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Faunal Remains as a Potential Indicator of Ritual Behavior: Griffin Rockshelter (40FR151)

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I am submitting herewith a thesis written by Connie Marie Randall entitled "Faunal Remains as a Potential Indicator of Ritual Behavior: Griffin Rockshelter (40FR151)." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Anthropology.

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Faunal Remains as a Potential Indicator of Ritual Behavior:

Griffin Rockshelter (40FR151)

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To my grandmother, Patricia Randall.

You taught me the value of research and to appreciate the past.

I wish you were here on this journey with me.

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Abstract

Faunal remains are typically interpreted with a focus on utilitarian activity. However, animals were used for a variety of purposes, with some species having special cultural associations. This thesis explores the potential for a faunal assemblage to enhance the belief that Griffin Rockshelter (40FR151), a relatively small sandstone rockshelter, was a space where ritual activity occurred.

This project makes use of a comprehensive analysis of the archaeofauna recovered from Griffin, with data from previous analyses of the lithics and pottery, along with the petroglyphs that cover the shelter's back wall. To further demonstrate the uniqueness of the material, the faunal assemblage is compared with five other sites on the Cumberland Plateau. The potential for ritual activity is contextualized with a discussion about the difficulties of interpreting ritual activity archaeologically.

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Chapter 1: Introduction

Griffin Rockshelter (40FR151) is a small sandstone shelter on the Cumberland Plateau of Central Tennessee and is one of many rock art sites in the region (see Figure 1 in Appendix 2). This prevalence of rock art on the Cumberland Plateau is believed to be indicative of a greater pattern of ritual behavior in the prehistoric Southeast (Simek et al. 2013). Since its excavation, Griffin's petroglyphs have been used to suggest that the site was a potential shrine site (King 1974, Henson 1986). Further, a recent analysis of the pottery confirms that Griffin is likely a special-use shelter (Bow 2012).

The goal of this thesis is to demonstrate that faunal remains can enhance interpretations of ritual behavior at a site. In order to demonstrate this uniqueness, this project makes use of the material from Griffin Rockshelter, with a focus on a comprehensive faunal analysis, discussion of five comparative sites, and a review of the literature regarding ritual in the archaeological record.

I argue that Griffin's fauna is representative of ritualized behavior. This is due to the inclusion of species that have special associations and characteristics that do not appear consistent with subsistence activities. If Griffin's assemblage is representive of ritual activity, the fauna, like the pottery, should not be consistent with established utilitarian sites on the Cumberland Plateau. However, as I will discuss in Chapter 2, activity does not function within a strict dichotomy of ritual and mundane. This lack of straightforward material correlates makes teasing out the markers of specialized assemblages even more difficult.

Why Ritual?

Approaching Griffin's faunal material through the perspective of ritual is important as it acknowledges that assemblages are representative of more than mundane activities. The archaeological investigation of ritual has suffered from a lack of robustness, influenced by the difficulty of even identifying these activities. It is also possible that ritual interpretations have simply been ignored for easier-to-explain utilitarian ones, such as rockshelters often being interpreted as hunting camps (Binford 1981). Since ritual behavior has been associated with the unknown aspect of human activity, where any non-utilitarian behavior has been included in a category of "the unknown". Therefore, any activity that is not easily understood gets classified as irrational (Whitley et al. 1999: 221). While there is a more recent shift towards interpreting ritualized behavior, this remains a complicated process due to biases favoring larger, easier to detect, assemblages. Focus needs to be on smaller assemblages as well, since not every ritual event is performed on a large scale (Hayden 2001: 54).

Marc Verhoeven's concepts of framing and contextualization will be discussed throughout this thesis; these criteria examine a site and its associated material culture to establish the possibility that a site could have special characteristics (Verhoeven 2011). An important part of this analysis is the understanding that relationships of humans and animals can be varied based upon context. This is approached by acknowledging the special uses of animals, such as the use of box turtle shells to create ceremonial rattles (Fradkin 1990). Along with this is a discussion addressing how animals and objects could be animate, and that their interaction with humans ensures there is a balance in the world (Hill 2011). "Alternative" taxonomies are a vital

component to the argument that certain species could provide additional context that a site was special-use, just as other artifacts and features do.

Introduction to Griffin Rockshelter

Griffin Rockshelter is located on the Lower Cumberland Plateau, above Crow Creek in Franklin County, Tennessee (Bates 1981). This shelter bi-lobed with roughly eight square meters of living space; a centrally located hearth-like pit near the mouth of the shelter took up about 1.83 meters of space (Bow 2012) (see Figure 2 in Appendix 2). Carbon-14 dating places the occupation at 1050 ± 55 BP (cal. 966 ± 54 AD), which indicates a Late Terminal Woodland/Early Mississippian context (Bow 2012). Griffin has panels of petroglyphs along its back wall and on its ceiling. These motifs will be discussed in detail in Chapter 4. The presence of rock art in this shelter is the most visible characteristic indicating that something special could have happened here. Griffin is believed to be a ceremonial site due in part to its high artifact density and the presence of petroglyphs inside the shelter (Figures 3 and 4 in Appendix 2).

The Comparative Sites

In order to fully evaluate the nature of Griffin's faunal assemblage, I have compared it to a selection of other sites in the region that are thought to have utilitarian and ritual assemblages.

The comparative sites were chosen for a variety of reasons the, The Mason Site (40FR8), the Brickyard Site (40FR13), and Tucker Rock Shelter (40FR16) were selected because they are located in the same county as Griffin. These sites were excavated as part of a salvage project by the University of Tennessee and provide brief lenses into the archaeological record of the region (Faulkner 1968). Sachsen Cave Shelter, while located on the upper portion of the Cumberland

Plateau, is an important inclusion for two reasons: this assemblage has been fully analyzed and is consistent with utilitarian use patterns (Dennison 2013). Sheep Bluff Shelter (1FR324), while not on the Plateau, is located in nearby Alabama; this site is the most similar to Griffin based upon size and the presence of rock art (Hollingsworth 1989).

Outline

An overview of non-western ontological systems, along with a general discussion about ritual and religion in the archaeological record appear in Chapter 2. This chapter also provides information on feasting along with a discussion on animals that have (potential) special meaning. This section is important because animals are more than just food: they have meanings ascribed to them, and in some cases, these associations have ritual implications. These beliefs reinforce the need for archaeologists to make use of alternative ontologies.

Chapter 3 provides a brief context of the physiographical and environmental characteristics of the Cumberland Plateau. This discussion highlights the topographical diversity of the Cumberland Plateau and why rockshelters and caves are common along the landscape. The environmental discussion focuses on the change in flora from the Late Wisconsin period through the onset of modern climatic conditions. This chapter also discusses the culture history of the region, noting the distinguishing characteristics for the Paleoindian, Archaic, Woodland, and Mississippian phases in the Southeast. Emphasis is placed on Woodland groups in the general region of Griffin Rockshelter; since this information is lacking for inhabitants of the Cumberland Plateau, Middle and East Tennessee examples are used as proxies. This chapter also includes information about general rockshelter use and subsistence behavior, with expanded discussions on marrow and grease manufacture and gastropod use in the faunal record.

Chapter 4 provides the overall context for Griffin Rockshelter, the history of the excavation and initial impressions from the excavation notes. This section also includes discussions about the pottery and lithic remains along with the feature and rock art.

An introduction to zooarchaeological methods and an overview of common terms and taphonomic processes is provided in chapter 5. This is vital to understand the analysis in chapter 6, which is a comprehensive look at Griffin's archaeofauna.

Chapter 7 provides a comparison with five other Cumberland Plateau sites. The goal of this chapter is to demonstrate that Griffin does differ from other archaeological sites. The discussion and conclusions about Griffin and the comparative sites are provided in Chapter 8.

Appendix 1 includes tables with the scientific and common names of the represented fauna in the shelter. These tables also include the number of identified specimens present (NISP) counts and the associated weights. This section also includes the Shannon Index values of the six sites.

The figures in Appendix 2 include floor plans of the shelter and the feature, along with photographs of some of the petroglyphs. This section also features pie charts and graphs used in the analysis of the faunal material along with images of the modified bone.

Chapter 2: Ritual Behavior

Though Griffin Rockshelter is located on the Cumberland Plateau, contextualizing the behavior at the site through a ritual lens requires looking at ritual not only in the Southeast but globally as well. This is done with a general discussion about ritual in the archaeological record and using research into animism/shamanism, feasting and other special associations of animals, rock art, and the application of alternative ontologies.

Ritual in the Archaeological Record

Complicating the interpretation of ritual activity is that there is no single definition for this behavior; the proposed definitions tend to be broad to ensure that they account for numerous types of ritualized activity (Verhoeven 2011). An early definition proposed by Firth considered ritual to be "a kind of patterned activity oriented towards control of human affairs, primarily symbolic in character with a non-empirical referent" (Firth 1951: 222). Catherine Bell (1997) argues that the focus should not be on classifying ritual itself, but on examining the degree to which a particular behavior is ritualized, this is evaluated though six attributes formalism, traditionalism, disciplined invariance, rule-governance, sacral symbolism, and performance. Though Bell presents categories to better analyze these behaviors and details on the expected attributes associated with them, she uses these varied characteristics to argue that ritual activity cannot be ascribed a single definition (Bell 2007). In 2007, Kyriakidis defined ritual as "an etic category that refers to a set of activities with a special (not-normal) intention-in-action, and which are specific to a group of people" (Kyriakidis 2007: 294).

Given the difficulties of simply defining ritual behavior, how can archaeologists use these definitions and criteria to assess special assemblages? Marc Verhoeven (2011) uses framing and contextualization to interpret potential ritualized practices. Framing is where people, activities,

and objects are spatially and/or temporally set apart from the profane aspects of everyday life for the performance of the ritual. These markers include special locations, specific times and special objects that could have been used in the performance. Contextualization is when artifacts assist based upon the interpretations reached by specialists; ethnographic literature is an additional valuable tool to aid in the contextualization of potential ritual behavior (Verhoeven 2011).

Though focused on prehistoric Europe, Joanna Brück's 1999 article focuses on the potential pitfalls encountered when attempting to contextualize sacred and profane behavior along with the problems associated with umbrella categories and faulty dichotomies (Brück 1999: 314). The assumption that behavior that appears to be inexplicable must be non-rational is the basis of the constructed dichotomy of ritual and secular spheres (Brück 1999: 314). Brück notes that "many of the supposedly diagnostic properties of ritual practice are shared by secular action" (Brück 1999: 315). Evidence that ritual and mundane activities could occur in the same space complicates some attempts to prove the specialness of a site. Brück discusses Renfrew's (1994) methodology for determining the ritual potential of a site. This method involves looking for evidence of characteristics which could fit into the categories of: features to focus attention, boundaries between the worlds, presence of deities, and evidence of participation and offerings (Renfrew 1994: 51-52). Though they have value, this and similar approaches are problematic since material culture does not easily fit into these constructed categories (Brück 1999: 316). If a site or an object is interpreted as non-functional, it is thought that it must be approached with special consideration: "ritual is defined and distinguished through its opposition to a secular sphere of action" (Brück 1999: 317). Much of the debate about ritual versus secular behavior comes from the notion that objects with no known function must be symbolic in nature. Some

assume that this dichotomous method of thinking is a human universal – where the sacred and the profane exist in their own discrete spheres.

Not everyone believes that there is a universal dichotomy between sacred and profane behavior. Animists believe that the entire universe has a life-force: all things living or inanimate have something resembling a soul. In this perspective, there is no separation of ritual and secular behavior, and special activities may not be spatially or temporally apart from daily tasks (Brück 1999: 318-319).

Concluding that a site has a ritual aspect can be problematic given the longstanding notion that something that appears atypical must therefore be classed as "ritual" (Fogelin 2007: 59). This means that a conclusion of ritual needs to be substantiated with the material evidence recovered from the site, in conjunction with comparisons to other sites and assemblages (Fogelin 2007: 59). Renfrew's previously mentioned list of criteria to determine if a site has ritual function is useful; however, like many other lists of this type, it works best for larger and more elaborate types of sites (Renfrew 1994). Small-scale events therefore are typically evaluated differently than large-scale ones. Renfrew's criteria for ritual sites will be discussed in further detail later in regards to Griffin Rockshelter. While there are distinctions between the sacred and profane, there are no true dichotomies (Fogelin 2007: 60).

Alternative Ontologies and Folk Taxonomy

Swenson (2015) believes that more attention needs to be paid to western ontological systems when approaching ritual through an archaeological lens. Taxonomic systems are important contextualizing tools in archaeological interpretations. It is believed that these means of organization will foster deeper understanding of the material world in a manner that can be quantified or qualified. This method is contrasted with folk taxonomic systems, the everyday

(ontological) organizations created by people that inhabit the world. Including their perspectives on their material culture when archaeologists attempt to classify it is important to a rounded interpretation (Swenson 2015; Zedeño 2009: 407). Zedeño (2009) situates ontology as a means to deepen interpretations of animistic cultures and associated ritual behaviors. VanPool and Newsome (2012) also note that archaeological material needs to be considered through these ontological lenses and that any interpretation needs to aim to avoid dichotomous thinking. While early archaeological research did comment upon animist perspectives, western biases meant that these beliefs were dismissed as primitive. Re-evaluation of animist beliefs in recent archaeological theory acknowledges non-human persons; this is known as the "new-animism" or the "ontological turn" (VanPool and Newsome 2012: 243-244).

Relational taxonomy/ontology focuses on perceptions of the world that influenced the creation of specific artifact types; objects are used by people based upon what the activity requires (Zedeño 2009: 410). Within animist societies, relational ontology is where animals and objects are ascribed characteristics associated with personhood, enabling these personified animals and objects to communicate with humans (Hill 2011: 408). Relational ontologies lack the human-dominated hierarchy common with other systems: humans and animals exist in relation to each other as part of a delicate reciprocal system (Hill 2011: 409). The western perspective of animals as utilitarian things to own and control is falling out of favor with some archaeologists. Alternative points of view demonstrate that animals are vital to the human realm. Animals in these non-western ontologies are symbols and companions, among other things. Animals are in effect non-human persons. This is in direct opposition to the notion that animals are primarily food (Hill 2013: 117-118).

Zedeño (2013) further approaches this through relational systematics, which is the analysis of objects and their recovery context, bridging traditional and modern ontological systems (Zedeño 2013: 117). A known obstacle in reconceptualizing how we approach the world is the inherent bias present in how various peoples approach their world. This so-called traditional "spatio-temporal-formal framework" enables archaeologists to ascribe qualities to an object based upon its context in order to determine its function (Zedeño 2013: 119). The adoption of ontological taxonomies is based in the socio-cultural understanding of how people, animals, and things understand their roles in the greater universe (Zedeño 2013: 121). Combining these frameworks leads to a greater understanding of how the material culture fits within cultural contexts, not modern ones. Zedeño (2013: 123) notes four animic categories that have been used across time, space, and cultures: objects with inherent animate substances, those that embody souls, those that enhance communication, and one irrelevant to this thesis, objects with European origins.

Hill (2013) notes that prey and predators, with dogs in their own category, all have roles to play in this delicate system. A cross-culturally important animal, the bear, is often ascribed personhood due to its "key roles in myth, cosmology, kin relations, and social organization" (Hill 2013: 119-120). Zedeño (2009:411-412) notes that special objects have more than the "funerary, sacred, or cultural patrimony" classifications used by the Native American Grave Protection and Repatriation Act (NAGPRA) but that there are other seemingly mundane objects and places that were considered to be special due to the belief that they are animate.

Wallis and Blessing (2015b) use a pit feature from Florida's Parnell site (8CO326) to explore potential bundling behavior through an ontological lens, specifically through relational ontology to explore non-human agency. Wallis and Blessing note that traditional taxonomic

systems that make use of spatial-temporal trends only allow for so much understanding of the material record. As result, they do not answer questions about the underlying behavior behind the artifact (Wallis and Blessing 2015b: 80-81). It is understood that some objects and places are inherently animate; the act of creating a bundle, or indexing, these special objects intensifies their power. Medicine bundles contained more than objects: animal remains were also included and the indexing of faunal remains is a way of ensuring that non-human persons are properly respected (Wallis and Blessing 2015b: 82-83).

Rock Art

The systematic study of rock art sites in this region demonstrates that these sites are intentional modifications of the landscape and may be evidence of a "sacred landscape" rather than random art (Simek et al. 2013: 430-431). Analysis of this art shows that some motifs were painted in, or filled in, with red or black pigment. The black charcoal pigment is mostly associated with caves, while the red iron oxide is typically found on open-air sites (Simek et al. 2013: 433-434). The authors also note that there are six common motifs found in Cumberland Plateau rock art, including anthropomorphs and pit and grooves (Simek et al. 2013: 434-435).

One main characteristic of these sites is the repeating motifs that are present in the art. These motifs include three primary categories that indicate their being part of a greater schema on the landscape: motif type, the location, and site context (Faulkner 1996: 111).

Robert J. Wallis (2009) uses animism and ontological relationships to further contextualize rock art and the associated landscape. Part of his discussion involves defining space and place. Space is the greater landscape; space becomes place once it has been modified. This modification of the space turns it into a discrete place on the landscape. It is apparent

cultural modification that creates place along with visible human involvement with the landscape (Wallis 2009: 48-49). In previous research there has been the token acknowledgement of non-human persons; however, there has been a lack of complete acceptance. They are only willing to explore native animist ontology so far (Wallis 2009: 50-51). Rock art in the western sense is evidence of people leaving an indelible mark on the landscape; however for animists, the landscape (space) is not a passive entity, but its own entity (Wallis 2009: 52). In this vein, sacredness is not simply encoded into the art, it is inherent in the landscape: the "*creation* of designs was a way to acknowledge and *activate* power" (Wallis 2009: 54). Spatial relationships cannot be overlooked. Zedeño (2013: 123) notes that special locations on the landscape include caves (shelters) and springs.

While not all rock art is based in ritual behavior, its presence at a site separates it from other sites that do not have what Renfrew (1994) would call "focusing features."

Feasting

Feasting is usually the activity associated with animal-based ritual behaviors, with bias towards the visible large-scale events. Though archaeological explorations of feasting typically address these large-scale events, in large-scale societies, there are common proposed markers of feasting behavior that could be used to interpret the faunal remains at Griffin.

Like other ritualized activities, the recognition of feast activities is hindered by a lack of a single definition. Brian Hayden defines feasting as "any sharing of special food (in quality, preparation, or quantity) by two or more people for a special (not everyday) event" (Hayden 2001: 28). Comparatively Michael Dietler's definition says feasting is any "form of ritual

activity centered on the communal consumption of food and drink" (Dietler 2011: 180). Both of these popular definitions demonstrate the special nature of feasting and how it functions as a ritual behavior; however, the inherent political context of the feast is not seen in these statements. Feasts are not always a public spectacle – private events can also be indicators of feasting behavior. What is important is the *specialness* of the event (Hayden 2014: 8). A further nuance to the discussion of feasting is the concept of the meat feast, which is a simplification of feasting behavior. Hayden has argued that meat feasts are an early form of feasting focused on high-utility deer portions (Hayden 2014: 44).

There is debate about what markers indicate small-scale versus large-scale feasting: arguably, the kinds of animals consumed during feasting events would be the most tangible marker of event size. Smaller feasting events are more likely to have local and seasonal species represented, since large numbers can quickly be harvested by small hunting parties. Large-scale feasting is more likely to have a diverse assemblage of species due to the more elaborate nature of the event. However, there is disagreement on the representation of feast foods: some believe that there would be more bulky, choice cuts, while others believe that there should be evidence of using as much as possible (Pluckhahn et al. 2006: 264). Katheryn Twiss (2007) suggests that feasting events are more likely to have greater taxonomic diversity, and may include exotic species. There should also be evidence of waste outside of a midden as a result of having a suggested overabundance of meat (Twiss 2007: 53-54). Twiss believes that due to the complexity of feasting residue, comparisons with other faunal assemblages are essential to definitely prove special food-based events (Twiss 2008: 424). However, there are occasions

where an assemblage deviates so far from the established norm that only one dataset is necessary.

Lucretia S. Kelly (2001: 345) used Cahokia's sub-Mound 51 as an example of a feasting event; this feature was noted by Kelly as being unusual compared to other Mississippian Period assemblages from the American Bottom. While deer makes up the bulk of the assemblage, as expected for prehistoric archaeofauna in the region, the sub-Mound 51 deer comprised 99.7 percent of the total faunal assemblage (Kelly 2001: 347). Contributing to the unusual nature of this assemblage is that low-density remains such as scapulae, which are typically found fractured, were still relatively complete. This relative wholeness of the deer remains is suggestive of butchery and there is no evidence of further processing for marrow and/or grease. Additionally the lack of cranial and lower limb bones suggests that butchery happened elsewhere. She also suggests that the large amount of flies in the pit suggests that meat was removed from the bones prior to cooking (Kelly 2001: 347-348). Kelly's suggested markers for feasting include a low taxa diversity, which includes species with high yields of meat; evidence of bulk cuts and bulk cooking; relatively complete portions; a lack of butchery at the site; and evidence of a large amount of material deposited quickly (Kelly 2001: 351).

In a 2006 article, Pluckhahn et al. use an assemblage from the domestic, non-mound area of Kolomoki in Georgia to explore the possibility of identifying small-scale woodland period feasting events. The assemblage used in this analysis is from Block A of the site, which contained fauna from seven taxa, including bony fish, turkey, squirrel, and white-tailed deer. The authors argue that this number is greater than what would be expected at larger feasts and this low taxonomic richness does not match typical Southeastern assemblages of this time (Pluckhan

et al. 2006: 265-267). As expected, white-tailed deer are the most abundant species represented, with mainly mid and high-utility portions recovered (Pluckhan et al. 2006: 268-269). Hayden's (2014: 44) concept of the meat feast could potentially be applied to these deer remains, given that Pluckhan et al. postulate that the deer could have been harvested during a communal hunting event, for a feast-like event (Pluckhan et al. 2006: 270-271).

Small-scale feasts are underrepresented in the archaeological record: this is why Hayden referrers to these events as "minimally distinctive" (Hayden 2001: 54). The refuse from these events is easily obscured and mixes in with material from daily activities, causing remains in middens to become what is called "time averaged." Time averaging makes it difficult to divide midden material into discrete events of deposition (Wallis and Blessing 2015a: 2-3).

The Parnell Site, a Mississippian site in Florida, brings more questions into the discussion of ritual behavior in the Southeast. In addition to interpreting Parnell's archaeofauna through potential bundling, Wallis and Blessing also discuss the potential for feasting behavior using the pit feature. The Parnell fauna is unique in that it has been deposited into a pit feature, thus avoiding the time-averaging that middens undergo (Wallis and Blessing 2015a: 2-3). While not an elaborate ritual center, Parnell is noted for its small sand burial mound located near the pit features (Wallis and Blessing 2015a: 6). Parnell's fauna includes remains from 48 taxa, with 35 taxa recovered from the pit, most of which are high-utility deer elements (Wallis and Blessing 2015a: 8). Other species recovered from the feature are animals and elements that could indicate ritual behavior, including black bear paws and box turtle shell remains (Wallis and Blessing 2015a: 13).

Another ritual site is Feltus, a Late Woodland site located in the Lower Mississippi Valley, a non-residential, ceremonial center (Nelson and Kassabaum 2014: 103). This site is used

by the authors as a means to explore ritual and ceremonial activities via social network analysis and actor-network theory (Nelson and Kassabaum 2014: 195). A common theme among prehistoric populations is the use of realms (upper, this world, lower) as a means to organize and explain the world (Nelson and Kassabaum 2014: 107). Though Feltus is a mound site, not all of the ritual activity at the site is associated or contemporaneous with these mounds. Feltus dates to the Late Woodland (AD 700-1100), a time of socio-political change in the Lower Mississippi Valley, and is associated with the Coles Creek Culture. There are three main phases recorded at Feltus (Nelson and Kassabaum 2014: 107-108). The Sundown Phase is the initial occupation, dating from AD 700-850. This phase is marked by post and pit features on the southern plaza. One of these pit features is filled with animal and ceramic refuse indicating a "rapid dumping" of "large, uninterrupted fill episodes," which are thought to be large-scale feasting events (Nelson and Kassabaum 2014: 109). Human remains, an ash dump filled with white-tailed deer, turkey, small mammals and fish, along with an intact bear femur and metacarpal have been recovered from these features (Nelson and Kassabaum 2014: 111). The Ballina Phase, AD 850-1000, saw community organization shift to Mound A, located on the north end of the site, and a dense midden (Nelson and Kassabaum 2014: 112). The third and final phase of occupation at Feltus is the Balmoral Phase, AD 1000-1100 (Nelson and Kassabaum 2014: 113). Nelson and Kassabaum argue that the inclusion of non-human remains and objects at these events are representations of those unable to attend or the other realms (Nelson and Kassabaum 2014: 114).

Special Uses of Animals

There are times when faunal analysts need to step away from the assumption that animals included in an assemblage are the direct representation of diet and acknowledge that some species hold special social implications.

Domestic dogs have a long history of being associated with ritualized behavior, typically in terms of intentional dog burials and their inclusion in human burials. No matter their role in ritual, it is clear that dogs held a special place in prehistoric behavior (Russell 2012). The consumption of dogs is likely a secondary use of the animals (Russell 2012: 234). Dogs have many uses such as pets, guards, hunters, sacrifices, and spirit animals (Russell 2012: 280). In Cherokee myths, the dog is featured multiple times; the dog was believed to have created the Milky Way after being caught stealing corn. The dog also features in the deluge myth where a dog warns a man about an upcoming flood and cautions him to build a raft (Mooney 1995).

In various North American tribes, bears are thought to have an elevated "other-than-human beings" status; as a result, it is a common belief that once a bear has been killed it has sacrificed itself (Berres et al. 2004: 7; Black 1995: 343). This special status of bears means that their remains need to be disposed of properly with respect. The absence of their post-cranial elements in faunal assemblages is thought to be evidence of this behavior; commonly recovered bear remains include the crania and the paws, which suggests special significance (Berres et al. 2004: 25-27; Ciani 2014).

Box turtles like many taxa in an assemblage are often assumed to be part of the diet; however, questions remain about the toxicity of their meat. Archie Carr's 1952 book notes that eastern box turtles are known to eat toxic mushrooms and as a result, they can be toxic when consumed (Carr 1952: 147; Dodd 2001: 114). Among the Cherokees, the carapace and plastron of box turtles were used to create shell rattles, typically worn by female dancers. These rattles could or could not have drill marks depending on how they were worn or used (Fradkin 1990; Speck et al. 1951).

Among North Eastern tribes, bone shrines are assemblages where large amounts of faunal remains are curated allowing for the proper disposal and respect of the animal (Harper 1999). Along with the concept of the bone shrine is the bone soul. Humans are not the only beings that have souls; even some inanimate objects are thought to have souls in some groups. The concept of the bone soul stems from the belief that souls reside in the bones; this means that bones of some species need to be disposed of properly (Harper 1999: 51). This process was to appease the animal to ensure that the status-quo between humans and animals was not disturbed.

Faunal remains could have been fractured for reasons other than marrow or grease production. One method of proper bone disposal was through burning the remains. Harper argues that bone burnt to the point of calcination could be evidence of this special disposal rather than cooking. Bone calcines at temperatures greater than 500 degrees Celsius, much more heat than is needed simply to cook meat and fat (Harper 1999: 356). Much like burning, fracturing bone could have non-dietary implications. Other forms of bone disposal include interment in water or suspending the bones above the ground (Harper 1999).

Summary

The literature on ritual in the archaeological record demonstrates that archaeological assemblages are able to indicate where and when non-utilitarian activities were practiced. However, it is shown that the overall context of a site and all aspects of recovered material culture need to be considered. From this, the archaeofauna at Griffin Rockshelter can be framed through a non-utilitarian perspective.

Chapter 3: Background

Physiography

The Cumberland Plateau is the southern portion of the Appalachian Plateau and is continuous with the Allegheny Plateau (Fenneman 1938: 333). This Plateau features an undulating surface that is "submaturely dissected by young valleys", which are steeper at the edges (Fenneman 1938: 337). The Cumberland Plateau is one thousand feet higher than the surrounding regions of the East Tennessee Valley and the Western Highland Rim (Luther 1977: 55).

Griffin Rockshelter is on the western part of the Lower Cumberland Plateau (see Figure 5 in Appendix 2), where the surface is dissected by the Cumberland, Duck, and Elk River valleys. Comparatively, the eastern portion has been less carved by the Tennessee River system (Luther 1977: 55). The geological conditions of the Cumberland Plateau and its layers of sandstone create conditions that are ideal for the formation of rockshelters and caves through erosional processes (Knoll and Potter 1998: 144).

Environment

The fauna found on the Cumberland Plateau are a diverse assortment of mammals, birds, fish, amphibians, reptiles, and invertebrates. Common species include white-tailed deer (*Odocoileus virginianus*), elk (*Cervus canadensis*), black bear (*Ursus americanus*), and mountain lion (*Felis concolor*); turkey (*Melagris gallopavo*), waterfowl, and perching birds are also frequently reported (Ganier 1933: 44; Whitaker 1980). The river systems in the Cumberland

Plateau are home to thirty-plus species of pelecypods and gastropods (Hickman 1937: 8). These waterways are also home to numerous species of fish and turtles (Carr 1952; Kuhne 1939).

The environmental conditions in the Southeast have dramatically changed over time, affecting the flora of the region. During the Late Wisconsin Period (23,000-16,500 BP), boreal forest species were present, jack pine (*Pinus banksiana*) and fir (*Abies* sp.) being two common species (Delcourt and Delcourt 1985: 13-17). The Holocene (12,500 BP) was ushered in with the onset of warmer weather; during this time beech (*Fagus* sp.) and elm (*Ulmus* sp.) trees took over the locations where the boreal species of the Wisconsin Period thrived (Delcourt and Delcourt 1985: 19). The Hypsithermal, or the Middle-Holocene Interval (8500-4000 BP), caused another shift in the plants of the Southeast due to an increase in warm and dry conditions; southern pine (*Pinus taeda*) was a dominant species during this time (Delcourt and Delcourt 1985: 20). After the Late-Holocene Interval (4000 BP – present), spruce and fir trees spread from middle to high elevations, while oak (*Quercus* sp.) and chestnut (*Castanea dentata*) were found in greater abundance across the southern Appalachian Mountains (Delcourt and Delcourt 1985: 20-21).

Currently the flora of the Cumberland Plateau is composed of mixed mesophytic forests (Braun 2001: 87). The dominant tree species include beech, sugar maple (*Acer saccharum* spp.), chestnut, red oaks, and hemlock (*Tsuga canadensis*). Other common species include birch (*Betula* sp.), white ash (*Fraxinus americana*), black walnut (*Juglans nigra*), dogwood (*Cornus florida*) and magnolia (*Magnolia* sp.) (Braun 2001: 40-41). The Western Escarpment of the Cumberland Plateau differs slightly; here forests tend to be mixes of oak, hickory, and pine (Braun 2001: 113).

Culture History

The cultural sequence in the Southeast of Paleoindian, Archaic, Woodland, and Mississippian, was first established in 1952 by J.B. Griffin and was revised in 1986 by Vincas Steponaitis and once again by Judith Bense in 1994. These temporal phases are characterized by changes in climate and cultural development, and are detectable through taxonomic classifications of the material culture along with subsistence changes.

Paleoindian Phase

The Paleoindian period is the earliest recorded phase of human occupation in the Southeast. According to Anderson the Paleoindian phase ran from >13,450-11,450 cal. BP (Anderson 2001: 152). Occurring during the Pleistocene epoch's glacial maximum, the climate was significantly cooler and drier than it is today, resulting in boreal forests and the habitat for megafauna such as mastodon (*Mammut americanum*) and other Pleistocene species (Anderson 2001: 152; Steponaitis 1986: 367). After glacial retreat had begun, ushering in the end of the Paleoindian period, climatic conditions became more temperate and the Pleistocene megafauna extinctions had occurred (Steponaitis 1986: 367). Paleoindians relied on a tool kit with the typical Clovis style point, non-Clovis bifaces, various scrapers, and other stone, bone, and antler tools (Steponaitis 1986: 368). The Paleoindian period is associated with the use of megafauna and there is debate over the cause of the extinction of Pleistocene species, with the "over-kill hypothesis," where early hunters over-harvested large mammals for their own use, as one of the interpretations, along with the impact of changing environmental conditions (Lapham 2011: 402).

The Early Paleoindian period dates to approximately >13450 cal. BP and is characterized by small groups of people and ephemeral sites along the landscape. There is some suggestion that the human occupation of the Southeast occurred prior to 13450 cal. BP, however this is a controversial belief with only a handful of sites providing evidence of pre-Clovis peoples (Anderson 2001: 153).

The Middle Paleoindian period dates to 13450-12900 cal. BP. This phase has the first definitive evidence of people in the Southeast, and is marked by the characteristic Clovis point. It is suggested that these points demonstrate the spread of a technology rather than the movement of people, despite population increases, which meant more people were occupying the landscape (Anderson 2001: 154).

The Late Paleoindian period, 12900-11450 cal. BP, is characterized by dramatic cultural and climatic shifts and was concurrent with the Younger Dryas event (12900-11650 cal. BP), a time where extreme cold temperatures returned. It was during this period that the Pleistocene extinctions occurred. It is believed that this period was impacted by subsistence stress due to these environmental changes. There is also the suggestion that during this time people relied more on plants and other sources of prey including smaller mammals and the ubiquitous cervid (Anderson 2001: 155-156).

Archaic Phase

Divided into three phases, Early (11450-8900 cal. BP), Middle (8900-5700 cal. BP), and Late (5700-3200 cal. BP), the Archaic period is the longest span of cultural development in the Southeast (Anderson 2001: 156). Despite the length of this period, the Archaic is considered to

be a time of transition between the initial occupation of the Southeast and the increasing socio-political organization of the Woodland (Anderson and Sassaman 2012: 66). The start of the Archaic period coincides with the Holocene and the end of the Pleistocene is ushered out with the onset of modern climatic conditions (Bense 1994: 62). The Archaic saw a shift in the available species due to this climate change. It is suggested that Archaic hunters focused on seasonally abundant animals such as deer. This period also sees a shift towards people exploiting more aquatic resources (Lapham 2011: 408-409).

The Early and Middle Archaic are grouped together by Steponaitis based upon their similarities in point types and their spread across the Southeast (Steponaitis 1986: 370-371). Floors in Early to Middle Archaic sites contain hearths, grinding slabs, and shallow pits. These ephemeral sites lack evidence of structures; suggesting that they were used for short-term occupations (Steponaitis 1986: 371).

Projectile points during the Early Archaic were triangular with notched bases. Since they were smaller than Paleoindian points, it is believed that these points are evidence of atlatl use (Bense 1994: 65). These points are also thought to be evidence of shifting subsistence behavior. Larger points were abandoned when hunters began frequently exploiting the relatively smaller white-tailed deer (Anderson and Sassaman 2012: 66). Settlements in the early portion of the Archaic were likely to have been short-term camps. These base camps were locations where people could perform necessary maintenance activities, such as meat processing or working on tools (Bense 1994: 69).

The Middle Archaic is associated with the Hypsithermal. This climatic event is when post-glaciation temperatures reached their hot and dry peaks (Anderson 2001: 158). The Late Archaic is associated with four main trends: a diet supplemented by cultivated plants, dense

midden and pit features with associated dwellings, stone and pottery containers, and an increase in long-distance trade (Steponaitis 1986: 372-373). The socio-cultural developments and adaptations made during the Archaic demonstrate that prehistoric peoples were resilient and responsive to their changing environments. Along with these changes, this period saw a population boom during the end of the Hypsithermal, represented by the increase of sites across the landscape (Anderson and Sassaman 2012: 74).

The Archaic period is further classified into regional and temporal cultural groups. The technologies and practices that these cultural groups used to adapt to their environment enable archaeologists to study the varied experiences of people across the landscape for a given time frame. Coastal cultures are associated with shell middens; faunal evidence demonstrates that these people ate shellfish, crustaceans, fish, birds, reptiles, deer, and various small mammals (Steponaitis 1986: 375). A typical interior riverine sites is Eva, located in West Tennessee; these people lived along the floodplains and terraces in structures with prepared living surfaces they also occupied upland open-air and rockshelter sites (Steponaitis 1986:376). It is argued that the differences in settlement type and location could be due to use of seasonal habitation zones. In the late spring and summer residences were located along the main rivers where people collected shellfish and fish while gathering seeds. In the autumn, people shifted to the smaller streams and collected nuts. Deer could be hunted year round (Steponaitis 1986: 377).

Woodland Phase

Like the Paleoindian and Archaic periods, the Woodland is divided into three phases: Early (3200-2225 cal. BP), Middle (2225-1725 cal. BP), and Late (1725-1020 cal. BP). The Woodland period is considered to be an extension of the Late Archaic, with increased emphasis on gathering and gardening, increased sedentism, and new mortuary rituals. (Steponaitis 1986:

378-379). Along with these trends, the Woodland period is notable due to the spread of pottery, along with increased political strife (Anderson and Mainfort 2002: 1). Hunting strategy during the Woodland period was impacted by the development of the bow and arrow, though general patterns of exploited species remained similar to the Archaic Period and deer remained a primary meat source (Lapham 2011: 412).

The fauna associated with the Early Woodland is similar to the previous Archaic phases. The Middle Woodland is characterized by increased cultivation of plants and the introduction of maize. Hunting and gathering continued with common species being nuts, deer, small mammals, turkey, fish, waterfowl, turtles, and shellfish (Steponaitis 1986: 379). The Late Woodland had once been conceptualized as a period of decline; however, due to increasing population and the construction of mounds this perception has shifted (Anderson and Mainfort 2002: 15, 17).

As with the Archaic, Woodland sites can be categorized by a further regional determination of cultural association. Due to the number of Woodland cultural groups in the Southeast, discussion is limited to the region where Griffin Rockshelter is located.

The Duck and Elk Rivers are important features on the landscape; as a result, these river valleys are associated with various cultural groups. Cultural affiliation is determined via lithic and pottery characteristics, along with settlement type and other categories of artifacts and ecofacts that become part of the material culture. The earliest phase in this region is the Watts Bar, found only in the upper Duck River Valley. Projectile point types for this component are the Wade corner-notched and the Adena-like stemmed. This phase is also known for its quartz-tempered, fabric-marked pottery. Common features for Watts Bar sites are "deep conical or … circular storage pits and shallow circular basins," which contained points and pottery (Faulkner 2002: 188). It is believed that Watts Bar communities were comprised of nuclear families

occupying a site for a single season with multiple years between return occupations (Faulkner 2002: 189).

The Long Branch phase first appears on the Eastern Highland Rim after 400 BC. These sites are known for their limestone-tempered pots and stemless triangular points. Feature types include storage pits and "shallow food-processing basins" along with the initial use of earth ovens. Long Branch sites were short-term seasonal occupations (Faulkner 2002: 189).

Due to differing styles of pottery, it is suggested that this phase should be separated into a second, the Neel Phase. This phase is contemporaneous with the Long Branch and McFarland transition (Faulkner 2002: 191). Faulkner suggests that these Neel associated sites are ceremonial gathering centers (Faulkner 1988: 2002). The Neel phase has similar points to the McFarland; although its ceramics lack cord marking, they share the limestone tempering (Faulkner 2002: 191-193).

The Middle Woodland Period in the Duck and Elk River Valleys is broken into two phases: the McFarland Phase (200 BC-AD 200) and the Owl Hollow Phase (AD 200-600). McFarland is noted to have limestone-tempered pots with cord-markings which distinguishes them from Neel pots. This phase does share triangular expanded stemmed points with Neel (Faulkner 2002: 191). McFarland villages are permanent sites that had seasonal short-term occupations; these communities were small with separate living and food processing areas. Homes have associated storage pits and shallow basins features (Faulkner 1988: 95, 2002: 194). These permanent dwellings could be considered an indication of agriculture-based sedentism (Faulkner 2002: 194).

The late Middle Woodland in the Eastern Highland Rim is represented by the Owl Hollow culture. Consisting of highly organized villages with intensified occupation, these

communities have dense middens with homes organized around a midden ring with cleared "plaza" areas. The major characteristic of these villages is their dual houses, which have separate living areas for cold and warm weather (Faulkner 1988: 88, 2002: 96).

Contemporaneous with the Owl Hollow phase, the Icehouse Bottom phase was associated witj the Little Tennessee River Valley from AD 350-600. These sites are marked by evidence of semi-permanent habitations (Davis 1990: 234).

Along the Eastern Highland Rim, the people associated with the Mason Phase dominated the Late Woodland landscape (AD 800), known for crushed chert-tempered textured pottery and small triangular points. Mason phase communities are smaller, less organized villages compared to earlier communities (Faulkner 2002: 199-200).

The Late Woodland in East Tennessee is not as well classified as it is in Middle Tennessee. The Hamilton phase is the lone culture group associated with this region. Hamilton phase points are small, unstemmed, and triangular, and their pottery is limestone-tempered with cord-marked or plain surfaces. These people lived in individual households and their middens contain evidence of shellfish exploitation (Lewis and Kneberg 1946). McCollough and Faulkner (1973) have interpreted Hamilton-associated caves and rockshelters along the Cumberland Plateau as male-dominated hunting camps; however, it is now understood that these features were used by both sexes for various activities - utilitarian and ritual.

Mississippian Phase

The Mississippian phase (AD 1000-1700) was originally associated with populations that used "shell-tempered pottery, wall-trench houses, and flat-topped pyramidal mounds" (Steponaitis 1986: 388); over time the term became associated with Southeastern groups who relied on maize-based agriculture, and further to refer to populations which organized socio-

politically via hereditary, centralized hierarchy (Steponaitis 1986: 388). While maize became a vital dietary staple, hunting and gathering behaviors remained an important component of Mississippian subsistence strategies (Steponaitis 1986: 388-389).

Rockshelter Use

Rockshelters have a long history of use by prehistoric peoples and given their permanency on the landscape and their qualities that preserve material, these sites are an important component of the archaeological record.

Burns and Raber (2010) believe that the debate of classifying rockshelters as base camps or logistical camps is an "unproductive" one given the varied uses of shelters by prehistoric peoples. While shelters can function as base camps or hunting locations, they can also be used as temporary dwellings, as a visible place to store caches, and as loci of any number of special uses, including ritual activities. Rockshelters were vital to prehistoric peoples due to their natural protection from the environment, their visibility, and fixedness (Burns and Raber 2010: 269). Since shelters are not open-air spaces, they must be considered in terms of space when interpreting their use. Three main factors are how much time people spent in the shelter; why people were using it, and how the function of the shelter was impacted by the limited space available (Burns and Raber 2010: 272).

Rockshelters are fixed features on the landscape, unlike ephemeral sites, due to their visibility and limited space. The frequent re-use of these sites does make them vulnerable to depositional disturbances. Since they are fixed on the landscape, adult group members know where these valuable locations are in their understanding of their surrounding environment (Walthall 1998: 224-225). Rockshelters often contain one or more hearth-like features, which are

often associated with sleeping areas of shelters typically near the back walls of the shelter. Hearths are also connected with "maintenance activities," activities which tended to take place around the front of the shelter; one of these activities is cooking. Disposal in rockshelters tends to be more frequent towards the front of the shelter and down the talus slope. Walthall argues that this is a standard pattern of activity and behavior for shelter sites (Walthall 1998: 226).

General Subsistence Patterns

According to Walthall, Holocene subsistence was defined by the "broad-based utilization of…closed-canopy climax forest resources" like nuts and squirrels, along with the exploitation of edge species seed-bearing plants, rabbits, and white-tail deer. Rockshelters are often argued to be hunting stations and residential camps, where encounter-style hunting can be undertaken with minimal effort (Walthall 1998: 232-234).

Jonathan Kerr's 1996 report focusing on the Upper Cumberland River Drainage in Kentucky, Virginia, and Tennessee, included notes on the faunal remains found at the sites he discussed. These species lists provide insight in how use of common species varied across the area through time and how the faunal remains from Griffin fit into the greater picture. Most of Kerr's reporting on faunal remains focuses on Virginia.

In Virginia at Daugherty's Cave, the Early Archaic stratum contained woodchuck, chipmunk, wood rat, white-tailed deer, and unidentified bird (Kerr 1996: 3). Middle Archaic inhabitants still exploited small mammals along with white-tailed deer, as well as mussels, aquatic snails, and box turtle. The bird remains from this period were identified as passenger pigeon and pie-billed grebe (Kerr 1996: 7). The Late Archaic at Daugherty's Cave shows a greater diversity of species: various mollusks, white-tailed deer, elk, black bear, raccoon, beaver,

porcupine, woodchuck, chipmunk, and musk turtle (Kerr 1996: 12). The Woodland Period at Daugherty's Cave remained similar to the Late Archaic, with the addition of more diversity in turtle species, aquatic mammals such as beaver and otter, and the possible incidental inclusion of snakes and amphibians (Kerr 1996: 18-19). In the Late Woodland, Daugherty's Cave was dominated by aquatic species: mussels, aquatic snails, and muskrat, along with turkey and large mammals (Kerr 1996: 34-35). While there was minor variance throughout time, Daugherty's occupants relied on a diverse diet of large and small mammals, various birds, and aquatic resources.

Facing Monday Creek Rockshelter is a Late Woodland shelter in southeastern Ohio, which has evidence of ten vertebrate species, including turtle, birds, and various mammals. This assemblage has a high percentage of burnt remains at 45 percent (by count), which increases to 54 percent when the rodent remains are disregarded (Spertzel 2005: 84). Identified species include: cervids (likely white-tailed deer), raccoon, canids (foxes, and either domestic dog or wolf), mustelids, eastern mole, eastern cottontail, woodchuck, eastern chipmunk, red and gray squirrel, meadow vole, muskrat, eastern woodrat, various birds, turtle, and unidentified vertebrates. The total number of individual specimens (NISP) for the assemblage is 586 fragments with an associated weight of 251 grams, and the estimated minimum number of individuals (MNI) is 19. Most of the white-tailed deer remains were recovered from the midden; a femur fragment belonging to a juvenile displayed butchery marks (Spertzel 2005: 85-86). Further analysis of the deer remains reveals that 49 percent of the deer bone was burnt and one potential bone awl was made from deer (Spertzel 2005: 86). Invertebrates were also recovered from Facing Monday Creek Rockshelter, including terrestrial and aquatic snails, and pelecypoda (bivalves were restricted to the midden). Spertzel questioned the validity of gastropods as part of

the prehistoric diet, a debate that has been ongoing since the early part of the twentieth century (Spertzel 2005: 87-93).

Traditionally in zooarchaeological interpretations of faunal assemblages, the presence of gastropods is only noted, with little consideration of the potential dietary contribution (Bobrowsky 1984: 78), a shortfall of subsistence studies that has not fully disappeared given Spertzel's 2005 discussion on gastropods (Spertzel 2005: 93). Prior to 1930, gastropods were assumed to be incidental inclusions at archaeological sites (Bobrowsky 1984: 79). Bobrowsky discussed (1984) that Baker's (1958) reassessment of snail remains at the Cahokia Site in Illinois, lead New York State archaeologist Ritchie to determine that snails were part of the Archaic diet at the Lamoka Lake site in Tyrone, New York (Bobrowsky 1984: 79). The debate of gastropods as food is further impacted by arguments about whether both terrestrial and aquatic snails were fodder or if people only exploited one class of the mollusks (Bobrowsky 1984: 80).

Klippel and Morey (1986) discussed the use of gastropods as food in terms of optimization theory, where white-tailed deer is assumed to be a major food source due to its large body mass and easy procurement. This plays into the assumption that snails were not food due to their small body sizes, ignoring any nutritional value gastropods had for prehistoric peoples. Many interpretations assume that shellfish exploitation is a salient indicator of resource stress, where effort to obtain gastropods and bivalves would only be expended if their inclusion in the diet was necessary for survival (Klippel and Morey 1986: 799-800). Experiments performed prove that gastropods provide vital nutrients and minerals that may not otherwise be found in the prehistoric diet, suggesting that they were exploited for their nutritional value, rather than their caloric input (Klippel and Morey 1986: 808-809).

While snails and other species could have been dietary components, their cultural value cannot be overlooked (Bobrowsky 1984). Animals are more than just food and their inclusion needs to be understood fully for a comprehensive understanding of site function and cultural perceptions of how animals fit into the prehistoric worldview.

The long bones of large mammals are valuable for bone marrow and bone grease; these dietary sources are obtained by fracturing the bones, and as a result highly fragmented assemblages could be evidence of this activity. Brian Kooyman notes in his 2004 chapter that while green bone can naturally fracture spirally, bone processed for marrow has a higher frequency of what he considers "long spiral fractures" (Kooyman 2004: 188; 204). Long spiral fractures are those which are greater than six centimeters, with fractures ranging from five to six centimeters being most likely to give good access to the marrow cavity (Kooyman 2004: 190). Kooyman also says that there are four main reasons why bone is broken: grease production, marrow production, butchery, and materials for tools (Kooyman 2004: 188-189), though it can be argued that disposal is another primary reason.

Like marrow processing, bone grease is first produced by fracturing bone into small pieces. Grease is found in the cancellous bone and its primary dietary component is oleic acid (Prince 2007: 2; Binford 1978: 23-28). Bone grease has different qualities depending on the skeletal element being processed. The axial skeleton (mandible, ribs, and vertebrae) contains yellow grease, while the appendicular skeleton (limbs) contains white grease (Prince 2007: 3). To harvest the grease, "bone was broken into small fragments, boiled, cooled, and the surface fat was skimmed" (Prince 2007: 4). The assumption that assemblages that display a high degree of fragmentation is evidence of grease manufacture comes from the belief that these smaller

fragments are easier to process for the grease. Prince (2007) notes that fragments between10-78 millimeters in size and epiphyses separated from diaphyses (white-tailed deer) make processing easier, with 50 millimeters or less being the most efficient to render out grease. Experimental archaeology demonstrates that fragments that are 10 millimeters or less can be rendered in less than an hour of boil time (Prince 2007: 11-12).

Jonathan Baker (2009) created a method for the detection of grease manufacture at archaeological sites in Wisconsin's Driftless region. It is argued that there would be large amounts of fragmented bone where grease was produced and that there would be "negative evidence" of grease-rich elements and portions, potentially from extreme fragmentation; however, unless completely obliterated, diagnostic epiphyses retain those characteristics (Baker 2009: 30). Potential associated tools include hammerstones, anvils, fire pits, boiling stones, and ceramics, with site types ranging from small ephemeral camps to large permanent settlements (Baker 2009: 31). Baker presents four categories to consider when interpreting potential grease assemblages: 1) fragment size: is grease manufacture the primary reason for highly fractured bone; 2) the fracture pattern: as fresh (green) bone fractures differently than dry bone (Outram's fracture index), the angle, surface texture, and fracture outlines. The other characteristics include 3) other taphonomies: what else could cause this damage; and 4) the overall site and assemblage context - primary versus secondary deposition (Baker 2009: 39-50). The assumption that highly fractured remains are a result of marrow or grease production at a site could overlook other taphonomic or cultural reasons for fractured remains; even the presence of spiral fracturing cannot be assigned as a definitive marker for these behaviors.

Summary

The knowledge of cultural groups and the material culture left behind is the first step in contextualizing the activities at a site. For this thesis, the discussion of common species recovered from Woodland sites is a starting point in the discussion of the difficulties in separating the mundane from the sacred.

Chapter 4: Background of Griffin Rockshelter (40FR151)

Excavated by Dr. Duane King in 1974-1974, this site was fully excavated with deposits roughly 0.76 meters deep removed; all material was dry screened with quarter-inch mesh (Bates 1981: 5). Griffin Rockshelter is approximately 4.27 meters by 3.05 meters and the entrance is 1.83 meters high. Outside the entrance there is an overhang and terrace that measures approximately 20.42 meters by 6.10 meters. The distance from the back of the shelter to the mouth of the terrace is 7.62 meters (Bates 1981; Bow 2012). Griffin is bi-lobed with roughly 8 square meters of living space and is dry year round (see Figure 2 in Appendix 2). About 50 meters to the north there is a smaller rock shelter with a spring inside, and lower in the river valley there is an open-air site that has not been conclusively associated with Griffin (Bow 2012). The previously discussed centrally located hearth-like pit is the only recorded feature at Griffin (see Figure 2 in Appendix 2). Griffin is also known for the petroglyphs located in the back of the shelter.

Griffin's occupation was predominately Late Woodland, based partially on the types of projectile points found at the site. A Carbon-14 date for the shelter that was taken from square 6E9, level B at 0.24-0.30 meters below surface, dates to 1050 ± 55 BP (cal. AD 966 ± 54), indicating a Late Terminal Woodland/Early Mississippian context (Bow 2012). An Archaic point along with a Woodland point recorded in upper levels of the shelter have use-wear consistent with the type of grinding used to create petroglyphs (Bates 1981; Bow 2012).

Lithics

James F. Bates preliminarily analyzed the lithic artifacts from Griffin in 1981. His report demonstrates that the raw materials are fairly diverse, with point types ranging from the Late

Archaic through the Late Woodland (Bates 1981: 10). A total of 11,170 lithic artifacts were removed from Griffin (Bates 1981: 15).

It is believed that at least some of the petroglyphs at Griffin were produced with the projectile points showing damage. One of these, an Archaic style point recovered from an upper level (3E6 A), had large amounts of tip-wear. A Woodland style point from 6E3 B had the most amount of wear. These levels are associated with the Late Woodland and could be connected to ancestor cult-like behavior (Bow 2012: 41-42).

Pottery

Sierra Bow analyzed pottery material at Griffin in 2012. She recorded 752 pot sherds, noting that this is an unusually high amount of fragments for a site this size. Sixty-three were recovered from Feature 1, with the bulk of the material focused along the north-central area of the shelter (Bow 2012: 74-75).

Though five types of temper were recorded for the pot sherds, the bulk (97 percent) of them were limestone tempered (Bow 2012: 74-75). While the majority of the pot sherds feature limestone tempering, the assemblage is taxonomically rich (according to Bow) with a total of 15 pot types represented. Along with this richness is the fact that the paste used to make Griffin's various pots is homogeneous (Bow 2012: 106-107). Bow believes that the homogenous yet diverse nature of the pottery at the site provides another characteristic that could indicate specialized, possibly ritual, behavior.

Rock art

At Griffin, the back walls are paneled with art made via incising, rubbing, and drilling. The included motifs are deer tracks, turkey tracks, linear grooves with associated pits, and a

complex motif of an elliptical concavity with peripheral rays, where the antennaed anthropomorphs are. The position of these motifs as "panels" along the back walls of the shelter indicate that they were likely produced at the same time. The anthropomorphs at Griffin, which have antennae like appendages, are otherwise similar to anthropomorphs from sites across the Cumberland Plateau (Simek et al. 2009: 78).

Dr. King's excavation notes mention the rock art at the site. He noted a cloud-burst-like motif with what appeared to be rain, along with a comment that these glyphs have traces of black pigment (King 1974: 37). Dr. King also mentioned the anthropomorphic figures; this comes with a musing about this area of the shelter being a possible shrine area (King 1974: 41).

Henson (1986) mentioned Griffin in his discussion of rock art sites in the Southeast; Griffin is referenced as site number 5 - Franklin County, Tennessee. Henson noted that while many art sites have a utilitarian function, this is not the case for every site, stating that much of the art is thought to be evidence for shamanistic behavior, including "hunting rituals or other socio-religious activities" (Henson 1986: 85). Within his chapter, Henson defines two concepts that are used to interpret and record rock art: these are "shrine" and "aesthetic". According to Henson, a shrine is a "receptacle for sacred or religious symbols", "a place having such symbols devoted to activities of a religious or ceremonial nature" (Henson 1986: 91). Aesthetic value is a subjective determination, "independent of cultural sophistication" (Henson 1986: 91). He notes that this small sandstone shelter has art on its walls and ceiling, and makes note of the antennae-wearing anthropomorphic figures. Though he considers there to be a shrine at the site, he does acknowledge that given the sorts of artifacts recovered here, habitation is obvious (Henson 1986: 84; 95). Charles Faulkner's 1996 article included Griffin Rockshelter (recorded as a rockshelter

in Franklin County, Tennessee), as one of his eight rockshelter examples in his discussion of rock art along the Cumberland Plateau (Faulkner 1996: 114). This short paragraph did not include any new information about the shelter, but it enforces the notion that Griffin is a special purpose site.

It is with this contextual information about the site that I have used to examine and interpret the archaeofauna, as discussed in the next several chapters.

Chapter 5: Zooarchaeological Methods

Faunal analysts record as much detail as possible about an assemblage, including but not limited to: taxonomic information, element details, weights and counts, and taphonomic information. All of this data, along with the unit and level contexts, has been recorded in an Excel spreadsheet, which is available in the Tennessee Research and Creative Exchange (TRACE) entry for this thesis.

Sampling

The interior of Griffin Rockshelter was fully excavated, and I analyzed all available faunal material for this thesis. However, given that the excavators used quarter-inch mesh screens, the potential for recovery bias is high. Small bones likely fell through the mesh and were lost; the class typically most affected by this is fish (James 1997; Klippel et al. 2011).

Identification of Faunal Elements

I identified the archaeofauna at the University of Tennessee, using the comparative collections in the department of anthropology; these collections were supplemented by osteological manuals by B. Miles Gilbert (1990) and Stanley Olsen (1968 a, b).

Faunal material is identified to the best ability of the analyst. This means that it is important to understand the difference between precision and accuracy. Precision is the most exact an identification can get, down to species level. Accurate identifications may only go to the genus level; identifications do not always need to be precise to be correct (Beisaw 2013: 4). When a bone cannot be identified past class its size class is used. This gives a rough idea about what sort of animal the bone could belong to. For this thesis, size classes for birds are Small

(passerines), Medium (ducks), and Large (turkey and geese); for mammals Small (squirrels), Medium (woodchucks and domestic dogs), and Large (deer and bear). Some bone simply cannot be identified, leading to a classification of unidentifiable (UID). These are remains where all or part of the fragment cannot be determined. This is not to be confused with a classification of unidentified; these remains might be identified given more comparisons or more time (Beisaw 2013: 119).

Using comparative collections and osteological manuals, morphological characteristics are used to determine element. This process also includes notation about which portion (proximal, medial, or distal); if unable to determine portion the type of bone (trabecular or cancellous) can be recorded. When able, the side of the element is recorded. As with speciation, the previous discussion about precision, accuracy, and UID elements is relevant here. It is also important that any taphonomies (heat modification, gnawing, et cetera), age, and sex markers are recorded during this time.

Quantification

Once it has been identified, faunal material is further reported in a series of counts and weights. The number of identified specimens present (NISP) is the most basic of these. It is the raw count of how many fragments have been recovered, though some argue that NISP should only be used for the number of fragments for each taxon, while the overall count of fragments is the number of specimens (NSP) (Beisaw 2013: 4; Lyman 2008: 27). The other commonly used reporting system is the minimum number of individuals (MNI). This count is based upon how many sided elements there are; for example, if a raccoon assemblage has four right distal femora there are a minimum of four raccoons (Beisaw 2013: 4). It is important to remember that MNI is

not the actual count of how many of each taxon are in the assemblage; it only accounts for the sided or other distinct elements (Reitz and Wing 209: 206). However, while MNI may give an idea of how many specimens of each taxon have been recovered, it is not inherently better than NISP. It should be noted that NISP and MNI are only valid in comparison to each other. It is important to record the weight of the assemblage as well. This measure can be used to roughly estimate how many of each taxon are represented in the assemblage. Knowing the weight of an average adult raccoon in conjunction with the weight of recovered raccoon elements can answer questions about site use and butchery patterns. This knowledge allows for the comparison of specimen counts and weights among the species in an assemblage. This can also be used to estimate how much meat was contributed by the various taxa (Reitz and Wing 2009: 210-211).

Taphonomy

Heat Modification

Burned and calcined bone are recorded separately from each other and other heat-modified bone.

Stiner et al. (1995: 224) discuss the damage heat does to bone through four criteria: color, mineral changes, fragmentation, and the insulating effect of soil from hearth heat. Fracturing is a taphonomic process that could be due to food preparation or the process of burning; burning bone fractures due to the heat weakening the bone structure (Stiner et al. 1995: 225, 229). Surface fractures also give clues as to what condition the bone was in when exposed to heat, since burning affects the minerality of the bone. These heat-induced fractures give further evidence as to how fleshy the bone was prior to the burning (Asmussen 2008: 529). Experiments

have demonstrated that the heat of the fire can also travel through the soil, causing bone to carbonize up to fifteen centimeters below the fire, with the most damage occurring in the first five centimeters below the hearth (Stiner et al. 1995: 230). Calcination occurs at high temperatures, typically direct contact with fire (Stiner et al. 1995). The color of bone is one of the primary ways heat modification is detected, the color transitions from brown to black and grayish-blue to white, indicating burning and the more severe heat modification of calcination where organic material is leached from the bone (Asmussen 2008: 529). Asmussen also looks at the character of the burnt bone to determine how much meat was on the bone, or if it was dry at the time of the burning. Disarticulated and roasted elements would have a protected shaft while the epiphyses would display burning; fleshy elements would not have uniform discoloration due to the fats and oils present in meat and marrow (Asmussen 2008: 529). The color and texture of the bone could also be indication of how hot the fire was (Asmussen 2008: 500)

Rodent and Carnivore Gnawing

Rodents and carnivores are both responsible for leaving gnaw marks on bone. Rodent gnawing produces parallel rectangular striations on the bone. Carnivores leave two types of gnaw damage: the first is furrows or striations on the bone that typically end in points; the other is circular pits left by pointed teeth. These latter marks often leave damage that looks like a circle inside a circle (Beisaw 2013: 112).

Degradation

Weathering is the process of bone breaking down over time, where the organic and inorganic components of bone are separated through physical and chemical processes. Temperature fluctuations and wet/dry cycles could be contributing factors (Lyman 1994: 354).

Root etching is when the humic acid in plant roots leave shallow marking on the bone surface. Root-etched marks tend to be U-shaped grooves rather than the V-shaped groves typically produced by butchery behavior (Lyman 1994: 375-377).

Other Human Modification

Butchery is a vital aspect in preparing animals for consumption; the process of skinning and stripping meat from bones can leave evidence on the bone itself. Ethnographic studies by Binford (1981) showed that culture groups that separate the appendicular and axial skeleton, with different populations using different methods to prepare the axial portions (Binford 1981: 91). Butchery will not always leave marks on bone, especially when modern metal tools are not being used (Beisaw 2013: 105-106). The lack of butchery marks does not mean that the animal was not processed in this manner. Any marks that are left on the bone will usually have a V-shaped cross-section (Fisher 1995).

Worked bone has been modified for use as a tool or ornament. It can be identified from a polish on the bone surface or from the presence of striations and other surface marks on the bone (also known as use-wear) (Beisaw 2013: 109).

Chapter 6: Faunal Remains at Griffin Rockshelter

The faunal remains at Griffin Rockshelter include mammals, birds, reptiles, fish, and invertebrates for a total number of 3,714 specimens and a total weight of 1,703.09 grams. Fifty-four percent of this material is mammal. Birds make up four percent, unidentifiable vertebrates account for three percent, reptiles are one percent, and fish are so underrepresented that they do not even account for a percentage of the material. Invertebrates (gastropods and pelecypods) comprise 35 percent of the material (see Figure 6 in Appendix 2).

Archaeofauna has been recovered throughout the shelter, with units 3E6, 3E3, 6E6, and 6E3 having the bulk of the material - each with over 100 fragments (see Figure **7** in Appendix 2). The fauna is further concentrated in levels D and E (see Figure 8 in Appendix 2).

In this analysis, the fully identified species are reported using their genus and species designations; however some specimens are not perfect matches for the modern comparative material, resulting in a "compares favorably" (c.f.) qualifier with the taxonomic information. Some material has only been identified to the family level, such as Sciuridae for squirrels and Canidae for wolves, foxes, and domestic dogs.

Aves

There is a total of 136 avian remains in the assemblage, with a weight of 35.44 grams. Sixty-eight of the fragments display burning, while 40 fragments have been calcined. The identified bird bone represents two species and two family groups (see Table 1 in Appendix 1); however, the majority of the bone is classed as unidentified bone sorted by size.

Passerines are small perching birds such as pigeons. These birds are represented by 16 fragments in the assemblage, with a weight of 1.91 grams. Most of the material for these birds is unidentified long bone, along with one tibiotarsus fragment, one femur fragment and two radius fragments. All of the bone for this category displays heat modification: six are burnt and 10 are calcined.

Bobwhite quail (*Colinus virginaus*) is represented by one distal tarsometarsus which weighs 0.09 grams, it compares well with the specimens in the comparative collection.

Anatidae is the family for ducks and duck-like birds. The Griffin assemblage has an NISP of 12, weighing 3.82 grams. Most of these are unidentified long bone, with two humeri and two tibiotarsus fragments. Five duck bones have been burnt and three have been calcined.

Turkey (*Melagris gallopavo*) is the most common bird species in the assemblage, represented by a NISP of seven and a weight of 4.38 grams. There are an additional three fragments that weigh 0.94 grams that compare favorably with turkey. The speciated turkey has three long bone fragments along with one cervical vertebra, two caudal vertebrae, and one indeterminate vertebral fragment. Four of these fragments have been burnt while one has been calcined. The elements that compare well with turkey are represented by one long bone fragment, one caudal vertebra, and one indeterminate vertebra. Only two of these fragments have been heat modified; there is no evidence of calcination.

The unidentified small and small-medium birds are likely perching birds, small ducks, or small quail-like birds. The small bird bones weigh 0.39 grams and include seven long bone fragments and one indeterminate element. All of these fragments have heat modification: two are

burned, four are calcined, and two have evidence of calcination starting. The 15 small-medium bird fragments weigh 3.11 grams; one fragment is a femur, the rest of the fragments are indeterminate long bone fragments, of these 11 are burnt and two have been calcined.

Potential medium birds are mallard-sized ducks. The medium birds are represented by eight long bone fragments weighing 2.10 grams; two fragments are burnt and six are calcined. The 28 medium to large bird fragments (likely ducks or geese) weigh 8.19 grams. These birds are represented by one indeterminate fragment, 24 long bone fragments, two vertebrae fragments, and one pygostyle. Thirteen fragments are burned and 11 have been calcined.

The large birds are likely turkey; other potential species include geese and birds of prey. These three fragments weigh 1.60 grams, with two burnt and one calcined fragment. One of the long bone fragments has striations on its surface. More analysis is needed to determine the origin of these marks.

Mammals

Mammals are the best represented class of animals at Griffin Rockshelter (Table 2 in Appendix 1), weighing 1,072.59 grams; over a thousand fragments are burnt and 738 are calcined. While there are several identified taxa of mammals, the majority of the mammalian archaeofauna has only been identified to size category.

The squirrels at Griffin are recorded as *Sciurus* sp. this is due to the morphological similarities of the two potential squirrel species for this region. Fox squirrels (*Sciurus niger*) tend to be larger, while eastern gray squirrels (*Sciurus carolinensis*) have an extra premolar. With a NISP of 35, squirrels are one of the more common species represented in the assemblage; the

total weight of this material is 3.50 grams. Based on mandible fragments, the estimated MNI is three. Fifteen fragments are burnt and four fragments were starting to calcine. The squirrel assemblage is composed of cranial elements (mandible, maxilla, incisors, and molars), humerus, and ulna fragments.

For medium mammals, woodchucks (*Marmota monax*) are the most prevalent species, with a weight of 6.37 grams and a NISP of 24; based upon right mandibles the MNI is three. Eleven fragments have been burnt and there are no calcined fragments for this category. Other elements include: calcaneus, astragalus, radius, scapula, incisor, tibia, and femur. The NISP for probable woodchuck is four, with a weight of 1.34 grams. All four of these fragments are burnt and none of the fragments have evidence of calcination. These likely woodchucks are represented by tibia, radius, and vertebral portions.

The second most common medium mammal species is the raccoon (*Procyon lotor*), weighing 2.96 grams, with a NISP of six. Two left distal humeri result in an MNI of two; four of the fragments have been burnt. Other elements include the mandible, radius, and ulna. There are 12 fragments (4.60 grams) that are likely raccoon. Potential raccoons are represented by indeterminate vertebrae, caudal vertebra, atlas vertebra, maxilla, scapula, indeterminate tooth, and tibia portions, along with a possible zygomatic fragment. Eleven fragments have been burnt; one fragment has striations on its surface.

There are five potential porcupine (*Erethizon dorsatum*) fragments in the assemblage, weighing 2.92 grams. These fragments contain mandible, radius, and fibula portions; two fragments have been burnt and an additional two have been calcined.

As expected for a predominately Late Woodland assemblage in the Southeast, the bulk of Griffin's archaeofauna is white-tailed deer. The NISP is 78, weighing 134.52 grams; based on the presence of left hamates, the estimated MNI is two. There are an additional 30 specimens that compare well with white-tailed deer, weighing 45.36 grams. The deer remains at Griffin include low- and high-utility potions (Figure 9 in Appendix 2); with the bulk of the material identified as vertebral elements, the general lack of long bone elements identified as white-tailed deer could be due to the fragmentary nature of the faunal remains, potentially the result of marrow/grease processing or even ritual activity. The inclusion of low-utility portions, including carpals, tarsals, and phalanges could be suggestive of butchery happening at or near Griffin Rockshelter.

Canids are represented in this material through three classifications: c.f. domestic dog (*Canis familiaris*); c.f. fox: red fox (*Vulpes vulpes*) or gray fox (*Urocyon cinereoargenteus*); and canidae. Canidae is also to represent material which could be domestic dog, fox, or wolf; coyotes have not been included in this category due to questions regarding when they arrived in the Southeast (Linzey 1995: 65-66).

There are two vertebral spine fragments weighing 0.08 grams that compare well with the foxes in regard to size. Six fragments, including three phalanges and three incisors weighing 1.25, grams have been recorded as Canidae; all but one phalanx has evidence of heat modification.

Domestic dogs are represented by seven burnt elements: five caudal vertebrae, one distal femur fragment, and one lower carnassial. This material weighs 2.39 grams and represents a MNI of one; the consistency in element size suggests that this is a single individual.

The domestic dog material is classified as "compares favorably" since the material in the assemblage is smaller than many of the prehistoric dogs housed at the McClung Museum and is larger than the modern fox specimens. Figure 10 (in Appendix 2) shows the caudal vertebrae from the assemblage next to a modern comparative medium dog specimen.

Given the special nature of Griffin Rockshelter it is not unexpected to find dog remains, especially in context with human skeletal material, the relationship of the human and canid remains will be discussed in Chapter 8.

Black bear (*Ursus americanus*) is represented by a NISP of seven, weighing 11.46 grams, and a MNI of one. Three crania elements have striations, possibly caused by skinning. Other elements represented include a premolar, a canine, and incisors. Five of the elements are burnt. Two c.f. black bear fragments (10.40 grams) are represented by indeterminate long bone and a metatarsal. The long bone fragments are potentially worked, while the metatarsal is burnt and also has some shallow striations on its surface.

As with the birds, the mammal remains at Griffin include fragments that could not be placed into a size category. These unidentifiable fragments have a NISP of 687 and a weight of 194.45 grams; 379 have been burnt and 236 are calcined. This material includes sesamoids, long bone fragments, vertebral portions, tooth roots, and phalanx fragments, along with small rib and cranial fragments. These bones also feature striations and potential cut marks, pitting, root etching, along with polishing; one of these fragments is the broken tip of an awl.

The small mammal material, weighing 2.81 grams, represents 10 fragments, eight of which exhibit heat modification. This material includes fragments from indeterminate long bone,

calcaneus, radius, tibia, and crania. The small to medium mammal fragments weigh 6.96 grams with an NISP of 21; six are burnt and one is calcined. Some of these fragments have potential butchery marks.

The indeterminate medium mammals in the assemblage weigh 36.81 grams and include 102 fragments; 53 are burnt while another 36 are calcined. One fragment has striations on its surface, while several calcined fragments have some sort of blue-green staining. While the origin of this staining is unknown X-ray fluorescence reveals that the source is not copper. The medium-large mammal material includes 503 fragments which weigh 200.11 grams. 249 fragments are burnt and 224 are calcined; 11 calcined fragments display the blue-green staining, one has a polish, and seven have cut marks or striations.

While many of these fragments could be the "absent" white-tailed deer long bone, they could just as easily be bear or human. The NISP for UID large mammals is 438 with a weight of 370.57 grams; 208 fragments are burnt and 198 are calcined. Several fragments have cut marks or striations, one is gnawed, two are root etched, while one fragment has been modified into an awl with polish and striations covering its surface.

Pig

There is one taxa recovered from Griffin Rockshelter which is not cultural in origin - the pig (*Sus scrofa*). The elements were recovered from upper levels, near the mouth of the shelter. Given the rodent gnawing on one of the fragments, these bones were possibly introduced to the shelter via rodents. One vestigial phalanx and two fibula fragments have been identified.

Human Remains

There is some human skeletal material mixed in with the animal bone. Three fragments are phalanges, including one distal phalanx and two middle phalanges. Eleven tooth fragments (some of which are deciduous) were also recovered. Identified cranial fragments include frontal, temporal, parietal, and zygomatic portions. This material displays evidence of heat modification (potentially cremation), with some teeth and a phalanx displaying calcification.

This material has a NISP of 15 and weighs 24.48 grams; there are an additional seven fragments that weigh 1.59 grams that are likely human. A MNI of two for the human material is based upon the presence of deciduous and adult teeth; however the inclusion of teeth does not mean that multiple people died or were burnt here. This is based upon the cranial fragments and phalanges being consistent with adult specimens.

Reptiles

Turtles are the most common species of reptile in the assemblage (Table 3 in Appendix 1). The majority of the elements are carapace and plastron fragments, along with one eastern box turtle humerus (*Terrepene carolina*). The estimated MNI for box turtle is one, with an associated NISP of 24 and weight of 11.35 grams; 17 of the fragments have been burnt and six have been calcined. One carapace fragment displays cut marks (see Figures 11 and 12 in Appendix 2), while two more have pitting on the shell surface. An additional three fragments are classified as c.f. box turtle, weighing 1.29 grams; all three of these carapace fragments are burnt. Twenty-eight fragments have not been identified beyond turtle. These fragments weigh 15.29 grams; 16 are burnt and 10 are calcined, and four fragments have indeterminate striations on the shell.

Given the proximity of Crow Creek, some of the indeterminate turtle fragments are likely pond turtles.

All four snake bones are vertebrae, all of which appear to be non-venomous. Snake vertebrae can be used to identify if a snake is venomous due to the hemal spine; this feature only appears on venomous species.

Fish

There is a single fish bone in the assemblage; this element is a pharyngeal tooth element from an unknown bony fish species (Table 4 in Appendix 1).

UID Vertebrate

These 116 fragments, weighing 11.53 grams, are material that is too fragmentary or too damaged to determine what type of animal it came from (Table 4 in Appendix 1). Some of these fragments have been categorized as crania or long bone, though the bulk of the material is unidentified bone fragments. Twenty-nine of the indeterminate vertebrate fragments are burnt and 72 are calcined.

Invertebrates

The invertebrate remains at Griffin include aquatic and terrestrial gastropods and pelecypods (Table 5 in Appendix 1). These are the second most abundant class of material at Griffin Rockshelter. For gastropods the NISP is 763, weighing 148.48 grams, and 674 are burnt. Pelecypods have a NISP of 635, weighing 405.21 grams; 550 burnt and five are calcined. The bulk of the snails are aquatic; along with the bivalves they were likely collected from the nearby

Crow Creek. The presence of these aquatic species along with the waterfowl highlights how underrepresented the fish truly are in this assemblage.

Taphonomy

Heat Modification

Many of the faunal remains are heat modified: 1077 burnt (67 percent), 733 calcined (20 percent) (Figure 13 in Appendix 2). This could be a result of cooking damage or as a result of disposal practices. Since the bulk of the faunal material was recovered from in or near the feature, disposal of some sort (profane or ritualized) is the likely explanation.

Fragmentation

From the total NISP of 3714, 3595 are fragmented or fragmentary; these fragments weigh 1610.44 grams. This fragmentation could be the result of several factors; burning bone damages the mineral structure of the bone causing it to break. Alternatively this highly fractured assemblage could be indicative of marrow and/or grease extraction. It should also be noted that some of the fragmentation could be the result of trampling. Some elements have been broken post-excavation; this is indicated by the broken edge not being the same color as the surrounding bone. Potential post-excavation damage has not been recorded separately, the amount of dirt and dust in the sample bags made this analysis difficult even when the bone was washed.

Rodent and Carnivore Gnawing

Rodent gnawing is apparent on 19 specimens and may be present on another highly calcined and degraded fragment. This gnawing has likely happened post-deposition, especially since gnawed elements have been recovered from mostly upper levels.

Carnivore gnawing is present on two specimens; one white-tailed deer rib, and one UID long bone fragment.

Cutmarks, Worked Bone, and Striations

The only definitive cut marks appear on a carapace fragment and a deer rib (Figures 11,12, and 14 in Appendix 2). There are also 13 long bone fragments that have potential cut marks on their surfaces. Multiple fragments in the assemblage display pitting and striations on their surfaces. Some of this could be from gnawing or natural taphonomic processes; alternatively, this could be the result of butchery and use-wear.

Two fragments have been identified as awls; one small burnt fragment appears to be a worked tip. The other, larger piece is unburned and highly polished with striations across its entire surface (Figure 15 in Appendix 2).

One of the pelecypoda fragments has some undulations across its edge; this could potentially be evidence of use-wear. However, the severe weathering of these shell fragments could also be the cause.

Weathering and Root Etching:

While not a common taphonomic process on the Griffin assemblage, root etching does appear on several fragments. The degradation of some of these elements makes it difficult to determine if some of the striations are from roots, rodents, or cultural sources.

Weathering is also common of Griffin's faunal, especially on the pelecypods and gastropods.

Summary

The archaeofauna from Griffin is mostly mammal, with white-tailed deer and squirrels as the most common of these species. For the birds, the highest taxon associated group were the passerines, or songbirds; while turkeys were an expected species, they were not the most common, unlike the expectation for a Woodland era site. The high number of turtle shell fragments to the single non-shell portion could be the result of recovery bias (like the fish), or it could be indicative of special activity at Griffin. The most striking aspect of the faunal remains is the degree of heat-modification and fragmentation compared to the other assemblages that I will be discussing in the next chapter.

Chapter 7: Comparison with Other Sites

In order to fully appreciate the nature of the faunal remains at Griffin Rockshelter, the material must be compared to the fauna of other Southeastern sites. The sites included in this comparison were included due to having characteristics which are indicative of utilitarian activities (Mason, Brickyard, Tucker Shelter, and Sachsen), the first three of which are from the same county as Griffin. Sheep Bluff was selected due to its similarities to Griffin and the suggestion that it could have been a special-use shelter.

The Tims Ford Reservoir Project was conducted in 1966, as part of a salvage project; the faunal analysis was completed by Dr. Paul Parmalee (Faulkner 1968: 3). The Mason Site (40FR8) is a large habitation site, with evidence of Archaic and Woodland occupations (Faulkner 1968: 7). The Brickyard Site (40FR13) was likely occupied intensively from the Archaic onward (Butler 1968: 201; Faulkner 1968: 8). Tucker Shelter (40FR16) was the only rockshelter excavated during the reservoir project, evidence suggests that this site was a temporary camp (Faulkner 1968: 8; Milligan 1968: 228).

The Tim's Ford Reservoir sites all had features, though the rockshelter only had one hearth feature recorded in its two excavation units. Mason's features included storage or refuse pits, along with fire basins; this site did have dog remains and four burials. At Brickyard recorded features included pits, hearths, and post holes; three burials were also recovered (Faulkner 1968).

Approximately 4,450 bone fragments were recovered from the Mason Site, and represent each vertebrate class. However, due to the fragmentary nature of the remains the bulk of the

material was unidentifiable (Parmalee 1968: 256). The Brickyard Site contained a NISP of only 445 and as with the Mason Site, the majority were too fragmented for a complete identification (Parmalee 1968: 263). Excavations at Tucker Rock Shelter recovered approximately 1,100 bones and as with the other sites, the material was too fragmented to comprehensively identify (Parmalee 1968: 266). For each of these sites, a subset of material from the features was examined to get an idea about how much of the material was heat-modified. For the Mason site, approximately 1255 fragments were burnt (28 percent) and 200 calcined (four percent). For the Brickyard material approximately 308 were burnt (69 percent) and 118 calcined (27 percent). At Tucker Rock Shelter, approximately 45 fragments were burnt (4 four percent) and two were calcined (0.2 percent). It is important to remember than these numbers are not comprehensive counts. However, the archaeofauna for these sites include more complete portions of bone and different proportions of shellfish compared to Griffin. Also the burnt bone at these sites is more charred, with less overall calcination, suggesting that bone at these sites were not burned as a means of disposal. These sites do provide a basic overview into what species were exploited by people in this region. Unfortunately the discussion about the remains themselves are limited and there is little discussion about taphonomy in Dr. Parmalee's reports.

Sachsen Cave Shelter is a site located on the Upper Cumberland Plateau in Fentress County, Tennessee; while this site is located in a different area of the Cumberland Plateau, it is included in this analysis due to its extensive faunal assemblage and the interpretation that this was a fall hunting camp. This interpretation is based upon the evidence for butchery and other processing activities, including plant foods, along with the presence of multiple hearths (Dennison 2013: 129, vii). The box turtle and other turtle remains are an interesting contrast to

the assemblage at Griffin; there are various non-shell portions in the Sachsen assemblage (Dennison 2013). At Sachsen the NISP was 21,070; of these 3515 were burnt (17 percent) and 234 were calcined (one percent). The invertebrates at Sachsen included 374 assorted pelecypods and gastropods, some of which displayed potential modification while only several were heat modified.

Sheep Bluff Shelter (1FR324) is located in Franklin County, Alabama, and is on a tributary of the upper Bear Creek. This crescent-shaped shelter is 49.5 meters long and has a depth of nine meters. This shelter is included in this comparison due to the presence of rock art along its back wall and on a large boulder; the represented motifs include pictographs along with pits and grooves (Hollingsworth 1989: 21-26). This site had multiple hearth and pit features (Hollingsworth 1989). The archaeological material from Sheep Bluff indicate that the bulk of the shelter's occupation was during the Middle and Late Woodland (Hollingsworth 1989: 32). The total NISP for the site is 2,262; of this only 876 of the fragments were identifiable with 1,754 only recorded to the mammalian class level (Hollingsworth 1989:178-179). As with other Woodland Period sites, white-tailed deer was the most common species represented in the assemblage with a total NISP of 235 (Hollingsworth 1989: 179). Like Griffin, Sheep Bluff's 23 fragment turtle assemblage contains a single non-shell (humerus) element (Hollingsworth 1989: 182-184). Hollingsworth finishes with interpreting the site as a potential special activity site, with a possible association with Rollins Bluff Shelter (1FR324) (Hollingsworth 1989: 202). There was no discussion of taphonomy or burning in particular in the analysis provided in Hollingsworth's thesis.

Diversity

Diversity indices are used to examine the richness of an assemblage, the equation used in this analysis is the Shannon-Weaver Diversity index. These values were calculated using NISP values, and do not include c.f. material (the identifications marked with a question mark by Dr. Parmalee were not included), size classed or UID fragments, gastropods or pelecypods, pig, nor human remains. While these indices are useful tools for comparing sites, there has been no established norm for what is considered a diverse assemblage other than higher values indicating greater diversity in an assemblage (Cruz-Uribe 1988).

In the formula for the Shannon-Weaver Index, n_i represents the number of a taxon in the assemblage (NISP in this case, though MNI can also be used), N represents the total NISP of all taxa in the assemblage.

$$H' = -\Sigma \frac{n_i}{N} \log \frac{n^i}{N}$$

Table 6 (in Appendix 1) lists the Shannon-Weaver Index value for the six sites discussed in this thesis, Griffin has the third highest value at 2.199. The Mason Site had the highest value at 2.496 and Sheep Bluff Shelter's value of 0.733 is the lowest of the sites. The values for Sheep Bluff Shelter and the Brickyard site were likely impacted by the nature of their assemblages, their highly fragmentary nature reduced the number of identified species. Brickyard in particular was certainly impacted by the small number of recovered bone fragments. For this analysis NISP was used in place of MNI as those counts were not available for Sheep Bluff Shelter.

Using the total NISP in comparison to the number of taxa used to calculate the site diversity, it is easy to see the relationship of these values for the six sites (Figure 16 in Appendix 2). In this graph, the regression line shows where the number of taxa for the Mason Site and the NISP at Sachsen Cave Shelter are outliers. The diversity at Mason is highly affected by its overall number of identified species; this is not a quirk of the faunal analyst as Parmalee also identified the material for Brickyard and Tucker (Grayson 1984). The affect the Mason assemblage has on the regression can be seen in Figure 17 (in Appendix 2).

This demonstrates that both sample size and the identified number of taxa can impact the comparison of sites; the make-up of faunal assemblages must also be considered in conjunction with the raw numbers. It is suggested that sample size affects the richness of assemblage, however when the Mason site was removed from the regression Griffin becomes the second most diverse site, despite it not having the second highest number of identified species. This number could also be affected by preservation, Brickyard's low diversity could be impacted by its low NISP and high number of heat-modified fragments. Since Griffin is a rockshelter and Brickyard was an open-air site, the burnt and calcined material was not protected from the elements. Further, for Mason's faunal assemblage, it being an open-air site with long-term occupations must be considered.

Summary

As I have discussed above, Griffin's assemblage is broadly similar to others in the region. However, it is relatively more diverse given the number of identified taxa and the degree of heat-modification is higher for a well-preserved site. In the next chapter, this discussion of Griffin's uniqueness will be framed in the context of other site characteristics.

Chapter 8: Discussion and Summary

Ritual and mundane activities as previously discussed, are not mutually exclusive categories of behavior; they are aspects of daily life that can coexist. However, I argue that there are characteristics of Griffin's fauna that are more consistent with ritual behaviors as opposed to utilitarian ones. Previous interpretations of Griffin's material culture and other analyses of ritual activity provide the context for Griffin Rockshelter being a potential space for special activity. Additional comparison with other sites further demonstrates that the faunal assemblage of Griffin Rockshelter could be indicative of special activity.

Griffin Rockshelter at first glance does not appear to be any different from other Late Woodland/Emergent Mississippian shelter sites along the Cumberland Plateau. However, analyses of the ceramics and fauna in conjunction with the panels of petroglyphs indicates that more than everyday tasks were occurring here. Not only do these artifacts indicate that there is something not entirely utilitarian about the site, the inclusion of human skeletal remains emphasizes this special quality of the site. The comparison with other sites confirms this: although the species are similar, the representation of species and the skeletal portions differ from site to site. The amount of heat-modification on Griffin's faunal material is also a significant characteristic, when compared to the sites with good preservation such as Mason ad Sachsen. However, the fact that some of these differences could be the result of varied preservation affecting the identification of materials cannot be dismissed.

The species represented in the shelter's faunal assemblage are not unexpected for a predominately Late Woodland/ Emergent Mississippian site in the Southeast. Jackson and Scott (2002: 461) have noted that typical Southeastern faunal assemblages tend to include "deer,

rabbit, raccoon, squirrel, and turkey." At Griffin, all but the rabbit have been identified. While the NISP counts are high, the MNI's for the identified species are low; this along with the weights, indicates that the NISP is not an accurate representation of the faunal material, and that the actual number of animals in the shelter is closer to the calculated MNI. At first glance, this assemblage appears to be diverse and the Shannon Index confirms that when compared to three of the five sites discussed in the previous chapter, Griffin's fauna is relatively diverse.

While there is the large, central hearth-like feature inside the shelter, there is no evidence of a separate midden area. It appears that the bulk of the material was disposed of via burning, based on units 3E3, 3E6, 6E3, and 6E6 having the highest concentrations of fauna. The units with the next highest concentrations, 3E0 and 6E0, are located along the northern wall of the shelter. While the fauna is not in a traditional midden context, the concentration of material in the feature results in the same difficulties in interpretation discussed by Wallis and Blessing (2015a, b) about the time averaging of material.

The domestic dogs at Griffin must be considered with the human remains given the documented behavior of sacrificial behavior associated with some of these dog burials (Morey 2006). While the amount of identified domestic dog material is small (NISP 7; MNI 1), its presence, along with the human remains, is a compelling detail towards the belief that Griffin is a special use site. The dog remains were recovered from one of the units and levels associated with the hearth-like feature, 6E6 level E. This context is located in the southeastern portion of the feature. Some of the human skeletal material was also recovered from the area of the feature, though not from the same unit as the dog remains. The human remains were recovered from unit 3E6 level E, which is not directly associated with the feature (however, this unit does have some

feature material); unit 6E3 levels C, D, and F, which are feature levels; and from unit 6E6 level F, which is directly under the margin of the feature. The material from unit 9E3 level F is just one unit over from the feature, located in the front of the shelter along the western wall. Given the lack of substantial contextual information about the actual relationship of the material, it is difficult to know the exact link of the dog and human remains. However, while dog and human burials are common cross-culturally (Morey 2006: 159-163), it is important to realize that the remains at Griffin Rockshelter do not represent intact individuals, further complicating this interpretation.

While not all of the turtle shell has been identified as terrapin, the presence of box turtle shell could be evidence of shell rattles; this is suggested even further due to there being only one non-shell portion. Shell rattles are associated with ceremonial dancing and are typically attached to the legs of female dancers (Fradkin 1990: 3, 15; Speck et al. 1951:22). Shell rattles have also been recorded in configurations with attached deer hoofs (Speck et al. 1951: 22). This behavior has been recorded in various historic tribes and was likely practiced by prehistoric groups as well. Colin Renfrew (1994: 52) includes this type activity in his markers of ritual behavior, more of these markers will be discussed below. The inclusion of passerines in the assemblage could be evidence of feather exploitation as many of these species do not have much meat on them.

Feasting is frequently included as a potential activity when animals are identified in ritual contexts. However, in the case of Griffin Rockshelter, the size constraints of the shelter make this kind of behavior unlikely when considered with potential markers of small-and large-scale feasting. It is important to consider that while feasting might not have occurred in the shelter, it does not indicate that feasting events could not have happened nearby. When the species

diversity is considered in this context, it could be evidence of one large event or multiple events, if feasting was occurring here more than deer were desired. Walthall's 1999 article discusses burial behaviors in rockshelters, including the link of mortuary activity and food, noting that portions or remnants of feasts could have been deposited with the dead. In some instances these offerings could "have been burned as part of a cremation event" (Walthall 1999: 19-20). The admixture of human and faunal remains at Griffin could be evidence of this sort of ritual.

While the faunal remains at Griffin could have originally been food waste, this does not mean that they ended their use history as rubbish. Their inclusion in the shelter could have been the result of a ritualized disposal practice. The constrained space of the shelter and the apparent use of the feature to dispose of the bone, makes understanding the depositional history difficult. This is further impacted by not having a complete understanding of the spatial and temporal relationships of the animal and human remains recovered from the feature.

The inclusion of low-and high-utility deer elements at Griffin is indicative that they were transported prior to butchery. This is further inferred from the number of lower limb bones and cranial elements mixed with the meatier upper limb bones and axial skeletal elements. The bulk of the deer remains are fragmentary and long bone identification relied on articular distal and proximal ends. Three mostly whole deer ribs were recovered from units 6E6 and 9E6. These ribs are likely from the same individual, given that the first ribs are from opposing sides and were recovered from neighboring units. One of these ribs has cut marks on two of its surfaces. Though these marks indicate that this deer was likely consumed, they do not eliminate the potential for a ritualized use or disposal.

Renfrew's (1994) criteria, although better suited for more elaborate forms of ritual centers, has some categories that can be applied to Griffin Rockshelter. These include a location that is separated by special or natural characteristics such as rockshelters and springs, and the inclusion of "attention-focusing" features, such as rock art and hearths. Other characteristics include the previously mentioned dance and music, along with other factors which could induce trances, sacrifices and offerings, which could include breakage and feasting behavior. The categories of repeated symbols and iconography could be applied to the motifs featured in the petroglyphs (Renfrew 1994: 51-52).

Griffin's location on the landscape presents the question of where secular space ends and sacred begins. Griffin Rockshelter, due to its very nature, is an established location on the landscape; it becomes place due to people's relationships with it. Griffin's identity as a rock art site on the Cumberland Plateau means that it is possibly part of an established tradition of a sacred landscape. Not only could Griffin be part of this greater landscape, the area surrounding the shelter lends itself to an examination of space.

Using Verhoeven's (2011) concepts of framing and contextualization, the special characteristics of the shelter can be teased out. Griffin Rockshelter is a small shelter on the Cumberland Plateau, possibly associated with an open-air site, which could have been where the people who used this shelter set up camp. The Cumberland Plateau has an established tradition of rock art (Simek et al. 2013). Several of these sites are also believed to have sacred associations. The rock art at Griffin led to early conclusions that the shelter was a shrine site, even when the excavation notes earlier postulated the potential of the shelter being a camp (King 1974). The makeup of the pottery suggests that there was a tradition of using the same clay source

throughout time (Bow 2012). The presence of an Archaic point in a Woodland level with use-wear consistent with the type of grinding necessary to produce the glyphs could be an indicator of some sort of ancestral associations. These ancestral associations are one of the reasons why a person could be buried in a cave or rockshelter away from the main community.

The relationship of the lithic and pottery material also needs to be addressed. Though the faunal remains display a high degree of heat alteration along with some of the lithic material, the pot sherds do not display this burnt characteristic (Sierra Bow, personal communication 2016). The common thread of fragmentation across the different categories of artifacts could be an important factor to consider in the interpretation of Griffin as non-utilitarian space.

The faunal assemblage does not appear to be representative of daily subsistence behavior, though many of the species included in the assemblage are commonly exploited for meat and materials (fur, hide, sinew, and fat). Traditional ontological systems emphasize that animals are important inhabitants of the landscape in their own right. Ethnographic literature regarding historic tribes demonstrates how animals such as the cross-culturally revered bear and the native turkey played important roles in mythology and their understanding of the world. The conclusion that some of the animals in Griffin Rockshelter's faunal assemblage have been butchered does not negate the ritual behaviors related to the proper disposal of some animals.

The belief that the faunal remains at Griffin Rockshelter, in combination with the knowledge that other artifacts from the shelter do not fit with the established utilitarian norm, suggests that interpreting behavior from faunal remains can be an ambiguous task. However, when these characteristics are contextualized with information about secular and ritual activities, the nuances of the assemblage are recognized. While it is easy to assume that faunal remains are

representive of utilitarian activities, it is hoped that this thesis has demonstrated that when examining the overall context, the nuances of ritual and ceremonial activity can be teased out with the use of faunal remains.

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Appendices

Appendix 1: Tables

Table 1*: List of Avian Species at Griffin Rockshelter*

Scientific Name	**Common Name**	**NISP**	**Weight (g)**
Anatidae	Duck like birds	12	3.82
UID aves	Unidentified birds	35	8.91
c.f. Small aves		8	0.39
c.f. Small-Medium aves		15	3.11
c.f. Medium aves		8	2.10
c.f. Medium-Large aves		28	8.19
c.f. Large aves		3	1.60
Meleagris gallopavo	Turkey	7	4.38
c.f. *Melagris gallopavo*	Turkey	3	0.94
Passerine	Perching Birds	16	1.91
c.f. *Colinus* virginianus	Bobwhite quail	1	0.09

Table 2: *List of Mammalian Species at Griffin Rockshelter*

Scientific Name	**Common Name**	**NISP**	**Weight (g)**
UID mammal	Unidentified Mammal	687	194.45
c.f. Small mammal		10	2.81
c.f. Small-medium mammal		21	6.69
c.f. Medium mammal		102	36.81
c.f. Medium-large mammal		503	200.11
c.f. Large mammal		438	370.57
Odocoileus virginianus	White-tailed deer	78	134.52
c.f. *Odocoileus virginianus*	White-tailed deer	30	45.36
Marmota monax	Woodchuck	24	10.59
c.f. *Marmota monax*	Woodchuck	4	1.34
Procyon lotor	Raccoon	6	2.96
c.f. *Procyon lotor*	Raccoon	12	4.60
Sciurus sp.	Squirrel (fox or gray)	35	3.50
Ursus americanus	Black bear	7	11.46
c.f. *Ursus americanus*	Black bear	2	10.49
c.f. *Canis familiaris*	Domestic dog	7	2.39
c.f. *Vulpes vulpes / Urocyon cinereoargenteus*	Red or gray fox	2	0.08
Canidae	Wolf/fox/domestic dog	6	1.25
c.f. *Erethizon dorsatum*	Porcupine	5	2.92
Homo sapiens	Human	15	24.48
c.f. *Homo sapiens*	Human	7	1.59
Sus scrofa	Pig	3	3.35

Table 3: *List of Reptilian Species at Griffin Rockshelter*

Scientific Name	Common Name	NISP	Weight (g)
Terrepene carolina	Eastern box turtle	24	11.35
c.f. *Terrepene carolina*	Eastern box turtle	3	1.29
Testudine	Turtle	28	15.29
Serpentes	Snake	4	0.78

Table 4: *List of Fish and UID Vertebrates at Griffin Rockshelter*

Scientific Name	Common Name	NISP	Weight (g)
Osteichtyes	Bony fish	1	1.03
UID vertebrate	Unidentified vertebrates	116	11.53

Table 5: *List of Invertebrates at Griffin Rockshelter*

Scientific Name	Common Name	NISP	Weight (g)
Gastropoda (Aquatic and Terrestrial)	Snail	763	148.58
Pelecypoda	Bivalve	635	405.21

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Table 6: *Shannon Index Values*

Site Name	**Shannon Value**	**NISP**	**Number of Taxa**
Mason Site	2.496	4,450	41
Tucker Rock Shelter	2.284	1,100	16
Griffin Rock Shelter	2.199	3,714	19
Brickyard Site	1.520	445	14
Sachsen Cave Shelter	1.133	21,070	27
Sheep Bluff Shelter	0.733	2,626	10

Appendix 2: Figures

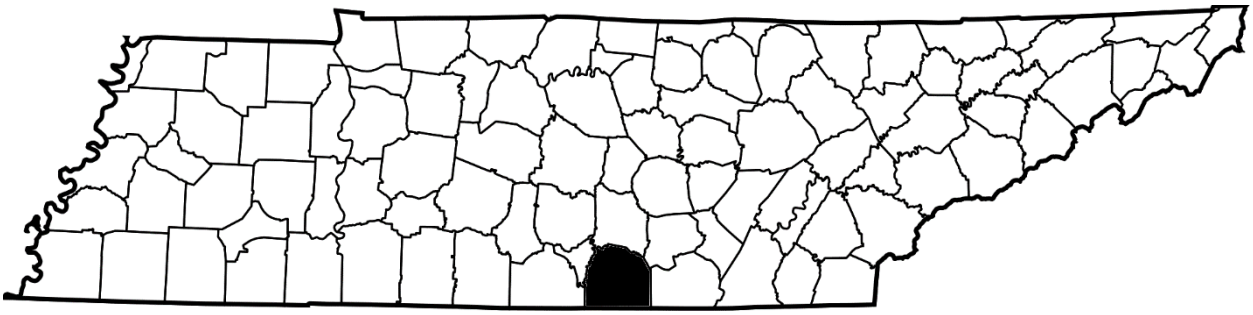

Figure 1: *Location of Franklin County, Tennessee*

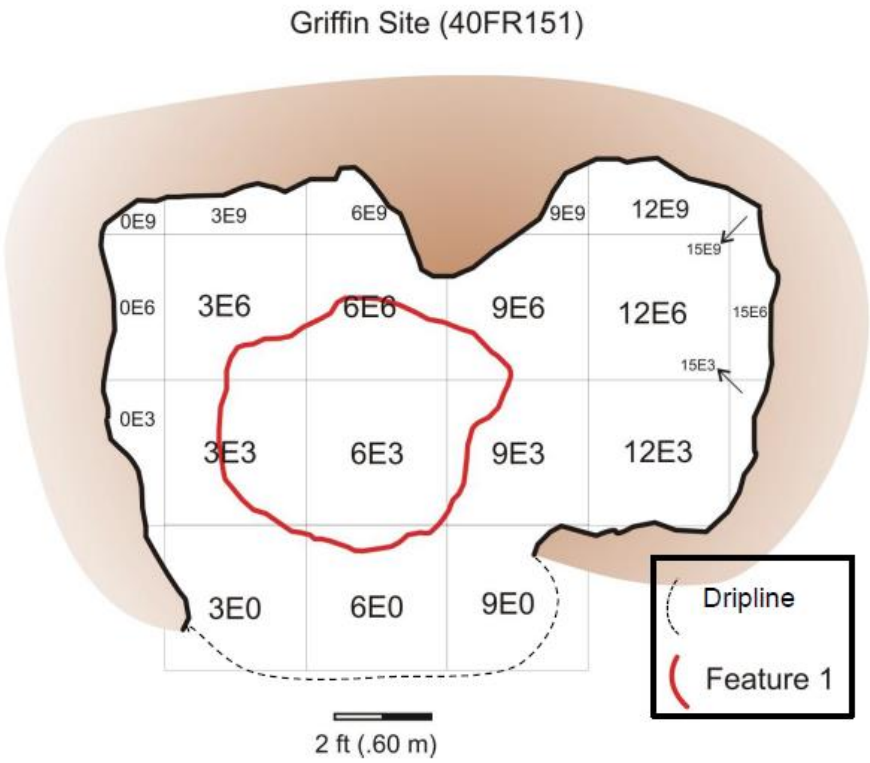

Figure 2: *Griffin Rockshelter Floor Plan* (Bow 2012: 34)

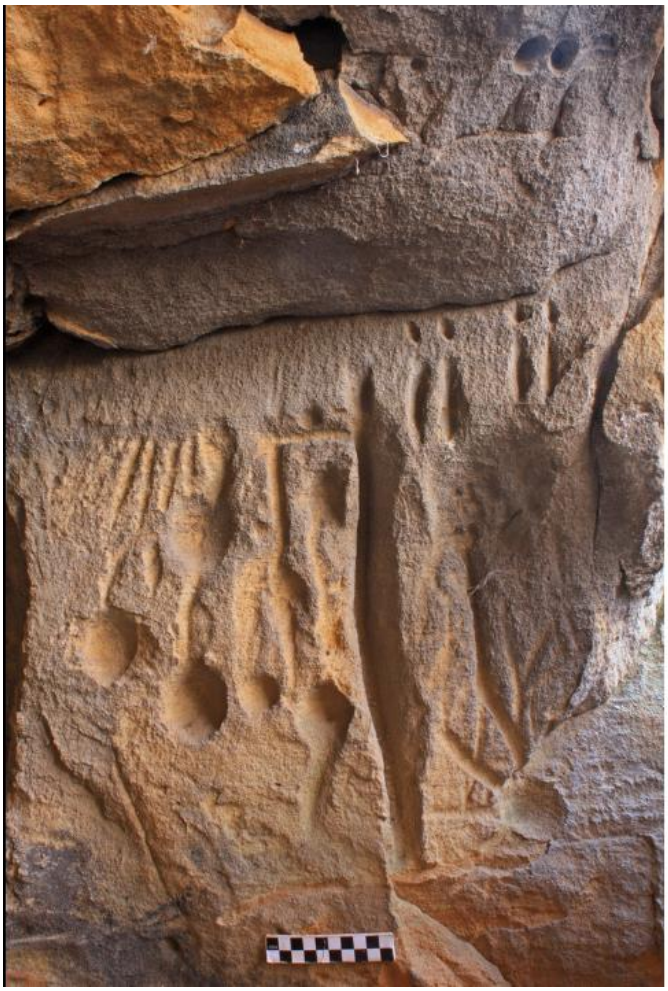

Figure 3: *Pit and Groove Glyphs* (photo by Alan Cressler)

Figure 4: *Turkey Track Glyph* (photo by Alan Cressler)

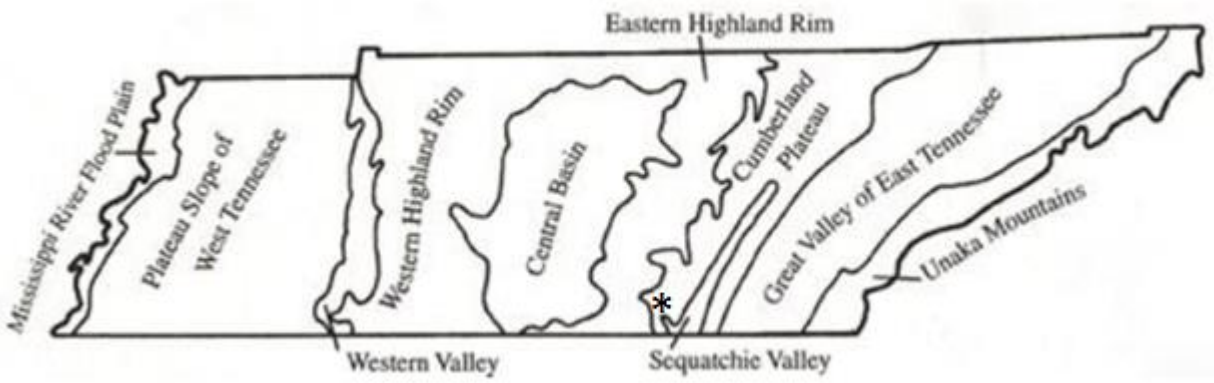

Figure 5: *Map of Tennessee Geologic Regions (Luther 1977)*

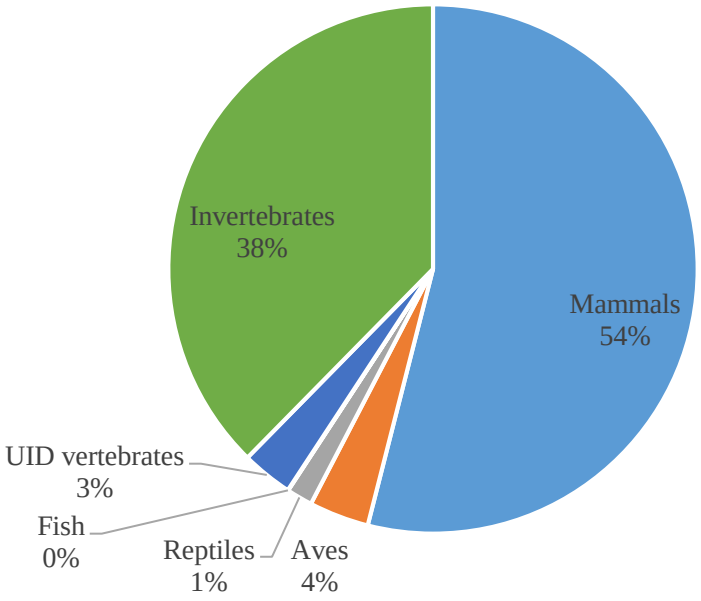

Figure 6: *Distribution of Taxa by NISP at Griffin Rockshelter*

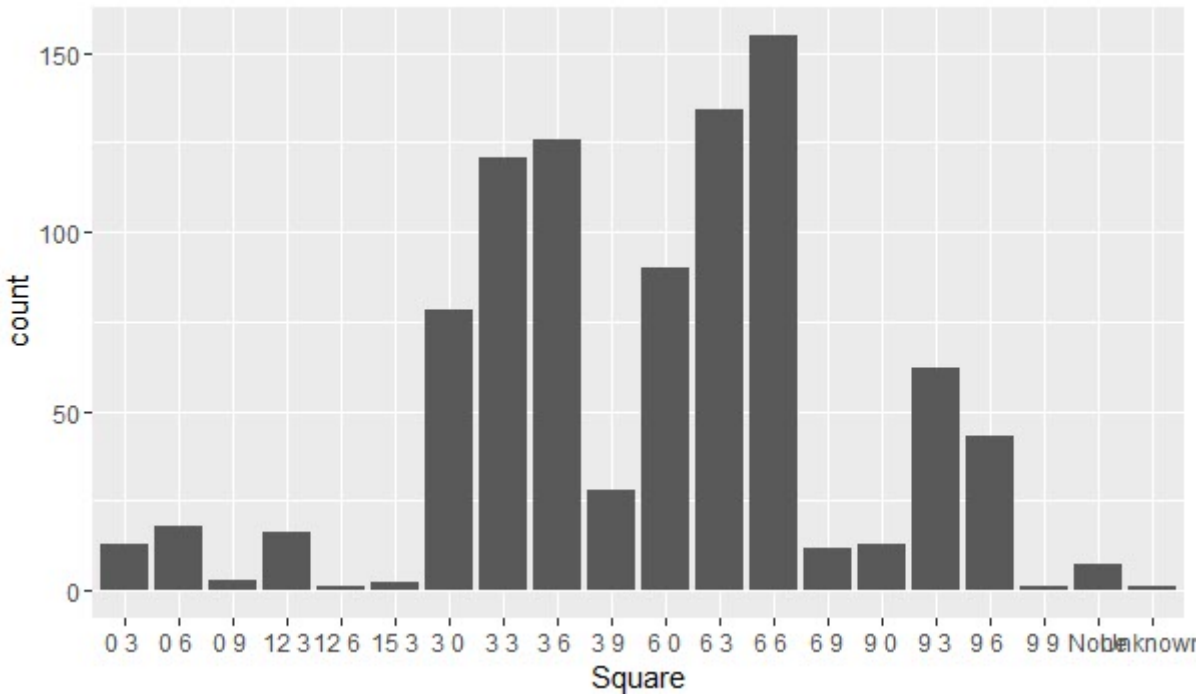

Figure 7: *Distribution of Fauna Across Units*

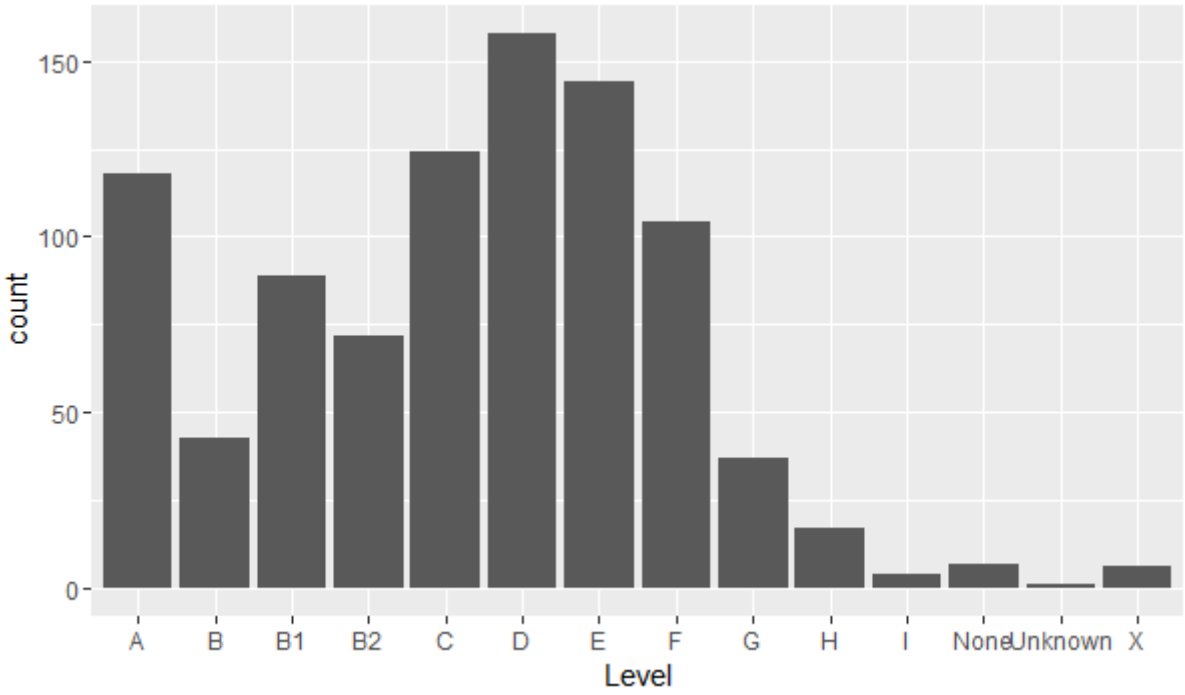

Figure 8: *Distribution of Fauna Across Levels*

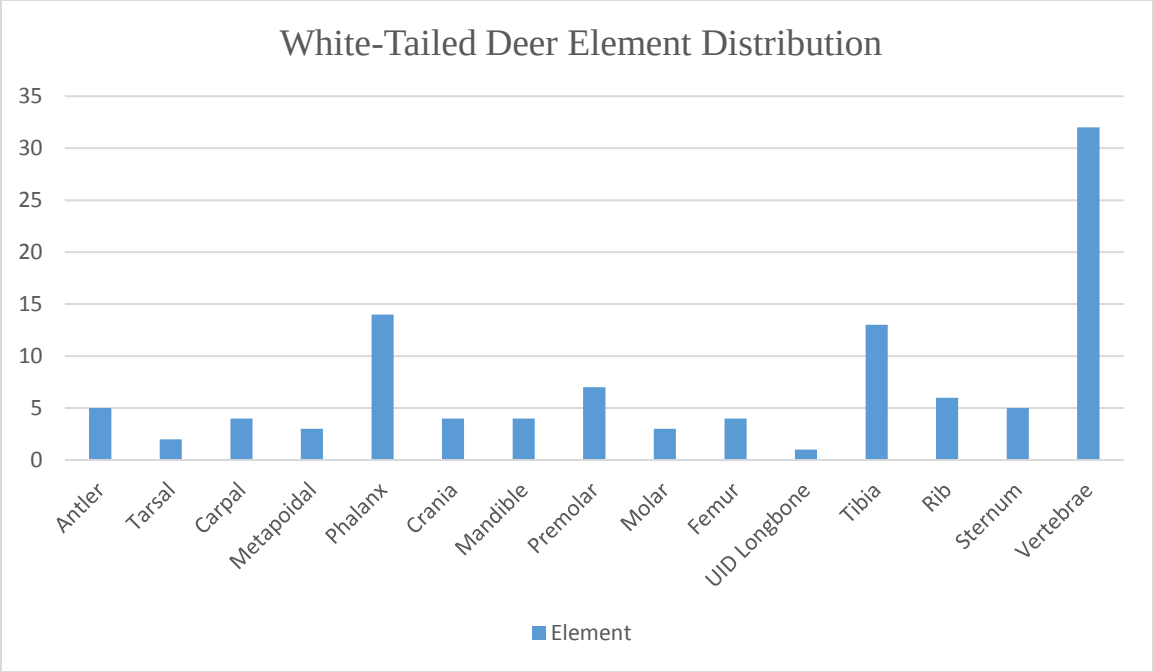

Figure 9: *Note that this also contains c.f. material*

Figure 10: *Comparison of Griffin and Modern Domestic Dog Caudal Vertebrae*

Figure 11: *Cut Box Turtle Carapace*

Figure 12: *Detail of Carapace Cut Marks*

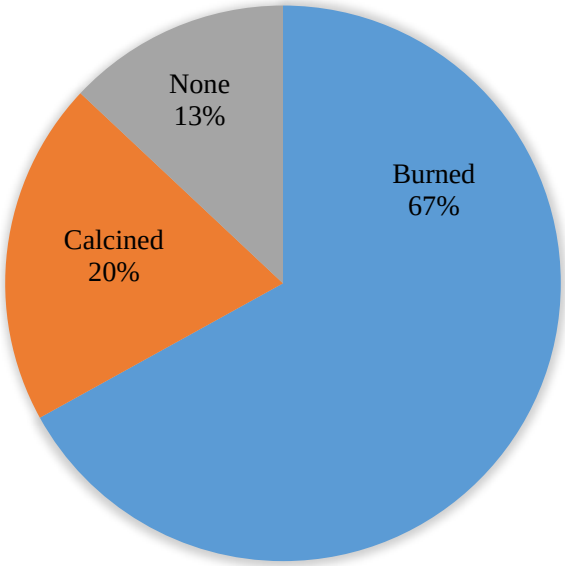

Figure 13: *Heat Modification to Faunal Material*

Figure 14: *Close Up of Cut Marks on White-Tailed Deer Rib*

Figure 15: *Polished Awl with Striations*

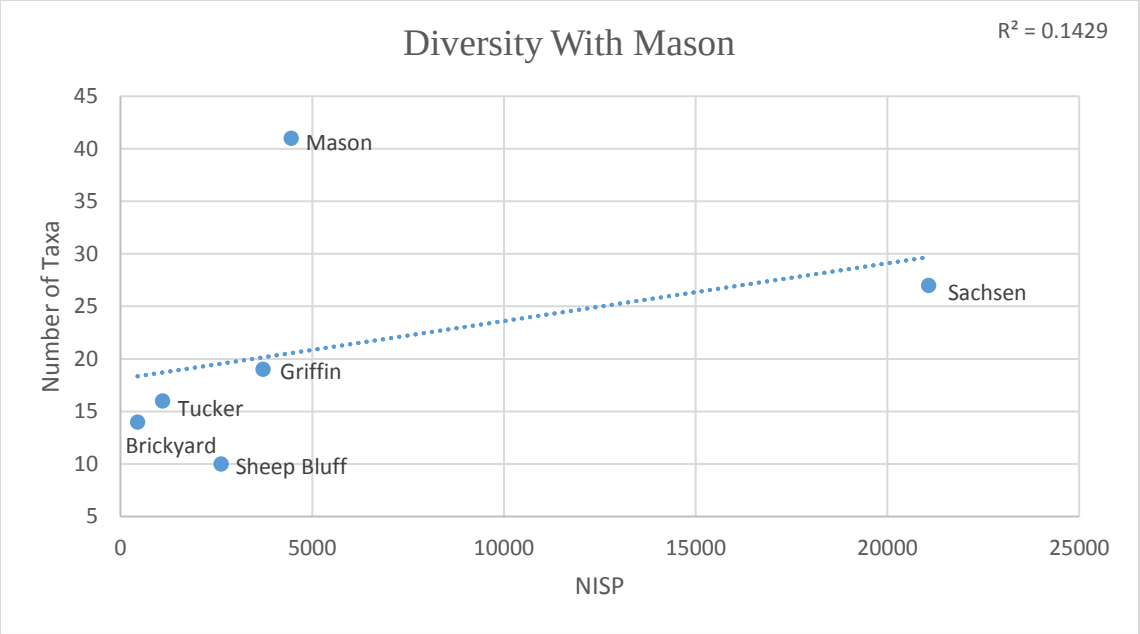

Figure 16: *Relationship of NISP and Number of Identified Taxa With Mason*

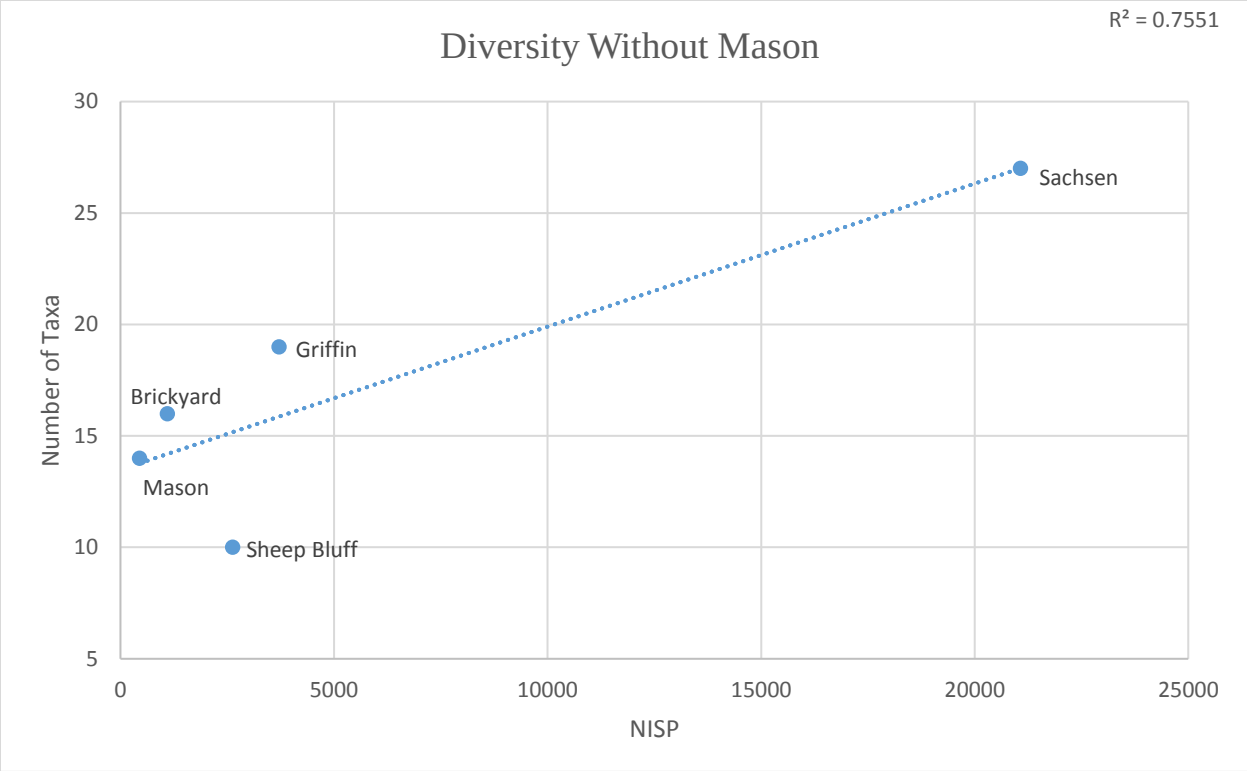

Figure 17: *Relationship of NISP and Number of Identified Taxa Without Mason*

Vita

Connie Marie Randall was born on September 7, 1990 in Montour Falls, New York. After graduating from Odessa-Montour High School in 2009, she did her undergraduate studies at SUNY Oneonta; where she double majored in anthropology and history with a minor in women's and gender studies. After graduating *Cum Laude* in May 2013, she started her Master's at the University of Tennessee in the Fall of 2013. She was accepted into the PhD program at the University of Tennessee and is continuing her studies.