

iowa archeological society  
**newsletter**

vol. 35, no. 2

1985

issue 114

## FURTHER NOTES ON THE RATCLIFFE "DRAGON" PIPE

by Jordan Paper

When recently visiting north-east Iowa, Clark Mallam showed me his note on the Ratcliffe "Dragon" pipe (1983) and asked if I could shed further light on the artifact. I am pleased to be able to pass on the following observations.

Concerning provenance and date, Orr (n.d.) had good reason to connect the pipe with Iroquoian culture. An early article by Parker (1916:pl. 21, Fig. 5) illustrates a pipe very similar but not identical, to the Ratcliffe pipe from an Erie site in Iroquoian cultural context. Other relatively similar pipes have been found in southern Ontario (West 1934:pl. 120, Fig. 1) and western Pennsylvania (West 1934: p. 382, Fig. 3).

However, the date of manufacture of the Erie pipe is considered to precede the Iroquois (Parker 1916:488). Current consensus places similar pipes in the Early Mississippian period (A.D. 900-1300); e.g., a pipe similar in execution of a parrot-like bird with bowl on shoulder and stem-hole in back (Brose 1985:pl. 127). Pipes from earlier periods have been found in Oneota contexts; e.g., part of a monitor pipe (Wedel 1959:Fig. 4g) from the Middle Woodland period. Hence, Mallam's (1983:2) suggestion that the pipe "had been manufactured during an earlier period and was later found and used by the Oneota" is the probable explanation.

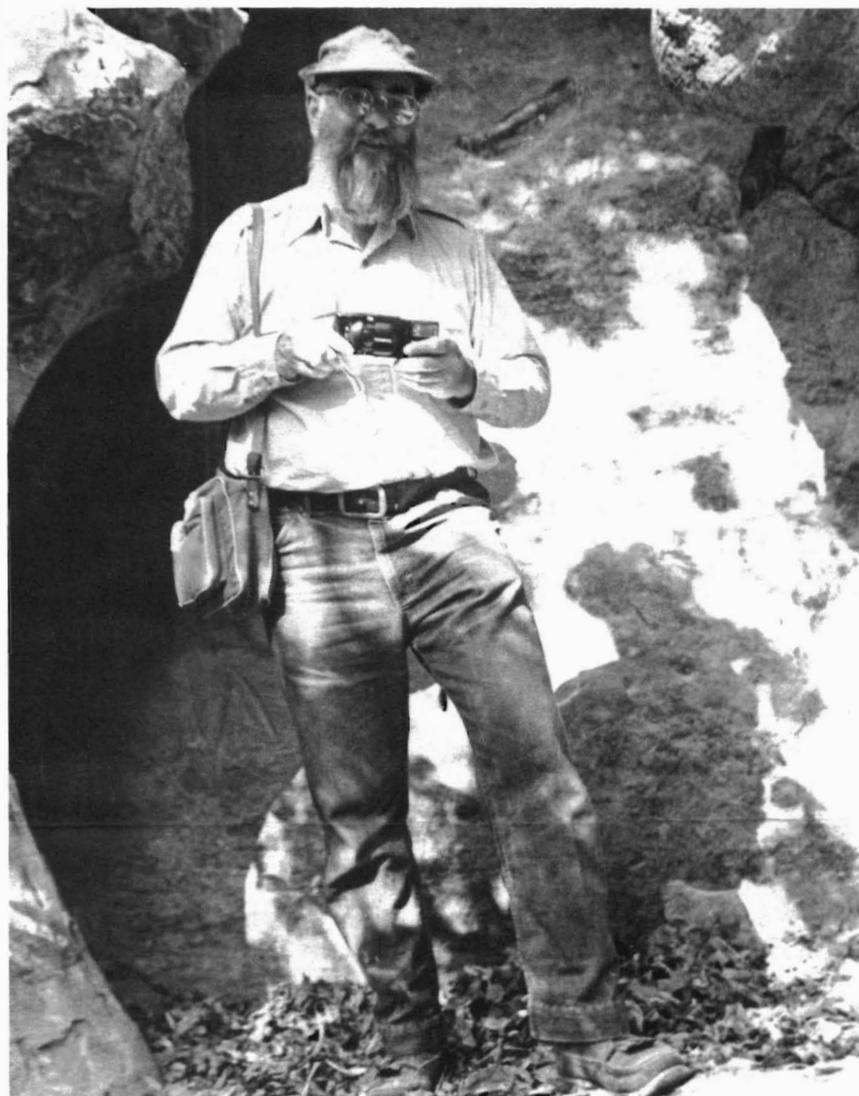


Photo: Clark Mallam

Photo of Jordan Paper standing at entrance to Blake's (Malone) Crevice on Bear Creek in Allamakee County, Iowa.

Regarding the interpretation of the pipe shape, Orr's interpretation of a lizard with a monkey's head was based on early descriptions of the above men-

tioned pipes. These descriptions were not based on ethnological data and are presently untenable. Two interpretations would fit the relevant ethnological data.

One possibility is the "underwater panther", the aquatic paired opposite to the thunderbird in the Great Lakes area. A figure not unlike that of the Ratcliffe pipe can be found on a twined bag collected between 1800 and 1809 in southeastern Ontario (Phillips 1984: pl. 20 recto) which may represent this powerful spirit.

A second, corresponding possibility is that of the otter, the skin of which is favored for Midewin medicine shooting bags. (Since the otter is a semi-aquatic mammal, the "underwater panther" of the twined bag may actually be an otter.) A disk pipe with a clearly depicted animal, seemingly an otter, carved on the rim is similar to the figure on the Ratcliffe pipe. While it is not possible to be certain which of the two possibilities the Ratcliffe pipe represents, the shape of the animal--long-tailed, four-legged mammal with short ears and a snout--clearly indicates one or the other.

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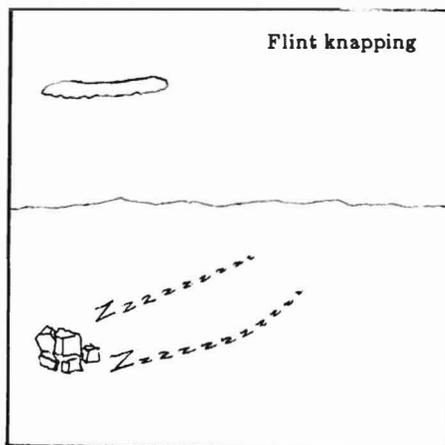
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#### INCITES



#### MEMBERSHIP DRIVE

At the 35th Annual Meeting held in Cherokee in April we discussed the importance of increasing our membership in order to continue to support our publications, field schools, and other society activities. Each of us is encouraged to recruit at least five new members during the coming year. Let Ruth Thornton know which newcomers you are responsible for, and the individual with the most recruits will be recognized at the Annual Meeting to be held in Iowa City next spring.

by David W. Benn

People who surface collect cultural artifacts quickly recognize where the most prolific sites are located. Most also learn how to locate new sites by searching blufftops and river and stream terraces. Places with good water, access to firewood, close proximity to floodplain resources, or positions providing broad vistas were favored by Indians for their habitations. Today, modern farmsteads, suburban housing and towns often are situated in the same places.

There is a general perception that the landscape is stable except for rivers and streams that tend to meander through valuable cropland. The perception of landscape stability is bolstered by observing that ancient Indian sites often occur where modern people live. Thus, there develops a feeling of geological timelessness (e.g., the Grand Canyon is "permanent"). Instances of buried Paleo-Indian sites or beer cans buried three feet in the mud of the Mississippi floodplain are viewed by this "timeless" mindset as anomalies (e.g., historic land clearance caused increased sedimentation). Many archaeologists, who focus solely on the ground surface for survey and testing, have the concept of landscape stability as an implicit part of their methodology.

The Saylorville Lake project is a good place to explode the notion of a stable landscape. The late Wisconsin glacial ice covered the territory north of the City of Des Moines (i.e., the Des Moines Lobe) until 14,000 years ago (B.P.). The ice melted into Minnesota by 13,000 B.P., and massive amounts of meltwater from the wasting glacier carved the present Des Moines River valley. All of the Des

## PART TWO: LANDSCAPES AND ARCHAEOLOGICAL SITES

Moines valley north of Saylorville Dam was formed during the time paleo-man was present in the New World. Since then (i.e., during the Holocene period, 10,500-present) the main valley has been filling with sediments while small side valleys have been downcutting and therefore supplying sediment to the fluvial system (Figure 1). Far from being stable, the central Des Moines valley has undergone dynamic landscape changes which are continuing today.

Prehistoric Indians lived and foraged on the changing landforms in the valley and on the uplands around the valley. Upland locations have been relatively stable since 13,000 B.P., although cultivation, denuding of vegetation and recreational uses have accelerated the rate of surface soil erosion. Some uplands east of the valley received increments of windblown sediments from the glacial valley, and these deposits have migrated during the Holocene and buried some upland Indian sites. Indian sites in the valley were positioned on landforms with widely varying degrees of stability. To understand how these sites came to be formed and preserved, it is necessary to analyze the geological formation processes of the landforms.

Benches (Figure 1) are erosional surfaces that represent a former base level of the glacial-aged river. Most bench landforms occur at several elevations perched high on the sides of the Des Moines valley--positions that have been relatively stable, like the uplands. But, the flattened surfaces of lower benches became sediment traps for colluvial (i.e., gravity flow) slopewash during the Holocene. Indians favored benches as occupation areas, and cultural remains older than circa 1,500 B.P. may be

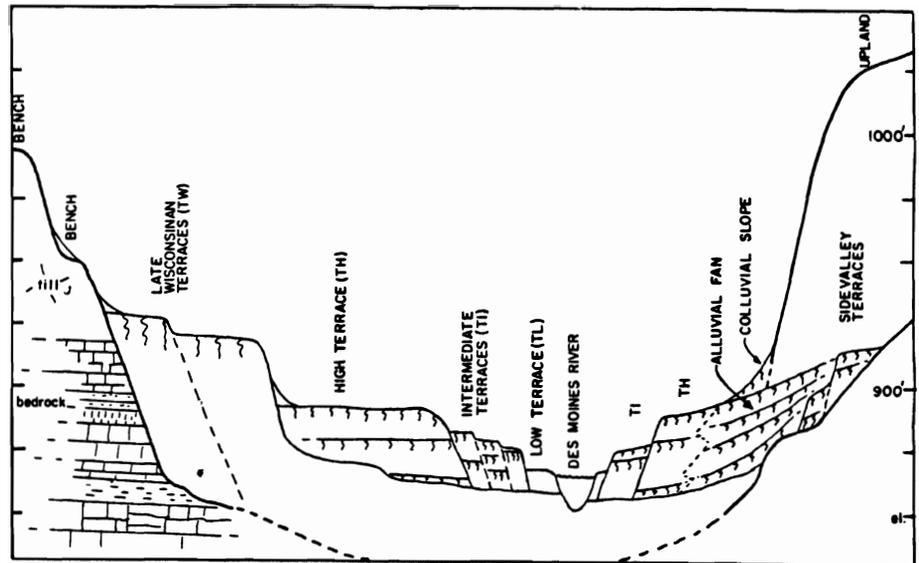


Figure 1. Schematic cross-section of landforms in the central Des Moines River valley, Boone Bottoms vicinity; wavy, vertical lines represent soil horizons developed in sediments (vertical scale is elevation above mean sea level; horizontal scale is compressed).

buried beneath colluvial sediments.

Late Wisconsinan terraces (TW) were formed when massive glacial floodwaters dumped their sediment load of sand, gravel and boulders in the main Des Moines valley (14,000-12,000 B.P.). Most of the TW system was removed later by river downcutting. The TW remnant is the highest terrace that borders the present-day valley; it is the current beachline in the lower part of Saylorville Lake. The TW has a thin, loamy topsoil overlying many feet of sand and gravel. These terraces are favored for modern day cultivation and gravel quarrying. Indians likewise preferred the TW for camps and villages because it was well drained and rarely flooded. The thin TW soil and stability of this landform as far back as circa 12,000 B.P. are factors that have resulted in most archaeological remains being incorporated in the plow-zone.

Landforms formed during the Holocene period dominate the present floodplain of the Des Moines valley (Figure 1: TH, Fans, TI, TL). These landforms were created by episodes of alluvial (i.e., waterborne) deposition of silt and sand and by river downcutting. The Holocene landforms are a complex of ancient soil surfaces, former river (meander) channels and channel and flood sediments that have regular, predictable patterns of structure. Geologists and soil scientists can untangle the evidence in the landforms by analyzing the soil formations, sedimentology and position/elevation. The data are the context for determining where, how and why archaeological remains are preserved in alluvial landforms.

The initial Holocene landform did not begin forming until after 9,000 B.P. Thus, evidence of the Paleo-Indian period can only occur in the uplands, on benches, on TW terraces and on a low

floodplain that once existed beneath the Holocene terraces between 12,000-9,000 B.P. That floodplain is in the water table and is not exposed in the present-day valley. We know Paleo-Indians visited the area by their projectile points found on the uplands and on benches. If these people also utilized the floodplain, it will take special archaeological techniques to reach that evidence.

After 9,000 B.P. large amounts of sediment began to be eroded from small sidevalleys in the project area. This was the beginning of the Hypsithermal period, a time of slight warming and drying on the plains and prairies of the midcontinental United States. As the sediment laden streams emerged into the main Des Moines valley, part of the sediment load was dropped at the mouths of side valleys, forming alluvial fans (i.e., cones of sediment). The remaining sediment was carried into the river and deposited as the High Terrace (TH) when the river meandered and flooded beyond its banks. The deposition of alluvial fans and the TH was episodic; that is, there were periods of heavy sedimentation alternating with times when sedimentation was slow, soils were weathered into the (temporary) surfaces of the fans and TH (see the wavy, vertical lines in Figure 1). The Sweet Jane Fan (13BN279), one of many alluvial fans in the project area but the only one with an erosional cut-face, contained evidence of at least seven soil surfaces (Figure 2). The primary Fan and TH sediments ceased accreting about 2,500 years ago.

Archaic Indians lived and procured floodplain resources on the TH and alluvial fans. Fans must

have been preferred especially as locations for long-term camps, as these sites often yield a wide variety of food remains and an assortment of domestic tools. Archaeological material can be well preserved if fan sediments quickly buried an occupation area, but human evidence also has been destroyed by sheetwash and gullying that are part of the natural formation processes in fans. Indian sites buried as the TH was forming tend to be small, temporary camps or procurement locations yielding a narrow range of foods (e.g., fish, turtles, ungulates, seeds), fire-cracked rocks and few chipped stone tools. These temporary sites were situated on river levees in the active floodplain, so they probably were occupied seasonally. No excavations have reached the bottom of the TH, the position where Early Archaic sites should be preserved. Several TH excavations have penetrated the Middle and Late Archaic horizons, which occur in and between buried soils at depths of 1-4 m.

After 4,000 B.P. when the warm Hypsithermal episode had ended, the Des Moines River began downcutting. There were alternating episodes of downcutting and deposition on the floodplain for the next 3,300 years. This period of the late Holocene saw the creation of the Intermediate Terraces (TI, Figure 1) and the concurrent erosion of large parts of the TH as the river migrated back and forth. Many alluvial fans were gullied or destroyed as well during this period. Late Archaic and Woodland period peoples continued to utilize the floodplain (TI terraces) as they had previously, but the nature of the archaeological deposit on the TI is different because of the structure of the landform. While TH has relative-

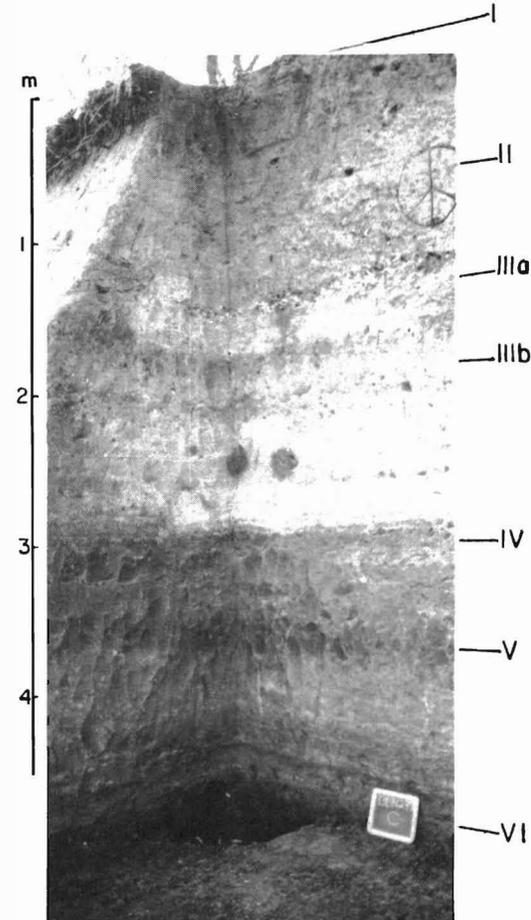


Figure 2. Excavation block C at the Sweet Jane Fan (13BN279); soil horizons are numbered by Roman numerals; thin gravel lenses are visible between horizons II and IIIa and between IIIb and IV (scale matches to the back corner of the block).

ly uniform and level sediments in the horizontal dimension, TI terraces are composed of "ridge-and-swale" (i.e., levees and channel scars) topography. In the TI the elevations of contemporary strata are not the same, so excavation levels must be correlated with natural strata or site materials from separate occupations will be hopelessly mixed. Cultural material is well preserved on the TI, but often it is deeply buried, and intensive subsurface survey techniques are required to locate it.

## Annual Meeting

Cherokee  
April 20-21, 1985  
Minutes

TI terraces continued to form until 750 B.P., with each younger terrace filling a lower position closer to the present river's meander belt. The youngest TI in the Saylorville project has at least two Oneota campsites on it, but nothing older than the Late Woodland period. During the last 750 years the Low Terrace (TL) has been forming. The TL is the accumulating sediment on the inside turns of the river. The TL tends to be wet for part of the year and is covered by floodplain forest or new stands of willows. It is rarely cultivated and has not yielded evidence of archaeological material.

The 12,000-year record of geological events in the central Des Moines valley illustrates two points that are significant from an archaeological perspective. The first point has been made several times: that landscape stability is a relative concept that depends on the period of time in question. We see the land as being fairly stable during our own lifespans, and prehistoric people surely had the same perception when they repeatedly utilized floodplain terraces for their settlements and subsistence. But, archaeologists are concerned with the *chronology* of cultural change that spans *many* generations of human beings. The same concern should be given to changes in fluvial systems which span equally great periods of time.

The second point for an archaeological perspective is revealed by evidence given above. It is that substantial portions of paleo-landscapes are missing from the record. For instance, large pieces of the TW and TH have been destroyed by river migration, and alluvial fans in some reaches of the project area have been completely eroded or gullied due to relatively recent

shifts in the location of the river channel. Additionally, sections of the TI are gone because they were adjacent to the actively meandering river channel where the TL is forming. Because cultural remains occur throughout the existing landforms, it is presumed that parts of the prehistoric human record were destroyed with the missing landforms. The archaeology that is missing may be more than a minor proportion of the sample universe. There are no hard figures yet on what has been voided from the record; yet, in terms of Middle Archaic and small Oneota sites, it would not be surprising to find that 20-50% of the record is missing.

The study of landscape evolution allows prehistorians to gain profound insight into prehistoric cultures. When hundreds of buried sites are located in the floodplain of the project area, the presently perceived settlement patterns of many culture periods will have to be revised. These buried sites will yield better preserved and sometimes different evidence of culture patterns than do surface sites in other contexts. The new evidence will cause redefinition of some culture periods. The most far-reaching result of landscape analysis is that for the first time it will be possible to estimate actual site densities, not in two dimensions (from the surface) but in three. Calculations of site densities will help in making estimates of aboriginal population sizes and will provide quantified site data for long-term management of cultural resources.

Editor's Note: Part 1 of David Benn's "Saylorville Log" appears in Vol. 35, No. 1 of the *Newsletter*.

The meeting was called to order by President Dick Slattery at 4:10. The minutes were summarized to save time. The treasurer's report was given. Ruth Thornton reported that the new household membership category had increased significantly and appeared to be very successful. The minutes and treasurer's report were approved (Dale Gifford/Dale Henning). Slattery reported that difficulties encountered during the year with the Internal Revenue Service had been overcome without financial penalty. Dave Stanley reported that his first Newsletter cost much more than the estimate but that costs could be kept at a minimum by using fewer pictures. The next issue may be out by the end of the month. Nancy Osborn indicated that the 1985 Journal will be out in 1985.

An election was held to select a President, a Vice-President, and three board members. Dick Slattery and Dave Carlson were reelected as President and Vice-President respectively, and M.J. Hatfield, Mike Hosbein, and Dennis Miller were elected to the board.

The next annual spring meeting of the IAS will be held in Iowa City. (This was the result of a motion, a second, and a voice vote. The Secretary was counting paper ballots and so missed just who did what!).

Dale Henning announced plans for the IAS field school which will be held at Blood Run in Lyon County. The crew will salvage several cache pits which have been disturbed by gravel quarrying operations.

The following resolutions were unanimously approved:

1. The Society wishes to thank Mike Hosbein and the members of the Northwest Chapter, Terry Walker and the staff of the Sanford Museum, as well as members of the Sanford Museum Association for arranging the fine program for the 35th Annual Meeting, the excellent facility, and the delicious dinner. We also thank the Cherokee Charley Club for the donuts and cookies and the Cherokee Garden Club for the delightful spring centerpieces.

2. The Society extends its sincerest appreciation to Dr. Stuart Strever, founder of the Foundation for Illinois Archaeology and the Crow Canyon Center, for his excellent presentation.

3. The Society thanks those who presented papers, gave workshops, and otherwise participated in the program of the 1985 Spring Meeting, making it a success.

4. The Society thanks the officers and directors who have served during the past year including Don Spears and Betty Henning whose terms ended this year; and to Nancy Osborn and David and Lori Stanley for the fine Society publications. The

Society welcomes Mike Hosbein and Dennis Miller to the board of directors.

5. The Society thanks all those members who attended the 35th Annual Meeting, those members who participated in the Glenwood Earthlodge 1984 Field School, those members who registered sites, and those members who signed up new members--for without their continued interest and enthusiasm all of this would not be possible.

6. The Society extends a special thanks to Terry Walker for making the 1985 Annual Meeting a success.

The meeting adjourned.

Debby Zieglowsky  
Secretary

### Annual membership dues are as follows:

#### VOTING

1. Active - \$10
2. Household - \$17
3. Sustaining - \$25
4. Benefactor - \$250 minimum

#### NON-VOTING

1. Student (under 18) \$7
2. Institution - \$10

Dues should be sent to:

Mrs. Ruth Thornton  
326 Otsego Street  
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## SPRING MEETING TO BE HELD IN IOWA CITY

The Annual Meeting will be held at the Iowa Memorial Union on April 12-13, 1986. Every effort has been made to avoid conflicts with other organizations. Please mark your calendar. If you have any suggestions for the program, please send them care of the *Newsletter* editors.

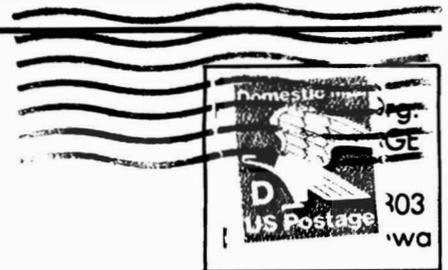
## EDITORSHIP CHANGES

At the Board Meeting held October 25, 1985 David and Lori Stanley reported that other commitments precluded them from continuing as editors of our *Newsletter*. The Board asked the Office of the State Archaeologist to take over the three unfinished issues for 1985 and to serve as editor until the time of our annual meeting in April 1986. We are grateful to the Stanleys for their service and to the OSA staff for taking over on an interim basis. We should be up to date by the first of the year.

Richard Slattery  
President

This issue of the *Newsletter* has been computer typeset by Laura Hudson.

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