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Sketches from Paul Sagers' Levsen Notebook and Sagers Bros Archaeologist ca. 1932, 1925

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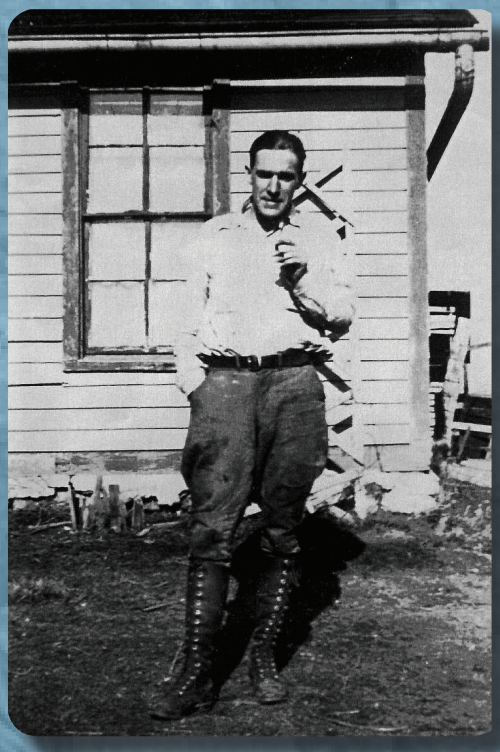
Paul Sagers
Lasting Impressions in Iowa Archaeology

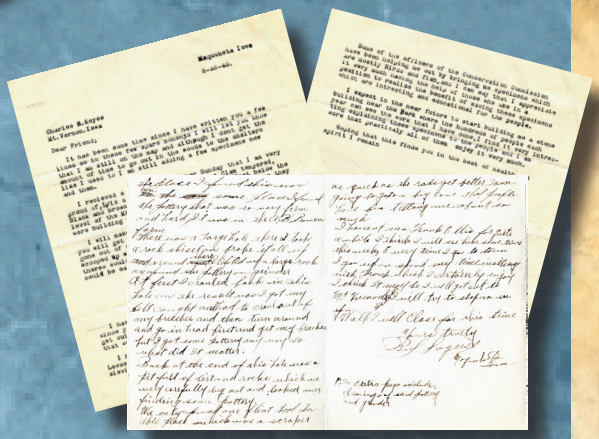
Paul Sagers' (1909–1982) work helped reconstruct Iowa's archaeological past. Between 1925 and 1936, with the help of his older brother, James Fay (Fay), Paul amassed one of the largest archaeological collections known from eastern Iowa. The collection contains nearly 16,000 artifacts from 16 recorded sites in Jackson and Jones counties, including 13 rockshelters.

Iron Hills home - Grandma Melissa on left, Fay in front of John, Maria holding Paul ca. 1911

The middle child of three boys, John Paul Sagers was born to John and Maria near Iron Hills in Jackson County. He and his brother Fay became interested in archaeology as teenagers after their father introduced them to Frank Ellis. Ellis had a large collection of artifacts from sites near Maquoketa, Iowa.

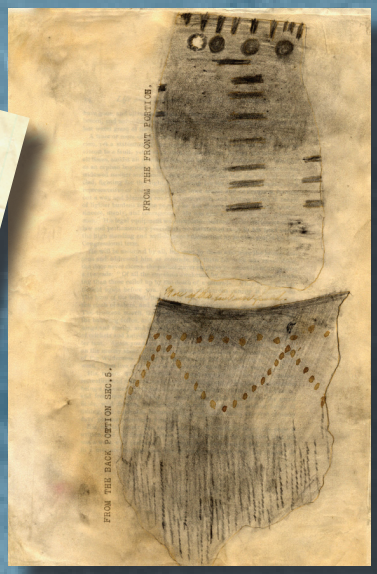


Paul Sagers



Letters to Keyes March 22, 1926 and August 26, 1940

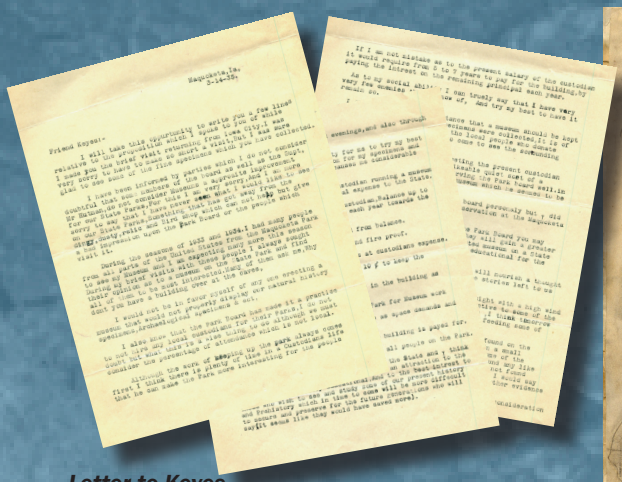
Sketch from Levsen Notebook ca. 1932



During the 1920s, the Sagers brothers started excavating rockshelters near their home. Ellis introduced Paul to Charles R. Keyes, Director of the Iowa Archaeological Survey in 1925. Inspired by Keyes, Paul documented his excavations in several journals including Sagers Bros Archaeologist and the Levsen Notebook. Keyes often visited Sagers' sites taking photos and notes. Keyes' association with archaeologists and his interest in Paul's work allowed the collection to reach many. Wilfred D. Logan, first archaeologist assigned to Effigy Mounds National Monument, used pottery from the collection to develop Iowa's Woodland culture sequence.

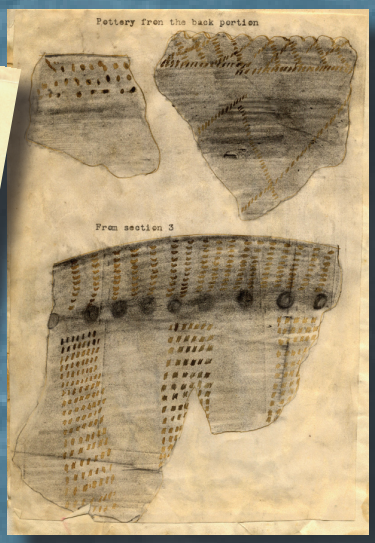
In 1934 Paul opened an exhibit in his parent's home. As the collection grew through his excavations and donations from others, he decided to build a permanent museum. He wanted it located close to Maquoketa Caves State Park because he believed it was important to keep the artifacts near where they were found. He quarried and shaped limestone for eight years before building the small structure. Paul and his son Lane assembled the museum from 1945 to 1949. The Sagers Museum opened in 1951 and was operated seasonally by Paul and his wife Nettie until Paul's death in 1982. Nettie continued to operate the museum with the help of her family until 1988.

Playing croquet ca. 1922



Letter to Keyes March 14, 1935

Sketch from Levsen Notebook ca. 1932



Nettie then gave the collection as an unrestricted gift to the State of Iowa. A few years later, The University of Iowa Office of the State Archaeologist cataloged the entire collection and in 2008 accepted it for perpetual curation. Preservation efforts continue to make the curated collection accessible through new exhibits and catalogs.

ca. 1951

Maquoketa Caves Visitor Center Formerly the Sagers Museum ca. 2010

Paul Sagers Collection Exhibits and Open House at the Office of the State Archaeologist

by

John L. Cordell and Lynn M. Alex

On May 7th, 2011 OSA staff members Lynn Alex and John Cordell presented "Jackson County Archaeology: The Paul Sagers Collection," at the Jackson County Conservation's Hurstville Interpretive Center. The event was sponsored by the Jackson County Conservation Board and the Friends of Maquoketa Caves. The Paul Sagers collection is one of the largest and most significant archaeological collections in eastern Iowa. The Sagers Collection consists of 16,000 prehistoric artifacts made primarily of stone, shell, bone and ceramics, along with excavation records and drawings. Paul Sagers and his brother Fay collected the artifacts from 16 sites between 1925 and 1936. The collection, recently transferred to the Office of the State Archaeologist at the University of Iowa, was previously housed at Maquoketa Caves State Park. Following the presentation, a field trip was made to one of the Sagers' most important sites, the Levsen Rockshelter, site 13JK4. The events were well attended. Many of the Sagers family were present.

The events were organized as part of a State Historical Society of Iowa Historic Resource and Development Program grant (#2009-0061) the OSA received in 2009 to preserve the Paul Sagers Collection. In addition to these public programs the OSA will host an open house on October 8th, 2011 from 1-3 p.m. This event will showcase further grant-related work regarding the Paul Sagers Collection. Five new exhibit panels related to Sagers and his collection will be presented. Many artifacts from the collection will be on exhibit as well. Visitors will be able to tour the OSA facility and its collection repositories. For more information about the exhibits and the open house contact John Cordell at john-cordell@uiowa.edu or 319-384-0741.

Members of Paul Sagers' family at Levsen Rockshelter. Photo courtesy of John Cordell.

A Prehistoric Journey in Stone
The Dean Steffen Archaeological Exhibit from Mitchell County
-- Dean Steffen

Dean Steffen has always been interested in the past. In the early 1970s, Omar Johnson, a resident of Osage, introduced Steffen to Native American culture. Steffen found his first stone tip in Mitchell County while walking with Johnson. That first find sparked what has become a lifelong interest in stone artifacts.

As their collection grew, the Steffen family became more proficient at identifying the era the stone tools represented. Steffen reports that he has found stone artifacts from the Paleoindian era (prior to 9,000 B.C.); Archaic (1,000-9,000 B.C.); Woodland era (300 A.D. to 300 B.C.); Mississippian era (300 A.D. to 1,500 A.D.); and the Historic era (subsequent to 1,500). Steffen commented, "Just like styles of cars or tools, stone artifacts show style changes which make the object more easily identifiable."

Dean Steffen

According to Steffen, one of the most important qualities which make his collection unique is the fact that every single artifact was found by the Steffen family in various locations around Mitchell County. Steffen and his sons want everyone to understand that he and his sons never dig for these artifacts, rather they find them as they become partially or entirely visible on the ground.

Since the early days of his collection, Steffen has worked with the Iowa Office of the State Archaeologist. He was provided with information about how to identify and catalog his artifacts. He continues to send regular reports to Iowa City as he and his sons make new finds.

The exhibit at the Cedar River Complex in Osage, Iowa marks the first time the Steffens have shared their collection with the public. Among the approximately 800 stone implements, visitors saw examples of scrapers, knives, axe heads, spear points, as well as some pottery sherds and related items. "It is a tremendous feeling to find these objects that were hand-crafted so long ago. I feel as if I'm holding history in my hands," said Steffen.

Steffen lives with his wife, Diane, in rural Orchard, just outside of Osage. Their sons, Jerry and Gary, along with their families live in the Cresco area.

Above. Exhibit Display Information at the Cedar River Complex, Osage, Iowa. Photos by Lauri Chappell.

What's the Point?

Discovered: Dubuque County, Iowa.

Measurements: 1 ¾ inches in length with a maximum width of ¾ inches.

Notes: This small, broadly side-notched point is characterized by the slightly expanding stem and very gradual shoulders that are obtuse and seldom sharp.

Send your responses to Daniel G. Horgen at daniel-horgen@uiowa.edu.

Answers will be listed in the next issue of the Newsletter.

Last Issue's Point:

The projectile point illustrated in the last issue of the Newsletter is classified as a Dalton representing a shift from the Late Paleo-Indian to the Early Archaic period (10,600 to 8700 B.C.).

During the use life of a lithic tool, modifications such as sharpening or shaping an edge can be compounded to make great changes to the overall morphology of the specimen. This change occurs very gradually as the specimen is used and modified by small amounts overtime. Traditional types believed to have separate functions may in fact have been the same specimen types at different stages of their use life. It is also possible that a tool may be dramatically reworked without being broken, or in need of repair, if no other alternatives are available for the tool maker to use.

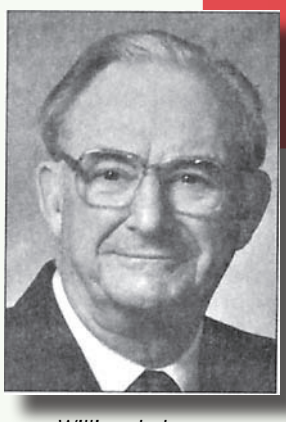
The chert type is classified as Maynes Creek which is derived from the Maynes Creek Member of the Hampton Formation and is commonly found in central Iowa. Maynes Creek chert was used by most of the prehistoric groups inhabiting this area.

Last Issue's Winners:

Dan Boddicker, Robert Carlson, Tom Harvey, Paul Naumann, Gary Stam, and Larry Van Gorden submitted correct responses.

A Tribute to William L. Larsen 1926-2011

-- David Mayer Gradwohl



William L. Larsen

William L. ("Bill") Larsen, an early member of the Iowa Archeological Society, passed away in Coon Rapids, Minnesota, on April 25, 2011. He was the epitome of a "gentleman and a scholar," and an enthusiastic supporter of archaeology and American Indian interests in Iowa and in his natal state of Minnesota.

Bill was born in Crookston, Minnesota, on July 16, 1926 to Clarence and Luverne Larsen. After graduation from Crookston High School in 1944, he received an officer's commission into the United States Naval Reserve in which he served for many years. In 1948 Bill graduated from Marquette University with a bachelor's degree in mechanical engineering. After a brief study of theology at the University of Chicago, he enrolled at Ohio State University and obtained a master's degree in physics in 1950. He continued on at Ohio State, and received a Ph.D. in metallurgical engineering there in 1956.

In that year, Bill began his career as a research metallurgist at the E.I. DuPont Company in Wilmington, Delaware. In 1958 he was offered a teaching and research position at Iowa State College of Agriculture and Mechanic Arts (subsequently named Iowa State University of Science and Technology). He accepted that position in the Department of Metallurgy, later known as the Department of Materials Science and Engineering, and remained there until his retirement in 1993. During his career at Iowa State University, Bill taught both undergraduate and graduate courses, and served as a technical consultant to many business and industrial firms.

I first met Bill in 1962 when I came to Iowa State University as the sole anthropologist in a Department of [Agricultural] Economics and [Rural] Sociology. With the exception of my office mate, a demographer, my departmental colleagues knew little to nothing about anthropology, much less archaeology. To my good fortune, I was eagerly welcomed by Bill Larsen and his metallurgical colleague, Professor Robert W. ("Bob") Breckenridge, who were members of the Iowa Archeological Society. Both Bill and Bob were supportive of my introducing courses in archaeology at ISU and also establishing an archaeological field school and research laboratory. They were very helpful in showing me the "ropes" at ISU and otherwise mentoring me -- a virtual greenhorn when it came to the University bureaucracy.

Not long after I came to Ames, Bill took me out to a beautiful piece of land he owned, overlooking the Des Moines River near Fraser. On this property are several large, pristine, conical burial mounds that he and his family carefully preserved. Over the years, Bill and Bob helped me host annual meetings of the Iowa Archeological Society at the ISU Memorial Union. Bill also assisted in identifying metal artifacts, conferring on the physical properties of cherts, and serving on graduate committees in archaeology. He was an avid participant in the annual ISU American Indian Symposiums that began in 1971, an adviser to American Indian students, and supporter of the United Native American Student Association (UNASA) and American Indian Rights Organization (AIRO) at the University. Bill was so dedicated to assisting Native American students in higher education that he attended several national conferences of the National Indian Education Association.

Bill Larsen and Bob Breckenridge had interests in visiting archaeological sites and looking at private artifact collections. On various occasions, they were sought out by regional collectors to identify artifacts and animal bones. In that regard, an individual sent Breckenridge some skeletal remains, which he had found exposed through erosion on his farm. Bob and Bill verified that the skeletal remains were human and, I was told, enlisted the assistance of a physician and a dentist in further identifying the bones. Bob estimated that the bones represented multiple individuals including children, young adults, and older individuals. Although no cultural objects were found in direct association with the bones, Bob guessed -- probably correctly -- that the human remains were of Middle Woodland Tradition affiliation.

Bill and Bob were both religious, ethical, and highly sensitive individuals. They did not perceive the bones as simply "objects" but rather the material remains of fellow human beings. It was thus that they endeavored to rebury the skeletal remains, and to do so in a secure place not far from where the human bones had been found. In 1960, they obtained permission to rebury the bones in the Vegors Cemetery, overlooking the confluence of the Boone and Des Moines rivers, not far from Stratford, in Webster County. E.H. Hawbaker, a local farmer with long-time interests in archaeology, purchased a plot in Vegors and placed a stone monument there to mark the presence of five prehistoric Indian mounds within the bounds of the historic Euro-American cemetery. It was here that the prehistoric skeletal remains were reinterred. To mark this reburial, the two metallurgists arranged for a cast metal memorial plaque to be fashioned and installed at Vegors. The plaque reads "Here in 1960 were reburied the bones of several prehistoric people of this region who were originally buried as a 'bundle' on a hilltop southeast of the mouth of the Boone River."

The reburial ceremony on November 20, 1960, was attended by some 100 people including a Boy Scout troop from Boone. Bill Larsen and Bob Breckenridge were notably "before their time" in anticipating the sentiments and procedures of the Iowa Burial Code of 1976 and the federal Native American Graves Protection and Repatriation Act of 1990.

Bill was married to Gracie Lee Richey Larsen, who passed away in 2009. He is survived by two sons, Eric and Tom, their wives, and two grandchildren. He will long be remembered by his many students and colleagues at Iowa State University, and those members of the Iowa Archeological Society who knew him. He was a man with great knowledge, limitless curiosity, and a fine sense of humor. Professionally and personally, I treasure my association with Bill and feel indebted for his assistance to my career in Iowa archaeology.

Data sources: Obituary in The Tribune, Ames, Iowa, May 1, 2011, page A4; Daniel K. Higginbottom, personal communication, from the extensive recording and analysis he is preparing on the Vegors Cemetery.

Elmer Heller Death

A longtime IAS member, Elmer Heller passed away on May 23, 2010. He joined the IAS in 1963.

In a note from Mrs. Elmer Heller:

"He enjoyed being a member very much and enjoyed hunting for artifacts, etc. ...Thanks for all the information you've sent him and know that he enjoyed all."

The 15-km Hypothesis for the Spatial Boundaries of Late Prehistoric Glenwood Earthlodges in Southwest Iowa

--- William E. Whittaker

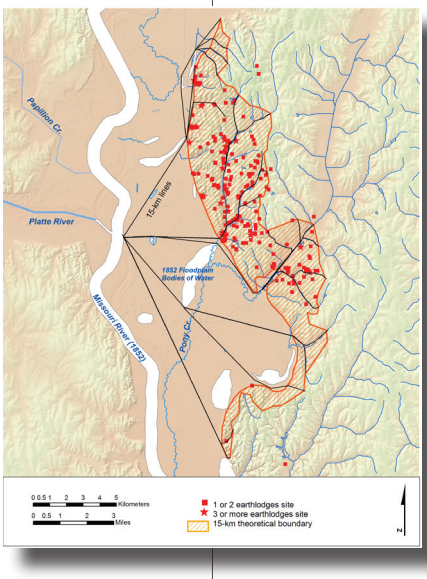
Abstract

While there are numerous explanations for the distribution of earthlodges within the Glenwood locality, there has been no serious attempt to define the boundaries of the Glenwood locality. This paper presents evidence that the extent of the Glenwood locality is defined by proximity to the mouth of the Platte River. Almost all earthlodges are in an area that can access the mouth of the Platte in less than 15 km following walking routes down drainages and across the Missouri River floodplain. In addition, possible earthlodge sites in Iowa outside of the Glenwood locality appear to be spaced at roughly 14-15 km intervals along the bluffs of the Missouri.

The Glenwood Locality

Glenwood sites are considered part of the Nebraska Phase of the Central Plains tradition, which is a widespread Late Prehistoric manifestation of earthlodge sites. Nebraska Phase sites in Iowa are represented by isolated and clustered houses. Approximately 300 Glenwood lodges are known or suspected in western Iowa. Reported lodges extend from Fremont County to Harrison County, but the vast majority of recorded lodges are in Mills County, in a cluster known as the Glenwood locality (Alex 2000:171–184). Glenwood sites are radiocarbon dated to A.D. 1250-1400 (Lensink 2010).

Glenwood lodges generally have a square or rounded square shape and are located on a variety of landforms, from river bottoms to terraces, to ridge crests. Most entryways faced southeast or southwest. The size of earthlodges can vary greatly, from 17 to 272 m^2, suggesting a variety of household sizes (Alex 2000:175–176; Artz 2010). Domesticated plants including maize, bean, squash, sunflower, and gourds were used, supplemented with wild plants, bison, deer, and small game hunting, and fish. Tobacco was also grown. Trade included stone tools, bone tools, shell, and involved Nebraska phase sites to the west and south and Oneota groups in northwest Iowa (Alex 2000; Billeck 1993). In Iowa, Glenwood earthlodges are most common along Pony and Keg Creeks in the bluffs to the east of the Missouri River, opposite the mouth of the Platte River.



Lodge Location

The placement of lodges on the landscape has been studied since the earliest recognition of the Glenwood locality (Billeck 1993). Recently Riley (2010) studied almost every conceivable aspect of landform to determine some sort of predictive location for earthlodges, including surface slope, topographical aspect, shade, soil, water, erosion, and topography, and found that many of these aspects could be used to make a meaningful predictive model for the location of lodges within the Glenwood locality. However, her study did not explain why lodges were largely restricted to the Glenwood locality, since these same favorable conditions could be found throughout the loess hills on the east side of the Missouri valley.

What are the determining factors for the spatial limits of the Nebraska Phase in Iowa? Since there is suitable land for lodges elsewhere (as determined by Riley), why aren't these areas occupied?

Database Creation

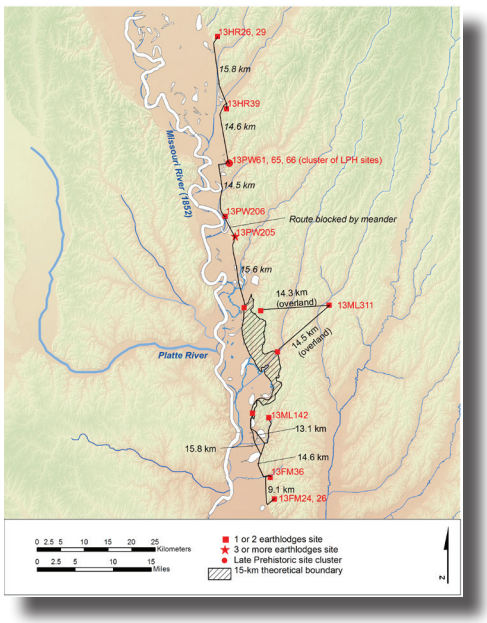
To create a database of Glenwood sites, a general review of the published literature on Loess Hills archaeology was undertaken as part of a larger study of the Glenwood period (Whittaker and Newman 2010) and involved compiling site data from published and unpublished report and the Iowa Site File. Archival sources revealed more than 300 lodges from 241 possible earthlodge sites.

Spatial Limits of the Glenwood Locality

In looking at location maps of Central Plains earthlodges in southwest Iowa, an interesting distributional pattern was noticed. The vast majority of Nebraska Phase sites are located within 14 kilometers of the modern mouth of the Platte River, as measured via a straight line. However, these lodge sites are not evenly distributed in a semicircle, rather they occur along the terraces and loess hills that make up the east side of the Missouri River valley, and the eastern edge of this locus is not perfectly rounded.

Although it was clear that most lodges were near the mouth of the Platte, was this geographical closeness meaningful, and could a more detailed theory of lodge placement be formulated? It was unlikely that occupants of the lodges walked in a straight line from their homes (or vice versa) to the mouth of the Platte, ignoring topography and ecological features such as ponds and river meanders.

An earlier attempt was made to define the spatial relationship between the mouth of the Platte and the Glenwood lodge area, which hypothesized that the eastern edge of the Glenwood locality could be defined by a series of 10-mile (16 km) lines that cut across the floodplain and ran up drainages (Whittaker and Newman 2010). However, this earlier model was based on modern topographical maps, and although it can be assumed that the topography is roughly the same now as it was 600 years ago (some earthlodge depressions are still visible on the surface). The same cannot be said for the Missouri River floodplain, which was extensively drained and channeled in the twentieth century.



Early Historical Accounts of Crossing the Missouri Floodplain

One might assume that one cannot walk across large floodplains, since they are often impassible because of swamps and oxbow lakes, especially before wetlands were systematically drained. However, two early

continued on page 9

A Confused 1904 Attempt to Interpret the Glenwood Earthlodges

With commentary by Francis McDowell, Jr.

Originally published in Records of the Past, Vol. III p. 61- (1904):

Council Bluffs, Iowa—Within a few miles of the city of Council Bluffs there is an ancient village site about 15 miles long and 4 miles broad along the river. On the summit of the bluffs are remains of ancient earthworks, which may have been for defensive purposes.[1] Prof. E. A. Rinehart, of the State University of Minnesota,[2] has been devoting considerable time to a study of the Indian mounds and burying places of Iowa. He proposes to invite archaeologists, from different parts of the country in the early spring, to Council Bluffs for the purpose of investigating the antiquities of that region. Preparations have already been made for setting a large force of laborers at work to excavate on this important site.[3] The work will be carried on under the direction of the Iowa State Archaeological Society.[4] Recently, Prof. Sneik, of the Minnesota Historical Society[5], while making some investigations on the site of the village, unearthed a unique iron hoe, buried 14 ft. below the surface.[6] While an oddly-shaped instrument, it was evidently intended for digging.

Last month Mr. N. J. Miller, of Council Bluffs, in company with several gentlemen, while making a survey of this village site, and in cutting down a giant oak, near the summit of the bluff, found a peculiar copper bullet in the very heart of the tree. The bullet had evidently been buried in the oak when quite small, as no evidence of its passage through the surrounding wood could be found. The bullet is spherical and must have been fired into the tree long before firearms are supposed to have been known in the West.[7]

Leading from the site of the ancient village, there is a well-defined route extending 20 miles into Nebraska to the old flint quarries near Nehawka. This route is marked by flint chippings, arrowheads and other stone implements, and shows plainly where the dwellers in the village secured the materials for their implements of war.[8]

The Nehawka flint quarries have long been a theme of interest to scientists, and they are gradually yielding their secrets to the persistent efforts of archaeologists, who have searched for years among the debris for their concealed mysteries.

Prof. Blackman, archaeologist of the Nebraska State Historical Society[9], speaking of the Nehawka flint quarries, says: The vicinity is underlain with a deposit of permo-carboniferous limestone, in which are imbedded nodules of flint of fine quality. These flint nodules are found in the third stratum, at a depth of 10 ft. below the surface and 40 ft. above the creek bed. The aborigines have quarried over about 6 acres and have taken out vast quantities of flint from the old mines.

It is the belief of Prof. Blackman that these quarries were used by all the Western tribes, as flint-strewn routes lead off in all directions from the ancient workings and show the flint to have been taken in every direction by the miners.

To determine the people who inhabited the ancient villages below Council Bluffs, it will be necessary to make a large collection of the stone implements and weapons from the graves, said Prof. Blackman. It yet remains for someone to make this collection and to give the village a systematic study. The town was not in existence when the Lewis and Clarke expedition passed up the Missouri in 1804. There have been some traces of white men's trinkets found in the graves, and from the appearance of pottery found I believe the date of its desertion could not have been later than the year 1700.[10]

The circular earthworks found on the highest points around the old village are still plainly defined, although built perhaps as much as 2 centuries ago. One circle is 40 ft. in diameter, 4 ft. deep and the walls still stand 2 ft. higher than the surrounding level. I am credibly informed that these circles were used in the "Sun Dance," as practiced by the Indians of the prairies.[11]

Prof. Blackman hopes that when the big gathering of archaeologists takes place, their excavations will bring to light enough relics to practically establish the history of the old village.

Commentary by Francis McDowell, Jr.

1. This seems to be an early muddled interpretation of the Glenwood earthlodge sites; hundreds of these Late Prehistoric semi-subterranean houses were found in the region around Glenwood, Iowa, dating from about 1250 to 1400 AD. These earthlodges often left rectangular or rounded depressions that were noted by early settlers and investigated as early as 1881 by S.V. Pruoudfit, who correctly concluded they were made by Late Prehistoric Indians. Apparently the author of this report and the "professors" he cited were unaware of Proudfit's work
2. Joe Artz of the Iowa OSA made inquiries into the existence of "E. A. Rinehart" of the State University of Minnesota; he could find no reference to any historian or antiquarian of that name in Minnesota at the turn of the century. Artz also made inquiries about the other "professors."
3. Fortunately, this effort was apparently never made, there are no historical references to a large archaeological effort in the area in 1904 or 1905.
4. There was no "Iowa State Archaeological Society" in 1904; the modern Iowa Archeological Society was founded in 1951, its predecessor was the Iowa Archaeological Survey, headed by Charles Keyes, founded in 1922.
5. No reference to any "Prof. Sneik" of the Minnesota Historical Society could be found from the turn of the century.
6. If the hoe was truly iron, it was not prehistoric; perhaps "Prof. Sneik" discovered a heavy prehistoric stone axe that was reddish black and resembled iron.
7. Copper shot is rare in from historical contexts; lead and iron are the most common shot materials. However, European traders were active in this area for about 150 years, so Miller's claim is not completely implausible.
8. The area along the Platte River this refers to is covered with prehistoric sites. Trails were long established in this region, De Smet mapped several of them in the 1839s (Whittaker 2008).
9. Elmer E. Blackman was an Iowa-born archaeologist who became the first archaeologist of the Nebraska Historical Society. Well-respected, he laid the groundwork for later correct interpretations of the Glenwood earthlodges (see JIAS 41, 1994).
10. The author appears to be confusing the earthlodge sites with known late historic Indian graves in the same area. De Smet mapped several burial areas used by historical Indians in 1838.
11. The author is referring to circular ring features found in the western plains. These rings, often made of stone, are typically interpreted as "tipi rings", but ethnohistoric accounts suggest they were built as ritual enclosures. These are unrelated to the earthlodge foundations, with surface expressions of buried house floors and wall remnants.

References Cited

Proudfit, S. V. 1881 Antiquities of the Missouri Bluffs. American Antiquarian 3:271–280.

Whittaker, William E. 2008 Pierre-Jean De Smet's Remarkable Map of the Missouri River Valley, 1839: What Did He See in Iowa? Journal of the Iowa Archeological Society 55:1–13.

Fall Iowa Archeological Society Meeting

Cedar River Complex
Osage, Iowa
September 24, 2011.

What Might We Learn From the Mounds on Blood Run?

-- Dale R. Henning

ABSTRACT

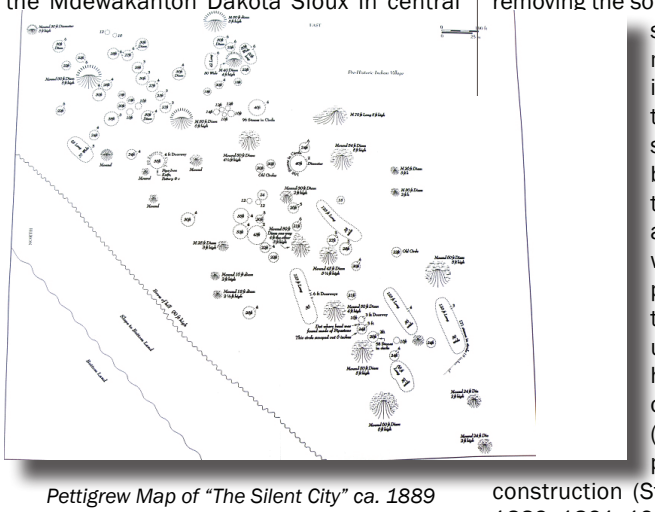
Colin Betts offers a series of compelling arguments explaining the presence of mounds on several protohistoric Oneota sites in northwest Iowa, especially on the largest of those sites, Blood Run. This presentation builds on Betts' well-reasoned ideas. The excavated data are summarized and the artifacts discussed, hopefully amplifying our understanding of when the mounds were constructed and their function in the lives of those who built them. This is a distilled version of a paper read at the 2011 Spring meeting, Iowa Archeological Society.

In the very early 1600s the ancestral Ioway and Oto, then one large and powerful tribe, were living in villages along the Mississippi River on the La Crosse terrace and in the Upper Iowa River and Root river valleys. And, although they knew of Europeans, few had seen one. Eastern tribes, newly armed with modern guns, metal axes and knives, were pushing west, threatening death and destruction. This was a visible threat that could be met with armed resistance. However, unseen and unknown European diseases that were lethal to most Native Americans came along as well. Masses of people died in the face of this invisible enemy.

So what to do? The tried and true medicines did not work – people died no matter what was done. Perhaps it would be best just to get away. Whole villages were abandoned and by A.D. 1650 very few Oneota people remained on the La Crosse terrace (Penman and Sullivan 1996:138). The survivors moved west, some settling among relatives along the Root and Upper Iowa rivers. Others went much farther onto the prairies, locating near Lake Okoboji, even taking up residence with the Omaha at Blood Run. Not only did they move, they apparently took other protective measures as well. Betts' article suggests that in this time of extreme crisis, the ancestral Ioway sought relief through beliefs and rituals that had been successful in the past, a process often referred to as a revitalization movement. A revitalization movement is usually both political and religious, the two interwoven, which promises deliverance from deprivation, the elimination of foreign domination and a new interpretation of the human condition, all based on traditional cultural values.

Mound-building and the associated rituals had been part of the Oneota tradition in the Upper Mississippi valley for centuries, following their Woodland ancestors' beliefs and actions (Betts 2010:99-100). Also, their dead were sometimes intruded into earlier Woodland mounds (Wedel 1959), probably tying their present with practices of their ancestors. Clark Mallam (1976) has presented the idea that Woodland mound building strengthened social solidarity, leading toward renewal and strengthening of values, something that the Ioway desperately needed. Thus, in this time of extreme crisis, the Ioway sought relief through rituals that had proven successful in the past.

Betts argues that the revitalization began in earnest after the Ioway left the La Crosse terrace and moved to the Upper Iowa and Root River valleys where a few Oneota mounds are found (Wedel 1959:108-9). Initially the rituals must have proven successful; they were practiced on all the protohistoric Oneota sites in northwest Iowa. Similar mound-building rituals were apparently adopted by the Mdewakanton Dakota Sioux in central Minnesota who were apparently in frequent and positive contact with the Ioway late in the 17th century (Birk and Johnson 1992; Gibbon 1994, 1995, 2003).



Pettigrew Map of "The Silent City" ca. 1889

Protohistoric mound-building rituals were obviously intensified and enhanced as the Ioway settled in northwest Iowa. Expanding upon known Woodland practices, their mounds were placed within groups of homes and became an integral part of many village units. But like most world renewal movements this one was short-lived, persisting less than 50 years. Lasting positive results apparently eluded the practitioners; mound building and burial were not practiced in the region after Blood Run was vacated.

Mound construction took place on all the protohistoric Oneota villages in northwest Iowa; Gillettt Grove with 12 mounds and a circular earthen enclosed area, Harriman (or Burr Oak) with 12, Milford with several (Keyes 1921) and, of course, Blood Run with 275 (Thomas 1894:38-9). Thus we know that at one time there were over 300 mounds on protohistoric Oneota sites in northwest Iowa. Unfortunately, published information is available on the contents of only 14 of those 300 mounds, all on Blood Run, and most accounts are sadly lacking in detail. Still, we can learn a few things from what we have.

Two methods of mound construction have been identified at Blood Run. Some were comprised of basketloads of soil, rock, gravel and village refuse that was loosely packed. Others were made of a prepared mix of topsoil with a selected grade of gravel then pounded into place, producing a very tough and resilient end product (Benn 1988). This is a man-made soil, an anthrosed. One of the mounds comprised of an anthrosed (see Table 1), dubbed Schermer #1, was difficult in the extreme to excavate. To investigate this mound required pick and shovel firmly (but carefully, of course) applied; trowels were useless in removing the soil. What was it that was being so securely sealed into these mounds? Is it possible that items blamed for infection or the infection itself were being sealed away? We do not know, but I believe that many, if not all the mounds that have survived a century or more of cultivation were constructed using this prepared soil mixture while those produced by heaping up the looser materials have for the most part been obliterated. At least two others (Starr #1 and Pettigrew #1) probably were of this hardened construction (Starr 1887, 1889; Pettigrew 1889, 1891, 1901). I once suspected that the 'hardened' mounds might be older, but we just don't know.

Mounds produced by simply heaping up loose materials (gravel, cobbles and village refuse) have now for the most part been destroyed. We have good information on two, Harvey #1, excavated by the University of Wisconsin in 1964 (Harvey 1979) and one excavated by Charles Keyes in 1926 (Keyes 1926). Harvey # 1 contained five fully-extended burials; burial #4 was apparently intruded into the mound after it was built. A unique central pit feature contained a bison skull with its maxilla and horns cut away (Harvey 1979; Vincent 1964). Keyes found no burials in the mound excavated under his direction, but along the east side there was a large (8 foot diameter) and deep (7 feet) pit that had a burial placed on prepared soil at the bottom (Keyes 1926). In a letter to Keyes, Martin Johnson described a similar deep pit on the south side of the same mound, again with prepared soil in the bottom, but no human remains (Johnson 1948). Whether these pits were part of mound ritual and construction cannot be determined.

Placement of the mounds at Blood Run (see map) offers important insights. See how the houses and mounds are integrated. The Oneota usually separated cemetery areas from residences, a practice we do not see at Blood Run. However, burials beneath the floors of houses have been found at the Tremaine site

continued on page 10

Glenwood, continued from page 6

nineteenth century accounts of traveling across this stretch of the Missouri River floodplain demonstrate that traversing the floodplain was not difficult, even during the presettlement period, before wetlands and meanders were drained and forests were razed. These accounts are 400 years after the abandonment of the area by the earthlodge inhabitants, so although the general ecology and general topographical composition of the floodplain are not likely to be radically different, the location of meanders and wetlands probably differed. Lewis and Clark camped in this area for several days in 1804 and described the river valley as plains with scattered groves. His party crossed the river valley several times without difficulty (Thwaites 1904: 94-95).

A more detailed description of the Missouri valley at the mouth of the Platte was made by John Bradbury in 1810. Interestingly, he easily walked across the valley and back in one day, slowed only by an avoidable wading across an old meander. His crossing was at the north edge of the Glenwood locality.

Creation of Map

Although it is impossible to reconstruct the landscape of 600 years ago accurately, it is possible to reconstruct the presettlement landscape of the area using the 1852 Government Land Office maps. These maps show old meanders and wetlands that have since been drained, as well as older meandering courses for streams that still exist, such as Pony Creek and Keg Creek. It is assumed that even if the floodplain of 1852 is not exactly that of 1400, it provides a closer approximation of the types of obstacles and terrain travelers would have encountered.

After brief experimentation, a model was developed, the limits of the Glenwood locality can be defined by:

Glenwood Model

1. Begin on the east side of the Missouri River opposite the mouth of the Platte as mapped in 1852 and draw a straight line across the floodplain. Lines should extend across the floodplain to the mouths of drainages in as direct a manner as possible.
2. If wetlands, ponds, lakes, or meanders are encountered in the 1852 map, the line should take the shortest route to avoid them.
3. From the mouth of the drainage, lines should continue up the center of the drainage.
4. Lines will stop when the drainage head terminates on a divide or when the total length of the line is 15 km, whichever is first.
5. The western boundary of the Glenwood locality is the terraces immediately below the loess hill bluffs, the other boundaries are where the lines defined in steps 1–4 terminate.

Only 12 of the 241 possible earthlodge sites do not fall within this boundary. The Model predicts the easternmost lodge locations to a remarkably close degree, especially along the east edge of the center of the locality. Lodges are not distributed uniformly across this area, they are far more common the closer one is to the center of the locality, and less along the outside edge, but this not surprising if one considers proximity to the Platte to be a high priority for placement of lodges; this explains why there are comparatively few lodges along the far south edge of the locality; also proximity to existing lodges was probably also a factor.

Discussion

Although there are numerous cultural, ecological, and topographical reasons for the placement of earthlodges on the landscape, a decision to live within a certain distance of the mouth of the Platte was likely an important factor in the Glenwood locality. It is likely that Nebraska Phase people could find suitable lodge sites within a day's journey from the mouth of the Platte. The exact reasons for the clustering of domiciles in close proximity to the mouth of the Platte are presently unknown. There are a number of possibilities to consider from a social landscape perspective including ease of communication and defense, control over river trade or traffic, or short, season-specific (e.g. winter camps) occupations.

Extending beyond the Glenwood locality, it became apparent that other Central Plains sites are clustered at regular intervals along the east side of the Missouri River. Again, the reason for an apparent ca. 15 km spacing is unknown. Possible factors that may warrant future consideration include the possibility that some settlements acted as way stations for traders or travelers, the need for communication based on a day's travel distance, and the possibility that the patterning is an artifact of the archaeological record as it is currently known.

Finally, not all of the mapped sites contain earthlodges and the model does not fit the higher density of Central Plains Tradition sites located on the west (Nebraska) side of the river. Clearly, it will also be important to consider the contemporaneity factor of the mapped sites.

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Blood Run, continued from page 8

(ca. A. D. 1400-1500) on the La Crosse terrace (O'Gorman 1995). Obviously, being close to their deceased was embraced positively there. Mound placement at Blood Run was likely part of the required rituals; the villagers probably took comfort from being close to the mounds and their deceased buried in them.

Now, let's consider the artifacts found in the Blood Run mounds. Of the 14 in our excavated sample, eight produced historic trade materials. Three produced only copper items that could have been made of native-mined ore, but are included in the count of historic items. No historic items were found in five, however, all of the mounds from which no historic materials were recovered were opened without benefit of modern methods and at least two were dug with team and scraper (Pettigrew 1901). Little wonder that characteristic small items might escape notice! Still, perhaps historic items were either very rare in mound fill (Schermer's crew found only one glass bead in 1985) or really were absent. Again, we don't know.

Our artifact inventory suggests that eight of 14 mounds were constructed in the early contact period. How do we know this? Glass Man-in-the-Moon beads, Venetian blue and green glass beads, copper 'sleigh bells,' earrings, tinklers, ear coils and bracelets, iron bracelets and horse bone have all been recovered. Marginella marine shell beads, a conch columella bead and disc beads identified as wampum, perhaps made of marine shell, were also found. They probably came with the European-derived objects. All these items are small, light and easily transported, perfect for down-the-line (Indian to Indian) trade dependent on foot transportation. The horse bone described by Starr initially suggested an intruded burial, but among other accounts of horses about this time (Henning and Schermer 2004:405), La Salle wrote in 1680 that he had seen an Oto wearing a tobacco pouch fabricated from the lower leg of a horse (Wedel 1986). Horses were obviously known and used by a few Native Americans in the upper Midwest by 1680, when Blood Run was occupied.

There are no guns, gun parts or gun-related tools, no axes, adzes, knives or other cumbersome objects in this inventory. In fact, none of these items appear in collections from Blood Run so far as I know. Their absence clearly suggests that, for the most part at least, it was abandoned at about 1700, just a few years before guns and heavier iron tools were introduced to the regional Native American populations.

Gillett Grove and Harriman were probably vacated a bit later and almost simultaneously; their inventories of European trade items and traditional artifacts such as pottery, arrowpoints, scrapers are very similar. Milford, on the other hand, has some locations (there were several separate household units) that have produced gun parts, gunflints, tools and some heavy axe blades, all suggesting occupation when these things were available. Judging from the presence of these items, Milford is apparently the last identified Oneota site in northwest Iowa. With the abandonment of Milford, the Oneota tradition as we know it disappeared; the characteristic pottery was replaced with brass kettles, the ubiquitous chipped stone end scrapers disappeared with metal tools taking their place and the simple triangular arrowpoints were soon replaced by metal points and, of course, the gun.

Shortly after A.D. 1700, archaeological identification of the Ioway, Omaha and others in this region became impossible; their traditional artifacts were no longer used. Thus, historic records became the only source of information about people's whereabouts and activities. So far as we know, mound construction and internment ceased about this time as well.

Excavated Mounds, Blood Run

Mound reported by	Historic Materials	Comments
Risty #1	Man-in-the-Moon beads, copper 'sleigh bells'	"Many human bones"
F. Starr (1886) #1	No historic materials	"difficult to dig"
Starr #2	No historic materials	Village refuse
Starr #3	Horse bone, iron bracelets, wampum, cuprous earrings	Several skeletons, dog wrapped in buckskin
Starr #4	No historic materials	Discoidal, maul, jar fragment, bone frags
Pettigrew #1	Necklace blue glass beads	coarse gravel, clay matrix, skeleton, some village refuse
Pettigrew #2	No historic materials	One skeleton, "hammer," pottery
Pettigrew #3	No historic materials	Many fireplaces, ashes, bones
Pettigrew #4	Small copper serpent	Several skeletons, "hair beads"
Pettigrew #5	Copper bracelets and beads	One skeleton, bracelets on left arm, beads around neck
Keyes #1	No historic materials	One skeleton w/copper coil earrings in deep pit (storage?) adjacent to mound, with animal bone, 10 scapula hoes
Johnson #1	No historic materials	No burials, stone circle ca. 4' diameter, big stone in center, rock line extensions N and S
Harvey #1	Blue glass beads, copper ear coils	5 extended skeletons, red stone pipe, marine shell beads, bird bone tubes, village refuse
Schermer #1	One bluish-green glass bead	Anthrosed construction. 3 shallow pits, two possible hearths, axe, village refuse.

A few tentative conclusions:

1. Mound-building ritual and the internment of the deceased in mounds was vitally important to the lives of the protohistoric Oneota villagers in northwest Iowa. It is interpreted as a response to the many threats posed by European encroachment.
2. Oneota mound-building ritual and construction in northwest Iowa probably began ca. A.D. 1650 and ceased after the Omaha and Ioway left Blood Run ca. A.D. 1700.
3. Formal mound internment of human remains was not always a ritual requirement.
4. Most of the European-derived items found at Blood Run, Gillett Grove and Harriman came down-the-line through Native American contacts, not directly from European traders.
5. There may be a sequence of village abandonments: Blood Run was first, followed by Gillett Grove and Harriman, then Milford. Milford was the last identifiable Oneota village in northwest Iowa.

References Cited

A complete list of references is available on the IAS website: *http://www.uiowa.edu/~osa/IAS/index.html*

How I Became an Arizona Mudslinger

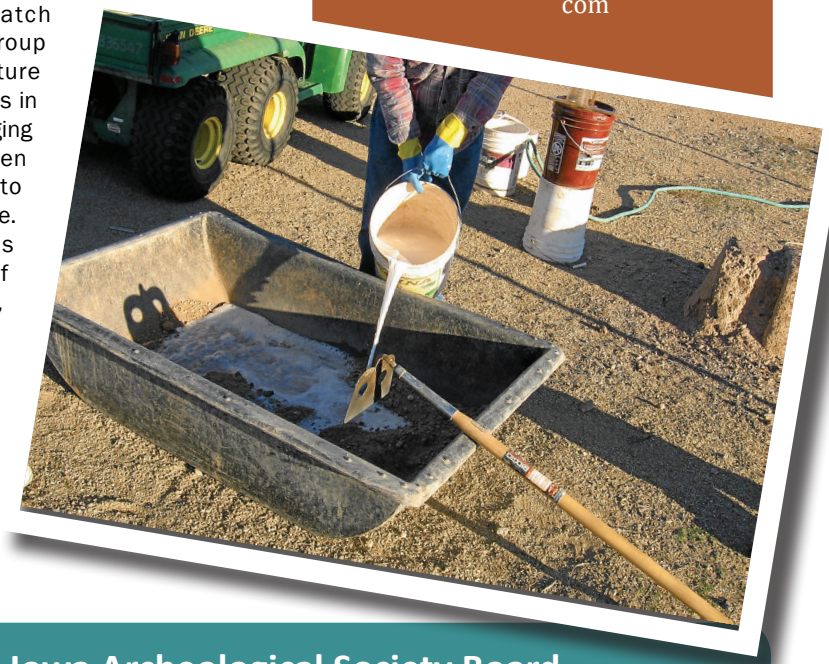
By Don Raker, IAS President

No, not an Arizona gunslinger, but a mudslinger. Don Raker, President of IAS, traveled to Arizona for a few weeks this past winter and joined the Arizona Archeological Society (AAS). The AAS meets at the Pueblo Grande Museum and Archaeological Park, the site of a 1,500 year-old Hohokam village ruin in metropolitan Phoenix. Pueblo Grande contains an 800 year-old, Classic period, Hohokam Platform Mound ruin, reconstructed houses, and a ball court.

Once a month, the AAS calls out the mudslingers. At Pueblo Grande, the adobe walls of the platform mound are formed from "caliche." Caliche is a sedimentary rock, a hardened deposit of calcium carbonate. This calcium carbonate cements together other materials, including gravel, sand, clay, and silt.

Don was invited to help the mudslingers with their monthly maintenance of the walls of the platform mound. Though infrequent, the rain erodes the walls and causes salt crystals to form, creating expansion cracks in the caliche and rock walls.

The "mud" is a mixture of sand, desert caliche, and a bit of polyvinyl acrylic polymer – similar to that used in patch cement. The group applied the mixture to eroded sections in the walls by slinging the mud and then using a trowel to smooth the surface. The mud seems to stick better if it is slung first, hence the term "mudslingers."



Right: "Mixing the Mud"

Photos submitted by Don Raker

Don Raker at Pueblo Grande Museum Mudslinging Event

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Spillville Mill Demolition

On June 23 the "Big Stone Mill" at Spillville was unexpectedly demolished by its owner, despite having recently been listed on the National Register of Historic Places and receiving a preservation grant from the State. The mill was depicted on the cover of the Fall 2010 newsletter.

Photos courtesy of Joyce Meyer Photography.

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