Native American Mounds as Burial Mounds and Markers

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Introduction

This study was completed in March of 2011 as an updated estimate of the percentage of Native American earthen mounds utilized for human burials in Wisconsin. The numbers herein reflect the methods of the author, as explained below, and the state of knowledge as of the date of completion of the report.

Prior Studies

Two prior studies of the prevalence of burials in Native American earthen mounds have been completed for this area. Arzigian and Stevenson (2003)[1] examined 256 well-documented mounds at 125 sites in Minnesota, and divided mounds into five categories.

1. Positive (human remains found in mortuary contexts). 75.9% of the mounds fell into this category.
2. Probable Positive (human remains reported, but from unclear contexts). 1.7% of mounds fell into this category.
3. Probable Negative (no human remains found, but burials might have been missed). 2.4% of mounds fell into this category.
4. Negative (no human remains found, potential for burials in unexcavated portions of mound low). 2.8% of mounds fell into this category.
5. Indeterminate (no human remains reported, but one or more factors cast doubt on reliability of findings). 17.1% of mounds fell into this category.

In the case of Minnesota mounds, then, 77.6% of mounds were documented to contain human burials or were likely to have contained human burials. Human remains were not found in 5.2% of the mounds. This low total may still be too high, due to the biases listed above—several of the 'negative' mounds contained features (hearths, empty sub-surface pits) that might indicate the former presence of cremations or poorly preserved burials. Another 17.1% of the mounds could not be evaluated.

In an attempt to control for some of the biases listed above, Arzigian and Stevenson then narrowed their sample to four mound groups. The proportion of 'negative' mounds ranged between 0% and 11.8%, with mounds at two groups uniformly containing human remains, one

[1] Arzigian, Constance and Kathryn Stevenson
2003 Minnesota's Indian Mounds and Burial Sites: A Synthesis of Prehistoric and Early Historic Archaeological Data. Minnesota State Archaeologist Publication #1, The Minnesota Office of the State Archaeologist, St. Paul, Minnesota.

mound classified as 'probable negative' at the third, and two at the fourth classified as 'negative' or 'probable negative'.

A strong correlation between mound height and the presence of human remains was identified during the survey, with 10% of mounds between one and two feet high negative for human remains. Only 5% of mounds between two and three feet tall were negative for human remains, and no mounds taller than three feet in height were negative for human remains. Since lower mounds are more likely to have suffered past disturbance (plowing), this fall-off pattern is not surprising.

An earlier informal study undertaken by Rodney Riggs (former Burial Program Coordinator, WHS) in 1989 and reported to the Wisconsin of 496 excavated mounds in Wisconsin concluded that burials were found in 71% of mounds[2]. 20.6% of mounds were identified as negative for human remains. An additional 8% were classified as unknown or indeterminate. Arzigian and Stevenson note that many of the 'negative' mounds in Rigg's sample would be classified as indeterminate using their scoring criteria, bringing the Wisconsin data into line with Minnesota's.

2011 Review- Methodology

In 2011 the Wisconsin Historical Society repeated Rigg's analysis, using a larger site sample and Arzigian and Stevenson's scoring criteria. The expanded sample included 586 mounds from 128 sites. The sample was limited to mounds excavated by trained professionals and experienced (or at least reliable) amateurs. Second-hand accounts of excavations, whether positive or negative, were excluded from the sample, since such accounts are likely to over-emphasize mounds in which human remains were encountered. In comparison to Arzigian and Stevenson's totals, the 2011 Wisconsin sample contained a much higher percentage of mounds in the 'indeterminate' category. Mounds were placed in that category if human remains were not reported, and:

- Areas likely to contain burials were not excavated (i.e., large areas of a conical mound or sections along the midline of a linear or effigy were not examined).
- Excavators reported finding concentrations of burned bone or ash, not conclusively identified as animal or human.
- Excavators reported finding empty centrally-located or midline sub-mound pits, potentially representing burial features in which skeletonized remains had decayed to the point of non-recognition.

[2] Rigg's informal study was never published, and his notes could not be located by Wisconsin Historical Society staff. Arzigian and Stevenson (2003) apparently had access to his notes or research materials, and they summarize his results in their work on Minnesota Mounds. The description of Rigg's study given here is taken from their monograph.

- No indication of how large excavations were or/where excavations were placed in a mound.
- Site reporters indicated that the mound had been looted.

Results

The results of the 2011 study are as follows:

1. Positive (intact or partially intact burials reported): 357 mounds (61% of the sample).
2. Probably Positive (scattered and badly decomposed human remains): 29 mounds (5%).
3. Probably Negative (nothing found; burials might have been missed): 44 mounds (7%).
4. Negative (no human remains found): 15 mounds (3%).
5. Indeterminate (unclear if mounds were used for burials or not): 141 mounds (24%).

Thus, for the total sample, the number of mounds reported to contain human remains is 386 (66% of the sample). The number of mounds reported as 'vacant' or probably 'vacant' (lacking human remains) is 59 (10%). For the reasons given below, the observed 'vacancy' rate of 10% is too high, by a significant but unknown amount. The indeterminate category accounts for nearly a quarter (24%) of the sample.

The inclusion of indeterminate mounds in the sample causes both the frequency of both 'positive' and 'negative' mounds to be underestimated. In real life, mounds either contained burials or didn't, and should account for 100% of the sample rather than the 76% available after indeterminate mounds are subtracted. Mounds in the indeterminate category should have contained burials in relatively the same proportions as the remaining mound sample, which can be obtained by dropping the indeterminate mounds from the sample and recalculating the percentages again. When the 'indeterminate' category is discarded, and only mounds scoring positive or negative are considered, the sample number drops to 445, the percentage of 'positive/probably positive' mounds rises to 87%, and the percentage of 'negative/probably negative' mounds rises to 13%. Again, due to the limitations listed below this vacancy rate is too high, by a significant but unknown amount.

In order to determine the frequency with which mound groups as a whole were utilized for human burial, a sample of 36 sites was selected, in which three or more mounds were excavated. The percentage of excavated mounds yielding human burials at such sites ranged between 100% (23 sites) to 25% (one site), with an average ratio of 89% positive mounds to 11% negative mounds. All of the 36 mound groups in this site-level sample contained at least one mound with human burials, confirming that all mound groups (in this sample) were utilized

as cemeteries. The results of this analysis strongly support the conclusion that all mound groups are human burial sites.

Burials and Mound Type

When the study sample (again excluding 'indeterminate' mounds) is sorted by mound type, the following percentages are obtained:

- Conical mounds (302 mounds): 89% positive/probably positive vs. 11% negative/probably negative.
- Effigy mounds (63 mounds): 87% positive/probably positive vs. 13% negative/probably negative.
- Linear mounds (31 mounds): 65% positive/probably positive vs. 35% negative/probably negative.
- Oval mounds (23 mounds): 74% positive/probably positive vs. 26% negative/probably negative.
- 'Catfish' mounds (10 mounds): 100% positive/probably positive.
- Unknown type (5 mounds): 100% positive/probably positive.
- Compound mounds (5 mounds): 100% positive/probably positive.
- Irregular mounds (4 mounds): 100% positive/probably positive.
- Biconical mounds (2 mounds): 100% positive/probably positive.

As might be expected, when indeterminate mounds are included the proportions of both positive and negative mounds drop; the percentage of positive/probably positive mounds drops from 89% to 56%, and the proportion of negative/probably negative mounds drops from to 12% to 8%. Indeterminate mounds account for over a third (36%) of the effigy sample. The specific proportions of each category in the effigy sample are as follows:

1. Positive (intact or partially intact burials reported): 46 mounds (47% of the sample).
2. Probably Positive (scattered and badly decomposed human remains): 9 mounds (9%).
3. Probably Negative (nothing found; burials might have been missed): 6 mounds (6%).
4. Negative (no human remains found): 2 mounds (2%).
5. Indeterminate (unclear if mounds were used for burials or not): 35 mounds (36%).

For reasons already described the proportion of positive and negative mounds is more accurate when indeterminate mounds are excluded from the sample, so that the frequency of human burials in effigy mounds should be closer to 87% (and probably higher) than 56%.

Association between Mounds, Non-Mounded Burials, and Ceremonies

Besides human remains, mound groups often contain features left behind during mortuary, liminal, or world renewal ritual, making mounds ceremonial features as well as burial sites. Such features are found in both mounds containing human remains and mounds in which human remains are not found. To date, limited excavation has been conducted next to mounds, so the extent of ceremonial features at mound groups is unknown. Associated ritual features include dance rings, charnel houses or ossuaries, scaffolding locations, feasting sites, trash pits, offering pits, and/or ritual caches.

'Vacant' Mounds and Limitations of the Study

Any attempt to estimate how many Native American mounds contained burials will yield estimates that are too low, by an unknown but significant factor. Numerous biases result in burial mounds being reported as 'vacant', when in fact they were once used for burial purposes.

1. The vast majority of mound excavations consisted of small trenches or excavation units dug into part of each mound. When a mound is described as 'excavated', it is more accurate to think of it as having been tested or sampled. Excavation trenches may or may not have been properly positioned to hit burial features.
2. Likewise, excavations may have stopped above the level of burial features, particularly if the outlines of graves were difficult to discern.
3. Not all bodies were buried intact within mounds. Cremated human remains would not have been identifiable as human once reduced to ash or highly fragmented bone.
4. Soil chemistry affects the degree of bone preservation, often unfavorably. An example of this phenomenon may be found in W. C. McKern's description of excavations into Bird Effigy 4 at the Neale Group in Marquette County, Wisconsin, where a sub-mound burial had degraded into no more than "suggestive streaks of discoloration and flakes of the teeth enamel" (McKern, W. C., 1928, The Neale and McClaughry Mound Groups, page 299).
5. Interment of infants in mounds, rather than adults. The bones of infants are less likely to be preserved intact after burial.
6. Past excavation techniques, prior to the common use of hand (trowel or bamboo pick/brush) excavation and/or screening of soils through metal mesh. Small bone fragments, ash, teeth, and other fragile items would not have been noticed unless excavators were paying particularly close attention.
7. Excavated mounds may already have been looted, and human remains taken or destroyed.

8. Human burials may have been placed in unexcavated areas between or next to mounds, in the form of intra-mound burials, rather than in or under mounds.
9. Misidentification of natural features as mounds.
10. Misidentification of non-mortuary earthworks with specialized functions (e.g., platform mounds, post-marker mounds, etc.) as more typical mounds.

In contrast, only one bias should routinely result in potentially 'vacant' mounds being excluded from archaeological records: failure of amateur or professional archaeologists to report sites considered of low interest (i.e., neither human remains nor artifacts were identified). However, failure to identify human remains in such mounds may have stemmed from the negative biases listed above, rather than discovery of a truly 'vacant' mound.

The only way to determine if any individual mound is 'vacant' (i.e., never contained or marked human remains) is complete excavation of the mound, including fine-screening and chemical testing of all soils and sediments, to a depth of four or more feet below the surface of the mound, without encountering evidence of prior looting. This process is labor intensive, cost-prohibitive, and results in complete destruction of the mound—in violation of the spirit of Wisconsin's Burial Sites Preservation law (§157.70).

Glossary

Burial Site: Per Wisconsin Statute 157.70(1)(b), "any place where human remains are buried."

Burial Marker: An earthen, wooden, metal, stone, or other object placed to identify a grave or cemetery. Native American mounds are specifically identified as burial markers in Wisconsin Administrative Rule HS 2.02(8). However, earthen mounds may also contain burials.

Effigy Mound: An earthen mound shaped to represent a living being.

Mound Floor: The base of an earthen mound, often prepared prior to mound construction by removal of vegetation and/or sod, and sometimes by more elaborate methods such as burning or the deposition of brightly colored sediments.

Primary Burial: Human remains that have not been moved or disturbed after burial, and are thus in anatomical order.

Extended Burial: A body placed lying on its back, with legs and arms straight and parallel to the torso.

Flexed Burial: A body that has been tucked into a fetal position, with knees drawn up towards the chest and arms bent at the elbows.

Secondary Burial: Human remains that have been taken from one place and left in another. This term usually applies to cremated remains or bone bundles taken from scaffold burial sites or ossuaries and buried in earthen mounds or graves.

Scaffold Burial: A body that has been placed on a wooden scaffold or in a tree, protected by wrappings or a woven cage, and left to decompose.

Cremation: A body that has been burned, either wholly or partially.

Bundle Burial (bone bundles): A bundle or package of select bones from a human body, usually including the skull, arm, and leg bones.

Multiple Bundle Burials: A deposit of two or more bone bundles.

Sub-Mound Burial: Human remains placed within a grave pit below the bottom of an earthen mound.

Floor Burial: Human remains placed on the floor of a mound during the process of mound construction.

Fill Burial: Human remains placed in the fill or raised portion of a mound during the process of mound construction.

Intrusive Burial: Human remains placed into a pit dug into the raised portion of a mound after mound construction is complete.

Inter-Mound Burial: Human remains placed into a grave dug in between mounds or next to mounds at a mounded cemetery site.

Mortuary or Funeral Ritual: Religious rites designed to ease the passage of the dead to the next world and to comfort survivors.

Liminal Ritual: Rituals conducted during times of transition from one social state to another. Examples include funerals (from life to death), puberty rites (child to adult), and marriages (single to married).

World Renewal Ritual: A type of religious ceremony often conducted at particular times of the year or during periods of social and/or environmental stress. The purpose of World Renewal Ritual is to bring harmony back to the universe, often by re-enacting elements of creation stories.