Massacre at Sacred Ridge

A violent Pueblo incident sparks debate regarding prehistoric genocide

By Bruce Bower
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Attackers with a deadly plan climbed a knoll to a Pueblo village called Sacred Ridge around 1,200 years ago. What happened next was anything but sacred.

At least 35 people, roughly half of those living in the village, were brutalized, killed and sliced into thousands of small pieces. Fellow Pueblo from nearby villages battered victims’ feet hard enough to break toes and fracture heels. Blows delivered with blunt weapons crushed the faces and heads of men, women and children. Scalps, and possibly eyes and ears, were removed, perhaps as trophies.

Wielders of sharp stone implements chopped up victims’ bodies in at least four Sacred Ridge structures. Attackers removed the roof of a large house and threw in heaps of human body parts, some of which had been fished from burning hearths. Several village dogs met the same fate.

"This extreme level of violence came as a complete surprise," says archaeologist James Potter, who directed the excavations that uncovered this murder at Sacred Ridge. "I was blown away from the
Its residents wielded some type of ritual and economic power that, at least for a short time, seemed to result in smooth relations among diverse Ridges Basin villagers. Sacred Ridge encompassed 11.6 acres, considerably more ground than nearby settlements. In addition to 22 underground pit houses, public structures included a domed circular building, a two-story tower and a palisade.

**ENLARGE**

This reconstruction shows what the interior of a pit house at Sacred Ridge might have looked like before the attack.

Courtesy of SWCA Environmental Consultants

Digs led by Potter in two Sacred Ridge pit houses in 2003 and 2004 uncovered clusters of broken and burned human bones. Chemical analyses identified blood residue on an ax, a jar and other artifacts found near the remains. The next year, thousands more pieces of bone turned up in another pit house that showed signs of having had its roof removed. Potter’s team recovered a total of 14,882 human bone fragments from people of all ages.

Scrutiny of strontium isotopes in teeth from 28 individuals at Sacred Ridge suggested that they grew up eating foods from the immediate vicinity and so were not newcomers to the area. Strontium signatures of these villagers matched those previously recorded for plants, animals and rocks in and around the basin.

Distinctive house styles, pottery designs, burial practices, tooth shapes and skull features demarcate at least three ethnic groups in the basin at that time, including one at Sacred Ridge, according to Potter.

"Water and other resources attracted growing numbers of people from different ethnic groups to Ridges Basin, where they lived in close proximity for the first time," he speculates.

Increasingly cold and dry weather, dwindling game herds and crop yields, and surpluses of stored deer and elk meat confined to Sacred Ridge inflamed ethnic tensions, Potter posits. The regional melting pot boiled over when members of one group eliminated the Sacred
Ridge clan in a ferocious attack, he suggests.

**ENLARGE**

**HEAPS OF EVIDENCE**

Attackers appear to have dumped mutilated and burned body parts into a pit house at Sacred Ridge. This figure shows where bone fragments (red) were found.

Courtesy of SWCA Environmental Consultants, adapted by T. Dubé

Within 15 years of the massacre, Pueblo people abandoned Ridges Basin. Later Pueblo settlements, known for stone and adobe dwellings built along cliff walls, appeared elsewhere in the Four Corners region.

**Jigsaw horror**

Much of that scenario rings true to Stodder. From her perspective, though, Sacred Ridge offers a chilling example of prehistoric genocide. Although far greater numbers of people died in Nazi death camps and on Cambodia’s killing fields, attackers at Sacred Ridge shared much the same devotion to eliminating a population seen as a threat, Stodder proposed at the April meeting.

That argument doesn’t sway Potter. One Ridges Basin ethnic group fell on exceedingly hard times and killed culturally different villagers seen as too powerful, he and archaeologist Jason Chuipka of Woods Canyon Archaeological Consultants in Yellow Jacket, Colo., propose in an upcoming *Journal of Anthropological Archaeology*. Ethnic violence at Sacred Ridge was tragic but fell well short of large-scale genocides inflicted by modern societies, in Potter’s view.

Other researchers have leveled that same criticism at suggestions that genocide occurred at two European sites, both more than 7,000 years old — one where 67 individuals with violent injuries had been dumped in a trench and another that contained two pits with a total of 38 bodies displaying numerous skull fractures.
ENLARGE

TOOL MARKS
Bone fragments recovered from Sacred Ridge (including this hip bone) show signs of tool marks, suggesting bodies were mutilated. Courtesy of SWCA Environmental Consultants

For nearly a year after Potter’s excavations concluded in 2005, Stodder and colleagues reassembled and analyzed bone fragments from the Pueblo site. Her team managed to put two or more adjoining parts back together for 40 percent of what had been excavated.

"It was like doing 15 jigsaw puzzles that could all be part of a larger puzzle," Stodder recalls.

So many cuts covered bones that researchers counted these tool markings in groups. Knots of marks clustered at joints, a sign that body parts had been systematically detached. In many cases, charring appeared on some parts of reassembled skeletal sections but not others. Attackers may have thrown huge numbers of body parts into hearths, managing to burn a portion of them, Stodder says.

Scrape marks, chop marks, crushed areas and fractures also appeared on many bones. Fractures of the skull base in at least two individuals resembled an execution method used by the Khmer Rouge in Cambodia, an organization that killed roughly 2 million perceived enemies of Communist rulers more than 30 years ago. Kneeling prisoners received deadly blows to the back of the head, close to the brain stem and spinal cord. Extensive damage observed on reassembled foot bones from Sacred Ridge indicated that attackers used clubs of some kind to bash victims’ heels and toes. Soles of prostrate villagers’ feet were then beaten hard enough to crush and peel underlying bone.

Whatever label one applies to it, the methodical destruction of an extended family with an unsure grip on power “doesn’t fit any modern category of social behavior,” Stodder says.

http://www.sciencenews.org/view/feature/id/64465/title/Massacre_at_Sacred_Ridge
TALLYING TOOL MARKS
These skeletons document where marks were observed on various individuals.
Courtesy of SWCA Environmental Consultants

Witches of Ridges Basin

Assessing the cavalcade of carnage meted out at Sacred Ridge, anthropologist Debra Martin of the University of Nevada, Las Vegas thinks of witches. Witch accusations and killings have long occurred in societies throughout the world, Martin says. Hopi, Zuni and other Pueblo groups have for centuries killed people regarded as malevolent sorcerers controlled by unseen, wicked forces. Children are viewed as particularly easy prey for evil spirits seeking bodies and souls to commandeer for nefarious purposes.

Procedures for destroying witches include mutilating, cutting up and burning bodies so evil spirits have no human vessels to inhabit. Victims end up looking much like those found by Potter’s team.

"Being from Vegas, I put my money on witch execution at Sacred Ridge," Martin says. Food shortages and other mounting troubles could have sparked witch accusations against an entire extended family or clan, she proposes.

Martin’s account sounds plausible to anthropologist Richard Chacon of Winthrop University in Rock Hill, S.C. Chacon has conducted fieldwork among several Native American societies in South America, including Achuar blowgun hunters in Ecuador and Yora bow-and-arrow hunters in Peru. Villagers in these societies often attribute epidemics and other community misfortunes to witchcraft practiced by shamans and others living in neighboring villages, Chacon says. Warriors who kill alleged witches are considered heroes for having performed a vital public service, he notes. That includes the torture and killing of children accused of sorcery.
Tool marks appear on a variety of bone types. This graph shows the percent of selected fragments with marks.
T. Dubé (Source: SWCA Environmental Consultants)

Bones from Sacred Ridge display many attributes of witch executions, acknowledges Potter. But, he holds, the 35 or more victims at Sacred Ridge “would be an unprecedented number of people found guilty and executed at one time as a result of witchcraft accusations.” Historical accounts of Zuni and other Pueblo witch trials typically describe one accused sorcerer, and in rare cases several.

More broadly, Chacon says, research at Sacred Ridge counters claims by some scholars that prehistoric Pueblo people never fought, instead living in harmony with nature and each other. “That stereotype robs Native American peoples of their humanity,” he says. “Every group I’ve worked with has a long history of violent conflicts.”

Grave doubts

Attacks by one group on a culturally, religiously or ethnically different group undoubtedly occurred in ancient times, in all parts of the world, remarks archaeologist Kristin Kuckelman of Crow Canyon Archaeological Center in Cortez, Colo. Kuckelman’s excavations suggest that devastating attacks and possible cannibalism occurred around 1270 at three large Pueblo villages in the Four Corners region. A desire to eliminate and intimidate competitors for scarce food apparently motivated those attacks, she says.

But reasons for the massacre at Sacred Ridge remain puzzling, she cautions. Burned remains of a few people who met violent ends around the same time at three other Ridges Basin villages have been uncovered, so retaliatory raids by members of hostile villages may have culminated in extreme brutality at Sacred Ridge, Kuckelman suggests.

Retribution for alleged witchcraft could explain the literal tearing apart of victims, yet there’s no archaeological evidence of pre-Columbian Pueblo sorcery. “It is not at all clear that Pueblo Indian culture included witchcraft belief before European contact,” says Kuckelman.

Uncertainty also clouds Stodder’s genocide label, comments forensic anthropologist Debra Komar of Liverpool John Moores University in England. A single mass grave, including the one at Sacred Ridge, “could never be considered proof of the larger intent of the
perpetrators."

In a 2008 paper, Komar cited genocide as one potential explanation of Pueblo violence from 900 to 1300. That period displayed social and behavioral hallmarks of modern genocide documented by Komar a decade ago in Bosnia and six years ago in Iraq: a concentration of previously dispersed groups in a relatively small area, mass graves, mutilation of bodies, killing of women, children and the elderly — and numerous large-scale attacks that eradicated villages.

"Times of tremendous conflict occurred throughout the human past," says Richard Wilshusen, an independent archaeologist and Pueblo researcher in Boulder, Colo. "Reasons for those conflicts are so hard to untangle." Attention-grabbing violence at Sacred Ridge shouldn't distract from the vibrant spread of Pueblo villages and cultures soon afterward, he holds. More than 10,000 people inhabited the Four Corners region within a century of the slaughter, heralding a slew of linguistically diverse Pueblo communities by the 16th century.

"Those Pueblo people have much to teach us about how large, sedentary, probably multiethnic communities come together and are held together," Wilshusen emphasizes.

The ancient Pueblo villages at Ridges Basin will soon be inundated together under a slowly rising tide of dam water. In a couple of years, Sacred Ridge will lie in a liquid, man-made grave. Human remains from the site have been ceremonially reburied in a nearby protected area by Pueblo tribal representatives.

Voluminous skeletal data gathered by Stodder's team will go to a federal archive for examination by other interested researchers. In an oddly fitting turn of events, victims of the mysterious massacre at Sacred Ridge will have a long scientific afterlife.

**Violent encounters** Scientists have uncovered evidence of past violent attacks around the world, but deducing motivation is difficult.
Clockwise from top left: © Cliché Fabian Haack, GDKE Rheinland—Pfalz/Direktion Landesarchäologie—Speyer; Courtesy the Trustees of the British Museum; Univ. of Chicago

**At a cave dubbed Ofnet, in Bavaria** in 1908, a researcher uncovered two small pits with more than 30 human skulls. Later investigations suggested that someone had intentionally cracked many of the skulls before placing them in the cave (SN: 4/20/91, p. 254). The skulls, which date to about 7,200 years ago, belonged to men and women and to adolescents and children. Some say the findings suggest that violence was an integral part of ancient social behavior.

**At a settlement in southern Germany,** hundreds of people (skullcaps shown at top left) were butchered and eaten over the course of decades some 7,000 years ago, scientists have proposed (SN: 1/2/10, p. 10). They argue that skeletal markings indicate human bodies were butchered in the same way as animals. Others argue that the findings are consistent with ceremonial reburial practices.

**Investigations in Schletz, Austria,** beginning in 1983 have revealed the skeletal remains of 67 individuals with multiple traumas. Studies suggest a settlement’s entire population was exterminated about 7,000 years ago. The bodies were left unburied in an oval trench for months.

**A fortification ditch at Crow Creek** in South Dakota holds the remains of nearly 500 men, women and children. The individuals are believed to represent 60 percent of their village, which dates to 1325. Nearly all of the individuals’ remains, uncovered in 1978, showed signs of trauma and mutilation. Most also revealed evidence of scalping, decapitation and dismemberment.

**A burial vault uncovered at Teotihuacán,** outside Mexico City, contains the remains of a dozen people, all with their hands tied behind their backs. Ten of the people were decapitated. The remains, which date to roughly 2,000 years ago, were found alongside beads, greenstone earpools and animals, suggesting ritual sacrifice.

**Pulled from a peat bog in England,** the Lindow Man (right) suffered blows to the head, a knee to the back and had his throat slit and a cord tied around his neck sometime during the first century. Probably in his 20s when he died, his body was uncovered in the 1980s. Bogs in northwestern Europe have preserved bodies for as long as 10,000 years.
About 30 kilometers from Cuzco, Peru, a team uncovered the remains of seven children who were apparently killed in a sacrificial rite that honored Inca deities (SN: 10/23/10, p. 12). The children were buried beneath a 500- to 600-year-old building. Researchers have not yet determined the cause of death, but accounts written by Spanish conquistadores describe strangulation of sacrificed youngsters.

A 5,500-year-old war zone in Syria was unearthed between 1999 and 2001. Researchers found what looked like bullets numbering to 1,200 and about a tenth as many large clay balls (bottom left). A collapsed mud-brick wall suggests heavy bombardment.

SUGGESTED READING:


CITATIONS & REFERENCES:


A. Stodder. The bioarchaeology of genocide: The mass grave at Sacred Ridge, Site 5LP245. American Association of Physical Anthropologists meeting, Albuquerque, April 14, 2010. Abstract available:
During a violent encounter roughly 1,200 years ago, Pueblo people from settlements elsewhere in the Ridges Basin area (brown dots) attacked Sacred Ridge sites (red dots).

Credit: Courtesy of SWCA Environmental Consultants
Age distribution of remains

- Age 0–2
- Age 2–12
- Age 12–18
- Child, unknown age
- Age 18–34
- Age 35–50
- Adult, unknown age
Tool-marked bones at Sacred Ridge

- Face
- Cervical vertebrae 1 or 2
- Upper arm bone
- Kneecap
- Collarbone
- Sacrum

Percent of fragments with marks