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Animacy, Symbolism, and Feathers from Mantle's Cave, Colorado

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Animacy, Symbolism, and Feathers from Mantle's Cave, Colorado

By

Caitlin Ariel Sommer

B.A., Connecticut College 2006

A thesis submitted to the
Faculty of the Graduate School of the
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2013
This thesis entitled:
Animacy, Symbolism, and Feathers from Mantle’s Cave, Colorado
Written by Caitlin Ariel Sommer
Has been approved for the Department of Anthropology

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Sheila Rae Goff, NAGPRA Liaison, History Colorado

Date __________

The final copy of this thesis has been examined by the signatories, and we
Find that both the content and the form meet acceptable presentation standards
Of scholarly work in the above mentioned discipline.
Abstract

Sommer, Caitlin Ariel, M.A. (Anthropology Department)

Title: Animacy, Symbolism, and Feathers from Mantle’s Cave, Colorado

Thesis directed by Dr. Stephen H. Lekson

Rediscovered in the 1930s by the Mantle family, Mantle’s Cave contained excellently preserved feather bundles, a feather headdress, moccasins, a deer-scapl headress, baskets, stone tools, and other perishable goods. From the start of excavations, Mantle’s Cave appeared to display influences from both Fremont and Ancestral Puebloan peoples, leading Burgh and Scoggin to determine that the cave was used by Fremont people displaying traits heavily influenced by Basketmaker peoples. Researchers have analyzed the baskets, cordage, and feather headdress in the hopes of obtaining both radiocarbon dates and clues as to which culture group used Mantle’s Cave. This thesis attempts to derive the cultural influence of the artifacts from Mantle’s Cave by analyzing the feathers. This analysis includes data from comparative cave sites displaying cultural, temporal, or site-type similarities to Mantle’s Cave. In addition to the archaeological data, ethnographic data concerning how Great Basin, Southwest, Great Plains, and northern Mexican peoples conceive of and use feathers will be included. Lastly, theoretical perspectives on agency, symbolism, and the transmission of cultural traditions will be used in an effort to interpret the data collected herein.
For Professor Harold Juli
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Chapter 1: Introduction

Since the initiation of NAGPRA in 1990, the cultural affiliation of artifacts has become a major research goal in the United States. Per the legislation, museums and universities inventoried certain cultural items, in an effort to repatriate and/or dispose these objects to Native American descendants. The collection from which this thesis derives is stored in the University of Colorado of Natural History Museum, which is in consultation with many Puebloan and Great Basin nations concerning the repatriation of NAGPRA items (Dr. Lekson 2010, personal communication). While not classified as NAGPRA items, the issue of cultural identity for those artifacts from Mantle’s Cave has been the center from which other research agendas have developed (Hewes 1952; Goff 2006; Benden and Goff 2005).

The cultural identity of the artifacts remains an important question for several reasons. First, Mantle’s Cave is situated in an area which, during prehistory, was utilized by Ancestral Puebloan, Fremont, northern Plains, and Great Basin groups. Second, the cave has a temporal span of over 2,000 years, more than enough time for multiple groups of people to use the cave and leave behind material goods. Third, some of the artifacts (e.g. baskets, UCM 5957 and ladle, UCM 5943) from Mantle’s Cave present archaeologists with a mixed-bag of cultural influences; both Fremont and Ancestral Puebloan (Goff 2006). Since “material culture plays a crucial role in….assertions of (cultural) identity” (Stein 2002: 905), understanding the nature of interregional interaction between multiple groups will further the field’s ability to comprehend how humans have interacted with each other through time and how this manifests in the archaeologist record (Stein 2002: 914; Wolf 1982: ix). This also has implications for the field’s ability to comprehend how cultural identities are created, maintained, and changed.
Before introducing the archaeology of Mantle’s Cave and the structure of this thesis, it must be made clear what is meant by cultural identity, which differs in significant ways from “cultural affiliation” as legally defined in NAGPRA. For the purpose of this thesis, the concept of “cultural identity” is used to mean the archaeological culture(s) to which the artifacts from Mantle’s Cave appear most similar. Defined by Shennan (1994: 5), cultural identity in the archaeological record is derived from “the fact that people living in different places conduct their lives differently to a greater or lesser extent” creating differential “material residues (and therefore [differences in] the archaeological record)”. In this sense, the concept of culture becomes a “way of classifying spatial variation in the archaeological record” (Shennan 1994: 6). As previously stated, the artifacts from Mantle’s Cave display traits often associated with many archaeological cultures, so the concept of “cultural identity” will be used to describe to which archaeological culture, or cultures, the assemblage from Mantle’s Cave most resembles. This clarification is necessary, in order that language used in NAGPRA is avoided, and there is no discrepancy about the nature of this study.

There is a vast literature that conceptualizes, debates, and re-conceptualizes the concept of culture (Child 1946; White 1948; Kroeber 1952; Binford and Binford 1968; Geertz 1973; Keesing 1974; Trouillot 2002). In this case, the issue of cultural identity is compounded by the fact that the Fremont culture is characterized by variability in the archaeological record (Janetski and Talbot 2011; Simms 2010). Shennan’s (1994) definition implies that there are recognizable patterns, characterized by both similarities and differences, in the archaeological record. From this perspective, the assemblage from Mantle’s Cave can be compared and contrasted to other sites’ assemblages in search for both commonalities and differences. For the purpose of this thesis, similar archaeological assemblages and depositional processes will be interpreted as
evidence that these people interacted, and shared certain values and beliefs pertaining to birds and feathers.

The Goals of this Thesis

This thesis endeavors to decipher and determine the cultural identity of artifacts from Mantle’s Cave, Colorado, by analyzing feathers found in Mantle’s Cave. Mantle’s Cave is located in Castle Park, Dinosaur National Monument, in Moffat County, Colorado (Figure 1.1). Comparative archaeological data, theoretical perspectives on animacy and symbolism, and ethnographic data on groups using feathers, will be compared and contrasted as a means to understanding the cultural identity of Mantle’s Cave’s artifacts.
The data on Mantle’s Cave are derived from excavations by Charles Scoggin and Robert Burgh (Scoggin and Burgh 1948; Scoggin 1939, 1939-1940); subsequent research by Hewes (1952), Truesdale (1993), Goff (2006, 2010), and Benden and Goff (2005); and my analysis of the collections conducted from 2010 to 2012. From its discovery, Mantle’s Cave’s cultural identity has perplexed researchers; most recently, Sheila Goff has made this issue central to her research interests concerning Mantle’s Cave (Goff 2006, 2010; Benden and Goff 2005). Traditionally, Mantle’s Cave is considered to be on the eastern periphery of Fremont territories, northern periphery of Ancestral Puebloan influence, within Great Basin cultural influences, and within the southern reaches of northern Plains influences. Used only as a storage/cache site, the assemblage from Mantle’s Cave comprises faunal remains, lithics, bones, vegetal (wild and domesticates) remains, fish hooks, bundles of cordage, and perishable artifacts like baskets, a ladle, feathers, moccasins, and two headdresses (one made with feathers, UCM 6178, and the other made of a deer’s scalp UCM 6102). The majority of research on Mantle’s Cave has centered on obtaining radiocarbon dates and analyzing the construction techniques of the baskets and cordage-twist types. This data suggests dual influences from Fremont and Ancestral Puebloan groups. However, projectile points recovered throughout Dinosaur National Monument also suggest northern Plains and much earlier Desert Culture influences, as well (Breternitz 1970).

Why Feathers from Mantle’s Cave Matter

To date, little attention has been paid to the feathers from this site, though Hewes (1952) implied there may be similarities between the flicker feather headdress (UCM 6178) from Mantle’s Cave, and headdresses used by Native groups in California, and Truesdale (1993) obtained \(^{14}\text{C}\) dates for the flicker feather headdress (UCM 6178). Samples of the ermine fur
(sample # AA7823) and leather thong (sample #AA7824), used in the construction of the headdress, were sent to the National Science Foundation Arizona Accelerator Mass Spectrometry (AMS) Facility, at the University of Arizona. The items came back with the dates 882 +/- 60 years B.P. (AA7823), and 100052 +/- years B.P. (AA7824), or a calibrated age (2 sigma) of 996-1190 A.D (Truesdale 1993: 28-29). This has been the extent of research related to the feathers from Mantle’s Cave, providing part of the impetus for this study.

**Feathers as Archaeological Objects**

Archaeological data from other cave sites, ethnographic data from the Southwest, Great Basin, Great Plains, and northern Mexico indicate the existence of a widespread belief system concerning how birds/feathers are symbolized and used (described in Chapter 5). This manifests in the archaeological record with similarly deposited feathers, and ethnographically as similar beliefs and ideologies embodied and lived by various Native American groups. The current methods and theories used to derive cultural/social/group identity are suited best for studies involving objects with low- and high-visibility traits, attributes these feathers lacked. To clarify, the feathers investigated for this study were neither altered by techniques that could be tied to particular culture groups, nor were they dyed and/or incorporated into other objects which indicated to which group they belonged (See Hewes 1952 for implication for connection between Californian groups and the Flicker-feather headdress. In my opinion, the headdresses used by Californian groups look nothing like the headdress from Mantle’s Cave, and it has yet to be determined whether the headdress from Mantle’s Cave was in fact, a headdress). Instead, perspectives on how ideologies and belief systems are maintained and spread from group to group provide frameworks in which groups may hold similar belief systems, but remain materially distinct (Hoffecker 2011a, 2011b; Dawkins 1989, 1999).
While other perishable objects from Mantle’s Cave have been studied and analyzed, the loose feathers and feather bundles have yet to receive the same attention. Their preservation makes this collection unique. Through studies of rock art, iconography on pottery, and the analysis of kiva murals, archaeologists have been able to discern that birds and feathers were important to various Native American groups. Yet, feathers almost never survive in the archaeological record, and only rarely is there direct evidence that birds were thought of in symbolically charged ways (e.g., Eckert and Clark 2009). Hence, a study of the feathers from Mantle’s Cave, their agency (animacy) and symbolic conceptualizations may help to shed light on the assemblage’s cultural identity (Mills and Ferguson 2008). This research not only lends archaeologists a rare view into the past, it will help archaeologists understand the nature of sites in frontier areas where many different groups lived and worked, it will create new ways of conceiving of birds and feathers in the archaeological record, and will allow for new research questions about Mantle’s Cave to be developed and asked.

**Structure of Thesis**

The purpose of this thesis is to research to which group or groups the artifacts from Mantle’s Cave can be attributed. This will be accomplished through a close analysis of the feather bundles and feathered artifacts from the cave, in conjunction with archaeological data from seven other cave sites. This inquiry will also explore the agency of the feathers and the symbolic conceptualization of both birds and feathers in modern Puebloan, Great Basin, Great Plains, and northern Mexican groups.

Chapter 2 focuses on the history of Dinosaur National Monument as Federally protected land. Environmental data is provided here as well, though this chapter’s focus is on providing its readers with introductory data pertaining to the Monument’s archaeological sites and pre-
post-contact peoples. Special attention and detail are given to the discovery and excavation of Mantle’s Cave by Scoggin and Burgh. The discussion of this material is based on field notes on file at the University of Colorado Museum of Natural History, published reports, National Register of Historic Places registration forms, and National Park Service resources (Scoggin 1939, 1939-1940; Scoggin and Burgh 1948; Breternitz 1970; Bernard and Prokopetz 2005; Firor 1994; Horn and Reed 1994; http://www.nps.gov/dino/index.htm).

Chapter 3 provides an overview of Fremont archaeology, which highlights the issues encountered by archaeologists in their search for Fremont cultural clarity. In its original definition, the “Fremont” were conceived of as “back-country” cousins to Ancestral Puebloan groups to the south. Subsequent to this interpretation, archaeologists have moved away from ecological/behavioral explanations and are using theories incorporating practice and agency to understand Fremont cultural complexity (Janetski and Talbot 2011; Allison 2008). While definitive conclusions pertaining to Fremont identity have not yet been formulated, new research is shedding light on this issue, and the use of “Fremont” as a descriptive, classificatory tool cannot be denied.

Chapter 4 provides an outline of the methods and theoretical perspectives used in this thesis. Justifications for why methods differed in the archaeological and ethnographic analyses are provided, as are definitions for theoretical concepts. It also includes a discussion of how the concept of “agency” has changed from its conception, and how the concept of “animacy” has been applied in other studies. Mills’ and Ferguson’s (2008) study of animacy and the Puebloan use of conch-shells provided the concept that studying an object’s animacy may help illuminate cultural identity. This chapter also details how the concept of animacy will be used in conjunction with Robb’s (1999) three types of symbols, to define the feathers’ agency and
symbolic conceptualizations. Precise notes are given on how the feathers were analyzed, and how determinations were made for the probability that the feathers from the cave sites were found locally. Hoffecker’s (2011a, 2011b) “super-brain” concept, and Dawkins’ (1989, 1999) “idea-memes” are introduced in his chapter as well. These concepts were useful for providing a framework from which groups may hold similar beliefs, but be materially distinct.

Chapter 5 is an overview of those Native American groups living in the Southwest, Great Basin, Great Plains, and northern Mexico. The chapter is organized into sections detailing similar and/or shared ideologies, uses, and beliefs surrounding birds and feathers. In the end, surprising similarities were found in most of the groups surveyed. This information will be used, in conjunction with the archaeological data detailed in Chapter 6, to develop interpretations and conclusions concerning the cultural identity of the material in Mantle’s Cave.

Chapter 6 provides the analysis for this thesis. It brings together the artifactual data collected from the seven cave (eight, including Mantle’s Cave) sites examined in this thesis, the ethnographic data presented in Chapter 5, and the data derived from assessing the birds’ habitats and ranges (Appendix B). Dr. Pepper Trail (senior research scientist with the Fish and Wildlife Service in Ashland, Oregon) and I were only able to speciate those feathers from Mantle’s Cave and Basket Cave. In my suggestions for future research (Chapter 8) the potential value of DNA testing the feathers is discussed.

For feathers from the other sites with inadequate photographs, and/or site descriptions, and/or artifact context/provenience, no figure is provided, but (where possible) species names, and feather counts are given.

The chapter is organized site by site, so that each cave’s characteristics and feather assemblages could be given contextual analysis. A site description for each of the eight caves
will be provided, as will a discussion on analysis of each site’s feathers. At the end of each site description is a section making comparisons with Mantle’s Cave.

Chapter 7 provides a synthesis of the data presented in Chapter 6. Through the theoretical lens of animacy, and in conjunction with Robb’s (1998) discussion of symbol types, it appears as though who(m)ever was using Mantle’s Cave was part of, and interacted within, a widespread belief system concerning feathers. The implications of Hoffecker’s (2011a, 2011b) “super-brain” concept and Dawkin’s (1989, 1999) “idea-memes” are explored in this chapter, too.

Chapter 8 is the conclusion to this thesis. A discussion on how “culture” has been conceptualized throughout anthropology’s history is provided, and how Hoffecker’s (2011a, 2011b) concept of the “super-brain” and Dawkin’s (1989, 1999) “idea-meme” may provide additional explanatory frameworks. Using the concepts of a “super-brain” and “idea memes” suggested that the widespread use of feathers and similar symbolic conceptualizations were indicative of an ideological sphere of influence in which Great Basin, Southwestern, northern Mexican, and Great Plains people interacted. This phenomenon is similar to folklore (Ben-Amos 1971: 4). Folklore has a central theme from which variations and new versions develop (Ben-Amos 1971: 4-6). Close inspection of each version will show variability, but there will be a central theme around which the story revolves. In this case, the central theme pertains to the similar ways in which feathers are used and conceptualized, while the variations and versions pertain to the socially distinct groups of people investigated for this thesis. Thus, I am able to suggest that the people using Mantle’s Cave were part of this ideological sphere concerning birds/feathers, but was unable to determine which group or group(s) used the cave.
In the end, I was unable to answer my original research question, but I did find evidence that the people using Mantle’s Cave were involved and interacted within a larger ideological sphere, shared with the archaeological signatures of people from Ancestral Puebloan, Great Basin, Fremont, and northern Plains traditions.
Chapter 2: Background

This chapter summarizes background information for Dinosaur National Monument and Castle Park Archaeological District, the location of Mantle’s Cave. The discovery and excavations at Mantle’s Cave will be discussed, in addition to other cave sites that will be used to compare and contrast with the assemblage in Mantle’s. Particular attention will be given to those caves in Castle Park Archaeological District and Dinosaur National Monument that seem to reflect similar uses; i.e. storage/cache sites and/or caves with feather deposits. Caves from the Great Basin and Southwest will be surveyed and analyzed with particular attention to evidence for the identity of cultural groups using the cave. Caves from northern Mexico and the Plains will not be discussed, because material remains in Mantle’s Cave are more similar to assemblages found in the Great Basin and Southwest (Goff 2010; Burgh and Scoggin 1948; Lister 1951; Adovasio 1986). However, groups from the Plains and northern Mexico will be included and considered in the ethnographic analysis, Chapter 5.

The methodology used in determining which caves would be included in this study differs from that used in the ethnographic section, which included data from the Great Basin, Southwest, northern Mexico, and the Plains. These groups were considered because archaeologists are unsure of Fremont descendant groups (See Chapter 3 for discussion on this point). It seemed reasonable to analyze a larger, more inclusive ethnographic sample, making the ethnographic analysis stronger than if ethnographic data were only used from the area around Mantle’s Cave. The caves included in this background chapter (and in the subsequent discussions) are those that are materially related to the artifacts in Mantle’s Cave. In other words, these caves were chosen because the artifacts within displayed cultural influences similar
to those seen in the artifacts from Mantle’s Cave. Full analysis of these caves, in conjunction
with Mantle’s, will take place in the Analysis Chapter (Chapter 6).

As Bernard and Prokopetz (2005: Section 7, pp. 26) pointed out in their documentation of
Castle Park for the National Register of Historic Places, “archaeology in Castle Park has been
conducted by degrees, never purposeful or research driven”. In addition to the importance of
caves in the archaeological record and the unique nature of the assemblage from Mantle’s Cave,
the artifacts from Mantle’s Cave should continue to be analyzed within a “purposeful” research
design. It is the hope of this thesis that in providing the background material necessary to
understanding the importance of Mantle’s Cave, an approach for answering questions of its
cultural identity will be provided.

The Importance of Caves in Archaeology

Though limited in number, caves and rockshelters have played a disproportionately large
role in defining world prehistory (Aikens 2008; Wills 1988; Leroi-Gourhan 1982). Often cave
sites hold information about paleoenvironments, perishable goods, subsistence, and technologies,
not often found in open air sites (Straus 1990: 255). Straus (1990: 265) noted the potential for
“multiple occupations” within caves and/or rockshelters, as opposed to open air sites which
require tremendously sturdy structures to ensure more than one occupation in the same location.
The physical attributes of some caves also meant that the accumulation of cultural strata would
have been constrained to finite areas, creating deep cultural deposits, and unrivaled looks into the
past. In some cases it is because of this “redundant, structurally conditioned use of space that
allows us to obtain meaningful behavioral information…” (Straus 1990: 279). Combining
Binford’s (1982) use of the concept “place” in his work on hunter-gatherer seasonal rounds, it
makes sense that so many caves display this characteristic of using the same site in very similar ways, through time.

Mantle’s Cave was used to store cultigens, snares, fishhooks, baskets, headdresses, feathers, moccasins, and more, for approximately 2,000 years. This age is based on dates from the deer scalp headdress (UCM 6102), 1572 B.C., the moccasins (UCM 6193) which produced a date of A.D. 690, a globular basket (UCM 5957) which dated to A.D. 1019, and the flicker feather headdress (UCM 6178) which dated to A.D. 996-1190 (University of Colorado Natural History Museum: 2012). In addition to its long use-life, Mantle’s Cave is unique for its preservation of feathers, some of which date to 840 +/- 25 B.P. (UCM 6175).

This site has given, and will continue to give, archaeologists superlative views into the past. Because of its (and other caves’) natural ability to preserve, foraging peoples’ lives have became more vibrant than the traditionally perceived hand-to-mouth existence. The extraordinary artifacts of Mantle’s Cave (described in this chapter) testify to lives lived beyond the worry of food; these items attest to non-utilitarian activities. In addition to shedding light on the lives of foraging peoples, most of the artifacts from Mantle’s date to a time when people were practicing agriculture. The significance of Mantle’s Cave’s artifacts spanning time periods during which people foraged and farmed, is that people still used the cave in the same manner; as a storage site.

**Dinosaur National Monument**

Dinosaur National Monument (Figure 2.1) is located in northwestern Colorado and northeastern Utah, at approximately 40°32’N 108°59’W (this and following data are from [http://www.nps.gov/dino/parkmgmt/statistics.htm](http://www.nps.gov/dino/parkmgmt/statistics.htm)). The Monument encompasses 210,844.02 acres or 329.44 square miles, reaches to 9,006 feet above sea level at Zenobia Peak, and dives to
4,740 feet above sea level along the Green River in the southwest corner of the Monument. The deepest canyon in the Monument, Canyon of Lodore, is over 3,000 feet deep, while the tallest cliff, Warm Springs Cliff, rises 1,500 feet. Running more-or-less east to west, the Yampa River joins the Monument at Deerlodge Park, where it flows for 46 miles before joining the Green River. The Green River runs north-south, entering the Monument at the Gates of Lodore and leaving the Monument at Split Mountain Boat Ramp, 45 miles from where it originally entered.

This area, later designated as Dinosaur National Monument, was inhabited by foraging, and subsequently horticultural populations, from at least 6,000 B.C. onward (Lister 1951: 47). However, it was not until Fray Silvestre Vélez rediscovered the area in 1776, while attempting to find a route from New Mexico to Monterey, California, that European settlers and colonists learned of the Green and Yampa Rivers (Stegner 1985: 6). A painting on a rock in Red Canyon bears the name and date “Ashley 1825”, which marks the first (as recognized by the United States Government) infiltration of the Green River’s canyons (Stegner 1985: 7). By 1869, the
United States’ east and west coasts were connected by the first transcontinental railroad, which crossed the Green River in Wyoming (Stegner 1985: 10). Meanwhile and through the 1870s, Major John Wesley Powell explored, mapped, and noted all things concerning the Green River as it flowed toward the Colorado River (Stegner 1985: 8-12). While the exploration and mapping of the Green River was an integral part to the opening of the West, it was not until 1909 that this area was conceived as unique and rather special (Stegner 1985: 12).

In August of 1909, a young paleontologist named Earl Douglass made the discovery of a lifetime: a relatively untouched dinosaur fossil quarry, from which he extracted 700,000 pounds of dinosaur remains (Stegner 1985: 13). In fact, it is the same quarry that park visitors can tour today (http://www.nps.gov/dino/index.htm). Douglass is the reason Dinosaur National Monument exists. As Douglass came to fully comprehend the importance of the quarry, he appealed to the Carnegie Museum (his benefactor) for protection from looters. The Museum then took it to Congress, providing the impetus for President Woodrow Wilson to declare, on October 4, 1915, that the eighty acres around the quarry be protected and known as Dinosaur National Monument (Stegner 1985: 13). Subsequently, President Franklin Delanor Roosevelt proclaimed that the Yampa and Green River canyons should be part of the Monument as well. This proclamation was made, in part, to increase the protection of eroded range lands, mined “Dust Bowl fields”, endangered watersheds, and partially destroyed wilderness areas (Stegner 1985: 14). FDR’s proclamation increased the Monument’s size to that which it is today.

**Environment**

Dinosaur National Monument is part of the greater physiographic formation known as the Colorado Plateau (http://www.nps.gov/dino/index.htm). Typical of other areas in the American Southwest, Dinosaur National Monument is home to various ecosystems, which are often
determined by their elevation above sea level and their proximity to water. Along the canyon bottoms in Dinosaur, prickly pear, piñon pine, Douglas fir, flowering currant, winterfat, penstemon, willows, and red-twig dogwood flourish (Murie and Penfold 1985: 43; Burgh and Scoggin 1948: 15; Bernard and Prokopitz 2005). On the surrounding hillsides mountain mahogany, wax currant, antelope brush, single-leaf ash, service berry, mountain spirea, thimbleberry, ephedra or Mormon tea, and rabbit brush dominate (Murie and Penfold 1985: 43; Burgh and Scoggin 1948: 15; Bernard and Prokopitz 2005). Sage brush, saltbrush, greasewood, and various species of cacti abound on the desert flats. Over twenty-eight species of flower call Dinosaur National Monument home, but the most common are red paintbrush, larkspur, beeplant, golden pea, several species of lupines, red paintbrush, and wild onions (Murie and Penfold 1985: 44).

Using tree-ring patterns found in both archaic and modern specimens, the climate of northwest Colorado conforms to those found in southeastern Utah and northern Arizona; the average precipitation is greater in the arid Southwest than northwest Colorado, but the “cycles of drought (sic) appear to correspond” well in the two areas (Burgh and Scoggin 1948: 14; http://www.nps.gov/dino/planyourvisit/weather.htm). Similar to other areas that have varying altitudes, the climate within Dinosaur National Monument fluctuates with elevation. While the mountain tops may have snow year round, the canyon floor of Castle Park receives about 25.4-30.5 centimeters of snow annually, and the entire Monument only receives 24.9 centimeters (avg.) of rain a year (Burgh and Scoggin 1948: 14; http://www.nps.gov/dino/planyourvisit/weather.htm; Bernard and Prokopitz 2005; USDA, NRCS). Burgh and Scoggin suggest that water would have been available year-round (except during the most severe droughts), and that with the addition of irrigation canals, farming would
have been feasible for the precontact populations living in the area (Burgh and Scoggin 1948: 15). In addition, Bernard and Prokopitz (2005) note that the area inside Castle Park Archaeological District (where Mantle’s Cave is located) enjoys a relatively temperate climate compared to the adjacent high country. In effect, the relative protection of this area from climatic extremes affords Castle Park between 120-140 frost-free days a year; the necessary amount of time the many-rowed, pointed dent corn found in the Monument needs to grow at 40º30’ latitude and 5000 feet elevation (Bernard and Prokopitz 2005: Section 7, pp. 1).

Along with its rich flora and climactic diversity, Dinosaur is home to a variety of animals. In terms of terrestrial animals, various ungulates, lagomorphs, rodents, Mustelidae, felines, various species of snake, horny toads, numerous Lacertilia, Ursidae, and canines have (and do) inhabited the region. Of those animals no longer inhabiting Dinosaur, the last herd of bison was seen by General Ashley in 1825, the last Grizzly was seen in 1891, black bear were essentially wiped out when sheep were introduced to the area, and the last wolf was shot in 1942 (Murie and Penfold 1985: 36; Burgh and Scoggin 1948). That said, the Monument has also seen its share of “newcomers”; pronghorn antelope seem to be entering the Monument’s borders from Wyoming, and Yellowstone moose have been spotted in the northern portions of the Monument (Murie and Penfold 1985: 37). Elk, though rarely seen in the late nineteenth-century, seem to be making a comeback, especially around Blue Mountain.

Fauna of the avian persuasion include, Canadian geese, Golden and Bald eagles, various ducks, various hawks, American Kestrels, Prairie falcons, House wrens, Robins, Chickadees, Lazuli buntings, Meadowlarks, Barn Swallows, Cliff Swallows, Crows, Ravens, Magpies, Turkey Vulture, Red-Shafted Flickers, various herons, Mourning doves, Western kingbirds, Pine siskins, Say’s and Black Phoebes, and the Ruby-Crowned kinglet (Burgh and Scoggin 1948;
Murie and Penfold 1985: 42; Lister 1951: 2). In Mantle’s Cave the skeletal remains of mammals from the Leporidae, Sciuridae, Geomyidae, Catoridae, Cricetidae, Canidae, Mustelidae, Cervidae, and Bovidae families were recovered, while the remains of birds were determined to be Golden Eagle, Rough-Legged Hawk, Crow, and Sage Grouse (Pillmore 1948: 93; Elaine Anderson: Undated from UCM archives).

**Overview of Sites in Dinosaur National Monument and Castle Park Archaeological District**

Between 1939 and 1940, the University of Colorado led a series of extensive excavations in Castle Park, which is located in the southeast portion of the Monument (Figure 1.1). Nominated to the National Register of Historic Places in 2005 and called Castle Park Archaeological District, this section of the Monument has yielded some of the most unique archaeological finds in the area (Bernard and Prokopitz 2005). Table 2.1, summarizes the finds below for all of Dinosaur National Monument, including Castle Park Archaeological District. The sites have been tabulated in numerical site-number order. Since this thesis concerns the feathers and feathered artifacts from Mantle’s Cave, which is within Castle Park Archaeological District, a more detailed analysis concerning how they compare to Mantle’s Cave will be discussed in the Analysis Chapter. Those sites from the Southwest and Great Basin (Table 2.2), which have similar occupational dates, uses for the site, and/or feathers will be discussed in more detail there, too.

Dinosaur National Monument was home to people who appear to be more or less aligned with the Desert Culture, with influences appearing from the Southwest (Castle Park) and Plains (remainder of the Monument) (Breternitz 1970). Breternitz notes that areas east of Castle Park
have little cultural affiliation with the Fremont, and that that seems to be a phenomenon localized to the Castle Park Archaeological District. He explains:

“East of Castle Park Fremont habitation sites and petroglyphs are not known, and the chipped and ground stone tools indicate an affiliation with the High Plains rather than Fremont-Southwestern [or Great Basin] area. In other words, the eastern and western extremities of the Monument appear to represent two different archaeological traditions” (Breternitz 1970: 160).

Overall the Monument appears to have been occupied for thousands of years by people practicing a foraging lifestyle (Desert Culture) with some horticulture (Fremont). The various habitation, storage, and activity areas, suggest that the people inhabiting this area conceived of the entire landscape as being essential to maintaining their lifestyle. While some sites in the Monument reflect mixed use, as in habitation sites with storage features, or those activity areas with storage features, many of them appear to have been used solely for habitation, working, or storage. Table 2.1 provides a summary of all the sites within Dinosaur National Monument, and while not every site is relevant to this thesis, it shows the time-depth and variation of lifestyle characteristic of this area.

<table>
<thead>
<tr>
<th>Site Name/Number</th>
<th>Time Period</th>
<th>Culture</th>
<th>Site Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deluge Shelter</td>
<td>5,000 B.C. - A.D. 1850</td>
<td>Desert Culture; Fremont; Ute and/or Shoshoni</td>
<td>Habitation and Rock art</td>
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<td>Fremont</td>
<td>Hunting/Fishing Campsite</td>
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<td>Undetermined</td>
<td>Fremont</td>
<td>Storage</td>
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<td>Habitation</td>
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<td>A.D. 1000-1150</td>
<td>Fremont</td>
<td>Habitation</td>
</tr>
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<td>Fremont</td>
<td>Habitation</td>
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<td>A.D. 950-1150</td>
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<td>Campsite with Petroglyphs</td>
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<tr>
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<td>Fremont</td>
<td>Habitation</td>
</tr>
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<td>Fremont Playhouse</td>
<td>A.D. 1000-1150</td>
<td>Fremont</td>
<td>Habitation</td>
</tr>
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<td>Site Name/Number</td>
<td>Time Period</td>
<td>Culture</td>
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<td>Sheep Shelter</td>
<td>A.D. 950 or 1000-1150 or 1200</td>
<td>Fremont</td>
<td>Storage</td>
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<td>Habitation</td>
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<td>Habitation</td>
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<td>Habitation</td>
</tr>
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<td>Fremont</td>
<td>Habitation</td>
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<td>Mantle's Cave</td>
<td>1770 B.C. - A.D. 1030</td>
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<td>Storage</td>
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<td>Ladder Shelter/Cave</td>
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<td>Red Rock B</td>
<td>400 B.C.-A.D. 1300</td>
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<td>Storage</td>
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<td>Big Bin Cave</td>
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<td>Pat's Cave</td>
<td>A.D. 1870-1914</td>
<td>Pat Lynch</td>
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<td>Undetermined</td>
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<td>Undetermined</td>
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<td>Fremont</td>
<td>Midden</td>
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<td>Habitation</td>
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<td>Undetermined</td>
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<td>Fremont</td>
<td>Campsite with Chipping Area</td>
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<td>Lowell Spring Site</td>
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<td>Archaic to Fremont</td>
<td>Habitation</td>
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<td>Open Campsite with Storage Features</td>
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<td>Ute and/or Shoshoni</td>
<td>Rocky Art and Chipping Area</td>
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<td>Fremont</td>
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<td>Fremont; Ute and/or Shoshoni</td>
<td>Habitation and Processing Site</td>
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<td>Fremont; Ute and/or Shoshoni</td>
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<td>Ute and/or Shoshoni</td>
<td>Piñon-Pitch Gathering Site</td>
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<td>Fremont</td>
<td>Rock Art</td>
</tr>
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<td>Fremont; Ute and/or Shoshoni</td>
<td>Community/Gathering Site</td>
</tr>
</tbody>
</table>

Table 2.1. Sites within Dinosaur National Monument and Castle Park Archaeological District

The earliest indications of humans in Dinosaur National Monument appear in Swelter Shelter (42UN40), Deluge Shelter (42UN1), Baker Cabin Spring Site (5MF190), 5MF132, and the Lowell Spring Site (5MF224). A Lake Mohave point, McKean points, a Cascade point, Scottsbluff and McKean points, and Duncan and Hanna points, respectively, dated these early occupations between 7000-6000 B.C. (Breternitz 1970). The inhabitants of Dinosaur National Monument continued with a highly mobile, foraging lifestyle, until about 400 B.C.
groups began practicing horticulture, made rod-and-bundle basketry, moccasins, and clay figurines (Madsen 1989). During this time, called the Formative Era (400 B.C. – A.D. 1300) by Bernard and Prokopetz (2005), the vast majority of structures are for storage and not habitation, indicating that the people living in the Monument were engaging in seasonal occupations of various sites (Bernard and Prokopetz 2005: Section 7, pp. 4).

The Formative Era in the Monument and Castle Park is comprised of three phases, the Early Fremont (A.D. 1-550), Scoggin Period (A.D. 550-1050), and the Wenger Period (A.D. 1050-1300). Bernard and Prokopetz (2005) note that classifying sites within these periods is conditional, and based on the presence of particular projectile point styles. The Early Fremont period is typified by Rose Springs points, which appear in the Monument around A.D. 450. Site with both Rose Springs and Uinta Side-Notched points indicate dates post-A.D. 550 (Bernard and Prokopetz 2005). The Wenger Period is characterized by the appearance of Cottonwood Triangular and Desert Side-notched points, and the Formative Era as a whole, is characterized by the presence of ceramics (Bernard and Prokopetz 2005). The ceramics most pervasive in the Monument and Castle Park Archaeological District are calcite-tempered-grayware sherds, similar to sherds in northeastern Utah that date to A.D. 1050-1300 (Breternitz 1970; Bernard and Prokopetz 2005).

The last stage of occupation prior to the arrival of European explorers and colonists is called the Protohistoric Era, and dates to A.D. 1300-1881. This era is comprised of the Canalla phase (A.D. 1300-1650) and the Antero phase (A.D. 1650-1881), both of which are determined by specific site attributes (Bernard and Prokopetz 2005). The Canalla phase is characterized by Cottonwood and/or Desert Side-notched points, along with seasonal-habitation architecture like wikiups, brush structures, and teepees (the evidence for which is seen in teepee rings and circular
depressions) (Bernard and Prokopetz 2005: Section 7, pp. 5). The Antero phase is characterized by the identification of historic groups like the Arapahoe, Ute, and Shoshonis, the evidence for whom is seen in teepee rings/poles, pine-pitch gathering sites, and historic artifacts associated with indigenous architecture (Bernard and Prokopetz 2005; Breternitz 1970).

Ultimately, what should be taken away from this quick overview is that the people inhabiting Dinosaur National Monument seem to have maintained a more-or-less mobile lifestyle from the Archaic until contact with Europeans. This foraging lifestyle is reflected in the various site types throughout the Monument, and seems to speak to a seasonally-attuned use of land. The amount of maize, gourds, and other floral domesticates recovered from the Monument (like the maize from Mantle’s Cave) attests to the fact that inhabitants of the canyons were practicing some agriculture, too.

Castle Park Archaeological District, specifically, saw its heaviest occupation from A.D. 550-1300, but also had protohistoric and historic occupants as well (Bernard and Prokopetz 2005). Mantle’s Cave, which is in Castle Park Archaeological District, reflects the seasonal-site-use pattern, though it differs in the percentage of storage features compared to other sites in Castle Park Archaeological District. Bernard and Prokopetz (2005: Section 7, pp. 9) note that ninety-four percent of all sites have one feature, with fifty-two percent of features being related to storage. This value is “skewed by Mantle Cave, 5MF1, with 54 distinct storage features” (Bernard and Prokopetz 2005: Section 7, pp. 9). If Mantle’s Cave is removed from the group, artifact scatters are the most common type of site (twenty-seven features, seventeen percent), and the majority of sites (nineteen sites, fifty-nine percent) have one to three features, “supporting the concept of a transient occupancy” within the Monument (Bernard and Prokopetz 2005: Section 7, pp. 9).
**Mantle’s Cave**

Mantle’s Cave is located in Cliff Canyon, in Castle Park Archaeological District, both of which have been nominated to the National Register of Historic Places (Bernard and Prokopetz 2005; Horn and Reed 1989; Figure 1.1; Figure 2.2). More specifically, the site is located in the southwest corner of section 18, Township 6 North, Range 102 West, Moffat County, Colorado. The cave faces north, approximately 450 meters south of the Yampa River, and is situated under a structural bench (which runs parallel to the river) in the “Permian and Pennsylvanian-aged Weber sandstone” (Horn and Reed 1989: Section 7, pp 1). As of 1994, when this site was registered, the canyon floor leading up to the site had thick stands of chokecherry and box elder trees, while the bench above the site had piñon and juniper forests with sagebrush in between. Gaining access to the site requires a permit to raft down the Yampa, or a vehicle which can navigate the Yampa Bench Road (which is not paved). However, the Yampa Bench Road is about 100 meters above the site, so the cliff face must be surmounted (Bernard and Prokopetz 2005).

The cave itself measures 100 meters east-west, is about 40 meters from the mouth of the cave to its back, and is roughly 3,140 square meters in area (Horn and Reed 1989: Section 7, pp 1; Lister 1985: 51; Burgh and Scoggin 1948: 22). There is a large talus cone within the entrance of the cave, which reaches seven-meters above the cave’s floor (Horn and Reed 1989: Section 7, pp 1; Burgh and Scoggin 1948: 22). Parallel to the talus cone, rock fall from the cave’s ceiling runs roughly 61 meters east-west. Burgh and Scoggin (1948:22) indicate that the rock fall must have occurred before or during use of the cave, as there are masonry granaries on top of the “sandstone rampart”. The ceiling of the cave is approximately 33 meters above the floor, which is basin-shaped, gently sloping, and consists of yellowish sandy soil and sandstone blocks that
have fallen from the ceiling (Horn and Reed 1989: Section 7, pp 1). Overall, the climate in the
cave is relatively stable, cool, and dry; creating an excellent environment for artifact preservation
(http://cumuseum.colorado.edu/Research/Anthro/MantlesCave/index.html).
Figure 2.2. Plan View of Mantle's Cave (Burgh and Scoggin 1948: 23).
Mantle’s Cave was named after Mr. and Mrs. Charles Mantle, the property owners of the site at the time it was excavated (Horn and Reed 1989: Section 7, pp. 2; Scoggin and Burgh 1948: 22; http://cumuseum.colorado.edu/Research/Anthro/MantlesCave/index.html). Mantle’s is the largest cave in Castle Park with visible precontact features, and has attracted numerous visitors throughout the years (Scoggin and Burgh 1948: 5; Horn and Reed 1989: Section 7, pp. 2). Reportedly, Mr. and Mrs. Mantle first found the cave prior to 1921, after which time Mrs. Mantle reportedly excavated part of the site (Brown 1933). In 1933, the Penrose-Taylor Expedition, “a joint venture by Colorado College and the Fountain Valley School”, surveyed Yampa Canyon for precontact sites and excavated a small portion of Mantle’s Cave (Horn and Reed 1989: Section 7, pp. 2; Brown 1933; Burgh and Scoggin 1948: 22). They named the site “Cave One”, and designated four sites within the alcove, based on clusters of slab-lined pits (area A), two granaries (area B), and two possible structures (areas C and D) (Brown 1933; Horn and Reed 1989: Section 7, pp. 2; Burgh and Scoggin 1948; Lister 1985). During the Penrose-Taylor excavation, several undecorated pot sherds were recovered, as were pieces of basketry, corn, buckskins, and wood (Burgh and Scoggin 1948; Horn and Reed 1989: Section 7, pp. 2). In 1939, two Boulder, Colorado residents (Frank C. Lee and JR Jones) returned to the cave and recovered a basket, within which were fishhooks, snares, and netting (http://cumuseum.colorado.edu/Research/Anthro/MantlesCave/index.html).

Lee and Jones showed their finds to Earl Morris at the University of Colorado Museum of Natural History, and the University of Colorado at Boulder conducted two field seasons in 1939 and 1940 (Horn and Reed 1989: Section 7, pp. 2; Burgh and Scoggin 1948; http://cumuseum.colorado.edu/Research/Anthro/MantlesCave/index.html). Charles Scoggin, a
student assistant at the museum, directed the excavations during these field seasons, excavating 530 sq. meters or 17% of the site (Horn and Reed 1989: Section 7, pp. 2; field notes on file at the University of Colorado Museum of Natural History). His excavations consisted of trenches and test units. Though never explicitly stated, trenches were probably those excavation units that were more than one-meter in length, while test units were one-by-one meter excavation units. This assumption is based on my own knowledge of archaeological excavation methods. These preliminary excavations focused on the visible features, with special attention given to the cluster of pits at the western edge of the site, the portion of the site near the alcove wall toward the central area of the cave, and the “low-lying areas in the central and eastern portions of the site” (Horn and Reed 1989: Section 7, pp. 2). The “low-lying” areas were most likely thought to be depressions indicating possible structures, demarcated by the Penrose-Taylor expedition.

The objectives of these excavations were to determine various occupational strata and to “look for chronological and cultural evidence that would relate the site to the archaeology of adjacent regions” (Burgh and Scoggin 1948: 22). Mantle’s Cave, as noted above, is at the northern periphery of Ancestral Puebloan land, within the Great Basin, and on the eastern edge of the land used by the enigmatic Fremont “culture” (described in Chapter 3). Some of the artifacts located within the cave appear to represent a mixture of cultural influences, as indicated by the way in which some of the baskets and mats were manufactured (Adovasio 1986). Thus, the site’s original excavators were hopeful that by linking Mantle’s Cave chronology to that of the surrounding area, they may be able to determine which group used the cave (Burgh and Scoggin 1948: 22).

However, since the cave served purposes other than habitation, there were no defined occupational strata (Burgh and Scoggin 1948: 22; Lister 1985: 52-53). Furthermore, the floor of
the cave was uneven with mixed cultural materials caused by bioturbation, eolian deposits, and precontact-people digging out the pits, filling in others, and re-excavating older ones, as well as later historic disturbance (Lister 1985; Burgh and Scoggin 1948; Horn and Reed 1989). The field crew had a difficult time determining the site’s chronology, deciding it dated between A.D. 400 and A.D. 800 (Burgh and Scoggin 1948:89). They arrived at that time span because it was known that the Uinta Fremont (described in Chapter 3) were in that area from A.D. 550- A.D 1000, and perhaps as late as A.D. 1300 (Spangler 2000). The artifacts attributed to the Uinta Fremont were similar enough to the Mantle’s assemblage that the excavators felt secure in using the Uinta Fremont chronology for Mantle’s assemblage. When later scholars dated the material from Mantle’s, its chronology became better defined to approximately 1600 B.C. to 1200 A.D. (Truesdale 1993; Goff 2010; see Chapter 6).

World War II disrupted work in the cave, and sadly, Charles Scoggin lost his life during the war (http://cumuseum.colorado.edu/Research/Anthro/MantlesCave/index.html; Horn and Reed 1989: Section 7, pp. 3). Robert Burgh of the University of Colorado Museum returned to the site in 1947 and 1948, to continue the excavations. Burgh excavated one test pit in the center of the cave in an attempt to discover lower (and earlier) levels of occupation, but found only sterile sand and silt deposits (Horn and Reed 1989: Section 7, pp. 2). Burgh also excavated a unit toward the eastern side of the cave, finding a storage pit and a mano 38 centimeters below the modern ground surface in the cave, which he determined was similar to Fremont mano varieties (Horn and Reed 1989: Section 7, pp. 2; Burgh and Scoggin 1948). All together, the excavators determined that cultural deposits were shallow, most often between fifteen and thirty-eight centimeters below modern ground surface (Burgh and Scoggin 1948; Horn and Reed 1989: Section 7, pp. 2).
Mantle’s Cave is highly unusual and perhaps unique compared to other sites in Castle Park Archaeological District; it had fifty-four storage features, while sites with five to eleven storage features come in second (Bernard and Prokopetz 2005). Bernard and Prokopetz (2005: Section 7, pp. 10) note that most of the materials kept in storage or cached were domestic and wild foodstuffs, while other pits contained “ceremonial and utilitarian items put away for a later time”.

I propose that it may be misleading to assume that objects deemed neither utilitarian nor for obtaining food, have to be ceremonial – an argument I introduce here and develop in Chapter 5. The Western tradition of keeping the sacred and secular discrete should not be assumed to exist in other cultures. If the people using Mantle’s Cave did not separate the sacred and secular, labeling certain artifacts “ceremonial” is problematic. The ethnographic analysis (discussed in Chapter 5) implies that while feathers are used in ceremonial and religious contexts, they were not necessarily thought of in that way. Therefore, it may be misleading to assume that Mantle’s Cave was used to store objects of religious significance, and instead was storing objects considered integral to day-to-day life.

Storage Pits in Mantle’s Cave

While fifty-four precontact features were originally identified, at the time the site was nominated to the National Register of Historic Places, only thirty-six remained visible (Burgh and Scoggin 1948; Horn and Reed 1989: Section 7, pp. 3). Thirty-five of the features have been classified as storage pits and are found throughout the site, while the other feature is a rock art panel with both precontact and historic markings (Horn and Reed 1989: Section 7, pp. 3). A major concentration of storage features occurs toward the western edge of the cave, with over thirty pits revealed in this location (Figure 2.2). Burgh and Scoggin (1948) noted two different
types of pit; earthen and slab-lined. Horn and Reed (1994) grouped the granaries in with the slab-lined storage pits, and since the criteria they used got this site onto the National Register of Historic Places, the same criteria will be used in my descriptions.

The earthen pits were dug into the compacted silt and sand of the cave floor and were often bell-shaped. Horn and Reed (1994: Section 7, pp. 5) noted that digging sticks were used to excavate the earthen pits, and that their marks can still be seen on some of the pits’ walls. The necks of the earthen pits were constricted, perhaps for support of a stone-cover, and many had mud coping around the rim whose reddish-brown color contrasted sharply with the dark brown soil into which the pit was dug. There was also evidence that some of the pits had been plastered with the same reddish-brown soil that had been used as the coping (Burgh and Scoggin 1948: 32; Horn and Reed 1989: Section 7, pp. 5). These pits varied in size, fluctuating between 20 and 7-centimeters in diameter, and anywhere from a few centimeters to almost a meter deep (Burgh and Scoggin 1948: 32).

The slab-lined pits and/or granaries were mostly constructed in the central part of the cave, and had both vertical sandstone slabs and coursed masonry (Horn and Reed 1989: Section 7, pp. 5). These features are of specific interest, since other similarly constructed pits and granaries are found throughout Yampa Canyon (Burgh and Scoggin 1948: 32). The slab-lined pits have diameters between 38 centimeters and 61 centimeters, with depths of 25 to 38 centimeters. The granary diameters ranged from 46 to 127 centimeters, with heights of 38 to 61 centimeters. Mud and grass materials were used to create the mortar into which the slabs were laid. Burgh and Scoggin (1948: 31-32) proposed that all the pits (and granaries) had been used for food storage, and that the food had been removed by precontact peoples using the cave, since all they found were scraps of corncobs and pieces of other unidentifiable foodstuffs.
As stated above, one of the prime objectives Burgh and Scoggin (1948:22) had while excavating this site was to determine its cultural affiliation with other sites in the area. While the lack of formal housing structures, pottery, and strata made this goal difficult, the researchers concluded that the assemblage was Fremont (described in Chapter 3). They came to this conclusion by comparing Mantle’s Cave assemblage to other known Fremont sites, both within and beyond the Monument. To summarize, Burgh and Scoggin felt there were enough similarities between the few potsherds they recovered, the pair of moccasins recovered from Cache 3 (see Appendix A), the way in which cordage was twisted (Z-twist), and how the various pits were excavated and constructed to conclude that the Fremont inhabited the cave (Burgh and Scoggin 1948; Goff 2010: 46). A more detailed analysis of the artifacts and a critical assessment of the Fremont attribution will be dealt with in the analysis (Chapter 6) and conclusion (Chapter 8).

Mantle’s Cave was used as a storage/cache site, given that all but one feature, the rock art panel. There is almost no evidence proving people used the cave as a habitation site, and here are the four lines of evidence against habitation. First, if people had used the cave has a living area, there would have been evidence of people sharpening and making new tools. Debitage was not present on the surface of the cave’s floor, and only a few lithic items were found in excavations (Burgh and Scoggin 1948). Second, the excavators found very little charcoal and ash, and recorded no hearths (Burgh and Scoggin 1948). If people had used the cave as a living area, there would have been evidence of formal hearths, charcoal, and ash from all the required cooking and heating. Third, the excavators found no evidence of a midden, and had there been people living in Mantle’s Cave, there would have been physical evidence of their refuse (Burgh and Scoggin 1948). Lastly, the excavators found neither human remains in the cave nor enough
sherds (only two vessels worth; Burgh and Scoggin 1948: 66) to indicate that Mantle’s Cave was used as a habitation site (Burgh and Scoggin 1948). Horn and Reed (1994: Section 7, pp. 5) suggest that the reason the cave was not inhabited for long periods of time was due to its northern exposure, which would have made it uncomfortably cold from late fall to spring.

Supporting this interpretation, Bernard and Prokopitz (2005, Section 7, pp. 1 and Section 8, pp. 32) suggest that the recovered cultigens from Mantle’s Cave and its orientation are evidence of warm-season occupations. They argued that because the cave stays cool in the summer (due to its northern exposure) and there are south-facing growing areas nearby, the site would have been occupied during warmer seasons. The important information to take away from this is that this cave was not inhabited, and that people very rarely (if ever) stayed for long periods of time.

**Similar Site-Types in Dinosaur National Monument and Castle Park**

In this section, those sites in Dinosaur National Monument and Castle Park that reflect similar uses as Mantle’s Cave will be discussed. The caves whose cultural affiliation is well understood will be most salient to this thesis, since in comparing those assemblages with Mantle’s Cave, the cultural identity of Mantle’s assemblage may come to light. Castle Park Archaeological District is depicted on Figures 2.4.
Figure 2.3. Castle Park Archaeological District with Mantle’s Cave, Basket Cave, and Marigold Cave Circled (Burgh and Scoggin 1948: 16).

Basket Cave

Basket Cave is located northwest of Mantle’s Cave (Figure 2.3), and is also characterized as a storage site (Table 2.1). Like Mantle’s Cave, Basket Cave contained no evidence of structures, hearths, or any other indications that people used the site for habitation (Yampa Canyon Fieldwork notes 1939-1940, UCM archives). This site apparently contained deposits of feathers too, though the Analysis Chapter (chapter 6) presents questions and issues encountered with this interpretation. Burgh and Scoggin (1948: 20) note that the artifacts “were mostly fragmentary”, though they are “of great value as a series of comparisons with artifacts from Mantle’s Cave”.

Marigold Cave

Marigold Cave is located northeast of Basket Cave, and was used for habitation (Burgh and Scoggin 1948: 19; Figure 2.3; Table 2.1). Evidence of at least five “house floors or living areas, fire places, and remnants of masonry granaries” were found within, as were feather fragments and clay bird figurines (UCM 6638, Figure 2.4) (Burgh and Scoggin 1948: 19). This site is of interest to this thesis because these objects were found at a habitation site, close to two sites (Mantle’s and Basket) which also contained feathers, but no habitations. This contrast may prove helpful in answering the research question.

Similar Sites in the Southwest and Great Basin

In this section, overviews will be provided for cave sites in the Southwest and Great Basin (discussed in more detail in the analysis, Chapter 6). Stated elsewhere, previous research indicates that Mantle’s Cave might be culturally identified with Fremont, Ancestral Puebloan (Basketmaker), and/or Desert Culture peoples. The sites listed in Table 2.2 were chosen because of their chronological similarities to Mantle’s Cave, and/or because feathers were part of the sites’ assemblages, and/or because the sites displayed cultural influences similar to those seen in Mantle’s Cave.
### Table 2.2. Caves Sites from the Southwest and Great Basin with Feathers

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Time Period</th>
<th>Cultural Affiliation</th>
<th>Site Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken Flute Cave</td>
<td>A.D. 490-800</td>
<td>Basketmaker III</td>
<td>Habitation</td>
</tr>
<tr>
<td>Obelisk Cave</td>
<td>A.D. 470-489</td>
<td>Basketmaker III</td>
<td>Habitation</td>
</tr>
<tr>
<td>Cave du Pont</td>
<td>A.D. 217</td>
<td>Basketmaker II</td>
<td>Storage</td>
</tr>
<tr>
<td>Mummy Cave</td>
<td>7,280 B.C. –A.D. 1610</td>
<td>Paleolithic to Shoshoni</td>
<td>Habitation</td>
</tr>
<tr>
<td>Lovelock Cave</td>
<td>2500 B.C. –A.D. 1835</td>
<td>Lovelock Culture; Northern Paiute</td>
<td>Habitation</td>
</tr>
</tbody>
</table>

**Broken Flute Cave**

Broken Flute Cave is located in the Prayer Rock District, Atahonez Canyon, Apache County, Arizona (Morris 1980). It was chosen for comparison with Mantle’s Cave because it dates to the Basketmaker time period (A.D. 490-800), and because the people using Broken Flute Cave deposited feather bundles, prayersticks, and modified feather-quills strung on yucca fiber. This site contained sixteen pithouses, sixty-five storage pits, and one potential great kiva, and provides an interesting point of comparison with Mantle’s Cave (Morris 1980). Explored further in Chapter 6, the ways in which the feathers were deposited in Broken Flute Cave may indicate or suggest cultural similarities between the group(s) using Mantle’s Cave and Broken Flute Cave.

**Obelisk Cave**

Obelisk Cave is also located in the Prayer Rock District, just south of Atahonez Canyon, Apache County, Arizona (Morris 1980). Used primarily as a habitation site, Obelisk Cave’s assemblage included a feather box which contained seven bundles of feathers (Morris 1980: 131). Their provenience was listed as “General”, so the conclusions drawn in the Analysis Chapter are only preliminary. Still, Obelisk Cave represents a Basketmaker, or Ancestral Puebloan site, which makes it a good candidate for comparison with Mantle’s Cave. The implications for their relationship will be further discussed in Chapter 6.
Cave du Pont

Cave du Pont is located approximately 12.8km northwest of Kanab, Utah in Cave Lake Canyon (Nusbaum et al. 1922). Known for being the first site to prove that Basketmaker II groups were living elsewhere than southeastern Utah and northeastern Arizona, its significance for this thesis is the fact that the cave was only used for storage (Nusbaum et al. 1922). Characterized as containing thirty-one storage pits, Pit 4 is the only feature which also contained feather bundles. Chapter 6 explores the relationship between the feathers deposited in Cave du Pont and Mantle’s Cave, through the similarities and differences concerning their deposition and potential uses.

Mummy Cave

Mummy Cave is located approximately 54.7km west of Cody, Wyoming. It was inhabited by Paleoindians, archaic foragers, and historic Native American groups, from 7,280 B.C. – A.D. 1610 (Husted and Edgar 2002). Unlike Mantle’s Cave, Mummy Cave is a habitation site, though its chronology, cultural influences, and deposited feathers, provide the impetus for including it in this thesis. The relationship between the feathers from Mummy Cave and Mantle’s Cave will be further explored in Chapter 6, and will detail how the distinct cultural influences seen in Mummy Cave (Desert Culture and proto-Shoshoni) and Mantle’s Cave (Fremont and Basketmaker) may have significant implications for Fremont identity.

Lovelock Cave

Famous for its cache of duck-decoys, Lovelock Cave was inhabited from 2500 B.C. – A.D. 1835, and lent its name to the “Lovelock Culture”, characterized by its reliance on marsh-type habitats (Loud and Harrington 1929). Used both for storage and for habitation, the
abundance of feathers (over 300) cached within Lovelock Cave, provides the impetus for its inclusion in this thesis. Discussed at length in Chapter 6, Lovelock Cave’s comparison with Mantle’s Cave adds to the evidence that the groups using both sites were probably interacting within the same ideological sphere.

**Summary**

This chapter provided most of the background knowledge for understanding the purpose of this thesis, and demonstrated the importance of studying the feather-assemblage from Mantle’s Cave. An overview of the formation of Dinosaur National Monument’s was provided, in addition to a description of the Monument’s environment. Both the re-discovery of Mantle’s Cave and its excavation by multiple parties were discussed, followed by synopses of cave sites considered for the comparative analysis (Chapter 6).
Chapter 3: Overview of Fremont Archaeology

Introduction

Since the first European settlers explored Utah, the presence of large communities that look similar to Ancestral Puebloan villages, but also distinct from these southern neighbors, has intrigued Great Basin and Southwestern archaeologists alike (Janetski 1997). Complicating this puzzle were the presence of small, foraging-based, extended family-based pithouse settlements, spread sparsely over the landscape west of the Wasatch range (Gunnerson 1969). Were the people who practiced maize-based agriculture along the Wasatch Front related to or part of the same culture that belonged to the people practicing a foraging economy, living in family households west of the mountains? How were they related, if at all, to the Ancestral Puebloans further south? Perhaps these questions were perceived to be too difficult to answer in the early to mid-20th century, so those archaeologists studying the “Fremont” focused on Fremont subsistence, behavior, and ecology (Steward 1933a, Gunnerson 1969, Madsen 1989). While these studies were (and are) important, this focus meant that aspects of Fremont social organization, ideology, non-subistence activities, etc., were largely ignored (but see Hockett 1998; Janetski 2002; Simms 2010).

Foraging Farmers in Utah

This pervasive research biases reflects the trials and tribulations “Fremont” has gone through to gain recognition as a distinct group of people from the dominant Southwestern groups. The concept that the farmers and foragers living in Utah may be related to the Ancestral Puebloans started as early as the late 19th-century. The first archaeological work to be reported in this area was done in 1872, and was completed by collaboration between the United States Geographical Society, geological explorations, and surveys “west of the one hundredth
meridian” (Gunnerson 2009: 5). Around 1876, Dr. Edward Palmer excavated a mound near St. George, Utah and asserted that the pottery from the mound was related to other Southwest types (Gunnerson 2009: 5; Figure 3.1).

In 1886, using Palmer’s collections from northern, central, and southwestern Utah, W.H. Holmes noted the similarities between pottery found along the Virgin River and Kanab, Utah to those specimens found in the Four Corners area (Gunnerson 2009: 6). Notably, Holmes also realized that there were differences in the pottery made in the western half of Utah from the north to the south (Gunnerson 2009: 6). Building on the notion that the western half of Utah may be culturally different from those sites east of the Wasatch Range, Henry Montgomery synthesized the data from a number of sites. He concluded that there was greater similarity between sites in western Utah than between sites in western Utah and the Four Corners area (Gunnerson 2009: 6).
Alfred V. Kidder’s “Northern Periphery”

At the beginning of the twentieth-century, the “Fremont” were neither named nor conceived of as such. In 1924, Alfred Kidder described the farmers in Utah as the “northern peripheral area” to the southwest (Kidder 2000: 244). This set the stage for decades of debate concerning whether the “Fremont” were a “northern periphery” to the Ancestral Puebloan groups, or if they were a distinct culture in their own right. Echoing Kidder’s assertion that Utah farmers were part of the Puebloan world, Neil Judd went further, stating that all Great Basin farmers were Puebloan (Judd 1926). Seven years later, Julian Steward published Early Inhabitants of Western Utah, and supported Kidder’s assertion that this area was the “Northern Peripheral Area” (Steward 1933a). Steward, in his evolutionary-ecologically driven paradigm, determined that the Fremont culture resulted from a comingling of Great Basin and Southwestern people (Steward 1933a). When their horticultural systems collapsed, Southwestern people went back down south, Great Basin people turned to a foraging lifestyle, and subsequently, the Numic-speaking peoples (who later became the Ute, Shoshoni, and Paiute) came in and moved into the void left by the horticulturalists.

Noel Morss’ Fremont and In-Situ Development

In 1931, Noel Morss published The Ancient Culture of the Fremont River in Utah, and finally gave a name to these farming and/or foraging peoples; i.e. the Fremont (Morss 1931). Morss states that “the Fremont culture shows that it is not an integral part of the main stream Southwestern development”, but on the same page states that “the influences which moulded [sic] the Fremont culture appear to have been Southwestern” (Morss 1931: 77). In less than a full page of text Morss demonstrated the tension felt by Fremont/Southwest archaeologists; from
a macro-scale view the Fremont look like they belong with other Southwestern groups, but at the
micro-scale they look like a discrete group of people.

It took over two decades for a new interpretation of who the Fremont were to develop. In
1953, Jack Rudy declared that calling the area inhabited by the Fremont the “northern periphery”
masked the distinctive nature of sites in Utah and marginalized these people to the “more
impressive” Southwest (Rudy 1953: 168). The notion that the Fremont were on the periphery of
the Puebloan world was further critiqued by Jennings and Norbeck in 1955. They suggested that
the Fremont culture was an indigenous development out of the Desert Archaic (for more
information regarding “in situ” development see Adovasio 1975, 1979), with added elements
diffused from the Southwest; but Fremont was definitely an indigenous development of the
Desert Culture. Their suggestion that Fremont began in the Desert Culture also explained the
Fremont’s “disappearance”. According to Jennings and Norbeck (1955: 7), the “disappearance”
of the Fremont was seen as an inability of the Fremont to adjust to their environment. To clarify,
Jennings and Norbeck (1955) did not argue that the Fremont physically disappeared from the
landscape, but because they could not adjust to their environment, they began practicing the old
Desert Culture way of life, which inevitably changed their archaeological signature, hence their
“disappearance”.

This shift in lifestyle was characterized by a return to their original Desert Culture
lifeway, a lifestyle anciently adapted to the arid conditions of the region. This hypothesis was
put forth during a time in which the appearance of Numic speakers in the Great Basin was under
considerable debate. The Jennings-Norbeck hypothesis specifically implied that the Numic-
speaking Shoshoni, Ute, and Southern Paiute, who occupied the area in historic times, were the
direct physical, linguistic, and cultural descendants of the Fremont and their Archaic Desert
Culture predecessors. Thus, not only were Fremont origins and endings discussed and explained, but their descendants were identified.

Adovasio et al. (2002, 2008) support an in-situ argument for the Fremont as well. By studying all “342 specimens of basketry in 18 archaeological sites with Fremont or Fremont-related components” (Adovasio et al. 2002: 125) Adovasio et al. (2002, 2008) make a compelling argument for their indigenous development. Though the authors’ analysis (Adovasio et al. 2002: 20) did show there was internal variation (interlocking stitching in the north, non-interlocking in the south; whole rod foundation coiling in the Uinta Basin and Parowan Valley, half-rod and wet-stacked foundation coiling scarce everywhere other than in Parowan Valley) among Fremont basket-manufacturing techniques, “the basic affinities of Fremont basketry, both twined and coiled, are to earlier Archaic industries” in those areas (Adovasio et al. 2002: 20). They go on to argue that Fremont populations can only be tied to their Archaic predecessors, and are “unrelated to any contemporary or later industries” that develop in those areas (Adovasio et al. 2008: 127).

Unlike the other studies mentioned above, these authors do not attempt to provide answers to “how” the Fremont became “who” they were or became, or “where” they went. Instead, these studies focused on identifying the Fremont as they were, finding a somewhat-cohesive identity through the analysis of basketry. As they said:

“Fremont basketry can be readily distinguished from the basketry of the Anasazi, Hohokam, Mogollon, or penecontemporaneous Idaho or Great Basin foraging cultures and, hence, may be confidently used as an ethnic boundary signature of their makers” (Adovasio et al. 2002: 26).

Though questions still swirl around Fremont identity today, these studies provide solid evidence that the people making Fremont baskets were taught by people with the same basket-making knowledge. Whether this means everyone making Fremont baskets identified as part of the same
group, is moot. As Adovasio et al. (2002) showed, Numic speaking groups identify as being more-or-less connected to one another, but their basket making techniques and forms have many variations (Adovasio et al. 2002: 22). The various Apache groups speak different languages, have different ethnic identities and different subsistence systems, but all their baskets are indisputably Apache. (Adovasio et al. 2002: 25). In the end, the studies completed by Adovasio et al. (2002, 2008) provides very solid evidence that whomever the Fremont were, they were probably descended from in-situ populations that practiced and learned very similar (if not the same) basket-making techniques.

*The Fremont According to Gunnerson: the Northern Periphery and the Kayenta, Tusayan, Desert and Sevier Cultures*

Gunnerson (1960: 1) somewhat agreed with the “northern periphery” arguments. Gunnerson said the Fremont:

“represent(ed) a rather sudden northward movement of traits, and perhaps people, from the independently-developed, but Kayenta-influenced Virgin branch of the Anasazi… (and that) the Fremont were predominately Anasazi in character, but have) a few distinctive traits”.

Before going into these “distinctive traits”, Gunnerson attempted to develop a trait list that could be used for the entire Fremont area: villages were never large, with six to twelve pithouses at the most with the majority of habitation sites having only one to two houses; most settlements were found on low knolls or ridges adjacent to arable land; the Fremont used rock shelters and caves; their subsistence was based on maize, beans, squash, and some wild foodstuffs; and lastly, their rock art showed considerable homogeneity (Gunnerson 1960). The “distinctive traits” were dew-claw moccasins (found in the Yampa-Utah sites); one-rod-and-bundle basketry, distinctive trapezoidal anthropomorphs found in both rock art and clay figurines, and grayware pottery distinct from Southwest grayware types (Madsen 1989; Gunnerson 1960).
Gunnerson went a step further in his attempt to tie Fremont people to Ancestral Puebloan people, developing a pottery typology based on temper and their geographical location. According to Gunnerson (1960), there are two types of Fremont. The first type is found from the Uintah Mountains south to the Book Cliffs, and the second type is located south and west of Book Cliffs. The pottery north of the Book Cliffs is a plain grayware with crushed calcite as temper; this pottery is seldom decorated and is never painted. South and west of the Book Cliffs pottery is a plain grayware tempered with igneous rock. Interestingly, this pottery is often decorated (by tooling), is sometimes corrugated, and occasionally painted, the designs of which resemble Black Mesa, Sosi, and Dogozshi styles which come from the Kayenta and Virgin Anasazi branches (Gunnerson 1960). This locally made black-on-white and black-on-gray with the Sosi and Dogozshi styles were said to date to A.D. 900-1100 and A.D. 1070-1150, based on when these styles appeared in Ancestral Puebloan areas (Gunnerson 1960).

Gunnerson also cross-dated trade wares found at Fremont habitations, and using their known dates (Tusayan polychrome A.D. 1150-1300; Tusayan Black-on-red A.D. 850-1125; Tusayan Black-on-white A.D. 1225-1300), he extended Fremont chronology in Utah to the end of the fourteenth century. Dates extending to the beginning of Fremont sites (discussed below) had not yet been published. Gunnerson’s dates for Fremont pottery and Kayenta/Virgin Anasazi trade wares strengthened his argument for Fremont ties to Ancestral Pueblos. His dates fell into the accepted range of time thought to include Fremont origins and disappearances; the trade pottery supports an A.D. 950-1200 range for Fremont sites in the middle and south parts of the area (Gunnerson 1960).

Gunnerson’s (1960, 2009) work on Fremont archaeology also did much for the development of better definitions and descriptions concerning the Virgin Anasazi and Sevier
people (Figure 3.2). The Virgin Anasazi were first named the “Nevada” branch by Gladwin and Gladwin in the 1930s, and then renamed after the Virgin River by Colton in the 1940s (Gunnerson 2009: 7-8). Gunnerson, perhaps in an attempt to strengthen his Virgin-Fremont connections noted that similar to the Fremont, the Virgin culture was characterized by the retention of old traits with new ones being occasionally adopted (Gunnerson 1960; 2009).

Akin to the Fremont, the Virgin Anasazi also lacked slipped, Black-on-White pottery and kivas (Gunnerson 2009: 9). He goes further, noting that the Virgin Anasazi west of Escalante are more similar to the Fremont than they are to Virgin Anasazi peoples living east of the Kaiparowits Plateau (Gunnerson 1960, 2009).

Gunnerson also delineated two archaeological complexes north of Virgin Anasazi settlements and west of the Wasatch Range; the foraging Desert Culture, and the horticultural/marsh-adapted-foraging Sevier Culture (Gunnerson 2009; Madsen 1979; Jennings et al. 1956). The Desert Culture, according to Gunnerson, practiced a “simple hunting and gathering economy…that never became specialized, (and) had occupied the area during the past 10,000 or more years (Gunnerson 2009: 12). The people of the Sevier culture (also called the Sevier-Fremont by Jennings et al. 1956) were adept at exploiting marsh-land resources,
supplementing their wild foodstuffs with some maize agriculture (Gunnerson 2009; Madsen 1979: 720). The Sevier lived in pithouses, but also built jacal structures on the surface. Their pottery “is in the Anasazi tradition”, and is called Desert Gray Ware (Gunnerson 2009: 13). Sevier ceramics can be typed by the type of temper used, various surface treatments and/or decoration (Madsen 1979; Gunnerson 2009). These people, like the Virgin Anasazi and Fremont, produced unfired figurines, although they are not as elaborate as those found at Fremont sites. While Gunnerson’s intent was most likely to clear-up any discrepancies and/or misunderstandings concerning the cultural boundaries between Virgin-Sevier-Fremont-Ancestral Pueblan, he acknowledged the similarity in material culture between these areas:

“(…the) differences between Fremont and Anasazi are far less pronounced when Fremont is compared with the Virgin branch, and the same is true of the Sevier culture, whose closest Anasazi neighbor is Virgin” (Gunnerson 2009: 14; Gunnerson 1960).

**Aikens, Three “Sticky Wickets,” and how the Fremont were Influenced by Both In-Situ and Ancestral Puebloan Groups**

In 1972, C. Melvin Aikens re-opened the case on the Fremont, critiquing Jennings’ and Norbeck’s (1955) in-situ-Desert-Culture-argument. Aikens developed three “sticky wickets” through which the aforementioned hypothesis could not pass. First, the archaeological evidence showed no culturally specific common denominators between the Fremont culture and the cultures that succeed it within the same region. Rather, the evidence seemed to suggest socio-cultural replacement, rather than massive “deculturation” of the Fremont people (per Jennings and Norbeck (1956)). Aikens argues that this evidence supported the idea that the modern Numic inhabitants replaced the Fremont people, not that these modern-Numic groups were descendants of Fremont people. Lastly, he used provocative evidence from physical anthropology that suggested the skeletal morphology of the Fremont population looked more like
groups living as far north as the subarctic regions, and less like the Numic-speaking Shoshone, Ute, and Paiute who occupied the area historically (Aikens 1972).

Aikens offered his own hypothesis for Fremont origins and endings, seeming to play mediator to the “Northern Periphery” group (i.e. Steward, Gunnerson and Kidder), and the “in-situ” group (i.e. Jennings, Norbeck, Rudy). Aikens (1972) readily accepted the notion that the Southwest strongly influenced Fremont cultural realities, but also allowed for a degree of cultural continuity from the preceding Archaic populations. He postulated the assimilation of a sparse, pre-existing, foraging population by an immigrant Fremont population. Hypotheses and arguments cannot be divorced from the theoretical paradigms under which they operate, or the current topics of interest and debate. Hence, Aikens’ argument (like those put forth by Jennings and Norbeck 1955), fit into a larger debate taking place in Great Basin/Southwestern archaeology: Athapaskan migrations (Aikens 1972; Hall 1944; Haskell 1987). His hypothesis allowed for speculation that the Fremont population actually represented part of the southward spread of Athapaskan speakers. At the time of this publication (1972), the earliest Fremont sites dated to about A.D. 500, which is also when the Athapaskan migration was thought to have entered Utah and Western Colorado (Aikens 1972; Huscher and Huscher1942). Aikens further argued that the Numic expansion into the Great Basin around A.D. 1000 pushed the Athapaskan-speaking Fremont eastward onto the Plains, creating the Dismal River culture (Aikens 1972: 201-204). Though we now know Fremont sites date between “2,000 and 700 years ago”, Aikens did not have that information and supported his hypothesis by noting the probable linguistic affiliation of Dismal River people to Athapaskan languages (Janetski 2008: 105).

**Large Villages and Long Distant Trade**
During the 1980s, the Clear Creek Archaeological Project (CCAP) completely excavated the Five Finger Ridge site, proving to be one of the largest Fremont sites ever studied (Janetski 1999). One of the many goals of the CCAP was to “re-fit” Fremont archaeology back into the Southwestern farming trends by focusing on questions concerned with individual variation and large-scale patterning (Janetski 1999; Watkins 2006). By focusing on the “macro-scale”, the archaeologists working on the CCAP were able to identify broad patterns in most aspects of the archaeological remains (Janetski 1999). Perhaps one of the greatest “finds” revealed at Five-Finger Ridge, and subsequently, at other large Fremont villages, were the presence of both trade goods from the Pacific Coast and turquoise from various mines in the Southwest and Great Basin (Janetski 2002). (For discussion of trade, exotic goods, and how Kayenta, Virgin, and Fremont sites compare see Janetski 2002.) The evidence of long distance trade and the idea that Five-Finger Ridge, Caldwell, and Baker Village (Figure 3.3) may have been the centers for a directional trading system (see Renfrew and Bahn 2008: 375-376 for definition of “directional trading”), meant that the Fremont were more socially complex than was usually granted to these horticulturalists (Janetski 2002).
Figure 3.3. Map Shows Location of Fremont Sites, with Red Dots Over the Sites Mentioned in the Text (Janetski 2002; note, Five-Finger Ridge is within the Clear Creek Sites cluster)
The Perceived Malleability of the Fremont

Twenty-first century archaeology seems ready to acknowledge that large Fremont settlements may have had a degree of social complexity (Simms 2010; Allison 2008; Janetski and Talbot 2011). Allison (2008) suggests that because Fremont archaeologists have relied too heavily on hunter-gatherer studies and human behavioral ecology, the studies are centered on subsistence and settlement behaviors, ignoring the inherent complexities of sociopolitical realities. This ecological/evolutionary perspective generates models that are predictable, testable, and simple, yet it isolates the individual “from social contexts” (Allison 2008: 60). It also assumes that people are extremely plastic, “with few or no limits on individuals’ ability to modify their behavior in relation to changing ecological circumstances” (Allison 2008: 62).

This assumed malleability, and focus on subsistence and settlement patterns, has led the majority of Fremont scholars to conclude that the Fremont easily “switched” back and forth between full-time farming, to full-time foraging, to part-time farming with part-time foraging (Allison 2008; Gunnerson 1969; Madsen 1989). In actuality, Fremont scholars found what they anticipated: variability. The perceived ability of Fremont peoples to “switch” back and forth between different subsistence behaviors led some archaeologists to misinterpret the archaeological evidence. For example, when Backhoe Village (Figure 3.3) was originally excavated it was interpreted as a sedentary hunter-gatherer village, a phenomenon made possible by the presence of abundant wild resources (Madsen and Lindsay 1977). Allison suggests that the site was classified thusly due to “a desire to apply hunter-gatherer models to the Fremont”
The most common macrofossil type recovered was maize, indicating the people who lived at Backhoe Village grew much of their food. Additionally, the site was much larger than Madsen and Lindsay originally concluded, and the:

“…most compelling reason to reject the idea that Backhoe Village residents were sedentary foragers is the stable carbon isotope data…which suggests that the two analyzed burials from Backhoe Village had the highest dependence on maize of any analyzed Fremont individuals” (Allison 2008: 74).

Social Theory and Fremont Archaeology

Fremont archaeology may be in need of alternative theoretical perspectives, as Allison suggests. Allison argues that Fremont archaeologists should be utilizing the perspectives and theories generated by Southwest archaeologists, since both areas deal with precontact farming populations (Allison 2008: 57). Specifically, Allison urges Fremont archaeologists to engage with Practice Theory, which is concerned with the relationship between structure and agency (Allison 2008; Bourdieu 1977; Giddens 1979). In so doing, archaeologists should begin to see parallels between the social and adaptive changes that took place in the Southwest and Fremont areas between A.D. 600-900 and A.D. 1050-1280 (Allison 2008). In the past, Fremont archaeology has been isolated from Southwest theoretical traditions, “but most Fremont archaeology is the archaeology of farmers who were, in many ways, like farmers in the Southwest” (Allison 2008: 76).

Style and Identity in Fremont Archaeology

Building on Allison’s arguments, Janetski and Talbot (2011) tackle Fremont social organization by looking at stylistic differences at three social and spatial scales (Janetski and Talbot 2011; Wiessner 1983; Wobst 1977; Sackett 1986). Janetski and Talbot (2011:7) hypothesize that the Fremont would have used style both to aid in large-scale integration, and to
differentiate locally. The three social and spatial scales they investigate are: territories occupied by tribes as a whole; the macro-regions within tribal areas; and, individual band territories. At the first level, Fremont people expressed their shared identity through rock art, ceramics, figurines, and ornaments (Janetski and Talbot 2011: 7-8). “...it is this style, along with a core farming strategy that defines Fremont” (Janetski and Talbot 2011: 8). At the second level, or macro-regions, variations in material culture to appear, but the authors state that “these variants may simply be regional expressions of identity to set groups apart from neighbors” (Janetski and Talbot 2011: 9). This “active style” would be most visible in rock art variations, arrows, clothing, ornaments and body adornment (Wiessner 1983; Wobst 1977; Sackett 1986; Janetski and Talbot 2011).

The last level, or the individual band territories, would be marked by landscape features and built structures. The authors acknowledge the third level as the hardest to identify, but suggest the evidence for such would be found “…at the valley or neighboring valleys level…(with) social and economics networks within valleys or between proximal valleys…stronger than those with more distant valleys” (Janetski and Talbot 2011: 10). For example, the Wasatch front is made up of many river valleys, flatlands with arable soil, and deltas. Janetski and Talbot hypothesize that within the Wasatch front “macro-region” there would have been “local bands with intra-valley subdivisions” whose territories would have been “interconnected by kinship ties and by fluid membership” (Janetski and Talbot 2011: 11).

Parowan Valley and the Sevier River provide evidence that there were larger population centers than those noted above. The Parowan Valley is located in western Utah and is home to three well known Fremont sites: Summit, Parowan, and Paragonah. These three sites are characterized by large, aggregated villages, with over one hundred mounds at Paragonah alone.
Janetski and Talbot acknowledge that the valleys surrounding Parowan need more work (i.e. Cedar Valley, and the Beaver mounds), but the current evidence suggests that these three areas shared similar styles in ceramics, architecture, “gaming bones, and projectile points” (Janetski and Talbot 2011: 11). Along the Sevier River and its tributaries, the authors see social connections between Marysvale and Clear Creek Canyon in the south where “numerous village sites are spread out across some of the best watered farmlands in Utah (Janetski and Talbot 2011; 11).

**Social Complexity and the Fremont**

Essentially, Allison (2008), and Janetski and Talbot (2011) are arguing for community-based studies so that the social intricacies of Fremont life can be better understood. In 2010, Simms argued against the pervasive notion that all Fremont societies were egalitarian, stating that the endemic, enigmatic granaries were “part of the [Fremont] social fabric” and that “they reflect authority, alliances, and obligations that extend to matters well beyond their meager contents” (Simms 2010: 43-44). He uses the location of the granaries, sometimes in remote areas, occasionally placed near houses, often in places where everyone could have viewed them, and almost always perched on high cliffs, to support his hypothesis. Essentially, because most of the granaries at the large aforementioned villages were in locations that everyone could see, they must have had meanings and purposes other than food-storage (although they certainly did that too).

He argues that the granaries placed precariously on cliffs were not necessary to keep food away from marauding hands; the Fremont people who wanted to steal food could have easily done so from the granaries placed close to household structures. Instead, “the ostentatious inaccessibility of these strange cliff granaries symbolizes power”, going on to state that
“whoever controls the…cliff granaries…likely also controls most of the decisions about the fields and the other hoards of farmed food (Simms 2010: 44). Basically, the presence of granaries situated in dangerous-to-get-to-places helped prove that Fremont social organization went beyond that of individual heads of family.

Summary

Since their conception as a phenomena separate (but similar too) from their attention-grabbing Southwestern neighbors, the Fremont have been volleyed back and forth from camps championing in-situ Desert Culture origins, to scholars who perceive Fremont as the “back-country” cousins to the Ancestral Puebloans in the Southwest’s “Northern Periphery.” In all likelihood, the Fremont experienced a plethora of cultural influences, which may be why the attempts to force them into “in-situ” or “Northern Periphery” camps, do not work.

The fact that the Fremont remain an archaeological enigma is reflected in the fact that after more than half a century of research there have been no “satisfactory and explicit definition(s) of the Fremont”, and the two scholarly camps have yet to reach agreement (Madsen 1979: 711). The Fremont do not have to be carbon-copies of the Ancestral Puebloan peoples: they could have taken aspects of Ancestral Puebloan culture and made it meaningful to themselves. This perhaps explains why sites closer to the boundary between the Southwest and Great Basin exhibit greater similarities between Fremont and Ancestral Puebloan sites, while in the northern areas of the Great Basin their differences mount (Madsen 1989).

Archaeological cultures conventionally were defined and/or created by generating “trait lists” that allowed for more similar artifact assemblages to be grouped together as coherent units, which were then compared and contrasted against other assemblages less similar to the first group and more like each other (Renfrew and Bahn 2000). Though there have been critiques on
the definition and reality of archaeological cultures, the concept does aid archaeologists in their analyses and conclusions. Archaeologists utilize a number of methods and tools to engage with the archaeological record, and while some may misrepresent or garble the past, the creation and conception of archaeological cultures is a tool we cannot do without. So, while it may be that archaeologists “created” a culture called Fremont, which may or may not have actually existed in precontact times, its use as a descriptive, classificatory tool cannot be denied.
Chapter 4: Methods

Introduction

The original goal of this study was to investigate to which group or groups the artifacts from Mantle’s Cave could be attributed. The research focused on a close analysis of the feather bundles and feathered artifacts from the cave. A secondary intent of this inquiry was to explore the agency of feathers and the symbolism of both birds and feathers in modern Puebloan, Great Plains, northern Mexican, and Great Basin groups, to identify cultural practices that might indicate ethnicity or identity. My research question was: will the cultural identity of the artifacts from Mantle’s Cave be assisted by the study of animacy, the context in which the feathers were recovered, and the symbolism of birds and feathers in modern day Southwest, Great Basin, Great Plains, and northern Mexican groups?

The methods of inquiry will include an analysis on the theoretical perspectives concerning object-agency (animacy), how ideas and ideologies are culturally transmitted, and symbolism in the archaeological record (Mills and Ferguson 2008, Zedeño 2008, Brown and Walker 2008, Latour 2005, Robb 1998, Gosden and Marshall 1999, Gosden 2005, Tilley 2006, Johnson 1999, Hodder and Hutson 2003; Hoffecker 2011a, 2001b; Dawkins 1989, 1999). This will include a discussion of how archaeologists identify symbolically charged artifacts and artifacts with animacy in the archaeological record. Comparative cave sites from Dinosaur National Monument, the Southwest, and Great Basin with similar artifact assemblages to Mantle’s Cave, and with better understood cultural influences, will be analyzed. In so doing, similarities may be discovered between those sites’ formation processes and Mantle’s Cave. This data will be extrapolated to make inferences regarding the cultural identity of the feathers from Mantle’s Cave.
Theoretical Perspectives

Object-Agency and Animacy

In the past, archaeologists working within scientific intellectual traditions have constructed dualisms between the mental and material realms of existence. Yet, as Brown and Walker rightly pointed out, “animate objects and non-human beings are active agents of many societies today, and presumably were in the past (Brown and Walker 2008: 297). They suggest that by taking animism seriously, a framework may be developed that allows archaeologists to recognize patterns not seen by other theoretical perspectives. The term they use to explain these “animate objects” and “non-human agents” is animacy, and will be defined below (Brown and Walker 2008: 298). Since animacy is a type of object-agency, a brief overview of how object-agency has been conceived of in archaeology follows.

Prior to the development of animacy as a concept, object-agency was conceived of quite differently. In archaeology’s past, materiality and objects used to be thought of as those things that were “fleshy, corporeal and physical…as opposed to the imaginary, ideal (and) spiritual” (Tilley et al. 2006: 3). Objects could not have their own agency outside that which is placed upon them by human agents. Hence, with the processual perspective, material culture was thought of as a form of text, “something to be read and decoded” (Tilley 2006: 7). From this viewpoint, objects were inert masses waiting for a human agent to come along and place upon them “values… (and) meaning” (Tilley 2006: 7, Gosden and Marshall 1999). Even though this perspective, Marxist, and semiotic approaches to object-agency fall short of viewing all the ways in which an object may have agency, they did strive to delve beneath the surface in order to reveal the fundamental structuring and rules of material culture (Tilley 2006: 8).
These perspectives contrast with the phenomenological approach to agency, which linked the mental and material world together (Tilley 2006: 8, Thomas 2000). This approach was well used by Thomas during his study of megalithic tombs. By incorporating aspects of landscape, the impressions he received through his senses, (the way that passing through and around the tombs made him feel), he developed a more holistic, intuitive approach than the scientific and processual perspectives. He focused on the embodied experience of Neolithic peoples. As Hodder and Hutson said, “if culture is grounded in the human body, than any account of past cultural meaning must attempt to reconstruct sensual experience and the body as lived” (Hodder and Hutson 2003: 114). While it would be hard to refute Hodder’s and Hutson’s assertion, the problem with this approach is that there is no real methodology. Furthermore, it does not account for the fact that no one person experiences things exactly the same, let alone when one is trying to “experience” things as they were thousands of years ago.

Any discussion about agency and object-agency must include perspectives from Bourdieu and Giddens. Bourdieu’s concept of agency is of “particular relevance to archaeologists because he develops his theory in relation to material culture and the use of space” (Hodder and Hutson 2003: 90). For Bourdieu, agency was mediated through practical embodied routinized activity in the world, while Giddens saw actors and their praxis as the medium for, and outcome of, habitus (Giddens 1979; Bourdieu 1977). It is important to note that while many of these perspectives were striving to derive the meaning of objects, this should not be archaeology’s only goal. “…things are significant in relation not so much to what they mean in the world…as to what they do: the influence they exert on persons (Tilley 206: 10). Essentially, the above-discussed concepts are human-based, and do not take into account the idea that past peoples may have conceived of objects as having an agency outside that which is placed upon them by a
human actor (Latour 2005, Gosden 2005, Gosden and Marshall 1999). What was needed was a theoretical perspective that acknowledged the possibility of objects possessing their own agency, and for the spiritual realms of existence, realms acknowledged by many extant and extinct cultures around the world, to matter.

Conventional concepts of agency appear to fall short of providing a theoretical framework from which the Mantle’s Cave feathers could be viewed. Fortunately, Gosden provided an approach in which agency is “object-centered” (Gosden 2005: 193). His primary argument was that we not only place obligations onto objects, they in turn place obligations on us; “artifacts (should) not always be seen as passive and people as active” (Gosden 2005: 194). Building on this idea, that artifacts have agency and do not just provide a setting to human actions, we are able to see where Brown’s and Walker’s concept of animacy comes into play (Gosden and Marshall 1999:169; Brown and Walker 2008). This section explores whether the perceived animacy of the feathers in Mantle’s Cave impacted how they were deposited and used.

Brown and Walker define animacy as:

“the casual consequences objects…have on the course of human activity…acknowledging the agency inherent in the physicality of objects…. (animacy) is autonomous, purposeful, and deliberate, and arises from sentient qualities possessed by the object, such as consciousness or a life-force” (Brown and Walker 2008: 298).

As suggested by Mills and Ferguson, ethnohistorical and ethnographic studies further legitimize the use of this theoretical concept, as they provide the context of how animate objects were used (Mills and Ferguson 2008: 340). Based on the ethnographic and archaeological literature, both feathers and birds are often imbued with their own life-force (Ladd 1963, Eckert and Clark 2009, McKusick 2001; see Chapter 5).
Humans live in both physical and mental realities, orienting their lives, thoughts, and daily habits to culturally-defined and culturally-created landscapes. This action, practice, and habitual behavior manifests in the archaeological record wherever people live and use material goods (Hodder and Hutson 2003; Tilley 2006). People engage with symbolically-charged landscapes, where physical attributes of a landscape are imbued with mental realities such that a mountain is the result of tectonic plates grinding together to one person, and may be a sleeping giant to another. These discrete mental realities will manifest in differing patterns of the archaeological record. While archaeologists may not be capable of capturing the exact mental reality of a past culture, by recognizing that human actors viewed their landscape symbolically, archaeologists are able to produce interpretations that avoid environmental determinism.

Critiquing Hawkes’ (Hawkes 1954) “Ladder of Inference”, Robb’s (1998) challenges us to find anything cultural that is not symbolic, using money as a prime example. In the past, money has been firmly put in the material and economic reality of human societies, but money is certainly also a symbol; it is not just gold, paper, or numbers in an account; the meanings attributed to money (such as power) go far beyond their physical properties (Robb 1998: 331). Erasing this false dichotomy between the mental and material realms of existence allows archaeologists to acknowledge the viewpoint that material objects have their own agency, and even their own animating energy (Gosden 2005; Gosden and Marshall 1999; Brown and Walker 2008; Mills and Ferguson 2008; Ladd 1963; Eckert and Clark 2009; McKusick 2001; see Chapter 5). This study recognizes that the people using Mantle’s Cave may have conceived of the deposited feathers as symbolic items.
When Robb uses the term “symbols as girders” he means that symbols structure our mental and physical reality; “even rational strategies are governed by…rules of behavior, prescriptive rituals, (and) symbolic limits” (Robb 1998: 334). This will be applied to the study of feathers by noting whether the ways in which feathers are symbolized contributes to the depositional behavior exhibited by the human-user. Because organic materials disintegrate over time, the presence of feathers in the archaeological record have been found only in dry, stable environments, like that found in Mantle’s Cave. Were feathers non-perishable artifacts and (thus) found in a wide array of contexts, the application of “symbols as girders” for interpretation purposes would be far easier. Quantitative analyses would determine the potential for finding feathers in certain contexts, which could then be used to argue how their symbolic conceptualization affected their archaeological deposition. Given that the sample this thesis works with come solely from caves, “symbols as girders” will be used to see whether or not there were differences in the ways various feathers were deposited. To clarify, attempts will be made to determine whether or not the symbolic conceptualization of the feathers determined the ways in which they were deposited by the human-user.

Robb’s term “symbols as tokens” means that “artifacts, actions, and social relations have a meaning….prior to their translation into symbols, which serve…to represent this precultural meaning” (Robb 1998: 333). Robb goes on to note that these symbols are usually used in specific political contexts (Robb 1998: 340). In this case, there is direct evidence that feathers were thought of in this way. Ladd (1963), Borson et al. (1998), Creel and McKusick (1994) all note that particular feathers were used to identify members of certain moieties, particular clans claimed birds as their unique signifier, different priests wore feathers as badges of identification, and the feathers of macaws and parrots were symbolic of the South.
In the past objects were not seen as symbolic unless “their explicit function was to signal” (Robb 1998: 334). Fortunately, archaeological thought pertaining to symbols has progressed past this view, and the field now acknowledges many different objects as symbols, whether they were explicitly made for that purpose or not. For the purposes of this study, the concept of “symbols as tokens” will be used to determine whether or not certain feathers are associated with certain artifacts/features. Simply put, if some feathers were symbolic of various positions in a society, the contexts in which they were recovered should reflect these differences.

The last concept of Robb’s used here is “symbols as tesserae”. By this, Robb means that “meaning does not reside in artifacts or in people but in the interaction between the two” (Robb 1998: 337; Thomas 1996: 97). This is similar to Latour’s idea that “social” is a link, or “an association between entities which are in no way recognizable as being social…except during the brief moment when they are reshuffled together” (Latour 2005: 65). This concept concerns the discursive relationship between humans and objects. As humans interact and affect the object, the object is interacting with and affecting the human as well. Only through this relationship can objects and humans have agency, for without the interaction “they offer no information…and will have no visible effect on other agents. They remain silent and are no longer actors” (Latour 2005: 79).

Although at first this concept seems to refute the notion that the feathers have their own animating energy (animacy), it does not. Feathers with their own animating force are “silent” and no long interacting with other actors, they simply have to be interacted with once again to re-engage their agency. As Latour says:

“When objects have receded into the background for good, it is always possible…to bring them back to light by using archives, documents, memoirs, museum collections etc., to artificially produce, through historian’s accounts, the
state of crisis in which machines, devices, and implements were born” (Latour 2005: 81).

This study hopes to “bring them back to light”, and re-engage with the feathers’ agency through the use of ethnohistorical and ethnographic accounts.

Analyzing the context from which the feathers were recovered may not necessarily be indicative of “political office” or other social roles, nor will the type of deposition in the caves necessarily reflect the mentally perceived symbolic attributes of the feathers. Rather, by acknowledging that mental realities shape cultural behavior to the same degree as physical realities, the use of these caves by past peoples may achieve another level of interpretation, in addition to approaches that use a cultural ecology approach. In part, cultural ecology interprets cultural behavior and its manifestation in the archaeological record, as those actions necessary to obtain food (Steward 2006). The use of caves from this perspective might be explained as sites on a seasonal round, and/or a “home base” from which logistical collectors set-off in their search for sustenance (Kelly 1995; Burgh and Scoggin 1948; Aikens 1970; Binford 1980). Humans need food to survive, and it seems reasonable that people would settle close to a favored resource and/or would use a site repeatedly as part of their foraging strategy. Nonetheless, because humans are cultural animals and our mental realities affect us strongly, these caves were used for reasons in addition to their use as food-collecting sites.

Nor is there a denial of “the fixity of symbols’ meanings” (i.e. the meanings of some symbols may have longer shelf-lives than others) (Robb 1998: 339), which it may seem based on the above discussion of symbols as tesserae and social links “re-awakening” an object’s agency (Latour 2005). In denying the “fixity” of certain symbols, the archaeological past becomes a place of contention and self-empowerment, as people strive to reinterpret symbols each time they engage the symbol in a “state of crisis”. The past certainly had its fair share of contention, but
some symbols do remain more or less fixed in their meaning through the process of enculturating subsequent generations (Hoffecker 2011a, 2011b; Dawkins 1999, 1989). As Hoffecker (2011b: 1) noted, “it is a power that almost all humans possess—to transcend their existence as organic beings by communicating thoughts that will endure after they die”. He argues that like written records, the archaeological past is a record of thought, “manifest in art and other media that are preserved” (Hoffecker 2011b: 4). Dawkins (1999: 80; 1989: 189) echoes this sentiment in his assertion that humans are “programmed” for idea-reception and duplication, and that while new ideas/concepts/symbols are created, cultural transmission, like genetic transmission, is basically conservative.

The notion that ancient symbols cannot have the same meaning today for modern indigenous peoples, as they did then, reflects Western traditions and conventions. Progress, advancement, and change are cultural ethos of children raised in the Western tradition, and it is prudent to remember that not all societies hold these values. As Robb said, “…it may underestimate the conservatism of ancient societies”, and give a false impression that because Western cultures are concerned with the aforementioned values, all cultures acted/felt similarly (Robb 1998: 339). All meanings surely do not always stay the same, but uncertainty as to whether some meanings stayed the same can be fruitful ground for new ideas, interpretations, and theories.

**The Super-Brain and Idea-Memes**

Discussed at length in Chapters 7 and 8, Hoffecker’s concept of the “super-brain”, and Dawkins’ concept of “idea-memes” provide a framework from which interpretations and conclusions regarding this data could be made (Hoffecker 2011a, 2011b; Dawkins 1989, 1999). Hoffecker’s “super-brain” concept centers on the observation that human thoughts can transcend

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biological space (an individual’s brain) and biological time (an individual’s lifespan) through language and writing. He correctly observes that more so than any other animal, human beings represent the “sum of an immense mass of integrated memories and knowledge”, not only accumulated through their own lifetime, but through the lives’ of others as well (Hoffecker 2011b: 84). The salient implication for this thesis is that it is possible for cultural traditions and ideologies to exist for an indeterminate amount of time, since once a concept is shared with other humans, it will also be stored in their brains.

While it is unlikely that traditions/ideologies will remained totally unchanged through time, Dawkins’ “idea-meme” concept suggests that certain concepts will remain more stable through time than others (Dawkins 1989). By equating genetic transmission with cultural transmission and using the evolutionary concept of “survival of the fittest”, Dawkins is able to make a strong case that culturally fit idea-memes will exist, mostly unchanged, for longer periods of time than memes considered to be unfit. He argues that certain concepts/ideas are more appealing to brains than others, that they are “good to think”, and that like co-adapted gene complexes functioning to support particular genetic information, co-adapted meme complexes function to support particular idea and/or concepts (Dawkins 1989: 193, 196). The concept is relevant to this thesis, since it provides an explanation as to why there appears to be similar behavior regarding how feathers were treated in the archaeological record, in the ethnographic present, and how these similarities can exist among culturally distinct groups.

Artifact Analysis

This project required a working knowledge of ornithology in order to identify the species of birds represented by their feathers (Dunn and Alderfer 2006; http://www.lab.fws.gov/featheratlas/index.php). Mariko Kageyama and Dr. Pepper Trail also
lent their expertise as well. They are, respectively, the zoology collection’s manager at the University of Colorado’s Natural History Museum and Senior Forensic Scientist/Ornithologist with the U.S. Fish and Wildlife Service.

The following methods were used to analyze the feather bundles and loose feathers within the Mantle’s Cave collection (Chapter 6 provides a more detailed discussion on these artifacts). First, the individual feathers that made up the feather bundles were counted. Due to the fragile nature of the artifacts, I was not allowed to undo the bundles; as such an exact count was not possible. To ensure that an accurate count was obtained, each bundle was counted five times, from which an average was taken. Frequently, the multiple counts of the same bundle produced the same number. The word “about” is used in Chapter 6 to refer to this situation. For feathers not in a bundle, an exact count was noted. In addition to the counts of each bundle or loose group of feathers, all associative artifacts were noted with the hope that its context would be revealing of the cultural group(s) that deposited the material culture. Next, the lengths were noted for each bundle. Again, because the bundles were too fragile to take apart, a group length was noted. For those feathers not in a bundle individual lengths were noted. An attempt was made to determine from where on the bird the feathers were taken so that the lengths could be compared to the known lengths of those species’ particular feather lengths (http://www.lab.fws.gov/featheratlas/index.php).

Noting the lengths of the feathers was also important for determining whether or not feathers had been altered. Like those feathers in the flicker-feather headdress (UCM 6187) that had had their individual barbs (individual strands of feather material) removed from the calamus, or quill, and had had particular lengths of their calamuses cut so that they could fit into the headdress, some of the other feathers could have been altered. Thus, the feather bundles, and
individual feathers for those not in bundles, were examined for modifications of any kind. These other alterations could have included the splitting of individual quills, the removal of posterior or anterior remiges (flight feathers) and/or rectrices (tail feathers), and shortening the length of the feathers by trimming the calamus and/or the rachis (upper part of the feather) (http://www.lab.fws.gov/featheratlas/index.php).

Accelerated mass spectrometer (AMS) dates were obtained for one of the bundles of feathers (UCM 6175). This particular bundle was chosen for a number of reasons: first the famous flicker feather headdress (UCM 6187) from Mantle’s has already been dated, and because these particular flicker feathers found in Cache 4 were spatially close to Cache 1 in which the headdress was found, their date can tell us about the two artifacts temporal relationship (Goff 2006; see Appendix A for information on Mantle’s caches). Second, these feathers have been cut to resemble those in the headdress, so again there appears to be a relationship between the two. Third, these feathers are wrapped in cordage. Archaeologists have been able to determine different culture groups based on the ways in which cordage is twisted, and what is particularly interesting about the cordage wrapped around this bundle is that it displays the opposite twist of that used on the flicker feather headdress (UCM 6187; Goff 2010: 46). Lastly, prior to this study, Cache 4 did not have a date, so obtaining the date increased the temporal resolution of Mantle’s Cave. The date is discussed in Chapter 6.

**Ethnographic Analysis**

In addition to the archaeological analyses, an ethnographic study was conducted concerning Great Basin, Southwestern, Great Plains, and northern Mexican groups. These groups (except those from northern Mexico) were those that were (and are) linguistically, prehistorically, and historically connected to northwest Colorado, meaning that their ancestors
could have used Mantle’s Cave. Groups from northern Mexico were included because the nation-state line that exists between the United States southwest and northern Mexico did not exist in the past, and because northern Mexico is considered to be part of the Southwest. Members of these groups, such as the Ute, Shoshone, Comanche, Arapaho, Huichols, Hopi, and Zuni, may have information pertaining to what these feathers meant. The ethnographic literature was consulted on those societies for the meanings, ideologies, and uses of feathers. Once this data was collected, the information was used to investigate whether the uses, ideologies, and meanings could have affected the way the feathers were deposited in the caves assessed for this thesis.

Lastly, an analysis of the relationship between the habitats and ranges of the birds represented in the Mantle’s Cave collection, and the precontact ranges of Ancestral Puebloan and Great Basin groups, was conducted. However, this particular analysis was not as straightforward as it appeared; both birds and people move around the landscape, often going beyond their conventional geographic boundaries. For example, birds not indigenous to northwest Colorado may have gotten there because of the trade in feathers (Ladd 1963, Creel and McKusick 1994, Eckert and Clark 2009) and/or Emslie’s “garden hunting” model (Emslie 1981b: 857). This model suggests that Puebloan agricultural fields created rich bio-zones where floral and faunal diversities increased (Emslie 1981b: 857, Emslie 2007: 11). Though not explicitly stated, the fields probably provided ideal places for migrating birds to stop and rest on their journeys. As such, even if there appeared to be significant relationships between bird and human ranges it may have been a “red-herring”. To avoid this potential pit-fall, the contexts of those birds/feathers that appeared where they “should not be” were scrutinized, so that false positives could be noted.
Summary

This chapter reviewed the theoretical perspectives and methods used in the analysis. These methods and perspectives helped answer my research question and led me to an interesting conclusion, explored further in Chapters 6, 7 and 8. Beyond this thesis, these methods could be used for others wishing to engage in studies on animacy. Because animacy takes the perspective of animism, it is necessary to become familiar with the myths, legends, philosophies, religions, and symbolic concepts of those cultures chosen for the study. The studies completed by Mills and Ferguson (2008), Brown (2008), and Zedeño (2008) all illustrate the importance of including ethnographic literature in this type of analysis. In this thesis, it was necessary to include ethnographic information from such a wide area because the descendants of the Fremont are still unknown, and any of the groups chosen for this study could be (part of) a descendant population.

Also, because the analysis of feathers has unique challenges (i.e. poor preservation potential, unless deposited in a stable environment like a cave; ubiquitous use of feathers among modern native communities; the feathers were not altered in such a way as to have low- and high- visibility traits), it was necessary to look elsewhere for explanations as to how there could be culturally distinct groups using and thinking about feathers in similar ways. The use of Hoffecker’s super-brain and Dawkins’ idea-meme provide frameworks from which one can understand how there can be tremendous similarities in certain aspects of different cultures, while in other ways they maintain their differences (e.g. language and material culture). It is my hope that people endeavoring to pursue other studies on animacy will find my methods beneficial to their own analyses and interpretations.
Chapter 5: Ethnographic and Archaeological Overview

Introduction

The image of a Native American standing on a tall bluff overlooking herds of bison, his feather headdress blowing lightly in the breeze, his hand on his bow, and his arrows slung over his shoulder, is arguably the most popular conception of how a “proper” Native American should look (Katakis 1998). Contrary to this stereotypical perception, Native Americans very rarely adorned themselves with feathers for “everyday” fashion, as they were often symbolic and imbued with their own “life-force” or spiritual energy (Brown and Walker 2008). However, this cliché image is not entirely unfounded; as early as the sixteenth-century, Spanish explorers noted the importance of birds to various Puebloan groups (Schroeder 1991). Moreover, a corpus of pre-contact archaeological evidence implies that birds and feathers have been important to Southwest, Great Basin, Plains, and Mexican groups for over a thousand years.

This chapter will focus on the use, practice, and meaning of feathers among various groups from the Southwest, Great Plains, Great Basin, and northern Mexico, starting with a discussion on how birds and feathers were obtained in the archaeological past and ethnographic present. Previously stated in Chapter 4, these areas were chosen because modern Native American groups in those regions may be Fremont descendants. Included in this chapter are data from archaeological sites that contained feathers, and could be indicative of long-standing beliefs and practices concerning feathers. These archaeological data are used to evaluate my use of ethnographic-analogy, and as evidence that birds and feathers have been important to Native American groups for centuries. Readers should be aware that not every group mentioned above has data available for each of the sections encountered below. The ethnographic data provided in this chapter are used in Chapter 6 to elucidate possible uses and conceptions of the feathers.
present in the archaeological record. The similarities between how groups use and conceive of feathers in the ethnographic present provide an interesting point of comparison for the similarities in feather treatment and deposition in the archaeological record. The data presented in this chapter may be indicative of a long-standing, widespread belief system in which groups from the Great Plains, Great Basin, Southwest, and northern Mexico, all interacted. This idea is explored further in the Analysis, Synthesis, and Conclusion chapters 6, 7, and 8.

**Acquisition of Feathers**

*Trapping and Hunting: Puebloan Groups*

Prior to the development of Emslie’s “garden-hunting” model, which will be explained below, the presence of non-local avifaunal remains in the archaeological record were explained by trade and/or long-distance hunting (Emslie 1981a, 1981b, 2001). The notion that most non-desert dwelling birds were obtained through trade and/or long-distance hunting, probably stems from the fact that macaws were traded between Mesoamerica and various groups in the Southwest (Lekson 2009). Emslie searched for another way to explain the presence of non-local birds in the archaeological record, presenting the archaeological community with his “garden-hunting” model.

This model suggests that the way in which these various native groups planted their agricultural fields created rich bio-zones where floral and faunal diversities increased (Emslie 1981a: 857; Emslie 1981b; Emslie 2007: 11). Essentially, the irrigation canals and polyculture fields attracted a wide array of invertebrates, amphibians, wild plants, larger ungulates, and finally waterfowl, raptors, songbirds, and woodpeckers. The intentionality of human actors in the archaeological record is hard to derive from the limited material remains, and perhaps this increase in flora and fauna is one of Joyce’s “unintended consequences” (Joyce 2004).
Nonetheless, when one considers that waterfowl, songbirds, and woodpecker feathers are used as frequently by Puebloan groups as those feathers obtained from desert-dwelling birds, this model provides a highly plausible explanation for the presence of non-native bird species and feathers in the archaeological record.

**Snares**

Perhaps the most common method of capturing birds recounted in ethnographic accounts was the use of various snares (Ladd 1963; McKusick 2001; Bock and Bock 1992; Parsons 1939). Ladd (1963: 65-69) conducted a study among the Zuni, during which time he catalogued four different types of snares used to capture specific birds. For perching birds, a pole was erected with a snare and noose that extended above the pole. Concurrently, a weight was placed at the foot of the pole, while a trigger-stick rested on top. As a bird landed on the trigger-stick, the snare would tighten around its feet, capturing the bird. For those birds that live in bushes, traps were set along waterways, sunflower fields, and/or close to springs. Called the “ja/tepowanne (a bundle of tied reeds)” it functioned in one of two ways (Ladd 1963: 66). First, bundles of reeds were tied together, forming an arch in which sticks were placed to create perches. As birds landed on the perches, the sticks would give way, entangling the prey in the nooses made of horse-hair. Or, the birds would attempt to fly through the trap, causing the sticks to collapse and a noose to slip around the bird’s neck.

Snares to capture waterfowl were constructed with anchored bundles of brush and weeds, which were attached along both sides of a pool to create a funnel along which the bird would land. Perpendicular to this path, long strands of horse-hair were strung and anchored in the mud. As a bird descended to eat, drink, or bathe it would become entangled in the hair. The brush and weeds acted as weights, keeping the bird trapped. Lastly, to catch birds that fed on the ground,
the Zuni would create hoops out of green-willow (Ladd 1963: 67). The hoop was buried while a sliding noose was placed on the ground with two anchor stones. As the birds landed to feed on the seeds and grains left by the hunter, the noose would be tightened, trapping the bird. Steward (1933) noted that the Owens Valley Paiute hunted waterfowl by concealing themselves in blinds, while decoys and nets were employed to capture the birds. Cattail-eater people (northern Paiutes) also used floating blinds, under which the hunter stayed until a duck swam too close, at which time the duck was pulled under water and killed (Fowler 2006: 6). Lowie (1924: 197) and Fowler (2006: 5) also noted the use of “canvas-back” decoys and nets by Paviotsos and Cattail-eater people, respectively, to trap waterfowl.

While snares were the most common method for obtaining birds and feathers ethnographically, box- or pit-traps were also used (Burch 2004: 226; Kroeber 1902: 22; Parsons 1939: 29; Lowie 1924: 199). Lowie (1924: 199) specifically mentions the use of pit-traps by the Uintah, to capture eagles and other large birds of prey. Kroeber (1902: 22) explicitly noted the Blackfoot using pit traps to capture eagles, after a period of fasting. Box- (or pit-) traps were normally constructed out of willow, with two slabs of wood placed at either end of the box. One acted as a trap door while the other enclosed the opposite end. As the bird entered the box to eat the corn or meat left out, the hunter would close the trap door, imprisoning the fowl.
Southwest Trade and Aviculture

Macaws and parrots are the birds most frequently associated with long-distance trade (discussed below), but there is both ethnological and archaeological evidence showing that other bird species, and/or their feathers, were traded into the Southwest, specifically. Ladd (1963:101) notes that at the time of his study, the Zuni were obtaining Northern yellow-shafted Flicker feathers from Wisconsin. As he said, the prayer-sticks made with Northern yellow-shafted Flicker feathers were “thought to have extra potency because the feathers came from the vicinity of the eastern ocean” (Ladd 1963:101). Northern yellow-shafted Flicker feathers seem to have been important for precontact populations, too. In fact, Hewes (1952) made a compelling argument that the flicker feather headdress (UCM 6187; 882 ± 60 B.P.; 1000 ± 52 B.P.; Figure 5.1) from Mantle’s Cave, Colorado, which contained Northern yellow-shafted Flicker feathers, was very similar to flicker headbands used by extant Californian tribes (Hewes 1952; Goff 2010). Explored at length in the Analysis, there are issues surrounding the assumption that Northern yellow-shafted Flickers exist only east of the Rocky Mountains. For an in depth discussion concerning the ranges of Northern Flickers, please refer to Chapter 6.

The birds and feathers most commonly associated with long distance trade were macaws and parrots (Borson et. al 1998; Bullock 2007:6; Creel and McKusick 1994, 2007b:5 Eckert and Clark 2009;
Schroeder 1991). In addition to using the feathers and birds for ceremonial purposes, Eckert and Clark note, “the procurement of exotic parrots and macaws through long-distance exchange may have been a method of prestige enhancement” (Eckert and Clark 2009: 24). In fact, the majority of macaw/parrot remains are located in influential population centers like Chaco Canyon and Casas Grandes. These birds were brought to the Southwest alive, not as dead specimens or loose feathers. As McKusick said, “they were wild birds that were taken from their nests in…Mexico…transported to an experienced aviculturalist, and hand-raised so that they would become manageable” (McKusick 2007b: 5). Additionally, there are depictions of macaws and parrots (Psittacines) climbing with their beaks, a unique behavior to these species, only possible when the bird was still alive (Figure 5.2). This iconography is found on kiva murals at Pottery Mound and Hummingbird Pueblo, as well as on Mimbres pottery (Eckert and Clark 2009: 14; Creel and McKusick 1994).

It should not be overly surprising that Puebloans knew how to raise these exotic birds, since they had been practicing turkey husbandry since the Basketmaker III period (Gupta 2010). In fact, there were three types of Southwestern turkey, all of which were kept separate for over 600 years. First, Puebloans developed the Small Indian Domestic (Meleagris gallopavo tularosa) around 1 A.D. (McKusick 2007a: 4). This was the only domesticated turkey in the Southwest until 540 A.D. when the Large Indian Domestic was domesticated (Meleagris gallopavo) (McKusick 2007a: 4). Going feral by 600 A.D., the Large Indian Domestic spawned Merriam’s Wild Turkey (Meleagris gallopavo merriami) (McKusick 2007a). Moreover, during
Parson’s study among various Southwestern Pueblos, she found that most of these groups were still keeping turkeys, and now, chickens, not for food, but for feathers (Parsons 1939: 29). It is logical to assume that while the Puebloans cared for both *Psittacines* and various *gallopavo*, their feathers were collected.

**Trade among the Huichol and Cora**

Differing slightly from their neighbors to the north, the Huichols and Coras are characterized by subsistence farming, a lack of domesticated animals, and a dependence on wild foodstuffs. In 1902, Lumholtz documented Cora natives sacrificing wild turkeys instead of domesticated ones, even though “domesticat(ed) animals (were) considered more valuable” (Lumholtz 1902: 334). It is reasonable to assume that the Huichols and Coras could have obtained domesticated-turkey feathers for their ceremonies through trade with turkey-keeping Puebloan groups, but Lumholtz offers no insight as to why the wild turkeys were sacrificed instead. Still, there is evidence that these two groups were culturally connected to the Puebloan world, so the lack of trade had to do with something other than a lack of interaction.

The evidence that these groups in northern Mexico may be culturally connected to the Puebloan world comes, in part, from a Huichol myth. The story is about the “*kakauyartie*” or the male and female nature deities, turning into ducks and flying to the Pacific Ocean (Furst 2006: 83). Furst (2006: 83) implies that this myth is reminiscent of “Hopi and Züni symbolism and that of other Pueblos of the American Southwest…(this) is only one of several traits that point to…ancestral ties between the Puebloan Southwest and the Huichols…” Unfortunately, data was lacking on how these groups acquired feathers and/or birds.
Raiding Eagle Nests and Great Basin Groups

While Great Basin groups domesticated dogs, they rarely ventured into aviculture, and obtained their feathers through other means. During his time among the Owens Valley Paiute, Steward noted that some people captured immature hawks and eagles from their nests (Steward 1933b: 257). The birds were highly respected and kept in their own “wickiups” [sic], feeding on the raw rabbit meat their keepers brought (Steward 1933b: 257). As the birds grew, their molted feathers, especially the eagle down, were collected and used in various ceremonies and types of clothing. Though not domesticated, these birds became very tame. In fact, Steward’s informant T.S. told him that an eagle his grandfather had raised had flown away when grown, but would return daily for food and attention (Steward 1933b: 257).

Feathers in Use: Shamans, Gods, Sacrifice, and Magic

The previous section of this chapter reviewed the various means by which archaeological, and ethnographic groups obtained feathers. The following section will first review the archaeological evidence for how feathers were used and conceived, and then how various ethnographic groups both used, and thought about, feathers.

Shamans and Sacrifice

The use of feathers in shamanistic ritual, as a medium through which one can communicate with the gods, and in sympathetic magic rituals, is well documented in the ethnohistoric and ethnographic literature of North American Native groups (Opler 1969: 123; Fewkes 1899; Fewkes 1901; Furst 2006; Hough and Fewkes 1917; Kelly 1932; Lowie 1909; Lowie 1924; Malouf 1951; Mountjoy 1982; Parsons 1919; Parsons 1939; Schlesier 1987; Steward 1933b; Trenholm and Carley 1964; Zingg 2004). Work done by VanPool (2003),
Mountjoy (1982), and Bock and Bock (1992) provide evidence for rituals conducted in the archaeological past which parallel the ethnographic rituals discussed below. Their studies suggest that there is a deeply rooted association among shamans from groups living in the Southwest and northern Mexico with birds and feathers. There is also extensive evidence that suggests birds were sacrificed in the Ancestral Puebloan world, discussed below.

**Sacrifice in the Past: Southwestern Groups**

Feathers are often symbolic. Birds were also highly symbolic (Wallace 2007: 8; Ferg 2007: 9; Hays-Gilpin 2007: 14). In 2009, Eckert and Clark studied the changes in bird ideologies on pottery and kiva murals, at Pottery Mound and Hummingbird Pueblo. They suggested that the modern ritual significance of birds in central New Mexico can be traced back at least to the 14th-century (Eckert and Clark 2009: 8). Prior to this time, birds like waterfowl, roadrunners, and quail were hunted and caught primarily for food, only rarely being used for ceremonial and/or ritual purposes (Eckert and Clark 2009: 20). However, by the 14th-century the majority of the specimens found at these sites were nongame birds, and were probably caught for their feathers, and/or were sacrificed. Kiva murals and ceramic designs from these sites suggest that the portrayal of birds was a new component of Pueblo imagery during this time, and that at least some of this imagery was associated with the new ritual systems being adopted in the Puebloan world (Eckert and Clark 2009: 14, 18, 20, 24; Hays-Gilpin 2007: 14).
Along with this change and/or development of ritual significance attached to birds, a few sites in the Southwest provide good evidence that specific birds were sacrificed (Creel and McKusick 1994, Lyons 2007: 16; McKusick 2001). McKusick suggest that in contrast to birds that were used for ceremonies and rituals, and then thrown away, “…everything about birds of sacrifice is deliberate…everything about individual birds of sacrifice is sacred” (McKusick 2001: 3).

Sacrificed birds can be distinguished from non-sacrificed specimens by noting the following: skeletons are usually intact, and if not, specific parts like wings, heads, feet, or ribs are missing (McKusick 2001: 4). In fact, the remains of a female Small Indian Domestic turkey breast was found with a male dog heart underneath the floor of one of Gran Quivira’s kivas (McKusick 2001: 5). Though the exact meaning of this burial cannot be known, it is clear that the turkey and dog were sacrificed and placed underneath the kiva floor deliberately.

Lyons found evidence for the sacrifice of hawks and eagles in Ancestral Hopi areas during the 13th- and 14th-centuries (Lyons 2007: 16; Figure 5.3). During this time, proto-Hopi groups buried hawk and eagle remains in decommissioned kivas.

Lyons notes that among modern Hopi groups the “feathers and bones of eagles and Red-tailed Hawks are used to produce items used in ritual” (Lyons 2007: 16). More than 100 raptor bones were found in a kiva at José Solas Ruin, which probably comprised fifteen individual birds (Lyons 2007: 16). As discussed above, the importance of hawks and eagles to Hopi peoples is a long standing tradition. If archaeologists continue to use the archaeological record’s evidence in
conjunction with the ethnological and ethnohistoric record, the archaeological field is promised a fascinating view into past practices of bird sacrifice.

Though turkeys and certain raptors were sacrificed, the most compelling evidence for sacrificial birds comes from the remains of macaws and parrots (Di Peso 1974, Hargrave 1970, Minnis et al. 1993). At the Galaz Site in New Mexico, Creel and McKusick (1994) used the age-at-death of the birds, what parts of the body were buried, the way in which they were disposed, and where within the site the birds were buried to support their conclusion that these birds were sacrificed and not just killed. The average age-at-death for sacrificed macaws was 10-13 months (Creel and McKusick 1994: 517-8). Since these birds would have hatched in March/April, the authors extrapolated that the birds were sacrificed between February and May, at the beginning of the growing season (Creel and McKusick 1994: 518). They suggest there is a connection between birds, fertility, and water, concepts that will be explored further along in this paper. The majority of the skeletons analyzed for their article were whole, a requirement for sacrificial birds mentioned above (Creel and McKusick 1994: 518-9; McKusick 2001).

Creel and McKusick also recovered one military-macaw (*Ara militaris*), three scarlet macaws (*Ara macao*), two thick-billed parrots (*Rhynchopsitta pachyrhyncha*), and five unidentifiable *Psittacines* from the Galaz Site in New Mexico (Creel and McKusick 1994: 519). What was most interesting about this find was that the only military-macaw was treated differently than the other sacrificed birds. The military-macaw had been “wrapped in turquoise and shell beads”, and buried beneath the floor of Galaz’s North Room (Creel and McKusick 1994: 519). According to the two authors, the North Room Cluster was used for ceremonial activities, “with macaws and parrots becoming involved…about A.D. 1000” (Creel and McKusick 1994: 520). Though not mentioned by Creel and McKusick, the sacrifice of these...
macaws may have to do with the “shamanistic journey” discussed under the heading “Shamans”. The stories and histories recorded by late 19th- and early 20th century ethnographers seem to provide legitimate narratives to the above-mentioned kiva murals, and provide the context in which bird sacrifice would be seen as beneficial.

**Huichol Shamans**

Furst (2006) documented Huichol shamans using and revering feathers. Huichol shamans carry their items of “personal power” in the takwátsi, or the oblong basket made of palm fiber (Furst 2006: 16; Figure 5.4). The muviéri, or bundle of feathers, was collected from different birds, and attached to arrows. These items are “considered alive and sentient”, serving shamans in all their arts, and are the “most powerful of the shaman’s paraphernalia” (Furst 2006: 16, 67). The muviéri may be the “most powerful” item because birds often appear in Huichol legend and history as helpers and guides to shamans (Furst 2006: 50; Zingg 2004: 132, 181,184). In fact, during a Huichol ceremony concerning the acquisition of peyote, the lead shaman will transform the group’s children into hummingbirds so that they may be lead, by magic, “from their Sierra homes to the country of the peyote” (Furst 2006: 60).

Lumholtz further elucidates the close and powerful relationship between Huichol shamans and birds when he notes that to the Huichol, the “royal eagle…is supposed to hold the world in its talons”, essentially protecting the earth’s human inhabitants from evil (Lumholtz 1902: 209). Lumholtz (1902: 7) also suggested that it was the muviéri that distinguished the shaman from “regular” Huichols, as they were rarely seen without this feathered wand. According to Lumholtz:
“The movements of birds, especially of those that soar highest, is incomprehensible to the Indian, and such birds are thought to see and hear everything, and to possess mystic powers, which are inherent in their wing-and tail-feathers. Hence plumes of the eagle and hawk are coveted by all American tribes for wisdom, courage, and protection against evil which they impart. The so-called shaman’s plumes enable the shaman to see and hear everything both above and below the earth; and with their help he performs his magic feats, such as curing the sick, transforming the dead, calling down the sun, etc.” (Lumholtz 1902: 7-8).

The concept of eagle feathers, specifically, being used to “cleanse” a person of disease or ailments inflicted by a witch or sorcerer is found in Puebloan, Great Basin, and Plains societies as well, and will be explored below.

**Shamans and Cleansing Feathers**

Feathers, and specifically eagle feathers, are used in cleansing rituals by various Puebloan groups, the Aztec, Huichols, Coras, Great Basin groups, Plains groups and the Southern Ute tribe (Kroeber 1904; Parsons 1920; Parsons 1933; Opler 1940; Stevenson 1903). Iselta, Hopi and Zuni Pueblos used eagle feathers in cleansing rituals. During a visit to Isleta, Parsons was granted audience to a healing ceremony taking place with the Flint and Fire Societies (Parsons 1920). Apparently, an unmentioned Isleta had been infected with disease by an unknown witch, and after the kaan finished singing four to six songs, a bowl of water was sprinkled with “powder” (most likely corn meal), so that the kaan could determine the nature of the illness (Parsons 1920: 62). The witch had supposedly sent certain disease-causing objects into the body of the inflicted person, and by “wiping” the sick person with their eagle feathers, the kaan were able to exorcise those witch-sent items (Parsons 1920: 62-63).

During another visit to Isleta and Oraibi (Hopi), Parsons again took note of the use of eagle and buzzard feathers being used to cleanse people’s physical and spiritual bodies (Parsons 1939: 464-465). The shamans present at the Isleta Fire Society ceremony, “swept” both dancers
and sick people with two eagle-wing feathers, ensuring that the dancers were performing with “cleansed” souls, and that the sick people were alleviated of physically-harmful objects such as pebbles, cactus-spines, and even ants (Parsons 1939: 465). Similarly, her experience at Oraibi during the Snake-Antelope ceremony involved the passing over of an eagle-wing feather to “exorcise” any bad intentions from the Antelope Maid and Youth, before they performed their dance (Parsons 1939: 465). The fact that both Puebloan communities used the wing feather of an eagle to cleanse and exorcise, is significant. When humans emerged into this world from the one below, Eagle was impressed with their bravery, and offered them one of his wing feathers, “so that when you talk to the Creator, I—who fly the highest of all birds—will hear your prayers and carry them up to the creator” (Dobson 1994: 54).

According to Stevenson (1903), the Zuni use eagle feathers to cleanse participants in various kinds of games, races, and gambling activities. During the Tikwanė race of the Kiwiṭsiwe, Pi’stäšiwanni (Zuni Bow Priests) situate the hair of runners in a bun at the back of the head, sticking an “arrowpoint [sic] into the knot, to insure fleetness”, and then proceed to cleanse each racer (Stevenson 1903: 477). Stevenson says that the Bow Priests lifted “ashes with two eagle wing plumes”, and then passed the feathers down either side of the racer’s body, sprinkling ash in the six directions, ensuring the runner was physically purified (Stevenson 1903: 477). The purpose of the purification was to rid the racer of any extra physical and/or spiritual baggage, so that the runner would be able to run to the best of his abilities. This concept is echoed in the Zuni’s practice of using eagle feathers to cleanse gamblers, so that these participants are of “pure” heart, and are able to perceive if their opponents are trying to cheat with witch-magic (Stevenson 1903: 483).
The Southern Utes living in the town of Ignacio in southwestern Colorado are neighbors to the Puebloan peoples, and also use eagle feathers to cleanse away illness and bad spirits (Opler 1940). At the close of their peyote ceremony, the lead-shaman will sing the “Closing Song”, and upon finishing the prayer, will fan those members who partook in the ceremony (Opler 1940: 474).

“With the eagle-tail wand he fans the man to his left side…to rid him of all evil spirits…then when everyone else is fanned, he fans the sick person (for whom the ceremony was held)…last of all, he fans himself” (Opler 1940: 474).

Given the close, though at times tempestuous, relationship with Puebloans, Opler suggests it makes sense for eagle feathers to be used in similar contexts (Opler 1940: 475). Noting the use of eagle-tail feathers to cleanse participants in the Round Dance, he goes on to say that the feathers do not work to just remove illness but can also be used to “stave off illness, to insure the health and vigor for all present” (Opler 1940: 476; emphasis added).

The last mention of feathers being used to cleanse in this section, comes from Parsons’ attempt to find Aztecan and Puebloan ritual parallels (Parsons 1933). Primarily relying on Sahagun’s work on Aztecan ritual, she contends that like Puebloan curers, Aztec healers also “extracted worms and small pebbles” in the same way as the Puebloans, “by brushing with feathers and by sucking” (Parsons 1933: 613). She also notes that the Cora and Huichol heal and cleanse by sucking and brushing with feathers (Parsons 1933: 614). The Huichols have similar legends and ideologies to Puebloans, so the fact that both peoples cleanse spiritual and physical ailments in similar manners should not be surprising (Furst 2006). Another tie between Huichol, Coras, and Puebloan peoples is detected in their use of prayer-sticks and prayer-arrows, which will be discussed below.
While it is true that Puebloan groups, the Aztecs, and the Huichol, are separated by hundreds of miles, and sometimes, hundreds of years, the ideological and ceremonial connections are not unreasonable. Parson (1939) notes that the Hopi, (and Zuni) still have oral histories about the choice of one clan, the Parrot Clan, to head south permanently (see Lekson 1999 for a discussion on Keresan pueblo myth). Coincidently, (or perhaps not) the Aztec have myths of coming from a land called Aztlan, to the north (Lekson 2009). We have already seen that the Huichols and Puebloans may have a common past, and as we will see, the use of feathers in cleansing rituals appears to be ubiquitous amongst the groups investigated in this thesis.

**Shamans and Cleansing Feathers: Great Basin Groups**

Malouf, Steward, Kelly and Lowie noted the close association and relationship between feathers and Gosiute, Owens Valley Paiute, Surprise Valley Paiute, and Paviotso shamans, respectively (Malouf 1955; Steward 1933b; Kelly 1932; Lowie 1924: 294-296). Malouf (1955: 82) noted that wands and/or staffs adorned with eagle feathers were “an essential part of their (Gosiute) doctoring equipment”, which holds true for the Owens and Surprise Valley Paiute as well (Steward 1933b: 312, 316; Kelly 1932: 191-194). During Paviotso healing ceremonies, the shaman would place a stick with an eagle feather attached at one end next to the patient’s head. Then, depending on the illness, the shaman would place a feather (Lowie does not indicate what kind) on the “affected part of the sufferer’s body”, a practice almost identical to that of Owens and Surprise Valley Paiute shamans placing eagle feathers on and around body of the patient (Lowie 1924: 296; Steward 1933b: 316; Kelly 1932: 190-191). Similar to the sucking techniques mentioned above, the shaman would suck the other end of the feather, either “blow(ing) away or vomit(ing) the disease” (Lowie 1924: 296). Wind River Shoshone shamans also used feathers to help them determine the nature and cure for their patient’s sickness (Lowie
1909: 224). Often, the shaman and their patient would wear the tail feathers of the flicker (which species is not specified), as it was thought the flicker could “ward off sickness and…restore health” (Lowie 1909: 224).

Trenholm and Carley (1964: 8; 40) noted the use of feathers by Shoshone shamans in healing ceremonies and other ritual actions, with particular attention paid to the use of eagles during the Sun Dance. Within the center circle made during the Sun Dance, eagles were placed facing east with the hope that anyone sick going into the circle would be helped by both the power of the sun and the eagle. Lowie (1909: 206) also observed the use of eagle wing-bones whistles, to which eagle feathers were attached, during the Sun Dance. He does not go into detail concerning the whistle or the symbolism of the object, but given the apparent connection between the Eagle and Sun noted by Trenholm and Carley (1964), I suspect that eagles were considered messengers to the Sun. Thus, their presence in body, feather, and bone during the Sun Dance, is not coincidental.

Northern Paiute (or Cattail-Eaters) shamans also used eagle, as well as other, feathers to treat and cure illness (Olofson 1979: 18). Fowler (2006: 8) noted that the Cattail-Eaters placed eagle down close to their sleeping areas to “ward off ghosts”, or illnesses, while shamans used eagle feathers to help cure the sick. Occasionally, a willow stick will be “planted” in the dirt next to a patient’s head, onto which the shaman’s feathers are attached. The patient was told to concentrate on the feathers while the shaman would take another feathered wand and brush the patient’s body from toes to head, and back again (Olofson 1979: 20). Sometimes, the shaman had to “die” in the mundane world, so that their spirit could travel to the “other world”, in order to retrieve the patient’s soul (Olofson 1979: 21). As VanPool (2003) noted this journey was extremely dangerous, and the shaman often had to be revived in order to re-enter the mundane
world. The Northern Paiute used eagle feathers to “cleanse” the shaman’s physical and spiritual self, so that his reentry into profane existence would not kill him (Olofson 1979: 21).

Shamans and Cleansing Feathers: Great Plains Groups

Kroeber (1904) noted the use of eagle feathers for cleansing and purifying. Again, the use of feathers in some of the most important rituals/ceremonies should not be surprising. An Arapaho origin myth states that birds helped create the earth by diving to the bottom of the water (which covered the entire planet), and bringing up mud for Nih’ānča’n (first person in this world, also known the Spider Trickster) to make land (Kroeber 1903: 6). When Kiowa peoples pray during peyote ceremonies, they pray to the “Messenger Bird”, because they know the “bird carries their prayers to the Spirit Power” (Brown 1991: 26) Clearly, birds and their feathers are extremely important to these people, as indicated in the prominent place they have in Arapaho origin stories and Kiowan prayers.

According to Kroeber’s Arapaho informants, head-bands were worn with both eagle and Great-Horned Owl feathers (*Bubo virginianus*), whose white color symbolized cleanness (Kroeber 1904: 195). The shamans wearing this headband would occasionally sweep the feathers over the body of someone suffering from an illness. This particular way of healing people was normally done during the Third Dance’s First Degree dance (Kroeber 1904: 188-193). The Arapaho also used feather fans made from eagles, Northern yellow-Shafted Flickers, and Sparrow-Hawks (*Accipiter nisus*) to revive participants during peyote ceremonies, essentially purifying their bodies so that they may continue their participation in the rituals (Kroeber 1907: 407). The Third Dance had reportedly long been a part of Arapaho ceremonial life, while peyote ceremonies did not take hold among the Arapaho until the late 19th-century (Kroeber 1904, 1907; Shonle 1925:55; Stewart 1987). It is significant that specific feathers were
being used in similar ways but in different contexts. This suggests that there may be core ideas and practices surrounding feathers that are integral to maintaining Native American societies and identities.

The Kiowa, another Plains group, used eagle feathers to cleanse. For example, Kracht (1992) noted that the Kiowa name for the Ghost Dance, actually meant “Feather Dance” in their language, and this association was not coincidental. The purpose of the Ghost Dance was to “reset” or cleanse the United States of its European intruders, so that aboriginal America and its indigenous peoples could once again enjoy their freedom (Kracht 1992). Eagle feathers were conceived of as having very serious and abundant power, a concept which will be explored below under the heading “Feathers, Power, and Dances”. By attaching an eagle feather to their heads, the dancers were given the power to ascend “to the spirit world” and bring back deceased relatives, flora, and fauna, essentially “cleansing” America of her European intruders and reinstating aboriginal rule of the continent (Kracht 1992: 461, 466).

**Feathers and Gods: Puebloan Groups and Feather Roads**

It should be apparent at this point that birds and feathers play an important role in the Native North American’s ideology and cosmology. Birds and feathers figure prominently in most Puebloan “emergence” stories, during which time humans emerged into this world from the one below (Parsons 1939). Both Hopi and Zuni emergence stories involve specific bird species being the first animals brave enough to emerge into this world. For the Hopi, Dove, Sparrow Hawk, and Chimney Swallow failed in their courage to emerge, but Shrike succeeded, allowing humans to follow in his wake (Parsons 1939: 237). The Zuni story involves the hero Twins having to approach the “paramount Rain Chief”, before being allowed to “ready” this world for its human inhabitants (Parsons 1939: 219). Apparently, the Hero Twin War Chiefs were
frightened of the paramount Rain Chief, and ask Eagle, Chicken Hawk, and lastly, Hummingbird to approach him first. The Paramount Chief perceives the arrival of these birds as a blessing, and allows the Twins to prepare this world for human inhabitants (Parsons 1939: 219). The Zûni say that this is why the Sun and all Spirits like the feathers that “adorn and clothe”, and is why feathers are used as gifts to entice rain from the Cloud beings (Parsons 1939: 206).

The Hopi believe that at the time of emergence the sun did not move across the sky as it does today (Parsons 1939: 241). The first Hopis ask the birds to aid them in their quest to entice the Sun to move, as its stationary position burned their eyes, and rendered them blind. Turkey was the first bird to attempt to push the Sun along its path, but failed, ending up with a burned head (which is why it is red and bald today) (Parsons 1939: 241). Second, Buzzard attempted to move the Sun, but failed as well, resulting in an appearance similar to Turkey. Eagle was the third bird to fly to the Sun in an attempt to push it along its path, but he failed as well, resulting in a burned head, golden in color (Parsons 1939: 241). Lastly, Hawk asked for Turkey, Buzzard, and Eagle to help him move the Sun, and together, the four birds succeeded (Parsons 1939: 241). Vulture (Buzzard) then helped rid the world of its excess water by fanning it away with his wings (Parsons 1939: 242). In a similar story told by the Owens Valley Paiute, Sage Hen fans back the water to save the sacred fire, or “heart” of the people (Steward 1933b: 323). Clearly, there is a strong association between birds (and as a result, their feathers) and gods, which helps explain why some Puebloan groups create “feather roads” to guide and entice gods to specific sites and prayers.
In his study among the Hano people in 1899, Fewkes was able to observe their Winter Solstice ceremony (Fewkes 1899). Within the Monkiva, or most important kiva at Hano, Fewkes noted that the Solstice priests placed a line of four feathers, connected by a string sprinkled with corn meal in front of their alter (Figure 5.5). This “feather string” was called the pūtabi, and was meant to be “a roadway of blessings…along which…the benign influences of the altar pass from it to the kiva entrance and to the pueblo” (Fewkes 1899: 268). Furthermore, other “feather strings” are given to men and women, which are hung from the beams of houses, and imbued “with wishes that the gods may bring them blessings” (Fewkes 1899: 275). Again, we see a connection between the gods’ and spirits’ love and attraction for and toward feathers. Essentially, these “feather roads” were pathways and guides to the gods, so that they knew where to direct their benign influence.

Hough observed a similar use of “feather strings” during his observations of the Sio Shalako ceremony at First Mesa, which is a Hopi Pueblo (Hough and Fewkes 1917). The performers of this ceremony are split into four groups, and proceed to walk toward a mesa, on which “a row of conducting priests made a meal trail…along their course” (Hough and Fewkes 1917: 411). The head priest, named Y’ate, laid the puhu, or feather cord, along the meal trail (Hough and Fewkes 1917: 411). Fewkes, in a letter addressed to Hough, suggests that the importance of the feather cord and meal trail are to entice the “sun birds or sky gods of the four cardinal points” to come and give blessings to the ceremony’s participants (Hough and Fewkes
1917: 414). This explanation makes sense, given the close association between birds and the sun, mentioned above. Moreover, a discussion about feathers and their ability to channel spiritual energy into an object or person will be discussed below.

**Feathers and Magic: Puebloans**

Because feathers and birds are imbued with such significance, symbolism, and meaning among the various groups discussed in this paper, it should come as no surprise that by using feathers in specific ways, human actors are able to produce seemingly “magical” results. Though the concept of “magic” was not explicated by the native groups to be discussed, and was a term attached to their ceremonies by the ethnographer, their ceremonies involve the concept nonetheless. By “magic results” I mean that by performing a small-scale ceremony resembling a desired outcome, the end result will be the large-scale and real event of that desire (Frazer 1922). For example, Parsons (1919) noted that during the first day of the Winter Solstice Ceremony at Zuni, people plant “feather-sticks” with clay figurines of sheep, cattle, and horses, hoping that the gods will appreciate the gifts to such an extent as to increase the actual number of the living sheep, cattle, and horses (Parsons 1919: 279-80). “The figurines and the rite in general is referred to as *itsumawe*…a rite for the increase of all objects represented” (Parsons 1919: 281).

In another study among the Pueblos, Parsons noted that “scant or diminutive offerings…are not…symbolic…they are a kind of magical seed”, and that this concept is pervasive among Puebloan society (Parsons 1939: 94). For example, the single turkey feather atop Hopi and Keresan prayer-sticks is called the mantle or blanket, since that one feather has the power to actually become a feather blanket or cloak (Parsons 1939: 94). This concept may derive from the Hopi story of a young girl ordered to sleep on a “cake of ice” during which time...
two turkey feathers, given to her by Spider Grandmother, kept her warm all night as they had turned into two turkey feather blankets by morning (Parsons 1939: 94).

**Feathers and Magic: Great Basin Groups**

Among the Wind River Shoshone, Yellowhammer or Northern yellow-shafted Flicker (Colaptes auratus luteus) feathers are attached to three-foot long flutes. According to Lowie (1924: 311), the flutes’ song was used to attract and “charm” girls, who would end up joining “him at night for a rendezvous”. The use of Northern yellow-shafted Flicker on a flute used to charm woman was not by accident. The Utes who historically live south of the Wind River Shoshone use yellow cradleboards for baby girls, and speak a language similar to the Shoshone peoples. Since both groups had contact with one another and spoke languages from the same language family, the color yellow may be associated with girls and women for other Great Basin groups as well (Callaway et al. 1986: 347). In this case, the color yellow is definitely associated with the female sex, starting from birth and going on at least until she has reached menses. Once again, we see feathers being used in contexts where the feather-user is relying upon the “magic” of the feather to create a desired outcome.

**Feathers and Magic: Great Plains Groups**

The Arapaho used some feathers for “negative” uses of magic, where the feather was not used to “call” people, multiply into numerous feathers, or increase the number of livestock. Rather, they would attach the feathers of owls to objects or their own body to drive away harmful spirits and ghosts since it was believed that some birds were “supposed to be incarnate spirits” (Kroeber 1907: 453). The power the feathers had to keep negative harmful spirits/ghosts away was because birds themselves were thought to be spirits. So, unlike the instances where feathers
are used to entice spirits to aid in the increase of feathers or objects, the owl feathers used by the Arapaho were to repel spiritual influence.

**Natural Attributes of Feathers and Magic: Puebloan Groups and the Huichol**

Both Puebloan and Huichol peoples believe the natural attributes of a particular bird can be transferred to the person using its feather (Parsons 1939; Lumholtz 1902). For example, among the Hopi and Zuni, feathers are buried with the deceased, since “the feathers render the breath-body light for travel” to the next world (Parsons 1939: 70). Similarly, Zuni couriers wear downy eagle feathers, often associated with clouds, so that they may “run easily” (Parsons 1939: 93, 276, 398). At Cochiti, a pregnant woman will wear turkey feathers on her belt to make her child’s hair fluffy, while at Zuni parents will cut out a mockingbird’s tongue to rub on their child’s lips so that the child learns to talk well (Parsons 1939: 92). Zuni War Chiefs will bury a scrub-jay feather near an enemy’s camp the night before an attack, so that in the morning the enemy awakes in a panic, “like the bird which flies at dawn every which way, as if in panic” (Parsons 1939: 487). Zuni stories are replete with witches wearing crow and owl feathers so that they can “see quickly like the crow and by night like the owl” (Parsons 1939: 109). The Owens Valley Paiute believe that when women dream of eagles and use the bird’s feathers, they can collect up to six-times as many pine nuts in less time than those women who did not use eagle feathers (Steward 1933b: 309). Owens Valley Paiute men would often use the feathers of “Bullet Hawks” (Peregrine Falcons, *Falco peregrines*) to enhance their own hunting prowess (Steward 1933b: 309). Lastly, feathers can “lend” their attributes to non-humans as well. The Zuni have been known to tie roadrunner feathers to their horse’s tail, so that the horse is rendered “swift and tireless” (Parsons 1939: 156).
By donning a particular feather, its wearer can also turn into the actual bird. Parsons stated that Puebloans engage in “nagualism” [sic], and that by donning the feather of a crow, for example, the wearer will actually turn into a crow (Parsons 1939: 66). At Zúñi, witches often use crow and owl feathers to turn themselves into the birds, since both species are highly territorial (Parsons 1939: 136). Parsons suggests that by turning into owls and crows, the witches are better able to drive away the rain and people who hunt witches, like the birds driving away intruders in their territories. The Huichol also believe that their sorcerers and witches appear as owls and turkeys, so that they may eavesdrop on the conversations of those who wish them harm (Lumholtz 1902: 353). Among the Jemez and Hopi, Hunt Shamans will don eagle feathers so that they may turn into the bird, and thus adopt its natural hunting prowess (Parsons 1939: 187). Lastly, the War Captains and Clowns of Acoma occasionally wear the feathers of canyon-wrens and mockingbirds, so that they can go anywhere like the wren, and can speak eloquently like the mockingbird (Parsons 1939: 885).

**Natural Attributes of Feathers and Magic: Great Plains Groups**

The Cheyenne, a Plains group, also believe that donning certain feathers can lend the wearer the natural abilities of the bird whose feathers they wear (Brown 1991). Warriors who adorned their shields with eagle feathers were believed to accrued the “swiftness and courage of that bird”, while those who used owl feathers were thought to share the bird’s ability to see at night and “move silently and unnoticed” (Brown 1991: 25). Men who attached Sandhill Crane (Grus canadensis) feathers and heads to their shields were afforded greater protection, and used the crane’s cry to alarm enemies (Brown 1991: 25). Shamans, too, used eagle feathers to that they would be rendered “alert and swift (making) him invisible to enemies and invulnerable to arrow and tomahawk” (Brown 1991: 26). By associating themselves with the bird with whom
they would like to share physical attributes, the Cheyenne thought of themselves as becoming a part of the bird (Brown 1991: 27).

The Comanche, another Plains group, believe that the spirit of a crow, “through the energy of the feathers, could greatly assist the warrior in battle” (Kerr and Voelker: 2010: 232). Frequently, these feathers, or hi kodako, were attached to the titsiwan, or lance, which was “one of the most iconic and spiritually significant physical manifestations of the warrior ethic” (Kerr and Voelker 2010: 232). Kerr and Voelker note that the hi kodako and titsiwan are still told and retold in Comanche oral histories, which is significant given that the artifact in their analysis was over “120 years old” (Kerr and Voelker 2010: 233). It is true that the intrusion of European settlers disrupted the lifeways of indigenous peoples and animals, but it is also true that Native Americans had methods in place so that particularly important oral histories would not be forgotten. Given the artifacts age, and the fact that their Comanche informants knew the meanings and importance of the object, it would seem that modern ethnographic information can be of useful for making archaeological inferences.

**Feathers, Power, and Dances: Great Plains**

While it may be implied that Puebloan and Northern Mexican groups may have belief systems related to animism, in that their use of feathers certainly suggests that the feathers themselves have a degree of influence, or agency, Plains and Great Basin groups (discussed below) very explicitly state that all “living things are…sacred” and have a “life-force….transmitted down the hierarchy of spirits, birds, animals, humans and plants” (Moore 1996: 211-212). The Northern Paiute acknowledge their belief in a “non-human (usually animal) being who enters into an association with the shaman”, and lends the shaman puhu, or power (Olofson 1979: 12; Fowler 2006: 8). For example, tail feathers from the Black-billed Magpie
were thought to have power helpful to doctors, while Red-tail Hawk feathers were thought to have power used best for aiding dancers (Fowler 2006: 8). The Kiowa belief system is deeply rooted in the concept of *dwdw* or power, which was “a universal force present in everything…these natural entities possessed souls or spirits…” (Kracht 1992: 456). The Arapaho believe that feathers “denote spirits, or again clouds, or wind, and hence breadth and life” (Kroeber 1902: 150).

This life-force, called *exhaustoz* in Cheyenne, enables certain feathers to use their power in beneficial ways for their human users. For example, the Cheyenne believe that the crescent, waxing moon is a sign of good will and protector against darkness (Moore 1996: 207). Therefore, birds and/or animals with the crescent moon shape somewhere on their bodies, like the one seen on the neck of both Northern red- and yellow-shafted Flickers, means that the bird itself is viewed as a protector against death and darkness. In fact, the ethnographic literature suggest that Northern Flicker feathers are held in high regard among many Plains and Great Basin groups, and is seen as a gift of goodwill from the Flicker to a person who may need the Flicker’s help (Fowler 2006: 9). Finding the feather of a corvid and/or owl, and/or hearing their cry meant that the person who heard the cry or found the feather was soon to be the recipient of bad news (Fowler 2006: 9). When a person finds a feather it is not viewed as a haphazard or coincidental gift/sign, rather it is viewed as a deliberate action from the animal to the human.

Though finding a feather is viewed as a direct message/gift from the bird to the person, and is one way in which humans are able to communicate with the universe pervading life-force, people can accrue their own power by dancing (Moore 1996: 212). Often, and especially during the Sun Dance, participants will dress themselves with eagle feathers. The Sun Dance also requires that a central altar be built which contains eagle feathers as representatives for all birds.
The eagle feathers act as a conduit of *exhausto*, helping the dancer receive this universal energy (Moore 1996: 212, 217-218). According to the Cheyenne, the purpose of the Sun Dance is to “renew the people and the earth”, while its focus and emphasis is on birds “with its ‘all birds’ nest’ on the central pole” (Moore 1996: 214, 230). Clearly, all feathers, and especially eagle feathers, are seen as being highly powerful, sacred beings/objects. During the Cheyenne Arrow Ceremony, eagle feathers are used to trace a cross in a bucket of water. This cross represents the Four Sacred Directions, and in the act of using an eagle feather to trace a cross, the Spirits of each direction will be compelled to bless the Arrow Ceremony (Moore 1996: 218). It is interesting to note that every group discussed in this section believe spirits to be especially fond of feathers, to the extent that when they are used in ceremonies, it is nearly impossible for a spirit to ignore the prayers of the human participants.

Feathers are almost always imbued with meanings and symbols beyond that which could be derived from the actual physical attributes of the feather. For example, the Arapaho use specific feathers to decorate their dance regalia, so that the purpose behind the dance would be strengthened. During the Ghost Dance, Arapahos would fasten owl and crow feathers to their bodies, since a “connection was believed to exist between owls and spirits of the dead” (Kroeber 1907: 321). Participants would also fasten feathers to the back of their heads, standing upright, as “head-dresses of this type (were) associated with the expected return of the dead”, since dead people were often depicted in art as human figures with “an upright feather at the back of the head” (Kroeber 1907: 323). The First Degree dancers in the Third Dance often wore robes with feathers attached to the robe’s four corners. Kroeber recorded that these feathers represented the “people holding to and living in accord with the injunctions of the father” (Kroeber 1904: 195). Again, the presented evidence suggests that feathers were almost never used indiscriminately; it
could be argued that feathers were (and are) some of the most sacred objects used by Native Americans.

*Feathers, Power, and Dances: Great Basin*

The Northern Paiute also believe that feathers can convey power to their wearer. According to Olofson (1979: 14), Northern Paiute shamans attached eagle feathers to their sons’ shirts during World War II, because the *puhu* from the eagle feathers protected the men from bombs and bullets. Feathers could even convey *puhu* through dreams. If a Northern Paiute person should doubt the message and meaning of these dreams, they can place “an eagle feather in (their) pillowcase for five nights in succession” which will clarify whether the dreamer was meant to receive *puhu* or not (Olofson 1979: 16). Lastly, Northern Paiute shamans invariably need feathers when healing or performing other ceremonial actions, since it is ultimately the *puhu* from the feather that enables the shaman to effectively perform their duties (Olofson 1979:16-18, 20).

*Feathers in Use: Prayer-sticks, Prayer-feathers, Prayer-arrows, Medicine/Spirit Bundles and Water*

*Prayer-sticks and Water: Puebloan Groups*

Perhaps the most well-known use of feathers among native peoples is their appearance on prayer-sticks.

“Feathers (were) incorporated into a wide range of ritual goods such as clothing, hair ornaments, fetishes, altars, and prayer-sticks. These items (were) used in ceremonies associated with a variety of ritual realms vital to community well-being including rain-making, salt procurement, curing, hunting, leadership, and war” (Eckert and Clark 2009: 12).

In the Southwest, the use of prayer-sticks is a practice as old as Chaco, if not older (Ellis and Hammack 1968; Eckert and Clark 2009). An individual may “plant” sixteen to eighty prayer-sticks a year. Prayer-sticks were placed in fields to entice ancestral Cloud Beings to rain on their
crops, near particular shrines, and occasionally in caves (Ladd 1963; Ellis and Hammack 1968). The connection between feathers and rain (or water) was noted by early Spanish explorers as they encountered various pueblos (Schroeder 1991). There may have been other uses for prayer-sticks during precontact times, but feathers are ephemeral specimens in the archaeological record, and rarely preserve.

Fewkes and Stephen also noted this connection between prayer-sticks and rain/water, in their discussion of why Tusayan prayer-sticks are painted a certain way (Fewkes and Stephen 1892). The sticks were partially painted black, to symbolize the direction above, and “more especially, the black rain-cloud” (Fewkes and Stephen 1892: 227). They also noted that the use of turkey breast feathers on prayer-sticks were “general moisture emblems”, since their white tips symbolized the “foaming water at one of the early deluges” (Fewkes and Stephen 1892: 228). Moreover, during the Mam-Zrau’-Ti ceremony, the fifth song mimics the calls of song-birds, which when numerous, bring “copious rains and an abundant harvest” (Fewkes and Stephen 1892: 232).

Another connection between rain and feathers may be related to the fact that Golden Eagles (Aquila chrysaetos) are thought of as Lords of the Upper Regions (Eckert and Clark 2009). The eagles acted as intermediaries, relaying the message from people asking for rain to the ancestral Cloud Beings, which is reminiscent of the Zuni story about the Twins asking Eagle to approach the paramount Rain Chief (Bartlett 1932; Parsons 1939). Parsons also notes that prayer-sticks are most often offered to the dead and ancestors, who turn into “Cloud Chiefs”, and are thus responsible for giving rain to their descendants (Parsons 1939: 270-271). At Isleta, prayer-sticks are given to the Water People in the river and to Kachinas, as these beings are responsible for giving rain (Parsons 1939: 274). Lastly, the Jemez people use downy feathers on
their prayer-sticks since the feathers mimic the appearance of clouds, and would therefore be pleasing to the Cloud Spirits who are accountable for rain (Parsons 1939: 276).

**Prayer-sticks, Gods, and Ancestors among Puebloan Groups**

Each feather used in producing a prayer-stick represents something different, and the order of the feathers is significant. For Hopi and Zúni Puebloans, the first feather or feathers are either turkey or downy eagle. Downy eagle feathers represent the moon when females attach the feathers and the sun when males do the same (Ladd 1963, Taylor 2007: 17). The turkey feathers are for ancestors (Ladd 1963), which, though not explicitly noted, may have been a “nod” toward acknowledging Ancestral Puebloan expertise in turkey husbandry. Usually, the next feather belongs to a duck, followed by Steller’s jay, both of which are for ancestors and a masked dancer spirit (Taylor 2007: 17).

At Hano Pueblo, prayer-sticks are made during the Winter Solstice Ceremony as “sun-ladders” (Fewkes 1899: 272). Composed of “yellow-bird”, eagle or hawk, and turkey feathers, the prayer-sticks are called “ladders” because they “are symbols of the ladders by which the Sun is supposed to emerge from his house at sunrise” (Fewkes 1899: 273). If one recalls the discussion about the four birds (three of which were hawk, eagle, and turkey) involved in moving the Sun at the time of emergence, it make sense that these feathers would be included in these “sun-ladders”. According to the Hopi and Zúni, the Sun is tired after withdrawing to the south for the winter, so these prayer-stick ladders are made to aid him in his return. The Hano hope that the Sun, upon seeing his ladder, will bless them with sunshine, “fertiliz(ing) their corn and other seeds, and increase(ing) all worldly possessions” (Fewkes 1899: 275).
Prayer-sticks are also used as offerings to the deceased. At Acoma and Laguna, four days after a death, a “medicine-man” will bring prayer-sticks to the home of the deceased, and “place them where the deceased had lain, pray(ing) and bid(ding) the deceased begone” (Parsons 1918: 177). After praying, he takes up his bundle of prayer-sticks again, and brings them to the shipapu, or the opening between this world and the one before. It is within this hole that their ancestors reside (Parsons 1918). Tied to the concept of offering the dead prayer-sticks, is the offering of these objects to kachinas as well, since they are occasionally conceptualized as ancestral peoples (Parsons 1939). Though the difference is slight, the duck feather used on a prayer-stick for the ancestral kachina is tied on backwards, while that used on the prayer-stick for the deceased human is tied on frontwards (Parsons 1939: 173).

Prayer-Sticks “Root” the Town: Puebloan Groups

In all Pueblos, prayer-sticks are buried in the middle of the court or “immured in walls to represent the roots of the town” (Parsons 1939: 8). Laguna people express this phenomenon as saying the prayer-sticks tied their people to the town, while Nambé people say that the place where the prayer-stick is buried represents the “earth navel, where lies the magic roots of the town” (Parsons 1939: 8). Jemez people root a “reddened eagle feather” in the six-directions, to ensure their pueblo is “solid as a rock”, while the Zûni say the place where the prayer-stick is buried is the ever-sought after “middle place” (Parsons 1939: 8-9). This concept is echoed by the Cora, when they say that the parrot feathers used in their votive bowls are “really the patron saints of the community” (Lumholtz 1902: 520).
Prayer-Arrows among the Huichol

A similar concept to prayer-sticks, are the Huichol prayer-arrows. The notion that arrows and feathers are connected is elucidated by Lumholtz’s discussion on Huichol arrow symbolism:

“It is conceded, I suppose, by most ethnologists, that the arrow is a bird with outstretched neck and the mystic power of the bird to see and hear everything is also attributed to it. As the heart of the bird is between the winds, so the vital part, or heart, of the arrow is thought to be that portion to which invariably feathers are attached, the so-called ‘winged-part’” (Lumholtz 1902: 201-2).

Within this context, prayer-arrows are dressed with the feathers from the bird that belongs to the god being addressed (Lumholtz 1902: 203). Most arrows are “sacrificed” by being stuck upright into the ground, which is a practice most likely derived from the story of Duck-Boy (Zingg 2004:133). In this story, Duck-Boy is trying to hunt deer (and/or peyote, it is unclear which since the terms are occasionally interchangeable), but continues to fail until he creates the proper alter, which includes “votive-arrows” (Zingg 2004: 133). Furst (2006) also mentions that the Huichol shaman’s muviéři (feather bundle), is often attached to an arrow, and is perceived as being alive and sentient (Furst 2006: 16). Neither Lumholtz nor Furst go into great detail concerning prayer-arrows, but both do mention that the Huichol shaman is rarely seen without his (Lumholtz 1902; Furst 2006).

Prayer-Feathers and Votive Bowls: Puebloan and northern Mexican Groups

The last use of feathers to be discussed is their association with prayer and votive bowls. Prayer-feathers are used by Puebloan, the Cora, and Huichol peoples. Among Puebloan groups, prayer-feathers are identified as those feathers that are unattached to a stick or string. According to Parsons, prayer-feathers are used on alters in various ceremonies, as they help direct and convey wishes and prayers to the gods (Parsons 1939: 356). Feathers being used to focus and convey prayers to the gods are a common theme, and can be found throughout this chapter.
Besides being used on alters, prayer-feathers are bound together and offered with prayer to the Spirits by all Puebloans, and are worn in the hair by Puebloan people, to express a wish or prayer (Parsons 1939: 285). Stevenson (1903) also noted that during the Zuni race Tikwané Kíwihsiwe, prayer-feathers are offered to the Gods of War, and deposited at a shrine “north of the village (Stevenson 1903: 469). The main difference between prayer-sticks and prayer-feathers appears to be that prayer-sticks are “planted” for specific gods, ancestors, and kachinas. Prayer-feathers are more similar to the modern-practice of casting a coin into a “wishing well”, during which time there does not need to be a specific god, ancestor, or spirit called upon. However, as evidenced by Stevenson’s study of Zuni racing and offerings to Gods of War, this is not always the case, and the context of each offering should be considered before making over-arching conclusions.

Similar to the use of prayer-feathers among the Zuni, Cora racers also “adorn themselves with feathers from various birds, preferably the macaw and the peacock” (Lumholtz 1902: 291). Though Lumholtz does not say so, the Coran runners may be using feathers from these birds so that they adopt some of their physical attributes, such as birds’ natural ability to be light and fleet-footed. However, among these Mexican groups, prayer-feathers are rarely used by themselves, and are most often associated with votive bowls. These bowls are usually mundane drinking gourds, but can be intended for a sacrifice to the gods, too (Lumholtz 1902: 77).

“Bowls are . . . considered effective conveyors of prayers, and every family has a votive bowl, which is taken out into the fields whenever the men hunt deer, plant corn, etc...grains of corn, artificial flowers, wads of cotton-wool, and...feathers may be used in the decoration of the bowl” (Lumholtz 1902: 77-78).

Clearly, feathers are powerful objects for these native groups, and though this may be due to their tentative shared ancestry, it may also have to do with the fact that most native peoples in
North America consider birds and feathers to be extremely important and powerful entities (Kretch 2009).

**Feathers and Medicine/Spirit Bundles: Great Plains and Great Basin Groups**

Among some Great Basin and Plains groups, objects of personal power and meaning are often kept in a medicine or spirit bundle (Lowie 1924; Zedeño 2008; Kracht 1922; Opler 1969; Stewart 1987). The knowledge of what objects should be collected is often given to the person in their dreams (Lowie 1909, 1924; Stewart 1987; Malouf 1955: 82). Hence medicine/spirit bundles only “worked” for their person, and even then it was not always a cooperative relationship. Zedeño (2008) noted that some Plains groups perceived their bundles to be a kind of person, which meant the bundle was also subject to changing power relations that mirrored those found in human society. However, if treated in the respectfully in the prescribed manner, medicine/spirit bundles lent their partners serious power.

The Wind River Shoshone kept a variety of objects in their medicine bundles, as prescribed by their dreams, but eagle feathers were frequently “part of the sacred aggregate” (Lowie 1924: 296). These particular bundles were often used for war-like purposes, and though not explicitly stated by Lowie, perhaps the placement of eagle feathers within the bundle were thought to give the owner increased hunting prowess and ability in war. Similarly, Trenholm and Carley (1964: 32) note the use of medicine bundles among various Plains groups explaining that the bundle was treated like an elder; left outside in the sun, and taken inside the tipi when it rained.

**Summary**
Ideologies, beliefs, and uses of feathers among native groups living in the Great Plains, Great Basin, Southwest, and northern Mexico, display tremendous similarities, and the ubiquitous, yet purposeful-nature of feather usage. The following themes are found cross-culturally: using eagle feathers to cleanse; feathers endowed with their own energy/life-force; feathers ability to give strength to their human counterparts per their natural attributes and/or their ability to communicate with the gods/ancestors. These examples demonstrate the existence of a wide-spread belief system, in which all these groups take part. The reality of this ideology will be explored further in subsequent chapters, as the archaeological signature of this belief system is investigated through the analysis of caves sites with feather deposits (See Analysis Chapter 6).

The fact there exists such widespread similarity does not negate the fact that there is variation in how feathers are conceived of, and used, by the groups discussed in this chapter. However, it is fair to say that there are more similarities than differences, and Chapter 6 will show that this pattern of similarities outweighing differences holds true in the archaeological record. This chapter, and the subsequent analysis chapter, should make clear that the multitude of languages and cultures existing in North America, both in the past and present, were not the barriers anthropologists often make them out to be. Despite their unique historical trajectories and discrete cultural identities, the groups discussed in this chapter ceased looking so different while studying the practices, beliefs, and behaviors surrounding birds/feathers.
Chapter 6: Analysis

Introduction

This chapter presents the analysis and synthesis of data from Mantle’s Cave, Basket Cave, Marigold Rockshelter, Broken Flute Cave, Obelisk Cave, Cave du Pont, Mummy Cave, and Lovelock Cave. The first three sites are in Dinosaur National Monument’s Castle Park Archaeological District and display Fremont influences. The next three are Basketmaker II/III sites, while the last two display Desert Culture and northern Plains influences, respectively. These caves were chosen because their chronologies and cultural influences appear to be similar and dissimilar to Mantle’s Cave. Each site is individually compared to Mantle’s Cave, but not to one another. Comparisons are made in this manner because the purpose of this study is to propose by which group, or groups’, Mantle’s Cave was used. Hence, the salient data pertains to the cultural influences seen in each comparative cave site and how that site compares to Mantle’s Cave. Ethnographic data from Chapter 5 are used to propose potential uses for the feathers from these various archaeological sites.

This chapter also presents the results from the analyses concerning the habitats and distributions of the birds whose feathers were found in Mantle’s Cave and Basket Cave (see Appendix B for discussions, figures, and analyses regarding the birds’ habitats and ranges). Mentioned in the Introduction (Chapter 1), detailed discussion and figures (Appendix B) are only provided for those birds whose feathers either I, or Dr. Trail, were able to identify. Feathers from Marigold Rockshelter were too deteriorated to determine the species of bird, and the
drawings/descriptions of feathers from Broken Flute Cave, Obelisk Cave, Cave du Pont, Mummy Cave, and Lovelock Cave were not sufficient for independent species determination. The birds’ feathers reported for each of the caves (excluding Mantle’s Cave and Basket Cave) were provided by site reports. Thus, discussions and figures detailing the habitat and ranges for the birds whose feathers were found in these caves will not be provided, since neither Dr. Trail nor I had the opportunity to analyze the feathers ourselves.

**Structure of Chapter**

First, feathers recovered from caches in Mantle’s Cave (Tables 6.1) will be discussed in numerical order by cache, while those feathers found in contexts other than caches are discussed in numerical order by Trench (for a complete description of artifacts recovered from the caches in Mantle’s Cave, see Appendix A). Issues surrounding the unprovenienced feathers from this site will be addressed, as will their possible solutions. This section makes clear that some of the feathers previously associated with Mantle’s Cave may actually have been recovered from Basket Cave. These feathers came from three species: Northern Harrier Hawk, Short-Eared Owl, and Dusky Grouse. Mentioned in the “unprovenienced feather” section below, they will be more fully described and analyzed in the section detailing Basket Cave’s feather assemblage.

Following the description and analysis of these artifacts, Table 6.3 presents information regarding whether or not the feathers could have been obtained locally, and/or through long-distance trade/hunting. Appendix B provides figures for each bird’s habitat and range, and provides discussions detailing the likelihood that the feathers were obtained locally or through other means. This data is salient to this thesis, for two main reasons. First, as seen in Chapter 5, the natural attributes of birds often affects both how the feather was used and conceptualized.
Second, the birds’ natural ranges and habitats may be part of the reason they were collected and deposited in Mantle’s Cave.

The analysis of the feathers from Basket Cave will be presented next, as will Table 6.3, which provides information regarding the likelihood of the feathers being obtained locally, or through other means (see Appendix B for figures and discussions detailing the birds’ natural ranges and habitats). In this section, issues surrounding the owl, Harrier Hawk, and grouse feathers will be presented and resolved. Subsequently, comparisons are made between the feather assemblage from Basket Cave and Mantle’s Cave, revealing intriguing similarities between the ways in which the feathers were deposited and how they may have been used.

Marigold Rockshelter will be discussed next. Although the site’s feathers were too deteriorated to identify, the presence of clay hummingbird figurines (UCM 6638) in this site’s assemblage indicates that birds were important to the people living here, too. After a description of Marigold Rockshelter, comparisons are made with the assemblage from Mantle’s Cave. The fact that these two sites were used differently (Marigold as a habitation site; Mantle’s Cave as a storage site), impacted the preservation of feathers at each site, which in turn has implications for how the feathers may have been used, conceived of, and deposited.

This discussion is followed by analyses of feather deposits from cave sites in the Southwest and Great Basin. Broken Flute Cave (Morris 1980) is the first site addressed in this section. Note that many of the feathers were recorded as being collected from “general provenience”, and/or were noted but neither collected nor photographed (Morris 1980: 40, 90, 141, 143). This lack of information made the analyses difficult. Since Pithouse 16 in Broken Flute Cave contained the only feather assemblage both collected and photographed from this site, the discussion centers on this structure. The uncollected, but noted, feathered objects from
Pithouse 7, and the feathers from the cave’s “general provenience”, are also dealt with in this section. Subsequently, comparisons are made between the feather deposits from Mantle’s Cave and Broken Flute Cave.

Obelisk Cave (Morris 1980) is addressed next. Like some of the feathers from Broken Flute Cave, feather objects from Obelisk Cave were noted as being from “general provenience” (Morris 1980: 131). The implications of a “feather box” (described below under the section heading “Obelisk Cave”) recovered from Obelisk Cave are explored, and is followed by a comparison with the feathers from Mantle’s Cave.

Cave du Pont (Nasbuam et al. 1922) is discussed next. Feathers were apparently found in a variety of proveniences, but Nasbuam et al. (1922) only described the context and actual provenience of feathers from Cist 4. Subsequent to this discussion, comparisons are made with the feather assemblage from Mantle’s Cave.

Mummy Cave’s (Husted and Edgar 2002) feather assemblage is the next site discussed in this chapter. Of thirty-eight cultural layers, only one, Cultural Layer 36, contained feathers. After analyzing the various feathers and artifacts found in this layer, the discussion proceeds into how the feathers may have been used. Next, the unprovenienced feathers from this site are considered. Unprovenienced feathers means that their exact location within Cultural Layer 36 was not noted. Lastly, comparisons are made with the feathers from Mantle’s Cave.

The last site discussed in this chapter is Lovelock Cave (Loud and Harrington 1929). At first glance, it may seem odd that Lovelock Cave is included in this sample of comparative cave sites. Unlike the other cave sites, Lovelock Cave is situated near a water source (Humboldt Lake/Sink), making the presence of waterfowl feathers, duck decoys, or any of the feathers in the cave seem logical. After all, the marshy habitat would have attracted a diverse bird (as well as
other animals) population. The reason behind including this site in the comparative sample has to do with the face that feathers were found in protective, even hidden, contexts (Lovelock Cave had at least 40 storage features), and because the cave was used by people practicing the Desert Culture lifestyle. As we have seen, the Desert Culture is thought to have influenced the Fremont culture. Therefore, the analysis of its feather should prove useful in its comparisons to Mantle’s Cave.

The discussion on Lovelock Cave starts with a description concerning the feathers recovered from various proveniences within the cave. Famous for its beautifully preserved duck-decoys, Lovelock Cave’s feather assemblage is subsequently compared to the feather assemblage from Mantle’s Cave.

Quickly, to clarify some of the terms used by Loud and Harrington, note that the term “Lot” means either an identifiable activity area, or was a descriptive tool used by the authors as an easy means of discussing the various excavation areas (Loud and Harrington 1929).

The end of the chapter only provides a short summary of the data presented here, since Chapters 7 presents the synthesis of the data collected in the analysis. There, interpretations, patterns, and potential uses of the feathers from the caves are fleshed out and made explicit.

**Feathers from Mantle’s Cave**

Table 6.1 summarizes the species of birds whose feathers were recovered from Mantle’s Cave, the artifact types comprised of those feathers, and from which cache they may have been recovered.

<table>
<thead>
<tr>
<th>Species of Bird</th>
<th>UCM #</th>
<th>Artifact Type</th>
<th>Cache</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-Billed Magpie</td>
<td>6182</td>
<td>Feather Bundle</td>
<td>1</td>
</tr>
<tr>
<td>“Buteo” Hawks</td>
<td>6183</td>
<td>Feather Bundle</td>
<td>1</td>
</tr>
<tr>
<td>Golden Eagle</td>
<td>6184</td>
<td>Feather Bundle</td>
<td>1</td>
</tr>
<tr>
<td>Northern red-shafted Flicker</td>
<td>6178</td>
<td>Headdress</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6175</td>
<td>Feather Bundle</td>
<td>4</td>
</tr>
<tr>
<td>Species of Bird</td>
<td>UCM #</td>
<td>Artifact Type</td>
<td>Cache</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>-----------------</td>
<td>--------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Northern yellow-shafted Flicker</td>
<td>6198 (possibly)</td>
<td>Feather Bundle</td>
<td>-</td>
</tr>
<tr>
<td>Canada Goose</td>
<td>6118</td>
<td>Single, Unbound Feather</td>
<td>-</td>
</tr>
<tr>
<td>Red-Tailed Hawk</td>
<td>6120; 6129</td>
<td>Single, Unbound Feather</td>
<td>-</td>
</tr>
<tr>
<td>Passerine</td>
<td>6099</td>
<td>Single, Unbound Feather</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Species’ Quill with Incisions</td>
<td>6094</td>
<td>Gaming Piece/Die</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Species’ Feather Fragment</td>
<td>6098</td>
<td>Indeterminate</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 6.1. Species of bird represented by the feathers from Mantle’s Cave, their UCM number, the artifact type, and the Cache in which the feathers were found.

**Feathers in Cache 1, Mantle’s Cave**

In Cache 1, a bundle of about sixteen Black-billed Magpie (*Pica hudsonia*) tail feathers were recovered (UCM 6182; Photograph 6.1). The word “about” is used to indicate that per the University of Colorado’s Natural History Museum’s collection policies, and because the grass fibers holding the feathers together were very fragile, an exact count was not possible. These feathers had a maximum measurement of 30.3 centimeters, and the tail feathers did not appear to be modified. This bundle was found in Cache 1, with the flicker feather headdress (UCM 6178; 882 ± 60 B.P.; 1000 ± 52 B.P.), a butterfly-shaped pendant, an obsidian scraper, one kernel of corn, one bean, two “antler batons, two carapace pieces, bundles of sinew, bark and hide” (Goff 2010: 43; Appendix A).

In addition to the Magpie feathers, there was also a bundle of five to six dozen primary and secondary flight feathers, from an indeterminate species of hawk (UCM 6183; Photograph 6.2). This bundle was also tied with grass fibers, had a maximum length of 18.7cm, and did not appear to be altered. These feathers most likely represent a hawk from a *Buteo* species. In
Colorado, this would include Red-tailed (Buteo jamaicensis), Rough-legged (Buteo lagopus), and Ferruginous Hawks (Buteo regalis), with Swainson's hawk (Buteo swainsoni) less likely because that species has darker, grayer feathers (Dr. Pepper Trail 2012, personal communication). A bundle of about 30 unmodified Golden Eagle (Aquila chrysaetos) feathers, which measured 17.8cm, was also found with this cache (UCM 6184; Photograph 6.3). These feathers most likely came from the stomach or legs of a juvenile eagle, and were tied with a rawhide thong (Mariko Kageyama 2010, personal communication).

The last feather artifact from Cache 1 is the flicker feather headdress (UCM 6178; Photograph 6.4) whose cultural identity has been debated, but most agree it belongs to the Fremont (Hewes 1952; Burgh and Scoggin 1948; Goff 2010: 43-4). Truesdale (1993) received a radiocarbon date of 996-1190 A.D.. The feathers that make up this artifact are 370 “carefully trimmed feathers from red-shafted Flicker (Colaptes cafer collaris), and six from the yellow-shafted Flicker (Colaptes auratus luteus)” (Goff 2010: 43). Interestingly, while the Magpie, Golden Eagle, Northern red-shafted Flicker, and hawk feathers belong to species indigenous to northwest Colorado, Northern yellow-shafted Flickers rarely stray west of the Rocky Mountains.

Northern Flickers: Red-shafted, Yellow-shafted, and Hybrids

Currently, the Northern yellow- and red-shafted Flickers are considered to be the same species, with “intergrade” individuals being the result of a paring between yellow- and red-shafted Flickers. The intergrade Flickers also exhibit characteristics of both red- and yellow-shafted Flickers (Dr. Pepper Trail 2012, personal communication). This hybrid zone stretches south from Alaska to Texas, along the eastern slopes of the Rocky Mountains, and has existed for at least 4,000 years (Wiebe and Bortolotti 2001: 1046). The yellow-shafted feathers in the headdress may actually represent one of these “intergrade” individuals, and thus are not “true”
Northern yellow-shafted Flicker feathers. The subsequent paragraph explicates the issue regarding “true” yellow-shafted Flickers and their hybrid relatives.

Whether these feathers are “truly” from a Northern yellow-shafted Flicker has implications for this study. There is ethnographic evidence that Northern yellow-shafted Flicker feathers were obtained through trade. Ladd (1963) noted the Zuni receiving yellow-shafted Flicker feathers from as far east as Wisconsin, so the yellow-shafted feathers used in this headdress could have been traded or collected from some distance away. Dr. Pepper Trail, Senior Research Scientist/Ornithologist with the United States Fish and Wildlife Service, intimated that visual analysis is not sufficient to determine whether the yellow Flicker feathers belong to a true or intergrade Northern yellow-shafted Flicker (Dr. Pepper Trail 2012, personal communication). DNA analysis could aid in the speciation of the headdresses feathers, but the process is too destructive to compromise this unique and amazingly preserved artifact. The salient issue concerns the implications for items traded and/or obtained over long distances, over those obtained locally. If the feathers in the headdress are “true” Northern yellow-shafted Flicker (Colaptes auratus luteus) feathers, then the person (or people) to whom this object belonged may have increased their social status through the acquisition of the feathers (Brumfiel and Earle 1987; Janetski 2002). Unfortunately, determining whether the feathers belong to an “intergrade” flicker or a Northern yellow-shafted Flicker was not possible at this time.
Photograph 6.1. UCM 6182, Black-Billed Magpie feather bundle.

Photograph 6.2. UCM 6183, *Buteo* hawk feather bundle.
Photograph 6.3. UCM 6184, Golden Eagle feather bundle.

Photograph 6.4. UCM 6178, flicker feather headdress (Photograph courtesy of University of Colorado Natural History Museum).
Feathers in Cache 4, Mantle’s Cave

Cache 4 contained a bundle of sixteen Northern red-shafted Flicker tail, and secondary-flight feathers (UCM 6175; Photograph 6.5). These feathers were wrapped in cordage that displayed the opposite twist as that used for the headdress (UCM 6178; Goff 2010). Collectively measuring 15.6cm, the length of these feathers did not appear to be shortened (http://www.lab.fws.gov/featheratlas/index.php). However, the feathers had been cut to resemble those found in the headdress (UCM 6178; Goff 2010). A sample of the cordage and one of the feathers were sent to The University of Georgia Center for Applied Isotope Studies. The lab was unable to get a date for the cordage, but the feathers came back with a date of 840 +/- 25 B.P., or 1085-1135 A.D (UGAMS 6587). In addition to the bundle of feathers found in this cache, there was also a rabbit tail twined in a Tule (type of reed) bag, and a piece of sinew (Goff 2010: 46; Appendix A).

Feathers from Trench A, Mantle’s Cave

Four feathers, one feather fragment, and one quill from Mantle’s Cave were recovered from general excavations and have relatively clear context information. The field notebooks (Scoggin 1939a, 1939b) and “Data Sheets” (Scoggin 1939-1940) indicate that these feathers have different proveniences. The first is a modified Red-tailed Hawk feather (UCM 6129), while the second is a very “chewed-up” looking Red-tailed Hawk feather (UCM 6120). Provenience
information pertaining to UCM 6129 was described as “missing information” within the “Data Sheets”, so I do not know its association with the other artifacts or feathers (Scoggin 1939-1940). The reason this feather (UCM 6129) was not discussed in the section dealing with unprovenienced objects, is because it is the same type of feather as specimen UCM 6120. I suspect the two feathers may be associated with each other, because the presence of single, unbound feathers from specific birds is uncommon in the feather assemblage of Mantle’s Cave.

UCM 6129 measured 16.2cm, and seems to have had the bottom half of its barbs removed (Photograph 6.6). Pests were the likely culprit responsible for removing the barbs, since they were not removed cleanly from the quill. UCM 6120 measured 16.7cm, and does not appear to be altered. However, due to its decrepit condition, it is hard to say for sure (Photograph 6.7). This feather (UCM 6120) was found in Trench A, Section O2-T, 17.78cm below the ground surface, and was described as being located lying on top of debris under a large rock edge (Figure 6.1).
Photograph 6.6. UCM 6129, Red-tailed Hawk feather.

Photograph 6.7. UCM 6120, Red-tailed Hawk feather.

Photograph 6.9. UCM 6098, altered feather from unknown species.

Photograph 6.10. UCM 6094, incised quill from unknown species.
There was also a 4cm long, small grayish-brown primary flight feather from a bird in the *Passerine* Order (UCM 6099; Photograph 6.8). Dr. Pepper Trail (2012, personal communication) indicated to me that *Passerine* flight feathers rarely have diagnostic traits, meaning visual analysis is not sufficient for identifying *Passerine* birds from their feathers. Furthermore, the provenience information indicates that this feather was found on the surface of Section D-1 (Figure 6.1), implying that it may not be of ancient origin but could have blown in with the wind.

An unidentified, 7cm long feather fragment (UCM 6098) was also found with this collection. The remaining barbs on the quill are dark brown in color, and appear to have been cut (Photograph 6.9). Whether this feather fragment was made a fragment by human hands is difficult to determine. While the cut barbs on the feather are in line with one another, and seem to have been done in one clean, straight stroke, the ends of the quill are splintered and haggard in appearance. The symmetrical nature of the cut barbs indicate to me that the barbs were deliberately shaped by a human, while the splintered ends indicate that the feather was made a fragment, most likely, by natural forces.

This feather fragment (UCM 6098) was found in Trench A, Section 1A, within a stratum of ash and charcoal, 33.02cm below the ground surface (Figure 6.1). Burgh and Scoggin (1948) claim there was no evidence of hearths on the surface of the cave’s floor, but do not state whether they think the cave could have had a hearth at one time which subsequently became buried. This stratum of ash and charcoal could be indicative of a buried hearth, or an area in which hearth contents were dumped. It is clear the feather fragment was associated with some burning event, or was dropped among the ashes and charcoal. Due to its fragmentary nature, visual analysis was not sufficient for determining its species.
The last feather recovered from Trench A, was a 4.5cm long quill from an unknown bird (UCM 6094) (Photograph 6.10). This quill was recovered from Trench A, Section B-1, at the bottom of level A among bark and reed litter (Scoggin 1939-1940; Figure 6.1). There are twenty-five horizontal incisions made on both sides of the quill. This quill has been modified in at least three ways: First, all the barbs have been removed from the feather; Second, the quill has been cut to the above-noted length, as neither end displays the characteristic tapering found on both ends of an unmodified quill; Third, twenty-five incisions have been made on both sides. Due to the removal of the barbs, a visual analysis was unable to determine whether the majority of the incised markings were on the ventral or dorsal side of the quill. A museum note associated with specimen UCM 6094 suggested that this quill could have been a bead and/or gaming piece.

*Feathers from Trench B, Mantle’s Cave*

UCM 6118 (Photograph 6.11) represents either a secondary flight feather or central tail feather, most likely from a Canada Goose (*Branta canadensis*). The feather does not appear to be modified and measured 15.0cm (Dr. Pepper Trail 2012, personal communication). It was found in Trench B, Section 1E-15, 15.2-22.9cm below the ground surface, in association with grass and cedar bark (Figure 6.1). The feather’s quill looks too robust for a tail feather, which is why I suggest it may be a secondary flight feather, but the symmetrical shape indicates its position as a central tail feather. Often, wing feathers have longer, sturdier quills than
those feathers from the tail, since they take the brunt of the force during take-off, flying, and landing (http://www.lab.fws.gov/featheratlas/index.php). However, wing feathers are usually asymmetrical as a result of their outer vanes being narrower than the inner, and this feather is very symmetrical suggesting it is a tail feather.

**Summary of Feathers from Trenches A and B, Mantle’s Cave**

Within Trench A, UCM 6098 (Photograph 6.9), Cache 6, UCM 6120 (Photograph 6.7) and UCM 6094 (Photograph 6.10) were recovered. However, based on the map (Figure 6.1), the proveniences for each find are distinct. The quills (UCM 6154) were purportedly found in association with Cache 6 (Section 1C-1; Appendix A), but UCMs 6094, 6098, and 6120 were found elsewhere. UCM 6098 was found in a level characterized by charcoal and ash; UCM 6120 was described as being found lying on top of debris, with no mention of charcoal or ash; UCM 6094 was located among bark and reed litter, with no mention of debris or burnt material (Scoggin 1939a, 1939b, 1939-1940). Furthermore, the depth of each artifact from the surface indicates varying levels of deposition, too. UCMs 6175, 6182, 6183, and 6184 were all found in association with one another in Cache 4 (Goff 2006, 2010; Scoggin 1939a, 1939b, 1939-1940; Appendix A). UCM 6118 was the only feather found in Trench B, Section 1E-15.
Figure 6.1. Plan View of Mantle’s Cave Showing Contours and Areas of Excavation (Trench A is outlined in red, Trench B in black; Burgh and Scoggin 1948: 23).
Unprovenienced Feathers, Mantle’s Cave

A number of feathers in this collection are unprovenienced, and Scoggin’s field notes did not help, as no mention was made about these “loose” feathers (Scoggin 1939a, 1939b, 1939-1940). However, possible solutions for these issues are offered below under the heading “Possible Solutions for the Unprovenienced Feathers”. These unprovenienced feathers include 163 Northern red-shafted Flicker feathers, ten Short-Eared Owl feathers, 17 hawk feathers, and one Dusky Grouse feather. It is not clear if these flicker feathers should be included in Mantle’s Cave assemblage, since they are neither mentioned in the field notes nor monograph, and they have an ambiguous UCM catalogue number. The museum Collections Manager (Christina Cain, 2012 personal communication) implied that these feathers were most likely from Mantle’s Cave, but could not be certain. Nonetheless, measurements and a visual analysis were completed. The flicker feathers came from the tail and wing, and had measurements (tail 8-11.6cm; wing 9-14.2cm) indicating they were not altered (Photograph 6.12). Because their provenience information is unclear, little can be said about these feathers.

The other loose feathers had multiple UCM catalogue numbers associated with them, making their association with Mantle’s Cave uncertain. The 17 hawk feathers (Photograph 6.13), ten Short-Eared Owl (Asio flammeus) feathers (Photographs 6.14 and 6.15) and one Dusky Grouse (Dendragapus obscures) (Photograph 6.16) are in association with a poorly-preserved grass mat or bundle. Because different species of hawk can display the same coloration and markings, and members of the same species may display disparate patterns, the speciation of hawk feathers is particularly difficult (Mariko Kageyama 2010, personal communication).

The Short-Eared Owl feathers are made up of three primary flight feathers, and six tail feathers. The flight feathers measured 23-25.2cm, while the tail feathers measured 14.3-16cm.
Though bent in appearance, these feathers were not altered, and their current form has more to do with their age and the way in which they were deposited with the grass mat/bundle. The Dusky Grouse feather measured 14.6cm, was not altered, and represents a male tail feather. Male Dusky Grouse have pale-gray to white tipped tail feathers, the females do not.

The hawk feathers are two “right-handed” primary flight feathers, one “left-handed” primary-flight feather, and 14 secondary-flight feathers. The primaries measure between 18.4-20.5cm, while the secondary feathers measure between 12.5 and 15.1cm. Based on these measurements, and visual analysis of the feathers, they do not appear to be altered.

The hawk most likely represented by these feathers is the Northern Harrier (Circus cyaneus). This conclusion is based on the following three attributes, shape, gray “bloom” and feather patterns. First, feather shape: the shape of the primaries does not seem right for either Buteo or Accipiter species. Some of these feathers have long, relatively straight tips, rounded, rather than pointed ends, and the emargination (pronounced narrowing along the edge of primary feathers) split is hardly visible. All these shape characteristics match Harrier hawks better than other North American hawks. Second, there is a gray “bloom” on the anterior vanes of these feathers which is characteristic of Northern Harrier, Rough-Legged (Buteo lagopus), and Ferruginous Hawks (Buteo regalis). However, Rough-Legged and Ferruginous Hawks have different patterns than these feathers, making it unlikely these feathers are from either of those species. Third, the feather patterns are most similar to Red-tailed (Buteo jamaicensis) and Northern Harrier Hawks, but Red-tailed Hawks usually have dark primary tips on the underside of the feather, or if there is barring, it is much narrower. Thus, Dr. Trail and I determined the feathers belonged to a Northern Harrier Hawk(s).
The presence of the single Dusky Grouse tail feather in apparent association with Northern Harrier Hawk and Short-Eared Owl feathers raises questions pertaining to its original provenience. While the Northern Harrier Hawk and Short-Eared Owl are found in similar habitats (marshes and wet meadows for nesting; marshes or other open scrub/grassland habitats in winter), Dusky Grouse inhabit different environments (Douglas-Fir and Lodgepole Pine stands in the winter; aspen-sagebrush interface for mating and nesting) (Dr. Pepper Trail 2012, personal communication). The Northern Harrier and Short-Eared Owl also display similar behaviors in that they are raptor-type birds, predators, and are carnivorous. The Dusky Grouse ingests Vaccinium berry and insects, and spends the majority of its life on the ground.

Furthermore, the Northern Harrier feathers most likely came from a female (based on the feathers’ color), while the Dusky Grouse feather came from a male. The sex of the owl feathers cannot be determined on visual analysis alone. While these differences do not necessarily indicate that the original context of the feathers was lost when moved from site to museum, and then from museum drawer to museum drawer, it is interesting that the other feathers were kept separate based on species. Perhaps the association of female Northern Harrier Hawk feathers, the male tail feather from a Dusky Grouse, and Short-Eared Owl feathers, speak to a specific use for the feathers. As Chapter 5 showed us, particular feathers had specific meanings and purposes. It is possible that in order for these feathers to “work” correctly, they had to be grouped in this manner.
Photograph 6.12. Possibly UCM 6198, Northern red-shafted Flicker feather bundle and a selection of unbound feathers (this photograph does not show all 163 feathers).

Photograph 6.14. Short-Eared Owl feathers (one primary and six secondary flight feathers from the bird’s right wing).

Photograph 6.15. Short-eared Owl feathers (three primary flight feathers from the bird’s left wing).
Photograph 6.16. (From left to right) **Four Short-Eared Owl feathers, three Northern Harrier Feathers, and the Dusky Grouse feather to the far right (note white tip).**

**Possible Solutions for the Unprovenienced Feathers**

After examining/reviewing/consulting the museum’s Ledger for accessioned artifacts, a description was found for two bundles of Northern red-shafted Flicker feathers recovered from Mantle’s Cave, associated with catalog number UCM 6198. The Catalog Card for UCM 6198 had the same description as above, though it noted its provenience as being unknown.

Continuing the search, the artifacts were revisited, and the box in which they were found said these feathers were from Mantle’s Cave. Seen in photograph 6.12, one of these bundles was still intact, so it was significant that a lone or “empty” vegetal tie of the same material, size, and shape as the one currently holding a bundle of red-shafted Flicker feathers, was found here. Though it is uncertain, this lone vegetal tie may have been around the now-loose red-shafted feathers. If this interpretation is right, then the 163 unprovenienced Northern red-shafted Flicker feathers came from Mantle’s, and had originally been stored as two bundles. Furthermore, this means that the people using Mantle’s Cave clearly had a preference for Northern red-shafted
Flicker feathers, and appear to have used them frequently enough to warrant the storage of so many feathers (Table 6.2).

<table>
<thead>
<tr>
<th>Species of Bird</th>
<th>Number of Feathers</th>
<th>Percentage (Headdress feathers included)</th>
<th>Percentage (without Headdress feathers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Flicker (Headdress feathers included)</td>
<td>549</td>
<td>65%</td>
<td>-</td>
</tr>
<tr>
<td>Northern Flicker (without headdress feathers)</td>
<td>179</td>
<td>-</td>
<td>61%</td>
</tr>
<tr>
<td>Golden Eagle</td>
<td>30</td>
<td>4%%</td>
<td>10%</td>
</tr>
<tr>
<td>Black-Billed Magpie</td>
<td>16</td>
<td>2%</td>
<td>5-6%</td>
</tr>
<tr>
<td>Red-Tailed Hawk</td>
<td>2</td>
<td>Less than 1%</td>
<td>Less than 1%</td>
</tr>
<tr>
<td>Canada Goose</td>
<td>1</td>
<td>Less than 1%</td>
<td>Less than 1%</td>
</tr>
<tr>
<td>“Buteo” Hawk</td>
<td>60-72</td>
<td>7-8%</td>
<td>23%</td>
</tr>
<tr>
<td>Total (with Headdress)</td>
<td>837-849</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (without Headdress)</td>
<td>288-300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.2. Total number of feathers from Mantle’s Cave and percentages.

Determining the provenience of the Northern Harrier, Short-eared Owl, and Dusky Grouse feathers was problematic as well, since no explicit mention of them was made in any of the Mantle’s Cave archival material. Associated with a poorly preserved jumble of reed/grass materials in the museum drawer, the databases created for Mantle’s Cave had two catalog numbers (1939.01.005 and a0328) associated with a grass bundle and quills. Using the “Data Recovery List” for Castle Park, the artifacts associated with the catalog number a0328 were described as a grass bundle with quills, but were from Basket Cave, not Mantle’s. If these catalogue numbers are for the grass bundle, it is odd that these feathers were not explicitly listed as such, and were instead described as quills. It is plausible that in order to preserve the grass bundle, the object was not investigated to such an extent that the quills were found to be feathers. Since these feathers were found in association with vegetal material in a museum drawer, had no mention of them in Mantle’s Cave archival material, and seemed to have a similar artifact
description in Basket Cave’s material, I suspect these feathers and vegetal bundle are actually from Basket Cave.

I was unable to find the three unidentified quills (UCM 6154) noted as being in Cache 6 (Goff 2010: 47; Appendix A). Another discrepancy exists between Goff’s report that there were three quills, and Scoggin’s account that there were six quills found in association with Cache 6 (Scoggin 1939b; Scoggin 1939-1940). Unfortunately, these are common problems faced by archaeologists using older museum collections. The collection manager at the University of Colorado Natural History Museum, Christina Cain, was indispensable in my search for correct provenience information, and has taken the necessary steps to clear up some of these discrepancies.

**Habitats/Distributions of the Birds**

*Mantle’s Cave*

Were feathers obtained and/or traded from some distance away, or obtained within the locality of Mantle’s Cave? Birds do not always stay where they are “supposed to”, occasionally ending up hundreds of miles from their “home” territory (Dr. Trail 2012, personal communication). The feathers that may represent a non-local bird are the possible Northern yellow-shafted Flicker feathers in the headdress (UCM 6178). The issue surrounding the identification of these particular feathers was discussed above, so here, it will not be discussed at length. To summarize, the Northern red- and yellow-shafted Flickers occasionally mate, and produce offspring displaying the traits of both parents (intergrade individuals). To that extent, determining whether or not the Northern yellow-shafted Flicker feathers in the headdress belong to true Northern yellow-shafted Flickers, or intergrade individuals, was not possible with visual analysis alone.
Table 6.3 presents information regarding whether or not the feathers from Mantle’s Cave could have been obtained locally.

<table>
<thead>
<tr>
<th>Bird Species</th>
<th>Locally Available</th>
<th>Long-Distance Trade/Hunting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-billed Magpie (<em>Pica hudsonia</em>)</td>
<td>Yes (Trost 1999)</td>
<td></td>
</tr>
<tr>
<td>Northern Flicker Red-shafted (<em>Colaptes auratus cafer</em>)</td>
<td>Yes (Wiebe and Moore 2008)</td>
<td></td>
</tr>
<tr>
<td>Northern Flicker Yellow-Shafted (<em>Colaptes auratus</em>)</td>
<td>Indeterminate (Dr. Trail, personal communication: 2012)</td>
<td>Indeterminate</td>
</tr>
<tr>
<td>Golden Eagle (<em>Aquila chrysaetos</em>)</td>
<td>Yes (Kochert et al. 2002)</td>
<td></td>
</tr>
<tr>
<td>Red-Tailed Hawk (<em>Buteo jamaicensis</em>)</td>
<td>Yes (Preston and Beane 2009)</td>
<td></td>
</tr>
<tr>
<td>Rough-Legged Hawk (<em>Buteo lagopus</em>)</td>
<td>Yes, but most likely during winter months (Bechard and Swem 2002)</td>
<td>Potentially, during spring, summer, and fall months (Bechard and Swem 2002)</td>
</tr>
<tr>
<td>Ferruginous Hawk (<em>Buteo regalis</em>)</td>
<td>Yes (Bechard and Schmutz 1995)</td>
<td></td>
</tr>
<tr>
<td>Canada Goose (<em>Branta canadensis</em>)</td>
<td>Yes (Mowbray et al. 2002)</td>
<td></td>
</tr>
</tbody>
</table>

Table 6.3. Likelihood of the feathers from Mantle’s Cave being obtained locally (see Appendix B for figures of birds’ habitats and detailed discussions).

Dinosaur National Monument and Castle Park Caves with Feathers

*Basket Cave*

As mentioned above, the presence of the owl, Northern Harrier, and Dusky grouse feathers with other materials from Mantle’s Cave was misleading. These feathers most likely came from Basket Cave. As such their analysis and comparison to Mantle’s Cave will be discussed here. Antecedent to that discussion, however, a quick background on Basket Cave will be provided (this cave is described more fully in Chapter 2, the Background Chapter).

Like Mantle’s, Basket Cave has little evidence that people ever inhabited the cave as there were no hearths and/or structural remains. Also like Mantle’s Cave, the site was used to store goods. From this cave, at least 49 feathers were recovered, 46 of which were in bundles
and/or were associated together. The first feather bundle (UCM 6105) measured about 18.7 cm in length, was comprised of about 19 *Buteo* feathers, and one possible Northern Harrier Hawk primary flight feather. Due to the fragile nature of the feathers and the cord holding them together, neither an exact count nor measurement was possible.

The feathers in this bundle are similar to the species already discussed, so the information will not be repeated here. This bundle was found in association with a cache of slate blades. Both the blades and the feather bundle appear to have been placed under a large rock. Unlike Cache 1 in Mantle’s Cave, which held specimens UCM 6178, 6182, 6183, and UCM 6184, this feather bundle (UCM 6105) was found lying next to the cache of blades, and should not be thought of as part of that cache.

The grass/reed bundle (a0328) which contained the owl, Northern Harrier, and Dusky Grouse feathers was located underneath a large rock which was associated with four basket fragments (Scoggin 1940). It is unclear from Scoggin’s notes whether the basket had originally held the rock, subsequently disintegrating to the point where only four pieces of it were left, or if the basket had been sitting on top of the rock. Noted above, it is odd that the original description of this bundle said its contents were quills, and did not explicitly state the quills were feathers (Scoggin 1940). Given the description for artifact a0328 as a bound grass bundle containing quills, and the lack of any University of Colorado Museum accession number associated with the actual feathers, it is likely that the Northern Harrier, owl, and grouse feathers were the quills which Scoggin noted (Scoggin 1940).

There were also three fragments of feathers (UCM 6134) recovered from Basket Cave, measuring 7.0 centimeters, 10.4 centimeters, and 9.5 centimeters, respectively. Unfortunately, the feathers had degraded to such an extent that the identification of their species remained
uncertain, though the museum note said they were “duck-hawk” or Peregrine Falcon (*Falco peregrines*; but note that I am unsure of the actual species represented by these feathers). Unlike the other feathers recovered from Basket Cave, which seem to have been placed in protective contexts, these feathers were deposited differently. First, the only provenience information available for these feather fragments suggests they were found in a layer of refuse, or midden material. The other feathers were bundled together, and were put to rest under rocks. Second, these feathers (UCM 6134) are deteriorated to such an extent that visual analysis was not sufficient for determining the species of bird. Again, the other feathers were preserved well enough that visual analysis was able to determine the actual genus and species. It is plausible that the different degrees of preservation are indicative of how the feathers were thought about and subsequently treated. Clearly, the bundled feathers were purposefully placed to rest with protective rock coverings, while it appears that the (possible) Peregrine Falcon feathers were found among refuse. In the discussion on Marigold Rockshelter, implications surrounding the ways in which various feathers were deposited are further explored.

Table 6.4 shows whether or not the feathers from Basket Cave could have been acquired locally or through long-distance trade/hunting.

<table>
<thead>
<tr>
<th>Bird Species</th>
<th>Locally Available</th>
<th>Long-Distance Trade/Hunting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-Eared Owl (<em>Asio flammeus</em>)</td>
<td>Yes (Wiggins et al. 2006)</td>
<td></td>
</tr>
<tr>
<td>Dusky Grouse (<em>Dendragapus obscurae</em>)</td>
<td>Yes (Zwickel and Bendell 2005)</td>
<td></td>
</tr>
<tr>
<td>Northern Harrier Hawk (<em>Circus cyaneus</em>)</td>
<td>Yes (Smith et al. 2005)</td>
<td></td>
</tr>
<tr>
<td>Peregrine Falcon (<em>Falco peregrines</em>)</td>
<td>Yes, but most likely only in the spring, summer, and fall months (White et al. 2002)</td>
<td>Potentially, during the winter (White et al. 2002)</td>
</tr>
</tbody>
</table>

Table 6.4. Likelihood of the feathers from Basket Cave being obtained locally (see Appendix B for figures of birds’ habitats and discussion).
Comparisons between Mantle’s Cave and Basket Cave

Mantle’s Cave had significantly more feathers than Basket Cave, but the depositional processes for the feathers appear to be similar in both caves. Both sites contained feather bundles that appear to have been purposefully put in protective contexts (i.e. caches, bags, under rocks). Both sites also had unbound feathers that reflected different depositional processes than the ones in bundles. The feathers not found in bundles were often disintegrated to such an extent that visual analysis was not sufficient to determine the bird species, and were found in contexts very different than the bundles.

For example, UCM 6098 from Mantle’s Cave was found in a layer of ash and charcoal, while UCM 6178, 6182, 6183, 6184 were found in Cache 1 within a “Ceremonial Bag”. In Basket Cave, the grass/reed bundle that contained the hawk, owl, and grouse feathers was found under a large rock, which afforded the bundle some protection, while the possible Peregrine Falcon feather fragments were found in a layer of refuse. The disparate ways in which these feathers were deposited probably reflects the different ways in which they were conceived and used. Perhaps the bundles deposited with the appearance of more care (i.e. with rocks overlying the bundle) were considered more important than those feathers found in refuse and ashy contexts.

The way in which the two caves were used is similar, too. Neither cave had evidence of habitation, and given what is known about Fremont lifeways, these particular caves were probably sites on a seasonal round (Kelly 1995; Aikens 1972; Madsen 1989; Morss 1931). If these caves were being used in the context of a seasonal round, the presence of various types of food and tools make sense, since different types of tools and food would be needed at different times of the year. How then, are the presence feathers explained, since they are neither food nor
tool? Based on the ethnographic literature, it can be argued that feathers were conceived of as being a type of tool, since their presence in many rituals, ceremonies, dances, and healing practices are absolutely necessary for the desired outcome to occur. From this perspective, it makes more sense that non-food, non-tool items would appear in caves most likely used during a group’s seasonal round, since the feathers may have been thought of as utilitarian objects.

**Marigold Rockshelter (5MF9)**

Marigold Rockshelter is a cave site within the Castle Park Archaeological District, and is a good example of a cave with habitation architecture in this district (Bernard and Prokopetz 2005). Wood from House I provided a tree-ring date of A.D. 750, but the presence of Desert Side-notched points in good contexts suggest later use of the site; Bernard and Prokopetz (2005: Section 7, pp. 14) propose that the site was reused occasionally from 400 B.C. – A.D. 1881. This site had a total of four habitation structures (Houses 1-4), a midden, and a rock art panel. Of interest to this thesis was the presence of four to five feathers associated with a scrap of fur (UCM 6642). Due to their fragile condition, I was unable to remove them from their protective bags. Thus, measurements and species identifications were not possible. Because of their deteriorated condition, my visual analysis was not sufficient to say anything of consequence concerning how the feathers may have been used. However, three clay hummingbird figurines (UCM 6638) were recovered from House I, and appeared to have sticks stuck into their sides to mimic the appearance of feathers. Unfired clay figurines are not uncommon at Fremont sites, and though usually anthropomorphic, animal figures have been noted as well (Aikens 1977; Morss 1951; Morrs 1931).
Comparisons between Mantle’s Cave and Marigold Rockshelter

Feather fragments from Marigold Rockshelter were not well preserved, so their relationship (if any) to the bird figurines is indeterminate. What should be taken away from this brief discussion is that Mantle’s Cave and Marigold Rockshelter were used for different purposes. Marigold Rockshelter was a habitation site with storage features while Mantle’s Cave was purely a storage location. The presence of pumpkin and maize remains from inside the houses at Marigold Rockshelter indicates that the people living there probably practiced agriculture not too far from the cave, and may have used this site as a base from which to work the fields during the growing season. While Mantle’s Cave had floral domesticates in its assemblage, people were using it as a place to store necessary goods and tools, not as a place to live while engaged in agriculture.

Another difference between the two sites is exemplified in the depositional differences between the feathers from Mantle’s versus the feathers from Marigold Cave. Unlike the bundles of feathers from Mantle’s which were placed with care and precision in caches and “Ceremonial Bags”, the feather scraps from Marigold were not afforded such care. Comparing the degree of preservation of feathers from protective contexts in Mantle’s Cave, with the preservation of the single feathers found in various unprotected contexts, shows that the degree of preservation appears to correlate with how the feathers were treated. Specifically, the feathers that were kept in a bundle and/or were placed in protective contexts fared much better than those found unbound and in unprotected contexts. Thus, it is reasonable to suspect that the feathers recovered from Marigold Rockshelter were not found in protected contexts like a pit or cache.

Further, it is reasonable to propose that the feathers and associated scrap of fur from Marigold were on their way to being incorporated into a recognizable artifact, like a feather
blanket. In contrast, the feather bundles from Mantle’s were meant to stay as such. I argue that the bundles and feathers in caches were afforded different meaning and had different purposes than those found in unprotected contexts. The main argument for this conclusion is that pits could have been excavated, and caches could have been formed for unbound and solitary feathers, but they were not. Clearly, unbound and bound feathers were thought of and treated differently from one another. Based on the ethnographic research, it is acceptable to assume that the bundles and/or feathers in caches were thought of as more than just feathers (i.e. symbolically), and were treated as such. The feather scraps from Marigold Rockshelter are indicative that the people using this site did not afford these specific feathers special treatment.

**Caves in the Southwest and Great Basin with Feather Deposits**

In addition to the cave sites in Dinosaur National Monument’s Castle Park Archaeological District, cave sites from around the Great Basin and Southwest were also compared to Mantle’s Cave. The reason the methodologies concerning the archaeological and ethnographic reviews differ was noted elsewhere, but to summarize: the assemblage from Mantle’s Cave most resembles those assemblages from caves in the Southwest and Great Basin, while ethnographically speaking any of the groups in the Southwest, Great Basin, Great Plains, and even northern Mexico could be Fremont descendants. That is why the ethnographic section covers groups living in the Southwest, northern Mexico, Great Basin, and Great Plains, and the analysis section covers cave sites only in the Great Basin and Southwest. Table 6.5 summarizes the cultural and temporal data for the caves.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Time Period</th>
<th>Cultural Affiliation</th>
<th>Site Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken Flute Cave</td>
<td>A.D. 490-800</td>
<td>Basketmaker III</td>
<td>Habitation</td>
</tr>
<tr>
<td>Obelisk Cave</td>
<td>A.D. 470-489</td>
<td>Basketmaker III</td>
<td>Habitation</td>
</tr>
<tr>
<td>Site Name</td>
<td>Time Period</td>
<td>Cultural Affiliation</td>
<td>Site Type</td>
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<td>---------------</td>
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</tr>
<tr>
<td>Cave du Pont</td>
<td>A.D. 217</td>
<td>Basketmaker II</td>
<td>Storage</td>
</tr>
<tr>
<td>Mummy Cave</td>
<td>7,280 B.C. –A.D. 1610</td>
<td>Paleoindian to Shoshoni</td>
<td>Habitation</td>
</tr>
<tr>
<td>Lovelock Cave</td>
<td>2500 B.C. –A.D. 1835</td>
<td>Lovelock Culture; Northern Paiute</td>
<td>Habitation</td>
</tr>
</tbody>
</table>

Table 6.5. Cave sites from the Great Basin and Southwest with feathers.
Basketmaker Caves in Arizona

Figure 6.2. Map showing the Prayer Rock District, in which Broken Flute and Obelisk Caves are located (Morris 1980: 6).

**Broken Flute Cave**

Broken Flute Cave faces south from the end of the easternmost cove on the north side of Atahonez Canyon (Morris 1980: 11; Figure 6.2). The cave’s floor was covered by the remains of human occupation, and had 16 pithouses, 65 storage features, and one potential great kiva (Figure 6.3). Unlike Mantle’s Cave, Broken Flute Cave was primarily used for habitation, not storage. A bundle of feathers was recovered from a subfloor cache in Pithouse 16, two prayersticks and one cob with a feather in it were recorded, but not collected, from Pithouse 7, a lump of clay with the impression of a large quill and three small feathers stuck in it was recovered from “general provenience”, and another cob with part of a feather stuck in it was attributed to “general provenience”, too (Morris 1980: 40, 90, 141, 143).
Morris (1980: 90-91) also recorded the presence of five pieces of quill and “split feathers with notched quills” from “general provenience”. Morris suggested that the split feathers with notched quills were being readied for use in a blanket, and guessed that the quills were large enough to represent either a Trumpeter Swan (*Cygnus buccinator*) or a Golden Eagle. Either bird would have been available to the people living in and around Broken Flute Cave (Scott and McFarland 2010). The artifacts from “general provenience” lend little information to this thesis. Without their context, it cannot be determined about how the feathers were used, deposited, or handled. Suffice it to say that the presence of the lump of clay in which feathers were stuck, the corncob “prayerstick”, the notched feathers, and five quills, indicate that birds and feathers were important resources to the people living here.

![Plan view of Broken Flute Cave](image)

**Figure 6.3. Plan view of Broken Flute Cave** (Morris 1980: 12).
**Pithouse 16**

Four projectile points, a feather fan, two bone dice, leather scraps, and two sinew bundles were recovered from Pithouse 16’s “subfloor caches”, though Morris does not indicate which artifacts are associated with one another. The feather fan was made up of black and white feathers, 16cm in length, which were tied to the ends of several pieces of cordage. Red and blue feathers were inserted into each tie (Morris 1980: 90). The loose ends of cordage were then tied in a small bundle with a piece of hide used to secure the wrap, while any loose ends were then tied together to “serve as a small carrying loop” (Morris 1980: 90).

One of the major differences between this bundle and those found in Mantle’s Cave, is that the one from Broken Flute Cave was made so that it had a functioning handle which could be grasped without damaging or removing feathers from the bundle. Morris (1980) even interpreted the fan as having carrying loops. The bundles from Mantle’s Cave are delicate to the extent that the Collection’s Manager asked that I not attempt to untie or remove the feathers from their cordage-wrapping. These manufacturing differences probably indicate different uses for the feathers. Additionally, the dates for Broken Flute Cave place it, and its contents, centuries before the dated feather bundle (Cache 4, UCM 6175) from Mantle’s Cave. Common sense would argue that the older feathers would be more fragile than their newer compatriots, but this is not the case, and neither does it have to do with the way in which the feathers were deposited. Both caves contained their feathers in protective contexts.

Perhaps significant to the presence of a feather fan in a subfloor cache of Pithouse 16, a great kiva was constructed over Pithouse 16. No other pithouse in the cave was superimposed upon to the same extent, and there was space for a great kiva to be constructed elsewhere in the cave other than on top of Pithouse 16 (Morris 1980: 12). Pithouse 16 was also one of the first
houses constructed in this cave (A.D. 500), with the oldest structures giving dates of A.D. 494 (Pithouse 8A) and A.D. 499 (Pithouse 2) (Hayes-Gilpin 1998: 31). The connection is too tenuous to suggest that the great kiva was placed upon Pithouse 16 because of the subfloor caches, but it would be equally incorrect to say that the people who built the great kiva did not realize there was a previously constructed house.

Basso (1996), and Varien and Wilshusen (2002), have written about the pervasive Southwestern tradition of “seeking the center”, occasionally citing as evidence the presence of newly constructed structures over previously constructed buildings. Pithouse 16 was one of the first pithouses built in Broken Flute Cave, and was constructed in its eastern portion. Interestingly, the majority of pitstructures were built on the west side of Broken Flute, making both Pithouse 16’s and the great kiva’s presence on the eastern side somewhat unique (Morris 1980: 12). To a certain extent, the great kiva may have been constructed in that particular location because Pithouse 16 had already been built there. There may be a tenuous connection between “planting” prayersticks under floors and in the cave itself, and the practice of constructing ceremonial architecture (the great kiva) over previously constructed houses.

Recall the discussion on “prayersticks rooting the town” in Chapter 5, and consider both the presence of at least two prayersticks in the fill of Pithouse 7, and the one cob with a large feather stuck in it from Broken Flute Cave’s “general provenience”. These prayersticks may have been “planted” in the pithouses and cave for similar reasons to those still being planted in descendant communities today. Apparently, there was also a “bunch of feathers wrapped in prepared fiber” under the floor of Pithouse 7, though no mention of it was made subsequent to its original documentation (Morris 1980: 31). Nevertheless, if a bundle of feathers was found underneath the floor of Pithouse 7, this may be another incidence where feathers are being used
to ritually “root” a structure and/or a group of people to a particular place. The practice of placing objects under structures and/or building ceremonial architecture over previously constructed buildings may have to do with Southwestern people physically connecting themselves to the land and its past.

*Mantle’s Cave and Broken Flute Cave Comparisons*

How do the deposits in Broken Flute Cave compare with the feathers and artifacts from Mantle’s Cave, Colorado? First, the feathers in Broken Flute Cave were prepared differently than those found in Mantle’s Cave, though all feathers were deposited in similar, i.e. protective, contexts. Second, the feathers from Broken Flute Cave were used in the manufacture of other artifacts, like prayersticks, while the majority of feathers from Mantle’s Cave were kept in bundles. Third, though the temporal difference between Broken Flute Cave and Mantle’s Cave should not be ignored, the lifestyles exhibited during the Basketmaker III period seems similar to that of the people living in Dinosaur National Monument. The people living in Dinosaur National Monument lived a semi-sedentary/mobile lifestyle, practiced some agriculture in addition to supplementing diets with wild foodstuffs, and tended to live in villages of a small size, like Basketmaker III populations.

The supposition that the people living in Mantle’s Cave practiced a lifestyle similar to the Basketmaker III peoples using Broken Flute Cave is interesting, but does not help with my research question. The dated feather bundle from Cache 4 (UCM 6175) in Mantle’s Cave post-date the Basketmaker III period and we already know that the artifacts within Mantle’s display Basketmaker traits. If anything, what is beginning to appear is a pattern of more-or-less ubiquitous feather use by different groups of people in different places at different times.
Obelisk Cave

Obelisk Cave is located south of Broken Flute Cave, and is located on the opposite side of Atahonez Canyon from Broken Flute (Morris 1980; Figure 6.2 and Figure 6.4). Originally, this cave was thought to represent the “exception to the relative insignificance of the other…caves”, in part because it was thought to represent an early manifestation of Basketmaker III culture (Morris 1980: 20; Morris 1936: 36). The given dates for this site, A.D. 470-489, would certainly place it toward the earliest manifestations of a Basketmaker III lifestyle (Morris 1980: 49; Smiley 1951: 21). These dates also place Obelisk’s occupation centuries before the dates received for the feather bundle in Cache 4 (UCM 6175). Unfortunately, the documentation and provenience information for the feathers from this site is incomplete.

A “cylindrical” feather box made of oak and box elder was recovered from Obelisk Cave’s “general provenience” (Morris 1980: 131). The object was filled with what appears to be seven bundles of feathers and one prayerstick (Morris 1980: 131). Note that the provenience for
this artifact and its accompanying feathers is not precise, so my conclusions are tentative. That said, objects used to hold feathers have been found at Chimney Rock (eleven feather holders), Wallace Ruin (two), Pueblo Bonito (two), and two others were recovered from an unknown provenience in Mesa Verde (Sullivan 2004). Though these sites and areas post-date Obelisk Cave, the presence of feather holders are significant, since it suggests some kind of tradition regarding keeping feathers in and around the household. Sullivan (2004), Bradley (2004), and Judd (1954) have each indicated that the feather holders may be indicative of ritual interaction, and should be used to look at connections between Chaco Canyon and its outliers.

Feather boxes/holders could also be used to look at ritual practices across space and time. The Basketmaker III period is increasingly becoming known as the “formative” period of Puebloan history (Reed 2000) where the “nuts and bolts” of what it meant (means) to be Puebloan began. Perhaps the presence of a feather box in Obelisk Cave (and other Basketmaker III caves) is indicative that the development of some rituals and concepts surrounding feather we see today, originated, in part, during the Basketmaker III period.

**Mantle’s Cave and Obelisk Cave Comparisons**

Feathers appear to have been deposited in protective contexts (i.e. inside a box), possibly indicating a wide-spread use of feathers in relatively similar ways across space and time. Unfortunately, there was little data from this analysis that proved helpful in answering the question of cultural identity in Mantle’s Cave. The determination that Obelisk Cave represented a Basketmaker III site was based on much more than an analysis of feathers, so it is unclear whether the similarities in feather deposition between Obelisk and Mantle’s Cave correlate to similar cultural influences. As already noted, we know there are Ancestral Puebloan traits in some of the artifacts from Mantle’s Cave, but there are chronological difficulties.
This research did not produce clear indications of whether or not Mantle’s Cave was used by Basketmaker groups, but it is becoming clear that the people who deposited the feathers in Mantle’s Cave probably interacted in the same ideological sphere as the other groups who have evidence of similar feather use. Apparently, people from disparate cultural influences and from different areas of North America deposited and used feathers in very similar ways. In the following sections, the similarities between probable feather use and conceptualization are made clearer through the analysis of cave sites in the Great Basin.

**A Basketmaker Cave in Utah: Cave du Pont**

![Figure 6.5. Location of Cave du Pont in Utah](image)

Cave du Pont is located eight miles northwest of Kanab, Utah and is characterized by the presence of thirty-one storage features, called cists, and no evidence that the cave was used for habitation (Figures 6.5 and 6.6). The fact that Cave du Pont appears to have been used solely for storage by a group of Basketmaker II/III people is the reason its assemblage is being compared to
Mantle’s Cave. The cultural identity of the people who put the artifacts in Mantle’s Cave appears to exhibit both Fremont and Basketmaker III traits, so comparing it to a known Basketmaker II/III cave with feathers, and used only for storage, may help elucidate its cultural identity (Burgh and Scoggin 1948; Goff 2006). Before going into the analysis of the feathers from Cave du Pont, there is some disagreement with the only given date for this site. A timber from one of the cists’ roofs provided a tree-ring date of A.D. 217, but it is unclear from which cist it came. This date is the only date obtained for the cave, so whether or not the date from this cist is chronologically representative for the whole cave, is questionable. Stallings noted the cave’s determination as Basketmaker II may be misleading, since cists could have been built either before and/or after (Stallings 1941: 5-6). Furthermore, this site had unfired pottery which is generally indicative of later-Basketmaker II and Basketmaker III sites (Matson 1991). Despite the site’s chronological issues, the cultural identity of the people as Basketmaker has never been called into question.
Cist 4

Figure 6.6. Plan view of Cave du Pont with cist 4 circled (Nusbaum et al. 1922: Plate X).

Cist 4 is located on the eastern edge of the western quadrant of the cave, measured 1.65 meters long, 1.52 meters wide, and was 76.2 cm deep (Nusbaum et al. 1922: 28). This cist displayed a level of workmanship not seen in the construction of other cists, since all the joints between slabs were filled with adobe. Within the cist, a necklace made of polished seeds and serpentine beads was recovered, as were several pieces of a string, a piece of juniper-bark matting, two balls of red paint, one ball of white paint, a small bundle of feathers, a worked stick, one small round stone, some flint, a squash stem, two fragments of squash rind, and eighteen small ears of corn (Nusbaum et al. 1922: 30).

The feather bundle was made of eight Northern red-shafted Flicker tail feathers, bound together with a yucca leaf (Nusbaum et al. 1922: 82). Nusbaum et al. (1922: 82) speculated that
this object was most likely used as some kind of decoration, and that while it is unclear whether
the feathers are ceremonial, “they almost certainly had no utilitarian purpose”. It is precisely this
assumption (that other societies had a similar sacred/secular-world split like Western culture)
that should be avoided. Compared to the contents of the other cists which generally contained
corn and other foodstuffs, Cist 4’s contents are anomalous, but it may be misleading to assume
they were only ceremonial objects.

Nusbaum et al. (1922: 82-83) quickly mentioned another feather bundle comprised of
“six white tail-feathers of some small bird” attached to a stick with yucca fibers and sinew,
“which also hold bits of gray and blue from the breast and belly of the Rocky Mountain
bluebird”. No further mention is made of this bundle anywhere in the monograph, so little can
be said of it besides noting its presence in the cave’s assemblage. Another feather described by
the authors (with no mention made elsewhere) was a “very neatly prepared feather whose
function is unknown…” (Nusbaum et al. 1922: 83). The authors suggest that this feather may be
from the wing of a “wild goose”, though they provide no explanation as to why they think this
(Nusbaum et al. 1922: 83). Sections of this feather’s barbs were removed, and the remaining
ones were altered so that they were shorter than those barbs found on an unaltered feather. There
was also a yucca cord extending from the top of the feather, and wrapped tightly against the quill
with sinew. Without the provenience information, the purpose of this feather’s alteration and
wrapping may remain a mystery. There is evidence that these feathers may have already been
out of context when Nusbaum et al. excavated the site, since the authors noted the cave was
heavily looted (Nusbaum et al. 1922). If these unprovenienced feathers had been in cists like the
flicker feathers in Cist 4, they may have been cast aside by the looters in favor of baskets,
projectile points, and other “pricey” artifacts.
Cave du Pont and Mantle’s Cave

Even if the tree-ring date from Cave du Pont is questionable, the cave’s assemblage clearly demonstrates its Basketmaker connection. Agriculture, pottery, increased sedentism, and aggregation began to take shape and build momentum during the Basketmaker II and III periods, with groups being more-or-less mobile at the beginning of the Basketmaker II period (1200 B.C. -50 A.D.), and more-or-less sedentary by the late Basketmaker III (A.D. 50-750 A.D) period (Matson 1991). The lack of true-fired pottery in Cave du Pont is most likely indicative that this cave does have an early Basketmaker date, and that the people using the cave were still more-or-less mobile. If the people using this cave were still mobile and moving around the landscape, their use of the area could be described as a “seasonal round”, much like the description for the people using the caves in Dinosaur National Monument.

The determination of Cave du Pont as a Basketmaker site is congruent with the interpretations drawn about Broken Flute and Obelisk Caves (i.e. their designation as Basketmaker was based on the presence and analyses of artifacts other than feathers). The interpretation that Mantle’s Cave’s artifacts exhibit both Fremont and Basketmaker (Ancestral Puebloan) traits was based on the analyses of baskets, textiles, and cordage-twist techniques (Goff 2006, 2010; Benden and Goff 2005; Adovasio et al. 2002). So, what is the significance that these sites, separated by hundreds of kilometers and hundreds of years, appear to have similarly deposited feathers? It is that the presence of such similar deposits in these caves that seems to be indicative of a widespread practice involving feathers as bundles, fans, and attachments to prayersticks and “prayercobs”. However, this depositional similarity does not help in the identification of small-scale group identity, since the Basketmakers in Utah (Cave du
Figure 6.7. Mummy Cave’s location in Wyoming (Husted and Edgar 2002: xii)

Pont), Arizona (Obelisk and Broken Flute Caves), and Colorado (Mantle’s Cave) all had similar deposits of feathers in their caves.

A Cave Site in Wyoming: Mummy Cave

Mummy Cave is a rockshelter located on the left bank of the North Fork River, in the Absaroka Mountains, 1,920 meters above sea level, about 55 km west of Cody, Wyoming. It was inhabited from 7,280 B.C. – A.D. 1610 by bands of Paleoindians, archaic foragers, and later by historically-known groups, like the Shoshonis (Husted and Edgar 2002). Mummy Cave’s excavation yielded thirty-eight cultural layers, all of which showed evidence of human occupation. Culture layers 2, 3, 5, 27, 27, 31, 33, and 35 yielded no tools, no human-made objects, no hearths/fire pits, or evidence for habitation structures, but all had charcoal stains and
“small scraps of bone (which) attest to human presence” (Husted and Edgar 2002: 35). The cave was used more or less continuously, with the first human occupants focusing on big game hunting, and later groups using the cave as a location from which hunting trips were made into the mountains (Husted and Edgar 2002). This cave produced a variety of stone, bone, wood, cordage, and woven materials, but salient to this thesis are the feathers recovered.

**Feathers from Cultural Layer 36**

All feathers from Mummy Cave were recovered from Culture Layer 36. The feather assemblage included three trimmed feathers, three cut feather shafts, five unaltered feathers, and one quill (Husted and Edgar 2002: 91). This layer is characterized by a substantial accumulation of charcoal, rubble from hearths or fire pits, and was about 30cm in thickness (Husted and Edgar 2002: 74). Apparently, this layer was “badly disturbed by uncontrolled digging”, but was radiocarbon dated to the uncorrected date of A.D. 720 +/- 110 (I-1009) by a piece of sheepskin used to cover a burial also found in this layer (Husted and Edgar 2002: 24-26, 74). Associated with this body was an ornament made of feathers and fur twisted together, though it is not available for analysis because of its association with a person’s body. In addition to the burial and feathers, Rose Spring corner-notched points were recovered, as were miniature points, scrapers, knives, drills, gravers, flakes, a chopper, axes, bones (tools and refuse), awls, pendants, one bead, antler (tools and refuse), shell (bead/pendant and refuse), wood (arrows, bows, digging sticks), baskets, cordage, moccasins, bundles (grass, bark, brush), hide, fur cloth, and sinew. These artifacts were found throughout the layer, and were not associated in any caches, or other protective contexts.
**Feathers used for Fletching, Mummy Cave**

The feathers (noted above) differ markedly from the others discussed in this thesis, as they were not found in bundles or caches, yet appear to have been treated differently than the unbound feathers found in Mantle’s Cave. The three trimmed feathers measured about 10cm in length, and exhibited notch-like cuts along one side, as if “cut with pinking shears” (Husted and Edgar 2002: 91). Their level of preservation is too far gone to identify the species of the bird, though I am relatively sure they are primary and secondary flight-feathers, which means they may have been used in arrow-fletching. The modifications on these feathers look similar to the way in which feathers are prepared for fletching, though they could have also been the victim of invertebrates feeding on the barbs (Rae 1987). Arrowshafts recovered from this layer had the quills of feathers still bound to the shaft with sinew, hence my suspicion that the three trimmed feathers were prepared as fletching for an arrow (Husted and Edgar 2002: 83, 91, 218, 229).

The authors note that similar specimens of feathers and arrowshafts have been found in Layer III of Pictograph Cave, Stratum A of Wilson Butte Cave, and Layer DV of Danger Cave (Husted and Edgar 2002; Jennings 1957; Mulloy 1958).

**Unprovenienced Feathers, Mummy Cave**

The quill and five unaltered feathers (mentioned above) present a problem in terms of analysis. The data provided in the site’s report is unhelpful in both species identification and the exact provenience of these feathers, since it was not detailed beyond there being within Cultural Layer 36. Because five of these feathers were unaltered like the feathers from Mantle’s Cave, their deposition may have had a perceivable pattern, which could have been used in the artifacts’ interpretation and analysis. Since this information is lacking, very little can be said; the five unaltered feathers measured 17.9cm-7.4cm, while the single quill must have come from a robust
bird, since it measured 19.8cm (Husted and Edgar 2002: 91). Birds that fit the profile of having large quills like this, and may be found in the general area of Mummy Cave are: American White Pelicans (*Pelecanus erythrorhynchos*); Golden Eagles (*Aquila chrysaetos*); Bald Eagles (*Haliaeetus leucocephalus*); and Turkey Vultures (*Cathartes aura*) (Scott and McFarland 2010).

The measurements given for the five unaltered feathers are too diverse to attempt a guess at which bird species may be represented. The primary, secondary, trailing secondaries, wing coverts, and alula feathers from a single bird may have measurements within the range of 17.9cm-7.4cm, so whether the five feathers are representative of a single bird or separate individuals cannot be determined at this time (Scott and McFarland 2010).

*Mantle’s Cave and Mummy Cave Comparisons*

Cultural Layer 36 was dated to A.D. 610-830, which falls into the range of dates given for Mantle’s Cave. Significantly, the level from which these feathers were recovered has been cautiously attributed to both the Fremont and proto-Northern Shoshonean bands (Husted and Edgar 2002: 125, 129). The Rose Spring corner-notched points have been found at other sites designated as Fremont, and the authors suggest that it would not be unreasonable for the Fremont to be in Wyoming. They note the similarity between the rock art portraying shield-bearing humans in western Wyoming, to those in the Fremont area of Utah (Husted and Edgar 2002: 129). While Husted and Edgar (2002: 125) stress that Cultural Layer 36 is most likely a manifestation of proto-Shoshoni groups, this does not preclude it from being a manifestation of Fremont populations in Wyoming, too. Again, genetic and cultural connections concerning the Fremont are not well understood (see Chapter 2 for more information).

Can the determination of the Culture Layer 36 in Mummy Cave help with the cultural identity of Mantle’s Cave? First, we have two sites hypothesized to have been the product of
Fremont influence with feathers, though the feathers from both sites differ in their deposition, alteration, and associated artifacts. The ways in which the feathers from Mantle’s Cave were used and thought about may have been different from how the feathers in Mummy Cave were conceived of and used. The analyzed feathers from Mummy Cave seem to have been intended for use as fletching on an arrow, which is probably not for what the feathers from Mantle’s Cave were intended. To reiterate, primary flight feathers are most often used in arrow fletching, and the vast majority of feathers from Mantle’s Cave were not primary flight feathers.

Both sites are hypothesized to have more than one cultural influence in addition to Fremont; one Shoshoni (Mummy Cave) and one Basketmaker/Ancestral Puebloan (Mantle’s Cave). This may be significant in terms of just who the Fremont are, though this thesis does not have the space to join that debate. Suffice it to say that it is probably important that both sites are attributed to the Fremont but also display disparate cultural influences, as well. This could be indicative that cultural manifestations of the Fremont may take on the attributes of other cultures with whom they are neighbors. In the end, the feathers from Mummy Cave offer very little in terms of determining Mantle’s Cave’s cultural identity.
Lovelock Cave was first excavated by Llewellyn L. Loud in 1912, and has proved to be seminal to Great Basin precontact archaeology (Figures 6.9 and 6.10). The “Lovelock Culture” was named for this cave, and has been used to describe groups living on the edges of marshes and lakes in western Nevada (Loud and Harrington 1929). Originally thought to represent a group of “devolved Puebloans” who had lost their knowledge of agriculture and pottery in the high, cold desert, it is now recognized that the cave was used intermittently for almost 4,000 years by people distinct from Ancestral Puebloan groups (Aikens 2008: 28; Loud and Harrington 1929). The site itself is situated on an outcrop of limestone, in the Humboldt Mountains, about 3 km east of Humboldt Lake (Loud and Harrington 1929: 1). The cave is approximately 46 meters long and 11 meters wide.

This site is best known for its cache of 11 rush duck-decoys, most of which were “feathered and painted to represent ducks” (Loud and Harrington 1929: 12). In addition to the
decoys, at least 16 species of bird were represented by their bones, feathers, and/or skins in this cave (Loud and Harrington 1929: 35). The archaeologists noted the remains of Grebes (Podicipedidae), White Pelican (Pelecanus erythrorhynchos), Great Blue Heron (Ardea Herodias), Merganser (Mergus americanus), Mallard (Anas platyrhynchos), Widgeon (Mareca americana), spring (Dafila acuta), Ring-necked Duck (Marila collaris), Snow Goose (Chen hyperboreus), White-fronted Goose (Answer albifrons), Canada Goose (Branta canadensis), Whistling Swan (Olor columbianus), California gull (Larus califronicus), Great Horned Owl (Bubo virginianus), Western Bluebird (Sialia Mexicana), and Crow (Corvus brachyrhynchos) (Loud and Harrington 1929: 25).

**Feathers from Lovelock Cave Rockshelter**

The first feathers to be discussed were recovered from a rockshelter, formed by fallen rocks caught between the two entrances of Lovelock Cave. This portion of the site was about 20

![Figure 6.9. Plan View of Lovelock Cave Excavations. From left to right: Pit 31, Stratigraphic Section, Pit 4, and Pit 12 are circled (Loud and Harrington 1929: Plate 2).](image-url)
meters long, 9 meters high, and had an overhang that stretched 8 meters over the shelter’s floor (Loud and Harrington 1929: 8). Below 10.2 cm-12.7 cm of lime dust and rock fragments, a stratum of charred grass with charred seeds was revealed. Loud and Harrington (1929: 8) interpreted this layer as evidence of the types of seeds harvested and eaten by the group using this shelter. Below this stratum, and against the back wall where the deposits were best protected, was a layer of unburned grass, rushes, one “nearly complete sandal, woven of rushes, part of another one”, feathers, the distal end of a wooden arrow, and some human hair (Loud and Harrington 1929: 8).

It is unclear what the feathers looked like, how many there were, and whether they were modified in anyway. The stratum from which the feathers came also contained a large amount of cattail refuse (down, seeds, rush spikes), which was interpreted as food remains. Without more specific details very little can be said about how these feathers were most likely used; do they represent more food refuse from someone plucking a bird prior to eating it? What is the relationship between the sandals, feathers, and human hair? Were they purposefully deposited together, or was this deposit more indicative of someone putting their work down for a moment (per the unfinished sandal), only to never return? Was the unburned grass placed over this deposit to protect it from sand, pets, and other natural dangers to archaeological deposits, or does it represent an eolian deposit? With the available data, these questions are unanswerable, and it will have to suffice that the rockshelter outside Lovelock Cave contained an unknown number of feathers, representative of an unknown number of bird species. The presence of the feathers at least speaks to this pattern of more-or-less ubiquitous feather usage by the Native American groups surveyed for this study.
Forty feathers recovered from Lovelock Cave were found within pit features in the First, Second, Third, Fourth, and Fifth levels of the stratigraphic section (Lot 15), as well as within Pits 4, 12, and 31 (Loud and Harrington 1929: 4-15). The Pits’ use-life varied; some had been previously opened and the contents removed, others had multiple depositional episodes, while some Pits were left unmolested. The Pits varied in form from shallow bowl-shapes to deep pot-shapes, ranging in depth from 61 cm -1.5 meters, and in diameter from 55.9 cm-1.2 meters (Loud and Harrington 1929: 9). If these pits were created and used by multiple people and/or groups, their creation is not dissimilar to the ways in which the storage pits in Mantle’s Cave have been interpreted.

**Lot 15, Stratigraphic Levels 1-5**

The First stratigraphic Level from Lot 15 extended from the cave’s floor to 45.7 cm below the surface (Loud and Harrington 1929: 18). Arrow shafts, quids, vegetal fiber, basket fragments, blankets (one made from downy bird skin and one possibly made from dog), rush matting, rush ropes, a fire-drill, and two large feathers attached to a piece of rush rope were recovered from this layer. The Second stratigraphic Level from Lot 15 measured 45.7 cm-1.2 meters, and contained 14 arrow fragments, six of which still had traces of feathered fletching, basket fragments, rush-rope, rush matting, one bone awl, a woven rush bag which contained red paint, a small coiled basket, the horn of a mountain sheep, a wooden fire-drill, a bundle of shredded sage bark, three green paint stones, one white paint stone, several completed foreshafts and greasewood sticks prepared for attachments to arrows, and lastly, a “bunch of feathers tied together” (Loud and Harrington 1929: 20). The Third Level from Lot 15 was 1.2 meters-1.8 meters deep, and contained a “3-feathered cane arrow”, some feathers, and a fragment from a feather blanket (Loud and Harrington 1929: 20-21). The Fourth Level measured 1.8 meters-2.4
meters deep, and contained snares, shell beads, a stone ball, incised animal bone, two atlatl darts, baskets, matting, fiber and rush cordage, and “for the first time in place were numerous feathers of eagles and other large birds, tied to pieces of rush rope” (Loud and Harrington 1929: 22). The Fifth Level also contained loose feathers and feathered basketry. This level measured 2.4 meters-3.1 meters deep.

The feathers recovered from the stratigraphic levels are good indications that feathers were used in many different contexts. Feathers were wrapped in cordage and used in blanket manufacturing, for fletching on arrows, and they were incorporated into baskets, perhaps as decoration. Little can be said about the feathers as their shape, coloration, size, and temporal relationships are either not mentioned and/or are not well understood. For example, Loud and Harrington (1929: 18) indicate that the two large feathers attached to rope from the First level were not actually from this provenience. Noting the presence of disturbed earth, and that the feathers on rope were found in significantly deeper deposits elsewhere in the cave, the two large feathers on rope “were obviously out of place” (Loud and Harrington 1929: 18). This interpretation is unconvincing, their presence in various strata could attest to the time-depth of a particular tradition regarding feathers. Given the lack of data concerning these feathers, their presence throughout the stratigraphic layers attests to their perpetual usage by the groups using Lovelock Cave.

**Pit 4**

Pit 4 was located near the northeast end of a mass of fallen rock which had blocked one of the entrances to the cave (Loud and Harrington 1929: 10). At the bottom of the pit, some downy feathers from an unknown bird and the beak of a duck were recovered. The authors suggest that these objects may have been used in the construction of decoys or decoy parts.
However, since it undetermined which downy feathers were recovered from this pit, whether their interpretation is reasonable is hard to say. Above this deposit in Pit 4 a bottom had been created with rush matting, while basket fragments created artificial sides to the pit. Loud and Harrington (1929: 10) note that after the rush matting was deposited, the pit must have remained open and in disuse, for there were several inches of loosely gathered trash. The next user of Pit 4 placed a smashed conical basket over the refuse, creating a new bottom to the pit. Several fragments of twined baskets were placed on this bottom, as was a coiled bowl-shaped basket, and a small apron made of shredded bark. Upon the apron were “198 bunches of small feathers, each carefully tied together with strings”, and interpreted to have been used in the construction of decoys (Loud and Harrington 1929: 10). The contents of this pit were dated to A.D. 700-1500.

Similar to the issues confronted with the feathers from the rockshelter, little can be said concerning the species of the 198 small feathers, or from where they came on the bird’s body.

**Pit 12**

Pit 12 thrust Lovelock Cave into the spotlight, for it was within this pit that the 11 elaborately made duck decoys were recovered (Loud and Harrington 1929: 12). Pit 12 was located in Lot 7, and had been excavated 73.7cm into the cave’s floor from the top of the cave’s original ground surface (Loud and Harrington 1929: 12). About 25.4cm below the cave’s original ground surface, a bag of rush matting was recovered, under which there were two more rush mats. Beneath the mats were three pieces of twined basket and one large coiled basket-bowl, while basket fragments were used to line the walls of the pit. Large stones were then used to create a false bottom. Loud and Harrington (1929: 12) note that the pit was “so cleverly arranged that looking in from above no one would guess that anything could be concealed
beneath such a lining”. Once the rocks were removed, a “bulky package” wrapped in rush matting appeared (Loud and Harrington 1929: 12).

Within this package were the 11 decoys, most of which were feathered and painted to represent specific duck species; a rush-bag full of feathers; feathers wrapped in a piece of matting; a number of feathers tied with string; and two bundles of snares (Loud and Harrington 1929: 12). Using accelerator mass spectrometric dating techniques, the decoys have been dated to 2,160 +/- 180 B.P., which is consistent with the other 23 radiocarbon dates received for Lovelock Cave (Tuohy and Napton 1986). Data lacks for the other feathers in this pit, to the extent that Loud and Harrington do not indicate whether they thought the feathers could have been used on the decoys.

The decoys and feathers seem to have been purposefully hidden (i.e. the false bottom) from anyone investigating the pit, so it may be that the decoys and feathers were considered prized objects. Perhaps the construction of the decoys required enough time, substantial knowledge of different duck species’ shapes and characteristics, and what feathers worked and looked best, that the creator of this pit did not want to share their efforts with others. This interpretation implies that the decoys, feathers, and snares were considered exclusive and may have conferred increased social status to the person who made the objects in the pit. Another viable interpretation is that the pit’s contents were being hidden from other visitors to the cave. This interpretation still implies a status differential between the person (people) with knowledge of the pit’s contents, and the person (people) without said knowledge (Hendon 2000: 50).

**Pit 31**

Located in the southwest end of the cave, Pit 31 stood out to Loud and Harrington (1929: 13) from the start. Unlike the other pits, Pit 31 had no rock or basket lining and its bottom was
flat, not concave. Its only contents were “hundreds of feathers from eagles, pelicans, and other large birds, attached to heavy cord or light rope, for the most part made of rushes” (Loud and Harrington 1929: 13). The majority of ropes only had one feather attached, but a few had two or more feathers tied to the same piece of string (Loud and Harrington 1929: 14). One bone awl, one bone object with two perforations, and one bone carving thought to represent a snake were found with these feathers. At the bottom of Pit 31, the pit extended to the east another 15cm, and more feathers were found within this space. Loud and Harrington (1929: 14) do not describe how many, what size, what color, what species may be represented by these additional feathers, or if they were attached to rush ropes like the other feathers in Pit 31. The two authors hypothesize that the feathers attached to rope may have been used like Puebloan prayersticks; that they may have been used in shamanistic practices similar to Northern Paiutes using eagle feathers on buckskin thongs; or may have been used in the construction of hunting-chutes used in rabbit drives (Loud and Harrington 1929: 14).

The authors’ interpretation of the feathers from Pit 31 is different enough from the interpretations drawn from Pits 4 and 12, that the unnamed feathers from those pits (4 and 12) were probably neither eagle nor pelican. Apparently, their presence in Pit 31 warranted explicit description. Perhaps Loud and Harrington were compelled to note the species for the feathers from Pit 31 because they felt their (proposed) use in ritualistic contexts promoted their importance above those feathers used for utilitarian purposes (on decoys). Their interpretations were not entirely unfounded; Olofson (1979) and Fowler (2006) documented Northern Paiute shamans using feathers attached to cords in healing ceremonies; Hough and Fewkes (1917) and Fewkes (1899) documented Hopi priests using feather strings during the Winter Solstice Ceremony and the Sio Shalako ceremony.


**Mantle’s Cave and Lovelock Cave Comparisons**

How do these feathers compare to those in Mantle’s Cave? First, the bundles of feathers from Mantle’s Cave were also found in protective contexts, though the feathers from Mantle’s did not appear to be hidden like the feathers and decoys found in Pits 12 and 31. Second, unlike the feathers in Pit 12 which may very well have been material for the decoys, the feathers from Mantle’s Cave do not have so obvious a connection with their associated artifacts. For example, the headdress (UCM 6178) and bundles (UCM 6182, 6183, 6184) from Cache 1 in Mantle’s Cave have no obvious relationship with the other objects in this cache (see Appendix A for description of items in Mantle’s Cave’s caches). The headdress in Cache 1 was made up of Northern red- and yellow-shafted Flicker feathers, so the Magpie, “Buteo”, and Golden Eagle bundles were probably intended for something other than incorporation into the headdress. That said, both Cache 1 (Mantle’s Cave) and Pit 12 (Lovelock Cave) contained bundles of snares that may have been used to capture birds. Additionally, Pit 12 and Cache 1 had feathers in bundles, probably indicating that the feathers had to be grouped thusly, or they would not have been able to enact their agency to achieve whatever end was desirable. In the case of Pit 12, an equally viable interpretation is that the feathers were being sorted for future manufacture. This interpretation still implies that the feathers had to be kept in their bundles in order to attain the desired result.

The two caves were used differently, too. Lovelock Cave was intermittently used for about 4,000 years, during which time people used the cave as a habitation and storage site. Mantle’s Cave was used intermittently for about 2,000 years, though only for storage. Taylor (1964) suggested that foraging groups living in close proximity to water (rivers, oceans, lakes) may not exhibit the same degree of nomadism as those groups having to constantly search for
water. The people using Lovelock Cave would have had easy access to drinking water and a rich assortment of marsh-type resources (including many different bird species were which clearly a major resource), formed by Humboldt Lake. There would have been no ecological or environmental reason (to say nothing of the possible culture impetuses) compelling the Lovelock people to be more-or-less fully nomadic. Humboldt Lake and the surrounding ecological zones would have been able to sustain a group of people living in Lovelock Cave year round (Aikens 2008; Kelly 1995; Taylor 1964).

People used and inhabited Lovelock Cave as a sort of “home base” from which logistical forays were made to gather other needed resources (Aikens 2008). Occasionally, the cave was not used as a habitation site, and instead was used as a place to store objects needed at that location, at specific times of year. During other depositional events, the cave was used as both a habitation site and a place to store necessary goods. Conversely, Mantle’s Cave was only used for storage, so the people storing their goods there were living elsewhere. This may be indicative that the items in Mantle’s Cave were not used day to day, and had somewhat esoteric and specific purposes and uses. The peoples practicing the Desert Culture, Basketmaker III culture, and the Fremont way of life were all intermittently (and to varying degrees) nomadic and sedentary. Therefore, how the two caves were used does not help with determining the cultural identity of artifacts from Mantle’s Cave.

Dates for the feathered objects from Lovelock Cave were unavailable at the time this thesis was written, so it was not possible to resolve the temporal relationship between Mantle’s Cave’s and Lovelock’s feathers. Due to this lack of data, it is undetermined whether these feathers were contemporary or not, leaving their cultural relationship to the Lovelock Cave’s users (Desert Culture groups and proto-Shoshonis) undetermined. It would be interesting to see
if some of the bundles from Mantle’s were deposited around the same as the feathers from Lovelock Cave. Frustratingly, the ways in which the sites’ use differed did little to aid in Mantle’s Cave’s cultural identity, too. It may be because feather use was (and is) so widespread among the native groups surveyed for this thesis, that understanding the ways in which the feathers from Mantle’s or Lovelock were used/conceptualized/symbolized would do little in terms of determining cultural identity. Nonetheless, it is significant that the feathers from both sites have been found in deposits dating back several thousand years, and that both sites contained feathers in protective (even hidden) contexts. Even though the precise cultural identity of Mantle’s Cave is still unknown, it seems likely that the people using Mantle’s and Lovelock were interacting within a greater ideological sphere in which feathers were used and thought of in similar ways.

**Summary**

Upon the completion of this analysis it became clear that across a wide area of space, and across long expanses of time, feathers were used and conceived of in similar ways. These preliminary interpretations and conclusions from this analysis suggest that Basketmaker (Ancestral Puebloan) people, the Fremont, and foraging groups (Desert Culture) in both Nevada and Wyoming, interacted within the same ideological sphere of influence. In the subsequent chapter, a discussion will commence detailing evidence that these feathers may have been conceived of in symbolically charged ways. The theoretical lens through which the symbolic properties of these feathers are assessed was provided by Robb’s (1998) article on the three types of symbols, and a synthesis of the ethnographic data provided in Chapter 5. There is also a preliminary discussion on how using Dawkin’s (1989, 1999) concept of “idea-memes”, and Hoffecker’s (2011a, 2011b) concept of the “super-brain” helped provide an explanation for how
there can exist such widespread practices (as it concerns birds and feathers) among different cultural groups.
Chapter 7: Analysis Summary

Feathers as Symbols

*Feathers as Symbolic Girders*

In addition to exploring the cultural identity of the artifacts from Mantle’s Cave, the feathers symbolic properties will be assessed. This analysis will use Robb’s (1999) three types of symbols; symbols as girders, as tokens, and as tesserae. The first of the three concepts, symbols as girders, will be used to determine whether or not there is a perceivable pattern of behavior or usage of the sites containing feathers. The concept of symbols as girders suggests that behavior concerning feather usage (deposition, context) may be reflective of how the symbols structured their physical and mental realities. Were the cave sites discussed in this thesis characterized by similar uses? Were the feathers treated similarly across time and space? If not, how were the sites used and how were the feathers treated? These questions could be answered without theory, but using theory helps flesh the answers out from descriptions on how the sites were used (for example), into potential answers about why they were used that way.

First, Mantle’s Cave, Basket Cave, and Cave du Pont were used solely for storage, while Lovelock Cave, Mummy Cave, Marigold Cave, Broken Flute Cave, and Obelisk Cave were habitation sites in which there were storage features. However, feather bundles appear to have received similar treatment, regardless of how the site was used. Mantle’s Cave, Basket Cave, Broken Flute Cave, Obelisk Cave, Lovelock Cave, and Cave du Pont had feather bundles either in caches, feather boxes, pits, or placed under rocks. The similar treatment given the feathers bundles in these caves, their overlapping chronologies, and the fact that these sites were not used for habitation may be significant in terms of shared cultural traditions (Hoffecker 2011a, 2011b). Ethnographic research regarding medicine and spirit bundles in the Great Basin, Southwest, and
Plains groups provide a possible analogy for why the bundles were placed in particular caches and under rocks, and even why those particular caves were chosen for storing the feathers. Schwarz (1998), Lowie (1924), Zedeño (2008), Kracht (1992), Opler (1969), and Stewart (1987) recorded the actions and behaviors surrounding the use of these objects. Spirit and/or medicine bundles were perceived as living, sentient beings, which required particular, specific, and prescribed treatments by their stewards. In fact, Zedeño (2008) and Trenholm and Carley (1964) noted that if the bundles were not treated correctly, they would often become uncooperative and not work with, or for, their chosen person.

I argue that the bundles and their contents were perceived of as having their own animating energy, which is why studying these feathers from an object-agency or animacy perspective, is legitimate and useful. Feather bundles placed in caches, pits, and under rocks may have been representative for how the feathers were perceived, which subsequently structured how humans interacted with the objects. While it could be argued that it was not necessary for the feathers to be thought of as living, sentient beings for them to end up being deposited just so, my interpretation is strengthened by the treatment received by unbound, and/or singular feathers.

Feathers found alone, unbound, and/or loose were less likely to be preserved, were more likely fragmented, and/or interpreted as fletching (i.e. Mummy Cave). This differential treatment could indicate that certain feathers from certain birds were thought of differently from one another. What seems to determine the depositional treatment afforded these feathers is whether or not the feathers were incorporated into a bundle and/or cached with other objects. It is reasonable to suggest that the people who deposited these artifacts conceived of feathers in symbolically (i.e. not necessarily tied to physical attributes of the feathers) charged ways, which
resulted in different depositional actions and behaviors (Robb 1998; Latour 2005; Gosden 2005). One could argue that the similarities in deposition were an artifact of the feathers being better preserved in the caches/pits, and my interpretation that there are similarities in how the feathers were deposited, and thus conceived of, are a result of this better preservation. However, because the knowledge of putting feathers into a bundle and into a pit/cache is not esoteric in nature, and is rather self-evident, I interpret the presence of feathers in these protective contexts as purposeful. To clarify, the feathers not found in pits/caches were purposefully left out of the protective contexts. Thus, the well-preserved feathers in protective contexts were conceived of, and most likely used in, different ways than the unbound, and unprotect feathers recovered from the caves.

**Feathers as Tokens**

The second concept, symbols as tokens, means “artifacts, actions, and social relations have a meaning….prior to their translation into symbols, which serve…to represent this precultural meaning” (Robb 1998: 333). This type of symbol is used most often in political contexts, though they exist elsewhere. Ladd (1963), Borson et al. (1998), and Creel and McKusick (1994) provide examples of how certain feathers are indicative of particular moieties, clans, priests, and even the South. Furst (2006) and Lumhotlz (1902) indicate that Huichol shamans were never seen without their feathered prayer-arrows, so it could be argued that those arrows were symbolic of Huichol shaman. How would this manifest in the archaeological record? It is likely that it would manifest in the presence of certain feathers always associated with particular objects, which could have only been used with specific knowledge (like stewards and their medicine/spirit bundles). To that extent, the proveniences of the feathers and/or bundles imply by whom and for what the feathers were going to be used.
At present, it is not possible to determine how exactly each feather and/or feather bundle was symbolically conceived. That said, the bundles and feathers found in caches and other protected contexts, like under rocks or within pits, appear to have similarities in terms of the associated objects. Basket Cave, Cave du Pont, Mummy Cave, and Lovelock Cave all contained deposits of feathers associated with grass, reed, or bark matting. Loud and Harrington (1929) suggest that the vegetal material was used to keep sand, dirt, and other pests from disturbing/contaminating the deposits within each pit and/or cache. While this interpretation makes sense for deposits containing maize and other foodstuffs, it is less reasonable for non-edible items; sand and dirt are easily removed from feathers, and the sort of pest (Dermestids and “cloth moths”) going after feathers would be undeterred by vegetal materials, due to their miniscule size (Klein 2008). Thus, the vegetal materials deposited with feathers probably had another purpose, which probably had to do with how, and by whom, the feathers were used.

Ethnographic data indicates that the vegetal materials could have been used to tie the feathers to various wands/staffs/sticks used in healing, prayer-sticks, and/or various other situations. The feathers tied to vegetal materials from the Basketmaker caves (Broken Flute, Obelisk, and Cave du Pont), could be argued to represent early manifestations of “feather roads” (see Chapter 5). The vegetal materials could have also been used to tie the feathers to each other, onto other objects (like headdresses or clothing), or into someone’s hair. The presence of the vegetal material may have been necessary to engage with the feathers’ animacy, too. Given that these caves encompass thousands of years of occupation, and have discrete cultural influences (Basketmaker, Fremont, Northern Plains, Desert Culture), it is notable that the feathers were deposited in similar ways.
Mantle’s Cave, Broken Flute Cave, and Mummy Cave contained feather deposits with associated stone tools and projectile points. Cache 1 from Mantle’s Cave contained feather bundles UCM 6182, 6183, 6184 and headdress UCM 6178, and a ceremonial blade. In Pithouse 16 from Broken Flute Cave a feather bundle was found associated with four projectile points, and in Mummy Cave the feathers were found with a wide variety of stone tools (Morris 1980; Husted and Edgar 2002). Cache 1 from Mantle’s Cave dates to around A.D. 996-1190; Pithouse 16 probably dates to the earlier period of Broken Flute Cave’s occupation, so around A.D. 500; and Culture Layer 36 in Mummy Cave dates to A.D. 610-830.

The feathers from Mummy Cave seem to have been modified (presumably for fletching) and left unbundled, which differs from the treatment afforded the bundles found in Mantle’s Cave and Broken Flute Cave. Differential treatment may indicate that the feathers recovered from Cultural Layer 36 in Mummy Cave were conceived of and used differently than the bundled feathers in the other two caves. In fact, they were probably going to be used as arrow fletching, evidenced by the type of feather (primary flight feather), their close association with projectile points, and the way in which the barbs were cut. The uses of the feathers in the other bundles (from Mantle’s and Broken Flute Caves) are harder to assess.

These feathers (from Mantle’s and Broken Flute) were also found with projectile points, but it is unlikely they were collected to be made into fletching. Feathers made into fletching are generally primary flight feathers and/or tail feathers, since other body-feathers do not have the necessary strength and structure needed to effectively fletch an arrow. The feather bundles from Cache 1 in Mantle’s Cave were secondary flight feathers, and were probably not collected for fletching. In fact, when one considers the entire assemblage from Cache 1 (Appendix A), it appears these feathers were probably collected and kept in that bag with other objects for
purposes closer to the use of feathers in medicine or spirit bundles, than for fletching. The bundle from under Pithouse 16 in Broken Flute Cave lacked description, so it is hard to suggest for what they were collected.

Another possible interpretation for feathers being deposited either in protective contexts or not, could be that their depositional context is indicative of varying degrees of feather-handling knowledge. Hodder and Hutson (2003) argue against the concept of cultures as distinct, bounded, coherent wholes, and instead suggest that not all knowledge would have been available to every individual within a society. Therefore, perhaps the feathers in bundles, caches, pits, and other “protected contexts” reflect that the individual(s) doing the depositing held a different set of knowledge than the individual(s) that deposited the modified, unbound feathers. In this way, the feathers could be symbolic of the knowledge, and therefore social status (political office) the individual(s) had.

**Feathers as Tesserae**

This last concept, symbols as tesserae, is really where the concept of animacy comes into play, since it investigates the interactions between humans and objects. Theoretically, it is the interaction between an individual(s) and a feather(s), between the feathers in a bundle, or feathers used in conjunction with other objects, that re-engages with the feathers’ animating energy (Latour 2005; Ferguson and Mills 2008). Ethnographically, the interaction between humans and feathers has been documented to engage with the feathers animacy. Opler (1969) noted that feathers were prayed to because they were capable of communicating with the gods. Furst (2006: 16, 67) recorded the Huichol perception that feathers in a shaman’s *muviéri* were sentient, living beings. Parsons (1920, 1933, 1939), Stevenson (1903), (Opler 1940), Malouf (1955), Steward (1933), Kelly (1932), Lowie (1909, 1924), Trenholm and Carley (1964),
Olofson (1979), Fowler (2008), Kroeber (1903, 1904, 1907), and Stewart (1987) all touch on the interaction between shamans and feathers, noting that without the feathers (usually eagle) to aid in cleansing, purifying, and healing rituals, the shamans would not have the abilities they do. The Puebloan concept of “feather roads” also speaks to the interaction between people, feathers, and other objects as engaging with the feathers animacy (Parsons 1939; Hough and Fewkes 1917; Fewkes 1899). Ladd (1963) and Taylor (2007) observed that the order in which feathers were placed on prayersticks mattered much, as only the correct combination would allow the prayersticks to “work” properly. There is also direct evidence that feathers are perceived of as having their own life-force, or energy, by Great Basin and Plains groups (Moore 1996; Olofson 1979; Fowler 2008; Kratcht 1992; Kroeber 1902).

Despite the fact it may be challenging, archaeologically, to determine whether feathers were perceived of as having agency or energy it appears that that object-agency manifests itself in the archaeological record. First, Broken Flute Cave had recognizable prayersticks recovered from under Pithouse 16, Pithouse 7, and from the “general provenience” of the cave. Southwest archaeologists have debated whether or not there is cultural continuity between the Basketmaker and Pueblo periods (Gilman 1987; McGuire and Schiffer 1983; Kanter 2004). However, it seems reasonable to say that prayersticks found in Basketmaker contexts are conceptually, symbolically, and meaningfully related to those used in descendant communities today. The fact that prayersticks (two, from Pithouse 16) were recovered from a subfloor cache could be indicative that the practice of “rooting the town” (see Chapter 5) started in antiquity and was carried through to today.

Further evidence that it was the interaction between feathers that engaged with the feathers’ animacy can be seen in the “Buteo” Bundle (UCM 6183), in the Northern red-shafted
Flicker feather bundle (UCM 6175), and the grass/reed bundle with hawk, owl, and grouse feathers from Caches 1 and 4 in Mantle’s Cave, and Basket Cave, respectively. In fact, it may be that all feather bundles, including the unprovenienced bundles from the feather box in Obelisk Cave, should be interpreted as having their own life-force, or animating energy. Similar to the special knowledge held by the stewards of medicine/spirit bundles, perhaps people with the specific knowledge to deal with these bundles and groups of feathers ultimately had to do the depositing. Without the knowledge of how to correctly and effectively interact with and treat the feathers, their animacy would not have been engaged, and the feathers would not have been brought “to life”.

Creating bundles and digging pits would have been relatively self-evident, in that anyone with the mastered motor skills could have collected a bunch of feathers together and dug a hole into the ground. The fact that only some feathers were grouped into bundles, that only some feathers were placed in direct association with other objects, and that some feathers were placed in protective contexts (i.e. under rocks), signifies the difference in perception. If they had been thought about in the same way, it stands to reason that the behavior and actions directed toward the feathers would be reflected in similar depositional contexts.

As mentioned in Chapter 3, symbols may be fixed, or they may change from past to present. Schrire (1984), Binford (1985), Wylie (1985), and Stahl (1993) have written extensively on the use of analogy in the archaeological record. There are problems with analogy, but not using analogy denies the plausible connections modern descendants have to past peoples and goods. This is especially true for perishable materials in the archaeological record, since they rarely preserve, and if they do, only a handful of specimens may exist (like feathers, for example). Furthermore, humans are unique in that we are the products of mental/cultural
information more than genetic information. As noted by Hoffecker (2011b: 84), “to an unparalleled degree, an individual is the sum of an immense mass of integrated memories and knowledge accumulated over a lifetime of experience”. He also notes that because of language, both written and spoken, human animals have the unique ability to transcend biological space and time, so it is reasonable to suggest that the use of feathers in the ethnographic present are not completely distinct from how they were used and thought about in the past (Hoffecker 2011b: 77).

Dawkins’ (1989, 1999) concept of memes also supports analogy as it is used here, and along with Hoffecker’s concept of the “super-brain” provides a reasonable explanation as to how the use of feathers could appear so similar (both in the archaeological past and the ethnographic present) amongst distinct cultural groups. Hoffecker (2011b: 75) defines the “super-brain” as:

“Analogous to that of the super-organism: multiple individuals perform functions normally confined to a single organism. In the case of a collective brain, multiple individuals gather and organize information…[which] is shared by one individual with others, and some of it is stored and passed on from one generation to the next”.

This stored information is analogous to Dawkins (1989, 1999) concept of the “meme”. Dawkins (1989: 189) argues that cultural transmission is analogous to genetic transmission, and that cultural transmission takes place by the replication of “memes”. Idea-memes, or “an entity that is capable of being transmitted from one brain to another” survive and get passed on to subsequent generations because they are “psychologically appealing”, which means the meme “appeals to brains” (Dawkins 1989: 193, 196). Like genetic material, memes can and do mutate, though Dawkins argues that these mutations are not the original meme itself (Dawkins 1989: 196-197). He provides the example of Darwinian evolution as a common meme held by many brains, but then says that the various ways in which people represent this idea are not part of the
original “Darwin Meme”. He also argues that like co-adapted gene complexes, co-adapted meme-complexes exist as well, and function to support the original meme by creating an unpleasant environment for new and/or conflicting memes (Dawkins 1989: 199). Akin to the “attributes of an evolutionarily stable set” of genes, “new memes find it hard to invade” since cultural transmission is essentially conservative (like genetic transmission) (Dawkins 1989: 199).

What does all this have to do with feathers in the past and present? The situation presented in this thesis suggests that there are widespread similarities in how feathers are thought about, how they are used, and how they are treated. In the archaeological past, there may have been a meme bundle concerning the conceptions, perceptions, and uses for feathers. This meme bundle was fit enough (i.e. psychologically appealing) to be passed on to subsequent generations and to many distinct, cultural groups. The variations we see in the concepts surrounding feathers and the different ways in which they are used represent the mutations of the original meme. The bundle of memes regarding feathers must have been, and must be decently stable, which is why there appear to be similar practices regarding feathers in the past and present. The differences regarding ideologies, uses, and beliefs held by the various Native American groups discussed in this paper do not represent an antithesis to my suggestions. Rather, their existence should be taken as evidence that the meme for feathers was so pervasive and successful that it has continued to mutate from the past to the present, and has been made meaningful to specific cultural histories and contexts.

The unique historical contexts and trajectories lived by the various groups in this thesis is not being denied; obviously every group has its own history and story. Instead, an acknowledgment is made that groups in the past, as they are today, were in frequent contact with one another, and that it would make sense for them to have similar beliefs, practices, and
perceptions of the world around them. In this case, this similarity is manifested in the cultural behaviors surrounding the uses of birds and feathers.
Chapter 8: Conclusion

The original goal of this study was to determine to which group or groups the artifacts from Mantle’s Cave could be attributed, by analyzing how feathers were used, thought about, and deposited in the archaeological and ethnographic record. Archaeologically, feather bundles, feathered artifacts, and loose feathers from Mantle’s Cave, Basket Cave, Marigold Cave, Broken Flute Cave, Obelisk Cave, Cave du Pont, Mummy Cave, and Lovelock Cave were analyzed for this thesis. These caves were selected due to their chronological, cultural, and site-type similarities to Mantle’s Cave. Ethnographically, Puebloan, Great Plains, northern Mexican, and Great Basin groups were researched in an attempt to derive the ideologies and beliefs surrounding feathers. The concept of animacy provided a useful lens through which to think about feathers in their archaeological contexts.

My research question was: can the cultural identity of Mantle’s Cave’s artifacts be defined by the nature and context in which the feathers were recovered, and by parallel symbolism of birds and feathers in modern day Puebloan, Great Basin, Great Plains, and northern Mexican groups? I hypothesized that there is a relationship between the ways in which animacy, the context of the feathers, and their symbolic conceptualizations help illuminate the artifacts’ cultural identity. After extensive analysis, it appears that the working hypothesis was incorrect; the relationships between animacy, context, and symbolic conceptualizations do not help determine cultural identity, as that concept is conventionally defined and applied (Harris 2001, Trouillot 2002: 42-3, Geertz 1973, White 1949, Kroeber 1952, Binford and Binford 1968).

The interpretations made from these data are still useful and important. Expanded upon below, these data suggest that studying feathers will be helpful in determining large-scale interaction spheres, and that the Fremont (whoever they were) interacted within the same
ideological sphere as those groups living elsewhere in the Great Basin, Great Plains, northern Mexico, and the Southwest. These data also add to the accumulating knowledge that humans use different objects, materials, and mediums to express their different identities. In this case, using feathers in specific ways for particular purposes may have been a way for individuals from various groups to signify their identity/belonging to this larger group that also used and thought about birds/feathers in similar ways.

In early archaeology, trait lists were created with the purpose of detailing and describing how different cultures manifest materially, ignoring deviations from the “normal pattern” (Childe 1946: 243). This normative approach was not completely unhelpful; it did show that distinct groups of people tend to have more material similarities with one another, than with groups/cultures living farther afield. Noel Morss used trait lists to determine that the Fremont were distinct from Puebloan and Great Basin groups (Morss 1931). However, the archaeological field has moved beyond description and classification, and now relies, in part, on stylistic and manufacturing differences to determine and delineate discrete groups (Burmeister 2000; Clark 2001; Cordell 2008; Stark 1998; Stark et al. 1998; Haury 1958; Wiessner 1983; Wobst 1977; Sackett 1986). These methods have worked well for analyzing perishable materials like baskets, sandals, moccasins, and non-perishable objects like pottery, and architectural design and layout. To my knowledge, no one has attempted to determine a group’s cultural identity based on an analysis of feathers.

Analyzing feathers presented unique challenges for two reasons. One, they rarely preserve in the archaeological record, so there is comparatively little data concerning feathers in archaeological contexts. Two, because feathers do not preserve they have rarely (if ever) been
included in a culture’s trait list, and/or stylistic analysis, and/or studies focused on determining a
group’s social/cultural identity.

While the analysis of feathers proved unhelpful for determining and delineating discrete
cultural/social groups, it did elucidate that the cultures/groups living in the areas covered in this
thesis appear to use, think about, and conceive of birds and feathers similarly. For example,
consider the ethnographic data that shows the use of eagle feathers to cleanse, purify, and heal;
this practice was documented in Puebloan groups, Great Basin groups, Great Plains groups, and
northern Mexican groups, yet these groups speak vastly different languages, have different
culture histories, and have traditionally been considered to be more-or-less separate from one
another. Feathers from Mantle’s Cave, a site displaying both Fremont and Basketmaker traits,
appear in similar contexts (i.e. in caches, pits, or other protective contexts) to those feathers
found in Basketmaker caves (Obelisk Cave, Cave du Pont, and Broken Flute Cave), in caves
displaying Desert Culture traits (Lovelock Cave, Mummy Cave), and in caves attributed to the
Fremont (Marigold Cave and Basket Cave). The problem compounds itself when viewed from
an ethnographic perspective, given extensive similarities in use and beliefs about feathers across
numerous distinct groups

The goal of this research was to shed light on, and prove helpful in, determining Fremont
identity. To a degree, the fact it was not possible to determine the cultural identity of the people
who used Mantle’s Cave is significant. This study has shown that studying the attributes of
particular goods can be indicative of small-scale social/cultural groups, but studying others, like
feathers, do not help with small-scale social/cultural identity. Whoever put the feathers in
Mantle’s Cave were involved in the same interactions sphere as other groups in the Great Basin,
Great Plains, the Southwest, and northern Mexico; this has implications for Fremont
archaeology. As Janetski and Talbot (2011) proposed, we have to think outside the proverbial box and utilize new perspectives and methods to understand Fremont culture(s). Perhaps future research will investigate the significance, or lack thereof, of these “feather connections” in Fremont contexts with other neighboring cultural groups.

**The Facts**

When archaeologists analyze certain objects of material culture, different production techniques, stylistic choices, and raw material types (to name a few) are used to determine groups culturally distinct from one another. But when feathers in the archaeological record were analyzed, the similarities in deposition and apparent uses vastly overshadowed any differences, to the extent that determining discrete cultural groups, based on feathers alone, was close to impossible. Obviously distinct cultural groups are not determined on the basis of one artifact type, but on a suite of goods and practices. Still, single artifact types like ceramic figurines, baskets, sandals/moccasins, and pottery have been used to exemplify distinct social groups – and in particular, the Fremont (McBrinn 2008; Madsen 1979, 1989; Morss 1931; Adovasio 1986; Adovasio et al. 2002).

One of the main difficulties in determining the cultural influence and identity of the artifacts from Mantle’s Cave is because the field is currently focused on researching particularities, not generalities. Archaeologists have an effective and efficient array of theoretical and methodological tools from which they may surmise identities and influences in the archaeological record. Archaeologists also recognize that different types of materials, objects, and items can be used to signify different types/levels of identity (McBrinn 2008; Clark 2001). Feathers may be an item which is used to signify various types/levels of identity. While some feathers may be indicative of a person’s social status (i.e. Zuni Bow Priests and downy
eagle feathers), others are used in ways that illustrate that the human user is engaged within a larger ideological sphere.

Chapter 5 illustrates the point that distinct cultural groups engage with similar ideologies and practices concerning feathers; that fact would be difficult to debate, since the accounts were written by trained anthropologists in collaboration with Native American peoples. My suggestion that there exists a meme bundle concerning feathers is neither normalizing cultural differences, nor denying that real cultural distinctions exist. Instead, it is acknowledging that identities are complex, and involve various levels and types of identities. While we may never be able to fully comprehend what exactly is meant by “Fremont”, we can say with reasonable confidence that when it comes to feathers, the Fremont look much like Basketmaker peoples, Desert Culture peoples, and northern Plains peoples.

Idea Memes and the Super-Brain

Throughout the discipline’s history, various theories have been put forth and used as frameworks from which explanations for cultural similarities and or differences can be understood. Generally speaking, critics of any approach often noted its inability to provide explanatory frameworks for both differences and similarities between groups. Because the conclusions drawn from the evidence presented in this thesis indicate varying degrees of similarities and differences, a theoretical lens (or lenses) had to be provided that allowed for this phenomenon.

Hoffecker’s concept of the “super-brain” allows for both variability in cultural expression and identity, while providing an explanatory framework from which the phenomena of widespread beliefs and practices can be comprehended (Hoffecker 2011a, 2011b). Like a particular language with many different dialects, or a language family with separate but related
languages, Hoffecker argues that language is analogous to the concept of the “super-brain”. The “super-brain”, like language is “a system that integrates one individual brain with others” (Hoffecker 2011a: 5). Language essentially codes information and facilitates its passage from brain to brain, and “by externalizing information in symbolic form with language” our modern human ancestors “created a super-brain” (Hoffecker 2011b: 16). Language, and thus the “super-brain”, both transcend biological space (an individual’s brain) and time (an individual’s lifespan), which means languages, concepts, and ideas have the potential to exist infinitely.

Cultures and languages change, sometimes drastically, but it is this malleability which affords languages and cultures sustainability. Dawkins (1999: 79) explains that “language evolves, because it has both the great stability and slight changeability that are prerequisites for any evolving system”. These concepts go a long way toward explaining how diverse groups of people may hold similar beliefs and ideologies, yet at the same time display significant differences in cultural identities. My proposed meme bundle has been stable enough to remain in the cultural expressions of countless Native American groups, but malleable enough to be shaped and changed to best suit each individual group. This variation is best seen in modern ethnographic groups using feathers, like the Huichol and Cheyenne both possessing the belief that donning certain feathers confers the bird’s natural abilities onto the feather-wearer (Brown 1991; Lumholtz 1902a,b). Both groups have similar beliefs, but use different feathers for different purposes.

Another issue that may create disparate conclusions and concepts surrounding cultural identity is the level of abstraction one takes. As Keesing notes, the higher level of abstraction one takes, the more coherent a culture will appear, while a lower level of abstraction takes the “coherent” culture and turns it into Geertz’s octopus (Keesing 1974: 80; Geertz 1966). Put
another way, studies undertaken with high levels of abstraction will be more likely to find
evidence of the “super-brain”, “idea memes”, and widespread similarities in beliefs, ideologies,
etc.. Conversely, studies undertaken with low-levels of abstraction will be more likely to
highlight cultural variability. This thesis is an example of a study undertaken from a high level
of abstraction, as is Binford’s (1971) study connecting mortuary practices with social
complexity, and Schiffer’s (1987) article on formation processes in the archaeological record.
Brumfiel’s studies on gender and class in Mesoamerica, and McBrinn’s (2008) study on archaic
foragers in New Mexico, use low levels of abstraction (Binford 1971; Brumfiel 1992; McBrinn
2008). Both types of analysis have their merits, and it goes without saying that archaeology
should continue to employ both perspectives. Used together, the two types of analysis could
provide clearer, and more accurate representations of the complexity surrounding an
individual’s, and/or group’s, identity.

In other words, Hoffecker (2011a: 5) “super-brain” concept could be used in conjunction
with the culture concept, since it allows for both generalization and specialization. The concept
of culture traditionally used by anthropologists made it very difficult to explain the shared
symbolic conceptualizations and practices surrounding feathers in the Great Basin, Southwest,
northern Mexico, and Great Plains. Using folktales as an analogy clarifies how the “super-brain”
and “idea-meme” theories allow for both similarities and disparities in cultural identities.
Folktales have a central theme from which variations and new versions develop. While distinct
versions show the folktale’s malleability, the subjects around which the story revolves will
reflect the original tale’s central theme. Tying it back to feathers, the central theme pertains to
the similar ways in which feathers are used and conceptualized, while the variations and versions
pertain to the socially distinct groups of people investigated for this thesis. The “super-brain”
and “idea-meme” contain the folktale’s main theme and concept, while the cultural variability and differences seen in other versions of the story represent the mutations and malleability allowed by “idea-memes” and “super-brains”.

These data should be helpful for other archaeologists studying Fremont archaeology; specifically on the apparent interconnectedness (as it concerns birds and feathers) between the peoples surveyed for this thesis. This thesis also added to the accumulating knowledge that humans use different objects, mediums, and materials to express their different scales of identity, and that studying certain types of artifacts are better suited for discovering small- or large-scale identities.
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Appendix A

*Mantle’s Cave Caches*

This appendix was reproduced, with permission, from work Sheila Goff completed in 2005 and 2012. Also on my thesis committee, Sheila has proved indispensible when confronted with questions to which I could find no answer. I am grateful to her for allowing me to reproduce her work here, since my own research concerning the caches in Mantle’s Cave would have been the same.

The tables presented below provides a summary of the caches discovered in Mantle’s Cave, using Scoggin’s field notes (1939a, 1939b), Burgh and Scoggin’s monograph (1948), and a re-assessment of the objects by Goff in 2005 and then again, in 2012. I too inspected the collection and found no discrepancies with her assessment.

Cache 1, 1A*

Context
- 15” below surface in sand and debris containing scattered charcoal and kernels of corn (Burgh and Scoggin 1948:38).
- Large irregular pit cist in sections U2, U1, T1, T2, S1. Pit was “honeycombed” with smaller pits and channels, some probably a result of rodent activity. Cache 1 “placed within an irregularity within the compact layer of sand and silt a few inches down.” To the north of this was another cache pit (1A) “whose southern margin came within a few inches of the bag.” A third cache (1B), according to Scoggin’s field notes, was on the east margin, where a large stone had been placed over it (archives at UCM). This cache was not reported in the 1948 monograph.

<table>
<thead>
<tr>
<th>UCM #/Field #</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
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| 6177/A424     | Buckskin Bag | Hide pouch contained the remaining objects listed. “A square piece of deerskin, diagonally folded with hair side out. Sewn along the converging sides. The hide is part of the face and scalp of a doe. The seams along the bottom of the pouch mark the position of the eyes… A rawhide thong is knotted on one side of the | zS cordage
                |               |                                                                                                                                                                                                          | Opening at top: 9” wide where hide of nose joins hide of neck. (Goff) |
|               |              | zS cordage                                                                                                                                                                                                 | Length at base:                             |


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<tr>
<th>UCM #/Field #</th>
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<tbody>
<tr>
<td>6178/A425</td>
<td>Feather headdress</td>
<td>“The crest is made up of the central tail feathers of the red-shafted flicker [Colaptes cafer collaris] six feathers at most having been taken from each bird. The six feathers at the center of the crest...are tail feathers of the yellow-shafted flicker [C. auratus luteus]. The vanes of each feather are trimmed off on the lower part of the quill...The remaining tuft, including the natural point of the feather, forms a diamond pattern...The upper two thirds of the tuft is black; the lower one third and the bare quill below are red. The six center feathers show a corresponding pattern in black and yellow. The quills are sewn together below the tufts with two rows of slender thread of twisted sinew. The ermine strip at the base is made up of three more pelts of the long tailed weasel (Mustela frenala...) in winter pelage...The ermine is backed with a strip of buckskin about 1.5” wide...Between these strips the feathers are held by lacings of fiber cord...Five inches from either end, rawhide things are attached to fasten the headdress in position”(Burgh and Scoggin 1948:39-40). 370+ feathers requiring up to 60 birds (Hewes 1952:147).</td>
<td>Both kinds of cordage. Majority is sZ. Headband length: 23” (Goff)</td>
</tr>
<tr>
<td>6179/A426</td>
<td>Sinew bundle</td>
<td>Bundle of sinew tied together with sinew (Goff)</td>
<td>Length: 14.5” Width: 1.5” (Goff)</td>
</tr>
<tr>
<td>6180/A427</td>
<td>“Problematic object”/Antler baton</td>
<td>Labeled in the field notes as “problematical,” but later labeled in 1948 monograph as antler plug. The worked antler looks very much like sheep horn flaking tools or batons recovered from Basketmaker II cave sites in northeastern Arizona and southeastern Utah (Geib 2002). The ends of the object are rounded.</td>
<td>Length: 4.2” Width: 1” Thickness: 0.7” (Burgh and Scoggin 1948:41)</td>
</tr>
<tr>
<td>UCM #/Field #</td>
<td>Object</td>
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<td></td>
<td>There are cutting and abrasion marks. There has been an attempt to make them uniform in thickness. There may be pitch on them (Goff)</td>
<td>zS cordage (Goff) Length: 6” Width at ends: 3” Center width: 2” Beads: 0.2” square (Burgh and Scoggin 1948:40)</td>
<td></td>
</tr>
<tr>
<td>6109/A428</td>
<td>Butterfly ornament/pendant</td>
<td>It is made of thick, untanned rawhide with hair removed. Two strings of 13 slate or lignite beads strung on fiber cords decorate object. Varily also called a pendant or plaque. (Burgh and Scoggin 1948:40)</td>
<td>Length: 6” Width at ends: 3” Center width: 2” Beads: 0.2” square (Burgh and Scoggin 1948:40)</td>
</tr>
<tr>
<td>6185/A429</td>
<td>“Problematic object”/antler baton</td>
<td>See 6180/A427 for description.</td>
<td>Length: 3.2” Width: 0.9” Thickness: 0.4” (Burgh and Scoggin 1948:40)</td>
</tr>
<tr>
<td>6181/A430</td>
<td>Knotted hide strip</td>
<td>Two to three strips of rawhide tied together (Burgh and Scoggin 1948:41).</td>
<td>Length: 54”</td>
</tr>
<tr>
<td>5666/A431</td>
<td>Ceremonial blade/stone knife</td>
<td>Delicately chipped from gray granular quartzite (Burgh and Scoggin 1948:40). No apparent use wear (Goff).</td>
<td>Length: 7.8” Maximum width at rounded end: 2.5” Width: 1.2” Thickness: 0.2” (Burgh and Scoggin 1948:40)</td>
</tr>
<tr>
<td>6014/A432</td>
<td>Bark bundle</td>
<td>Bundle of twisted bark from unidentified plant (Goff).</td>
<td></td>
</tr>
<tr>
<td>6182/A433</td>
<td>Feather bundle</td>
<td>Magpie feathers tied with plant fibers (Burgh and Scoggin 1948:40).</td>
<td>~15</td>
</tr>
<tr>
<td>6183/A434</td>
<td>Feather bundle</td>
<td>Hawk feathers tied with grass fibers (Burgh and Scoggin 1948:40).</td>
<td>~30</td>
</tr>
<tr>
<td>6184/A435</td>
<td>Feather bundle</td>
<td>Golden eagle feathers tied with rawhide thong (Burgh and Scoggin 1948:40).</td>
<td>~20</td>
</tr>
<tr>
<td>No#/A436</td>
<td>Carapace stone</td>
<td>Oval, black polished stone, with one side flattened and the other concave. Probably slate. A groove encircles the stone closest to the flat side and a sinew cord fits in the groove, extending beyond either end. Below the groove, there are perforations at the end and along one side holes are</td>
<td>sZ cordage (Goff) Length: 1.4” Width: 0.8” Thickness: 0.4” (Burgh and Scoggin 1948:40)</td>
</tr>
</tbody>
</table>
shallowly drilled. “The perforations at the ends were made by the intersection of funnel-shaped holes drilled from opposite sides” (Burgh and Scoggin 1948:40).

<table>
<thead>
<tr>
<th>UCM #/Field #</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Carapace stone</td>
<td>Oval, black polished stone, with one side flattened and the other concave. Probably made of gilsonite. No encircling cord. The perforations at the ends were made as described above (Burgh and Scoggin 1948:40).</td>
<td>Length: 1.4” Width: 0.8” Thickness: 0.5” (Burgh and Scoggin 1948:40)</td>
</tr>
</tbody>
</table>

No#/A437

Scraper

Made of obsidian, broken

6232/A439

1 corn kernel, 1 bean

*There is a discrepancy between Scoggin’s field notebook and transcribed notes and Burgh and Scoggin (1948). This list reflects Scoggin’s original notes archived at the University of Colorado Museum.

**Cache 1A**

<table>
<thead>
<tr>
<th>UCM#/Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6108/A423</td>
<td>Buckskin patchwork bag</td>
<td>The bag is made from 7 tanned and untanned pieces of buckskin sewn together with buckskin and fiber cordage. Also, there are 2 patches. Stitching took place sometimes from the inside and sometimes from the outside. A hide string at the top would enable the user to tie the bag closed. Red stains, possibly ochre, are noticeable on one side (Goff). Burgh and Scoggin (1948) do not report that the bag contained anything.</td>
<td>Both zS and sZ cordage were used to construct this as well as nontwisted cordage and sinew. Original construction seems to be zS (Goff) Length: 27” Width: 14” (Burgh and Scoggin 1948:62)</td>
</tr>
</tbody>
</table>

*Scoggin calls this a cache in his field notes, while the 1948 monograph does not.

**Cache 2**

Context:
- Found by Lee and Jones prior to the formal excavation of Mantle’s Cave. According to UCM file folder C10D3F10, it was found along the rear of the cave “four paces or 12 feet from east end of large rock fall where big masonry cist is located.” Based on this, the cache would have been found some 5-10 feet west of Cache 4 and 5.

<table>
<thead>
<tr>
<th>UCM#/ Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5947/A1085</td>
<td>Noose peg snares</td>
<td>Two bundles, each consists of 2 wooden tubes wound with tapered cordage. The pegs are what Johnson (2000:246-250) calls sliders. They are similar to those pictured in Janetski (1979:310). The pegs have a groove where the cord is tied to the peg and were probably used for nooses. These are unlike snares recovered from the Hayes snares cache in Ashley National Forest which have sliders and triggers. Little use wear observed. (Goff)</td>
<td>zS cordage (Goff)</td>
</tr>
<tr>
<td>5948/A1090</td>
<td>Net bag</td>
<td>The net bag with drawstring is distinctly similar to one recovered from Danger Cave by Jesse Jennings which was dated to the Archaic, except that the Mantle’s Cave one is larger. (The exact date for the stratigraphic level from which the Danger Cave artifact was recovered is not reported in the Jennings monograph). It is made of yucca cordage and has been repaired in 3 places (Goff). (Burgh and Scoggin 1948:40)reported that the Mantle’s Cave net “was begun as a single row of squares and enlarged by adding successive rows of squares above. The effect is one of coiling….[It] is laced at the top with a drawstring--device which suggests that it was contrived for a game trap.”</td>
<td>zS cordage (Goff) Circumference: 30” Depth: 15” 2” between each knot in the mesh material (Burgh and Scoggin 1948:40).</td>
</tr>
<tr>
<td>5960/A1086</td>
<td>Fish hooks and line</td>
<td>There were three fish hooks and fishing line. The hooks were made of wood, bone, and pitch, to cement the cordage to the hooks. The lines appear to be made of apocynum. One line with one hook is two ply, tapered and the hook has a small second line attached to it</td>
<td>zS cordage (Goff) Line w/1 hook length: ~9’ Line w/2 hooks: ~10’ Length of hook:</td>
</tr>
<tr>
<td>UCM#/Field#</td>
<td>Object</td>
<td>Description</td>
<td>Details</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
|            |            | that may have been used to attach a sinker or some sort of bait. The thickness of the line is .06” and less.                                                                                           | 1.5”  
(Burgh and Scoggin 1948:41)                                                               |
| 5961/A1092 | Game snares| Bundle of 24 snares. UCM donated one to State History Museum. Initial field notes reported them to be sage and cedar, while later analysis (McBride, personal communication 2004) suggests they are made of apocynum. All are tapered. They are folded in half over another piece of cordage. They are held together with an overhand knot. Each end of the tapered line is knotted with an overhand knot to prevent unraveling and then an overhand knot keeps the snares on the center line. The center cordage appears to be the same as the cordage in the snares. These are medium size of the three sets of snares. Little use wear observed (Goff). | zS cordage  
Length: ~56”  
Thickness: 1-2/16” (Goff)                                                                   |
| 5962/A1089 | Game snares| Bundle of 76 snares. Material type is unknown since three different analysts have said yucca, apocynum or sage cedar bark. These are the thinnest of the snares in this cache. They are tapered with knotted ends (overhand knots) and slip knots. They are uniformly put together. They would be considered tightly twisted. They are tied together with a doubled piece of cordage. Little use wear observed (Goff). | zS cordage  
Length: 60”  
Thickness: 1/16” (Goff)                                                                 |
| 5959/A1084 | Game snares| A bundle of 21 snares was recovered. 19 are at the UCM because ledger says one was given away (most likely it was 2). All are tapered with slip knots at each end and overhand knots at the very end to prevent unraveling. They are tightly woven, but the thinner end seems less |

zS cordage; cordage tying bundle together is sZ.  
Length: ~80”  
Thickness: 2-3/16”
tight than the thicker end. Each is folded in half over a circle of thicker cordage and tied with an overhand knot to prevent falling off the circle of cordage. Of the three sets of games snares in the cache, these are the thickest. All the snares are uniform in size. Field notes suggest they are made of elm bark, but current analysis suggests yucca. Little use wear observed (Goff).

<table>
<thead>
<tr>
<th>UCM#/Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5957/A1087</td>
<td>Globular basket</td>
<td>This basket is globular in shape and has a constricted mouth and a leather strap. It is a close coiled basket that has a split rod foundation and interlocking stitches. It has a normal continuous center, the work direction is right to left, the work surface is concave, and the rim finish is false braided. It appears that both the fag and moving ends are bound under. The interior of this basket has been waterproofed with pitch. The differences in diameter were accomplished by changing the widths of the rods. There are 2-3 stitches per centimeter. The vessel also exhibits several repairs (Goff; Burgh and Scoggin 1948:57)</td>
<td>Height: 5.5” Diameter at mouth: 13.75” Base diameter: 7.5” (Goff)</td>
</tr>
</tbody>
</table>

*Again there is a discrepancy between Scoggin’s field notes and Burgh and Scoggin (1948). Scoggin did not record the single noose snare with a peg that Burgh and Scoggin did.*

Cache 3

Context:
- In a shallow pit lined with bark and sticks, no more than 10 inches below surface. Scoggin’s field notes appear to state that the cache was recovered in Trench A of section 02-O or Q; the letter is almost unreadable.

<table>
<thead>
<tr>
<th>UCM#/Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6102/A282</td>
<td>Deer scalp headdress</td>
<td>The deer scalp headdress seems to be made from the crown of a doe. The hide was tanned and the ears have quills of <em>SZ cordage (Goff)</em></td>
<td></td>
</tr>
</tbody>
</table>
feathers woven in them. There is also cedar bark stuffed into the ears at the base. Both strategies help the ears to stand rigid. The eye holes are sewn shut (Goff).

**Cache 4**

Context:
- Buried 11” below surface under sand and trash in section L-01.

<table>
<thead>
<tr>
<th>UCM#/Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6175/A421</td>
<td>Feather bundle</td>
<td>Bundle of red flicker feathers tied together. The feathers have been trimmed like those used in the flicker feather headdress from Cache 1 and 2 have cordage attached to quills (Goff).*</td>
<td>sZ cordage (Goff)</td>
</tr>
<tr>
<td>6176/A422</td>
<td>Sinew or bark</td>
<td>Burgh and Scoggin (1948:42) describe this as a mammal leg tendon used to make sinew.</td>
<td>Length: 14” (Burgh and Scoggin 1948:42)</td>
</tr>
<tr>
<td>6173/A419</td>
<td>Twined bag</td>
<td>Rectangular pouch “. . formed by folding a piece of twined matting made of cordage and tule stalks. Ends closed with lacings of fiber cordage. The string of coarse fiber cordage attached at top center (Burgh and Scoggin 1948: 42). There is evidence that the bag was repaired (Goff).</td>
<td>zS cordage (Goff) LENGTH: 17” Depth:4.5” (Burgh and Scoggin 1948:42)</td>
</tr>
<tr>
<td>6174/A420</td>
<td>Rabbit tail</td>
<td>Tuft of white tailed jack rabbit (Scoggin’s field notes state that it is deer.)</td>
<td></td>
</tr>
</tbody>
</table>

*Burgh and Scoggin report these as hawk feathers. They are not. Goff’s examination of this cache in 2005 revealed a fish hook like those in Cache 2 but smaller (1 3/8”), one kernel of corn and one length of cordage (6175b).*
### Cache 5

Context:
- 12” below surface in N-P, section 0-02, according to the Scoggin’s field notebook.

<table>
<thead>
<tr>
<th>UCM#/ Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6103/A311</td>
<td>Pendant</td>
<td>This object is “made of rabbit hair detached from hide and twisted upon cords…Five central cords were wrapped with cedar bark strands at the center to make a loop for suspension. Both ends of the cords fashioned into fur pendants (Burgh and Scoggin 1948:42).</td>
<td>zS cordage (Goff)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total length: 12”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Length of pendant: 4.5”</td>
</tr>
<tr>
<td>6144/A109</td>
<td>Pelt</td>
<td>“Cased pelt of weasel in spring moult of winter pelage, with streaks of brown on head and back (Mustela frenata, probably nevadensis.). Tail broken during skinning; black tuft trimmed and tied to shortened segment with cord (Burgh and Scoggin 1948:42).</td>
<td>zS cordage (Goff)</td>
</tr>
</tbody>
</table>

### Cache 6

Context:
- Recovered 1-2” below surface in Trench A, Section 1C-1.

<table>
<thead>
<tr>
<th>UCM# Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6169/A533</td>
<td>Sheep wrench shaft</td>
<td>Most likely a shaft straightener. Perforated, female horn (Burgh and Scoggin 1948:43)</td>
<td>Hole: ½” in diameter (Goff)</td>
</tr>
<tr>
<td>6155/A519</td>
<td>Flake knife</td>
<td>Rounding and edge damage, crudely made (Goff)</td>
<td>Length: 2 ¾” Width: 1”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dark chalcedony (Goff)</td>
</tr>
<tr>
<td>6162/A526</td>
<td>Flake knife</td>
<td>Rounding and edge damage, crudely made (Goff)</td>
<td>Length: 1 ¾” Width: 1 3/8”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quartzite (Goff)</td>
</tr>
<tr>
<td>6163/A527</td>
<td>Awl</td>
<td>Bone, highly polished, sharp point (Goff)</td>
<td>Length: 3” (Burgh and Scoggin 1948:43)</td>
</tr>
<tr>
<td>6167/A531</td>
<td>Unworked rib</td>
<td>Probably deer, abrasions on one edge (Goff)</td>
<td></td>
</tr>
<tr>
<td>6166/A530</td>
<td>Unworked</td>
<td>Probably deer (Goff)</td>
<td></td>
</tr>
<tr>
<td>UCM# Field#</td>
<td>Object</td>
<td>Description</td>
<td>Details</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6170/A534</td>
<td>Net bag</td>
<td>Coiled netting. Grass acts like a cushion to hold other items and prevent them from slipping through net. With repairs. Similar in construction to net bag in Cache 2 (Goff). Burgh and Scoggin (1948:60) reported that it “was begun as a single row of squares and enlarged by adding successive rows of squares above. The effect is one of coiling…”</td>
<td>zS cordage (Goff) Circumference: 24” Mesh: 2” (Burgh and Scoggin 1948:60)</td>
</tr>
<tr>
<td>6164/A528</td>
<td>Sewn hide</td>
<td>Scrap with cordage stitches on one side (Goff)</td>
<td>zS cordage Length: 8 ¼” Width: 2” (Goff)</td>
</tr>
<tr>
<td>6165/A529</td>
<td>Hide fragment</td>
<td>With scratches and indentions, use wear (Burgh and Scoggin 1948:43)</td>
<td></td>
</tr>
<tr>
<td>6158/A522</td>
<td>Flake knife</td>
<td>Some rounding and edge damage (Goff)</td>
<td></td>
</tr>
<tr>
<td>6168/A532</td>
<td>Worked bone fragment</td>
<td>Scapula with abraded edges to make smooth contour (Burgh and Scoggin 1948:43)</td>
<td>Length: 4” Width: 1.2-2”, tapered (Burgh and Scoggin 1948:43)</td>
</tr>
<tr>
<td>6154/A518</td>
<td>Bird quill fragments</td>
<td>3 (Goff)</td>
<td></td>
</tr>
<tr>
<td>6161/A525</td>
<td>Flake knife</td>
<td>With scratches and indentions, use wear (Goff)</td>
<td>Length: 2 3/8” Width: 1 3/8” Dark chert (Goff)</td>
</tr>
<tr>
<td>6160/A524</td>
<td>Flake knife</td>
<td>With scratches and indentions, use wear (Goff)</td>
<td>Length: 2 ½” Width: 1 3/8” Red quartzite (Goff)</td>
</tr>
<tr>
<td>6156/A520</td>
<td>Flake knife</td>
<td>With scratches and indentions, use wear (Goff)</td>
<td>Length: 3” Width: 1 ½” Dark chert (Goff)</td>
</tr>
<tr>
<td>6157/A521</td>
<td>Knife blade scraper</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Two additional recoveries are reported in Scoggin’s field notes as caches. One is not reported accordingly in Burgh and Scoggin (1948) while the other is inexplicably mentioned briefly and separately (Burgh and Scoggin 1948:43-44).

**Cache 1B**

<table>
<thead>
<tr>
<th>UCM#/Field#</th>
<th>Object Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6114/A468 Untanned strips of buckskin</td>
<td>6 strips of untanned buckskin still have hair and several have dewclaws. Raw material for moccasins.</td>
<td></td>
</tr>
</tbody>
</table>

This cache may be what is referred to on page 63 of the monograph. However, the number of pieces of buckskin is different from those counted by Goff in 2005.

**Mantle’s Cave Cache 7**

**Context**
- Trench A U-03. The blades deliberately were placed on top of each other with the lowest 5.5” below surface and the uppermost 3.25” above surface. A seventh blade, believed to have been part of this cache was found elsewhere nearby. These blades vary from those in Cache 6 in that their base is straight and they are more finely crafted.

<table>
<thead>
<tr>
<th>UCM#/ Field#</th>
<th>Object</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6171/A322A Knife blade</td>
<td>Slight edge damage (Goff)</td>
<td>Length: 2.75” Width: 1” Clear chalcedony or quartzite (Goff)</td>
<td></td>
</tr>
<tr>
<td>6171/A322B Knife blade</td>
<td>Slight edge damage (Goff)</td>
<td>Length: 3” Width: 1” Clear chalcedony or quartzite (Goff)</td>
<td></td>
</tr>
<tr>
<td>6171/A322C Knife blade</td>
<td>Slight edge damage. Possible use wear (Goff)</td>
<td>Length: 2 7/8” Width: 1” Clear chalcedony or quartzite (Goff)</td>
<td></td>
</tr>
<tr>
<td>6171/A322D Knife blade</td>
<td>Slight edge damage. Possible use wear (Goff)</td>
<td>Length: 2 7/8” Width: 1” Clear chalcedony or quartzite (Goff)</td>
<td></td>
</tr>
<tr>
<td>6171/A322E Knife blade</td>
<td>Slight edge damage. Possible use wear (Goff)</td>
<td>Length: 2 5/8” Width: 1” Clear chalcedony</td>
<td></td>
</tr>
<tr>
<td>UCM#/ Field#</td>
<td>Object</td>
<td>Description</td>
<td>Details</td>
</tr>
<tr>
<td>-------------</td>
<td>--------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>6171/A322 F</td>
<td>Knife blade</td>
<td>Slight edge damage (Goff)</td>
<td>Length: 3” Width: 1” Clear chalcedony or quartzite (Goff)</td>
</tr>
<tr>
<td>6171/A322 G</td>
<td>Knife blade</td>
<td>Slight edge damage</td>
<td>Length: 2 5/6” Width: 1” Clear chalcedony or quartzite (Goff)</td>
</tr>
</tbody>
</table>
Appendix B

Bird Habitats

This section of the thesis presents maps and discussions regarding the feathers found in Mantle’s and Basket (5MF10) Caves. These data were condensed into Tables 6.3 and 6.4. However, this longer discussion was warranted so that the conclusions drawn in Chapters 6, 7, and 8 are better explained and understood.

Feathers from Mantle’s Cave

**Black-Billed Magpie**

Black-billed Magpies (*Pica hudsonia*) have a wide distribution (Figure 7.1). In the north, they are found in Alaska, the extreme northwest of British Columbia, and southwest Yukon Territory ([Trost](#) 1999). In central Canada they are found along the central and southern portions of interior British Columbia, southern Alberta, southern half of Saskatchewan, Manitoba, and southwest Ontario ([Trost](#) 1999). In the United States, the birds are found east of the Cascades in Washington, Oregon, and California. Their range continues east, and includes most of Idaho, Nevada, Utah, Colorado, northeastern Arizona, northwestern New Mexico, and the western extreme of Oklahoma. The bird is occasionally found in east-central Kansas, east-central Nebraska, central South Dakota, and northwest Minnesota ([Trost](#) 1999). Their general distribution correlates well with cold-dry-steppe-like environments. During the breeding season, the birds inhabit thickets along riparian habitats.
that have associated grasslands and/or sagebrush foraging available (Trost 1999). The “off” season affords these birds more flexibility in terms of where they live, and are often found close to human populations. Still, the Black-billed Magpie prefers its riparian thickets, and is most often found here than elsewhere (Trost 1999).

Black-billed Magpie tail feathers (UCM 6182) could have been obtained easily by the people using Mantle’s Cave. First, its distribution (Figure 7.1) falls within the area in which Mantle’s Cave resides, so its appearance and calls would have probably been familiar to the people in this area. Second, the bird prefers thickets along riparian habitats with available sagebrush foraging, which is exactly what the area around Mantle’s Cave affords. The people could have very easily used one of the trapping techniques discussed in the ethnographic section of this thesis, or collected molted tail feathers. Third, the bird seems to prefer living nearby to human populations during its non-breeding season (Trost 1999), which could have given the people living around Mantle’s Cave easy access to the bird’s tail feathers.

**Northern Flicker**

As noted above, the red-shafted (*Colaptes auratus cafer*) and yellow-shafted (*Colaptes auratus*) varieties of this bird have been regrouped to form a signal species, the Northern Flicker (*Colaptes auratus*). This map reflects the distribution of the entire species, and does not delineate between yellow- and red-shafted Northern Flickers. The yellow-shafted Flicker occurs more frequently east of the Rocky Mountains, while the red-shafted Flicker is found more often west of the Rocky Mountains. But also noted above was the presence of a hybrid or intergrade zone more or less along the rain shadow of the Rocky Mountains, so this discussion about their habitat considers that of the entire Northern Flicker (*Colaptes auratus*) species.
The Northern Flicker favors diverse woodland habitants, and can be found throughout North America (Wiebe and Moore 2008) (Figure 7.2). The bird generally prefers “edge habitats”, or the areas where forests open out to meadows and clear areas. During the breeding season, the birds can be found in cottonwood riparian habitats, subalpine forests, and piñon juniper stands (Wiebe and Moore 2008). During the non-breeding season, the birds can be found in suburban areas, sagebrush flats, sand dunes, and grasslands. Neither subspecies migrates, and stay put year round. The main difference between the yellow-shafted and the red-shafted Flicker is the color of their under-wings, tails, and primary feather shafts. Yellow-shafted flickers have yellow coloration, Red-shafted have red coloration, and the intergrade individuals are usually some grade between yellow and red, often appearing orange. Yellow-shafted Flickers have gray head caps, beige faces, a red bar at the nape of the neck, males have a black moustache, and while females can have the black moustache, it is often less prominent and/or missing completely (Wiebe and Moore 2008). Red-shafted Flickers have beige head caps, gray faces, red moustaches (male), while female red-shafted Flickers lack the moustache (Wiebe and Moore 2008).

Given the Northern Flickers distribution and habitat choice correlates well with the environment surrounding Mantle’s Cave, and the Colorado Plateau in general, it is
not outrageous to assume the people using Mantle’s Cave could have procured the flicker feathers without traveling a long distance and/or trading. The yellow-shafted feathers present in the headdress (UCM 6178) could be indicative of trade relations between groups living in and around Dinosaur Monument with groups farther east of the Rockies. Due to the presence of intergrade individuals that can appear to be “true” yellow- and red-shafted flickers along the front range of the Rocky Mountains, these feathers could have been obtained during a parties’ move onto the plains to hunt for bison, and an exotic origin is not necessary to explain their presence (Kelly 1995).

While visual analysis is not sufficient to determine whether the yellow-shafted feathers belonged to an intergrade individual or a true Northern yellow-shafted Flicker, I suggest that the feathers were collected relatively locally. This conclusion is based on the ethnographic literature that stressed the importance of feathers to Native groups living throughout the Great Basin, American Southwest, the Great Plains, and Northern Mexico. Feathers were (and are) so important to these groups that it seems logical that the birds from which they procured the feathers would have been “neighbors” to the people living in the area. Feather use was (and is) so ubiquitous that birds and feathers may have been selected for use based on their availability. Recall the discussion on Emslie’s “garden hunting model”, and the implication that non-indigenous birds would have been drawn to agricultural fields (Emslie 1981a, 1981b, Emslie 2007).

Furthermore, the flicker feathers in Mantle’s Cave comprise approximately 65% of the total feather count (837-849 feathers, including the 370 from the headdress), implying that this particular type of feather was favored more than the other ones (Table 6.2). Even if the 370 feathers from the headdress are removed, flicker feathers still make up a disproportionally large
percentage (approximately 61%) of the cave’s feather assemblage. Lastly, Fowler (2006) and Moore (1986) documented that Northern Flickers, specifically, were held in high regard among various Great Plains and Great Basin groups. Though archaeologists are uncertain who the Fremont descendants are, I would suggest that those historic groups living in the Great Basin and Great Plains may be representative of that unknown population. If that is the case, then the large percentage of Northern Flicker feathers in Mantle’s Cave may indicate the antiquity of traditions and beliefs surrounding Northern Flickers.

**Golden Eagle**

Golden Eagles (*Aquila chrysaetos*) are found throughout the Northern Hemisphere, but are more common in western North America, than eastern (Figure 7.3). It is one of the largest birds of prey in North America, second only to the California Condor (*Gymnogyps californianus*). Golden Eagles reside year round in Colorado and most of the western United States (Kochert et al. 2002). They prefer semi-open habitats from sea-level to 3,360, and thrive in tundra, grasslands, woodlands, shrub lands, and coniferous forests, though they avoid heavily forested areas (Kochert et al. 2002). In northern Utah and northwestern Colorado the birds often nests in sagebrush, grasslands, and juniper forests. They are often found along riparian environments, though they avoid urban and agricultural areas (Kochert et al. 2002). Raising an average of one offspring per year, and no more than fifteen in a lifetime, these birds will not mate during years of less
abundant prey, and while usually predators of live prey, they have been documented feeding on carrion during the winter months (Kochert et al. 2002).

Golden Eagles certainly resided in and around Dinosaur National Monument, so the feathers making up the golden eagle feather bundle (UCM 6184) could have been relatively easy to acquire by the people using Mantle’s Cave. This bundle, as noted before, was found in association with the magpie feather bundle (UCM 6182), the Flicker Feather headdress (UCM 6175, and the Buteo feather bundle (UCM 6183; refer to Tables 6.1-6.3 and Appendix A. for a complete list and description of the other items found in this, and the other caches). These bundles and associated objects were placed within a buckskin bag (UCM 6177), which was described as a “Ceremonial Bag” in Scoggin’s field notes (Scoggin 1939b). While the exact use and purpose of the feather bundles will most likely remain a mystery forever, the fact that they were found together, and with the headdress, is significant.

As the “Ethnographic chapter” showed, feathers bundles are often used as cleansing, purifying, and/or healing agents (Stewart 1987). Furthermore, there is ample ethnographic data pertaining to “spirit” or “medicine bundles”, which almost always include feathers (particularly eagle feathers), feather bundles, and other objects deemed “sacred” by the person creating and using the bag (Lowie 1924; Zedeño 2008; Kracht 1922; Opler 1969; Stewart 1987). This bag and its contents may or may not have been conceived of as a “spirit” or “medicine” bundle, but the feathers were clearly in association with one another, and the other objects in the bag were significant and not placed together haphazardly. Similar to my suggestion that the owl, grouse, and hawk feathers were used together, and only useful when used together, the feather bundles from this “ceremonial bag” were most likely used in conjunction with one another.

*Red-Tailed Hawk*
The Red-tailed Hawk (*Buteo jamaicensis*) is one of the most widely distributed hawks in the Americas, with a global population of about two-million individuals (Figure 7.4). The bird has been documented from Alaska to Panama, and as far east as Cuba (Preston and Beane 2009). This hawk lives easily in deserts, grasslands, forests, mountains, urban areas, and agricultural lands, though it prefers habitats that offer areas to perch. Second only to the Peregrine Falcon (*Falco peregrines*) in its use of diverse habitats, the bird lives almost everywhere, leaving areas of unbroken forest and/or the Arctic uninhabited (Preston and Beane 2009). In Colorado, Red-tailed Hawks concentrate around piñon-juniper forests, riparian woodlands, and Aspen forests.

The hawks usually hunt by scanning the surrounding area from a perch, and mainly consist on rodents, lagomorphs, reptiles, and smaller birds (Preston and Beane 2009). The birds rarely migrate, even during the winter months, as they are adept hunters, and are able to live off the kills from larger predators.

Red-tailed Hawk feathers would have been locally available to the people using Mantle’s Cave, but the *Buteo* feather bundle (UCM 6183), found in the same “ceremonial bag” mentioned above, may not even be made up of Red-tailed Hawk feathers. Per the discussion above, this feather bundle is made up of feathers from the *Buteo* genus, and may contain or entirely be made up of Rough-legged Hawk, Ferruginous Hawk, and/or Red-tailed Hawk feathers. Because of the fragile nature of the bundle, I was not
able to disentangle the feathers and achieve the same level of visual analysis as I was for those feathers not tied in bundles.

However, there may be reason to believe that the bundle was purposefully made up of different *Buteo* species, as it was the combination of feathers that lent the bundle its usefulness. Again the data collected from ethnographic sources provides evidence that combinations of feathers were and are used. Furthermore, this bundle’s placement within the “ceremonial bag” containing an additional two feather bundles and feather headdress (along with other non-feathered objects; see Table 6.3 and Appendix A) seem to indicate that the bag’s deposition and content were not haphazard. I argue that it is reasonable to suggest that the bundles were purposefully made, in that the feathers were consciously selected for and bundled together. The ethnographic research completed for this thesis supports my suggestion that in situations dealing with feathers, very little is done haphazardly.

**Rough-legged Hawk**

Rough-legged Hawk feathers may be represented in the “Buteo” bundle, so the bird’s habitat and range are discussed. In North America, the Rough-legged Hawks (*Buteo lagopus*) distribution correlates well with that of the Red-tailed Hawk, though the Rough-legged has distinct areas in which it breeds and winters (Bechard and Swem 2002; Figure 7.5). During its breeding season, the hawk prefers arctic and subarctic tundra and taiga environments, hunting in the open spaces afforded by this type of environment. It is also a cliff-nesting species, and values these spaces so highly, that its distribution becomes curtailed based on the availability of suitable nesting sites, though it has been seen nesting in trees along fringes of boreal forest and/or human-made structures (Bernard and Swem 2002). Considered a migratory hawk, these
birds reside in more southerly climes during the winter months. From late April to late September, with the majority of the birds moving south during September, the Rough-legged Hawk resides in southern Canada and the northern United States. Bechard and Swem (2002) note that the highest numbers of Rough-legged Hawk sightings in winter tend to centralize themselves around the northern portions of the Great Basin and short-grass prairies. The bird relies heavily on lemmings and voles for sustenance during its breeding season, but supplements its diet with mice, shrews, smaller birds, medium-sized mammals like ground squirrels, and lagomorphs during the winter months (Bechard and Swem 2002).

Because of the hawks’ disparate distribution during its breeding and wintering seasons, the hawk would have only been around the area of Mantle’s Cave during the winter months. Perhaps its seasonal scarcity made these feathers more prized and exotic, than the more readily available Red-tailed Hawk feathers. The notion that scarce resources and/or objects are perceived of having more value than those resources/objects readily available has been extensively documented (Brumfiel and Earle 1987; Janetski 2002; Kelly and Thomas 2012). The scarcity of these feathers may have contributed to their being thought of as more exotic and special than other, more readily available hawk feathers, and may be one of the reasons this bundle (UCM 6183) was placed in a bag with other seemingly, “special” objects.

**Ferruginous Hawk**
These feathers are possibly represented in the *Buteo* bundle (UCM 6183), and because the light-morph of this species is more abundant than the dark, these feathers may very well all belong to Ferruginous Hawks (Bechard and Schmutz 1995; Photograph 6.2). Ferruginous Hawks (*Buteo regalis*) are an open-country species, inhabiting grasslands, steppe-like environments, and the deserts of North America (Bechard and Schmutz 1995). The bird avoids mountain environments, aspen forests, and areas recently disturbed by agriculture. Its preferred nesting areas range from cliffs, to trees, to utility poles, to man-made structures, to relatively level ground (Bechard and Schmutz 1995). It breeds in environments local to the northern Great Basin, northern Plains, and southern Canada, preferring flat-to-rolling terrain, while it winters much further south and prefers grassland-to-desert habitats (Figure 7.6). Juvenile hawks will begin their southern migration around August, while fully mature individuals move south in late September/October. Ferruginous Hawks live year round in northern Arizona, New Mexico, and most of Colorado, except in the extreme southwest corner of the state and the San Luis Valley. West of the continental divide the hawks subsist on jackrabbits and/or cottontail, while east of the divide they feed on ground squirrels and prairies dogs. Ferruginous Hawks utilize four different methods in capturing their food; still hunting from a perch, short-distance strikes (on ground squirrels), aerial hunting, and hovering (Bechard and Schmutz 1995).
Bent’s (1937; quoted by Bechard and Schmutz 1995:1) description of the hawk as regal, the greatest of all *Buteo* species, and as closely resembling the Golden Eagle, suggests that this bird fills its viewers with awe. The ethnographic evidence suggests that raptor feathers were most often used in situations dealing with powerful appeals to the ancestral spirits, violence, healing, curing, and/or cleansing (Bock and Bock 1992; Lumholtz 1902; Dobson 1994; Kroeber 1902, 1904, 1907; Parsons 1920, 1933, 1939; Opler 1940; Stevenson 1903; Lowie 1909, 1924; Steward 1933; Kelly 1932; Trenholm and Carley 1964; Olofson 1979; Fowler 2006; Kracht 1992; Fewkes 1899). Perhaps the birds’ obvious strength and hunting prowess encouraged humans to collect the feathers and use them in situations requiring powerful “medicine”. As Figure 7.6 shows, these hawks were year-round residents of northwest Colorado, and would have been available to populations living around Mantle’s Cave.

**Canada Goose**

The Canada Goose (*Branta canadensis*) is the most widely distributed goose in North America, occupying a wide range of habitats from low-arctic regions to high-mountain meadows (Mowbray et al. 2002; Figure 7.7). It is not uncommon to observe these birds in tundra-like environments, boreal forests, prairies, parklands, and human-made refuge areas. These birds mainly subsist on grasses and berries in their breeding/nesting areas and on grasses and agricultural crops during the winter (Mowbray et al. 2002). The authors note that breeding was originally thought to be restricted to areas north of 35° north and south of 70° north, but due to human involvement in Canada Goose breeding programs, the bird can be found nesting throughout the continental United States (Mowbray et al. 2002). While breeding and nesting, these geese prefer habitats that afford them more-or-less 360° views, and are close to bodies of
water like lakes, ponds, and/or marshes (Mowbray et al. 2002). Lastly, these birds are considered to be annual medium-to-long-distance migrants, with some populations staying in their breeding area year round, and others flying from subarctic regions to areas in the southern United States (Mowbray et al. 2002). The majority of geese begin moving south toward the end of August, ending up in their southerly destinations between early October and mid-December (Mowbray et al. 2002).

As seen in Figure 7.7, the feathers from these birds would have been readily available to the people living around Mantle’s Cave, since populations both winter and breed/nest year round in northwest Colorado. Although characterized as a desert, northwest Colorado has plenty of aquatic habitats, characterized by rivers and marshes, which the birds would have found attractive.

Like the Dusky Grouse feather, this find (UCM 6118; Photograph 6.11) is the sole representative for its species of bird, though it differs significantly in terms of the context in which it was found. The Dusky Grouse feather was found in association with the Short-eared Owl and Northern Harrier feathers, while UCM 6118 was the only feather recovered from its context (Scoggin 1939a, 1939b; Scoggin 1939-1940). It was noted as being found with grass and cedar bark, but whether these materials comprised an identifiable artifact, like the grass/reed bundle associated with the owl, Northern Harrier, and grouse feathers, is unclear. Furthermore, a
perusal of literature concerning arrow fletching indicated that primary flight-and tail-feathers were used most often, since secondary flight feathers, tertiary flight feathers, and other body-cover feathers do not have the necessary stiffness needed to effectively fletch an arrow (Grayson et al. 2007; Cosgrove 1968; Osborne 2004; Hamm 1991). UCM 6118 probably represents a secondary flight feather, so it was most likely not used for arrow fletching (Scott and McFarland 2010: 73).

Feathers from Basket Cave

_Short-Eared Owl_

One of the world’s most widely distributed owls, The Short-Eared Owl (_Asio flammeus_) is a ground-nester, and lives in open country grasslands, marshes, and tundra throughout most of North America (Wiggins et al. 2006; Figure 7.8). Wiggins et al. (2006) note the owls’ population is directly related to the availability of small mammals, like voles and lemmings, so their populations can fluctuate year-to-year. Considered to be a “partial migrant” owls inhabiting northern climes will move south in search of food, and even those owls living in areas classified as “year-round” residents adopt nomadic lifestyles if food becomes scarce (Wiggins et al. 2006). They are also one of the few owl species that remains active during the day and night. On the Great Plains, the owls prefer to breed and subsequently nest in dense, undisturbed stands of tall grass.

![Map of Short-eared Owl Distribution](image)

_Figure 7.8. Map of Short-eared Owl Distribution (Engilis and Reid 1996)._
The Short-eared Owl distribution map shows that its year-round and non-breeding ranges meet in the northwestern corner of Colorado, the locale of Basket Cave. This bird also resides in marshy habitats, and as Engilis and Reid (1996) note this habitat-type can be found throughout the Great Basin. Given the owls’ range, the people residing in the area around Basket Cave would have had access to the bird and its feathers. If the presence of Short-eared Owl feathers associated with Northern Harrier Hawk feathers reflect its original context, perhaps the two feather-types being bundled together was not an accident. As mentioned above, Northern Harrier Hawks and Short-eared Owls tend to inhabit similar ecological zones, a phenomenon surely noticed by the landscape’s human inhabitants. While not all feathers are thought of, or are used, in ways that reflect the bird’s natural attributes, such as behavior and preferred habitat, it has been ethnographically documented that people occasionally use specific feathers because of the bird’s natural attributes (Parsons 1939; Lumholtz 1902; Steward 1933: 309; Brown 1991; Kerr and Voelker 2010; Moore 1996; Kroeber 1907). Thus, the owl feathers found in apparent association with the Northern Harrier feathers could indicate these feathers were utilized during times when the natural attributes of the bird were needed by the human actor.

**Dusky Grouse**

The Dusky Grouse (*Dendragapus obscurus*), formerly known as the Blue Grouse, is North America’s third largest grouse species, weighing between 26.5–45.9oz (Zwickel and Bendell 2005). Figure 7.9 illustrates the distribution of various *Dendragapus* subspecies, but it is the green coloring that shows the Dusky Grouse’s range and distribution. This bird inhabits some of the driest, coldest, hottest, and xeric montane zones in North America (Zwickel and Bendell 2005). Within these environmental zones, the bird inhabits both open-space and forest,
preferring open-space areas replete with sagebrush and bitterbrush, and forested areas with ponderosa pine, Douglas-fir, and intermittent stands of quaking aspen. During the winter months, the birds move into coniferous forests, though in Colorado Dusky Grouse have been documented over 15km away from coniferous habitats (Zwickel and Bendell 2005). During the rest of the year in Colorado, the birds reside in the foothills and mountains, avoiding river valleys and high plains. Adult individuals subsist on vegetable matter most of the time, though juveniles have been documented relying heavily on invertebrates, and both adults and juveniles have been known to eat grasshoppers during the late summer/early fall months (Zwickel and Bendell 2005).

Based on its distribution, Dusky Grouse birds and feathers would have been available to the people living around Basket Cave. Its presence in this assemblage, and Castle Park as a whole, makes it somewhat unique. Mantle’s Cave contained the only two other feathers which were the sole representatives for their species (UCM 6099; UCM 6118), and UCM 6099 was found on the surface of the cave. I argue that the small gray feather (Photograph 6.14) was not part of the original archaeological assemblage, and is an artifact of a small Passerine losing a flight feather, which was subsequently blown into the cave. Therefore, the only other single feather found is the possible Canada goose feather (UCM 6118). The disparate ways in which the Canada goose feather was deposited, compared to the way in which the grouse feather was deposited, is significant. The goose feather was an isolated find, and was described as being
located with grass and cedar bark. The grouse feather was found in association with the Northern Harrier and Short-eared Owl feathers, all of which were in a rolled up reed or grass mat. Given the depositional differences, I suggest that the grouse feather was a necessary member of the bundle which contained the Northern Harrier and Short-eared Owl feathers, whereas the Canada goose feather may have been able to exercise its agency alone (Mills and Ferguson 2008, Zedeño 2008, Brown and Walker 2008, Latour 2005, Gosden and Marshall 1999, Gosden 2005).

Northern Harrier Hawk

The Northern Harrier (Circus cyaneus) is the only North American resident among Circus raptors, though the bird breeds throughout North America and Eurasia (Smith et al. 2011). As Figure 7.10 shows, the bird can be found through North America, depending on the season, but it is both a year-round and breeding-season resident of Colorado. As noted before, Northern Harriers prefer open grasslands, dry upland areas, riparian forests, and marsh habitats, often seen flying low to the ground during the hunt (Smith et al. 2011). In the western United States, these birds are most often found in dry upland habitats. These hawks can be characterized as opportunistic feeders and hunt anything from small rodents, to songbirds, to rodents and amphibians, to medium-sized mammals such as lagomorphs and prairie dogs (Smith et al. 2011). This is one of the few raptors in which the sexes look markedly different, with
males sporting a white underside with a gray back and hood, while females sport brown mottling over their entire bodies. These hawks nest on the ground in dense clumps of vegetation, often near other nesting pairs (Smith et al. 2011). Considered to be a partial, but long-distance migrant, the timing and length of migrations correlate well with how far north the birds’ reside. In and around the Rocky Mountains, the birds begin to make their way south from early August to late October, though breeding pairs have been seen wintering in the state of Colorado (Smith et al. 2011).

Northern Harrier Hawks and their feathers would have been available to people living around Basket Cave, and as noted above, may have been captured in habitats similar to the Short-eared Owl. While the sex of birds cannot always be determined based on feathers, the feathers from this cave are from a female. As said before, it is interesting that these female bird feathers were found in association with one male Dusky Grouse tail feather, and sexually-unidentified Short-eared Owl feathers. Perhaps the sex of the birds mattered and affected how the feathers were used. It is possible that the inclusion of female Northern Harrier feathers in the reed/grass mat bundle was necessary to engage with the feathers agency, or animacy. While none of this can be proven beyond a doubt, the ethnographic research does seem to indicate that feathers were treated and thought of as having their own life force, or energy. Going along with this line of reasoning, it would make sense that female Northern Harrier feathers would have different purposes than male Northern Harrier feathers, and their inclusion in this bundle should be thought of as purposeful and intentional.
Peregrine Falcon

Peregrine Falcons (*Falco peregrines*) are one of the most widely distributed terrestrial vertebrates, residing in wetlands, deserts, oceanic islands, forests, mountains, and plains (White et al. 2002; Figure 7.11). They also prey on a large variety of birds (over 100 different species), few rodents, and some bats (White et al. 2002). The birds breed throughout the United States and North America, but are especially abundant in the western United States with some populations living year round in Colorado. Considered a migratory bird, Peregrine Falcons migrate south toward the end of August, with the largest percentage migrating through mid-September and early October. Very rarely do birds move south after October has ended (White et al. 2002). In Colorado, this fall migration takes place along the eastern Front Range of the Rocky Mountains. The birds prefer to nest and breed in areas that have cliffs and/or tall buildings, looking out onto open areas for both ease of flight and hunting. Though an opportunistic feeder, the falcons do have regional preferences, and on the Colorado Plateau their favorite food appears to be the White-throated Swift (*Aeronautes saxatalis*) (White et al. 2002).

Figure 7.11 clearly shows that these birds would have been available to the people living around Basket Cave. These birds winter from the dashed line south, though they do not stay in the Great Basin region, and as mentioned before, they migrate east of the Rocky Mountains. In
order for the people to have obtained Peregrine feathers they would have most likely had to collect them during the spring, summer, or fall.

As said before, the fact that the Peregrine Falcon feathers from Basket Cave were deposited differently than those feathers found in bundles, is probably significant and suggests disparate ideas, beliefs, and uses for these various feathers. They are similar to the other feathers in that they are from a raptor-type bird of prey, and the only feather from this cave not from a raptor is the Dusky Grouse feather. However, as Moore’s (1986) work on Cheyenne ornithology showed, native classification systems do not necessarily correlate to the Linnaean system, so perhaps the Dusky Grouse feather is not as “odd” as it appears.

Like Cheyenne ornithology in which White Pelicans are considered to be the same species as Great Roadrunners, due to their use in healing ceremonies, the Dusky Grouse may have been considered a species similar to the owl and hawk with which its feather were found (Moore 1986: 184). In fact, Northern Harriers and Short-eared Owls are considered the same kind of bird by the Cheyenne (Moore 1986: 184). Moore stresses that for the Cheyenne the concept of “species…implies symbolic or religious rather than reproductive significance” (Moore 1986: 184). Due to the disparate way in which the Peregrine feathers were deposited, they were most likely thought of and conceived of as being fundamentally different than the other raptor feathers, and archaeologists should continue to use caution in assuming that native classifications systems mirror their own.
Appendix C

*Museum Methods*

This appendix will better detail the methods I employed while studying the collections from Mantle’s, Basket, and Marigold Caves, housed in the University of Colorado Museum of Natural History.

Never spending much time or energy on thoughts concerning how museum exhibits come into being, and only marginally aware that they are full of unseen marvels and artifacts, this thesis provided me with a crash course in learning how to use and analyze older museum collections.

My initiation in the ways of museum collections started with altering the Collections Manager, Christina Cain, to the fact that I would be analyzing the feathers from Mantle’s Cave for my master’s thesis. (Note that the analyses for this thesis were completed while the museum was under construction, so it was more difficult than usual for her to get me the materials I needed. I am very thankful for her patience). She brought me to a curation room which housed those artifacts, and provided me with an Excel table which listed all the feathers and artifacts known to belong with Mantle’s Cave. This is where my research started, but it became apparent that I would need more data than the artifacts themselves could provide.

Again altering the Collection’s Manager Christina Cain that I needed more contextual data on the artifacts themselves, she showed me the museum’s ledger, which kept detailed records of all accessioned artifacts. If the data therein did not provide me with answers concerning questions on feather provenience and/or context, she showed me the archival material for the excavations in Mantle’s, Basket, and Marigold Caves. These materials included field
notes, photographs, and correspondence letters written between the excavators and their benefactors.

For the most part, these resources provided me with answers to most of my questions, though as my thesis shows, there were still issues surrounding some unprovenienced artifacts which none of the above-mentioned resources could clear up. Moreover, and as mentioned above, the museum was under construction and remodeling throughout the time I spent analyzing/studying these collections. As such, my access to some of archival materials and the collections themselves were less than ideal. Though, as said above, Christina Cain and other museum staff were invaluable in their help to me, and I am grateful to them for their time and patience.