What Happened to the Anasazi?

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—Jessica Isaacs

Life in the southwestern corner of Colorado can be difficult in the best of times. Rainfall is scarce, making growth hard even for the scrubby sagebrush and tough piñon and juniper trees that dot the arid land. In summer the heat is oppressive on the flatlands, and only slightly more tolerable on top of the flat, high mesas that jut above the horizon. Winter is not much better.

Chapin Mesa, one of the largest features in the area, dominates the landscape and the imagination. Tucked away within its hidden canyons are the famous cliff dwellings built long ago by the Anasazi Indians. Sheltered by enormous natural overhangs, each village is a dense cluster of brick-walled rooms stacked two or three stories high, fronted by sunny plazas. Tiny windows in some rooms yield glimpses of paintings on inside walls; subterranean gathering rooms—called kivas—feature benches and elaborate ventilation systems. Everything is constructed of reddish-gold sandstone, which seems to glow in the unforgiving southwestern sun. Magnificent as these homes were, however, the Anasazi lived in them for fewer than a hundred years. For some unknown reason, they completely abandoned the area around A.D. 1300. Today, most of the cliff dwellings are preserved in Mesa Verde National Park, and every summer throngs of visitors ponder the mysterious departure of the Anasazi. Drought, warfare, and the harsh environment are all cited as possible explanations.

But another, deeper mystery lies just a dozen or so miles west of Mesa Verde, in an area known as Cowboy Wash, a broad, flat floodplain in the shadow of Sleeping Ute Mountain. A century and a half before the abandonment of Mesa Verde, Cowboy Wash was home to another group of people, probably Anasazi as well. Recently archeologists discovered several piles of human bones at the site. These bones, they say, show clear evidence of cannibalism. What's more, they maintain that this find does not represent

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an isolated incident. In the last few years, at least 30 nearby digs have yielded similar evidence of humans eating humans. Some archeologists speculate, naturally, that only people forced to desperate measures by starvation in this harsh environment would resort to cannibalism. The excavators of Cowboy Wash, however, propose a new theory. The cannibalism that occurred there, they say, was an act of prehistoric terrorism.

Traditionally, the Anasazi have been portrayed as peaceful farmers who quietly tended their corn and bean crops. Archeological records indicate that they occupied the Four Corners area—the juncture of present-day Colorado, Utah, Arizona, and New Mexico—from the beginning of the first millennium to around 1300. During that time they developed complex societies, farming methods, and architectural styles, culminating in life among the cliff dwellings. But recent work hints that the Anasazi world was far more turbulent than suspected.

5 The clues come from an archeological dig conducted by Soil Systems, Inc., a private consulting firm in Phoenix, Arizona. Under contract to the Ute Mountain Ute Tribe, SSI excavated several ruins in the Cowboy Wash area so the tribe could relocate any ancient human remains before the launch of a new irrigation project. The site where the bones were found, a dwelling known as 5MT10010, is believed to have been occupied between the years 1125 and 1150. It includes three pit structures, the roofed, semi-sunken rooms typical of Anasazi homes at that time, as well as other rooms and trash heaps known as middens. Some 15 to 20 people, divided into three households, probably lived there.

The telltale bones were found scattered about the floors of two of the pit structures. In one, known as Feature 3, SSI archeologists found more than 1,100 bones and bone fragments, including shoulder blades, skulls, vertebrae, ribs, arm bones, hand and foot bones, and teeth. Nearly all were broken. Most were found in a heap at the bottom of an air shaft. In the other pit structure, Feature 13, the bones were found scattered on the floor and in side chambers.

"This was in no way a burial," says Patricia Lambert, a bioarcheologist from Utah State University in Logan who was hired to analyze the bones. "There was no reverence for these remains." Lambert's job was to try to reconstruct complete skeletons from the fractured pieces and decipher the clues left behind. "It was a big puzzle," she says. "The elements were all mixed together and broken." Many bones, particularly large leg bones, were missing. Eventually Lambert established that at least five people had been disposed of at Feature 3—three adult males, one adult female, and an 11-year-old child. Two children were found in the other pit structure, one a 7-year-old, the other 14.

Evidence of trauma was not hard to find. Most of the bones were broken, and many looked scraped and scorched. The marks looked like those left on the bones of large game animals after butchering. According to many archeologists, the presence of such marks on human bones is a clear indication of cannibalism. Someone who is planning to eat a human body part, the theory goes, would naturally prepare it in the same manner as he would an elk of a deer. And that is exactly what Lambert found.

"I found cut marks at muscle attachment sites, such as where the femur is attached to the hipbone," she says. "It's pretty clear they were disarticulating the body, cutting tendons and soft tissues that connect various parts." The cut marks occur when cutting

tools slip and strike bone instead of tissue, she explains, and they cannot be mistaken for the gnawing marks an animal might leave. The relatively pristine condition of the bones is yet another clue. If the flesh had been left to rot away rather than being deliberately removed, says Lambert, the bones would be discolored and pitted instead of white, smooth, and dense. And some bones look as though they were broken open so the nutritious marrow could be extracted. They bear the complex fractures that occur in living bone—not the simple, smooth fractures of decaying bone. Moreover, they show flake scars, the marks that are left when a hammering tool chips bone.

10 Perhaps most disturbing was the evidence of burning and cooking—even a mere summation of it, 850 years after the fact, is enough to make one queasy: some bones appear to have been browned by heat exposure when they were still covered with flesh, and the skulls of both children in Feature 13 were obviously burned. "The burning clearly happened while the head was intact," says Lambert. "The back of the cranial vault was down around the coals, and the flames licked up and browned the side and blackened the back. Sometime later the head was taken apart—we found the pieces in two separate piles. They were putting the head on the fire. They were not incinerating it, but they did put it on there long enough to have cooked the brains."

"I can't say that they were eating these people, but they were certainly processing them in a way that suggests they were," says Lambert.

The victims and alleged perpetrators also left behind a few other clues. In one pit structure, archeologists found a set of tools, including two axes, that might have been used to butcher the bodies. "Sort of like leaving a calling card," muses archeologist Brian Billman, project director for SSI. Not only were cooking pots, ladles, and lids left behind, but so were tools, beads, and some jewelry. Leaving behind such valuables suggests that the sites were suddenly abandoned, says Billman, and sediment deposits on top of the bones and pots provide clues that the homes remained vacant. Furthermore, three other sites in the immediate area yielded the same type of remains, from the same time period: human bones irreverently scattered about deserted homes.

The evidence, Billman concludes, all points to an outbreak of cannibalism designed to terrorize and intimidate a group of people, most likely some foreigners who posed competition for scarce food resources. "It was a time of severe drought, as well as social and political upheaval," he says. "People were moving into new areas and mixing up alliances." Billman believes that people from about 60 miles south moved into Cowboy Wash and replaced the local community, as evidenced by several pots found there bearing the style of a more southern culture. But the immigrants' arrival apparently did not sit well with the local Anasazi.

"We think that certain groups in the Mesa Verde area, out of desperation, then turned to a strategy of warfare and cannibalism. One or more of the communities in this area decided on this as a political strategy, to push the new groups back out of the area and give themselves more resources. Plus, the message would be delivered to other communities that 'You'd better not mess with us.' It would so terrorize people that they would never think of messing with you." The carnage was indeed extensive. Billman estimates that between 60 and 100 people lived in the nine dwellings at Cowboy Wash. In the four dwellings he has excavated so far, he turned up the remains of 24 people.

15 Billman says two distinct patterns of human remains at several suspected cannibalism sites support his terrorism theory. In one pattern, which was also observed at Cowboy Wash, human remains were scattered on floors, and the dwellings abandoned soon after. In the other, remains were not left lying about but were dumped into trash pits or unused rooms. Billman thinks the first pattern occurred in victims' home, where they were cut up and consumed. The second pattern occurred in sites belonging to the perpetrators, who continued to use their homes after processing the bodies. "At the Mancos Canyon site, which is only 12 miles from Cowboy Wash, 30 to 40 people were found in trash dumps. They might have been people who were taken back to that village and consumed there." Likewise, the meat-laden leg bones missing from Cowboy Wash were probably carried off to be eaten later at secondary sites. At any rate, that is what Billman suspects, based on how hunters typically handle large game.

At least half the suspected incidents of cannibalism at the sites he reviewed occurred around 1150. "We call this an 'outbreak' of cannibalism. It looks like before this there was a very low level of cannibalism, then with this severe drought and social turmoil a few groups turned to terroristic violence." By the early 1200s, he notes, climatic conditions were back to normal and there were very few incidents of cannibalism. Around this time, too, the inhabitants of Mesa Verde moved from the pueblos on top of the mesa to the cliff dwellings in the sheltered cliff alcoves, a move some say was taken because the cliff dwellings were more easily defended.

Researchers have proposed other motivations for the alleged cannibalism, but they just don't fit the scenario, he adds. If the perpetrators had been goaded by hunger, he says, they would have been more likely to leave the area and search for food rather than resort to such drastic measures. Hunger-induced cannibalism typically occurs in groups that are trapped, such as the Donner party, which was caught by a snowstorm in the Sierra Nevada in 1846. The people of the Cowboy Wash site had no such constraints. And besides, most of the victims appear to have been done away with in one fell swoop—not a prudent use of resources if you're starving.

Christy Turner, a bioarcheologist at Arizona State University in Tempe, agrees with the terrorism theory but thinks the explanation for it is even more complex. Anasazi culture bears signs of trade with Mexico, such as copper bells, macaws, and corn. During this time central Mexico was in social turmoil, says Turner, and hundreds of cults sprang up. Some members may have fled north, bringing not only distinctive trade goods but, possibly, flesh-eating rituals too. Plenty of evidence for such rituals occurs in historical accounts and in the archeological record of central Mexico, says Turner, and the practice was often used to intimidate neighboring tribes. Another possibility is that cannibalism might have developed independently—but for similar reasons—in the Four Corners region. It may, for example, be linked to a strategy for social control by inhabitants of Chaco Canyon, a New Mexico community of several thousand Anasazi that lay some 80 miles south of Mesa Verde. Chaco Canyon was a hub of Anasazi culture, and many scholars think it had great political and social influence over outlying communities.

The details of that particular scenario are sketchy, and Turner, who is at work on a book about the subject, won't elaborate. But Billman doesn't think the evidence supports that theory. He contends that the major outbreak of cannibalism

actually occurred *after* Chaco Canyon was abandoned in the 1140s. Moreover, nobody knows where the former residents of Chaco Canyon went. Billman thinks it more likely that the victims at Cowboy Wash came from the Chuska Mountains, some 60 miles south of the site. What both hypotheses share, however, is the idea that neighboring groups were using cannibalism as a terrorist strategy to drive out competition for scarce resources.

20 There is no shortage of speculation on the causes of the suspected cannibalism. But do the bones really tell a tale of cannibalism? With no eyewitnesses, can anyone really be sure of what happened at Cowboy Wash eight and a half centuries ago?

"How do you tell that a person committed a murder when nobody saw it?" asks Tim White, a physical anthropologist at the University of California at Berkeley. "Evidence." White has closely examined the bones found at Mancos Canyon, and both he and Turner have proposed criteria that they say must be met to make a finding of cannibalism. Among them are cut marks, burn patterns, broken bones, and "pot polish," the way sharply fragmented bone gets rounded by rattling around in a pot of boiling water. "The question we need to ask is, Do people prepare other mammals in this fashion in this culture? Because humans are large animals. If you find that the patterning matches, then that becomes evidence," says White.

Turner, Billman, and others agree that, by these criteria, evidence from many southwestern sites, including Cowboy Wash, clearly indicates cannibalism. But Peter Bullock, a staff archeologist at the Museum of New Mexico in Santa Fe, is not ready to convict. He says that basing such studies on animal-butchering practices biases the results toward a consumption conclusion and fails to consider human motivations. Bones could end up being scraped, shattered, and scorched as a result of warfare, mutilation, or burial practices, he says. As an example, Bullock cites human remains recovered from the Battle of Little Bighorn, where General George Custer and his troops were slain. "The results looked pretty similar to this cannibalism stuff, but we know from historical accounts that no cannibalism took place," he says. Kurt Dongoske, an archeologist employed by the Hopi, agrees. "To say that these disarticulated remains have been cannibalized is a real stretch."

"We've got folks who are processing humans in exactly the same way they process animals and we're supposed to believe that the end result was not consumption?" White asks incredulously. "Why does it look exactly like consumption?"

Native American representatives are silent on the matter. A spokesman for the Ute Mountain Ute Tribe, on whose land the Cowboy Wash bones were found, declined to comment either on that site or on the possibility of any incidents of cannibalism among the Anasazi. The tribe also refused to allow outsiders to visit the excavated site or to view the bones. Their reaction is understandable, some say. How would other people feel if scientists dug up bodies at Arlington National Cemetery and declared the soldiers cannibals? Not surprisingly, Park Service brochures handed out at Mesa Verde make no mention of the possibility of cannibalism either. The bones will eventually be reburied by a Ute religious leader.

25 "We can't get the meat from the hand into the mouth," concedes Billman. "But there is now a possibility that we may be able to do that. One of the last things that was done on our site—once the hearth had gone cold and was filled with ash—was

someone squatted down in the hearth and defecated." A preliminary analysis of the coprolite, as the preserved specimen is called, indicates that its owner's last meal was almost entirely animal protein. Determining just what type of animal—elk, deer, or human—the protein came from will be the job of Richard Marlar, a professor of molecular biology at the University of Colorado at Denver. He heard about the Cowboy wash coprolite and offered to analyze its contents.

It might seem that Marlar could just look for human blood or cells in the coprolite, but humans often shed their own intestinal cells in feces. So he will test for the presence of myoglobin, a protein found in human skeletal muscle but not in the intestines. He will dissolve samples of the coprolite in a butter solution and then add antibodies that recognize myoglobin. If myoglobin is present, reactions with the antibodies will tint the solution. Marlar also plans to test residues from cooking vessels found at the site.

Although such tests have been routinely used to identify bison, antelope, and human blood at archeological sites, no one has used the technique yet to address the question of humans eating humans. But Marlar predicts that it "could really answer if cannibalism occurred, once and for all." And, if the test is positive, archeologists will have even more reason to speculate on scenarios about social turmoil in the Southwest. Of course, if the test is negative, the case is still not closed. The abundance of evidence points to cannibalism among the Anasazi. But without clear historical records, the precise reason for that cannibalism—if it occurred—will probably never be known.