

WisArch News

The Newsletter of the Wisconsin Archeological Society

Aztalan from East of the Crawfish



The wooded bluffs on a spring day form the background for a portion of the stockade at the Aztalan site and hide an enigma named East Aztalan.

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Wisconsin Archeological Society

www.wiarcheologicalsociety.org

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Three Rivers Archaeological Society-Beloit: Currently Inactive

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The editor appreciates the assistance of Amanda Jones for help on formatting this issue.



Message from the President

Hello Wisconsin Archeological Society Members,

As the post-wintery landscape of Wisconsin has changed into Spring, I thought I would take a moment to update everyone on what the Board has been working on over the last two months.

First, the date of the Spring General meeting has been established as May 18, 2019. This will be a hands-on excavation for the public at the Satterlee Clark House in Horicon. Details are available on our website and on Facebook!

Second, in February, we had a special meeting of the Board to discuss the future of the Society. Over the course of the day, we established a series of goals that we would like to pursue over the next several years.

In the long term, we identified seven goals. They include:

1. Recreate the Regional Archaeological Program – A number of years ago, the Wisconsin Historical Society had divided up the state of Wisconsin into archaeological regions where a local professional archaeologist and their sponsoring institution would be a contact point for the public and other archaeologists. Funding cuts led to the dissolution of this program. The Board feels that this program should be resurrected and supported by the Wisconsin Archeological Society. Regional Archaeologists would conduct site visits and provide documentation to the Wisconsin Historical Society, provide artifact identifications to the public, provide outreach and educational events and contribute to the Wisconsin Archeological Society newsletter.
2. Increase our Membership – Our membership has been falling over the last several years and the Board recognizes that we are facing new challenges when it comes to our audience and what we can offer as a Society. The Board felt that interest in archaeology has not diminished in Wisconsin, but how people are experiencing it has. Dependence on virtual experience via electronic devices is increasing in our society which has affected how people participate. While social media seems to be an important part of the future, one thing that we can do is to provide real life, real-time archaeological experiences. Our future General Meetings will be oriented towards providing those experiences in the form of archaeological excavations, hands-on laboratory experience, experimental archaeology and field trips.
3. Increase the Teaching of Wisconsin History – The Board recognized that there is a need to increase K-12 grade course materials to help students of all ages understand and appreciate the history of Wisconsin. At the present time there is a push in the 4th grade to learn about Wisconsin's Native Americans, but the law that provides the impetus for study does not restrict Wisconsin educators to elementary school level curriculum. We believe that Wisconsin's history is important and should be taught at all levels.

4. Avocational Certification – In several states, archaeological societies similar to ours offer avocational certification for individuals who are interested in archaeology but do not have the time or inclination to become professionals. They work with collectors to provide training in archaeological methods so that vocational and avocational information is compatible.
5. Grants to Local Historical Societies – There are numerous local historical societies in Wisconsin who have large collections of artifacts that they do not have the staff or money to identify, analyze and curate. The Board would like to see the Society provide small grants to these societies so that their portion of Wisconsin's past are preserved and put to good use educating the people of Wisconsin.
6. Non- Professional Publication - We recognize that information on Wisconsin archaeology needs to be more approachable and engaging. Our publications committee will be working on increasing the quantity and diversity of the content of our Newsletter and of course, the timely release of *The Wisconsin Archeologist*. In addition, we are working to increase our social media presence and increase the content on our web page.
7. Promotional Video – One of the shortfalls of current attempts to make people aware of the history of Wisconsin is that we have not been able to reach enough people to make an impact. Board members have found time and again that the general public is unaware of our existence and that one way to reach people is through short videos that can be presented in a number of forums.

So, as you can see, we have been working on a vision for the Society that puts a priority on education for all Wisconsinites as well as protection for our important archaeological sites. Unfortunately, a vision is not worth much if it cannot be brought to life. One of the exercises our board went through in February was to list our assets and near the top of that list was the membership. Our board consists of seven hard-working volunteers who are passionate about preserving the Society and what it stands for, but there are only seven of us. We need your help to make this vision of our Society come to life. If you feel you could contribute to any of these goals, please do not hesitate to contact me or any of the other Board members.

Thank you for your time and participation!

George W. Christiansen III
President
Wisconsin Archeological Society



Affiliated Organizations Information

Charles E. Brown Archaeological Society

The Charles E. Brown Chapter meets monthly (except the summer months) at 7pm on the second Thursday of each month, at the Wisconsin Historical Society Auditorium, 816 State Street in Madison, across from the Union, unless otherwise noted. Contact Joe Monarski at jrmonar@frontier.com.

Kenosha County Archaeological Society

The Kenosha County Archaeological Society meets on the second Saturday of the months of October, December, February and April at 1:30 pm at the Kenosha Public Museum, 550 First Ave., Kenosha, Wisconsin. Contact Donald Shelton at dgshelton@wi.rr.com. Information on events at the Kenosha Public Museum can be found at www.kenosha.org/museum/.

Milwaukee Meetings of the Wisconsin Archeological Society

Milwaukee meetings of the Wisconsin Archeological Society are held at the UW-Milwaukee Campus in either Sabin Hall or in the Union. Meetings are held on the third Monday of the month during the academic year (September through May). Guest lectures begin at 7:00 pm. Contact Rob Ahlrichs at ahlrichs@uwm.edu.

Robert Ritzenthaler Society

The Robert Ritzenthaler Chapter meets on the second Tuesday of the month, at 7:00 pm, September through May. Meetings are held at Room 202, Harrington Hall, on the University of Wisconsin-Oshkosh Campus. Contact William Wasemiller at william.wasemiller@sial.com.

Rock River Archeological Society

Monthly meetings of the Rock River Archeological Society are held on the third Wednesday of the month, from September through April, at 7:00 pm, at the Visitor's Center, Horicon National Wildlife Refuge. This facility is accessible via Highway 28 between Mayville and Horicon. The Rock River Chapter invites you to visit their weblog at <http://rockriverarch.blogspot.com>. Contact Andrea Cisar at rras.president@gmail.com.

Three Rivers Archaeological Society

Meetings of the Three Rivers Archaeological Society had been held on the second Monday of every month (except July and August), alternating between the Macktown Living History Education Center (Rockton, IL) and venues in Beloit, Wisconsin at Beloit College and the Beloit Public Library. Currently Inactive.

UW-La Crosse Archaeological Club

The Archaeology Club provides a social and academic outlet for UW-La Crosse students interested in archaeology and/or anthropology. The Club provides speakers, field trips, and presentations. Contact Valerie Watson at watson.valerie@uwlax.edu.

WISCONSIN ARCHEOLOGICAL SOCIETY EVENT



Advancing Wisconsin Archaeology Since 1903

Please Join Us in Celebration of
the presentation of the
Increase A. Lapham Research
Medal to Dr. William Green!

Where: The Satterlee Clark House
322 Winter Street
Horicon, WI. 53032

When: May 18th, 2019

Time: 12:00 - 1:00 pm

On May 18, 2019, The Wisconsin Archeological Society will be holding its Annual Spring General Meeting at the Satterlee Clark House where we will be providing a hands-on archaeological investigation to its membership. We will also be taking this opportunity to honor Dr. William Green's contributions to archaeological research with the award of the Increase A. Research Medal. The award presentation will take place from 12:00 to 1:00 pm. Members should feel free to participate in the investigations throughout the day while the award presentation is open to the public.

Information for Contributing to the Newsletter

If you have news, information about upcoming programs, events, or other interesting short notes you'd like to see in the newsletter, please contact *WisArch News* editor, Norm Meinholz via email at norman.meinholz@wisconsinhistory.org. The newsletter is published semi-annually in the spring and autumn each year. Text should be submitted in Microsoft Word format and images as JPEG's.

MAY 2019 WISCONSIN ARCHAEOLOGY POSTER

WISCONSIN ARCHAEOLOGY MONTH | MAY 2019



IMAGE COURTESY OF DANIEL BEURER




WISCONSIN
HISTORICAL
SOCIETY

Lizard Mound, AD 650-1100, Lizard Mound County Park, 2121 County Highway A, West Bend, WI.

Program Sponsors Include: Wisconsin Archeological Survey, Wisconsin Department of Natural Resources, Wisconsin Archeological Society, Wisconsin Department of Transportation, Chequamegon-Nicolet National Forest, Mississippi Valley Archaeology Center, UW-Stevens Point Museum of Natural History, Robert Ritzenthaler Chapter-Wisconsin Archeological Society, Charles E. Brown Chapter-Wisconsin Archeological Society.

wihist.org/hpa-month

The Wisconsin Historical Society's efforts depend on support from members. Learn more and become a member at wisconsinhistory.org/membership 

Program sponsors include: Wisconsin Archeological Survey, Wisconsin Department of Natural Resources, Wisconsin Archeological Society, Wisconsin Department of Transportation, Chequamegon-Nicolet National Forest, Mississippi Valley Archaeology Center, UW-Stevens Point Museum of Natural History, Robert Ritzenthaler Chapter-Wisconsin Archeological Society, Charles E. Brown Chapter-Wisconsin Archeological Society. (<https://www.wisconsinhistory.org/Records/Article/CS4131>)

This month's poster features Lizard Mound, AD 650-1100. This mound is one of twenty-eight mounds still preserved at the Lizard Mound County Park in West Bend, Wisconsin. The surviving mound group at Lizard Mound County Park is detailed by Robert A. Birmingham and Amy L. Rosebrough, in their book Indian Mounds of Wisconsin 2017:

This mound group originally contained approximately sixty mounds dominated by long-tailed effigy forms that early investigators thought were lizards. They are undoubtedly versions of water spirits or panthers. Over the years, many of the mounds were obliterated by continued cultivation, and others were reduced to a point where they are no longer visible. There are now twenty-nine mounds: conical and oval shaped, short linears, tapering linears, water spirits (panther), and two symmetrically paired water-bird effigies that fly away from each other.

The location of the group is unusual. It is on a low, level plateau far from any major body of water. The plateau is, however, surrounded by springs, which have many spiritual associations for Native peoples, being the entrances to the underworld of the water spirits. Thus the location and the underworld theme of the group may have been determined primarily by landscape features that have spiritual connotations. An interpretive kiosk and shelter stands near the park entrance. A sign-posted trail winds around the mounds. Open April 1 to November 1.

PARTICIPATE IN ARCHAEOLOGY



Advancing Wisconsin Archaeology Since 1903

Participate in Archaeological Investigations



Date/Time:

Saturday, May 18, 2019 10:00-4:00

Rain date of:

Sunday, May 19, 2019 10:00-4:00

Location:

Satterlee Clark House Museum
322 Winter Street
Horicon, Wisconsin 53032

Activities:

Archaeological Excavations*
Artifact Washing and Sorting
Ground Penetrating Radar Demos
Satterlee Clark House Tours

Admission/Fees:

Entrance to this event is free.

*Participation in the excavations requires a Wisconsin Archeological Society membership. Memberships may be purchased on site for \$5.

Contact for more information:

contact@wiarcheologicalsociety.org

Please join the Horicon Historical Society and the Wisconsin Archeological Society as we conduct an "open-to-the public" archaeological excavation of the backyard of the Historic Satterlee Clark House in Horicon WI. (The site of an early- to mid-1800's trading post and (Ho-Chunk) Native American village site.) This event encourages children and adults of all ages to come out and help us excavate a few archaeological features on the property.

Under the guidance of professional archaeologists, you can help excavate and screen for potential historic and prehistoric features and artifacts buried on the Clark House Backyard lawn. No experience is necessary.

You can assist archaeologists in washing and sorting artifacts from last year's excavations at the Satterlee Clark House and help use Ground Penetrating Radar (GPR) to detect underground archaeological features.

Previous excavation revealed large areas of early historic period garbage middens and potentially intact archaeological features. Also that day: The Historic 1855 Satterlee Clark House and the rebuilt Historic Hustisford one-room-school house will be open to the public for tours. There is a large prehistoric archaeological artifact collection located and displayed in the adjacent one-room-school house which highlights Dodge County's prehistoric past.

Additional event information available at:

<http://wiarcheologicalsociety.org/events>

REGIONAL RESEARCH

East Aztalan (47JE7): A Lidar-Based Reconsideration

Amy L. Rosebrough
and
Robert “Ernie” Boszhardt

When next you visit Aztalan State Park, look across the river to the hill that stands above the east bank of the Crawfish River. Did you know that a second set of earthworks, codified in State records as “East Aztalan” (47JE7) is located on that side of the Crawfish River? Partly on private property and partly within WiDNR ownership, this portion of the larger Aztalan site complex is not easily accessible to visitors. The nature of the 47JE7 earthworks has sparked some debate, but on the whole they have received surprisingly little attention given their proximity to—and probable association with—one of Wisconsin’s most important archaeological sites.

The more familiar portions of Aztalan State Park (47JE1) are located on terrain that gently descends eastward to the west bank of the Crawfish River. The opposite side of the river is generally low except for a 45-foot-high glacial spur that rises abruptly from the river nearly opposite the gravel knoll/southeastern mound at JE1. East Aztalan occupies the summit and slopes of the spur, and portions of the low terrace system to the south.

Increase Lapham’s published map of the Aztalan locality depicts a series of seven conical mounds scattered over the top of the spur (Lapham 1855: Plate XXXV). In addition, he mapped and mentioned two nearly 600-foot-long embankments along the east bank of the river north of the spur. Lapham’s embankments are parallel to the river and separated by a small “brook” that joins the Crawfish opposite the northeast corner of JE1’s main palisade line and are visible on modern lidar imagery of the area (Figure 1).

Mapping of the more enigmatic earthworks at 47JE7 had to wait until the arrival of Theodore H. Lewis of the private Northwestern Archaeological Survey. Between 1880 and 1895 Lewis documented over 17,000 mounds, including 4,090 in Wisconsin—many of which were effigies (Finney 2006). Lewis visited Aztalan in late October of 1893 and published two articles in *The American Antiquarian* that compared what he saw to earlier maps (Lewis 1894a and b). Lewis’ (1894a) account of Aztalan proper (47JE1) contains some prescient details, including recognition of the platform mound in the southeastern portion of the main enclosure—a feature misidentified by some researchers as an entirely natural landform but confirmed recently by Goldstein and Schroeder to have been humanly modified (Goldstein 2015). He also recognized the palisade line along the west side of the Crawfish, and that soil had been stripped from an area south of the Northwest Platform, which correlates to Goldstein’s “Sculptuary”. (Birmingham and Goldstein 2005:66-67).

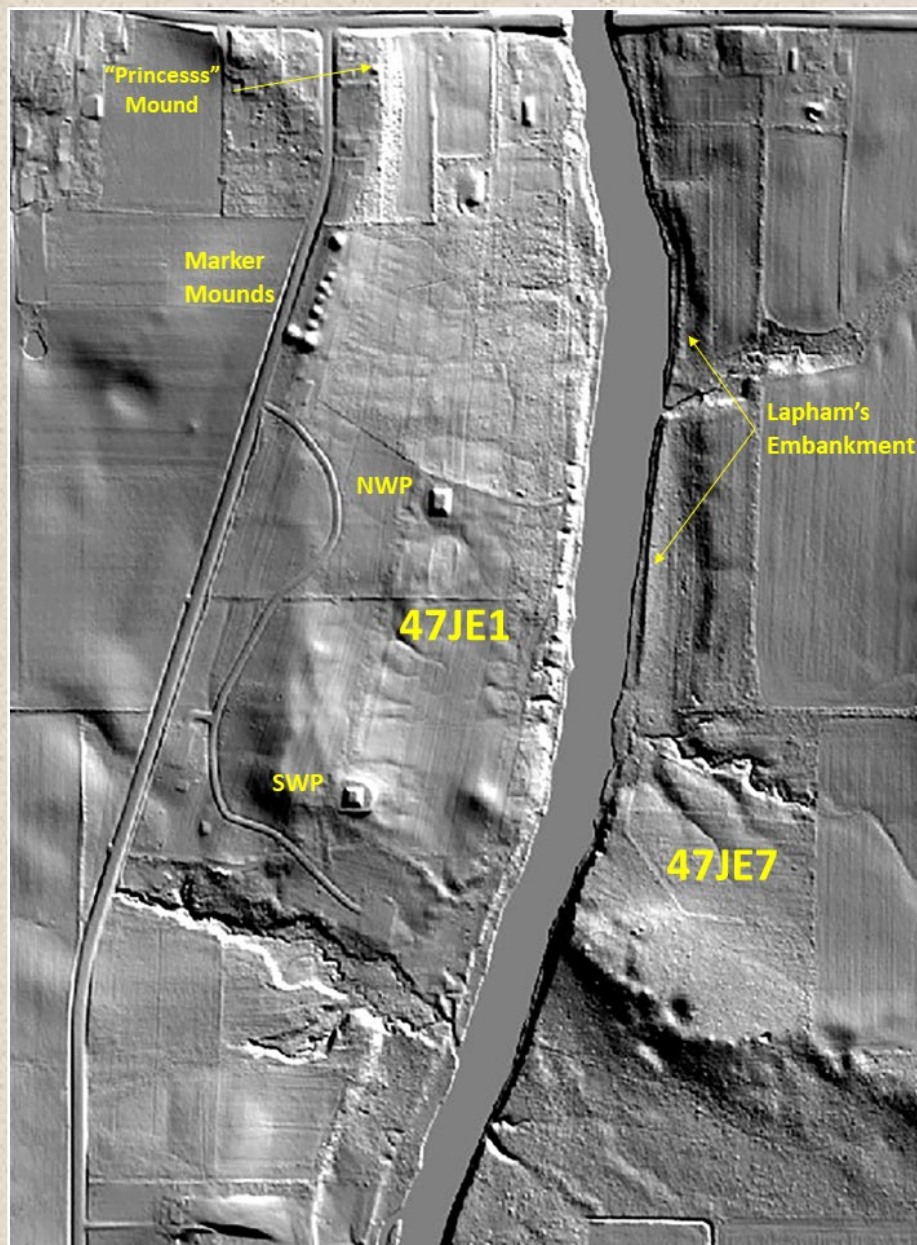


Figure 1. Lidar image of Aztalan site (47JE1) and Aztalan East (47JE7) areas on lidar with key surface features labeled. (NWP = Northwest Platform; SWP = Southwest Platform).

With regard to the 47JE7 earthworks on the east side of the river, Lewis (1894b) dismissed Lapham's embankments as natural ice-push ridges, although wind-driven ramparts are most common along lake shores. Lewis also expressed confusion over Lapham's rendition of conical mounds on the spur top (Lapham himself admitted to trying to capture the essence of a site in some illustrations, rather than accuracy). Lewis was far more focused on other earthworks visible in the wooded terrain east of the river. These included two enclosures with internal platform mounds and adjacent conical mounds that he mapped with compass and chain (Figure 2, Table 1).

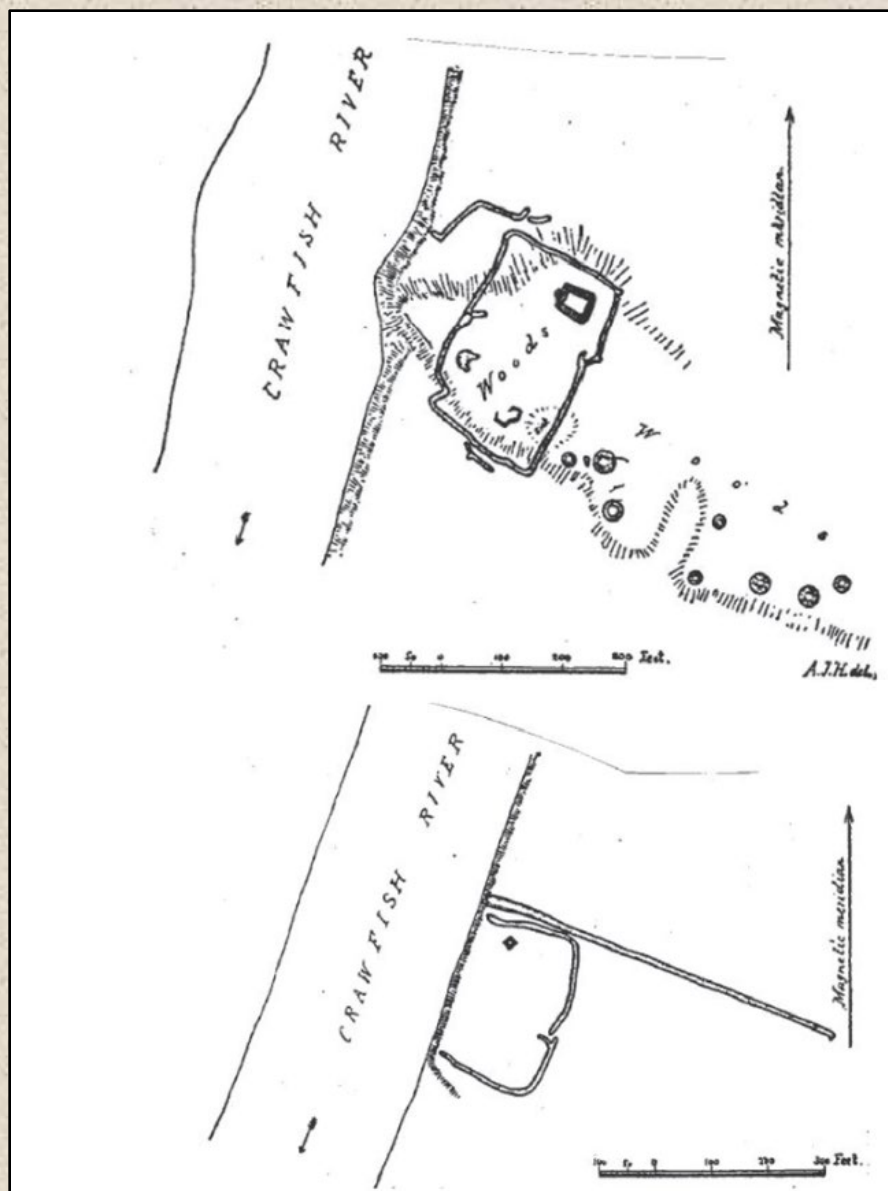


Figure 2. Lewis 1894 maps of 47JE7 Enclosure No. 1 on the glacial spur and Enclosure No. 2 on low terrace to the south. (Note: the published maps had been redrawn by NAS partner A. J. Hill based on Lewis' field notes.)

Lewis' maps and text depict the northernmost enclosure (Enclosure No. 1) at the west end of the glacial spur. This enclosure crossed the summit of the spur and extended down the slopes to the north and south where outlier embankments were documented (1894b). Enclosure No.1 is described as rectangular with no obvious entrance, but projections midway along the east and west walls suggest gateways. Within this enclosure was a distinct 4-6-foot-tall ramped platform mound in its northeastern corner, a "six-sided" earthwork or terrace representing a second platform in the southeastern corner, and a "tailless effigy" in its southwestern corner (Table 1). Lewis may have been uncertain about the identification of this last earthwork, as he took pains to comment on its oddity, including a lack of a head and a surface that was "unusually smooth and regular" for an effigy mound.

Table 1: 47JE7 surface feature dimensions reported by Lewis (1894) and Barrett (1933). All measurements are in feet.

	Length	Width	Acres	Wall Length	Wall Width	Height
Enclosure No.1	315	215	1.37	1080	7-8	1-1.5
Rectangular Platform	53	48	-	-	-	6
Six-Sided Platform	?	?	-	-	-	2
Tailless Effigy	36	?	-	-	-	3.5/3.8
Exterior House enclosure	?	?	?	?	?	?
"Coffin-shaped" Mound	15	8	-	-	-	1.5
Conical 1						2.4
Conical 2						3
Conical 3						2.3
Conical 4						1.3
Conical 5						2.7
Conical 6						2.5
Conical						1.9
Enclosure No 2	273	184	1.08	905	-	1-1.5
Square Platform	17	17	-	-	-	1-1.5
North Embankment/ <i>Lizard</i>	650+	8-20	-	-	-	1-2

East of Enclosure No. 1 and on the south edge of the spur, Lewis (1894b) documented eight mounds and a circular embankment. Seven of the mounds were conical-shaped, while he described one as coffin or moccasin-shaped (See Figure 2 and Table 1). These are likely the spur-top earthworks that Lapham had approximated four decades before.

One hundred yards to the south, on a low terrace, Lewis recorded Enclosure No. 2 and an adjacent long embankment (see Figure 2). This enclosure was three-sided, open along the bank of the Crawfish River, and with an overlapping gateway on its eastern side. Within it, he described a small platform mound that was less than two-feet high (See Table 1). The long embankment was oriented perpendicular to the river, extending eastward for 650 feet. Lewis recorded that six feet of the western end had been lost to bank erosion.

Lewis was convinced that “one people or tribe built and occupied all three of the enclosures—the original ‘Aztalan’ and the two new ones” (1894b:360). In support of his hypothesis, he pointed out that all three enclosures contained platform mounds, and that the walls of both eastern enclosures had one or more “projections” (the same word he used to describe the bastions at Aztalan proper). Lewis also noted what seemed to be an older conical or oval mound incorporated within the western embankment of Enclosure No. 1 at East Aztalan.

In the summers of 1919, 1920, and 1932, Samuel Barrett of the Milwaukee Public Museum (MPM) worked at Aztalan during which time his crew re-surveyed both Aztalan and 47JE7 using an alidade and plane table. Barrett knew of Lewis’ 1894 article about the earthworks on the east

side of the Crawfish but did not accept his conclusions. Like many at the time, Barrett was likely unaware of Lewis' vast experience and expertise in mound identification, as the bulk of Lewis' surveys and researches remained unpublished. In addition, by then 47JE7 had partially been disturbed by borrow activities. For example, the platform in the northeast corner of Enclosure No. 1 had been "much deformed due to the fact that it has been to some extent hauled away" and was then only 3.7 feet high (Barrett 1933:255). In addition, by the early 20th century, the encompassing woodlot had probably been trampled by cattle pasturing in the woods and the low areas subject to occasional flooding with increased levels of sediment from historic farming upriver (see Theler 1991 for commentary pertaining to historic siltation of the Crawfish River at Aztalan).

MPM excavated trenches across the "very low" ridges of Enclosure No. 1 as well as into several of the interior mounds, finding them to be composed of grayish earth over brownish clay substratum. Within the relatively high oval that Lewis had noted within the western wall, they encountered a primary burial, though no other details are provided. Though Barrett did not make a comparison, the discovery of human remains within enclosure walls and embankments also occurred at Aztalan itself. For example, Lewis noted that various individuals had discovered burials within the remains of bastions in the main enclosure (T. H. Lewis 1894a: 207).

Barrett also mapped and briefly described the conical mounds along the ridge top to the east of Enclosure No. 1 (See Table 1). He added that six other mounds were located a half mile east on the same glacial feature. In 1929, T.M.N. Lewis excavated a conical mound on this ridge but was not sure if it was one near Enclosure No. 1 or in the group of six further east (Lewis 1954). However, the mound had been "altered by frequent cultivation", which suggests it was not in the wooded western end of the spur. The excavated mound contained an adult male buried in a flexed position with an unusual platform pipe suggestive of Middle Woodland affiliation.

To the south at Enclosure No. 2, Barrett's crew did not see the south end of the walls and consequently reinterpreted the curved northern end as a bird mound with an adjacent linear mound (Barrett 1933:253-255). They also did not see the small platform mound that Lewis had documented in the northeast corner. Finally, they re-interpreted the long, dividing embankment as a "lizard" mound with an intact head and forelegs (though no such features were present at the time of Lewis' visit), and excavated a bundle burial near its western end.

Since Barrett's classic work at Aztalan there has been minimal work done at 47JE7. In the 1980s, James Scherz re-mapped the site, observing some features associated with Enclosure No.1, but accepting Barrett's map and identification of lizard and bird effigies at Enclosure No. 2. He also employed selected features to interpret solstitial alignments from 47JE1 over 47JE7 toward Christmas Hill on the eastern horizon (Scherz 1987). In 2005, Scherz' maps were merged with early lidar data by the Ancient Earthworks Society. Subsequently Bill Romain (n.d.) has invoked Aztalan lidar imagery to develop both solstitial and lunar alignments within 47JE1 and across 47JE7 to various features on the horizons.

In the first years of the 21st century, 47JE7 was further recast as a badly disturbed group of mixed Middle and Late Woodland conical, linear, and effigy mounds. For example, Brinkmann and Goldstein (2001) interpreted nearly all the surface features of Enclosure No. 1 as effigy mound remnants (Birmingham and Goldstein 2005: 83-84). On the other hand, Goldstein led shovel test surveys on the east side of the Crawfish and recovered both Woodland and Middle

Mississippian artifacts (Birmingham and Goldstein 2005:17, 83-84). Goldstein's work also re-interpreted Lapham's embankment as cultural rather than natural (ibid).

Rosebrough has conducted informal walk-overs of East Aztalan, and strongly disagrees with identification of 47JE7 as a Late Woodland effigy group. Though sadly disturbed, portions of the upper and lower walls and interior features within Enclosure No. 1 are still apparent in leaf-off conditions, as is the embankment along the north edge of Enclosure No.2. This long embankment does not appear, to Rosebrough, to be a 'lizard' effigy. Neither does the "tailless effigy" within Enclosure 1 inspire confident identification as a Late Woodland mound, though that feature has been subjected to some damage since Lewis' visit. This mound is featured prominently in Scherz and Romain's Aztalan alignment interpretations where it is referred to as a "Solstice Marker Mound" tied into the Southwest Platform Mound at 47JE1. Also, despite Barrett's summertime failure to recognize it, a small rise corresponding to the position of the platform mound within Enclosure 2 was relocated with some ease during leaf-off.

Today, researchers interested in the eastern half of the Aztalan Complex have a valuable advance in technology at their disposal. Lidar coverage of Jefferson County, which encompasses Aztalan, became available in 2012 based on 2005 flyover and creation of Digital Elevation Maps (DEM) at two-meter resolution. The Department of Natural Resources in conjunction with Jefferson County utilized bare earth lidar data to produce hillshade versions which show the ground surface after having washed out tree canopy and buildings (WiDNR 2019). The resulting imagery can show surface features such as Indian mounds, quarry pits, etc.

Fairly detailed lidar hillshade coverage of Jefferson County is publicly available through the Wisconsin Department of Natural Resources "Wisconsin Hillshade from LiDAR" web link (<https://www.arcgis.com/home/webmap/viewer.html?layers=d5a4498fe0294f92a8b6729948a7d71d>). This link opens a statewide lidar coverage map, which allows viewers to zoom into specific locations such as Aztalan State Park or to type "Aztalan" in the search bar to more quickly narrow the view to the area. From there, researchers can zoom to desired levels for investigating surface features. The DNR base lidar hillshade imagery is set with a sun angle coming from the west-northwest so that shadows fall to the east-southeast. It is possible to manipulate hillshade azimuths and light angles in order to try and enhance surface features, but this requires more advanced GIS analysis of the DEM data (e.g. Boszhardt et. al. 2018). Large DEM data files can be downloaded from the State Cartographer's Office web site for several counties including Jefferson (<ftp://ftp.ssec.wisc.edu/pub/wisconsinview/lidar/Jefferson>) for adaptation in programs such as the fairly expensive ArcGIS or a free-ware version called QGIS.

For purposes of this review of the 47JE7 surface features, we utilized the base lidar hillshade imagery available through the WiDNR web link. This imagery clearly shows key features of the Aztalan site such as the reconstructed NW and SW platforms, portions of the reconstructed palisade, eight of the conical mounds within the state park to the northwest of the palisade, the

"Princess Mound" further north on the grounds of the Lake Mills Aztalan Historical Museum, and roads, parking lots, the Crawfish River, and ravines (see Figure 1). Zooming in on the lidar hillshade imagery to the east side of the Crawfish River, many of the surface features associated with 47JE7 are visible. For example, Lapham's embankment is clear to the north of the glacial spur. In addition, portions of Enclosure No. 1 and 2 are visible (See Figure 1). For Enclosure No. 1 on the spur, sections of the eastern and western sides are recognizable (Figure 3). The eastern side consists of two straight segments that are offset and separated in the same

configuration mapped by Lewis. The southern segment of the east side crosses a depression, which correlates precisely to a “sink” mapped by Lewis. The visible portion of the western embankment on the lidar shows the southern end with an inward turning projection about halfway along the wall where Lewis noted an elliptical mound like form. Other portions of the embankment, particularly those along the base of the north and south sides of the spur are not clear on the base lidar image, but this may be partially due to the NW light angle.

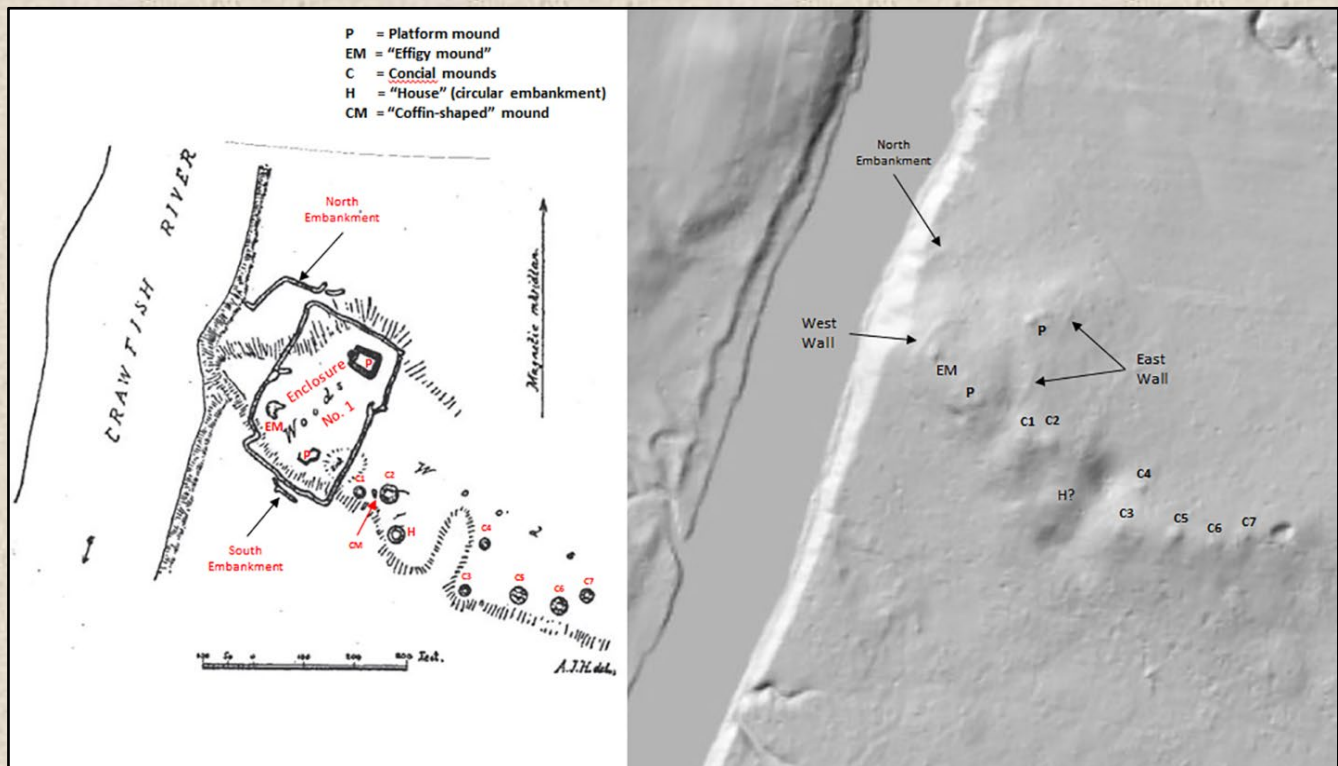


Figure 3. Enclosure No. 1 surface features and adjacent mounds (based on Lewis 1884b) visible on lidar with hillshade light set from the northwest.

The publicly available hillshade version also reveals surface features inside Enclosure No. 1 (See Figure 3). These include the putative effigy mound inside the west wall, the disturbed platform mound in the northeast corner, and likely Lewis’ “six-sided platform” on sloping ground in the southeast corner. Southeast of the enclosure, the lidar image depicts seven of the conical mounds described and mapped by Lewis and Barrett. Only the small coffin-shaped mound and a circular “house” embankment noted by Lewis are not readily visible, although alternate light angle and azimuth might bring these out, particularly the circular embankment, which was situated on the west side of a ravine in an area of minimal disturbance.

The hillshade coverage of Enclosure No. 2 also reveals surface features that correlate to Lewis’ records (Figure 4). These include portions of the enclosure, the small platform in the northwest corner and the embankment (Barrett’s “lizard”) that extends between the two enclosures. The visible lower enclosure fragments include a long section of the east side and the north wall just adjacent to the longer dividing embankment. The eastern side is broken about where Lewis depicted a gate in that wall. The south wall of the lower enclosure is not readily apparent in this hillshade version but might become visible under differential light angle azimuths.

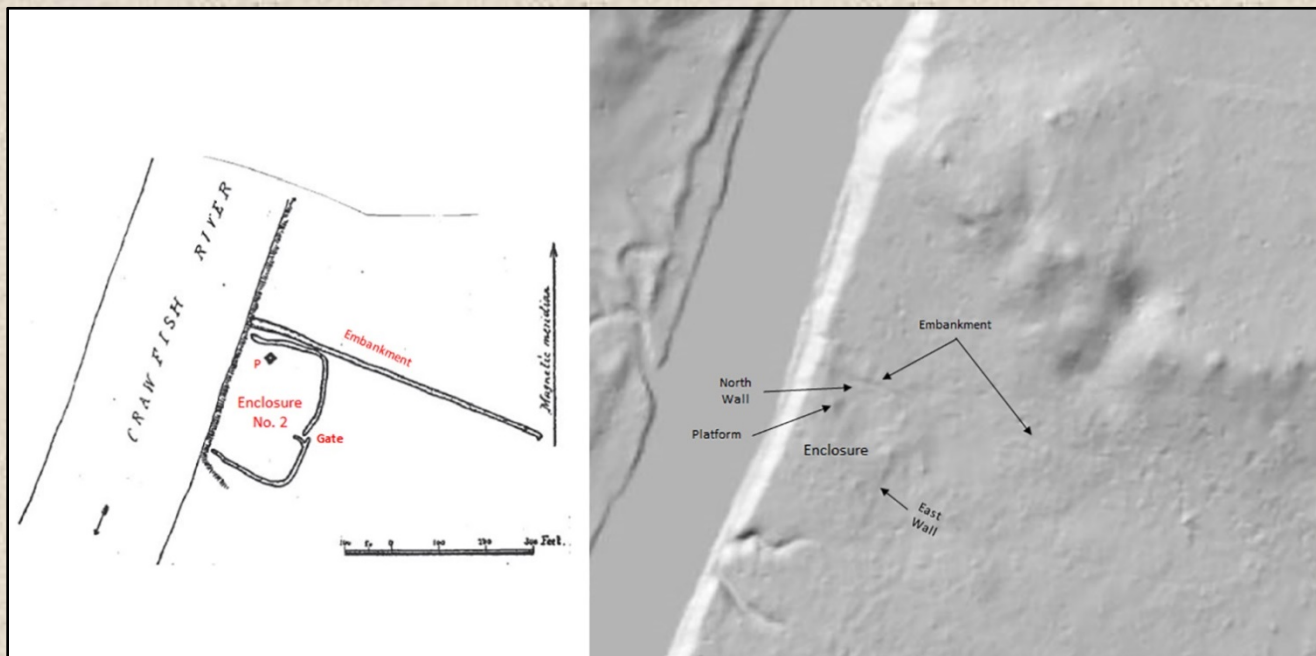


Figure 4. Enclosure No. 2 surface features and adjacent long embankment (based on Lewis 1884b) visible on lidar with hillshade set from the northwest.

Overall, the publicly available lidar-based hillshade shows surface features at 47JE7 that closely correlate with surface features mapped and described by T. H. Lewis in 1893-94. This correlation is shown in Figure 5, in which transparent copies of Lewis' maps of the upper and lower enclosures are superimposed over the base lidar. The accuracy of Lewis' maps are remarkable and attest to his (1) 13 prior years' experience at mapping thousands of earthworks across the Midwest, (2) having mapped JE7 after leaf-off, and (3) doing the work at least 25 years before MPM's leaf-on survey; during which time some damage had been done. Although the Milwaukee Public Museum's early 19th century interpretations of certain features at 47JE7 differed from Lewis, Barrett (1933:254) commented on Lewis' precision "his descriptions and measurements are quite accurate and illuminating". Given, this evidence, it is clear that Lewis' maps of the JE7 enclosures and associated mound features are most representative. As such, Barrett's re-interpretation of the long embankment at Enclosure No. 2 as a lizard mound is almost certainly incorrect, particularly since at least six feet of the head had slumped into the river by 1893. Accepting Lewis's maps for Enclosures No. 1 and 2, along with Lapham's embankment, provides a clearer understanding of activities at Aztalan East.

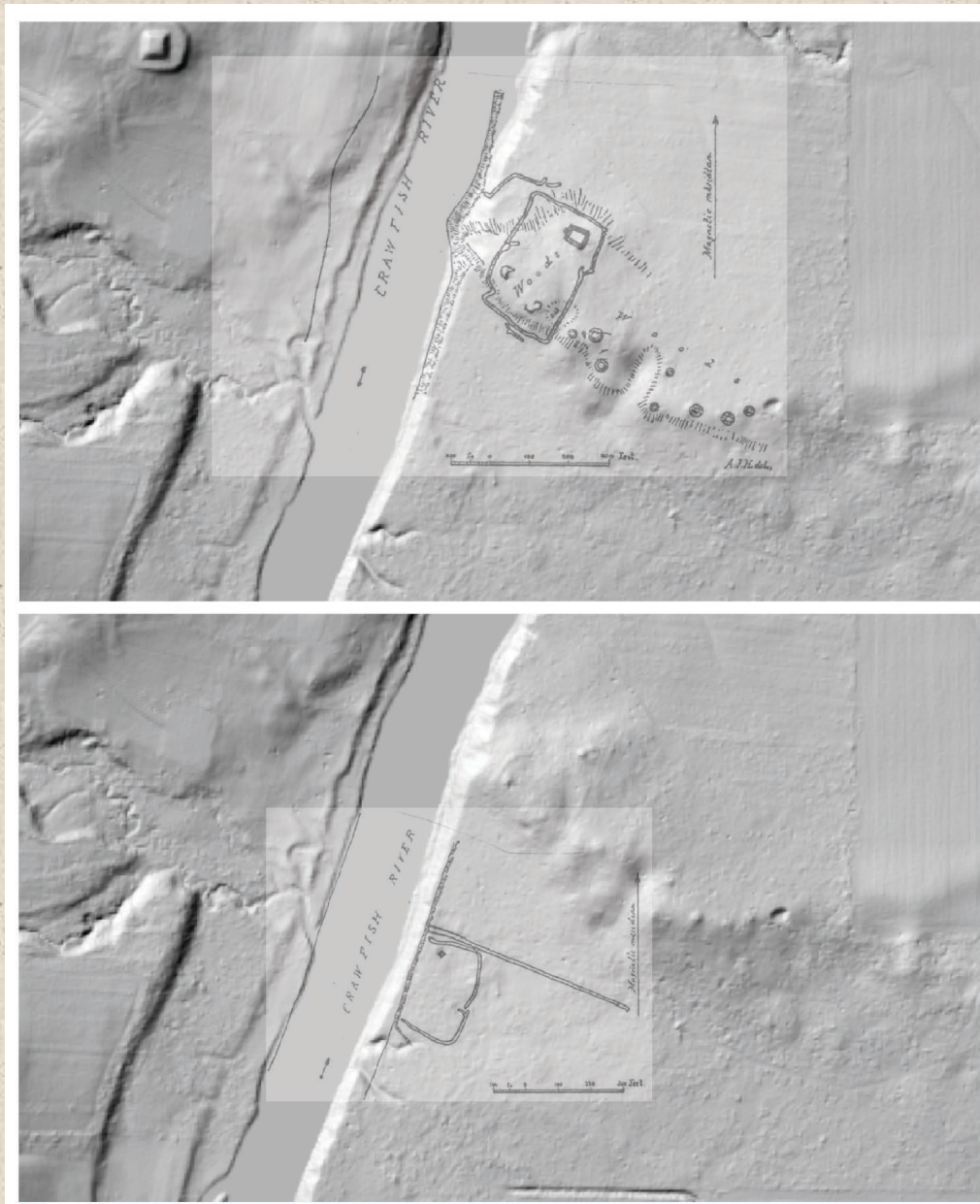


Figure 5. Transparency of Lewis' 1884 map of Enclosure No. 1 and adjacent mounds on lidar hillshade of corresponding glacial spur area (top); transparency of Enclosure No. 2 and adjacent long embankment on lidar hillshade of corresponding low terrace.

References Cited

- Barrett, Samuel A.
1933 *Ancient Aztalan*. Bulletin of the Public Museum of the City of Milwaukee Vol. XIII. Milwaukee.
- Birmingham Robert A. and Lynne G. Goldstein
2005 *Aztalan: Mysteries of an Ancient Indian Town*. Wisconsin Historical Society Press. Madison.

References Cited Continued....

Boszhardt, Robert F., Suzanne M. Harris, Cody Schmitt, James L. Theler, Thomas Wyse and Danielle M. Benden

2018 A Systematic Lidar Survey for Effigy Mounds in the Bad Axe River Valley, Vernon County, Wisconsin. *The Wisconsin Archeologist* 99(2):5-24.

Brinkmann, Robert A. and Lynne Goldstein

2001 The Eastern Mound Group at Aztalan: Rethinking Barrett's Interpretation. Paper Presented at the Midwest Archaeological Conference Annual Meeting, La Crosse, Wisconsin.

Finney, Fred A.

2006 The Archaeological Legacy of Theodore H. Lewis. *The Wisconsin Archeologist* 87(1+2):1-48.

Goldstein, Lynne

2015 2013 Aztalan Excavations: Work on the Gravel Knoll and West of the Palisade, Michigan State University, East Lansing, Michigan.

Lapham, Increase

1855 *Antiquities of Wisconsin*. Smithsonian Institution Contributions to Knowledge 7. Government Printing Office, Washington D.C.

Lewis, Theodore H.

1894a The "Aztalan" Enclosure Newly Described. *The American Antiquarian* 16(4):205-208. [Reprinted in *The Wisconsin Archeologist* 2006 87(1+2):190-192.]

1894b Enclosures in Wisconsin. *The American Antiquarian* 16:357-361. [Reprinted in *The Wisconsin Archeologist* 2006 87(1+2):193-195].

Lewis, T. M. N.

1954 Mound Group Opposite Aztalan. *The Wisconsin Archeologist* 35(1):37-41.

Romain, William F.

n.d. Astronomic Alignments at Aztalan. Blog post https://www.academia.edu/25327782/Astronomic_Alignments_at_Aztalan. Last accessed 4-24-2019.

Scherz, James P.

1987 New Surveys of Indian Mound Layout. *Wisconsin Academy Review*. March 1987:63-66.

Theler, James L.

1991 Aboriginal Utilization of Freshwater Mussels at the Aztalan Site, Wisconsin. In *Beamers, Bobwhites, and Blue-Points: Tributes to the Career of Paul W. Parmalee*, edited by James R. Purdue, Walter E. Klippel, and Bonnie W. Styles, pp. 315-332. Illinois State Museum Scientific Papers, Vol. XXIII and the University of Tennessee, Department of Anthropology Report of Investigations No. 52.

WiDNR

2019 <https://www.arcgis.com/home/item.html?id=a757b936cbdb43e0b48490b0a9aa6328> (accessed 4-22-2019).

DISCOVERY OF TWO BARABOO PIPESTONE WORKSHOP SITES LEADS TO NEW RESEARCH ON POORLY UNDERSTOOD MATERIAL

Paul Schanen
and
Ryan Howell, contributor

Just as the first few flakes of snow had fallen late in the fall of 2012 a field survey of a harvested corn field east of Baraboo produced several small (1-4mm) pieces of a soft purple stone along the periphery of a known lithic scatter. Microscopic examination that winter confirmed early suspicions that it was Baraboo Pipestone. None of these first pieces exhibited any signs of alteration at the hands of man. A more thorough examination was conducted of the same area in the Spring of 2013. This more thorough examination led to the discovery of a nearly complete earspool, two pendants, and a pipe fragment along with several pieces of scrap that showed signs of having been worked. More field investigation through 2013 and into 2014 revealed a distinct area of pipestone debitage, this site was recorded as 47SK727.

Starting in the spring of 2015 the search radius increased to include neighboring fields and farms situated along the same eroded river terrace as 47SK727. A second much more concentrated Baraboo Pipestone workshop was soon discovered less than one mile to the west of the first. This second workshop (47SK726) covered an area less than one third of the first but with a concentration of artifacts and debitage that was much higher. This second workshop quickly produced two plummets, many broken earspools and pendants, and a possible tablet fragment in addition to hundreds of debitage pieces. The sheer number of items recovered at the two workshop sites led to an exhaustive search of literature relating to Baraboo Pipestone. The result of that search was something less than thrilling. As the number of artifacts collected from the plow zone continued to increase a decision was made to not simply record the sites and be happy, but rather write up a comprehensive review of the two workshop sites and Baraboo Pipestone in prehistory in general.

An early April trip to relocate the original Baraboo Pipestone quarries was arranged. After some rugged hiking in the bluffs and repeated checking of GPS coordinates, the ancient quarries were found (47SK488) (Figure 1). Several large pits that have been filled with millennia of forest duff and fluvial or aeolian sediments still appear to be four feet deep. One can only surmise that during their use they were several feet deeper than they are currently. Significant portions of the quarry were also backfilled with dirt as the ancient inhabitants followed the seam of high grade material further into the bluff. We only examined perhaps half of the known quarries of that particular section so it's difficult to guess at the tonnage that might have been removed in prehistory but it is safe to say that most modern students of Wisconsin archaeology might be surprised by it. I theorize that the material is actually more common in Wisconsin archaeology than previously thought but it has often times, particularly in the hands of collectors, been unidentified or misidentified.

Perhaps the single most interesting thing to note thus far in the research is the great distance between the known quarries and known workshop sites. Many miles and the entirety of the Baraboo bluff separate the two. For this reason I also theorize that more ancient quarry sites exist on portions of the bluff along a similar contour level. More walking and searching will be

required on other parts of the bluff closer to the workshop sites to potentially prove the theory. We do know that Baraboo Pipestone has been found on open exposures of rock in and around Devil's Lake State Park and that the material was exposed on a portion of bluff that was quarried in modern times so the idea that other areas of the bluff had pipestone exposed and utilized in prehistory should certainly come as no surprise.



Figure 1. Baraboo Pipestone Quarry in Spring.

Other aspects of Baraboo Pipestone are also of interest. Distribution has not been studied in any depth. Initial observations would seem to suggest that the distribution for use of the material in the Woodland period were centered in east central Wisconsin. Marquette County in particular appears to have been an epicenter. Mississippian use of the material seems to be more scant and scattered farther with no clear epicenter although it has shown up at Cahokia and Aztalan suggesting a more southern route of distribution in general. Considerable work still needs to be completed with these regards but will be with the publication of the book *Sacred Stone*.

Sacred Stone, A Visual Representation of Baraboo Pipestone Artifacts in Prehistory was born essentially with the finding of the first workshop. Tackling this daunting full scale book will come as nothing new, the same author has previously published three other books including *Native American Artifacts of Wisconsin* (2013) and more recently *Patina, A Visual Reference Guide to Prehistoric Use in the Western Great Lakes Region*. *Sacred Stone* will take a brief look at the geology of the material in comparison to other known pipestones in the Upper Midwest but more importantly will discuss the mining, manufacturing, and distribution of the material. As are most of the author's works, this book will be very picture heavy and include many of the

examples from the Milwaukee Public Museum, all of the pieces from the two workshops, and other examples that have been located in private collections around the state. Sacred Stone is currently scheduled to be published in the spring of 2020. Any people with information or artifacts made from Baraboo Pipestone are encouraged to contact the author at cannonman17@msn.com.

Examples of Various Baraboo Pipestone found:



Baraboo Pipestone in Hand.



Baraboo Pipestone Spool.



Baraboo Pipestone Plummet Broken in Manufacture.



Baraboo Pipestone Plummet.



Baraboo Pipestone Scrap.



Baraboo Pipestone pendant preform.

Archaeology News & Notes

Impacts of European Diseases had Profound Effect on Populations and Overall Earth System

A new study reported in the journal *Quaternary Science Reviews* (2019:207:13-36) titled: **Earth System Impacts of the European Arrival and Great Dying in the Americas after 1492** by A. Koch Et al., finds that the impact of European introduced diseases had a much more devastating impact on Native American populations which in turn resulted in a global impact of Earth Systems in the two centuries prior to the Industrial Revolution. The authors reanalyze estimates for pre-Columbian populations using seven geographical regions: Caribbean, Mexico, Central America, the Inca Territory, Amazonia and contiguous forested areas, North America and the Rest of the Americas.

The population estimate for North America (USA & Canada) in 1492 was primarily based on archaeological evidence, tribe-by-tribe counts and environmental carrying capacities. They accept a population range between 2.8 and 5.7 million. They arrive at a total population living in the hemisphere in 1492 CE of 60.5 million, a range between 44.8 and 78.2 million. They estimate the median land use of 1.04 ha per capita to produce the total extent of anthropogenic land use in 1492 CE of 61.9 million hectares.

They conclude that 55 million indigenous people (90%) died over the next century primarily from infectious diseases following the European settlement of the Americas beginning in 1492. This led to the abandonment and secondary succession of 56 million hectares of land. The Great Dying of the Indigenous Peoples of the Americas had global impacts on

the Earth System in the centuries prior to the industrial revolution as a result of the abandonment of enough cleared land resulting in terrestrial carbon uptake which impacted both atmospheric carbon dioxide and global surface air temperatures. These events played a key role in lowering temperatures in the early seventeenth century.

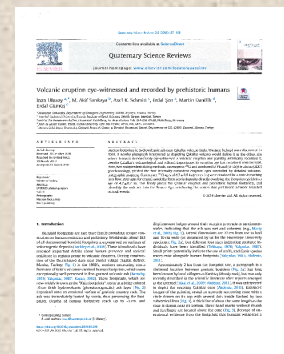


Bronze Age Eye-Witness to Volcanic Eruption

New dating seems to verify that a volcanic eruption in Turkey was witnessed by Bronze Age inhabitants. This is the conclusion of a report in the journal *Quaternary Science Reviews* (Vol. 212, 2019) titled: **Volcanic Eruption Eye-Witnessed and Recorded by Prehistoric Humans** by Inan Ulusoy et al. In 1968 a series of human footprints were discovered during construction of a dam in Western Turkey. The prints were preserved on surfaces of fine-grained volcanic ash and buried by scoria. Widely known as the “Kula footprints”, they included multiple individuals along with traces of *Canis* (dog) species and the use of staffs. A pictograph in a sheltered location approximately 2 km from the footprint site was interpreted to depict an erupting volcano and suggested they may be related.

New dating of the footprints required a detailed volcanostratigraphy combined with two independent state-of-the-art methods for dating young volcanic rocks. These date the eruption to 4700 +/-500 years ago and the footprints to the Bronze Age.

The authors dismiss the idea that the prints indicate the individuals were running away from the eruption based on footstep distances between 75 and 80 cm indicating normal walking speed. In fact the traces show a walking direction towards the volcano and may indicate a brief hiatus after ash deposition that allowed people to approach the area. The nearby rock shelter painting of an apparent volcanic cone and the prints cannot currently be genetically linked. The authors tentatively hypothesize that Bronze-age eye-witnesses of the eruption also created the rock art. Establishing constraints on the dating of the painting to verify a Bronze Age association is a future goal of the team.



Pre-Clovis Defined at Texas Site

Excavations at the Debra Friedkin site, located in central Texas, have recovered an extensive assemblage of artifacts located 15-20 cm beneath a Clovis assemblage. As reported in the journal *Science Advances* (Waters et al., 2018-4) titled: **Pre-Clovis Projectile Points at the Debra L.**

Friedkin Site, Texas-Implications for the Late Pleistocene Peopling of the Americas, this pre-Clovis assemblage consists of about 100,000 artifacts including 328 tools and 12 complete and fragmentary projectile points.

The assemblage was dated by Optically-Stimulated Luminescence (OSL) as no charcoal was available for conventional radiocarbon dating. The 19 dates place the pre-Clovis at the site as dating between 13,500 and 15,500 years ago. The “Buttermilk Creek Complex”, as the assemblage is called, includes both lanceolate stemmed and triangular lanceolate forms.

Findings at the Friedkin, Gault and other sites suggest to the writers that the earliest people to arrive in the Americas likely arrived via the Pacific coast using watercraft and employing projectile points which were stemmed. People eventually moved inland close to the glacier margin, reaching southeastern Wisconsin between 14,800 and 14,200 years ago. The triangular lanceolate point form identified at the Friedkin site could have developed from the earlier lanceolate stemmed point and could be the precursor to Clovis lanceolate, fluted points. Clovis point technology could have rapidly spread across the eastern two-thirds of North America and into northern Mexico. People using stemmed points remained in the western one-third of North America where they developed into the Western Stemmed Tradition. Stemmed points continued to be used in South America.

The authors also suggest an alternative picture of early point development. The stemmed and lanceolate point traditions may represent two separate human migrations which took different routes south of the glaciers and settled different parts of the unglaciated continent at the end of the Pleistocene. Stemmed points may have arrived with settlers of the Pacific and Gulf coasts while lanceolate points could have arrived later through the ice-free corridor.

The progenitor of Clovis points may have been a triangular lanceolate point form recovered from the Friedkin site. The authors conclude that additional buried and datable Late Pleistocene sites are needed to evaluate their hypotheses.



Stone Tools Made by Sea Otters

An article in *Scientific Reports* (2019 9:4417) titled: **Wild Sea Otter Mussel Pounding Leaves Archaeological Traces**, reports on the only marine mammal known to use stone tools. This study contributes to the growing field of animal archaeology which has been focused on primates. The use of stone by sea otters during foraging includes: prying loose abalone using a stone underwater, pounding food using a stone hammer or anvil on the chest while floating on the surface and pounding food directly on a rock substrate. The first two forms are considered tool use as they involve the controlled use of a detached object.

The study documented a distinct, recognizable archaeological record of sea otter activity that allows for interpretation of specific activities and contributes to delineating former foraging areas. The study contributes to our understanding of the evolution of animal behaviors like stone anvil use. Similar activity has been documented in certain fish species and birds which break open mollusks, nuts or bones on stone anvils by dropping the food from the air. Similar archaeological approaches like presented in this study have identified food-pounding anvil sites by capuchin monkeys in Brazil extending at least

600 years into the past and representing over 100 generations of this activity. Similar understanding can be obtained from this study of sea otter activity.



Questioning Further the Cerutti Mastodon

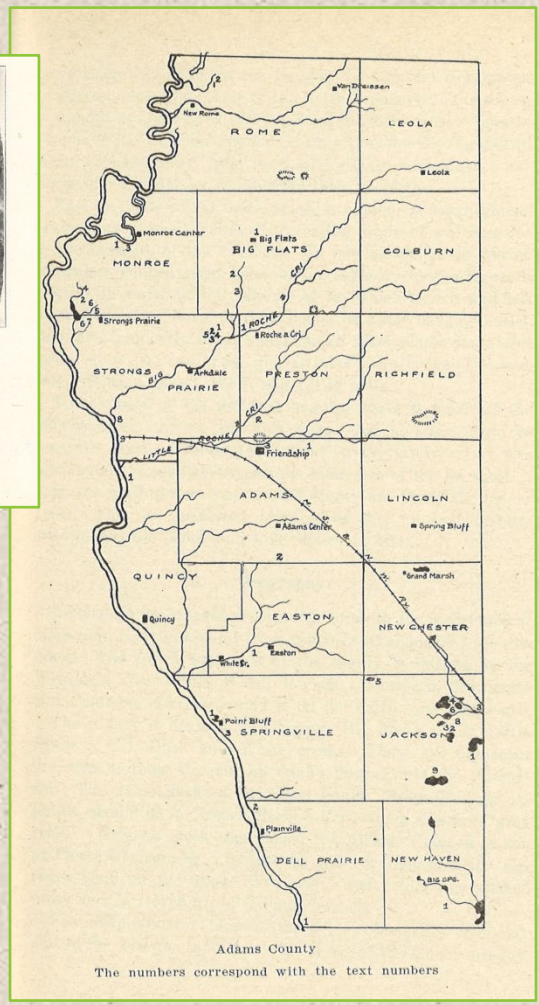
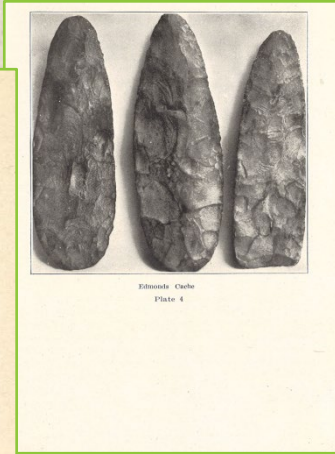
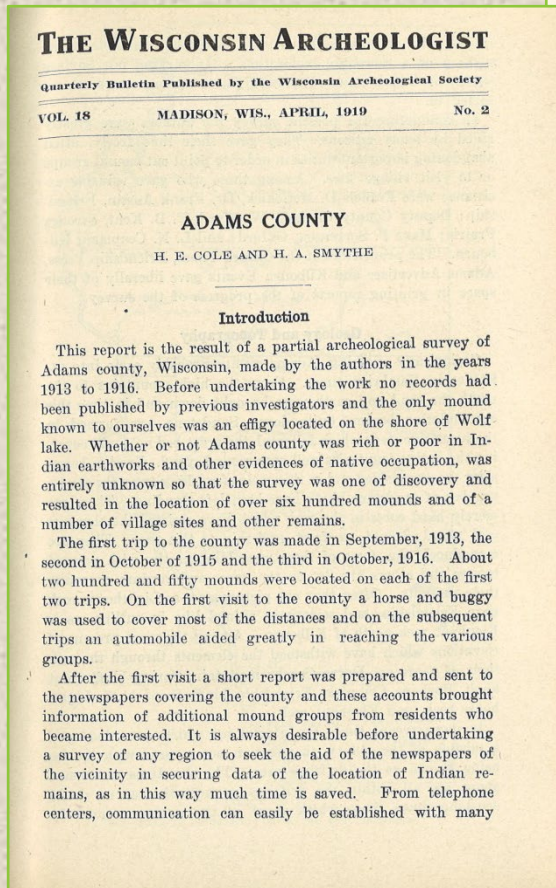
In the Spring 2018 WisArch News, it was reported that researchers of a mastodon find in California had dated the find to 130,000 years ago (Nature 4/27/18). The real significance of the report was the contention by the authors that humans caused the observed bone breakage and tool manufacture.

Since the article was first published several contrary articles have appeared that question this initial ascertain. An article entitled: **The Cerutti Mastodon Site Reinterpreted with Reference to Freeway Construction Plans and Methods** (Ferrell, *Paleoamerica* 3/22/19) contends that road construction in 1992 is the most probable cause of the damage observed to the mastodon bones. The article: **Observations Regarding the Cerutti Mastodon** (Sutton et al., *Paleoamerica* 3/27/19) concludes that a more parsimonious explanation for the bone breakage is by natural trampling of one mastodon soon after death by other mastodons. Suggesting previously unrecognized hominin were responsible using a previously undescribed bone technology is, according to the authors, difficult to accept.

Back Dirt: 100 Years Ago in the *Wisconsin Archeologist*

This article in the April 1919 issue of the *Wisconsin Archeologist* is a report on an archaeological survey conducted between 1913 and 1916 by the authors: H. E. Cole and H. A. Smythe.

In “Archeological Notes” at the back of the issue the annual meeting held on March 12, 1919 is discussed. It was reported that seven monthly meetings were held in Milwaukee during the year with none being held during October or December because of the influenza epidemic. Thirty-eight new members were elected during the year. It was also reported that the increase of the Society’s membership during the past several years has not been as great as it should have been for a state organization engaged in an important public educational work. It is hoped that with the help of the members the present number can be doubled within the year. Notable events included the permanent preservation of the fine turtle effigy located on the shore of Silver Lake in Waukesha County through the purchase of the land by the Milwaukee Boy Scouts, and the restoration of a group of mounds in Vilas Park in Madison. The Society also organized a junior auxiliary to be known as the Junior Branch of the Society, membership open to both boys and girls between the ages of twelve and eighteen years desiring to be instructed in Wisconsin archaeology and Indian history. Another note stated that Lt. Harold Wengler of the 100 Aero Squadron, A. E. F., sent to the State Historical Museum a fine flint hatchet (celt) which was picked up near Notre Dame d Oe, near Chanceaux, France. It was being used as a paper weight in the village grocery when he saw it and purchased it for a few francs.



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