Abstract:
Evidence for scalping and defleshing were found at a Late Mississippian cemetery (AD 1400-1650) at the Mann Site (12Po2) in Posey County, Indiana. A young adult male secondary burial (B.6) displayed numerous coarse cutmarks over the occipital and mastoid processes along with fine cutmarks over the right parietal indicative of mortuary defleshing. A young adult female burial (B.UNK) had two coarse cutmarks over the occipital suggestive of scalping. No other cutmarks were found on the postcranial skeletal elements of these two burials. Caborn-Welborn phase crania from the Hovey Lake (n=1), Leonard (n=6), Murphy (n=15) and Mann (n=7) sites were systematically examined for the presence of cutmarks, but no additional cutmarks were found. Other cases of scalping and defleshing in the Midwest will be discussed.
First I would like to introduce the site along with other Caborn-Welborn sites. Briefly review previous literature on cutmarked bones in the region. Discuss my methods for examining crania with cutmarks. Present my results, and discuss the implications for scalping and defleshing among the Caborn-Welborn people.
Caborn-Welborn phase sites are located around the confluence of the Wabash and Ohio Rivers. The Caborn-Welborn phase dates from AD1400-1650 (Munson 2001; Pollack 2004). This phase is distinctive from the earlier Middle Mississippian Angel phase in this area. The Caborn-Welborn phase differs from the Angle phase by its absence of a central town and mound complex, more of a dispersed settlement pattern and from its distinctive ceramic vessel decorations (Green and Munson 1978). Dispersed settlement patterns and palisade walls found at Caborn-Welborn sites have been interpreted as indicating increased levels of violence during this time period (Pollack and Munson 2003).

Images courtesy of Cheryl Ann Munson.
The Mann site is located in Posey County in Southwest, Indiana. The site is well known for its Middle Woodland component (Ruby 1997; Kellar 1979), but the cemetery that will be discussed here is a Late Mississippian Caborn-Welborn phase cemetery. Mr. Charles R. Lacer, who had noticed disturbed burials from local plowing, excavated the Mann Site Cemetery in 1964. In total 29 burials were salvaged by him; 11 adults and 18 subadults. He also kept notes on the arrangement of the burials.

In 2006 Mr. Lacer loaned his collection to the Indiana University Bioanthropology Laboratory for study. During that time, I found that two adult crania were cutmarked: one is adult male secondary bundle burial (Burial 6) and the other is an adult female unprovenienced burial (Burial UNK).

Image of cemetery based on its description by Charles R. Lacer.
This led me to examine other Caborn-Welborn crania for cutmarks from Hovey Lake, Leonard and Murphy sites, and to investigate published archaeological examples of scalping and defleshing in the Midwest.
Cutmarks on crania have been interpreted as interpersonal violence during the protohistoric period (Neumann 1940; Milner et al. 1991; Hogue 2006). Scalping in pre-Columbian America has been a contested subject (Axtell and Sturtevant 1980), but skeletal evidence for it exists. In Indiana, a possible survivor of scalping was found from the Caborn-Welborn Murphy site (Munson et al. 2002; Dougherty et al. 2002). In Illinois, Norris Farms has both scalping survivors and scalping victims (Milner & Smith 1990; Santure 1990; Milner et al. 1991). And scalping has also been reported at the Larson and at Crow Creek sites.
Cutmarks on crania can also indicate mortuary processing. Defleshing marks have been found at Hopewell sites (Torbenson et al. 1992) and at Mississippian sites (Applegate 2003).

Defleshed bone from Angel and Caborn-Welborn phase sites tend to be from midden deposits rather than from cemeteries. The modification of bone from Angel and Caborn-Welborn sites include a segment of cranium perforated twice at Angel (Black 1967:329; Cook and Munson 2002), and mandibles with fine cutmarks on them from Slack Farm and Murphy (Cook et al. 2002; Cook and Munson 2002).
Cheryl Ann Munson and Della Collins Cook (2001) presented evidence for a multidimensional mortuary program at Hovey Lake and contemporary villages. The mortuary program involved both the primary burial in rowed cemeteries and the primary burial, partial subterranean decomposition and then the removal of skulls and larger elements to another location for secondary burial.

Secondary burial refers to the collection of non-articulated bones that are secondarily deposited after the flesh was removed by tools or by allowing above or below ground decomposition.

Perhaps mortuary defleshing could have been an element of the Caborn-Welborn mortuary program leaving cutmarks on crania and other skeletal elements.
In 2006, the Mann Cemetery burials were loaned to Dr. Cook and I at the IU bioanthropology laboratory for examination. University students under the supervision of Dr. Cook and I examined and processed the remains for curation. During the examination, two crania were found cut marked (Burial 6, Burial UNK).

Other Caborn-Welborn crania from Hovey Lake, Leonard and Murphy sites were examined from Indiana State University and Indiana University. ALL adult cranial fragments were examined for cutmarks. This totaled 29 adults.

Field damage was differentiated from pre-burial marks by the amount of patination of the surface of the bone. The bone patina refers to the staining of the bone by soil during burial. The patina is very superficial and may easily flake off during excavation and laboratory handling. Recent damage to the bone from the Mann site is an ivory color, while the bone patina ranges from light brown to black.

Here is an example of a coarse cutmark from Burial 6 located on the occipital below the nuchal crest. As you can see, the grooves of the cutmark have the same amount of staining as the surrounding bone. You can also see the details of the cut that are consistent with marks from a stone tool.
The frequencies of cutmarks were calculated only from skulls that were 55% complete or rather more than half complete. This was done in order to guard against an underrepresentation of cutmarked crania. Since, skulls 55% complete tended to have facial bones missing with little fragmentation of the vault.

NO cutmarks were found on any of the other Caborn-Welborn burials.

At the Mann Site, 40% of the adult crania displayed cutmarks. When all of the adult crania from the Caborn-Welborn sites are included, 12.5% of the adult crania are cutmarked.
These results show the Caborn-Welborn burials with a slightly higher percentage of cutmarks than adults from Norris Farms, though these results are comparable. I would like to point out that I roughly calculated the frequency of cutmarks from Norris Farms by taking the number of scalping survivors divided by the total number of adults without controlling for the completeness of the skulls, though I think that my frequency here is not grossly underrepresenting the percentage of cutmarked crania.

It is interesting to see here that Norris Farms and the Caborn-Welborn sites do not compare with the very high amount of cutmarks seen on crania from the Crow Creek Massacre.
The terms scalping and defleshing are used to describe the activity of removing the scalp from the skull, but these terms have very different cultural connotations and may differ in their osteological presentation. The term scalping typically refers to the removal of the scalp by an enemy; while defleshing is the removal of scalp and or soft tissue from the skull as an activity performed by mortuary processors of one's group. Defleshing marks on crania tend to be represented by many short, fine cutmarks that occur where muscles attach that are found low on the vault, whereas scalping tends to have fewer and longer cutmarks high on the vault, typically on the frontal or parietals (Olsen and Shipman 1994).

An historic example of scalping comes from Fort Laurens. There on February 23, 1779, the commander ordered 18 men to go out and gather firewood and horses that had strayed, when Native attackers killed and scalped 17 people (Williamson et al. 2003). Matthew Williamson and colleagues (2003) published the osteological evidence from this attack. They found that cutmarks can ranged from 17-88 mm in length and are located above the nuchal lines with few cuts below the temporal lines. This pattern is probably seen in scalping, because the scalp would be easier to remove if cut above the nuchal and temporal lines. This is because the scalp is loosely connected to the top of the skull in that area (Moore and Agur 2002).

Below that example on the slide is a posterior view of Burial UNK that is a possible scalping victim.

A textbook example of defleshing is pictured here from Split Rock Creek described by Sandra Olsen and Pat Shipman (1994). Here you can see multiple parallel cuts over the skull, but in particular, on the mastoid process. Notice the cutmarks lower on the vault than on the scalping example.

Here I have also placed a drawing of Burial 6 that is a possible example of defleshing.
Burial 6 is an adult male secondary bundle burial that was found over the legs of a male extended burial according to Charles Lacer. A secondary bundle burial is a burial that has skeletal elements that are no longer in anatomical position, which indicates that the body had decomposed in another area before being collected or "bundled-up" for final burial. No photographs exist of this arrangement, but it was probably similar to examples of bundle burials over the legs of extended burials at the Angel site - like this one.

It has also been suggested that bundle burial indicates that the individual died far from their people, so that their bodies decomposed before it was safe-enough to collect the body for proper burial. Perimortem violence among secondary bundle burials has been reported among the protohistoric people at Norris Farms in Illinois and in Alabama. Burial 6 is a victim of interpersonal violence. Embedded projectile points were found lodged in his Manubrium and lumbar vertebra along with a projectile point among the fragmented bones of the face. Fine and coarse cutmarks were also found on the skull that could be interpreted as scalping--.

Though this scenario of Burial 6 becoming a bundle burial due to being killed far from the cemetery is plausible, I found no evidence of animal scavenging, and the pattern of cutmarks on the skull indicates that it was defleshed as a part of mortuary processing. Instead, I am proposing that Burial 6 was an important individual that was a part of extended mortuary ritual. At Cahokia, Rose (1999) interpreted the interment of bundle burials with high status burials at Mound 72 as indicating the storage of important individuals in charnel houses until the death of another high status individual.

Getting back to Burial 6, there are no cutmarks on the postcranial skeleton to imply dismemberment or even decapitation. This suggests that the remains were allowed to decompose in a protected area before being organized as a bundle. This burial also has an unusual black stain on the bones that suggests that they may have been wrapped in cloth or in contact with wood containing high levels of manganese. The black staining was not observed on the other burials.

Now, let's examine the cutmarks --
A cluster of over 18 fine cutmarks are located near the right parietal eminence below the supreme temporal line near the squamosal suture. This series of tightly clustered cutmarks range from 5-11mm long and is indicated here by the red circles. Another cluster of three fine cutmarks are located below the supreme temporal line and near the coronal suture and are located at the end of the arrow.

These tightly clustered fine cutmarks seem unusual for the quick removal of scalp as in scalping. Instead these cutmarks seem to indicate the removal of tightly adherent tissue at the attachment site of the temporalis muscle as a part of mortuary defleshing.
Coarse cutmarks are found in the areas for muscle attachment. Two cutmarks on the left mastoid process on one on the right are located on the roughened areas for the attachment of the sternocleidomastoid muscle. These suggest defleshing. Cutmarks near the external occipital protuberance indicate the removal of tissue related to the neck muscle attachment. These cutmarks are consistent with descriptions of defleshing. These cutmarks do not appear related to the removal of the head, because no cutmarks are seen on the occipital condyles or atlas, nor are there any cutmarks present on the cervical vertebrae.
Burial UNK is a young adult female that lost its original burial number during curation. It is unknown whether this burial represents a primary or secondary burial due to the loss of contextual information. That's unfortunate because the skeleton is nearly complete and has two cutmarks on the cranium.
The two cutmarks are located over the occipital near lambda. They run parallel to each other suggesting that they are cutmarks related to the removal of the scalp rather than from a stabbing or tangential arrow wounds. These cutmarks would have been made by a stone tool that cut though the layers of skin, dense connective tissue of the scalp, epicranial aponeurosis, loose connective tissue, and through the periosteum to the bone.

The removal of the scalp in this area could be due to the taking of the top-knot or scalp lock, which was worn by both males and females.

This pattern of cutmarks could have been made on burial UNK, if they were face down on the ground, with the attacker pulling up the topknot with the left hand and cutting once to start a scalp flap with the right hand and once again to loosen the flap from the scalp. Other cuts needed to separate the scalp from the head would be located on the soft tissue only.
Ethnographic sources detailing the practice of scalping indicate that it was associated with a strong sacrificial attitude in warfare in the southeast and was associated with badges of merit or proof of valor among the Iroquois and Plains tribes (Knowles 1940; Ubelaker 1989). Knowles (1940) reports that scalping was performed during raids against enemies, but the taking of scalps among members of the same tribe was described among the Creek: "So important was the scalp that the Creeks were accused of killing members of their own tribe to obtain the necessary trophy, and to prevent their own scalps from falling into the hands of the enemy they scalped their own dead." (Knowles 1940:206).

A procedure similar to the evidence previously described is reported by Burton (1864). He indicates that scalping could involve:

"...two semi-circular incisions, with and against the sun, about the part to be removed. The skin is next loosened with the knife point, if there be time to spare and much scalp is to be taken. The operator then sits on the ground and places his feet by way of leverage against the subject's shoulders, and holding the scalp-lock with both hands, he applies a strain which soon brings off the spoils, with a sound which, I am told, is not unlike a "flop."" (Burton 1864: 50)
Ethnographic accounts of mortuary defleshing have been reported among the Choctaw and Huron (Knowles 1940; Ubelaker 1989). A graphic account by Bernard Romans in 1775 among the Choctaw details the defleshing of a decomposed body by a mortuary processor with long fingernails (Ubelaker 1989). Once the flesh was removed by using fingernails, the bones were then placed in a chest that would later be buried (Ibid). Roman's account insinuates that ritual defleshing and the subsequent placement of the bones in a chest was a privilege for important men (Ibid).

It is interesting to note here that the same tribes known to practice mortuary defleshing have also been reported to practice scalping (Knowles 1940).
In conclusion ethnographic accounts and archaeological evidence indicate the simultaneous occurrence of scalping and mortuary defleshing in the Midwest.

At the Mann Site, cutmarks on crania show both scalping for the scalp lock and the mortuary defleshing of an important individual occurred at the Mann Site.

References:


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Image References:

References Continued:


