deposited together in a specific area. The bones seem to be in good shape with not much weathering or breakage, with the most prevalent environmental alteration of root tracing, suggesting a quick burial.

Additionally, the range of identified species and the type (turtle, bird, snake, etc.) may be evidence of a feasting event and even a ritual deposit. This small bone cluster, much like Feature 2B, has a low total biomass (114.84 g) suggesting that as a meal this deposit would not have supported more than one household. However, even with the low biomass, we have to take into account the labor required to accumulate the range of species as well as the amount of biomass that many whole animals would have provided. I believe that it is possible this deposit was carefully selected from a larger feasting related assemblage with very little if any sign of burning, and intentionally placed in a pit and then quickly buried. I believe alternate explanations for the species and elements represented in this deposit would be too complicated. Instead, simplest explanation is that this assemblage represents a number of animals consumed communally and then intentionally placed in a pit/depression as part of a ritual event, although there does not seem to be any pattern were a particular element or side was favored with respect to their placement.

Feature 3 – Identified Taxa							
Taxa	Common Name	NISP	MNI	Weight g.	Biomass g.	Biomass %	Notes
<i>Neotoma sp.</i>	Woodrat	2	1	0.7	0.81	0.63	There are at least 2 species of Woodrat in this area, the Whitethroat Woodrat, and the Southern Plains Woodrat, but since identification beyond genus is not possible, all have been grouped under <i>Neotoma sp.</i> Mandible and ulna for an MNI of 1.
<i>Cricetidae sp.</i>	Mice	3	2	0.17	0.23	0.18	Identification beyond the family Cricetidae or common mice, rats, lemmings and voles is not possible. Based on morphology and size, all specimens should be considered mice. Using size, an MNI of 2 has been calculated. The 1989 site report has identified as these as mole.
<i>Vespertilioninae sp.</i>	Bats	1	1	0.02	0.03	0.03	Identification beyond the family Vespertilioninae family or bats is not possible, very small fragment of the maxilla. Hinojosa report lists this specimen as a mole.
<i>Lepus californicus</i>	Blacktail Jackrabbit	1	1	2.06	2.15	1.68	Only hare in the area, found on open prairies, and sparsely vegetated deserts. Left femur with a spiral fracture.
<i>Bison Bison</i>	American Bison	1	1	43.53	33.43	26.13	Presence/absence of Bison in Central Texas follows environmental trends through time. Range on open grassland, browsers, and are found in large herds. Most bison remains show spiral fracturing and some charring. Of the 20+ fragments most refit, resulting in 1 right humerus.
<i>Odocoileus virginianus</i>	Whitetail Deer	3	1	54.89	41.19	32.19	Whitetail deer are common through out the area, they are browsers who tend to stick to forests, and more mesic environments and are common in archaeological sites. Deer in south Texas are recognized as some of the largest extant whitetailed deer, and are exceptionally large, this was confirmed by my observations and complicates differentiation between Deer and Pronghorn. Includes a right mandible fragment, left tibia and right phalange all adult.
<i>Meleagris gallopavo</i>	Wild Turkey	2	1	10.96	9.19	7.18	Turkeys are most numerous in the Edwards Plateau and coastal prairies extending to the Rio Grande, live in woodlands, thickets and prairies roaming in small flocks. Identified specimens were a vertebrae and a left femur with a spiral fracture.
<i>Emyidae sp.</i>	Box Turtle	1	1	2.34	0.90	0.70	Common through out the area on plains where there is sandy soil. Includes 3 plastron fragments identified by the hinge.
<i>Gopherus sp.</i>	Gopher Tortoise	1	1	2.46	0.93	0.73	Common through out the area in arid environments, burrows in firm soil and lay clutches of 2-8 eggs. Includes 1 plastron fragment identified by prominent growth lines.
<b>Total Identified Remains:</b>		<b>15</b>	<b>10</b>				
Extra Large Mammal	Bison/Cow Sized	3		43.13	33.15	25.91	Too fragmentary to further identify, very thick cortical bone, likely Bison.
Large Mammal	Deer Sized	1		3.28	3.26	2.55	Most likely deer or pronghorn, but too fragmentary to identify.
Extra Small Mammal	Rat/Mouse Sized	2		0.5	0.60	0.47	Too fragmentary to speciate further.
Small Aves	Sparrow	1		0.02	0.03	0.02	Too fragmentary to speciate further.
Testudines sp.	Turtle	10		7.37	1.94	1.52	Too fragmentary to speciate further, but based on size there is at least an MNI of 2, and although we were not able to speciate further, they likely represent either the western box turtle ( <i>Terrapene ornata</i> ) or the Texas tortoise ( <i>Gopherus berlandieri</i> ).
Colubridae sp.	Snake	1		0.09	0.10	0.08	Unable to speciate further.
<b>Total Vertebrate Remains:</b>		<b>33</b>		<b>171.52</b>	<b>127.95</b>		

### **Analytical Unit 4-Feature 8:**

Although not identified as a bone concentration in the site report, Feature 8 was made up of a loosely clustered concentration of artifacts including a charcoal layer, two irregular rock clusters and a large amount of animal bone (Black 1986). The zooarchaeological material from Feature 8 (lots 442, 443, 463, 481, 483, 485, 525, & 526) was mostly disarticulated, fragmented and butchered deer and other large mammal bone. However, at least 15 other species were also represented in this assemblage giving us a total NISP of 370 and an MNI of 14. This assemblage is interesting because of the diversity of species represented and the conspicuous lack of burning on most bones present.

The Hinojosa Site report (pg. 210) states that this feature appears to represent a deer butchering episode that was then covered by a deposit of stained ashy soil. They also note that the profile shows that the bones were deposited on a layer of mottled sandy clay loam creating a stable depositional surface. My own analysis revealed that the feature included the remains of more than one deer, since there were multiple radii identified. It also revealed a much greater diversity of species represented including turtle, snake, boney fish, several species of rodent, beaver, canine, and hawk. They go on to argue that because most of the bones appear to be below the charcoal layer and unburned, the deposit of overlying ash and charcoal was placed at a different time than the bones. However, this analysis showed that the bones seem to be in good shape with little evidence of weathering or breakage, and with root tracing being the most prevalent environmental alteration, suggesting a quick burial.

Additionally, the range of identified species and the type (turtle, bird, snake, etc.) may be evidence of a feasting event and even a ritual deposit. This bone cluster seems to have been significantly larger, and has a higher bone mass (522.07 g) than a similarly

Feature 8 – Identified Taxa							
Taxa	Common Name	NISP	MNI	Weight g.	Biomass g.	Biomass %	Notes
<i>Pitymys pinetorum/ Microtus ochrogaster</i>	Vole (Pine or prairie)	1	1	0.1	0.14	0.04	There are at least 2 species of Vole that could be found in the region. Voles are commonly found in areas with good grass cover. This specimen was unburned, may be intrusive.
<i>Sigmodon hispidus</i>	Hipsid Cottonrat	1	1	0.16	0.22	0.06	This species is common in the area, they have a wide range and are active during the day and night. They are often found in archaeological sites but since these specimens are not burned, it is possible they are intrusive.
<i>Sciuridae sp.</i>	Squirrel	1	1	0.08	0.12	0.03	This family includes prairie dogs and other ground squirrels, who inhabited short grasslands open prairies, and arroyos.
<i>Castoridae canadensis</i>	Beaver	1	1	1.75	1.85	0.54	Beavers range extends over much of North America and are present around streams, lakes, and rivers. This specimen was very large beaver molar.
<i>Lagomorpha</i>	Rabbits, and Hares	1	1	0.96	1.08	0.32	This specimens are most likely either Jackrabbit or Cottontail, but they were too fragmentary to identify to either species.
<i>Lepus californicus</i>	Blacktail Jackrabbit	3	2	3.76	3.69	1.08	Only hare in the area, found on open prairies, and sparsely vegetated deserts. Lightly burned, MNI based on age.
<i>Sylvilagus sp.</i>	Cottontail Rabbit	1	1	0.8	0.92	0.27	There are two species of cottontail rabbit in this region, the Eastern and Desert species. Cottontail rabbits are commonly found in open plains or brushy areas, and common in human disturbed environments.
<i>Artiodactyla</i>	Even-toed Hoofed Mammals	6	1	13.16	11.39	3.34	This order includes deer, antelope, peccary, and bison, but all specimens identified to this category are either whitetail deer or pronghorn antelope (both present in the area) but because of the difficulty separating these two species I created a category.
<i>Antilocarpa americana</i>	Pronghorn	1	1	7.3	6.70	1.97	Pronghorn were present in the area and have been previously reported from this site, however species identification is tentative because it is difficult to distinguish between pronghorn and whitetail. In this case it was done based on size, but should not be seen as an absolute identification. Includes one rib that was much more gracile than the other deer ribs present.
<i>Odocoileus virginianus</i>	Whitetail Deer	19	2	311.5	196.49	57.67	Whitetail deer are common through out the area, they are browsers who tend to stick to forests, and more mesic environments and are common in archaeological sites. Deer in south Texas are recognized as some of the largest extant whitetailed deer, and are exceptionally large, this was confirmed by my observations and complicates differentiation. MNI calculated using radius, all adult. Several had spiral fractures and or butcher marks on them and the two cervical vertebra found in articulation might have tally marks on the superior and inferior articular facets, however it is possible they are natural.
<i>Canidae sp.</i>	Dogs, Wolves, Foxes	1	1	0.57	0.68	0.20	This family includes dogs, wolves and foxes, previous faunal analysis identified coyote, dog, and the grey wolf. Material was generally too fragmentary to identify further and was classified based on size. Identified specimen included a molar.
<i>Accioitriformes</i>	Hawks	2	1	3.47	3.23	0.95	This order includes hawks and falcons as well as most of the diurnal birds of prey, they have a wide range across North America and can be found in most open forest, grasslands and deserts. Includes one humerus and one coracoid, not burned, may be the same individual.
<b>Total Identified Remains:</b>		<b>38</b>	<b>14</b>				
Extra Large Mammal	Bison/Cow Sized	3		4.3	4.16	1.22	Too fragmentary to further identify, very thick cortical bone, likely Bison. Most burned.
Large Mammal	Deer Sized	194		141.99	96.88	28.43	Most likely deer, but too fragmentary to identify.
Medium Mammal	Coyote Sized	9		2.75	2.78	0.82	Too fragmentary to speciate further.
Small Mammal	Rabbit Sized	22		3.88	3.79	1.11	Too fragmentary to speciate further.
Extra Small Mammal	Rat/Mouse Sized	11		0.45	0.55	0.16	Too fragmentary to speciate further.
Indeterminate Aves	Bird	1		0.5	0.55	0.16	Too fragmentary to speciate further.
Small Aves	Sparrow Sized	1		0.2	0.24	0.07	Too fragmentary to speciate further.
Anura sp.	Frogs and Toads	1		0.18	0.16	0.05	Too fragmentary to speciate further.
Testudines sp.	Turtle	54		20.37	3.84	1.13	Too fragmentary to speciate further, but based on size there is at least an MNI of 2, and although we were not able to speciate further, they likely represent either the western box turtle ( <i>Terrapene ornata</i> ) or the Texas tortoise ( <i>Gopherus berlandieri</i> ).
Colubridae sp.	Snake	6		0.86	1.00	0.29	Not able to speciate further.
Osteichthyes	Boney Fish	1		0.23	0.27	0.08	Not able to speciate further, but include catfishes and freshwater drum fish found in freshwater rivers and streams throughout the study area.
Indet. Vertebrate	Unidentified bone	29		2.75			Too fragmentary to speciate further.
<b>Total Vertebrate Remains:</b>		<b>370</b>		<b>522.07</b>	<b>340.736</b>		



diverse feature such as Feature 3 suggesting that as a meal this deposit would have supported more than one household. Additional evidence for a feasting deposit can be seen if we take into account the labor required to accumulate the range of species as well as the amount of biomass that many whole animals would have provided. I believe that it is possible this deposit was associated with a feasting event even though there is very little sign of burning; the refuse may have been discarded outside the cooking area and then subsequently covered with the discarded ashes and stones from a hearth burying it relatively quickly.

#### **Analytical Unit 5-Feature 9:**

Feature 9 is located approximately 1.5-2 m to the west of Feature 8, and its contents were deposited in a narrow elongated trench (Black 1986). The feature matrix was no different from the surrounding area it is believed that the bone assemblage was deposited in a shallow depression and quickly buried. Results of the analysis conclude that Feature 9, lot 472, has a NISP of 91 and an MNI of 3 individuals, including a woodrat, Bison and the only Peccary (Javelina) found on the site. Historically the presence of Peccary in this area was considered recent, but it has been established that they were in the area at the time of occupation, so its presence is not unexpected. Both myself and Gentry Steele (Black 1986) identified this piece as Peccary even though the curation tag identified it as 'very large mammal', so I am confident in its identification. Additionally, it appeared to be lightly burned, changing the sound of the bone when it is dropped, indicating this animal was consumed. The Bison bones exhibited signs of processing, the ulna and proximal radius did not appear to be burned but did have an impact and spiral fracture, and the distal radius was burned and spiral fractured as well. This feature stands out in that a much greater percentage was burned; even the turtle shell

was roasted to a perfect golden brown. Although I assume turtle was a staple part of the diet at this site, as very few fragments exhibit this level of burning or provide such clear evidence of consumption as this specimen exhibits.

Clear evidence that this deposit is related to a feasting event is not present, instead

Feature 9 - Identified Taxa							
Taxa	Common Name	NISP	MNI	Weight g.	Biomass g.	Biomass %	Notes
<i>Neotoma sp.</i>	Woodrat	1	1	0.14	0.19	0.06	There are at least 2 species of Woodrat in this area, the Whitethroat Woodrat, and the Southern Plains Woodrat, but since identification beyond genus is not possible, all have been grouped under <i>Neotoma sp.</i>
<i>Bison Bison</i>	American Bison	4	1	464.26	281.39	94.35	Presence/absence of Bison in Central Texas follows environmental trends through time. Range on open grassland, browsers, and are found in large herds. Most bison remains show spiral fracturing and some charring. Of the 61 fragments most refit, resulting in 1 rib, a left and right radius and left ulna, while it is possible that these bones represent more than one animal based on episeal fusion, I have stuck with an MNI of 1 because none of the parts overlap and the proximal ends fuse before distal ends. Most are burned, and have spiral fractures.
<i>Pecari angulatus</i>	Peccary (Javelina)	1	1	4.14	4.02	1.35	Peccaries northern range extends into the area, occupying semi-desert and brushy landscapes. Only one fragment identified to the species Peccary was found at this site, a mandible fragment with incisor alveoli present, did not appear to be burned.
<b>Total Identified</b>		<b>6</b>	<b>3</b>				
Extra Large Mammal	Bison/Cow Sized	3		2.93	2.95	0.99	Too fragmentary to further identify, very thick cortical bone, most likely bison.
Large Mammal	Deer Sized	10		2.91	2.93	0.98	Most likely deer, but too fragmentary to identify.
Small Mammal	Rabbit Sized	1		0.1	0.14	0.05	Most likely rabbit, but too fragmentary to identify.
Extra Small Mammal	Rat/Mouse Sized	1		0.16	0.22	0.07	Too fragmentary to speciate further
<i>Testudines sp.</i>	Turtle	48		43.79	6.42	2.15	Too fragmentary to speciate further, but based on size there is at least an MNI of 2, and although we were not able to speciate further, they likely represent either the western box turtle ( <i>Terrapene ornata</i> ) or the Texas tortoise ( <i>Gopherus berlandieri</i> ).
Indet. Vertebrate	Unidentified bone	22		1.6			Too fragmentary to speciate further
<b>Total Vertebrate Remains</b>		<b>91</b>		<b>520.03</b>	<b>298.25</b>		

the narrow range of species and small assemblage suggests this deposit was related to everyday subsistence practices. Only four species were identified in this assemblage, woodrat, bison, peccary, and turtle, and although the bison and peccary show evidence they were included in the diet, it is probable that the wood rat remains were intrusive.

### **Analytical Unit 6-Feature 10:**

Feature 10 was described as a loosely clustered bone concentration, and was not identified as a bone feature in the field due to several disturbances (Black 1986). However, as the excavations progressed, and elements were plotted in situ, it was recognized as a cultural feature. Feature 10 zooarchaeological material includes lots 265, 291 & 292, with a total of 343 NISP and 16 MNI. There are at least 16 species represented in this assemblage, representing a diverse range of animals including boney fish, turtle, skunk, opossum, frogs and toads, owl and a hawk. The Hinojosa Site report (pg. 197) states that this feature appears to represent processed animal bone discarded into a hole. The pit outline was not detected, but because of the homogeneous nature of the bone deposits suggests the feature represents a single event (Black 1986). My own analysis showed that the bones seem to be in good shape with not much weathering or breakage, with the most prevalent environmental alteration being root tracing, which suggests the feature was rapidly buried.

Given the biomass calculation of 481.32 g of meat, and the range/type of identified species (turtle, bird, snake, etc.) this feature could be considered evidence of a feasting event and even a ritual deposit. This bone cluster seems to have been significantly larger than a similarly diverse feature such as Feature 3, suggesting that as a meal this deposit would have supported more than one household. Additional evidence for a feasting deposit can be seen if we take into account the labor required to accumulate

the range of species as well as the amount of biomass that many whole animals would have provided. I believe that it is possible this deposit was associated with a feasting event.

**Feature 10 - Identified Taxa**

Taxa	Common Name	NISP	MNI	Weight g.	Biomass g.	Biomass %	Notes
<i>Reithrodontomys sp.</i>	Harvest Mouse	1	1	0.02	0.03	0.01	There are at least 4 species of harvest mice found in the region (most likely either the Plains or Western species). Harvest Mice are common across the region in grasslands, low vegetation and open desert and are common in human disturbed environments. This specimen was a femur, unburned, indicating it is intrusive.
<i>Sigmodon hispidus</i>	Hipsid Cottonrat	5	1	0.6	0.71	0.15	This species is common in the area, they have a wide range and are active during the day and night. They are often found in archaeological sites but since these specimens are not burned, it is possible they are intrusive.
<i>Cricetidae sp.</i>	Mice	12	4	0.86	0.98	0.20	Identification beyond the family Cricetidae or common mice, rats, lemmings and voles is not possible. Based on morphology and size, all specimens should be considered mice. Using size, and count, an MNI of 4 has been calculated. Not burned so likely to be intrusive.
<i>Skunk sp.</i>	Skunk	2	1	1.01	1.13	0.23	There are 4 species of skunk, found in the region (most likely either the hognose or striped species). Skunks are common across the region in grasslands, partly wooded or brushy areas and are common in human disturbed environments. Not burned.
<i>Didelphidae sp.</i>	Opossum	1	1	2.85	2.87	0.60	Opossums are nocturnal, have diverse diets, and are found across this area. They tend to be rare in the archaeological record, possibly because nocturnal hunting was not common, or because they were not as common. Identified element is an innominate.
<i>Lepus californicus</i>	Blacktail Jackrabbit	4	1	2.35	2.42	0.50	Only hare in the area, found on open prairies, and sparsely vegetated deserts. Lightly burned
<i>Bison Bison</i>	American Bison	19	2	338.72	211.87	44.02	Presence/absence of Bison in Central Texas follows environmental trends through time. Range on open grassland, browsers, and are found in large herds. Most bison remains show spiral fracturing and some charring. 160+ fragments refit into 19 elements representing at least one juvenile and one adult Bison, about 1/2 the fragments are burned, and there are possible cut marks on several pieces.
<i>Artiodactyla</i>	Even-toed Hoofed Mammals	3	1	79.01	57.17	11.88	This order includes deer, antelope, peccary, and bison, but all specimens identified to this category are either whitetail deer or pronghorn antelope (both present in the area) but because of the difficulty separating these two species I created a category.
<i>Odocoileus virginianus</i>	Whitetail Deer	6	1	23.25	19.01	3.95	Whitetail deer are common through out the area, they are browsers who tend to stick to forests, and more mesic environments and are common in archaeological sites. Deer in south Texas are recognized as some of the largest extant whitetailed deer, and are exceptionally large, this was confirmed by my observations and complicates differentiation. Includes an ulna, humerus, metapodials and phalanges, many show evidence of burning.
<i>Antilocarpa americana</i>	Pronghorn	2	1	5.15	4.90	1.02	Pronghorn were present in the area and have been previously reported from this site, however species identification is tentative because it is difficult to distinguish between pronghorn and whitetail. In this case it was done based on size, but should not be seen as an absolute identification. Includes a 1st and 3rd phalange.
<i>Accioitriformes sp.</i>	Hawks	1	1	0.23	0.27	0.06	This order includes hawks and falcons as well as most of the diurnal birds of prey, they have a wide range across North America and can be found in most open forest, grasslands and deserts. Includes 1 phalanx, and was very burned.
<i>Strigidae</i>	Owl	1	1	0.16	0.20	0.04	At least 4 species of large owl are found in the region (Barn, Screech, Barred, and Spotted), identification beyond genus was not possible. Most similar to the Barn Owl comparative.
<b>Total Identified Remains:</b>		<b>57</b>	<b>16</b>				
Extra Large Mammal	Bison/Cow Sized	70		187.69	124.54	25.88	Too fragmentary to further identify, very thick cortical bone, likely Bison. Most burned.
Large Mammal	Deer Sized	121		64.52	47.64	9.90	Most likely deer, but too fragmentary to identify. All burned.
Medium Mammal	Coyote Sized	7		1	1.12	0.23	Too fragmentary to speciate further.
Small Mammal	Rabbit Sized	7		0.7	0.81	0.17	Too fragmentary to speciate further.
Indet. Aves	Bird	1		0.5	0.60	0.12	Too fragmentary to speciate further.
Large Aves	Turkey Size	3		0.38	0.43	0.09	Too fragmentary to speciate further.
Medium Aves	Quail size	1		0.12	0.15	0.03	Too fragmentary to speciate further.
Anura sp.	Frogs and Toads	10		0.16	0.15	0.03	Too fragmentary to speciate further, but based on size there is at least an MNI of 2.
Testudines sp.	Turtle	41		19.23	3.70	0.77	Too fragmentary to speciate further, but based on size there is at least an MNI of 2, and although we were not able to speciate further, they likely represent either the western box turtle ( <i>Terrapene ornata</i> ) or the Texas tortoise ( <i>Gopherus berlandieri</i> ).
Colubridae sp.	Snake	2		0.4	0.46	0.10	Not able to speciate further.
Osteichthyes	Boney Fish	2		0.12	0.16	0.03	Not able to speciate further, but include catfishes and freshwater drum fish found in freshwater rivers and streams throughout the study area.
Indet. Vertebrate	Unidentified bone	21		7.45			Too fragmentary to speciate further.
<b>Total Vertebrate Remains:</b>		<b>343</b>		<b>736.48</b>	<b>481.32</b>		

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2009 *Juvenile Osteology: A Laboratory and Field Manual*. Academic Press, New York.
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2008 *The Sibley Guide to Birds*. Paw Prints, New York.
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1996 *A Turtle Atlas to Facilitate Archaeological Identifications*. Mammoth Site of Hot Springs, SD in conjunction with the Office of Research and Public Services, University of Maine, Hot Springs.
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2011 Distinguishing Human From Animal Bone. Arizona State Museum: 1–4.
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**APPENDIX C: POTTERY DATA**

Site	Vessel Group	Vessel Form	Interior	Exterior	Petrographic Data (%)								Vessel Element Dia. (mm)						Rim Type	Core
					Matrix	Bone	Minerals	Limestone	Hematite	Pores	Rim	Base	Max Dia	Neck	Height	Mean Sherd Thickness				
Buckhollow	3	Jar	Even Smoothing, Burnished, Slipped	Even Smoothing, Burnished, Slipped	64.3	11.2	14.9	0.8	3.2	13.2	160						5.73	Rounded, Everted, Interior bevel	Oxidized	
Buckhollow	4	Jar/Olla	Uneven Smoothing, Wash	Even Smoothing, Burnished											260		4.629	Rounded, Everted	Oxidized	
Buckhollow	5	Jar	Uneven Smoothing, Wash	Even Smoothing, Burnished								55					4.36		Oxidized	
Buckhollow	6	Jar/Olla	Uneven Smoothing, Wash	Even Smoothing, Burnished	67.8	21.3	1.4	3.2	1.1	5.2				230			4.806		Oxidized	
Buckhollow	7	Jar/Olla	Uneven Smoothing	Even Smoothing, Burnished	65.8	17.9	1.2	0	3.1	12.1							5.424		Oxidized	
Buckhollow	9	Jar/Olla	Even Smoothing, Wash	Even Smoothing, Burnished, Painted	72.8	19	0.6	0	1.8	5.8							4.427		Oxidized	
Buckhollow	10	Jar/Olla	Even Smoothing, Wash	Even Smoothing, Burnished, Wash													6.15		Oxidized	
Buckhollow	1	Bowl	Uneven Smoothing, Wash	Uneven Smoothing, Burnished	68.2	14.1	5.6	0.50	2.3	9.6				250			4.912	Interior bevel	Oxidized	
Rocky Branch	A	Jar	Even Smoothing	Even Smoothing	35.2	27.8	8.8	16.7	3.6	7.9	162	156	172	194	126	7			Oxidized	
Rocky Branch	B	Bowl	Even Smoothing	Even Smoothing, Burnished	64.2	21.4	8.5	2.50	2.5	2.5	90		110	174		5.5			Oxidized	
Rocky Branch	C	Jar	Uneven Smoothing	Even Smoothing, Burnished	54	26.1	3.7	8.3	5.4	2.5		90		166		6			Graded	
Mustang Branch	2	Bowl	Even Smoothing	Even Smoothing, Burnished		25					120		70	120		4.5	Everted	Redox		
Mustang Branch	1	Jar	Even Smoothing	Even Smoothing, Burnished	35	30.1	29.4	0.5	1.5	4.6			200		5.5				Redox	
41TG91	2	Olla	Even Smoothing, Slipped	Even Smoothing, Engraved Lines								80		225		6			Oxidized	
41TG91	3	Olla	Uneven Smoothing	Even Smoothing, Burnished								100							Oxidized	
41TG91	5	Bowl	No Data	No Data							150					6				





**APPENDIX D: VITA**

## Eric A. Schroeder

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2201 Speedway, Stop C3200  
Austin, Texas 78712  
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(512) 695-9084

### Academic Experience

#### Research Associate

July 2016 - Present

Center for Big Bend Studies, Sul Ross State University,  
Alpine, Texas

- Assisted in the establishment and fund raising for the La Junta de los Rios Project – a collaborative research project between the Center for Big Bend Studies, the Instituto Nacional de Antropología e Historia, and Native American communities along the El Camino Real de Tierra Adentro International Historic Trail

May 1991- December 1993

Lubbock Lake Landmark, Museum of Texas Tech University,  
Lubbock, Texas

- Taught and supervised a diverse body of international students in the collection and documentation of archaeological data

#### Teaching Assistant

August 2014 – December 2017

Department of Anthropology, University of Texas at Austin

- Taught six semesters of both lower and upper division undergraduate courses in archaeology and physical anthropology

#### Intellectual Entrepreneurship Pre-Graduate Internship Mentor

August 2014 – December 2014

College of Liberal Arts, University of Texas at Austin

- Coached and mentored upper-division undergraduate students in research methods for the preparation of undergraduate honors theses.

#### Assistant Field Director

December 2013 – January 2014

Department of Archaeology, University of Ghana at Legon

- Supervised indigenous Ghanaian undergraduate students in the collection of archaeological field data and methods of community engagement at the Krobo Mountain Archaeological Project – a study of indigenous identities and local community involvement

#### Faculty

October 2008 – June 2014

University of Foreign Military and Cultural Studies, Fort  
Leavenworth, Kansas

- Developed and taught a 9-week graduate-level seminar course to senior military officers designed to improve

military decision-making in complex, multi-cultural environments

Instructor

June 2002 – 2004

Texas Archeological Society Summer Field School

- Developed and taught a laboratory field course in archaeological theory and methods to avocational groups for archaeological field projects in Texas

**External Grants**

April 2016

Council of Texas Archeologists Student Research Grant

- Awarded \$1,200 in support of my Ph.D. dissertation research on pre-Hispanic Native American societies in Texas

April 2003 – 2005

Texas Historic Preservation Trust Fund

- Awarded \$15,000 over a period of three years to develop and deliver a community outreach program designed to raise public awareness for the preservation of Native American archaeological sites and traditional cultural places

June 2002 – 2004

Texas Archeological Society

- Awarded \$4,500 over three years to develop and deliver a laboratory field course on archaeological theory and methods to society members

**Internal Grants**

April 2016

Bromley F. Cooper Endowed Fellowship

- Awarded \$8,500 in support of my Ph.D. dissertation research on pre-Hispanic Native American material culture in South Texas

**Peer-Reviewed Articles**

2014 Hegemony and Mission Practices in Colonial New Spain. In *Evangelization and Cultural Conflict in Colonial Mexico*, edited by Robert H. Jackson, pp. 214-228. Cambridge Scholars Publishing, New Castle upon Tyne.

Dietz, A. Steven, and Eric A. Schroeder

2012 Integrating Critical Thinking in the U.S. Army: Decision-Support Red Teams. In *Beyond Training: The Rise of Adult Education in the Military*, edited by Susan Imel, Jovita M. Ross-Gordon, Jeffrey Zacharakis and Cheryl J. Polson. *New Directions for Adult and Continuing Education* 136:17-40.

2011 The Armstrong Site: A Transitional Archaic Occupation along the Eastern Balcones Escarpment. *Bulletin of the Texas Archeological Society* 82: 118-134.

1997 Limited Testing at the Turbeville Site (41WD382), Wood County, Texas. *Journal of Northeast Texas Archaeology* 9:42-52.

## Monographs

2013 *The Jumano in the First Century of Colonial Contact: Ethnohistoric and Archaeological Perspectives*. MA report, The Department of Anthropology, The University of Texas at Austin.

## Non-academic Professional Experience

- February 1994 – Present Cultural Resources Management Professional
- Director of a cultural resources management company responsible for providing regulatory consultation and compliance services to public and private industry clients worldwide
  - Responsible for assisting clients with the development of programs for Native American consultation regarding the preservation of archeological sites, historic properties, and traditional cultural places
  - Consult with industry clients and Native American tribes regarding the treatment and repatriation of Native American human remains and funerary objects
- June 1986 – July 2016 Officer, U.S. Army (retired)
- Responsible for the health, welfare, and training of U. S. service members and those of allied partner militaries worldwide

## Major Reports

Prikryl, Daniel J. and Eric A. Schroeder

- 2017 *An Intensive Cultural Resources Survey of the Proposed Uvalde Memorial Hospital Demolition and Reconstruction Project, Uvalde County, Texas*. Applied Archeological Sciences, Inc., Cedar Creek, Texas.
- 2016 *Report of Investigation: Section 106 Cultural Resources Survey of The Big Cedar Pavilion and Wounded Warriors Trail, Dallas County, Texas*. Applied Archeological Sciences, Inc., Cedar Creek, Texas.
- 2016 *Report of Investigation: Section 106 Cultural Resources Survey of an 11-acre Sub-parcel of Land within 25.2 Acres Addressed as 1335 Medina Highway East, Kerrville, Texas*. Applied Archeological Sciences, Inc., Cedar Creek, Texas.
- 2014 *Intensive Archeological Survey of the Dacy Lane Roadway Improvements Project: Phase 2, Hays County, Texas*. Applied Archeological Sciences, Inc., Cedar Creek, Texas.
- Prikryl, Daniel J., Andrew F. Malof, Charles A. Hixon, and Eric A. Schroeder
- 2013 *An Intensive Archaeological Survey of the LCRA's Proposed Lower Basin Reservoir Project at Lane City, Wharton County, Texas*. Report of Investigations No. 19, Lower Colorado River Authority, Austin.
- 2002 *Data Recovery at the Armstrong Site (41CW54) Caldwell County, Texas. Volume II: Cultural Interpretations*. PPA Cultural Resources Report Number 330. Paul Price Associates, Inc., Austin.



- Schroeder, Eric A. and Eric R. Oksanen  
 2002 *Data Recovery at the Armstrong Site (41CW54) Caldwell County, Texas, Volume I: Background, Methods, and Site Context*. PPA Cultural Resources Report Number 284. Paul Price Associates, Inc., Austin.
- Oksanen, Eric R., Craig A. Weaver, Eric A. Schroeder, and Glenn T. Goode  
 2002 *Archeological Testing of Four Prehistoric Sites along the Guadalupe-Blanco River Authority's San Marcos Raw Water Pipeline, Caldwell and Hays Counties, Texas*. PPA Cultural Resources Report Number 262. Paul Price Associates, Inc., Austin.
- Schroeder, Eric A., Steven M. Kotter, Craig A. Weaver, and Eric R. Oksanen  
 2002 *Cultural Resources Survey in Selected Areas of the Rock Creek Drainage, Mark Twain National Forest, Barry County, Missouri*. PPA Cultural Resources Report Number 352. Paul Price Associates, Inc., Austin.
- Oksanen, Eric R., and Eric A. Schroeder  
 2002 *Cultural Resources Survey at the Diamond Shamrock Refinery, Live Oak County, Texas*. PPA Cultural Resources Report Number 348. Paul Price Associates, Inc., Austin.
- Oksanen, Eric R., Craig A. Weaver, and Eric Schroeder  
 2002 *Archeological Investigations along the CCNG Wastewater Interceptor, Bee Cave, Travis County, Texas*. PPA Cultural Resources Report Number 329. Paul Price Associates, Inc., Austin.
- Walter, Richard W., Craig A. Weaver, Eric A. Schroeder and Eric R. Oksanen  
 2002 *Archeological Investigations at the Proposed Olympia Hills Golf Course, Universal City Bexar County, Texas*. PPA Cultural Resources Report Number 246/255. Paul Price Associates, Inc., Austin.
- Schroeder, Eric A., and Craig A. Weaver  
 2002 *State Archeological Landmark Evaluation of Site 41CW58 at the Canyon Regional Water Authority Treatment Facility, Caldwell County, Texas*. PPA Cultural Resources Report Number 301. Paul Price Associates, Inc., Austin.
- Schroeder, Eric A., and Tina Leshley-Prikryl  
 2001 *Cultural Resources Management Plan for the Palmetto Bend Project, Lake Texana, Jackson County, Texas*. PPA Cultural Resources Report Number 323. Paul Price Associates, Inc., Austin.
- Schroeder, Eric A., Craig A. Weaver, and Glenn T. Goode  
 2001 *Archeological Testing at Sites 41WM908, 41WM911, and 41WM1092 along the Williamson County Regional Raw Water Pipeline, Williamson County, Texas*. PPA Cultural Resources Report Number 247. Paul Price Associates, Inc., Austin.
- Schroeder, Eric A., and Eric R. Oksanen  
 2001 *Archeological Investigations along the Williams Drive Wastewater Interceptor, City of Georgetown, Williamson County, Texas*. PPA Cultural Resources Report 240. Paul Price Associates, Inc., Austin.
- Walter, Richard W., Eric A. Schroeder, Eric R. Oksanen  
 2001 *State Archeological Landmark Testing at 41TV1866: A Prehistoric Open Campsite along Slaughter Creek, Travis County, Texas*. PPA Cultural Resources Report Number 299. Paul Price Associates, Inc., Austin.

Briggs, Alton K, Eric R. Oksanen, and Eric A. Schroeder  
2000 *A Cultural Resources Survey of the City of Uvalde's Municipal Golf Course Expansion Project, Uvalde County, Texas*. PPA Cultural Resources Report Number 275. Paul Price Associates, Inc., Austin.

Schroeder, Eric A., Steven M. Kotter, and James T. Jones  
1999 *Historical and Archeological Investigations along the Guadalupe-Blanco River Authority's San Marcos Raw Water Pipeline in Hays, Caldwell, Comal, and Guadalupe Counties, Texas*. PPA Cultural Resources Report Number 236. Paul Price Associates, Inc., Austin.

Perttula, Timothy K, Eric A. Schroeder, Stephen A. Hall, J. Kent Hicks, Richard Walter, Peggy Jones, Karen L. Ritchie, and Peggy Jennings  
1999 *National Register Evaluations of 78 Prehistoric Archaeological Sites in Maneuver Area 2B, Fort Bliss, Texas*. Lone Mountain Archaeological Services, Inc. Report No. 505, Albuquerque.

Schroeder, Eric A., Charley Jennings, James T. Jones, Greg Cestaro, Steven Kotter, Jennifer L. Logan, and Peggy Jennings  
1997 *Data Recovery at the Ella Smith Farmstead (34Pt128): Prehistoric Camp to Potawatomi Allotment, Pottawatomie County, Oklahoma*. PPA Cultural Resources Report Number 10 (186). Paul Price Associates, Inc., Austin.

Schroeder, Eric A., and James T. Jones  
1997 *Archeological and Geomorphic Testing at Site 41WM462, Williamson County, Texas*. PPA Cultural Resources Report Number 5 (181). Paul Price Associates, Inc., Austin.

Lohse, Jon C., James T. Jones, and Eric A. Schroeder  
1997 *Cultural Resource Investigations at Two Historic Cemeteries for the Austin-Bergstrom International Airport*. Hicks & Company Archeology Series 53. Hicks & Company, Austin.

Schroeder, Eric A., Peter Nichols, and Bert F. Rader  
1995 *Archeological Survey and Geomorphological Testing of the North Longview Sewer Project, City of Longview, Gregg County, Texas*. Horizon Environmental Services Job Number 940324. Horizon Environmental Services, Inc., Austin.

### **Papers Presented**

November 2016 "An Investigation into Late Prehistoric Native American Trade Fair Sites in Texas" Presented at the Camino Real de Mexico a Texas La Junta de los Rios Conference, Presidio, Texas.

April 2015 "On the Trail of the People of the Cows: Transient Camps and Hypothesized Ceremonial Rendezvous of Late Prehistoric Mobile Populations of Southwestern Texas." Presented at the 51st Proceedings of the Southwest Federation of Archeological Societies, Hobbs, New Mexico.

October 2013 "Shifting Patterns of Thought: New Directions in Texas Archaeology." Presented at the 36<sup>th</sup> Annual Meeting of the Texas Archeological Society, Del Rio, Texas.

November 2012 "Native and Catholic Rituals on the Frontier of New Spain." Presented at the Annual Conference on "Evangelization and Culture in Colonial Mexico", Mexico City.

October 2010 "Is Toyah Jumano?" Presented at the 33<sup>rd</sup> Annual Meeting of the Texas Archeological Society, Corpus Christi, Texas.

July 2009 (Schroeder, E. A. & Dietz, A. S.) "Understanding Internal Consultant-Client Interactions: A Systemic look at the Army's Red Team in Afghanistan." Presented at the 19<sup>th</sup> Annual Society for Chaos Theory in Psychology and Life Sciences Conference, Milwaukee, WI.

December 2003 "Late Paleoindian burned caliche features in Central Texas." Presented at the South Plains Archeological Society, Lubbock, Texas.

October 2000 "Data recovery at the Armstrong Site (41CW54)." Presented at the 23<sup>rd</sup> Annual Meeting of the Texas Archeological Society, Clear Lake, Texas.

October 2000 "Using soil geochemical analysis to define living surfaces at archeological sites." Presented at the 23<sup>rd</sup> Annual Meeting of the Texas Archeological Society, Clear Lake, Texas.

### **Education**

2013 – 2018 (projected)	Ph.D. Candidate, Department of Anthropology, University of Texas at Austin
2013	Master of Arts, Department of Anthropology, University of Texas at Austin
1993	Master of Science, College of Arts and Sciences, Texas Tech University, Lubbock
1991	Bachelor of Arts, Department of Anthropology, Texas Tech University, Lubbock

### **Honors and Awards**

Award of Merit in Archeology in the Field of Technical Scientific Research in Archeology. *Awarded by the Texas Historical Commission October 21, 2002*

U.S. Army Service Awards: Bronze Star Service Medal, Defense Meritorious Service Medal, Iraq Campaign Medal, Combat Action Badge

### **Professional Affiliations**

Register of Professional Archeologists  
National Guard Association of Texas

## References Cited

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- 1994 The Northwest Coast: Complex Hunter-Gatherers, Ecology, and Social Evolution. *Annual Review of Anthropology* 23: 209–229.
- 1995 Chiefly Power and Household Production on the Northwest Coast. In *Foundations of Social Inequality*, edited by Douglas Price and Gary M. Feinman, pp. 155–187. Plenum Press, New York.

Anderson, Arthur J., and Charles E. Dibble

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Arnn, John W. III

- 2007 Transformation and Persistence of Indigenous Cultural Identity during the Early Colonial and Late Prehistoric Periods in Texas. Ph.D. dissertation, Department of Anthropology, University of Kentucky, Lexington.
- 2012a *Land of the Tejas: Native American Identity and Interaction in Texas, A.D. 1300-1700*. University of Texas Press, Austin.
- 2012b Defining Hunter-Gatherer Sociocultural Identity and Interaction at the Regional Scale: The Toyah/Tejas Social Field. In *The Toyah Phase of Central Texas: Late Prehistoric Economic and Social Processes*, edited by Nancy A. Kenmotsu and Douglas K. Boyd, pp. 44–75. Texas A&M University Press, College Station.

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- 2008 The Anthropologies of Trade and Exchange: An Essay on Kirikir’is and Southern Plains Political Economy. *Plains Anthropologist* 53(208): 415–430.

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1994 Systematics of the Study of Prehistoric Exchange in North America. In *Prehistoric Exchange Systems in North America*, edited by Timothy G. Baugh and Jonathon E. Ericson, pp. 3-15. Plenum, New York.
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1997 The Central Texas Burned Rock Midden Reconsidered. In *Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Midden Sites in West Central Texas, Volume 1*, edited by Stephen L. Black, Linda W. Ellis, Darrell G. Creel, and Glenn T. Goode, pp. 269–305. Studies in Archeology 22, the Texas Archeological Research Laboratory, The University of Texas at Austin. Archeology Studies Program Report 2, Texas Department of Transportation Environmental Affairs Division, Austin.
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1981 Origin and Spread of the Calumet Ceremony. *American Antiquity* 46(4): 759–768.

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Bordes, François

1961 *Typologie du Paleolithique Ancien et Moyen*. Delmas, Bordeaux.

Boyd, Douglas K.

1997 Caprock Canyonlands Archeology: A Synthesis of the Late Prehistory and History of Lake Alan Henry and the Texas Panhandle Plains, Volume II. Reports of Investigations, Number 110. Prewitt and Associates, Inc., Austin.

2001 Querechos and Teyas: Protohistoric Hunters and Gatherers on the Texas Panhandle-Plains, A.D. 1540-1700. *Bulletin of the Texas Archeological Society* 72: 5–22.

2012 What Is Northern Toyah Phase? The Toyah Phenomenon on the Texas Southern Plains. In *The Toyah Phase of Central Texas: Late Prehistoric Economic and Social Processes*, edited by Nancy A. Kenmotsu and John W. III Arnn, pp. 128–151. Texas A&M University Press, College Station.

Boyd, Douglas K., John E. Dockhall, Karl W. Kibler, Gemma Mehalchick, and Laura Short

2014 *Data Recovery Investigations at the Tank Destroyer Site (41CV1378) at Fort Hood, Correll County, Texas*. Reports of Investigation 172, Prewitt and Associates, Inc. Archeological Studies Program Report No. 149, The Texas Department of Transportation Environmental Affairs Division, Austin.

Boyd, Douglas K., Jay Peck, Steve A. Tomka, and Karl W. Kibler

1993 *Data Recovery at Justiceburg Reservoir (Lake Alan Henry), Garza and Kent Counties, Texas: Phase III, Season 2*. Reports of Investigation 88, Prewitt and Associates, Inc., Austin.

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2003 *Rock Art of the Lower Pecos*. Texas A&M University Press, College Station.
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2003 The Commensal Politics of Early States and Empires. In *The Archaeology of Politics of Food and Feasting in Early States and Empires*, edited by Tamara Bray, pp. 1-16. Kluwer, New York.
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2017 The Toyah Complex of South and Central Texas: Long-Range Mobility and the Emergence of Dual Economies. *Plains Anthropologist* 62(242): 133–156.
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