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Explaining anthropophagy and social violence in the Mesa Verde region of the American Southwest

Riley Smith
James Madison University

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Explaining Anthropophagy and Social Violence in the Mesa Verde Region of the American
Southwest

An Honors College Project Presented to
the Faculty of the Undergraduate
College of Arts and Letters
James Madison University

by Riley James Smith

Accepted by the faculty of the Department of Sociology and Anthropology, James Madison University, in partial fulfillment of the requirements for the Honors College.

FACULTY COMMITTEE:

HONORS COLLEGE APPROVAL:

Project Advisor: Julie Solometo, Ph.D

,

Bradley R. Newcomer, Ph.D.,
Dean, Honors College

Reader: Liam Buckley, Ph.D

,

Reader: Dennis Blanton, Ph.D

,

Reader:

,

,

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CHAPTER 1: INTRODUCTION

1.1 Defining Anthropophagy

A cannibal is defined by Christy and Jacqueline Turner as “a person who eats human flesh” (Turner & Turner 1999:1). This broad definition can be broken down into types of anthropophagy, including endocannibalism, the act of consuming an individual within a group, and exocannibalism, in which individuals outside the group are consumed (White 1992:12). Both ethnography and history can provide insight into the motives for anthropophagy. Survival anthropophagy, for example, refers to the act of eating human flesh when the consumer appears to have no other choice beyond dying of starvation (Kantner 1999:12). Other types of anthropophagy have been proposed, including anthropophagy for purposes of revenge, dietary preference, funeral practices, and in the context of ritual or ceremony, and are mentioned throughout studies on the subject (White 1992:12). Cannibalism is often called anthropophagy in scholarly circles partially as an attempt to avoid immediately negative emotional responses. Barring unusual or dire circumstances in which eating another human becomes necessary for survival, anthropophagy, whether rare or routine, occurs within a specific cultural context and cannot be correctly understood outside that context. A culture’s views of the world regarding violence, spirituality, the human body, and other factors all influence the subsequent view and different practices of anthropophagy.

1.2 The American Southwest as a Cultural Framework for Anthropophagy

The area of the American Southwest examined in this study includes the southwest corner of Colorado near Mesa Verde National Park and a small portion of northwestern New Mexico. This area is part of the Colorado Plateau, which is characterized by high elevations and

complex systems of mesas and canyons. The climate of this area is usually characterized by hot, dry summers, mild winters, and two seasons of rainfall upon which cultures rely for the growth of their crops (Turner & Turner 1999:2-3). Because of the dry climate and relatively little disturbance by modern humans, the American Southwest provides an excellent environment for the preservation and subsequent study of archaeological remains.

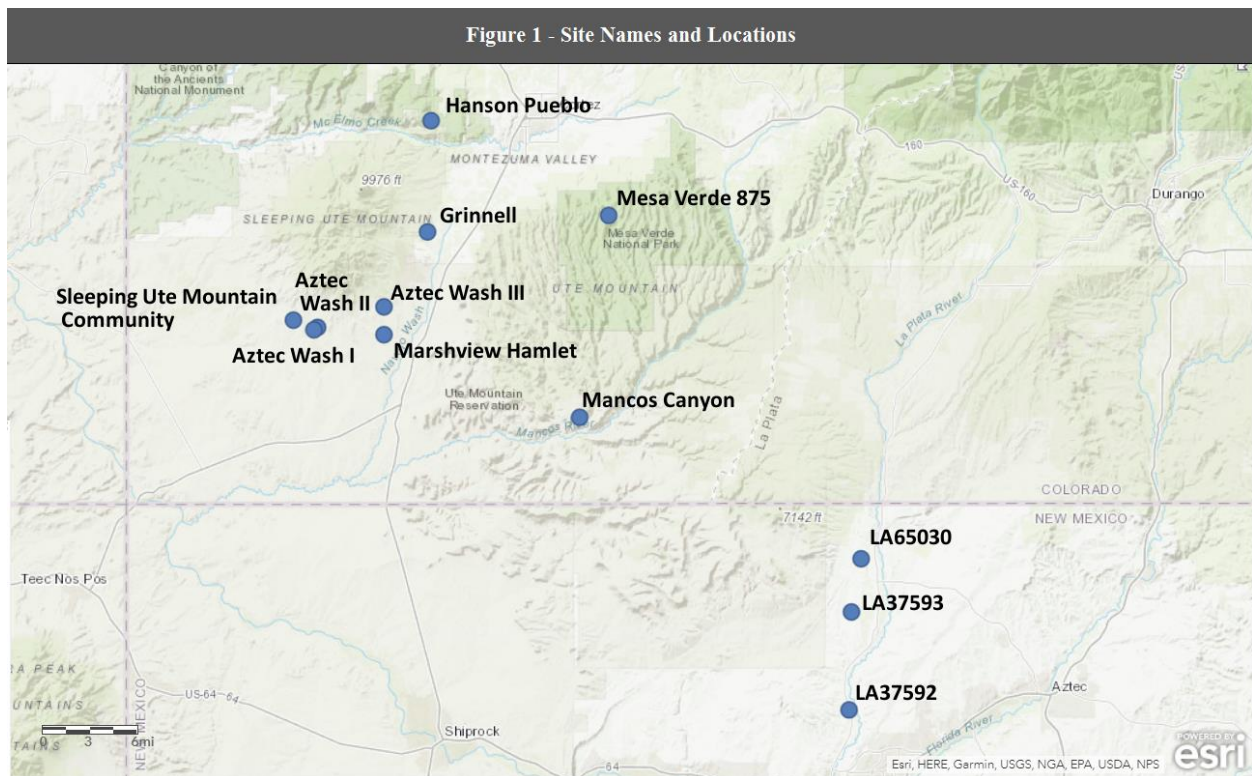
This area of the American Southwest was inhabited at this time by the Ancestral Puebloans, sometimes called the Anasazi. During the period examined in this study, the Ancestral Puebloans were sedentary and lived in small pithouse villages or larger, above ground pueblo complexes. The Pueblo II period (1100-1300 CE) was a time of dense settlement, migration, and, ultimately, abandonment of many ancient Southwestern areas (Plog 2008:118). From 900-1300 CE, anthropophagy occurred intermittently in the Four Corners region of the American Southwest (Billman 2008). Before 1130 CE, the ancient Anasazi, Hohokam, Mogollon, and other cultures were widely spread across the landscape, but, as the environmental conditions influencing farming success changed, people moved away from certain areas and into others, creating a “mixing pot” of cultures (Plog 1998:118-119).

1.3 Thesis and Goals

This thesis is an examination of a controversial problem in anthropology and archaeology – the motives and cultural context of anthropophagy, or cannibalism. Anthropologists have long debated the reasons for anthropophagy. Views that the practice was a reflection of a primitive state of humanity have given way to a more ethnographically-informed appreciation of the practice as culturally situated with a diverse set of potential motives. Claims of anthropophagy in the ancient past influence perceptions of both prehistoric and modern groups. In recent decades, claims have been made that anthropophagy took place in the American Southwest. Because of

the wealth of information gathered from recent excavations, it is now possible to explore the context of, motives for, and consequences of anthropophagy in the American Southwest.

This particular study will focus on the Mesa Verde region around the Four Corners in the American Southwest from approximately 1000-1200 CE. Through examination of data sets gathered during archaeological excavations and subsequent analysis of that data, victim and perpetrator status will be assessed and the type of anthropophagy present determined for each site. The sites will then be compared to provide a comprehensive overview of the social violence and anthropophagy occurring at the time.



CHAPTER 2: SITE INFORMATION AND MODES OF ABANDONMENT

In order to tell the story of a specific aspect of an archaeological site, one must first examine the site as a whole. This chapter will give basic information on the time period, architecture, and other characteristics of each site described in this paper, as well as examine modes of abandonment. Many sites from this area at this time period were likely abandoned either because of insufficient resources in the area or as a result of violence. These circumstances can be determined by examining the state of the structures at the time of abandonment, how the structures eventually fell to ruin, and the types of artifacts and other remains found. Highly burned structures, especially near the outside of a pueblo, can indicate a raid or battle of some kind, as the raiding party may set fire to the nearest part of the structure they can reach upon arrival. This kind of evidence, when available, can allow archaeologists to construct a story about the daily life at a site and how the area, as an archaeological site, came into being. Though the information presented in this chapter is based on archaeological evidence, it should be noted that determining modes of abandonment is speculative and can be difficult, especially when working with secondhand sources and data.

These sites were chosen because of their relative proximity to each other both chronologically and geographically (Figure 1). Each exhibits evidence of anthropophagy, and enough site reports and secondhand analyses were available to gather sufficient data and make conclusions. Twelve assemblages are examined in total, though only eight are present in this section; general information for the three La Plata Highway sites and the Sleeping Ute Mountain assemblage were unavailable, so the skeletal evidence for these sites will be addressed in more detail in Chapter 3.

2.1 Mancos Canyon (5MTURMR2346)

This site is located on the Ute Mountain Indian Reservation in Montezuma Country in southwestern Colorado. The complex, which consisted of a multi-room pueblo and kiva superimposed over an earlier set of structures, sits on the foot of a talus slope, and has high ground as well as a decent water supply (White 1992:41). The earlier pueblo complex at the site included a small pitstructure or kiva and was likely constructed around 1100 CE, while the later structure was inhabited around 1150 CE (White 1992:57). Both formal burials and processed human remains were found at the Mancos Canyon site, and the disassembled bones that show evidence of anthropophagy were deposited in the older pueblo before the newer one was built (Turner & Turner 1999:220). This older complex may have fell to ruin organically, but it seems most likely that it was intentionally disassembled. Archaeologists who have studied the site are unsure of the exact nature of the events that led to the destruction of the 1100 CE pueblo, as it seems unlikely that the original structure would have collapsed naturally considering the short span of time between the two habitations. Some of the southernmost walls of the older pueblo are incorporated into the newer pueblo, but the majority of the original structure is not used, suggesting that the new inhabitants were either unable to salvage the older structure or refused to utilize it as-is for cultural or ritual reasons.

White estimates that 24-33 people lived in the older pueblo, which is approximately the number of disarticulated human skeletons found within that structure (White 1992:49). Though it is possible that the people who built the new pueblo were responsible for the evidence of violence and anthropophagy, it seems more likely that a different group discovered the older pueblo and associated remains and decided to utilize the resources available there to build their own structure. The skeletal remains were pushed to the outer northern edges of the old pueblo

after it was abandoned and left there before the new pueblo was built to the south, suggesting that the new inhabitants of the pueblo either did not want to be associated with the cultural significance of a mass interment inside their abode or were simply cleaning out the reused section of the old structure and tossing the refuse “out back” (White 1992:54). This theory is further supported by the fact that a new kiva with cultural characteristics of a later period was built associated with the more recent pueblo, indicating that the group that built it was more temporally separated from the inhabitants of the original structure and their more pithouse-like kiva. Considering all the evidence provided, it seems most likely that the original inhabitants of the Mancos Canyon site were attacked, violently killed, and likely eaten by a group of people that then left the area. Years later, another group of people, possibly migrating through the region, discovered the ruins of the old pueblo and made use of the stone and other resources to build a new structure exhibiting the cultural characteristics of the time period.

2.2 The Grinnell Site

Located in southwestern Colorado, the Grinnell site sits in a valley and is flanked by steep slopes on at least two sides. The site consists of a kiva complex with two kivas and a tunnel that links to a tower and a subterranean room, plus a surface structure containing two rooms and several fire pits and associated exterior features (Luebben 1983:1). The two kivas, labeled Kiva 2 and Kiva 1, were inhabited around 1050-1150 CE and 1150-1300 CE respectively. A mass interment containing the extensively processed remains of around 7 individuals was discovered in Kiva 2 and was likely deposited around 1150 AD. Though the roof of Kiva 2 had been partially burned, it seems unlikely that the structure was damaged enough to collapse initially, and probably fell into the kiva at a later date (Luebben 1983:7). Kiva 1 was burned extensively and the ventilator shaft was deliberately plugged with stones, possibly suggesting a violent end

to the structure. A tunnel connected Kiva 1 to a tower and small subterranean room. Large amounts of domestic artifacts associated with this kiva indicate that it may have been used as a residence (Luebber 1983:8). Though Luebber proposes that this site was used as a ceremonial center, the easily-defensible hillside location and escape route from the kiva to a tower, essentially allowing the inhabitants to take the high ground if attacked, suggests that the architects had warfare and security in mind when the Grinnell site was built.

The archaeological evidence at this site indicates that the original inhabitants of the site were attacked around 1150 CE by a group that intended to better utilize the easily-defensible location by building structures, such as the tower, to watch for and defend against enemies in wartime. The attacking party likely killed the inhabitants of the complex and processed and ate the remains, possibly as part of a ritual, and then partially burned the kiva in which they were interred. This may have been a ceremonial closing of the kiva, further supporting the idea that ritual was involved in this anthropophagy. The new inhabitants of the site then built their own kiva and tower complex and used the above ground rooms as storage while living in the kiva, perhaps to protect against attack from outside groups. They may have later been burned out of their kiva, forcing them to run without their belongings, which accounts for the extensive burning and large amount of domestic artifacts found in Kiva 1.

2.3 Marshview Hamlet

This site is located north of Dolores, Colorado on the slope of small hill facing the Dolores River. The hill slopes gently to the north while an “abrupt ridge” descends directly to the south (Wilshusen 1988:17-18). The site consists of a small pitstructure, “an indeterminate number of small surface structures,” and some extramural features, and was occupied for a relatively short time beginning around 1140 CE (Wilshusen 1988:26 & 49). A small, semi-

subterranean structure was linked to the kiva by a tunnel, but the exact function of the room is difficult to determine due to lack of artifacts and rodent disturbance (Wilshusen 1988:27). The roomblock at this site was destroyed in the historic period, so determining the number and exact location of rooms is difficult. Several other habitations, including a large settlement that was likely an exchange center, existed contemporarily with Marshview Hamlet, suggesting the community engaged in trade (Wilshusen 1988:19-20).

A mass interment of approximately 6 heavily processed individuals was deposited in the southwest quadrant of the pithouse at around 1150 CE. There is some debate over whether these remains represent an anthropophagy event; however, violence was definitely a factor in the death of these individuals. Though the pithouse was likely abandoned when these remains were left there, it appears as though the roof did not collapse immediately afterward (Wilshusen 1988:34). Wilshusen indicates that 4-6 people probably lived at Marshview Hamlet, so it is possible that these 6 individuals were killed and left in their own pithouse after processing. The pithouse and associated structures do not appear to have been burned, so it is unclear if the site was attacked. It is likely, however, that Marshview Hamlet was a small agricultural outpost that was attacked and the residents killed and processed before being abandoned (Wilshusen 1988:108).

2.4 Aztec Wash I (5MT10207)

This site, located about 10.3 kilometers southwest of Towaoc in southwestern Colorado, sits on a ridge “between two intermittent drainages.” The site would have been provided with a more permanent source of water by Cowboy Springs, which is located 400 meters southwest of the site (Errickson 1993:331). This site has been dated from around 1125-1175 CE; however, dates associated with the interments may place the site as early as approximately 1050 CE (Errickson 1993:336). (It should be noted that the dates that inform this latter hypothesis were

recovered from tree rings and therefore only give the date when the tree was cut and not necessarily when it was used. Beams were often reused when building, so tree ring dates alone may be misleading when dating a site.) Two apparently contemporary areas of inhabitation were discovered approximately 50 meters apart. Area 1 included 6 rooms (labeled Rooms 1-6) and a kiva. Rooms 1, 4, 5, and 6 were likely storage rooms, while Rooms 2 and 3 appear to have been domestic structures, and the kiva (Kiva 1) also seemed to have functioned as a domestic space (Errickson 1993:372). Disarticulated human bones along with various refuse were found in the fill of Rooms 2, 3, and 4 as well as Kiva 1 and were likely deposited after the site was abandoned. The hearth within Kiva 1 seemed to have been expanded to accommodate the extensive processing of human remains which were later transferred to the other rooms along with assorted trash. Some of the rooms in this area, such as Room 6, appear to have been abandoned suddenly while still in use, possibly indicating that the site was attacked and evacuated at one point.

Area 2 included 2 rooms, likely a storage room and a mealing room, and a kiva (Errickson 1993:375-376). Human bones and fragments, likely from a formal burial that was later disturbed, were found in the kiva (Kiva 2), which was probably used as a domicile and was “casually abandoned” or dismantled for building materials (Errickson 1993:381). One of the rooms appeared to have been burned almost entirely. It is unclear whether Areas 1 and 2 were closely associated with each other or if either were responsible for the disarticulated human remains in Kiva 1. Because of the sudden abandonment of some of the rooms and the spread of ages and sexes found among the remains, it is possible that another group attacked the site and killed and processed the inhabitants.

2.5 Aztec Wash II (5MT20106)

Located 250 meters east of Aztec Wash I in southwest Colorado, this relatively small site consisted of three rooms and a kiva that were likely inhabited around 1130-1150 CE (Errickson 1993:287 & 290). Room 1 contained three hearths, one of which was frequently used and appeared to have been utilized in the disarticulation and burning of at least 2 individuals in the structure. Room 2 was used mainly as a storage structure and held a small concentration of unburned human remains that were likely transferred into the room from somewhere else. No human remains were found in Room 3, but the structure was partially burned and was likely abandoned and filled after the processing episode in Room 1. Kiva 1 also contained human remains that were placed there before the room was burned and roof collapsed (Errickson 1993:319). There is no obvious evidence for abandonment before these events, so it is likely that this site was raided and then may have been used as a temporary base for the attacking group while they processed victims killed in the attack.

2.6 Aztec Wash III (5MT7723)

This site is located on a gently sloping ridge near Navajo Wash in southwestern Colorado and would have been provided with a consistent water supply by several springs nearby. It is described as a multi-component site “consisting of a Basketmaker III field house, a transitional Pueblo II-III habitation, and a late Pueblo III field house” (Errickson 1993:81). The Basketmaker III component consisted of the remains of a semi-subterranean room that was likely a seasonal field house and informal work structure (Errickson 1993:87). The most recent site component dated from 1200-1300 CE and was comprised of a temporary Pueblo III shelter and storage structures.

The majority of the site was characterized by a transitional Pueblo II-III component that was likely occupied around 1050-1125 CE. Roomblock 1, which contained Rooms 1, 2, and 3, consisted of two domestic rooms and one storage room and appeared to have been abandoned before the rest of the site but was never used as a refuse dump. Rooms 4 and 5 were small storage rooms not connected to any roomblock; Room 4 appeared to have been burned and the roof of Room 5 dismantled around the time of abandonment (Errickson 1993:96-98). Roomblock 2 consisted of one domestic and one work room and seemed to have been abandoned along with the rest of the Pueblo II-III component. Two other rooms, Rooms 8 and 9, were likely storage or limited-use work rooms and contained few artifacts (Errickson 1993:108-110). Kiva 1 contained several formal burials including a dog, and appeared to have been abandoned and partially filled before it was occupied for a short time as a camp of some kind. The heavily processed remains of a single person were found in the fill of Kiva 2 and were likely deposited after the roof had already partially collapsed. The abandonment of Kiva 2 coincided with the abandonment of the Pueblo II-III component of the site, so the remains were likely deposited there by another group who used the site as a temporary camp before moving on. There is little to no evidence of the violence or destruction of Aztec Wash III, so no specific reasons for the abandonment of the site can be given.

2.7 Hanson Pueblo

This site is located in the northwest quadrant of Indian Camp Ranch two miles northeast of Cortez in southwest Colorado. It contains occupations from Pueblo I, II, and III, though the Pueblo III component is the relevant one to this study and will be discussed here. The Pueblo III complex associated with this site was likely abandoned sometime after 1130 CE and consisted of approximately 16 rooms, 2 kivas, an outdoor work area, and a plaza (Morris 1993:29). The

extensively processed remains of two people were found within one of the kivas (Structure 3) and adjacent rooms; this deposition seemed to have occurred around the time of abandonment (Turner & Turner 1999:310). Evidence of burning on the roof of Structure 3 and the burned remains of other rooms that had been gathered up and moved out of the way suggests that the site was attacked and burned, then used as a temporary camp for the attacking group while they processed their victims.

2.8 Mesa Verde 875

Located at the northern end of Chapin Mesa in Mesa Verde National Park in southwestern Colorado, this site, also called Site 875, consisted of two occupations, only the first of which is relevant to this study (Turner & Turner 1999:364). This Pueblo II occupation was likely inhabited around 950-1000 AD and included a 17 room pueblo, 2 kivas, and associated extramural features (Lister 1965:13). Processed human remains were found in Rooms I and III. Reasons for the abandonment of this site are unclear, though some burning in one of the rooms may point to a violent event. The Pueblo II habitation was likely abandoned for only a few years before another structure was built almost directly on top of it, probably using some of the resources from the original pueblo.

CHAPTER 3: ANTHROPOPHAGY AND SKELETAL REMAINS

Skeletal remains are one of the most valuable types of data not only for identifying if violence or anthropophagy occurred at a site, but for determining the motives behind these behaviors. Turner and Turner (1999) proposed a criteria for identifying anthropophagy that necessitated six taphonomic features be present. Bones are extremely fragmented in an attempt to remove marrow and other nutrients in a way similar to the processing of faunal foods at the site. Anvil abrasions, which occur when a bone is broken against a hard surface, often with another stone or blunt instrument, are present on bone fragments. Cut marks can be seen on bones where the flesh has been stripped away, and ends of bones are sometimes smoothed by boiling, the result of which is called “pot polish.” Burning of the bones occurs after butchering or breaking, and burn patterns can appear on the ends of long bones as flesh was sometimes left near the middle of the bone before cooking. Vertebrae are often missing from assemblages, though Turner and Turner do not give a solid explanation for this characteristic (Turner & Turner 1999:22-24). Preservation of skeletal remains that are the result of anthropophagy is good to excellent due to the absence of soft tissue decay (this tissue having been removed during processing) (Turner & Turner 1999:22-23). In addition to the criteria set out by Turner and Turner, remains subject to anthropophagy will likely show similar patterns of processing and disposal to faunal remains in the area. According to Tim. D. White, “emphasis on the comparative analysis of human and faunal remains is the most appropriate approach to the recognition of cannibalism in the archaeological record” (White 1992:339).

The appearance, treatment, and disposal of skeletal remains can also provide insight into whether the settlement was attacked and victims processed onsite, or if the skeletal remains were captives or victims brought to an attacker’s settlement for processing. For the purposes of this

analysis, these sites will be identified as victim and perpetrator sites respectively. Skeletal assemblages at victim sites are likely deposited near the time of abandonment and may represent the entire estimated population of the site. Perpetrator sites will likely exhibit evidence of continuous use throughout the deposition of cannibalized remains, and evidence of ritual aspects to the anthropophagy may be more prevalent, as sites able to bring victims back for processing may not be under as direct resource stress. Though more difficult to identify in heavily processed assemblages, biological markers such as skull deformation caused by different types of cradle boarding among various groups can also help place remains as local individuals or possible captives from another social or cultural group. Health status can also be estimated by examining skeletal remains; markers such as height, bone density, and certain pathologies can give indications of the individual's health throughout their life as well as at their time of death.

3.2 Sleeping Ute Mountain (Cowboy Wash) Skeletal Remains

Located on the southern plain around Sleeping Ute Mountain in southwest Colorado, this community consists of at least ten separate sites and exhibits three distinct periods of building around 1075-1125 AD, 1130-1150 AD, and 1210-1280 AD. All of these building periods consisted of clusters of year-round habitation sites with 2 to 4 relatively large pithouses, storage rooms, and other surface structures (Lambert 2014:309). This community demonstrates evidence of violent death and extreme human processing over a 200 year period (1075-1280) and is described by Patricia M. Lambert (2014). The Sleeping Ute Mountain (Cowboy Wash) assemblage consists of ten sites that were analyzed together due to their close geographical and chronological proximity and cultural similarities. The MNI (minimum number of individuals) of this assemblage is 58 individuals, 53 of which were analyzed in a table in Lambert's report. (It should be noted that not all of these individuals exhibit evidence of anthropophagy; the 7 that do

are discussed later in this section.) Of these 53, 14 were male, 17 were female, and the sex of 22 were unidentifiable. The unidentifiable remains were usually younger; the average age of the unidentifiable remains was approximately 6.9 years with an age range of 0.1 years to “greater than 18” years old. The average age of females was approximately 35.2, though this number may underrepresent the true average due to one individual whose age could only be determined as “greater than 18”. The age range of females is 35 years, with the youngest at 18 years old and the oldest at 53. Males were likely to die slightly older; the average age of males in this assemblage was approximately 39.7, though, like females, this number is likely low due to two males whose age was determined as “greater than 40.” The age range is 24 years, with the youngest at 26 years and the oldest at 50.

Male adults were more likely than females to have healed cranial vault fractures, rib fractures, and peri-mortem skeletal trauma, suggesting that males were fighting frequently and sometimes to the death. The observed cranial trauma was likely caused by shock weapons, such as clubs or the corners of axe heads, as evidenced by the elliptical shape of the injuries and prevalence of these types of weapons in this area at time (Lambert 2014:314). Peri-mortem skeletal trauma was the most prevalent type of trauma within this community; twelve instances of peri-mortem cranial trauma were observed, some with evidence of scalping. Younger, sex-unidentified individuals were more likely than both grown males and females to display peri-mortem trauma. All 7 of the instances of “peri-mortem body mutilation with evidence for cannibalism” reported took place between 1130 and 1150 AD and were more likely to be young, sex-unidentified individuals or adult males.

Evidence of anthropophagy in this grouping of sites includes: the disarticulated and fragmented remains of at least 7 people found in piles and spread on floors, some of which

exhibited a light color suggestive of de-fleshing before decomposition and 3 of which were found in a large roasting pit, and a human coprolite left in a hearth that, upon testing, contained human myoglobin, a protein only found in human muscle tissue (Billman 2008:62). In addition, the remains were processed and disposed of similarly to large food animals. All identifiable long bones had been systematically broken, perhaps to gain access to marrow, while some bones also showed evidence of stewing, either to cook the flesh or extract nutritional fats and oils (Lambert 2014:322-323).

3.3 Marshview Hamlet Skeletal Remains

In this small pithouse village, one burial containing at least five individuals, four adults and one juvenile, was discovered on the floor in the southwest quadrant of the pithouse; the remains exhibited good to excellent preservation (Turner & Turner 1999:271). The sex of these individuals was difficult to determine due to the extreme fragmentation of the assemblage, but at least one of the individuals is likely female. Though originally thought to be a secondary burial, the haphazard nature of the arrangement of the fragmented bones suggests a more secular disposal after the initial abandonment of the site (Wilshusen 1988:34-35; Turner & Turner 1999:273). The burial consisted mostly of fragments of long bones, and lumbar vertebrae, along with ribs and sacra, are missing from the assemblage (Wiener 1988:71). Though claims of anthropophagy related to these remains has been debated, percentages of breakage, burning, cut marks, and the missing vertebrae are within Turner and Turner's criteria, and the apparent anvil abrasions and percussion dents support the anthropophagy hypothesis (Turner 1988:81; Wiener 1988:71). The apparent abandonment directly after skeletal deposition and possible scalping at the site suggests that this may be a victim site that experienced intercommunity attacks (Turner & Turner 1999:271).

3.4 Grinnell Site Skeletal Remains

A mass interment of at least seven people was found in the largest of the kivas (Kiva 2) at this site; these remains were disarticulated and fragmented, and exhibit good preservation (Luebben 1983:11; Turner & Turner 1999:248). Examination of skulls reveal that the assemblage consists of 2 individuals 8-10 years old, a 19 year old, a female and another individual of indeterminate sex in their late 20s, an adult male, and an older male. The majority of the bone fragments were scattered in a cist in the southern recess of Kiva 2, and a corrugated jar containing more bones had been transported and settled into the cist. All these remains showed evidence of “abusive treatment of the dead,” such as spiral fracturing, cutting, and charring (Luebben 1983:12). Though the original report for the Grinnell site did not mention anthropophagy, and the excavators did not believe anthropophagy occurred, an earlier unpublished paper by Paul R. Nickens did see the evidence of violence at this site as anthropophagy, as the human remains were “mixed with obvious nonhuman food refuse” (Turner & Turner 1999:249; Luebben & Nickens 1982:76). No information about anvil abrasions or polishing is available; however, percentages of breakage, burning, cut marks, and missing vertebrae all fall in line with Turner and Turner’s criteria for anthropophagy, and there is very little rodent gnawing or carnivore chewing (Turner & Turner 1999:248).

The deposition of these remains likely occurred around 1150 CE, approximately the same time when the occupation of Kiva 2 ended. Because the site was almost immediately reinhabited and another kiva constructed and the number of processed individuals was likely around the number living at the site before reinhabitation, this site is most likely a victim site in which the inhabitants were killed and deposited in their kiva before another was built.

3.5 Mancos Canyon (5MTUMR2346) Skeletal Remains

This site, located south of Mesa Verde National Park in southwestern Colorado, presents as a medium-sized masonry pueblo with an associated kiva that was likely occupied around 1100 AD. The significant skeletal assemblage of 29-33 individuals was examined originally by Paul R. Nickens and Larry V. Nordby, and an osteological study specifically addressing anthropophagy was later conducted by Tim D. White (Turner & Turner 1999:220).

Approximately fifteen adults and many adolescents and subadults were identified, all exhibiting good to excellent preservation (Turner & Turner 1999:221). The majority of bone fragments were found in several “bone beds” located throughout the pueblo, distinguished from primary interments by a large amount of scattering and mixing of remains of many individuals (White 1992:52). Absence of gnawing by rodents or other carnivores suggests the flesh and other nutritional aspects of the bones were removed before disposal, and the large percentage of breaking, cut marks, burning, anvil abrasions, polishing, and missing vertebrae have convinced nearly all archaeologists who have worked on the site on which anthropophagy occurred (Turner & Turner 1999:221).

Other indications of violence in the skeletal remains at this site includes evidence of scalping and beheadings, often with the heads being burned after removal (White 1992:205-206). Many mandibles were also discovered, signifying to Nickens (1975) that they represented some kind of ritual significance; this may suggest that Mancos Canyon was a perpetrator site that brought back trophies and individuals to process (White 1992:207); however, the number of victims, which is likely close to the number of inhabitants of the original pueblo, and the date of deposition being close to the date of abandonment points to Mancos Canyon as a victim site. For

the purposes of this study, Mancos Canyon will be designated as a victim site due to the limited evidence of continuous processing that would likely be seen at a perpetrator site.

3.6 La Plata Highway (LA37592, LA37593, LA65030)

Because they were excavated within the same project, are close in proximity to each other, and because little information about them is currently available, the three La Plata Highway sites included in this study will be examined together. All three are situated along the western bank of the La Plata River in northwestern New Mexico, with LA65030 being the northernmost and LA37592 the southernmost. LA37592 consists of a pithouse in a farming settlement occupied around 1100 CE. A mass interment of 7 people was found on the floor and in the fill of the pithouse, the remains of which exhibited fair to good preservation. Individuals identified in this interment include an infant, a 4-5 year-old, a 6 year-old, a 12 year-old, 2 adults, and an older person. Sex was difficult to determine at the La Plata sites due to improperly cleaned and inventoried bones, but one of the adults in this assemblage was likely male. Though Turner and Turner's criteria for anthropophagy in skeletal remains have been met at this site, the percentage of breaking is lower than is usually seen in remains of anthropophagy at similar sites at this time.

Site LA35793 consists of a cobble roomblock and pithouse and was occupied around 1000-1100 CE. The fragmentary remains of 6 people that exhibited fair to good preservation were found on the pithouse floor and in the subsequent fill. The remains included a 6-7 year-old, two 12-15 year olds, and three adults; of the adults, two appeared to be female while the third was likely male. Like LA37592, percentages of bone fragmentation from this site are relatively low, though all the criteria for determining the presence of anthropophagy are met.

LA65030, a multicomponent pithouse farming community, was occupied from around 1100-1200 CE. Like the other two La Plata Highway sites, fragmentary human remains were found in a trash mound in a pithouse (Pithouse 8). 6 individuals were identified in this assemblage: a 2-3 year-old, a 6 year-old, a 12-15 year-old, a young adult, and two grown adults. Both the young adult and two grown adults are believed to be female. Though all criteria for identifying anthropophagy were met at this site, the percentage of bone breakage was low; however the percentage of cut marks on the bones was higher than many similar sites in the area. Overall, the La Plata Highway sites are difficult to analyze due to a limited amount of information. Turner and Turner (1999) believe that the small percentages of bone fragmentation may be due to a small sample size or poor sampling technique, as the sites were excavated partially by backhoe, which may have caused smaller artifacts to be lost or overlooked. In addition, some of the bones appeared to Turner and Turner to not have been cleaned or inventoried correctly, resulting in difficulties when analyzing the skeletal material (Turner & Turner 1999:318). Because general information and modes of abandonment data were unavailable, it is not possible to designate the La Plata sites as victim or perpetrator sites at this time, and they will be labeled as "unclear" for the purposes of this examination.

3.7 Conclusions

The skeletal remains from archaeological sites in this area of southwestern Colorado and northwestern New Mexico reveal a landscape ravaged by violence and environmental stress. Mass interments are relatively common, and many individuals within those interments show pathological evidence of disease and malnutrition. Of the 12 assemblages examined in Table 3, approximately 11 show evidence of anthropophagy around 1150 AD, near the end of a severe drought that was not preceded by a time of heavy rainfall. Of these 11 sites, 6 appear to be

victim sites and 5 are unclear, though are likely victim sites as well. Of the approximately 138 total individuals identified in this examination, 61 were under the age of 18, while 69 could be considered adults (Table 2).

| Table 1 - Demography of Individuals: Age | | | | | | |
|--|---------------------|---------------------------|--------------|----------------------------|----------------|--------------|
| Sites | Young (~0-6) | Adolescent (~6-18) | Adult | Old Adult (Over 50) | Unknown | Total |
| Mancos Canyon (SMTURMR-2346) | 5 | 8 | 15 | 0 | 1 | 29 |
| The Grinnell Site | 0 | 3 | 4 | 0 | 0 | 7 |
| Marshview Hamlet | 2 | 1 | 3 | 0 | 0 | 6 |
| Aztec Wash I (SMT10207) | 2 | 4 | 4 | 0 | 3 | 13 |
| Aztec Wash II (SMT10206) | 0 | 1 | 1 | 0 | 0 | 2 |
| Aztec Wash III (SMT7723) | 0 | 0 | 1 | 0 | 0 | 1 |
| Hanson Pueblo | 0 | 1 | 1 | 0 | 0 | 2 |
| La Plata Highway LA37592 | 3 | 1 | 2 | 1 | 0 | 7 |
| La Plata Highway LA37593 | 0 | 3 | 3 | 0 | 0 | 6 |
| La Plata Highway LA65030 | 2 | 2 | 2 | 0 | 0 | 6 |
| Site 875 | 0 | 0 | 6 | 0 | 0 | 6 |
| Sleeping Ute Mountain (Cowboy Wash Sites) | 12 | 11 | 27 | 3 | 0 | 53 |
| Total | 26 | 35 | 69 | 4 | 4 | 138 |

Of the 61 adults present, 24 were male and 25 were female, while the sex of 12 could not be identified (Table 2). The relatively balanced spread of these age and sex demographics suggest that traditional warfare, which produces more young adult and adult male victims, is not as prevalent at this time; however, it also cannot be concluded that only the young and old were

targeted, which may be more likely seen in starvation anthropophagy, as adults are as likely to be victims as the old and young (identifying anthropophagy types is explained further in Chapter 5).

| Table 2 - Demography of Individuals: Sex | | | | |
|--|-------------|---------------|----------------|--------------|
| Sites | Male | Female | Unknown | Total |
| The Grinnell Site | 2 | 1 | 1 | 4 |
| Marshview Hamlet | 1 | 1 | 1 | 3 |
| Aztec Wash I (5MT10207) | 3 | 3 | 1 | 7 |
| Aztec Wash II (5MT10206) | 0 | 1 | 0 | 1 |
| Aztec Wash III (5MT7723) | 0 | 0 | 1 | 1 |
| Hanson Pueblo | 0 | 0 | 1 | 1 |
| La Plata Highway LA37592 | 1 | 0 | 2 | 3 |
| La Plata Highway LA37593 | 1 | 2 | 0 | 3 |
| La Plata Highway LA65030 | 0 | 2 | 0 | 2 |
| Site 875 | 2 | 0 | 4 | 6 |
| Sleeping Ute Mountain (Cowboy Wash Sites) | 14 | 15 | 1 | 30 |
| Total | 24 | 25 | 12 | 61 |

(See Table 3 for a full description of skeletal evidence from all sites.)

Table 3 - Summary of Skeletal Evidence from All Examined Sites

| Sites | Approximate Date of Deposition | MNI | Preservation | Bone/Fragment No. | Breakage | Cut Marks | Burning | Anvil Abrasions | Polishing | Vertebrae No. | Scalping |
|-------------------------------------|--------------------------------|-------|---------------------------------|-------------------|----------|-----------|---------|-----------------|-----------|-------------------|--------------|
| Mancos Canyon (5MTURMR-2346) | 1150 AD | 29-33 | Good-excellent | 2,000+ | 86.60% | 11.7% | 21.5% | 18.5% | 6.0% | 9.9% of expected | Possible |
| The Grinnell Site | 1150 AD | 7 | Good | 380 | 86.8% | 1.1% | 13.4% | Unknown | Unknown | 7.1% of expected | Unknown |
| Marshview Hamlet | 1125 AD | 6 | Good-excellent | 528 | 99.1% | 2.6% | 30.7% | Present | Present | 1.1% of expected | Possible |
| Aztec Wash I (5MT10207) | 1150 AD | 13 | Excellent | 1,160 | 87.5% | 1.1% | 16.9% | 8.3% | Unknown | 7.1% of expected | Possible |
| Aztec Wash II (5MT10206) | 1150 AD | 2 | Excellent (Kiva), poor (Room 1) | 566 | 97.7% | 0.5% | 18.6% | 4.1% | Unknown | 35.4% of expected | Probably not |
| Aztec Wash III (5MT7723) | 1150 AD | 1 | Good | 157 | 100.0% | 1.3% | 77.1% | 0.6% | Unknown | 0% of expected | Unknown |
| Hanson Pueblo | 1130 AD | 2 | Good | 143 | 91.6% | 1.4% | 45.5% | 3.5% | Unknown | 14.6% of expected | None |
| La Plata Highway LA37592 | 1100 AD | 7 | Fair-good | 291 | 64.3% | 2.1% | 5.5% | 1.0% | Uncertain | 10.7% of expected | Uncertain |
| La Plata Highway LA37593 | 1100AD | 6 | Fair-good | 235 | 28.10% | 1.70% | 1.30% | 1.70% | Unknown | 2.1% of expected | Uncertain |
| La Plata Highway LA65030 | 1200 AD | 6 | Fair-good | 119 | 30.20% | 4.00% | 0.00% | 5.90% | Uncertain | 2.1% of expected | Uncertain |
| Site 875 | Uncertain (Pueblo II) | 6 | Poor-good | Unknown | Present | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| Sleeping Ute Mountain (Cowboy Wash) | 1150 AD | 58 | Variable | 2,000+ | Present | Unknown | Present | Unknown | Unknown | Unknown | Possible |

CHAPTER 4: ANTHROPOPHAGY AND FLORAL AND FAUNAL REMAINS

The remains of plants and animals found among archaeological deposits can provide valuable insight into the lives of the site's inhabitants. For the purposes of this study, floral and faunal remains will be examined to determine levels of environmental and resource stress by comparing the amounts of wild plants and animals apparently utilized within the site against domesticated and cultivated resources. Sites under more environmental stress are expected to show higher levels of wild plants, as cultivated crops like maize would be growing poorly under such conditions; similarly, those sites stressed for food would likely show more evidence of hunting wild game, such as rabbits and other small mammals, as opposed to raising domesticated animals like turkeys that would require care and resources. In addition, small game is more likely to be seen in settlements that have over-hunted the area around the site, as large game such as deer would require longer hunting trips that may not be feasible in times of stress or war.

For the purposes of this study, flora and fauna will be examined in terms of amounts of domesticated or cultivated resources found at the site compared to amounts of wild resources, and animals will also be broken down into types, such as large and small mammals. In general, cultivated flora includes corn/maize, beans, and squash, while turkeys are the only domesticated animal native to the region in this time period. Faunal remains are quantified by number of bone fragments, or NISP (number of identified specimens per species), and percentages of each species are calculated by dividing the NISP by the total number of bone fragments found at a site. When a bone is too fragmentary to be identified as a particular species, it is placed in a broader category such as "bird" or "large mammal." It should be noted that percentages of large animal remains may be negatively skewed due to processing of larger game offsite. Floral

remains are more difficult to enumerate and analyze due to small sample sizes and samples easily contaminated by modern plant material and will therefore be examined more qualitatively than quantitatively.

| Table 4 - Categories of Faunal Remains | | |
|---|--------------------------|----------------------------------|
| General Group | Designation/Order | Example |
| Mammals | Small Rodents | Squirrel, gopher, rat |
| | Large Rodents | Porcupine, beaver |
| | Lagomorphs | Rabbit, hare, pika |
| | Canines | Coyote, wild dog, domestic dog |
| | Deer | Mule deer, whitetail deer |
| | Bovidae | Bison, cow, sheep, goat |
| | Other Artiodactyls | Pronghorns, llamas |
| | Mustelidae | Weasels, skunks |
| Birds | Turkey | Domesticated turkey, wild turkey |
| | Other Galliformes | Quail, grouse |
| | Ducks | Mallard, wood duck |
| | Gruiformes | Cranes |
| | Perching Birds | Jays, magpies, crows |
| Other | Reptiles/Amphibians | Snakes, New World lizards |
| | Fish | Trout, chub, minnow |

Faunal remains examined in this study were separated into fifteen designations or orders, outlined in Table 4. Large and small rodents and perching birds were separated by a subjective designation as opposed to an order name because of the large number of orders represented within phenotypically similar species. Deer and bovidae were separated from other artiodactyls and turkey from other galliformes due to their possible significance to the study. Reptiles, amphibians, and fish were not given specific order names as very few specimens of these types

were identified. Because reports for some sites in this study are either not complete or difficult to obtain, only those with significant floral and faunal data will be discussed in this section.

4.1 Marshview Hamlet Floral and Faunal Remains

Faunal remains at Marshview Hamlet were discovered through excavation and were discussed in a report by Steven D. Emslie (1988). The majority of the remains at this small site are rodents and lagomorphs (77.47%). Evidence of pika remains, a small rodent generally found well north of the site area, may provide evidence that this group was traveling or trading northwards, though the single bone found is not enough to fully substantiate this claim. Only 1.25% of the bones recorded were definitively from deer, bovidae, or other artiodactyls, but 17.13% of the samples are labeled as “unidentified large mammal” remains and would likely fall into this category. Birds make up a small percentage of the sample (2.80%) and only 3 turkey bones were found out of 963 total bones, suggesting that keeping these birds in captivity was not practical at this time. Other types of wild birds, such as grouse and perching birds, are represented in small quantities, so birds likely did make up part of the Marshview Hamlet inhabitants’ diet, but they may have been scarcer or harder to hunt than rabbits or rodents. Carnivores, either domestic dogs or coyotes, are represented by only one bone, and, therefore, were likely either not a large part of daily living at Marshview Hamlet or were disposed of offsite.

Floral remains from this site were located mainly through flotation techniques and analyzed in a report by Bruce F. Benz and Meredith H. Matthews (1988). Sagebrush was most commonly found, and charred pieces from features indicate that it was likely used as fuel. Wild plants such as orders Amaranthaceae and Chenopodiaceae were found among the floated floral samples, but were not charred and may be modern contamination. Though charred corn kernels

and cobs were discovered, the sample size was small, and it is uncertain if the kernels were charred from cooking or were simply left on corn cobs that were used as fuel (Benz & Matthews 1988:73).

4.2 Aztec Wash I (5MT10207) Floral and Faunal Remains

The faunal report for this site, as well as the other Aztec Wash sites discussed in this study, was written by Susan K. Stratton. Like Marshview Hamlet, the majority (57.58%) of the animal remains from Aztec Wash I were rodents and lagomorphs. Of the 551 rodent and lagomorph bone fragments, 39.20% were cottontail rabbit (and another 21.05% were identified only as small mammal and might add to that number); this may be because cottontail rabbits spend their lives in one general area and are therefore easy to hunt, or because they prefer areas, such as hedgerows or covered gullies, that allow them to be flushed out and trapped in groups. Deer, bovidae, and other artiodactyls combined equated to less than 1% of the assemblage, though the 36.78% of unidentified specimens may bolster this number if they could be specified. No other category of animal was represented in any significant amount. Birds were represented by 29 bones, or 3.03% of the sample. Only 5 of these were turkey, while 9 represent large birds that were likely chance catches and did not attribute to the inhabitants' diets on a daily basis. More common birds like small perching birds and galliformes such as quail or grouse were more likely to have been eaten frequently, but were not well-represented in the sample. Canines were represented by only 2 bones, and reptiles, amphibians, and fish were completely absent in the sample.

The faunal remains report for all Aztec Wash sites was written by Carol B. Brandt. Maize was relatively scarce at Aztec Wash I, appearing in only 3 of 35 total flotation samples, and were very rarely charred. Juniper (*juniperus*), cactus (Cactaceae), and bugseed (*corispermum*), wild

plants with many uses, and goosefoot (*chenopodium*) and amaranth (*amaranthus*), the seeds of which were usually ground and eaten, were found frequently charred and were likely a main food source (Brandt 1993:705). This discrepancy from the expectation of maize as a main food source and the fact that wild plants seem to be filling that role suggests that the inhabitants of Aztec Wash I were not producing enough maize to adequately supplement their diet. Because even charred maize was deficient, it is unlikely that this absence is due to attackers raiding the settlement and stealing resources; if the inhabitants of the settlement had been using maize before it was raided, charred specimens and refuse should still be visible archaeologically.

4.3 Aztec Wash II (5MT10206) Floral and Faunal Remains

Stratton's (1993) report on faunal remains at the Aztec Wash sites classifies 51.21% of the assemblage as unidentifiable; this is likely because the bone fragments were too small to be identified. The majority of the identifiable fragments were small and large rodent and lagomorph bones, as is expected from this type of site. Like Aztec Wash I, the majority of the lagomorph bones were cottontail rabbit, while prairie dogs were the most common small rodent. 6 deer bone fragments were recovered, which were the only artiodactyl remains found and accounted for 2.08% of the sample; another 5 fragments were from unidentified large mammals and may add to this percentage. Compared to other sites in the area, this percentage of deer bones is rather high, but direct percentage comparison may be misleading due to a smaller assemblage size from Aztec Wash II than similar sites. (Aztec Wash II had fewer rooms and other structures than Aztec Wash I and III, which could account for this smaller sample size.) Birds comprised only 0.35% of the sample, and this was represented by a single gruiformes bone, likely a crane. Turkeys, reptiles, amphibians, fish, and all canines were absent from the sample.

Charred flora was common in the samples from Aztec Wash II, but, like similar sites from this time period, maize was found infrequently. The largest amount of floral remains found was a collection of uncharred bugseed seeds in a hearth; it is uncertain how bugseed was utilized by the Ancestral Pueblo and why so many seeds were left uncharred in a hearth. The few maize cupules found were from vessels or borrow pits, an indication that maize was being stored throughout the site, perhaps for later use. There is no evidence of maize refuse or other stored food. Charred goosefoot and amaranth were most commonly found in hearths, and a decently sized collection of charred goosefoot seeds was found in a borrow pit, solidifying the hypothesis that these plants were a common part of the Ancestral Pueblo diet at this time and place.

4.4 Aztec Wash III (5MT7723) Floral and Faunal Remains

A large percentage of this assemblage (73.41%) could not be identified; this accounts for 4422 of the found fragments, suggesting that the bones were extensively broken when processed. The majority of the remaining part of the sample were rodents and lagomorphs, which made up 24.10% of the entire assemblage. As is the norm for sites in this area and time period, wild game, especially prairie dogs and cottontail rabbits, seems to be a main food source. Deer, bovidae, and other artiodactyls comprised a very small percentage of the total sample (0.08%) and were probably either not a significant part of the site inhabitants' diet or were processed offsite (though the acquisition of large game would likely still be rare considering the small numbers of recovered bone). Birds were better represented and comprised 0.81% of the total assemblage. Most were perching birds (19 bones) and gruiformes (15 bones), while turkeys and other galliformes were more rare (6 and 9 bones respectively). The turkeys at this site were identified as domestic turkeys, but it seems unlikely that the inhabitants of Aztec Wash III were raising their own considering the small amount of bones in the sample; it is possible that the turkeys

were being traded for use during special occasions or stolen in sporadic raids, though these theories cannot be substantiated at this time. Seven canine bones were present, though they could not be identified as domestic dog or coyote. If these were domestic dogs, they could provide evidence that Aztec Wash III was trading with another site that was able to support the domestication and raising of animals like turkeys and dogs. Though fish were absent in the sample, 18 bones were identified as small reptiles, which may be a sign that the inhabitants were struggling to find food and were therefore utilizing uncommon food sources.

Unlike other sites examined within this study, nearly every sample taken from Aztec Wash III for analysis contained some evidence of maize, the majority of which was charred. Plants common to the area like goosefoot and amaranth were found frequently and were often charred. Bugseed is not as common, but a large deposit of uncharred Indian ricegrass, the seeds of which were usually ground and made into bread, were found in a bell pit. The larger amounts and diversity of plant remains found at Aztec Wash III suggest that the site was more capable of producing, collecting, and utilizing plant foods than similar sites at the time. This could be due to the site's location; Aztec Wash III is located further away from Aztec Wash I & II and is at a slightly higher elevation in the foothills of Sleeping Ute Mountain. The site was "flanked by intermittent drainages" and may have seen more water from the snow melt off Sleeping Ute Mountain than sites lower in the foothills.

4.5 Hanson Pueblo Floral and Faunal Remains

The report of faunal remains from Hanson Pueblo was written by Ronald J. Rood (1993). This site contained a greater variety of faunal material than similar sites, though 50.27% of the sample was labeled "unidentified mammal." The relative proportion of rodents and lagomorphs was low when compared with other sites (when unidentified fragments are not considered), and

the majority of these remains were cottontail rabbits. Deer, bovidae, and other artiodactyls made up 9.42% of the total remains, a number significantly higher than similar sites. Most of this number were remains labeled “unidentified large mammal” and were put into the “other artiodactyl” category. 44 mule deer bones and 35 labeled “deer/sheep/pronghorn” also add significantly to the sample. One bighorn sheep bone fragment was discovered as well, a find unique to the sites examined in this study. These numbers suggest that inhabitants of Hanson Pueblo were hunting for big game and bringing it back or hunting near the site. Birds accounted for 4.69% of the assemblage and consisted mostly of turkey; 47 bones were definitively identified as domesticated turkey, while 38 more were considered “unidentified large birds” and were noted to likely be turkey. Wild birds are less common, as other galliformes, gruiformes, and perching birds were represented by only 10 bones in total. A single duck bone was found, suggesting that the site may have existed near a water source at one time or that the inhabitants of the site were hunting around water. Canine and reptile bones were represented by 4 bones each (0.20% of the total assemblage). 3 of the reptile bones were non-venomous snakes, which may have been killed because they were acting as pests.

The report of floral remains for Hanson Pueblo was written by Carol B. Brandt (1993). The overall faunal sample from this site was rather unremarkable; charred seeds were relatively rare and as were any floral remains possibly used as food. Maize, goosefoot, amaranth, and cactus are all present but in small quantities, and yucca pods were apparently gathered and eaten at the site. Wild food seems to be more prevalent than cultivated crops; however, due to an unusually large percentage of charred floral material, it is possible that sampling error may have affected the accuracy of the flotation scan results.

CHAPTER 5: CONCLUSIONS

5.1 Victim and Perpetrator Site Conclusions

As discussed in Chapter 3 (page 13-14) victim and perpetrator sites are identified in this study by examining modes of abandonment and skeletal evidence. Victim sites are likely to have been abandoned near the time that cannibalized remains were deposited, and the entire estimated population of the site may be represented in the deposit. Burning of buildings may also be present and denote a violent end for the site. Perpetrator sites will likely exhibit evidence of continuous use throughout the deposition of cannibalized remains, and evidence of ritual aspects to the anthropophagy may be more prevalent, as sites able to bring victims back for processing may not be under as direct resource stress.

Figure 2 shows these characteristics and which sites fit them along with the victim/perpetrator designation for each site in this study. Sites with two or more characteristics of victim sites present were designated as such; these sites were Mancos Canyon, the Grinnell site, Marshview Hamlet, Aztec Wash II, Aztec Wash III, and Hanson Pueblo. Evidence of structural burning was found at four of these six sites, and five of the six contain skeletal deposits that date to near the time of abandonment. The skeletal remains at Mancos Canyon, the Grinnell site, and Marshview Hamlet appear to represent the entire population of the site. Possible scalping at Mancos Canyon and Marshview Hamlet suggests that these victim sites experienced intercommunity attacks. The three La Plata Highway sites are labeled unclear because of the relative lack of information on modes of abandonment and detailed skeletal evidence available, and the Sleeping Ute Mountain assemblage could not be identified with these criteria because it was ten sites analyzed together, each of which may have had a different victim or perpetrator designation.

Figure 2 - Victim and Perpetrator Characteristics and Designations

| Figure 2 - Victim and Perpetrator Characteristics and Designations | | | | | | |
|--|--|--|-----------------------------------|---|---|------------|
| Sites | Victim Site Characteristics | | | Perpetrator Site Characteristics | | Conclusion |
| | Remains Deposited Near Time of Abandonment | Assemblage Represents Possible Entire Population of Site | Evidence of Burning of Structures | Evidence of Continuous Use Throughout Assemblage Deposition | Evidence of Ritual Aspects to Anthropophagy | |
| Mancos Canyon (SMTURMR-2346) | | | | | | Victim |
| The Grinnell Site | | | | | | Victim |
| Marshview Hamlet | | | | | | Victim |
| Aztec Wash I (SMT10207) | | | | | | Unclear |
| Aztec Wash II (SMT10206) | | | | | | Victim |
| Aztec Wash III (SMT7723) | | | | | | Victim |
| Hanson Pueblo | | | | | | Victim |
| Site 875 | | | | | | Unclear |
| Sleeping Ute Mountain (Cowboy Wash Sites) | | | | | | Unclear |
| La Plata Highway LA37592 | | | | | | Unclear |
| La Plata Highway LA37593 | | | | | | Unclear |
| La Plata Highway LA65030 | | | | | | Unclear |
| | | Characteristic was present at the site | | | | |
| | | Unclear whether the characteristic was present | | | | |
| | | Characteristic was not present at the site | | | | |
| | Blank | Not enough information to determine presence or absence | | | | |

Because of conflicting date information, victim or perpetrator status was difficult to determine for Aztec Wash I. Due to his ability to fit together pieces of a stone tool found in the kiva and in Room 3, Dice (1993) believed that all human bone was processed in the kiva and transported to the other two rooms for disposal. This may suggest ritual significance; however,

the burned structures and lack of evidence that the site was continuously inhabited during the deposition of the cannibalized remains seems to rule out that Aztec Wash I was purely a perpetrator site. Mesa Verde 875 also shows characteristics of both perpetrator and victim sites, and, due to this and other contributing factors, will be discussed individually later in this chapter.

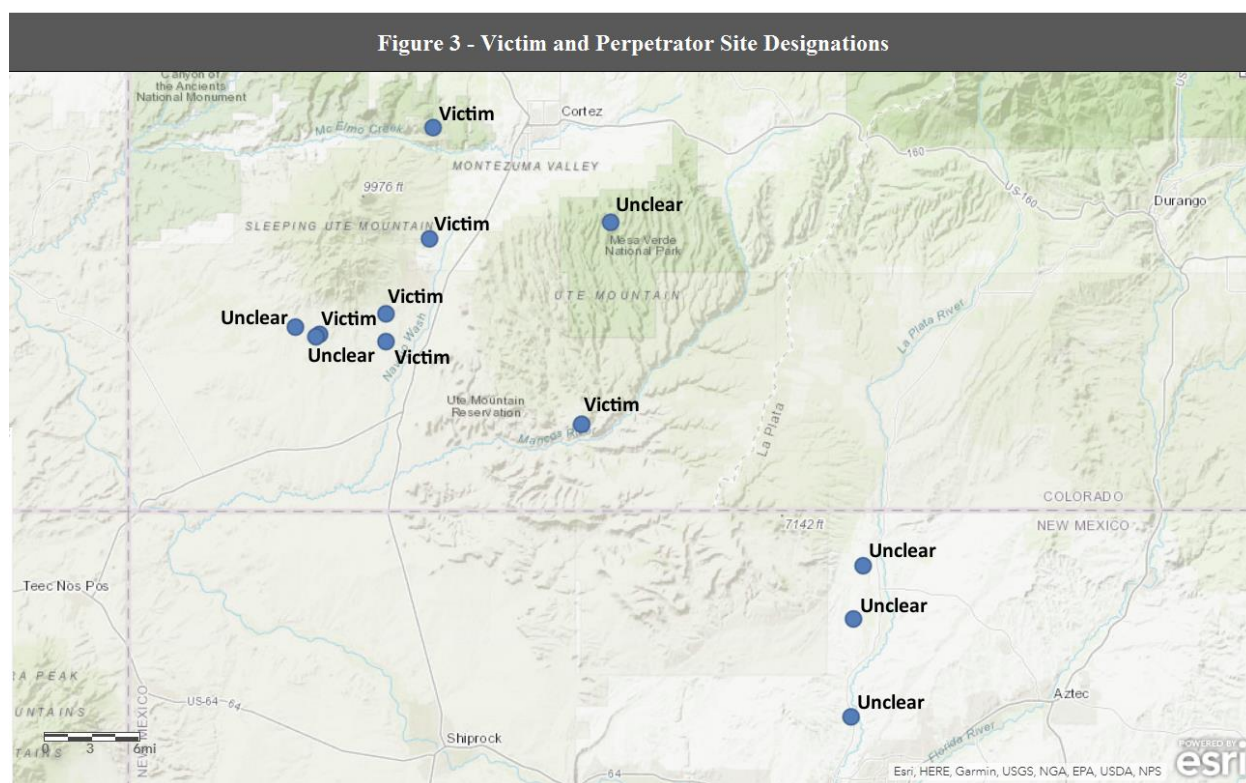


Figure 3 shows a cluster of victim sites around Navajo Wash and the Mancos River, while the unclear or possible perpetrator sites in the area appear to be further away from a significant water source; this may suggest that sites with water had better access to resources and presented a target to communities that did not have as consistent a water supply. Determining the victim/perpetrator status of the La Plata Highway sites, which are all relatively close to the La Plata River, would help solidify this pattern.

5.2 Type of Anthropophagy Conclusions

Both skeletal evidence and floral and faunal remains are useful for determining the type of anthropophagy that took place at the site in question; the main types examined in this study are starvation anthropophagy, ritual anthropophagy during wartime, and gustatory anthropophagy.

Starvation anthropophagy occurs when resource stress is so prevalent in a community that anthropophagy becomes necessary (or becomes a viable option) for general sustenance. In modern examples, this most often occurs in survival situations where an individual has died of natural causes and others in the group must consume that individual to avoid starvation. In this particular study, incidents of starvation anthropophagy usually display evidence that an outside community has attacked a site and processed victims there, often at or near the time the site is abandoned. In these situations, evidence of climatic and resource stress are often visible, such as predominance of wild food as opposed to domestic or cultivated foods or evidence of food shortages. Climatic reconstructions from the area may show evidence of drought or other negative conditions. Evidence of poor health, such as porotic deformities and growth problems, is seen in skeletal remains, suggesting that resource stress was consistent. The processing of skeletal remains is extensive in order to extract as much nutrients as possible from a victim; this usually presents as highly disarticulated skeletons; extremely fragmented bones, a characteristic of marrow removal; and boiling to obtain oils and other nutrients from the bones. Weaker individuals, such as the young and old, are sometimes targeted at these sites as they are easier to dispatch, and captive and trophy taking is unlikely. The remains of starvation anthropophagy are usually disposed of with everyday trash or other food items as they are simply considered food and are likely dehumanized by the attacking group. In addition to the killing and processing of

humans, other food and resources may be missing from sites that exhibit starvation cannibalism, having been stolen by the attacking group.

Ritual anthropophagy during wartime occurs when captives are taken and processed as part of a cultural tradition or ceremony. This type of anthropophagy is usually seen at perpetrator sites, as captives taken during raids or other battles would likely be used for wartime rituals. Evidence of skirmishes or social tensions among groups, such as the presence of weapons or many healed wounds among individuals, may be present at sites that exhibit ritual anthropophagy. Though resource shortages may be present, they are not necessary. Skeletons may be partially disarticulated and incompletely processed depending on the procedures of the ritual being performed, and specific body parts important to the ritual or community may be missing or taken and used as trophies. Victims in these cases are often male, as the males would have been the warriors of society; rituals that involved obtaining the power of another warrior through consuming his flesh would have focused on captive males of an attacked group, while female captives may have been kept as slaves or served some other purpose. Because remnants of rituals likely retained some idea of power within the community, the disposal of the skeletal remains of this type of anthropophagy may represent ritual significance, and the remains are unlikely to be found in a traditional burial or thrown out with regular food remains.

Gustatory anthropophagy occurs when an individual or group consumes human flesh as an everyday food source. Shortages are absent in this case, and evidence of consistent skirmishes and captive taking are likely. Processing of victims may not be complete, and some preparations or parts of victims may be favored. Like starvation anthropophagy, gustatory anthropophagy likely maintains some level of dehumanization of victims, as they are seen simply as food sources, so remains are disposed of with everyday trash and food refuse. Due to the poor climatic

conditions in southwest Colorado during the time period examined in this study, this type of anthropophagy is unlikely to be seen, but it is mentioned in the interest of thoroughness.

The extreme processing level of human remains visible at these sites, when combined with the skeletal pathologies and evidence of drought, suggests that starvation cannibalism was prevalent near the end of the Pueblo III period in this area. Figure 4 lists the characteristics of starvation anthropophagy and shows which sites examined in this study display which characteristics. Though not all sites contained enough information to be addressed in detail here, the overall trend of the area is towards starvation anthropophagy.

| Figure 4 - Characteristics of Starvation Anthropophagy Present at Examined Sites | | | | | |
|--|-----------------------------|---|--|--|----------------------|
| Sites | Skeletal Evidence of Stress | Predominance of Wild Foods | Predominance of Rodents/Lagomorphs over Deer | Deposition Occurred Near Time of Abandonment | Extensive Processing |
| Mancos Canyon (5MTURMR-2346) | | | | | |
| The Grinnell Site | | | | | |
| Marshview Hamlet | | | | | |
| Aztec Wash I (5MT10207) | | | | | |
| Aztec Wash II (5MT10206) | | | | | |
| Aztec Wash III (5MT7723) | | | | | |
| Hanson Pueblo | | | | | |
| La Plata Highway LA37592 | | | | | |
| La Plata Highway LA37593 | | | | | |
| La Plata Highway LA65030 | | | | | |
| Site 875 | | | | | |
| Sleeping Ute Mountain (Cowboy Wash) | | | | | |
| | | | | | |
| | | Characteristic was present at the site | | | |
| | | Characteristic was not present at the site | | | |
| | Blank | Not enough information to determine presence or absence | | | |

Climatic reconstructions of this time period reveal several droughts, the most severe of which occurred from 1075-1125 AD and 1130-1180 AD. The violence evident during the first of these droughts consisted of mostly sub-lethal injuries and seems to have been a result of intracommunity conflict; the prolonged wet period that occurred after this drought likely dampened violence in the area before it could rise to the severity seen towards the end of the 1130-1150 CE drought (Lambert 2014:327).

5.2.1 *Mancos Canyon*

At Mancos Canyon, human bones were processed very similarly to animal bones, a sign that all nutrition possible was being removed from the human remains. This, combined with the indicators of environmental stress, such as dental hypoplasia, porotic hyperostosis, cribra orbitalia, and Harris lines observed in the remains, provides evidence that the occupants of the Mancos Canyon site were practicing starvation anthropophagy (Turner & Turner 1999:220-223; White 1992:340). The skeletal evidence was deposited around 1150 CE, the same time as many other sites in the area and the middle of the more severe of the two droughts discussed previously.

5.2.1 *Marshview Hamlet*

The skeletal deposit at Marshview Hamlet dates to around 1140 AD \pm 45 years, around the same time as the Mancos Canyon site (Wilshusen 1988:49). In addition to the evidence of violence associated with these skeletal remains, at least one of the skulls discovered showed evidence of pathologies including cribra orbitalia, and porotic hyperostosis was also reported (Wiener 1988:71; Turner & Turner 1999:271). In addition, the inhabitants of Marshview Hamlet were likely stressed for resources when the site was abandoned around 1140 AD, a hypothesis supported by the skeletal pathologies found on human remains at the site (Wilshusen 1988:49).

Corn and other plant foods were scarce, so they may not have been producing much or they lost their food supplies to a competitive group. The large percentage of rodent and lagomorph remains as opposed to larger mammals or birds suggest that the site inhabitants were hunting close to their settlement; they were either unable to provide enough resources to “fund” longer hunting trips, or were avoiding these trips for fear of being attacked while away from home. Though conjectural, it is possible that a larger settlement or community, such as the Aztec Wash sites near to the south of Marshview Hamlet, were asserting this pressure.

5.2.1 The Grinnell Site

The deposition of the human remains found in Kiva 2 of the Grinnell site also occurred around 1150 AD (Luebben 1983:19). Like the remains at Marshview Hamlet, bones at the Grinnell site displayed evidence of cribra orbitalia and cribra cranii, suggesting environmental stressors were affecting the population at or before their time of death (Turner & Turner 1999:249; Luebben & Nickens 1982:75). This provides evidence that starvation anthropophagy was practiced at the Grinnell site.

5.2.1 Aztec Wash Sites

The high percentages of wild foods, both floral and faunal, found at Aztec Wash I suggest that the site was undergoing severe resource stress when it was abandoned around 1175 CE. This is to be expected, as the drought likely responsible for the failure of crops and subsequent violence at other sites began around 1130 AD. Similarly, the inhabitants of Aztec Wash II appear to have eaten mostly wild foods and were likely unable to produce much maize by the time the site was abandoned around 1150 AD. This site shows little evidence of ritual or wartime anthropophagy, and the two individuals interred there were likely a result of starvation anthropophagy. The skeletal remains found at Aztec Wash III had an MNI of one and exhibited

extreme processing, which parallels the large amount of unidentifiable faunal remains; the level of processing of both humans and animals may indicate that the inhabitants of Aztec Wash III were extracting all the nutrients they possibly could from their protein sources. Though this would seem to point to starvation anthropophagy being likely, the larger amounts of plant resources provide some contradiction to this claim. It is possible that the level of processing was just customary or was a cautionary measure taken even when other nutrients was available. Overall, it seems the inhabitants of Aztec Wash III were better supplied with maize than contemporary sites in the area and made good use of their resources.

5.2.1 *Hanson Pueblo*

The faunal remains from Hanson Pueblo suggest that the site was relatively well off when compared to other sites in the area. The interment labeled as anthropophagy dated from around 1130 AD, about the same time many similar assemblages were being deposited; however, the larger and more varied sample of animal remains at Hanson Pueblo seem to discredit the idea that starvation anthropophagy was happening at this site at this time. The breakage of both the human bone and animal bone paints a different picture, as both were significantly processed to gain as much nutrition as possible. Putting resources aside momentarily, it is possible that, though it was not necessary for nutrition, the inhabitants of Hanson Pueblo at this time were influenced by other sites practicing anthropophagy or warlike practices to do so themselves and process the remains like they were used to, creating an assemblage of human remains similar to that of the animal remains at the site. The apparent higher amount of resources could simply mirror the larger size of the site, however, and represent the trash produced by more people who were still suffering from lack of resources.

5.2.1 Conclusions

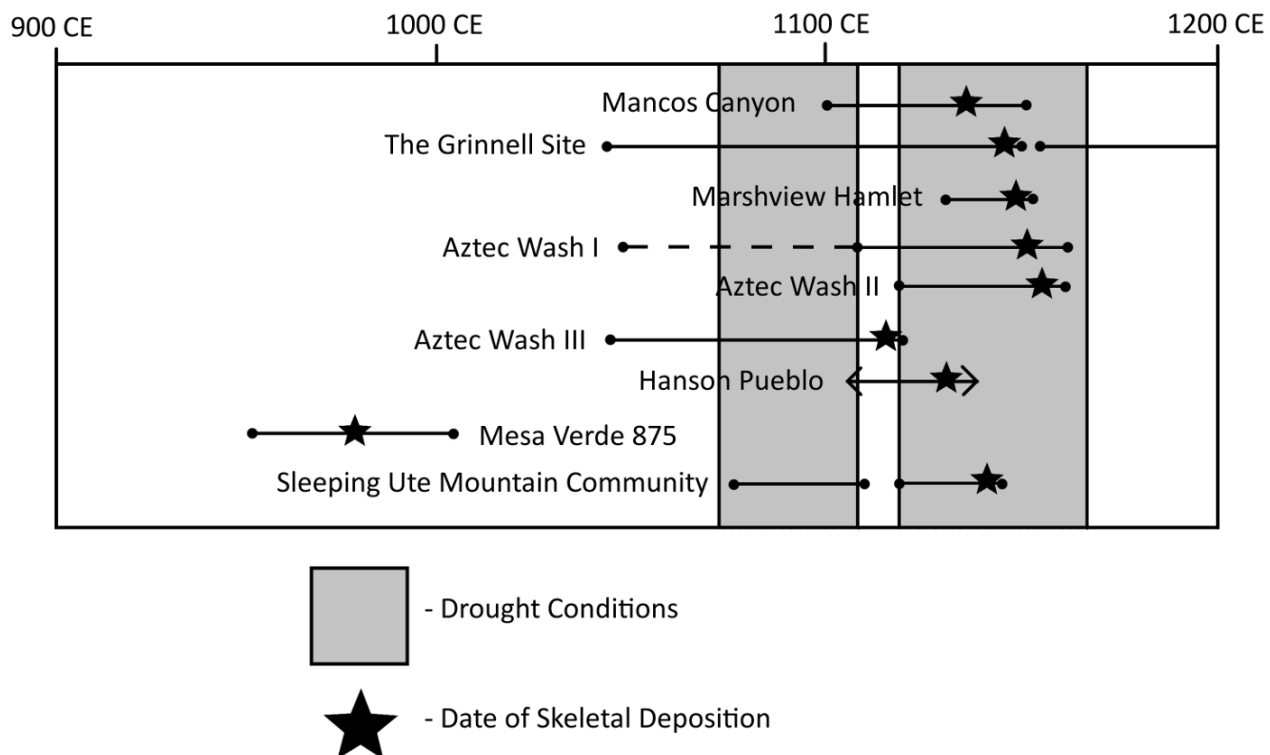
Every site discussed in this study demonstrated evidence of extreme processing of human remains. This level of processing, plus the climatic instability, large age range of victims, and haphazard disposal present in many skeletal deposits suggests that starvation anthropophagy occurred at the majority of these sites. (Mesa Verde 875, the only site to show definitive evidence against two characteristics of starvation anthropophagy, will be discussed individually later in this chapter.)

5.3 Mesa Verde 875 (Site 875)

This site, which was occupied significantly earlier than the other sites examined here (950-1000 CE), is an outlier in both the victim/perpetrator and type of anthropophagy categories. The site does not appear to have been wiped out near the time of abandonment, as the MNI of the skeletal deposit was only 6, which is far too few people to be living alone in a 17-room pueblo (Turner & Turner 1999:364). Though there is evidence of burning on some of the structures, there is no evidence that the skeletal deposit was made at the same time as this burning. Large amounts of pottery associated with some of the burials could suggest ritual components to the anthropophagy. In addition, Mesa Verde 875 is the only site examined in which the skeletal assemblage contained no children or young people; only adults were present, suggesting that they may have been captives or war used in ritual (Lister 1965:15). As mentioned in the previous section, Mesa Verde 875 was the only site that shows definitive evidence against two of the five characteristics of starvation anthropophagy outlined in Figure 4. There is no skeletal evidence of stress on any of processed remains from this site, and the remains were likely not deposited near the time of abandonment. Though an ultimate conclusion cannot be given due to lack of data,

these characteristics suggest that Mesa Verde 875 may have been a perpetrator site practicing ritual anthropophagy during wartime.

Figure 5 - Site Occupations Overlaid with Drought Conditions



5.4 Final Conclusions

Overall, the social violence and anthropophagy that occurred in the Mesa Verde region of the American Southwest from approximately 1000-1200 CE was likely starvation anthropophagy due to a lack of resources brought on by drought. A drought from 1075-1125 CE likely caused resource abundance to decline and social tensions to escalate; however, this drought contained some years of rain that offered relief, so extreme violence and anthropophagy is not seen at this time. The 1130-1180 CE drought was more severe, and the short time period between these droughts was likely not enough time for the people of the area to replenish their food stores and prepare for the acute resource stress the next drought would bring. Around this time, people

likely began migrating out of the area, causing clashes between migrating groups and those still waiting out the drought in their settlements. By 1150 CE, this clashing escalated to anthropophagy as migrating groups resorted to killing and eating those in the settlements they came across as a means to survive the punishing circumstances imposed by the drought and general conditions of the area. The anthropophagy dies down as the drought ends around 1180 CE, but this spate of migration likely began the larger exodus that left the Mesa Verde region completely abandoned by 1300 CE (Plog 2008:151-153).

5.5 Recommendations

Further research into this area would be better facilitated by more access to information about each of these sites and other contemporary sites in the area. A larger sample size of sites is possible if the information can be found, and some sites examined in this study could be expounded upon as more reports are published or gathered. Physical examination of the artifacts, skeletal remains, and sites themselves could also provide deeper insight into this subject. A study of this breadth and depth would also benefit from a longer examination process, as the information included here is limited and could easily be expanded upon.

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