



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

Iowa archaeological reports 1934 to 1939. Volume IV, Sundry archaeological papers and memoranda, 1935. Number 20, Volume IV 1963

Orr, Ellison

[Madison, Wisconsin]: Society for American Archaeology and the
University of Wisconsin Press, 1963

<https://digital.library.wisc.edu/1711.dl/RPT55VHPQ2XCO8G>

<http://rightsstatements.org/vocab/InC/1.0/>

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

Archives of Archaeology
Number 20

IOWA ARCHAEOLOGICAL REPORTS 1934 TO 1939

(TEN VOLUMES)

by Ellison Orr

Volume IV: Sundry Archaeological Papers
and Memoranda, 1935.

EDITORS OF THE SERIES

David A. Baerreis, Chairman
Stephen F. De Borhegyi
Thomas N. Campbell
John B. Rinaldo
John J. Solon

University of Wisconsin
Milwaukee Public Museum
University of Texas
Chicago Natural History Museum
University of Wisconsin Press

Vol. 4

SUNDRY
ARCHAEOLOGICAL PAPERS
AND
MEMORANDA.

1935.

By Ellison Orr

INDEX Vol. 4

A Preliminary Study of the Pottery of the Onecta (Siouan) Culture	1
The Indian Cave and Sugar Bush at Sixteen	38
The Indian Cave at Lansing	50
The Alexander Mounds	58
Digging a hole in Mound # 4 _____ Paint Rock Mound Group	68
The Oregon Clam Shell Cache	76
The Turkey River Mound Group	77
The Burned Earth Mound Waukon Junction	81
An Old Trail	99
The Name, "Onecta"	101
Neolithic Man	102
Change in Mayan Art	102
Stone Age Tool in Nebraska Cliff	103
Glaciation of the Santa Monica Mountains	105
Effect of climate on Prehistoric Culture	106
Folsom Dart Points Distributed Over Wide Area	107
Luster Heights Mound Group	109
Brockman Bluff Mound Group	110
Marin's Fort	111
Mound Group S. of Hanging Rock	114
Sadler's Cemetery Mounds	115
Mounds of Yellow River	115
Excavation of Graves on Oregon Terrace	116
A Gigantic Fossil Sponge	119
Aboriginal Camp in the Far South	125
No Barbed Flints in European Paleolithic	125
Arrow Misses the Mark	125
Material from Flint Ridge	126
Was Man in America during Ice Age?	129
Feminine Deities	130
Corn Raised by Indians	132
Necklaces of Long Beads	132
Food Plants Contributed by Indian	133
Obsidian with Mammoth Bones	136
Some Irish History Notes	138
Known Indian Mounds - Allamakee and Clayton	139
A Study of the Mill Creek Culture	145

A PRELIMINARY STUDY OF THE
POTTERY OF THE ONEOTA (PHASE OF THE SIOUAN) CULTURE

[Editor's Note: The statement reproduced below was evidently attached to the first page of the report on Oneota pottery by Mr. Orr in 1940 to clarify the changes in terminology that had taken place since the report was first written in 1935. The first four pages of the report have been retyped to incorporate editorial changes made in pencil that would be difficult to read on microcard.]

The prehistoric people whose pottery is described on the following pages were called the Oneota by Dr. Charles R. Keyes who first studied them.

They are now (1940) designated as the Orr focus of the Oneota aspect of the Upper Mississippi cultures.

They belong to the Sioux family - the second largest linguistic group in North America.

In the future the scheme of their relationship may be further changed.

Year by year as we study and coordinate what we learn of the prehistoric Indian by literally "Digging up the Past", our present conceptions of their civilizations and relationships are bound to change.

We must judge our descriptions and conclusions made at some time in the past by our knowledge at that time and not by what we know now.

A PRELIMINARY STUDY OF THE
POTTERY OF THE ONEOTA (PHASE OF THE SIOUAN) CULTURE.

(A Second Paper)

Fragments of the type pottery of this phase of the Siouan culture, as defined by Dr. Keyes, (See Palimpsest for June, 1927) are, or speaking more accurately, were found, in great abundance on the flood plains, terraces and low sandy shoulders and spurs of the bordering bluffs of the Oneota or Upper Iowa river in Allamakee County, Iowa. It does not occur on the tops of the bluffs along that stream nor on the general upland peneplain. Also, from the very numerous burial places and caches discovered on the locations mentioned much of this pottery has been recovered, - either whole or that could be restored.

The graves of the people of the Oneota culture are shallow, being not more than two and one-half feet deep, and occur singly or in groups of up to twenty, perhaps even more. The skeletons found in them are in an extended, or sometimes reclining, position. Rarely "bundle burials" are found.

Although they used the mounds built by earlier occupants of the valley, as burial places, there is no unquestioned evidence that they themselves were mound builders.

The mortuary vessels with these skeletons are always packed solidly full of earth, and usually have been more or less broken up by the pressure of the earth settling, sometimes beyond repair, at others not so bad but that they can be made whole again. At times incomplete vessels are found - beyond question placed with the burials in that condition - a deposits of sherds - often of different vessels - are not rare.

Some forty years ago it was discovered by the people living in the valley that certain small areas covered by flat rocks were "Indian graves", and knowing that these were quite likely to contain "relics" that could be sold to collectors, they sought out all such and the results of their digging were scattered widely.

Now that the rock covered graves have all been despoiled, those that were not so covered are found only when a burial place or cache is uncovered in building or maintaining roads or when washed out of the ditches by storm water, or in the systematic trenching of a "cemetery".

Pioneer settlers have told us of the great quantities of pottery fragments turned up by their plows on the camp sites when they first began to cultivate the bottom lands or flood plain of the river. So plentiful were these that eventually they failed even to excite their curiosity - they were there as a matter of course. Sometimes they "picked up handles and carried them home", there they soon were lost or carried off by visitors.

But since the settlement of the country by the whites, these bottoms have been covered by from eighteen to twenty-four inches of silt left by the floods, effectually covering for all time the original black loam surface soil with its rich content of this broken pottery and other evidences of prehistoric occupation.

Oneota Culture pottery is made of clay tempered with crushed clam shells. The particular kind of clay used cannot now be determined. Besides the black soil of the bottom lands and the gray soil of the upland forested areas, three kinds of loess are available. The shells were probably of a small thin-shelled species found in the nearby stream, and of which we found in 1930, a cache of a bushel or more buried in the bank beside the road at the west end of the Oregon terrace.

This tempering material, running all the way in size from mere specks to thin flakes one-tenth of an inch across, was mixed very uniformly with the clay, forming more than twenty-five per cent of the mixture or aggregate.

In firing it turned some shade of ash or drab, or sometimes a brownish or yellowish. Sometimes a dirty white or cream color, or sometimes black, or with large patches of black and a light color irregularly intermingled.

Often the bottoms were subsequently blackened by soot from use in cooking, some incrustation of which occasionally still remains. Some incrustation, too, of food burned black is not uncommonly found inside. Because of this burned food adhering to the inside and soot to the outside, it is quite evident that the same pots used by the individual while living were placed beside his or her body when interred.

On some of the vessels a film of coloring on the outside is of different shades of a light pinkish brick color. This may have been produced by the admixture of some coloring matter with the aggregate, or it may have been produced by the use of a slip.

Occasionally pieces that have been cached in the valley loess show a thin incrustation of lime carbonate that has leached out of the clay since they were buried there.

The quite apparent different uses of this pottery divide it easily into two classes.

One being the small vessels (pots) from two to ten inches in diameter, with an average of five, used in cooking and for depositing in the graves with their dead. The other, large vessels with an average diameter of sixteen inches, were evidently used for storage as they are not found with burials and never have incrustations of soot. Usually they are found as cached fragments - seldom whole.

The average thickness of the walls of the smaller vessels was not far from twenty hundredths of an inch, the larger being from twenty-five to fifty hundredths.

The first mentioned might be called the culinary or mortuary class, depending on whether or not it was found with a burial. The second, the storage class.

All pottery of this culture, and especially that comprising the larger class, must have been fragile enough to have required very careful handling. It would seem that it would not be possible to move it about to any extent, and the occurrence of quantities of fragments indicate a quite sedentary people and long occupancy of camp or village sites along the Upper Iowa river.

As to shape, there may be said to be one principal type which may be defined as having a globular, ellipsoidal, or depressed spherical bowl.

At the top is a round or oval neck quite uniformly two-thirds the diameter of the body and surrounding an opening in the same with which it is connected by an upward curve of the walls.

This type has many variants.

The body may be an almost perfect sphere or its horizontal diameter may be greater one way than the other; the top may be considerably flattened, or it may be drawn out upwards; and the necks of no two be exactly alike.

Some necks are curved or rolled outwards either much or little, at times forming the segment of a circle whose diameter is equal to the height of the neck. These latter are, however, the exception, the usual type having much less curvature.

A less usual type of neck is straight sided, and we have a piece of one that curves inward.

The height varies from one-half inch in the mortuary class to three inches in some of the larger class.

Occasionally there is an exactly vertical neck but usually they flare outward in the straight sided ones, giving a funnel shaped appearance.

Usually the rim of the neck is pinched out thinner than the other part.

Usually on each vessel, directly opposite from each other, are two handles attached to the neck and body in the same manner as the handles of a common (white man's) jug.

In size these handles are all the way from those on the mortuary class, through which not even the little finger can be thrust, to those of some of the larger vessels that will admit of the insertion of three fingers.

Most of the handles have on the outside from three to five strong pronounced ribs, the usual number being four, whether to strengthen or placed there for ornament, is problematical.

Except that the necks are round or oval to correspond with the body, and that the necks of the mortuary vessels are uniformly one-half inch in height, there seems to be no definite relation in size and shape between them and the bodies - some of the largest vessels having a neck no more than one inch high, others being three inches.

Occasionally vessels of the general type have quarter inch holes on either side instead of handles, and a few have an additional pair of handles attached at right angles to the other two.

A somewhat unique variant of the general type is one with a boat-shaped bowl, the top being much depressed and the bowl drawn out in its longest diameter to a blunt turned up point. Only two specimens of this type are known. One in the State Historical Society's collection and one in the Timmerman.

A second type of the Oneota culture pottery is a vessel shaped like a common bowl. This type has a one-fourth inch hole through opposite sides near the rim.

Of this type we know of but one specimen, dark red, much blackened and without ornament.

A third type is the small pear or barnacle shaped child's mortuary pottery. These are poorly made unornamented vessels having a diameter of around two inches.

Cross sections of Oneota culture pottery fragments show a very decided laminated appearance. This and the very evident moulding of the inside by hands, as indicated by the unevenness and finger marks, seems to indicate that the material was spread out and rubbed down by a paddle against a hand held as a support on the inside.

Pottery of the Orr aspect of the Upper Mississippi culture show only the simplest patterns of ornamentation, consisting of shallow incised lines made with a blunt pointed instrument having a width up to three-tenths of an inch, or with the finger, or a rounded spatulate bone.

These lines radiate not very regularly out from the neck to the "swell" or greatest diameter of the bowl. Sometimes so arranged as to form crude triangular figures.

One fragment in our collection was ornamented by drawing the finger downwards and outwards from the neck to the swell at distances apart of from one to one and one-half inches. The pressure applied to the soft material in making these produced corresponding bulges on the inside.

This piece also had a coating of lime carbonate.

Necks are unornamented except for indentations on the rim.

Of sixty-three rims, seven show no indentations. Others show the characteristic finger marks, twenty to fifty one-hundredths of an inch wide and five to ten one-hundredths deep.

In a few the indentation was made by pressing the finger diagonally across the rim, but in most it was made by pressing the end straight down making a distinct impression of the end of the nail.

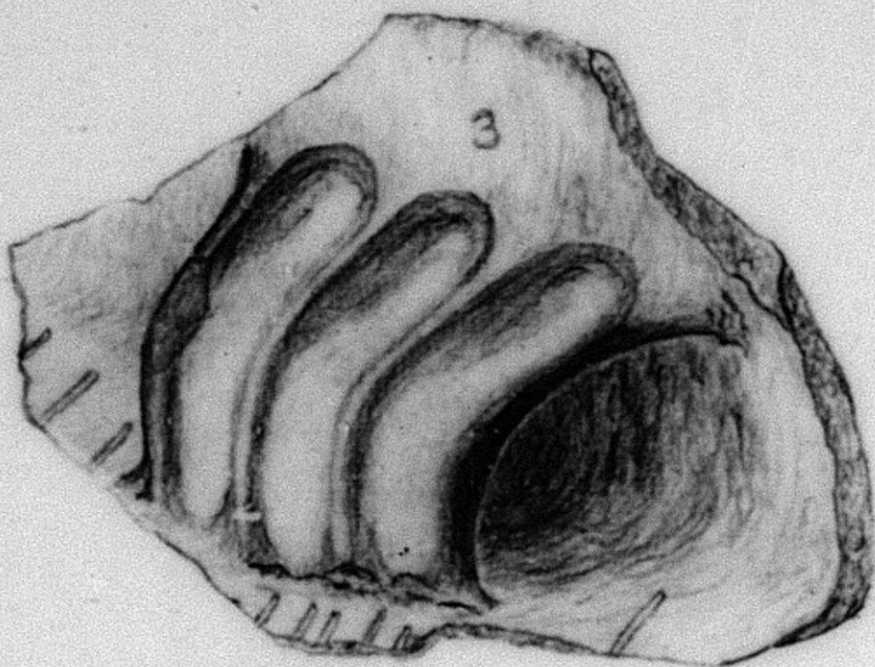
On the whole we may say that the attempts at ornamentation produced only the crudest results.

We have three specimens of Oneota culture pottery that were ornamented by stabbing or pricking in irregularly with a blunt, round pointed instrument, - once in connection with narrow incised lines so arranged as to form crude triangles.

Finally it may be said, that while the people in this culture had acquired the skill to shape very symmetrical pottery of one general type and produce quantities of this, and had the artistic ability to vary this type greatly, still they were unable to originate anything but the crudest ornamentation.

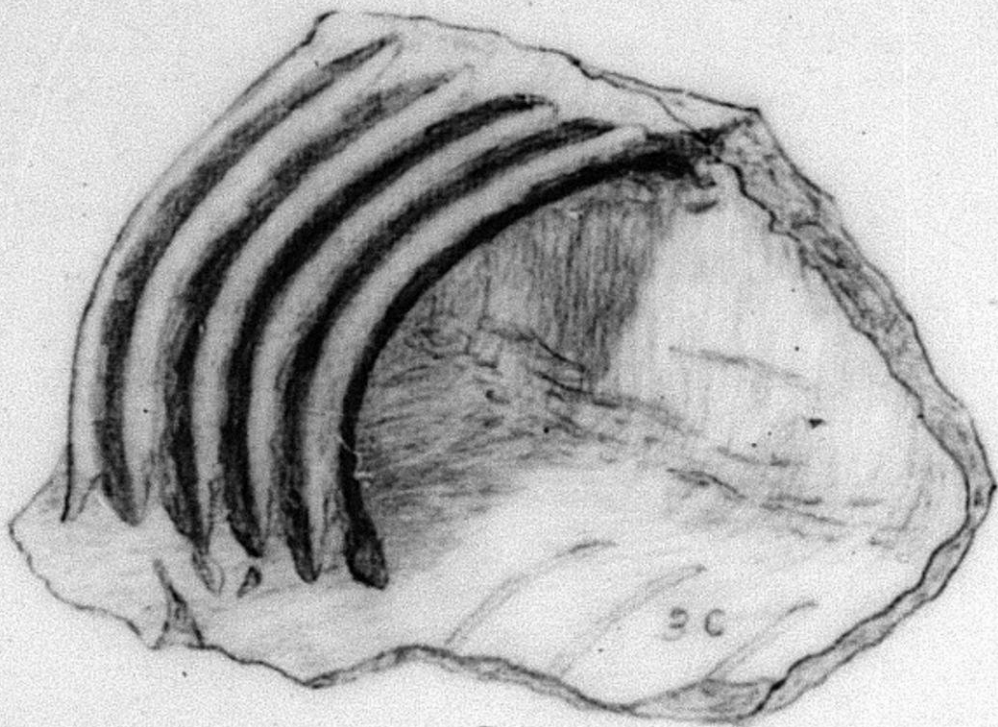


Depressed ellipsoidal pot from Oregon Terrace Indian Cemetery. Found in excavations made by Saddler 1932. Now in Timmerman collection, New Albin. About 1/4 actual size.



Handle of Large Vessel of Oneota Culture Pottery, the
Propable Diameter of the Body of Which was not far from Fifteen
Inches. Actual Size.

Note the Four Ribs made by three deep Finger Impressions,
also the ornamentation on that portion which was a part of the
Body. This was a common Type of Handle.



Handle of Large Vessel of Oneota Culture Pottery.
Actual Size.

Propable Body Diameter, Sixteen inches.
Ribs made by cutting one-fourth inch deep channels
in Handle, probably with wooden or bone Paddle.
Note three shallow indented lines on Body part.

[Editor's note: The statement reproduced below was attached to page 8 of the Orr report and refers to "Pot No. 4" reproduced on page 8. A note in pencil indicates that this vessel is 6.3 inches in diameter.]

The most northerly grave of the Malone group, which we excavated and in which we found the table knife which had been ground to a point, was rock enclosed. Rocks set on edge forming the four sides.



The grave in which W. W. Carpenter found the pot illustrated on this page was excavated by him in 1897. It is not now known whether this grave was rock walled or not.



Pot No. 4

Mortuary Vessel of Bowl-shaped Type of
Oneota Culture Pottery.

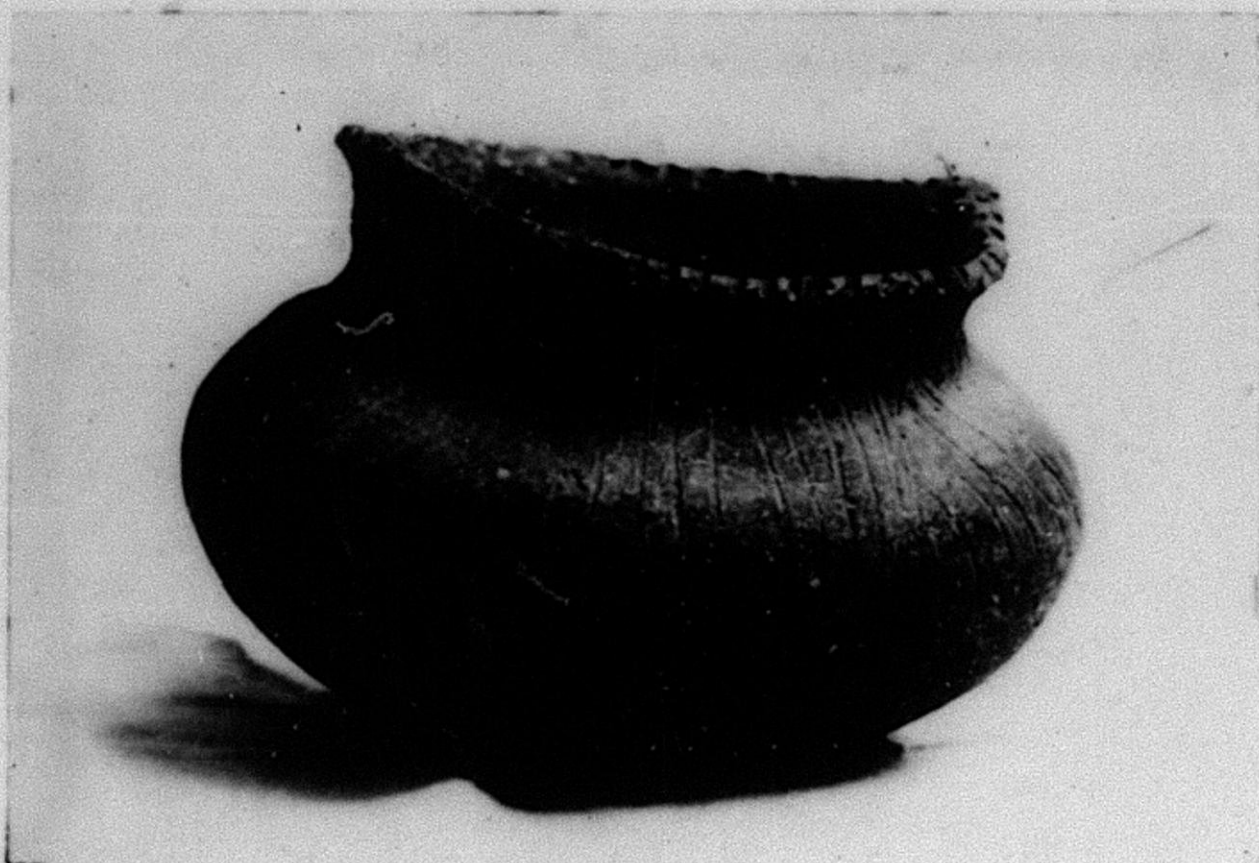
Somewhat less than Two-thirds Actual Size.

Note Holes for Thongs and Lack of Ornamentation.

Bowl-shaped pot - crude and unornamented - with
holes on opposite sides for the insertion of thongs
near the rim, with which to hang it up,

Found partly inverted and over the skull of a
burial on the top of the rocky spur of bluff to the
north of the Dennis Malone residence on Bear Creek,
and on the NE NE Sec. 4, T. 99, R. 6, in the summer
of 1897 by W. W. Carpenter, and purchased from him.

A few graves north of this we found, two or three
years later, in a grave which we excavated, the badly
rusted blade of a steel table knife.



Pot No. 7
 Mortuary Vessel of the *ellipsoidal* Type of
 Onecta Culture Pottery. About five-sixths Actual Size.
 Note Crude Ornamentation of Incised Lines.
 and Holes Through the Neck instead of Handles.
 Oval pot with holes for thongs, instead of handles.
 A form not common. Found with skeleton in grave
 on sandy terrace on Waterloo Creek, in Waterloo town-
 ship, Allamakee county, on SW NW Sec. 36, T. 100, R.
 6, by Orin Tartt about the year 1900.



Pot No. 15.

Large Vessel, (restored) of the *ellipsoidal* Type of Oneota Culture Pottery. One-third Actual Size. (15 in.)
 Note Crude Ornamentation of Incised Lines, Small Handles and Finger Indentations on the Rim.

A large pot found in July, 1907 in side of ditch in the Oregon Terrace, near the center of Sec. 6, T. 99, R. 5, on the Oneota River, by Harry Orr.

A cow had broken off the side of the ditch by stepping on it and exposed one side of the pot, which was buried up-side-down so that the bottom was about one foot below the surface, thus escaping the plow,

It was very much broken up, only about three-fourths being recoverable and was completely filled with sand like that surrounding it.

Diameters of the orifice, ten and three-fourths by eight and three-fourths inches.

Longest diameter at the swell of the bowl, fourteen and one-half inches.

Shortest diameter at the swell of the bowl, eleven and one-half inches.

Depth, nine inches.



A 16 inch Oneota Culture Storage Pot. Washed out of ditch made by storm water in side of 70 ft. high terrace remnant - near top - on the north side of the Upper Iowa river, and on the NE 1/4 of Sec. 6, T. 99, R. 5 West of 5th P.M., and north-east of the Oregon Terrace.

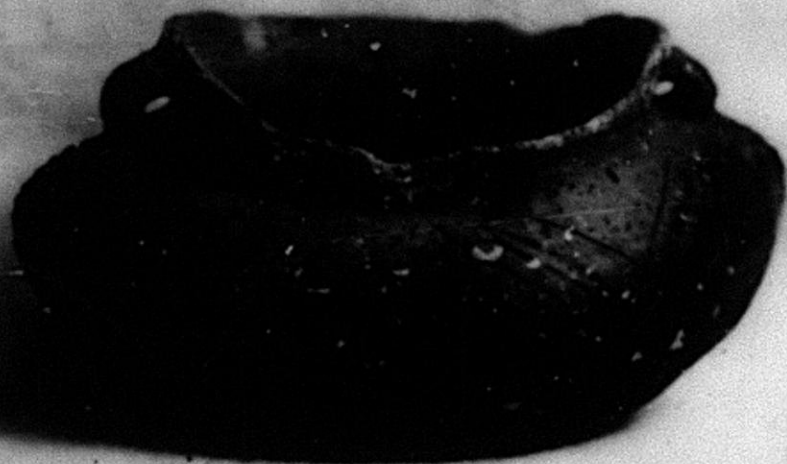
Found by Harry Orr [redacted] [redacted]. Jun 14, 1908

Lying on side - perhaps tipped over by the creep of the loess of the terrace - and packed solidly full of clay, but much broken up. In it was a hand sized fragment of another vessel.

Restored by the Milwaukee Museum, 1936.

Photographed by Jayne, Mt. Vernon, Ia.

This is the same vessel as the one shown on page 28

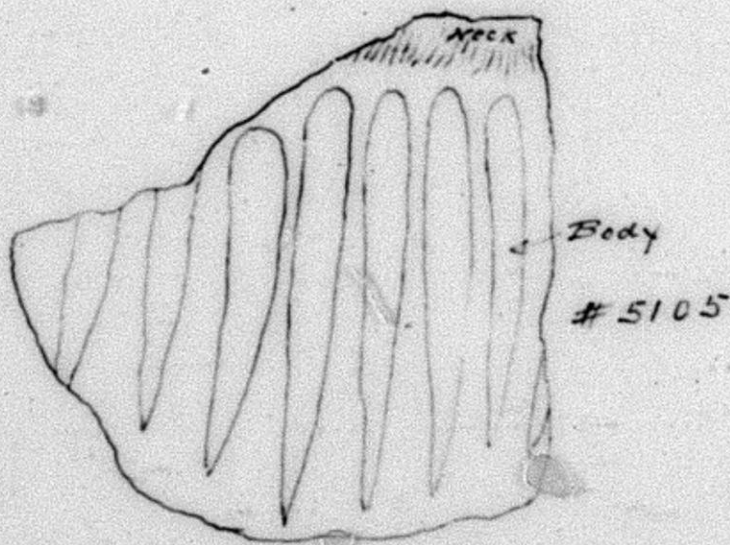
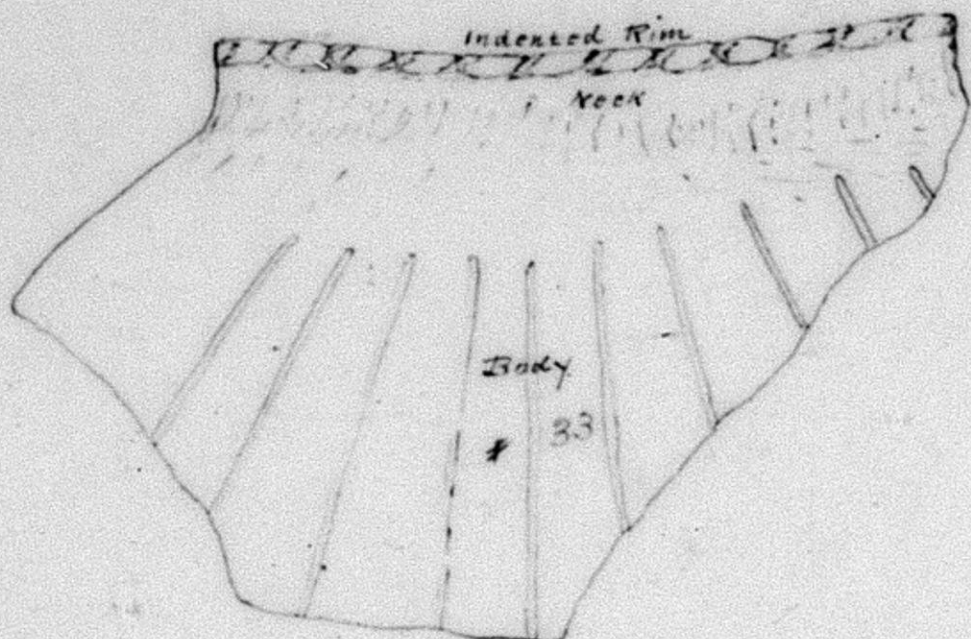


Found beside the right side of the skull of skeleton number 4 in Trench A
in Woolstrom Burial Place. See page 157, Vol. 4 of Orr's Reports.
Actual Size.



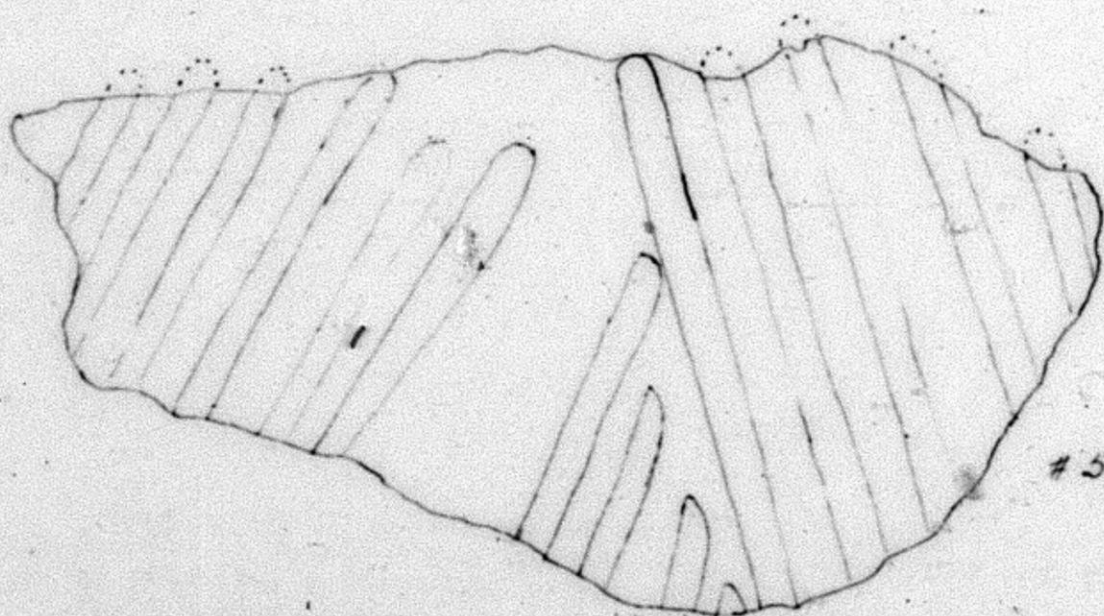
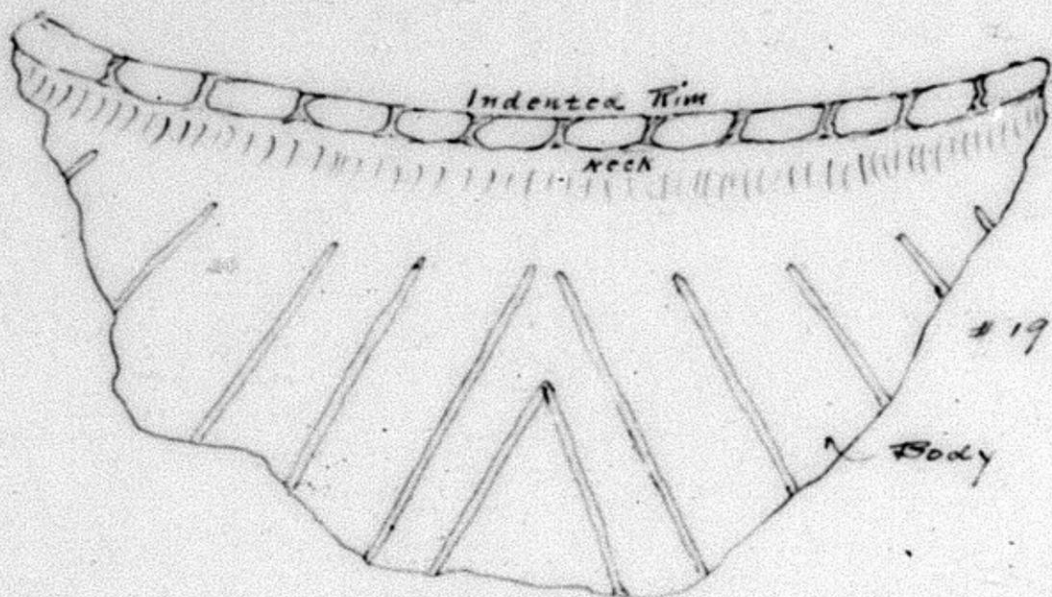
$\frac{3}{5}$ Actual
Size

From Trench H in Lane Farm Terrace Enclosed Area. $\frac{3}{5}$ Actual Size.
See page 134, Vol. 5 of Orr's Reports. Note "Turkey Track" on Handle.

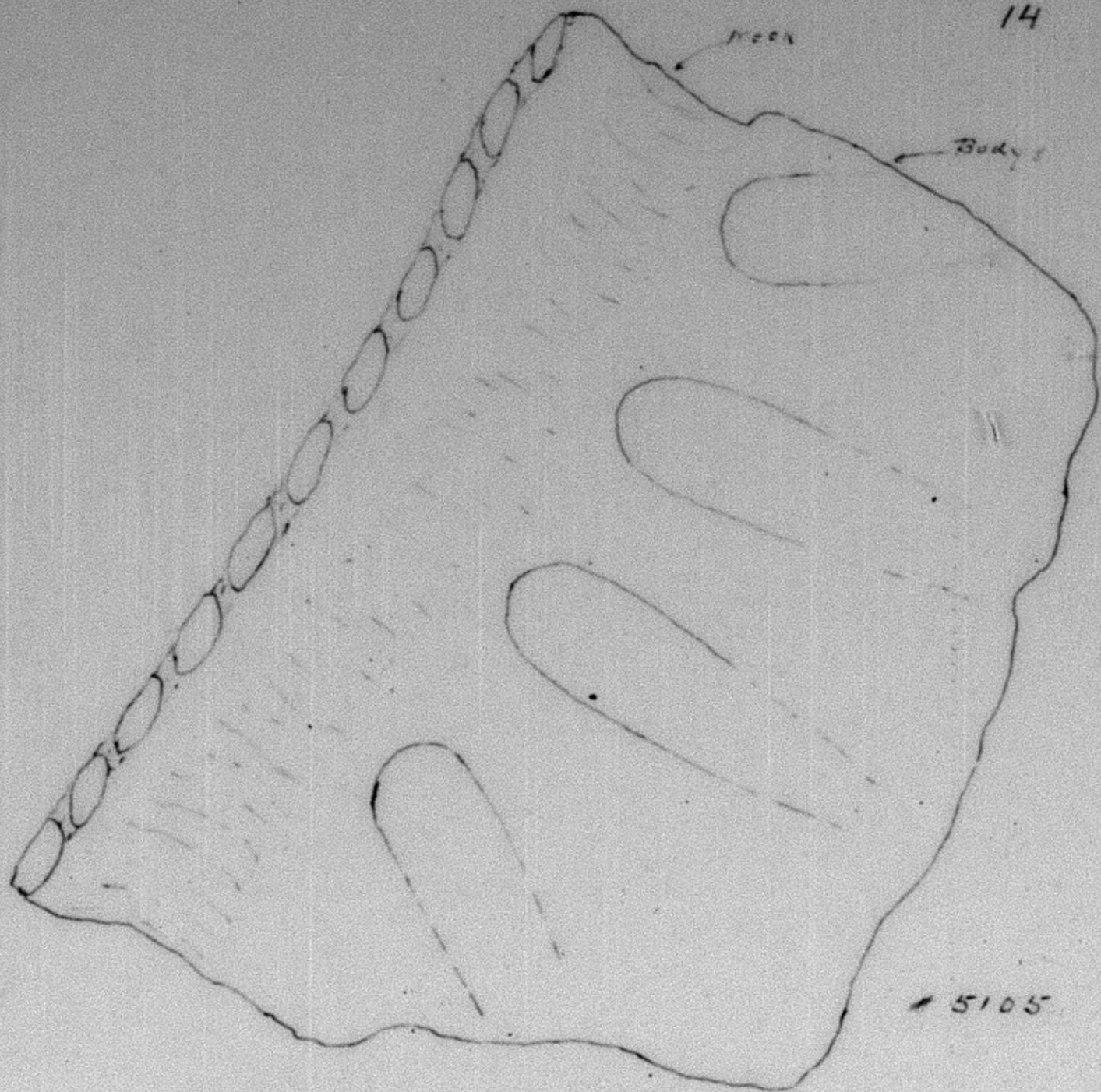


Above Fragments of large Oneota Culture Pottery, in part rim and in part body, Nos 33 and 5105, show patterns of incised and indented lines made for ornamentation with a chisel pointed instrument of wood or bone. Such lines may be any width from $1/16$ in. up to $5/16$ in., were made in the wet clay before firing, and were very shallow.

Actual size.



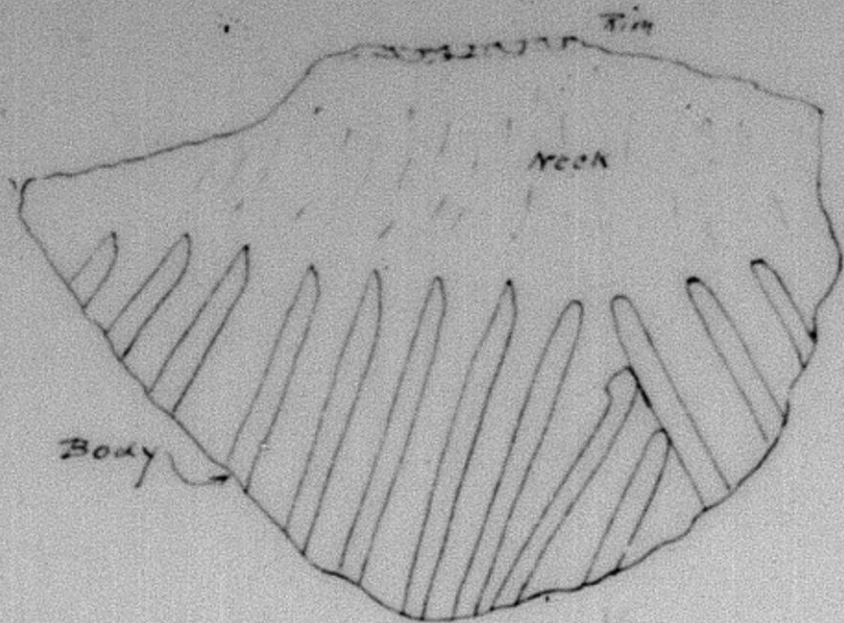
Fragments of large Oneota Culture Pottery. Very shallow indented strips made with a spatula 1/4 in. wide, - No. 5105. See preceding plate.
Actual size.



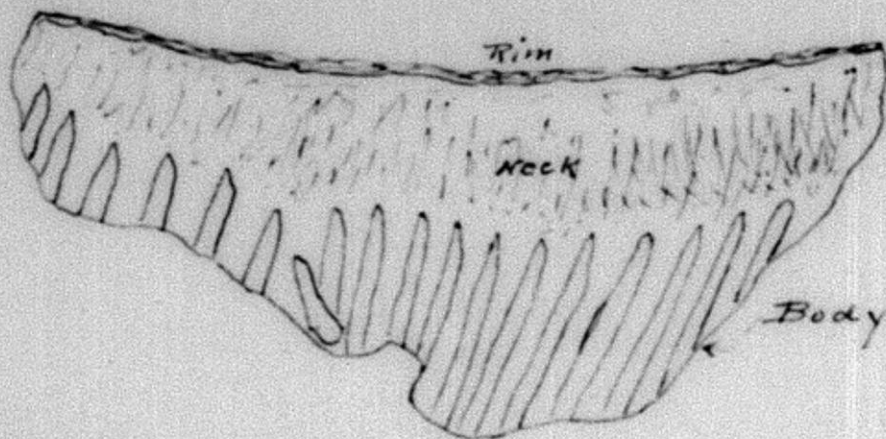
Fragment of large Oneota Culture Pottery, one of a number of pieces collected at various points along the Upper Iowa River in Allamakee county, and all numbered 5105.

Above outline sketch is of one ornamented by shallow impressions made on upper part of bowl by a thumb.

Actual size.

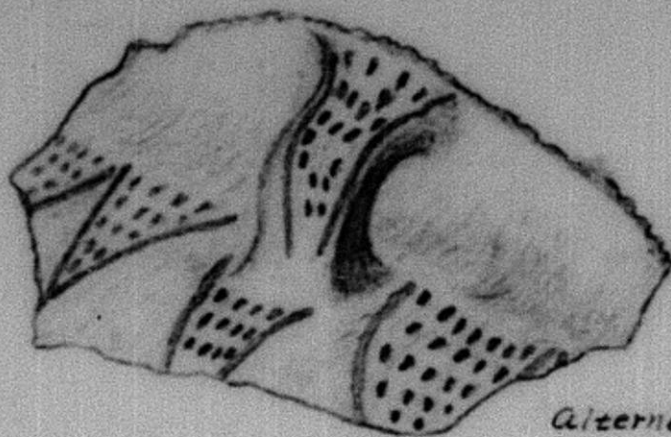


No 5105



No 71

Fragments of large Oneota Culture Pottery. Indented lines on No. 5105 are $\frac{1}{6}$ in. wide, on No. 71, $\frac{1}{8}$ in. wide. The lines on No. 71 appear to have been made by a round pointed instrument.
Actual size.



38

Alternate Area Decoration

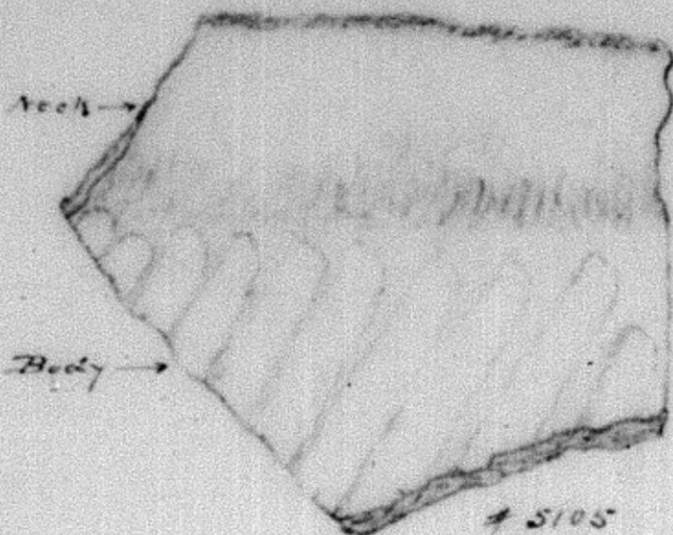
Fragment of neck and body, with attached handle, of Oneota Culture mortuary pottery.

Note triangles enclosing areas pitted by a rather blunt round pointed instrument.

A very unusual form of ornamentation.

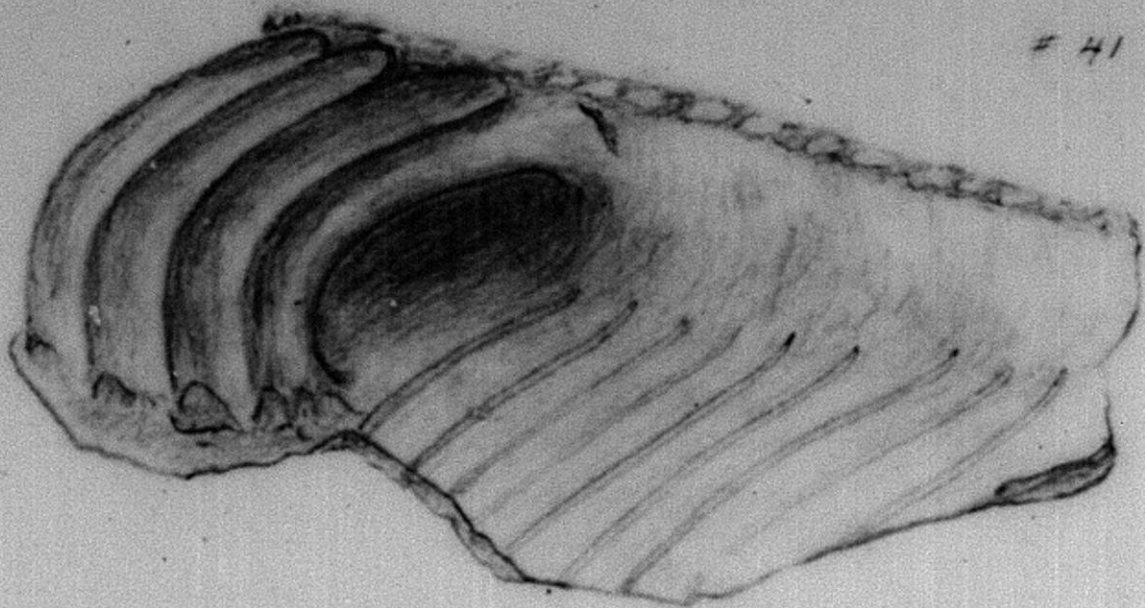
This pot represents the acme of ornamentation achieved by the people of the Oneota Culture.

Actual size.

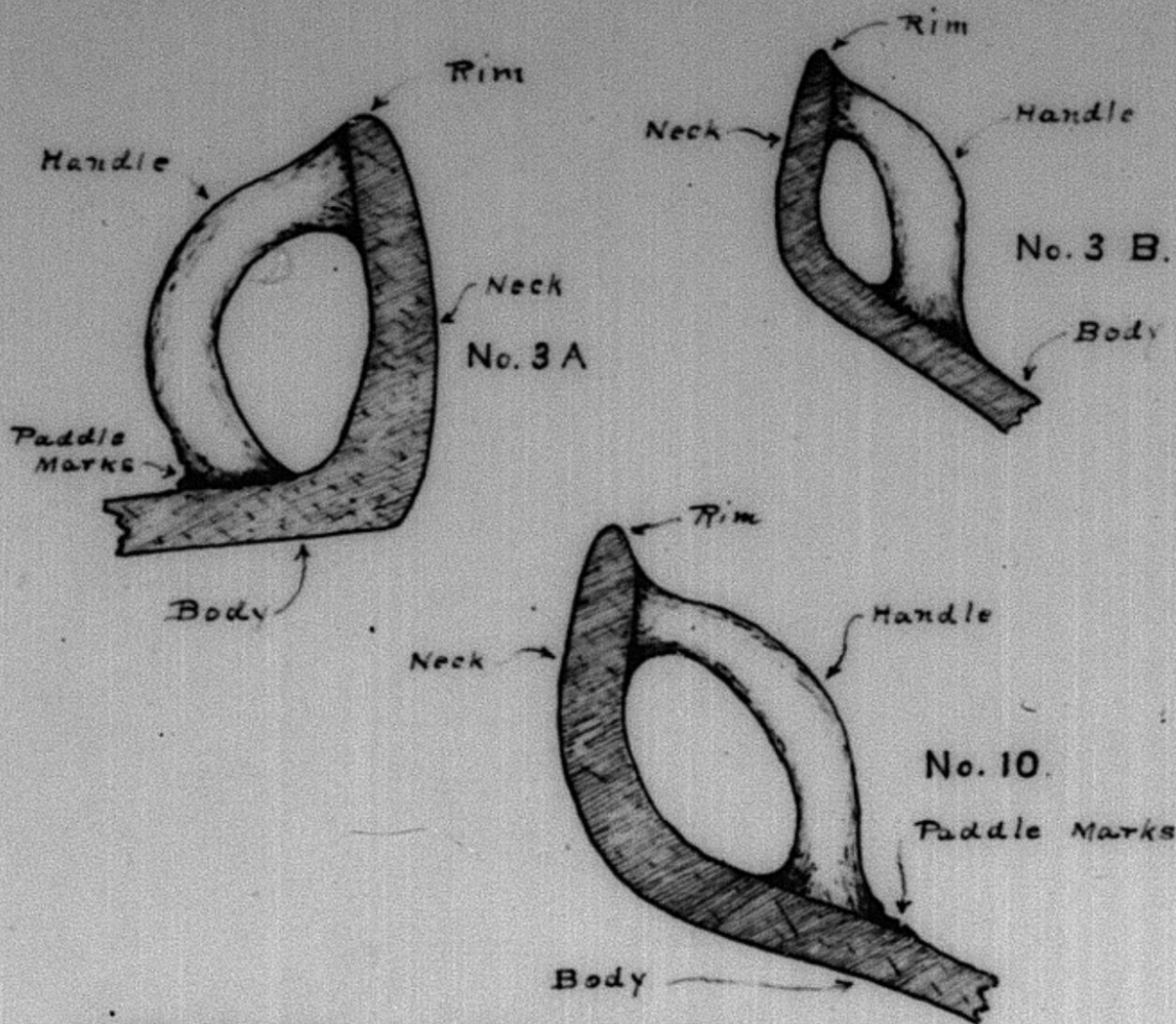


Fragment of large Oneota Culture Pottery. Ornamentation on upper part of Body made with a 5/16 in. wide spatulate instrument. Actual size.

5105



Fragment of Neck and Body of large Onyota Culture Pottery,
with Handle attached. Incised lines appear to have been
made with a round pointed instrument and deeper than usual.
Note strong high ribs of Handle.
Actual size.



BODIES AND NECKS WITH ATTACHED HANDLES.
ONEOTA CULTURE POTTERY.

Field Finds from Bear Creek Valley and the Oregon Terrace of the Upper Iowa.

Nos 3A and 10 are of large vessels having neck diameters of around 16 inches.

No. 3B is of a mortuary vessel with around 4 and 1/2 in. diameter of Neck.

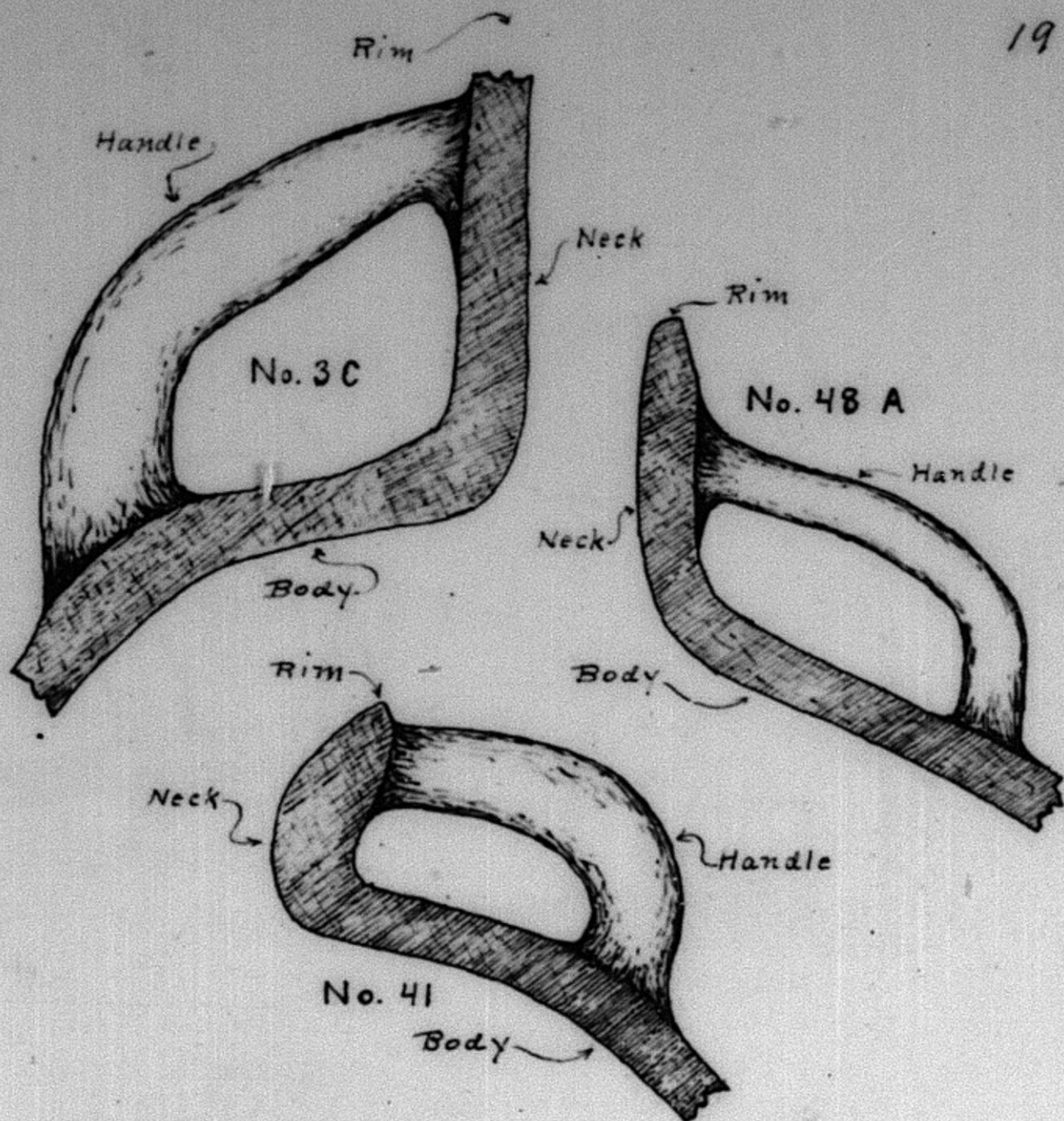
These vessels do not have the usual ribbed, or plain, handles but instead have pricked-in marks made with a blunt awl or pointed stick.

All are of a light brick color on the surface.

The material of No. 10, in fresh fractures is a chocolate color with a few grains of what appears to be a red paint included. The material of Nos 3A and 3B is of the usual light ash color but has the few grains of red material scattered through it.

The above cross sections of part of the body and necks are actual size.

Study of Jan. 8th, 1932.



ONEOTA CULTURE POTTERY.

Fragments of Bodies and Necks with Handles attached.

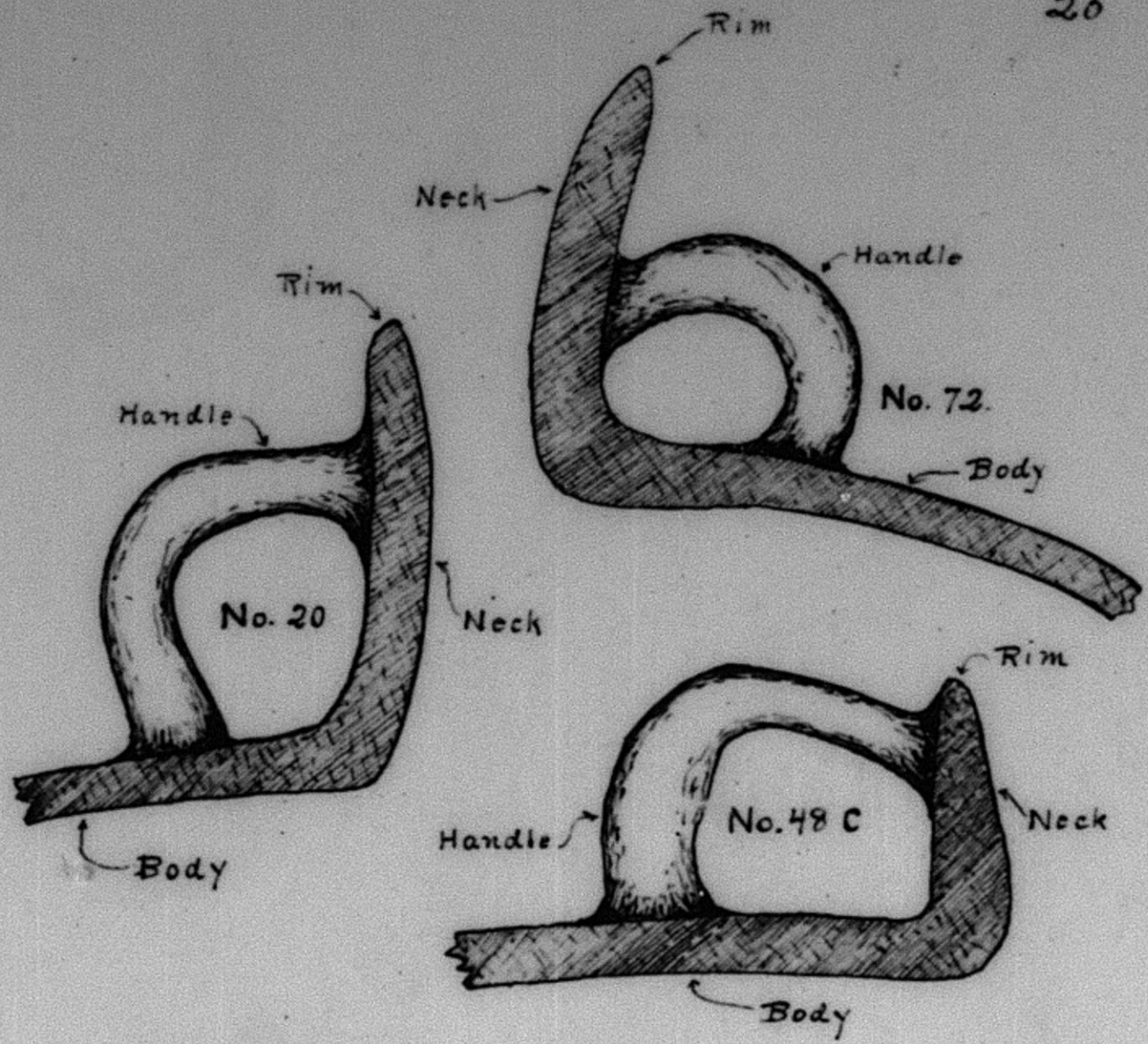
All are of the large types of vessels having a body diameter of 12 to 20 inches.

All Handles ornamented or strengthened with four ribs.

No. 41 was dug from a roadside bank along the north side of the Oregon terrace. Nos 3C and 48A were field finds from the Upper Iowa River. All actual size.

The material was a light ash with the surface burning somewhat lighter.

Study of Jan. 8th, 1932.



ONEOTA CULTURE POTTERY.

Fragments of Bodies and Necks with Handles Attached.

All are of the large type of vessels having a body diameter of from 12 to 20 inches.

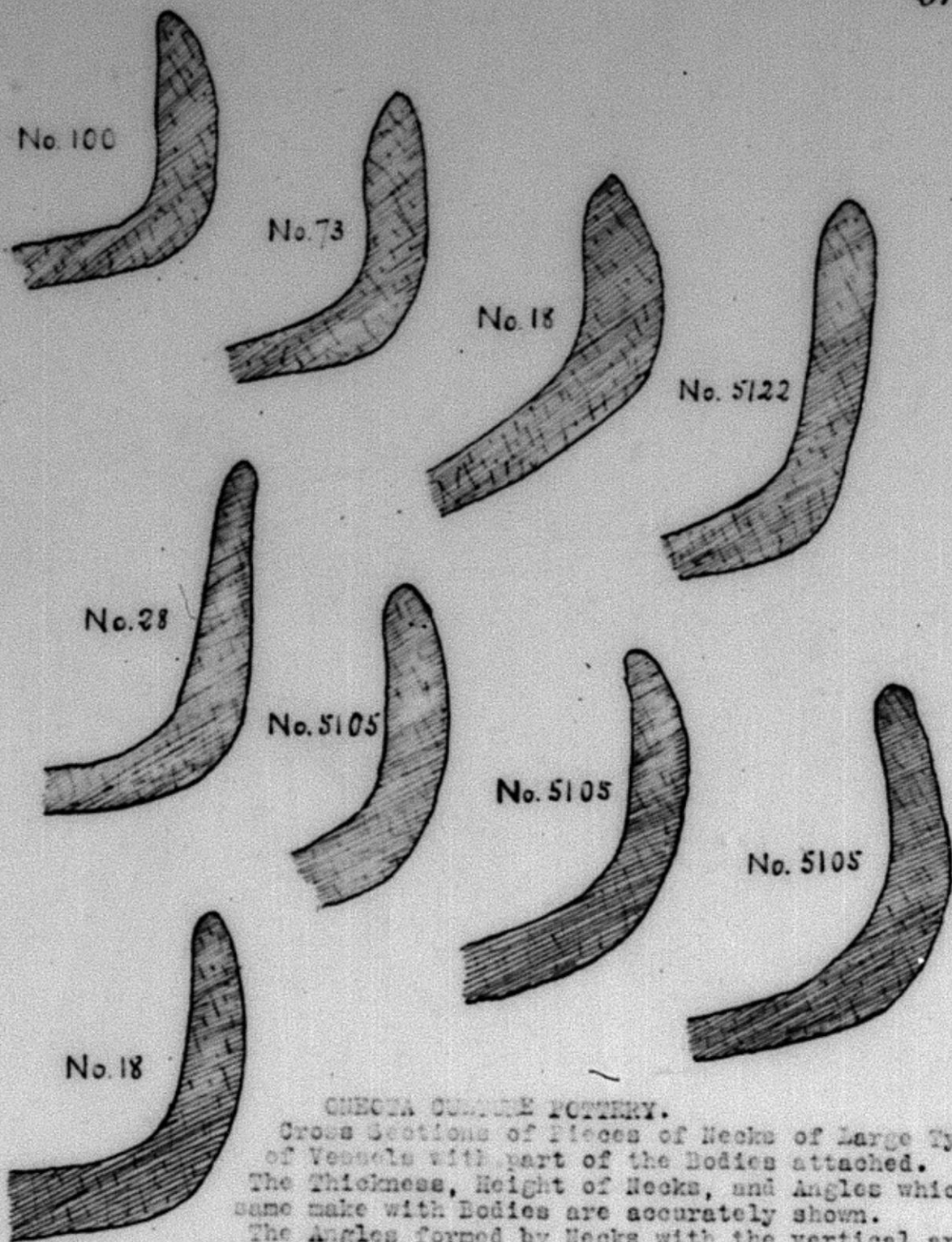
All handles strengthened with four ribs.

No. 20 is from a Fire Pit on the Oregon terrace and Nos 48C and 72 are Upper Iowa River-field finds.

Pieces a light ash color, the outside burning to a lighter color.

Actual size.

Study of Jan. 8th, 1932.



ONEOTA CULTURE POTTERY.

Cross Sections of Pieces of Necks of Large Types of Vessels with part of the Bodies attached. The Thickness, Height of Necks, and Angles which same make with Bodies are accurately shown.

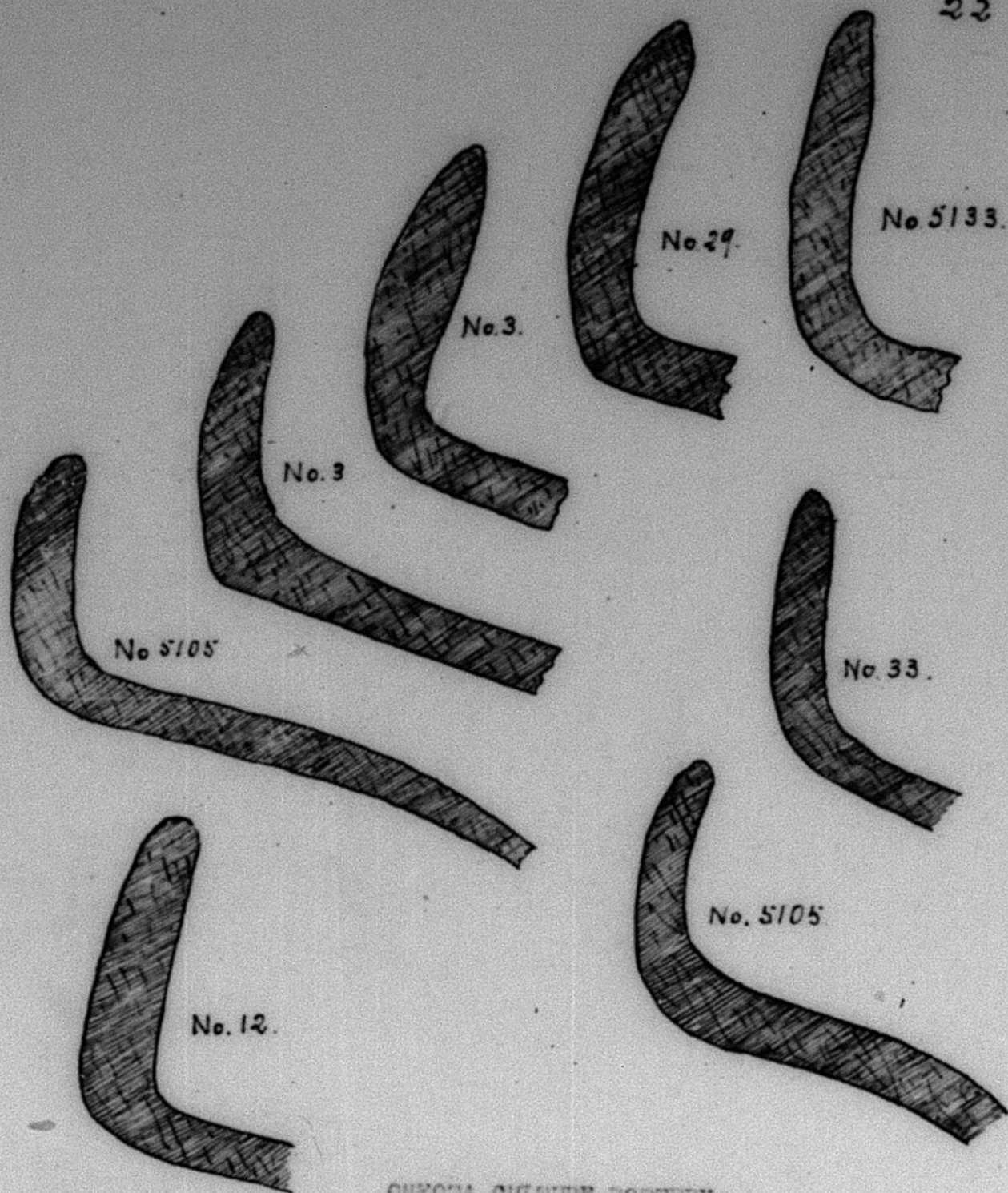
The Angles formed by Necks with the vertical are approximately shown.

The top of each Cross Section is the Neck Rim of that Piece. Mostly washed out of the Ditches in the Terraces of the Upper Iowa River.

All actual size.

Study of Jan. 11th, 1932.

Numbers are Catalogue Numbers of Orr Collection.



ONEOTA CULTURE POTTERY.

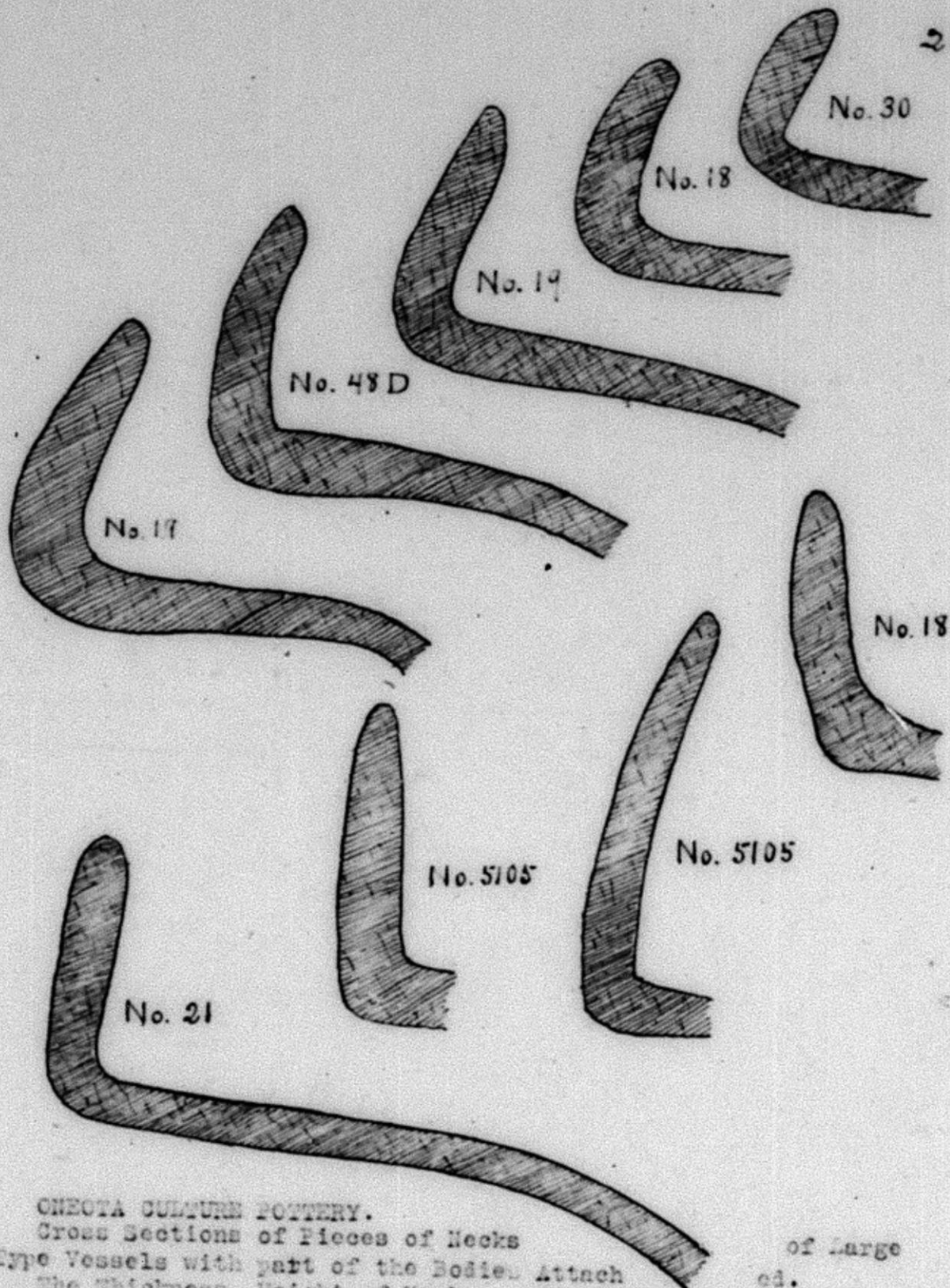
Cross Sections of Pieces of Necks of Large Types of Vessels with Part of the Bodies attached.

The Thickness, Height of Necks, and Angles which same make with Bodies are accurately shown.

The angles formed by Necks with the vertical are approximately shown.

The top of each Cross Section is the Neck Rim of that Piece.

Mostly washed out of the ditches in the terraces of the Upper Iowa River. Actual size.

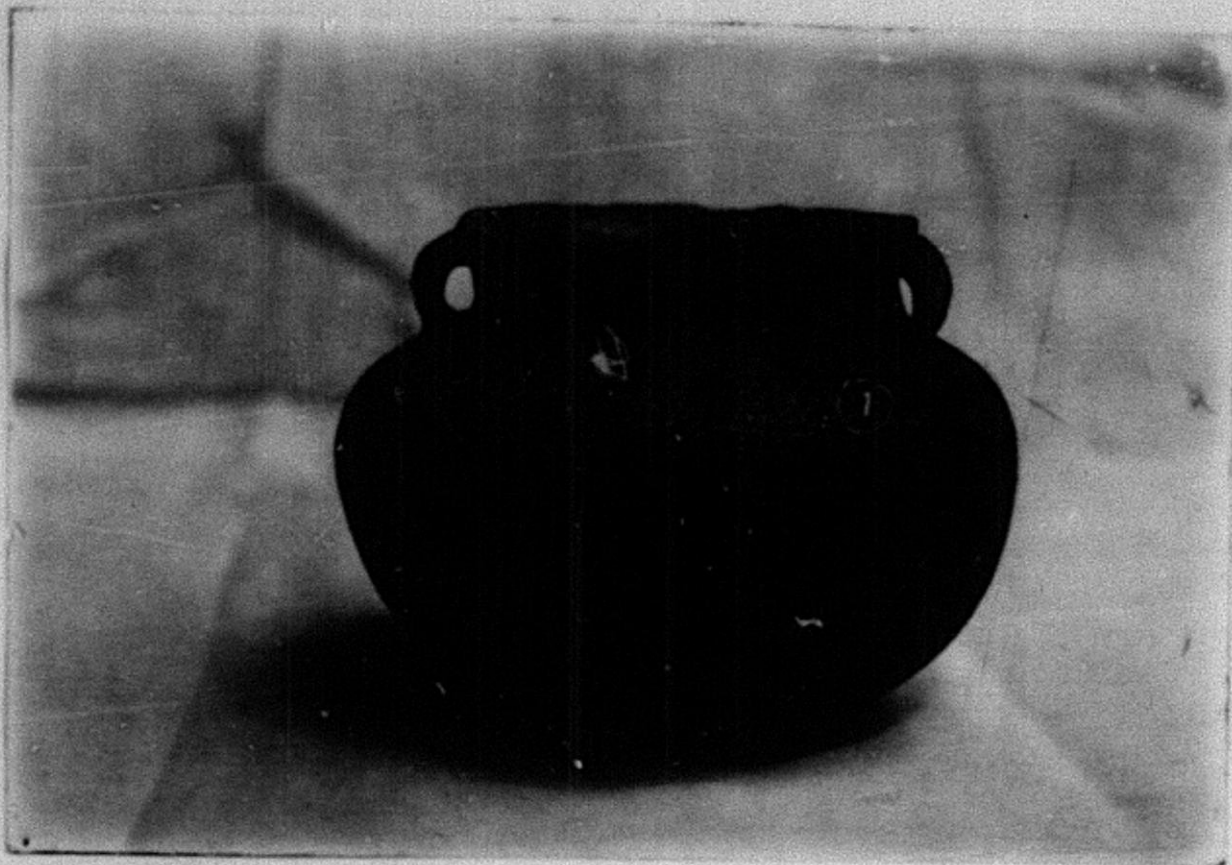


ONEOTA CULTURE POTTERY.

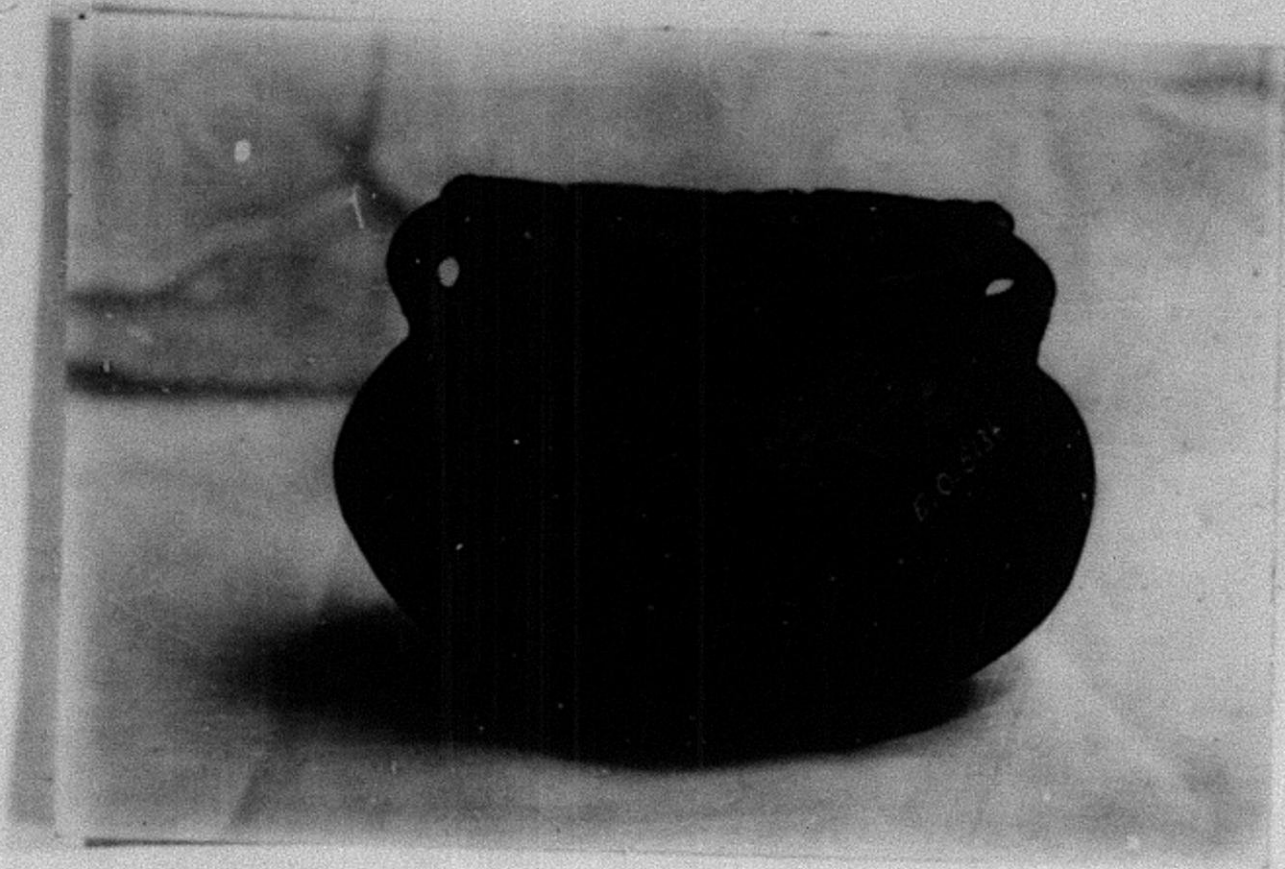
Cross Sections of Pieces of Necks of Large Type Vessels with part of the Bodies Attached. The Thickness, Height of Necks, and Angles which same make with Bodies are accurately shown. The angles formed by Necks with the vertical are approximately shown.

The top of each Cross Section is the Neck Rim of that Piece.

Mostly washed out of the ditches in the Terraces of the Upper Iowa River. All actual size.



Oneota culture burial pot, 3/4 actual size. Note symmetry of vessel and sparse, plain decoration. This pot was found in 1893 by Mr. W. F. Dresser in a grave in a sandy spot, at level of Jordan sandstone, about half way up the sloping eastern extremity of the "hog back" or divide between the Oneota river and Bear Creek on Sec. 2, T. 99, R. 6 W, Hanover Township. It lay on the chest just in front of the skull. Besides the skeleton and pot, a clam shell spoon lay on the left side of the pelvis. Several other burial places, all of which had been opened previously, were scattered about on this spot where digging was easy, all contained skeletons and relics.



No. 5136

Very black oval type Onyota culture pot about 3/4 actual size.

Found in clay of roadside bank on SE. Sec. 34, T. 100, R. 6 W. No indications of a burial. Unornamented except faint finger indentations on rim.

No. 6

This is a four-handled unsymmetrical, sub-spherical, shell-tempered Oneota vessel. The greatest diameter, about 12.5 cm, the height, 5 to 7.5 cm. The neck, sloping very slightly inward, at a height of 2.5 cm terminates in a sharp undecorated lip.

Photograph is about 3/4 actual size.

Between each pair of strap handles are three vertical incised lines, 3 to 5 mm long and 4 mm apart, forming a ring entirely around the neck at 1 cm below the lip. A very unusual feature of Oneota pottery of the Orr focus in the Upper Iowa valley.

Below each three incisions of this ring are two other vertical incised lines, 5 mm apart but only half as long as those of the three above.

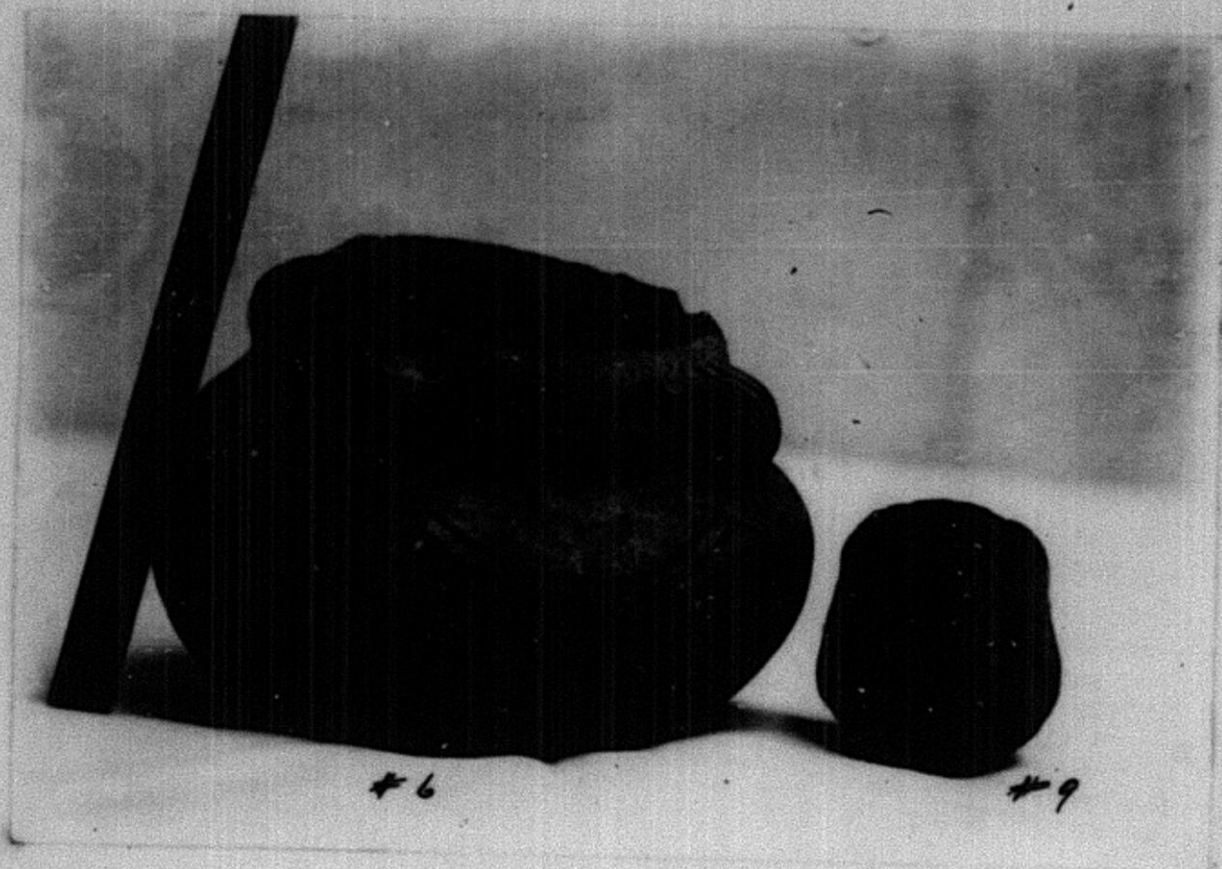
Between each pair of strap handles, adjacent to each other, beginning a little to one side of each, are three parallel curvilinear incised lines, the upper one beginning at the point of attachment of the handles. These lines, 3 mm apart, curve, decidedly towards the base, the lowest one at its lowest point, is about 1 cm above the widest point in the diameter of the vessel.

Beginning at the lowest of these curved lines, 4 mm apart, deepest at the top, are incised lines extending downward approximately 15 mm to a fade-out.

The slightly oval strap handles, approximately 1 cm wide, are attached to the rim 4 mm below the lip and to the shoulder at the bottom of the rim. Each alternate one is ornamented with 7 horizontal lines of very small, - pin prick - punctures about 3 mm apart. From the bottom attachment 4 horizontal lines of 2 mm long vertical incisions, fanning out towards the bottom.

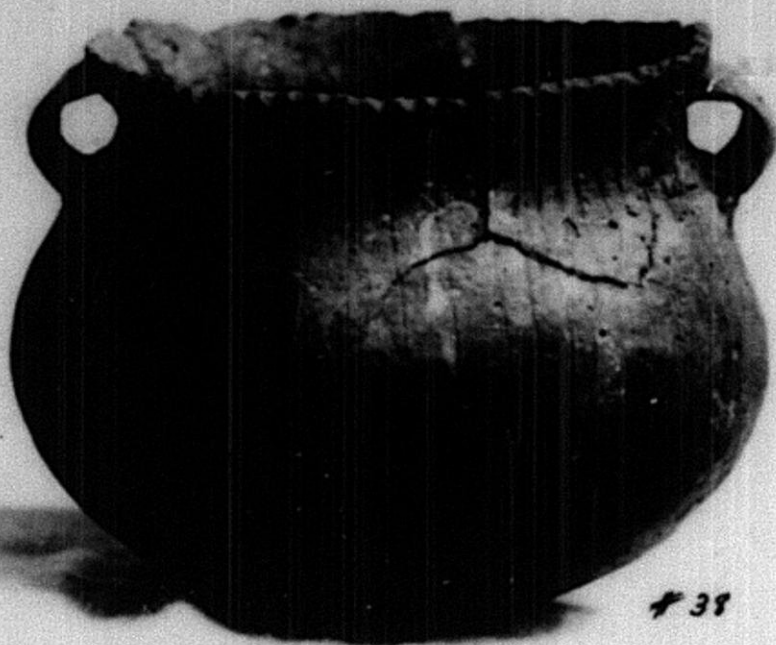
The other pair of opposite handles are ornamented for their length with four vertical incised lines about 2 mm apart. Below these on the shoulder are horizontal lines of vertical incisions approximately 2 - 3 mm long, like the other pair of handles, lengthening and fanning out downwards.

The color is a yellowish gray. The hardness, according to griffin, is 2 to 2.5. Smoothed but not polished.



Onecta culture burial pots Nos. 6 and 9. ✓
 No. 6 is a rather unsymmetrical ~~one~~ uncommon four-handled pot.
 About 3/4 actual size. Rather profusely decorated for Onecta
 culture.
 Found with skeleton in grave on sloping side of sandy terrace
 on E. side of Waterloo Creek, SW.NW. Sec. 36, T. 100, R. 6 W,
 Waterloo Twp.

No. 9 child's pot, Onecta culture from rock covered grave con-
 taining child's skeleton in clay bank along Waterloo Creek.
 Exact locality not known.
 These two vessels purchased of Mr. Orin Tartt, who found them,
 1900.



✓
No. 38 Oneota culture pot having upward prolongation of bowl to neck. About 2/3 actual size. Note indented rim and body decorations extending well down towards bottom of bowl. Found by Wayne Sandler in digging out a woodchuck on south slope of O'Regan terrace, On NW. Sec. 6, T. 99, R. 5 W, 1916. Uncertain if there was a burial with this pot.



No. 16.

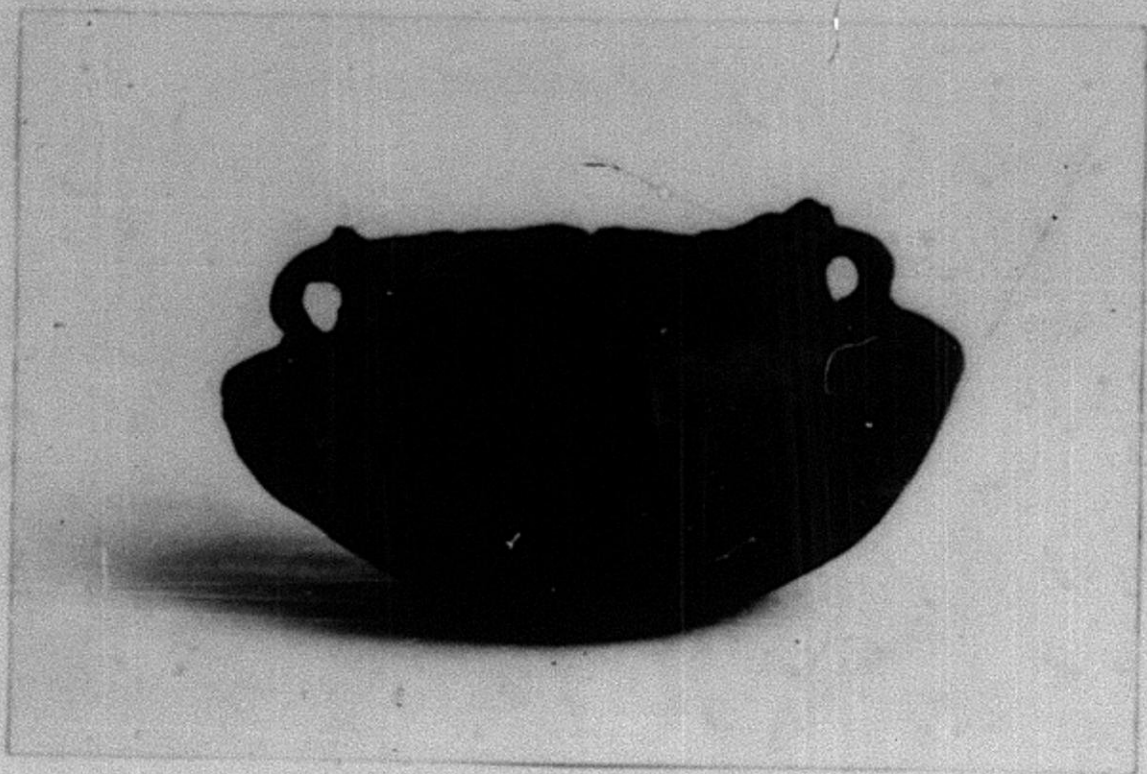
Large Oneota culture storage vessel. Bowl about 18 in. in diameter. Note finger indentations on rim with sparse body decoration. Also pronounced sag in rim.

Found by Harry Orr, June 14, 1908, on side of ditch in sandy (loess) clay at top of terrace remnant clinging to side of bluff on N. side of Oneota river, on NE. sec. 6, T. 95, R. 5 W, French Creek Twp. Lying on side about 1 ft. below surface, much broken up but still retaining its shape.

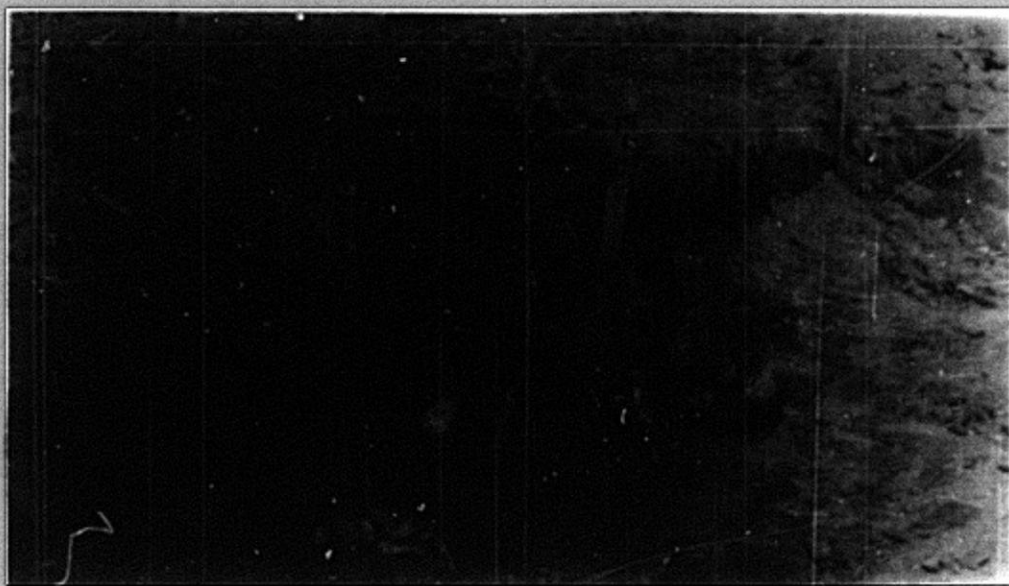
Filled solidly with clay.



Oneota culture pot found with intrusive extended E & W burial #4 in Mound #2 of the Lane Farm Group of Mounds built by a people of Algonkan culture. This mound was excavated by party under Dr. Keyes, under Project 1047 of Iowa Planning Board, 1934. Upper parts of skeleton missing. Pot lying on side with top against the right knee, 19 in. below natural surface. Note characteristic decorations. About 2/3 natural size. This group of mounds, originally built and used for burials by people of an Algonkan culture, were much used for sepulture by the Siouan (Oneota) people who came later. On Lane Farm terrace on Sec. 36, T. 100 R. 5 W.



Oneota culture pot found with extended burial at Sta. 1-15 in Trench A of excavations in O'Regan bench under Project 1047 of Iowa Planning Board 1954. Lay upright above right shoulder at a depth of 30 in. below surface. Only parts of skeleton remaining were large piece of skull, fragment of right humerus, fragments of pelvis, both femora, both tibiae and 1 fibula, all in place. An unusual shaped vessel. Timmerman of New Albin, has one very much like it.

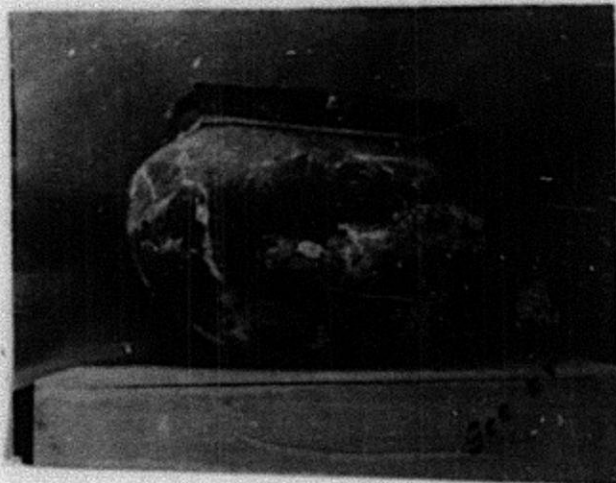


Oneota culture pct. found with an intrusive extended burial in Mound #---- of the group of Algonkan burial mounds on the 70 ft. high terrace on the south side and in an ox-bow of the Oneota river, on the Reinbold farm 1/2 mi. SW. of the bridge across that stream on Sec. 2, T. 99, R. 6 W, Hanover Township.

The part of this vessel not shown in the photograph was broken into so many small pieces and was so thin that it could not be restored. About 7 in. in diameter and without ornamentation.

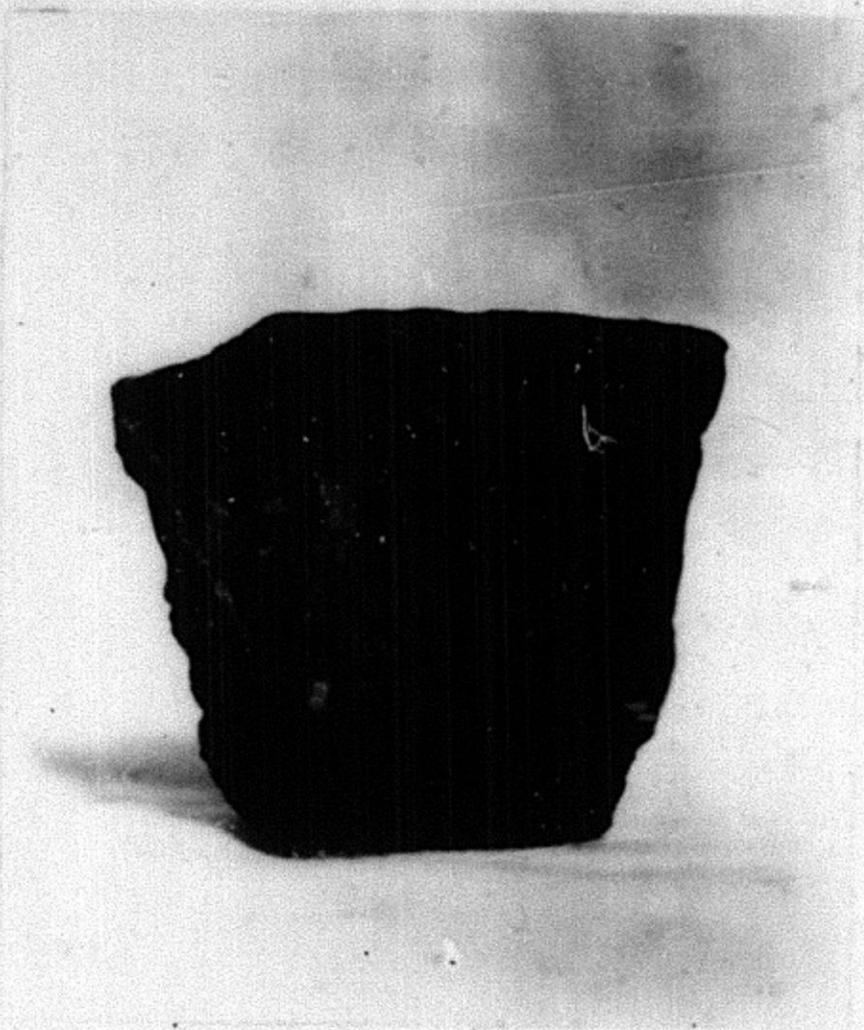
Picture taken looking E. Two *kumepi* in place in left foreground near fragment of skull, not shown. Beside the left shin bone, not yet uncovered when picture was taken, were 14 unusually fine chert, triangular, unnotched arrow heads, - a characteristic Oneota type. All that remained of skeleton was 2 femora, 2 shin bones and a fragment of skull.

Excavation of mound by Dr. Keyes party 1934.

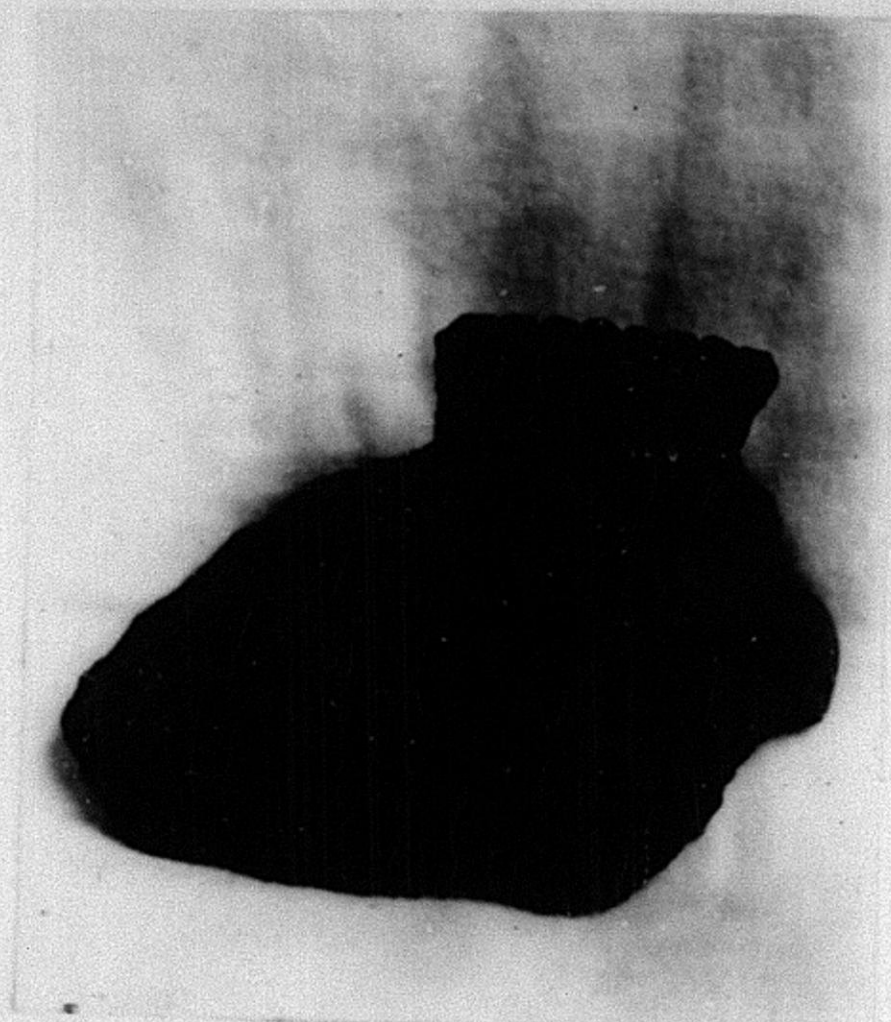


Large Oneota culture storage vessel in collection of Mr. Timmerman, New Albin, Iowa.

From roadside bank on **W** side of road about 15 rods **W** of the corner to Secs. 14 and 15; T. 160, R. 4 **W**, and 22 and 23, S. 100, R. 4 **W**, and about 20 rods **S** of the junction of the road down the Oneota river with State Highway 7 - a gentle slope, not terrace, at foot of bluff. Dug out of bank by steam shovel 1922. Body has an approximate diameter of 18 in. Restored. No decoration except finger indentations on rim. Photo by Hayes.



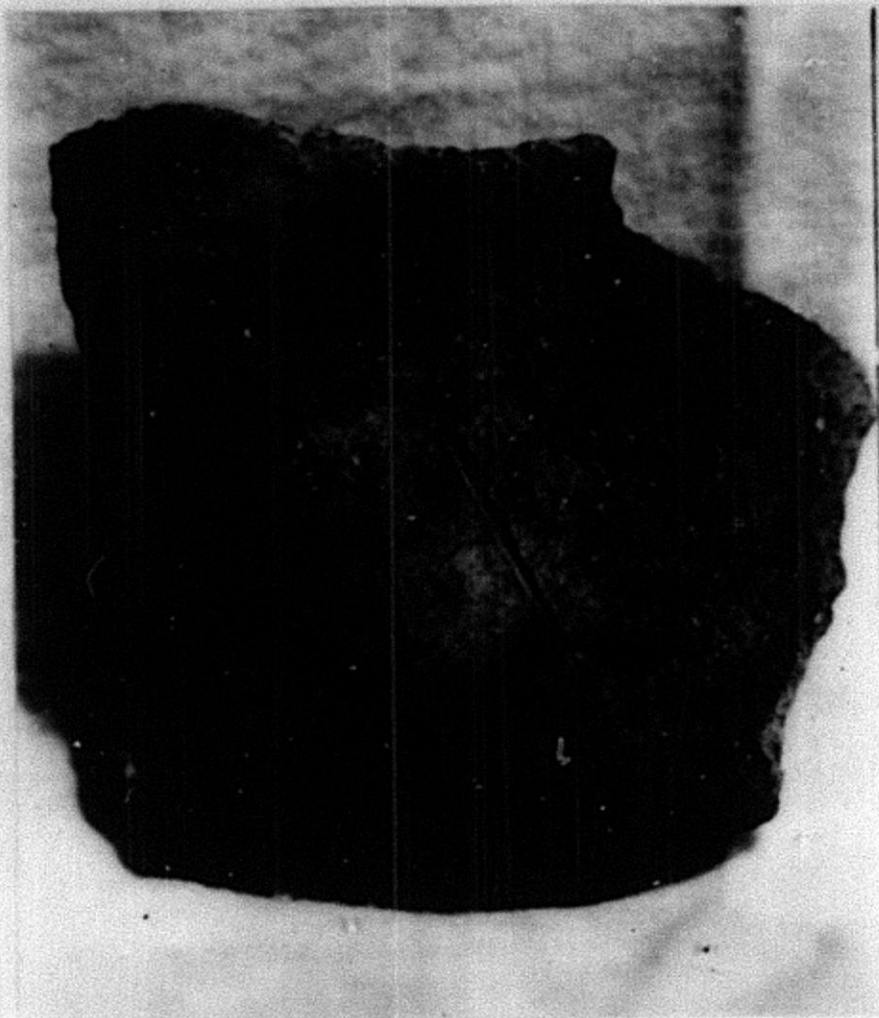
Handle of large Oneota culture storage vessel.
Note four rows of indentations across handle made with a square
pointed instrument of wood or bone, and faint finger tip
impressions on rim. Roughness at bottom would indicate attach-
ment of handle, after body and neck of vessel was completely
formed. Actual size.



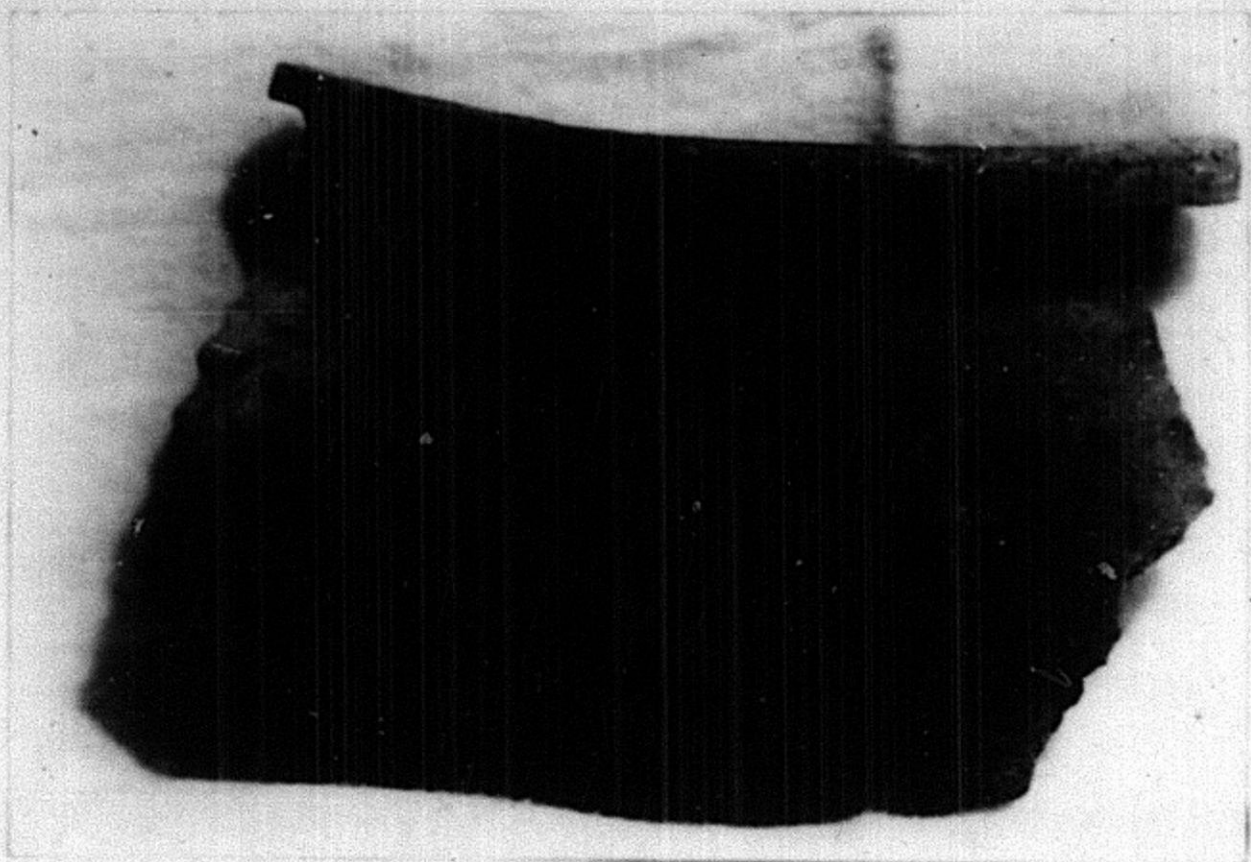
6-A.

Handle of medium sized Oneota culture vessel - probably used for storage. Actual size.
 Note six horizontal rows of indentations across handle made with a square pointed instrument and extending irregularly downwards on the body with two indented straight lines on either side. Field find from Ben Hartley farm, Sec. 24, T. 100, R. 5 W, Union City Township.

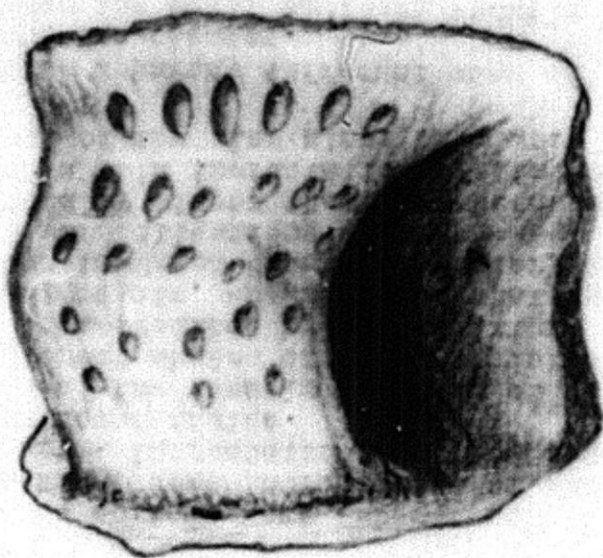
Note - Apparently the vessel of which the above was a skirt had the same pattern of decoration as the four-handled one of which see photograph on page 26 of this Vol.



Piece of medium sized Oneota culture storage vessel with un-ornamented handle attached, below which, and also two inches to right, on upper part of bowl are two triangular areas of punctures made with a small sharp pointed instrument punched horizontally into the sloping side of the bowl. Found by Ed Wild in refuse on slope of terrace E. of Lane Farm Enclosed Area, Sec. 26, T.100, R.5 W, Union City, Twp. Note upward projection of neck to which the upper end of the handle is attached- a very unique feature. Actual size.

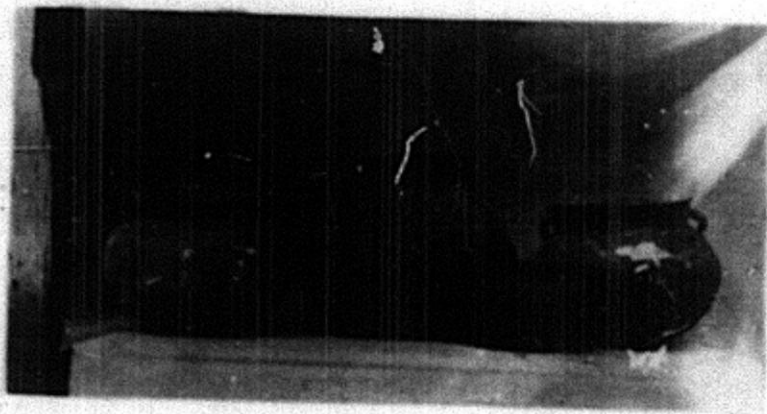


Fragment of neck, rim and portion of upper part of bowl of a large Oncotha culture storage vessel, excavated by Ed Wild from what was likely accumulated refuse thrown over the edge of the terrace along the E. side of the Lane Farm Enclosed Area, Sec. 36, T. 100, R. 5, W, Union City Twp. Note unornamented square edge of rim, sharply recurved towards body; almost complete absence of neck; horizontal row of wide oval indentations above a reversed V shaped pattern made with some instrument, in making which the material was bulged out on the inside. Actual size. Neck opening had a probable diameter of 12 in. and the body 18 in.



Handle of Large Vessel of Oneota Culture Pottery.
Actual Size.

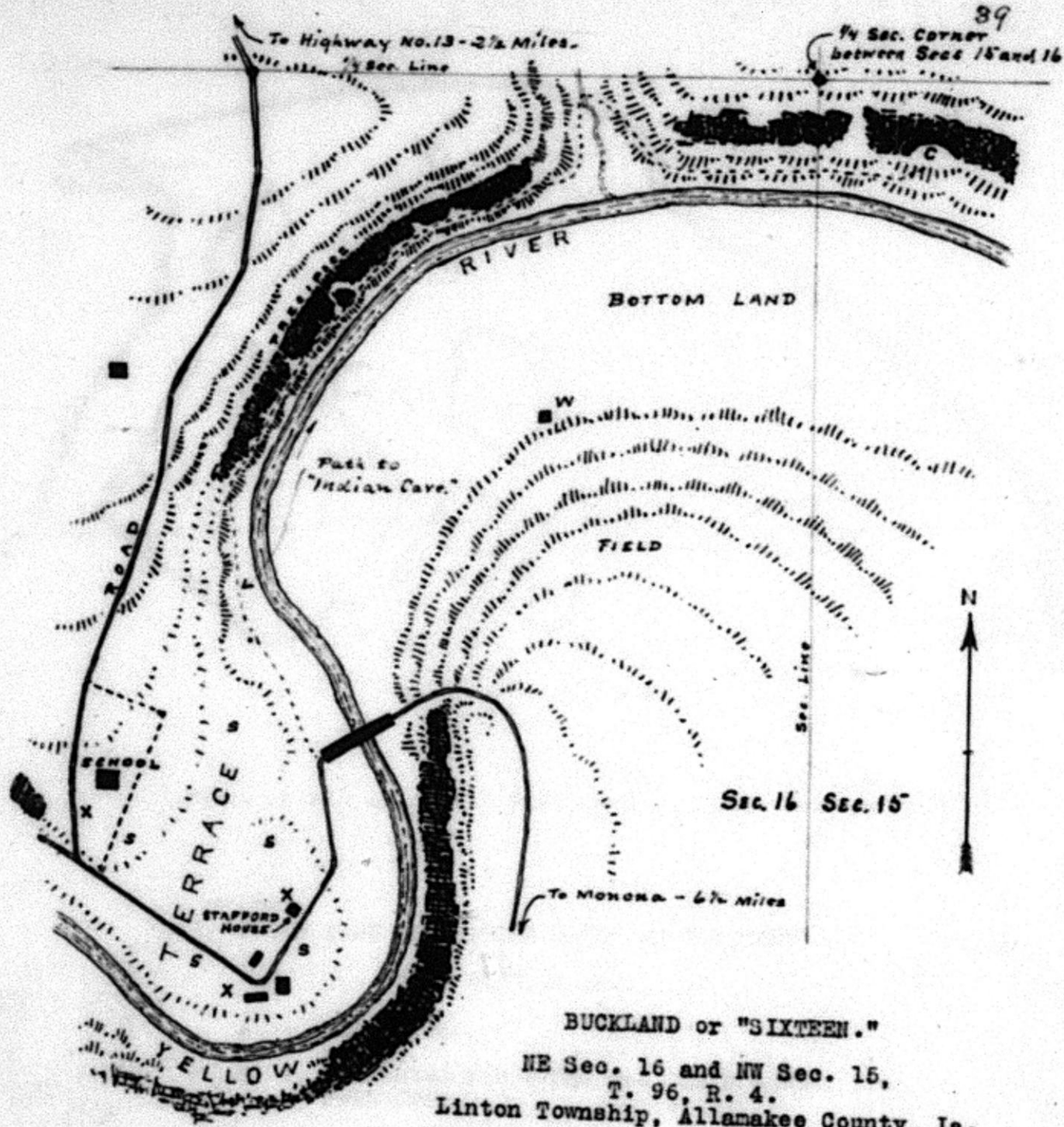
Note the unusual Ornamentation made by thrusting a Blunt
Pointed Instrument into the clay before Firing.



Oneota Culture Mortuary Pottery from graves in
Upper Iowa (Oneota) River valley. In Tommerman
collection, New Albin, Iowa. $\frac{1}{8}$ Actual size

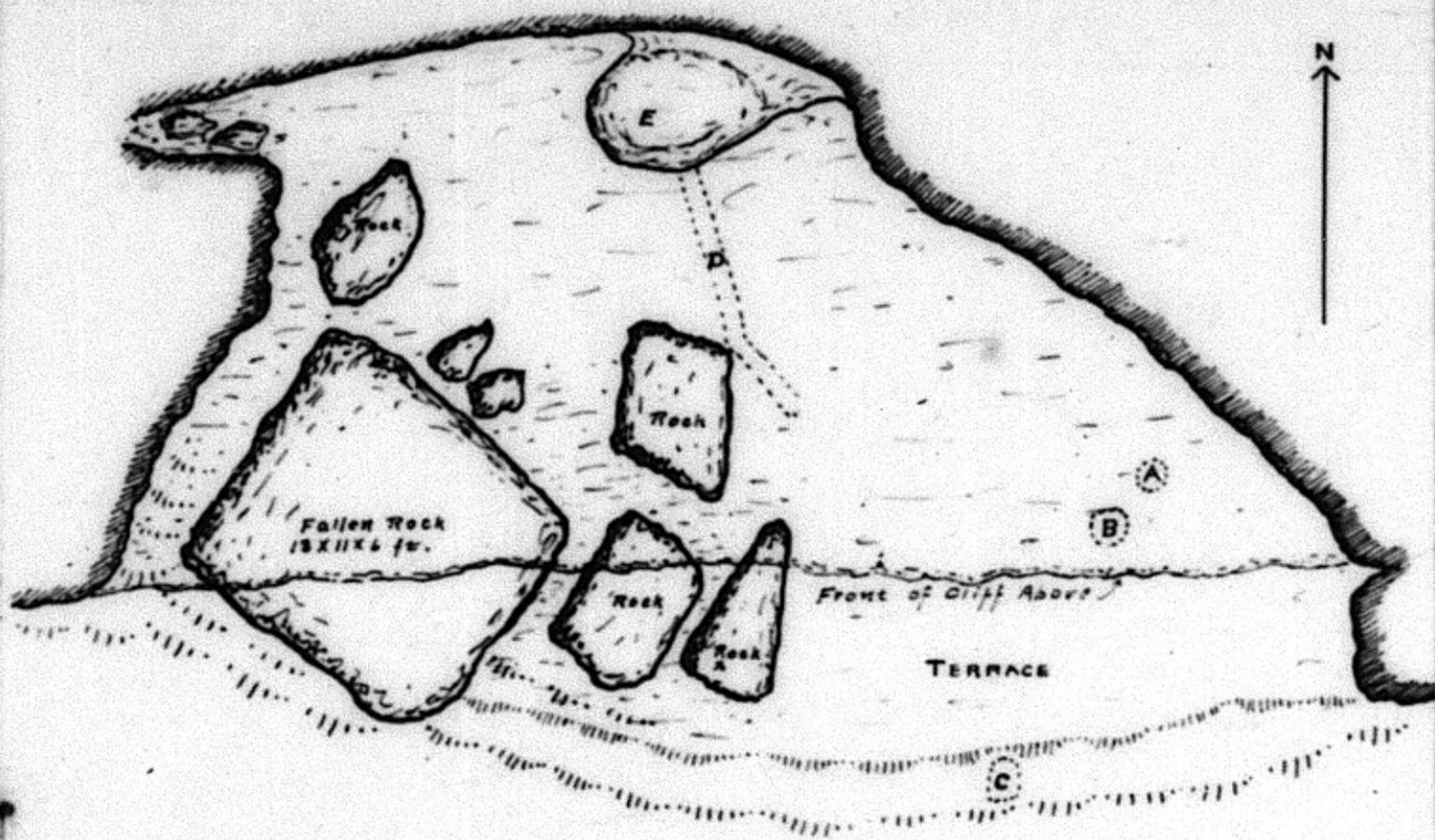
THE
INDIAN CAVE
AND
SUGAR BUSH
AT SIXTEEN

PETROGLYPHS AT PAINTED AND HANGING ROCK CLIFFS.



- C "Indian Cave."
- W House with Well in Which, in Digging, an Arrow Point was Found in a Bed of Gravel at a Depth of 18 - 20 feet below the Surface.
- X Where Arrow Heads were Found
- S Indian "Sugar Bush", 5 (to 10 Acres in Area. (See page 45)

Scale 5 chains to
Inch.
Sept. 1, 1933.



Talus of Soil and Small Rock extending down to River Bank

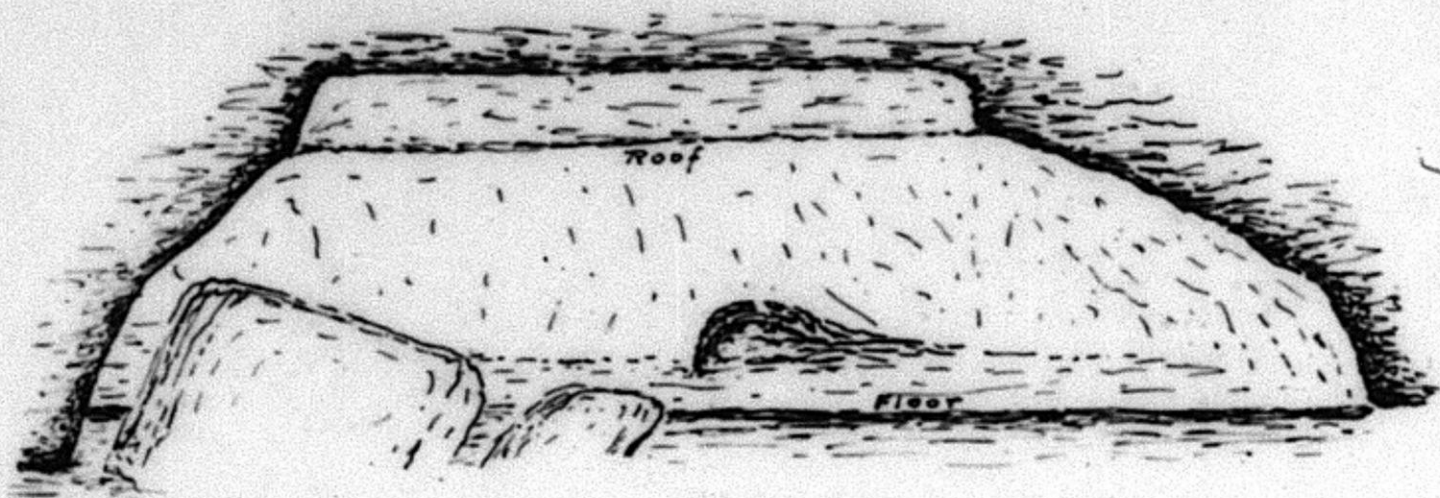
FLOOR PLAN OF "INDIAN CAVE" AT "SIXTEEN"

56 X 23 X 14 feet.

- A - Camp Fire.
- B - Excavated Pit - Two Feet in Diameter, Two Feet Deep.
- C - Excavation in Terrace Front.
- D - Trench, Excavated - Fifteen feet long.
- E - "Knob of Rock".

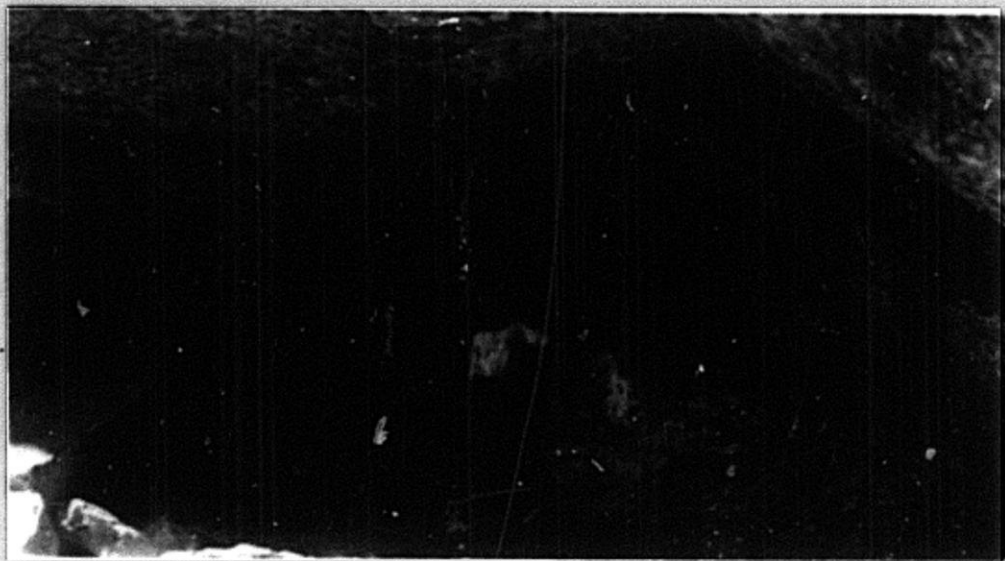
Scale, 8 ft. to Inch.

Aug. 27th, 1933.

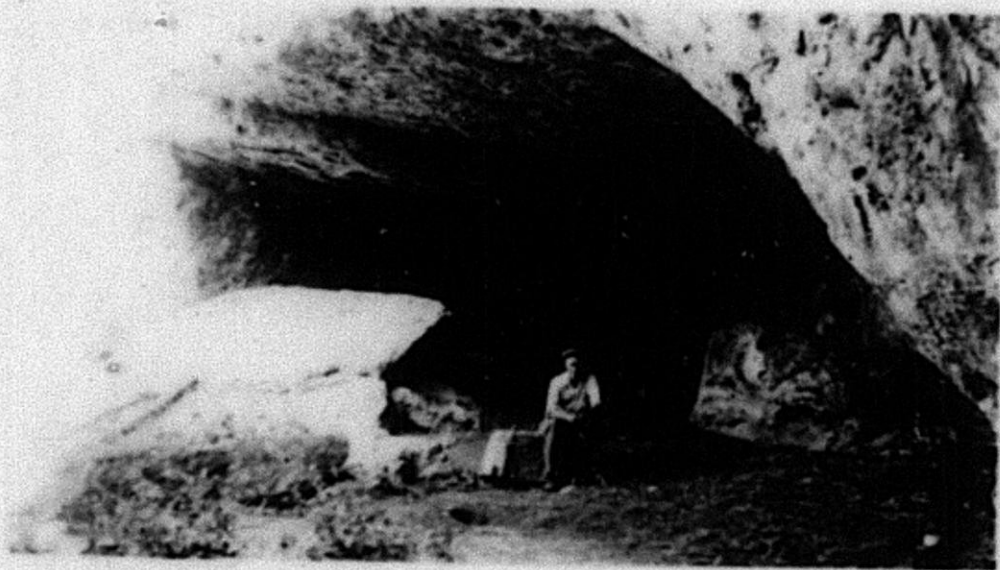


PROFILE OF FRONT OF "INDIAN CAVE" AT "SIXTEEN".

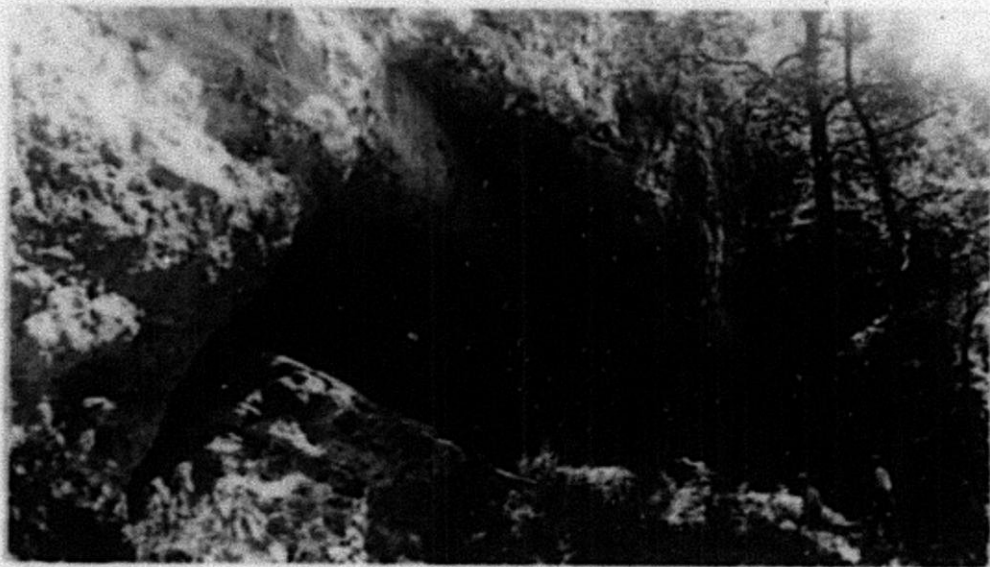
56 Ft. Wide, 14 Ft. High.



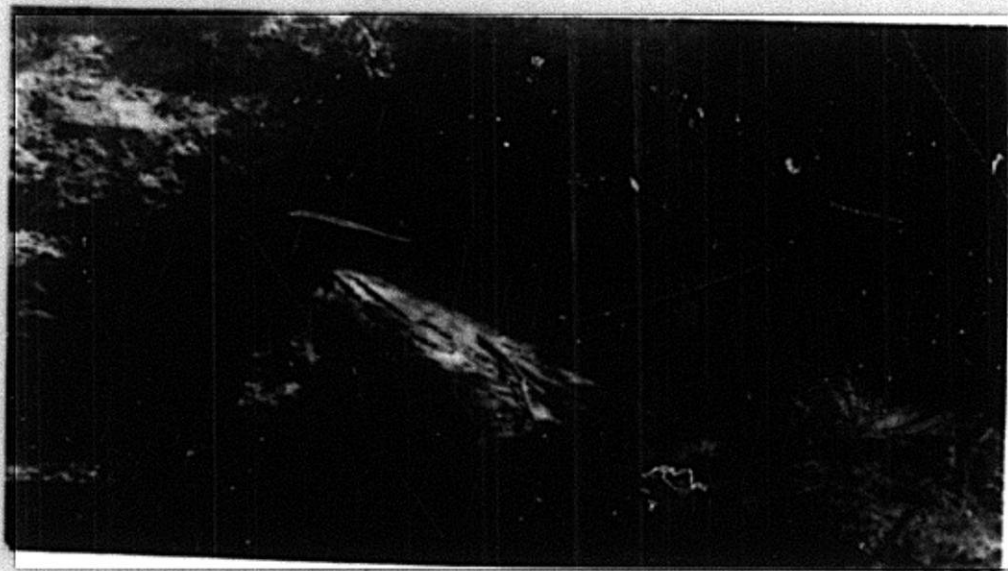
Looking north-west into Cave. Jones standing with hand on "Knob of Rock". Fallen Rock at Left lower Corner - Roof at Left Upper Corner.



Looking north-west into Cave. "Knob of Rock" at Right. Large Fallen Rock at Left. Trench was dug from "Knob of Rock" past Rock on which Jones is sitting, to Dark Spot (A shallow hole in the floor) in Front Center.



Looking into Cave from South-west. Note large fallen Rock at Left Front. Fred Orr and Lewis Jones digging in Front Slope of Terrace at Right Front. Cave fronts the South.



Looking into Cave from directly in Front. Note the large Fallen Rock - 13 X 11 X 6 ft. at Left.

THE INDIAN CAVE AT "SIXTEEN."

On the NW SW Sec. 15, T. 96, R. 4, at about two hundred feet north of Yellow River, and four hundred feet east and a little south of the quarter section corner between sections 15 and 16, at the base of a fine cliff of massive Onyota limestone, is the "Indian Cave" at "Sixteen".

From the north bank of the river, which here runs east, a quite steep talus slopes up to this, the best "rock shelter" in Allamakee county.

The opening or front extends east and west for fifty-six feet along the face and at the base of the cliff. It is fourteen feet high and extends back into the rock for twenty-three feet, the back wall being eleven feet high, and almost vertical.

The floor is of black soil mixed with small rock fragments and has a downward slope from back to front of three feet.

Imbedded in the west half are five large rocks that in times long past have fallen from the roof, the largest being 11 X 13 ft. and 6 ft. thick. So long ago have these fallen that there is now no area on the roof, from which they might have fallen, that appears any less weathered than the remainder.

Some years ago I was one of a party that visited this shelter. Picnic parties had left the remains of a camp fire - the same spot evidently having been used many times. But otherwise there were no signs - no initials or marks on the walls - to show that white men had ever before been there.

We built up the fire, made coffee and ate our lunch, after which we took some pictures and did some desultory digging.

There was an abundance of limestone chips scattered over the earth floor, and among these the two boys of the party found, as I now remember it, two small triangular arrow points.

In the square yard of earth that I worked over I found one triangular arrow point and three small pieces of thin, sand-tempered black pottery, No. 97, about the size of my thumb nail.

One side of two of these pieces was entirely covered with worn "string impressions", on the third one they were more distinct.

On Aug. 18th and 19th of this (1933) year I had an opportunity to spend, with two helpers, four hours taking photos, making the plan of the shelter, and excavating.

Altogether we worked over very thoroughly a trench fifteen feet long, one foot wide and from one to two feet deep, from the "Knob of Rock" at the back, towards the front, and sunk a hole two feet in diameter to a depth of two feet just under the vertical front of the cliff, while the boys worked another while on the sloping face of the 8 ft. wide terrace in front.

At the back we found ten inches of black soil with numerous rock chips and spalls below which was a foot or more of disintegrated sandy appearing yellow limestone down to the solid rock.

45

The farther from the back we dug towards the front the deeper the black soil got, till in the two foot hole at the very front we found no other.

Fragments of the leg bones of the deer that had been split for the marrow were fairly common but nowhere abundant.

In addition to the bone fragments we found in the two foot pit, two pieces of pottery, No. 5135, some small clam shells, and a triangular arrow head, 1.2 X .5, No. 4475; of a pinkish chert.

In the trench I found five pieces of pottery, No. 5135, besides split bones, No. 1027.

On the terrace slope bone fragments and the small clam shells were more abundant and two pieces of pottery were found.

A few small bird bones and a bit of turtle shell were picked up at this latter place.

None of the pottery fragments was over an inch in diameter, was hard, sand-tempered, black, and from .1 to .2 inch in thickness.

One side of all of them was covered with "string" impression patterns and no two pieces appeared to be from the same pot.

No pottery was found below ten inches below the surface, at which depth the arrow head was found.

Just why very small bits of many broken vessels was scattered so sparingly over apparently the entire the cave floor for the long period of time that must have been required to add ten inches to the thickness of the earth ~~deposit~~ deposit, in all likelihood brought in mainly by the winds, is something yet to be determined.

The split bones were scattered pretty uniformly through all the black earth as deep as we dug.

To us this seems to have been an ideal shelter for a people that traveled much with canoes. It was only a few steps from a navigable stream; it was in a heavily wooded country, affording concealment and shelter; faced the south, and was roomy and dry.

Note - Mr. Stafford tells us that the old settlers said that in places the trees of the "Sugar Bush" stood so thick that one could stand between them and touch a different tree with each hand.

Across the river from the "Indian Cave", where the slope from the bluffs on the south and the bottom land joins, in digging a well some thirty years ago near the house that is still standing there, an arrow-head was found in a deposit of river gravels at the bottom some eighteen or twenty feet below the surface.

It was considerably patinated and was worn smooth and shiny by being rolled along by the current. This flint was given me by Mr. E.L. Cahoon whose son found it.

Mr. Cahoon was very certain that it was found as I have told, and as he was a "gentleman of good repute", I have no reason to doubt his statement.

This arrow-head is now in the collections of the State Historical Society.

Still farther to the south-west and on the same side of the river as the cave, on a sloping terrace lying in an ox-bow of the Yellow River, was the "Indian Sugar Bush".

On this terrace on Aug. 27th, 1933, in an hours search, Fred Orr picked up one perfect and three broken chipped flints, numbers 4457, 4459, 4460 and 4468, and many flakes, and the same day Mrs Laura Stafford who lives on the terrace, gave us eight more, numbers 4458, 4462, 4463, 4464, 4465, 4466, 4467 and 4469, all of which she had found in different places on it.

These twelve were of at least eight different types, and eight different kinds of material were represented.

No more than two were of the same type, nor more than three of the same material, none of which was local.

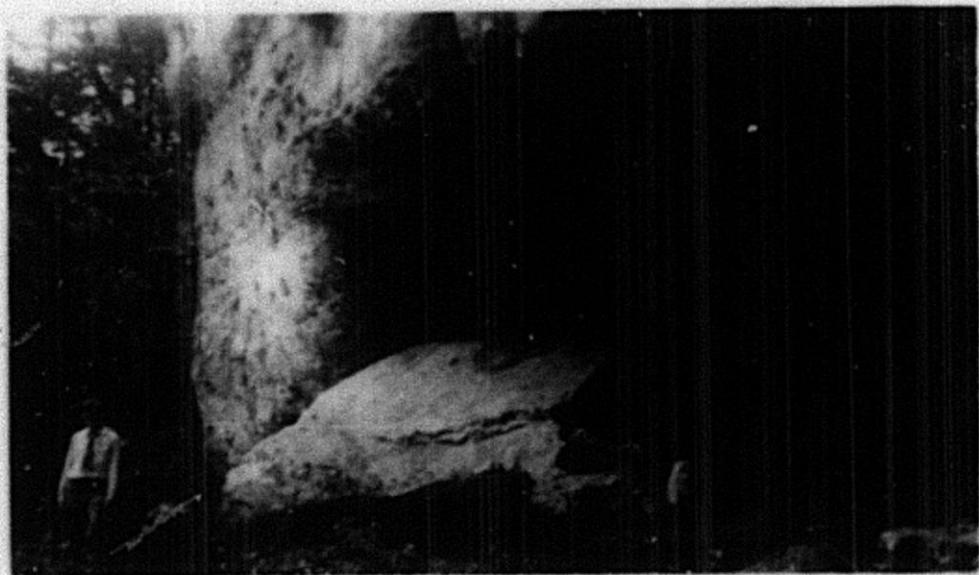
And we find ourself asking the question, why so many types and kinds of material on this ten acre lot?

Does each type indicate a different culture and a long continued use by as many tribes? Or did one tribe make many kinds, or did they acquire at least a part of them in trade?

And how did they come to be there? Were they lost, thrown away or left for some particular reason?

We have read that when an Indian missed his shot at game he threw away an arrow to propitiate the the spirit that maliciously caused him to fail.

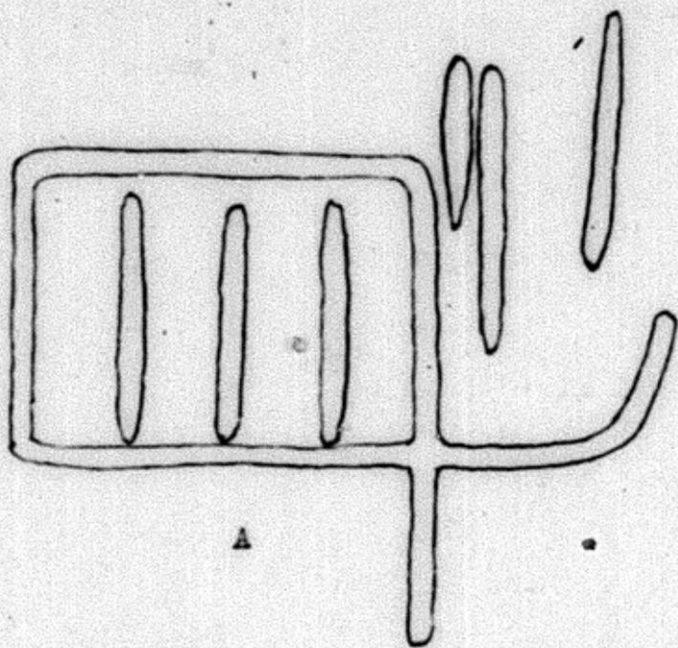
Were perhaps some of these thrown away because the boiling maple sap did not "sugar off" right?



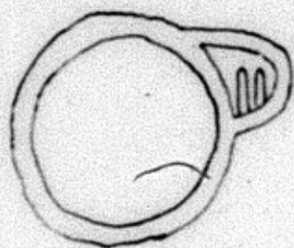
The "Indian Cave" at "Sixteen" from the east front. Note "Knob of Rock" at right and great fallen rock near center.



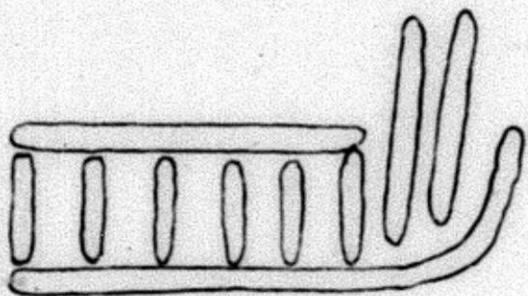
Around the ashes of the dead camp fire in the "Indian Cave" at "Sixteen."



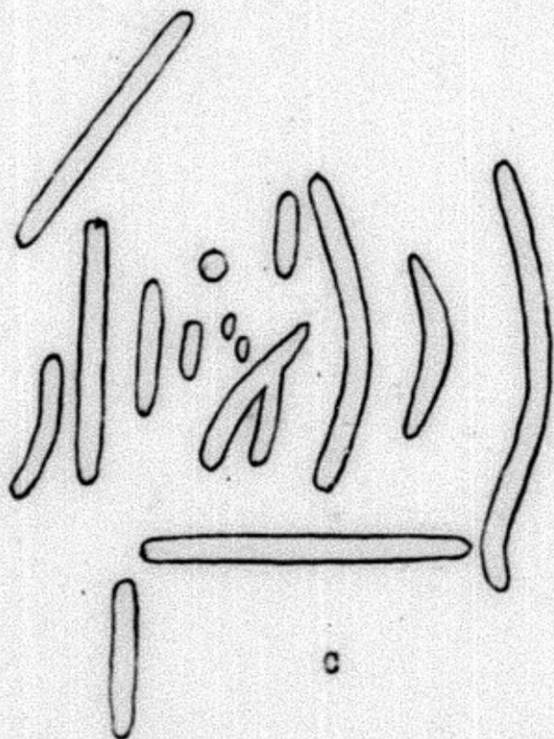
A



D

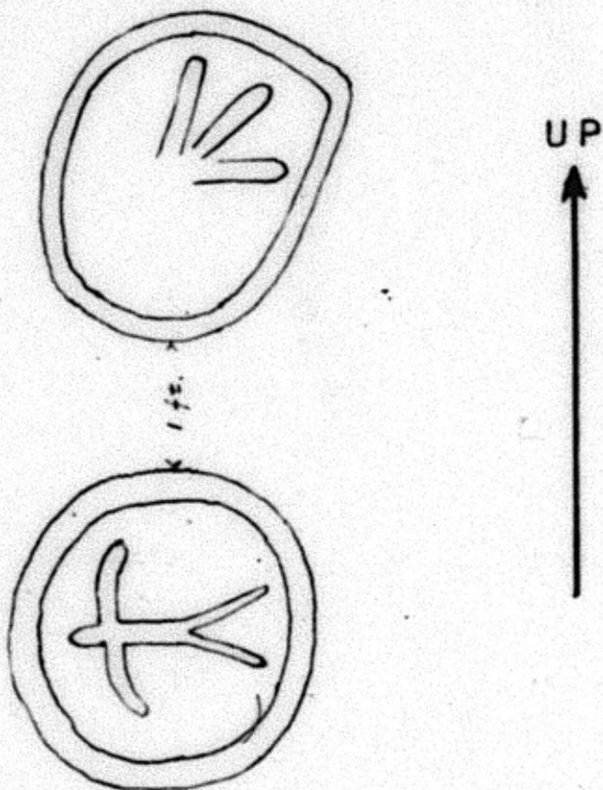


B



C

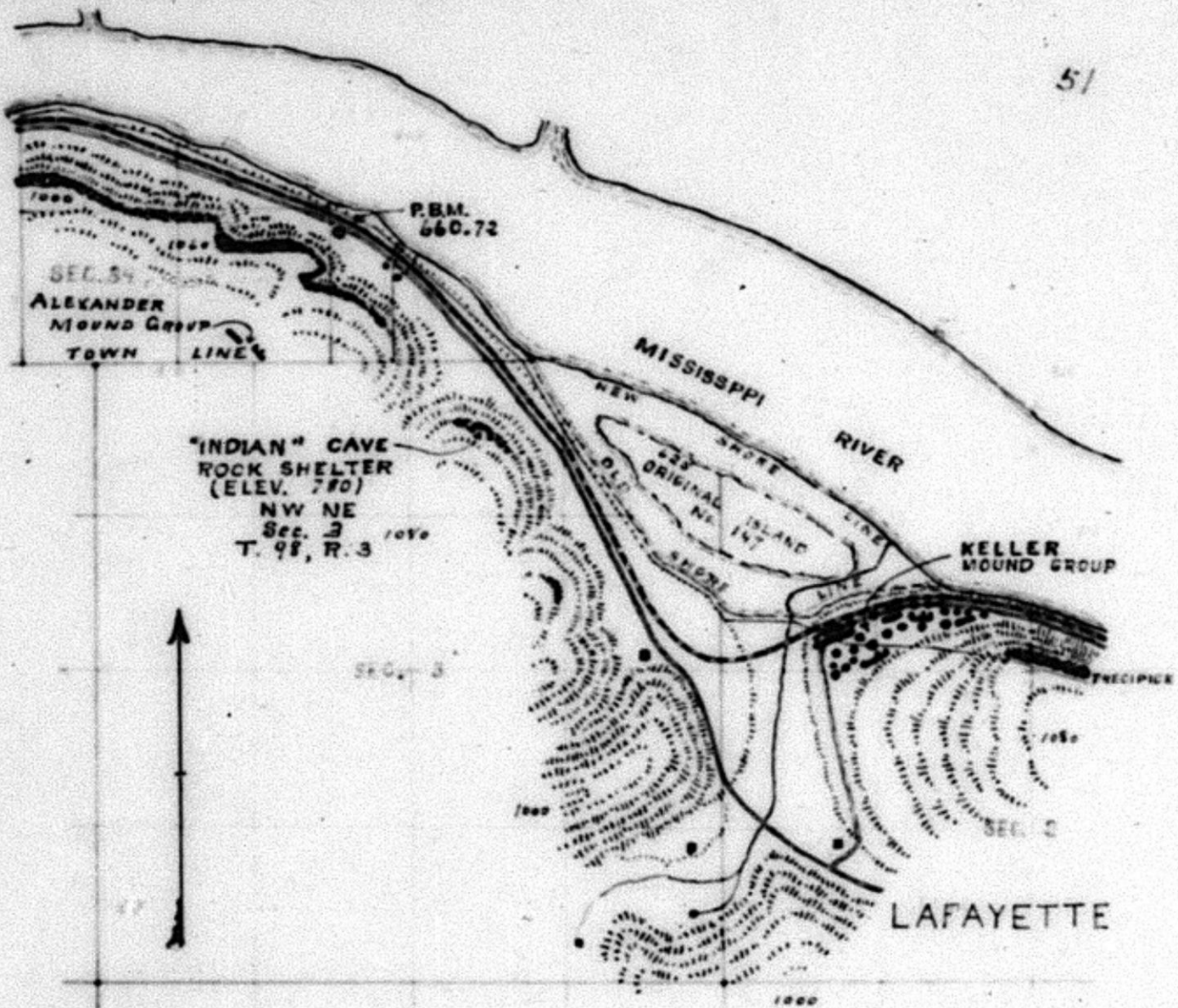
Copies of Petroglyphs
at Painted Rock, three-
fourths mile above
Waukon Junction.
Taken Oct. 19th, 1933.
Scale, 1/4 in. = 1 in.
Note General Resemblance
of Figures A, B and C.
Figure D at top of Jer-
dan Sandstone, 16 ft.
above top of Talus.



Petroglyphs on south face of Jordan Sandstone under
Hanging Rock, near center of Sec. 22, T. 90, R. 3.
About ten feet from R.R. track.

THE
INDIAN CAVE
AT
LANSING

ALEXANDER MOUND GROUP.



GENERAL MAP

of

INDIAN CAVE,

ALEXANDER and KELLAHER MOUND GROUPS, ALLAMAKEE COUNTY, IOWA.

Secs 2 and 3, T. 98, R. 3 and Sec. 34, T. 99, R. 3.

Sept. 14th, 1933.

Scale, 20 ft. to Inch.

FLOOR PLAN
of
INDIAN (FISSURE) CAVE
in

JORDAN SANDSTONE CLIFF

160 ft. above the Mississippi River
and 3 and 1/2 miles South (down river)
from Lansing, Iowa.

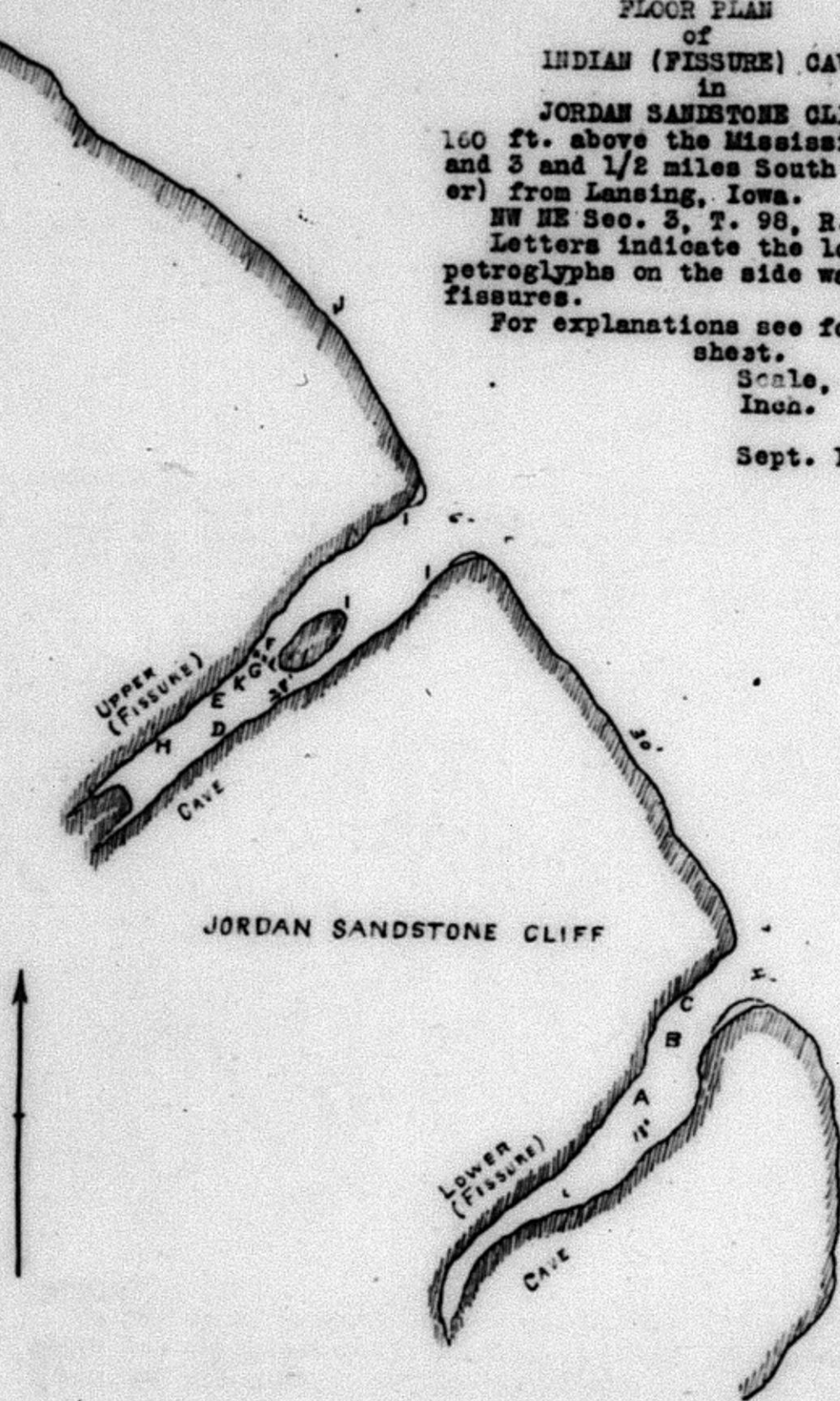
NW NE Sec. 3, T. 98, R. 3.

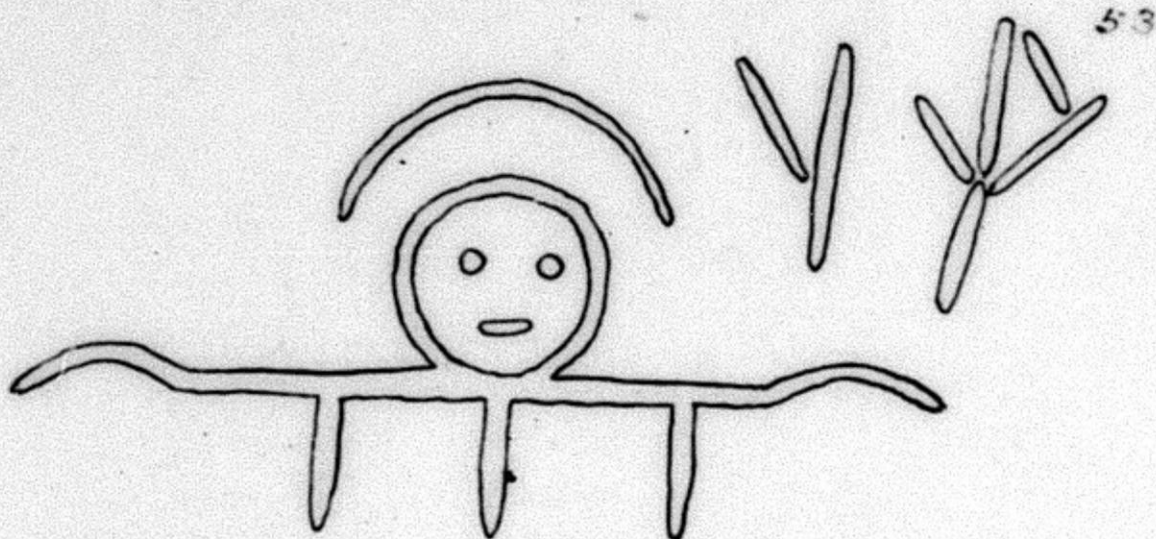
Letters indicate the location of
petroglyphs on the side walls of the
fissures.

For explanations see following
sheet.

Scale, 10 ft. to
Inch.

Sept. 14th, 1933.

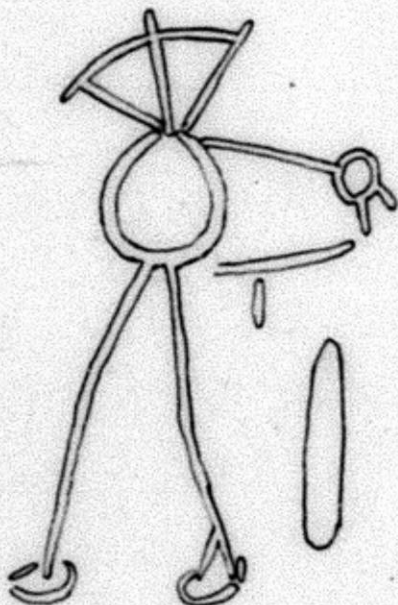




PETROGLYPH "B"

On North Wall of Lower (Down Stream) Fissure, at 2 ft. above the Floor and 6 ft. from entrance of "Indian Cave", 3 and 1/2 miles south of Lansing, Iowa.

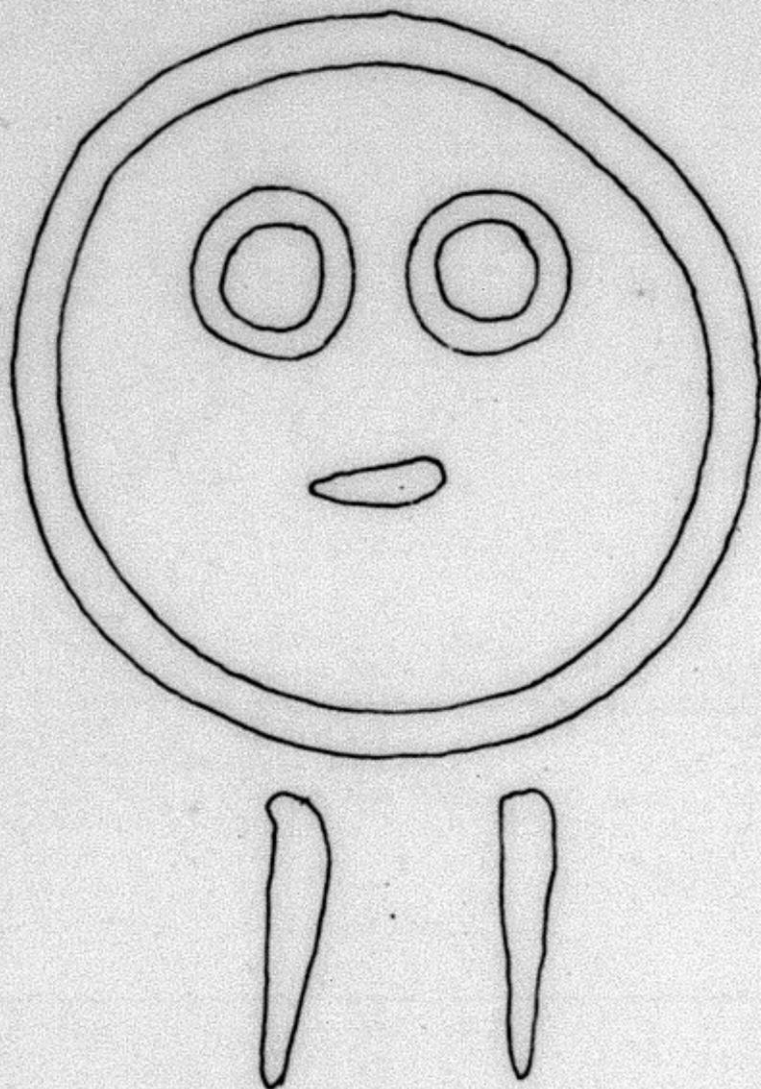
Scale 4 in. to Inch.



PETROGLYPH "C"

On the North Wall of Lower (Down Stream) Fissure at 5 ft. above the floor and 5 ft. from entrance of the "Indian Cave" 3 and 1/2 miles south of Lansing, Iowa.

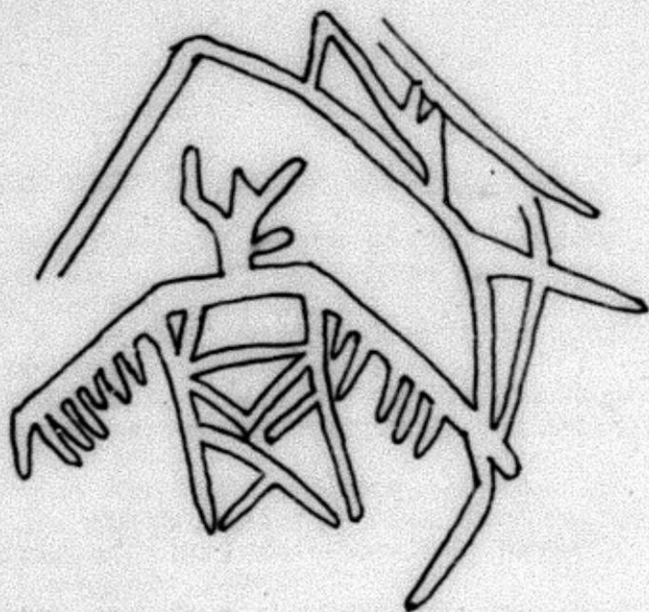
Scale, 4 in. to Inch.



PETROGLYPH. "j"

Grooves forming conventional figure on Face of Cliff of Jordan Sandstone, facing the Mississippi River towards the top of Bluff, and twelve feet north of of the "Upper" (north) fissure cave. Three and one-half miles south of Lansing, Iowa.

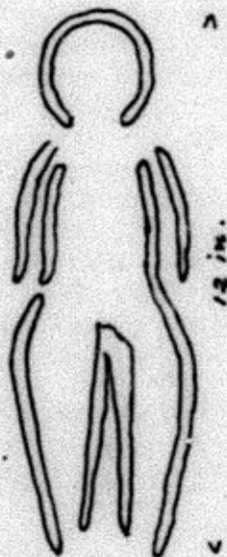
Scale, 6 in. to Inch.



PETROGLYPH. "E"

Grooves forming conventional figure of Flying Bird, (Thunder Bird ?) on the north side of the Upper (North) cave, (an enlarged fissure) in the Jordan Sandstone towards the top of the bluff facing the Mississippi River. Three and one-half miles south of Lansing, Iowa.

Scale, Two and one-half inches equal one foot.
(4 inches to Inch)



PETROGLYPH. "I"

Grooves forming the outline of Female Human Figure - one of three - on walls of "Upper" (North) cave (an enlarged fissure) in the Jordan Sandstone towards the top of the bluff facing the Mississippi River. Three and one-half miles south of Lansing, Iowa. Scale 4 in. to inch.

THE "INDIAN CAVE" SOUTH OF LANSING, IOWA.

Three and one-half miles south, or down the river from Lansing, Iowa, in a cliff of Jordan Sandstone, one hundred and sixty feet above the Mississippi River, and on the NW NE Sec. 3, T. 98, R. 3, is the "Indian Cave", or rather caves, for there are two of them.

These two caves are crevices or fissures enlarged by weathering, running directly back into the vertical face of the cliff.

T.H.Lewis, who made a survey of them in 1889, speaks of them as the "Upper Fissure" (farthest up the river) and the "Lower Fissure" (farthest down the river). We will continue so to designate them.

Both were originally cracks or crevices in the sandstone that have since been enlarged by the weathering or crumbling away of the sand.

They are both highest and widest at their entrance or opening into the cliff, the floors of loose sand of both slope steeply upward while the roofs drop, as they recede from the face of the cliff. The floors of both at the entrance are on a level with the top of the long steep talus of soil and loose rock that slopes upward from the obscure terrace about 30 - 60 feet above low water in the Mississippi.

The "Upper Fissure" is approximately six feet wide and eighteen feet high at its somewhat irregular entrance.

Just within the entrance, overhead, two quite large pieces of fallen rock are wedged between the converging walls, looking as if they might be jarred loose by a shout, while at eight feet in a slender sandstone pillar approximately two by three feet in its oval diameter and about twelve feet high, standing about in the center of the fissure, fails to reach the roof by a couple of inches.

It looks as if a vigorous push would topple it over.

On my first visit to this cave Dr. Hayes, who was with me, was able with little effort to make the top sway slightly.

In passing by it into the back part of the cave where the petroglyphs are we were particularly careful not to touch it.

On a slight projection at its top was a well built peewee's nest of this year.

The walls now are for the most part hardened and blackened by by some kind of low vegetable growth but in front of the pillar considerable patches of it have recently sloughed off exposing the crumbly white sand.

On the south wall of the "Upper Fissure", at four feet back of the sandstone pillar and 12 - 18 inches above the floor of loose sand, is Petroglyph "D", the "King of the Thunder-birds", a conventionalized outline figure of a flying bird without feet or a recognizable head.

This figure, as well as all others in both fissures, was made by cutting half-round grooves from one-fourth to one inch wide and from one-tenth to one-half inch deep - the width and depth varying for the different figures but being quite uniform for any individual one, - the dimensions above being the extremes, the greater number averaging one-half inch wide and one-eighth deep.

Above and to the left of Petroglyph "D" are two sets of parallel grooves, one horizontal the other slanting, with a zig-zag line bordering the slanting ones.

Directly across the fissure and at the same height from the floor as "D", on the north wall, is another smaller and less elaborate "thunder bird", Petroglyph "E", with a head resembling part of a moose's antler. Connected with this on the right and above are some irregular grooves, while still farther to the right and above are three "turkey tracks."

Petroglyph "K" is a still less complex "thunder bird" above and to the right of Petroglyph "E". This figure is unique in having its longest dimension at an angle of 45 from the vertical. It also has nothing that looks like a head and the wings are rudimentary - may be intended for arms.

A "turkey track" is connected with the end of the right one.

Within eight feet of the small hour-glass shaped pillar that ends the Upper Fissure, on the north wall, is Petroglyph "H", resembling a house with legs.

Just back of the Sandstone Pillar on the north wall of the Upper Fissure, at a height of two feet from the floor, is Petroglyph "G", a small "grid" similar to those in the Fish Farm Cave below the rail-road half way between Lansing and New Albin, which we have fully described in another paper.

One foot above Petroglyph "G" is Petroglyph "F" of straight lines forming an incomplete lozenge-shaped figure.

Had we never known of the "grids" in the Fish Farm Cave, which are undoubtedly Indian, we might be inclined to believe "G" and "F" the work of white man.

On the face of the Sandstone Pillar and on each side of the entrance, within the cave, are three fairly made female figures cut in demi-relief, Petroglyphs "I". The smallness of the arms and the width across the hips indicating the sex.

White men's visits are also evidenced by a few names and initials and conventional figures of the vulva.

A few isolated "turkey tracks" and straight and irregular grooves, which form no part of a figure, also occur.

Thirty feet south of the Upper Fissure is the Lower Fissure. The entrance to this cave is less than four feet wide and twelve feet high. The floor slopes up, the roof down, and the side walls approach each other till at eighteen feet back the opening, which there turns south, is about two feet wide and the same high.

Besides five "turkey tracks", two groups of two parallel grooves each, and scattering disconnected grooves, there are three petroglyphs in this cave, all on the north wall.

Petroglyph "A" apparently represents some spirit with some of the attributes of a man, as also do "B" and "C".

The grooves forming "A" are the deepest (1/2 in.) and widest (1 in.) of any figure in any fissure.

It also is the best proportioned and best preserved.

The grooves forming "C" are very narrow and shallow.

All three, from five to seven feet in, can be seen from the entrance.

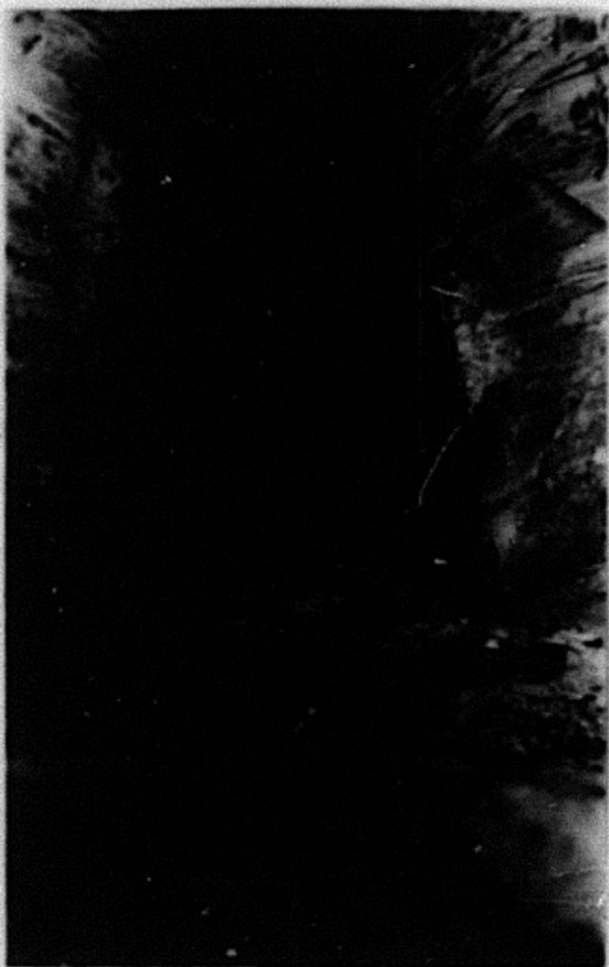
Survey made with help of Fred Orr, Sept. 15th, 1933.

The Alexander Mound Group, located on the highest point of the bluff northwest of the "Indian Cave", just north of the town line, on the SE SW Sec. 34, T. 99, R. 3, consists of a bear mound seventy-five feet long and a long mound one hundred and fifty feet long. Both are almost obliterated by cultivation.

About eighty rods north-west of these, on another high point, Fred Orr picked up a fragment of sand-tempered, unornamented pottery, one inch square.

Sept. 15th, 1933.

The Keller Mound Group, shown on the general map, has fully described in another paper.

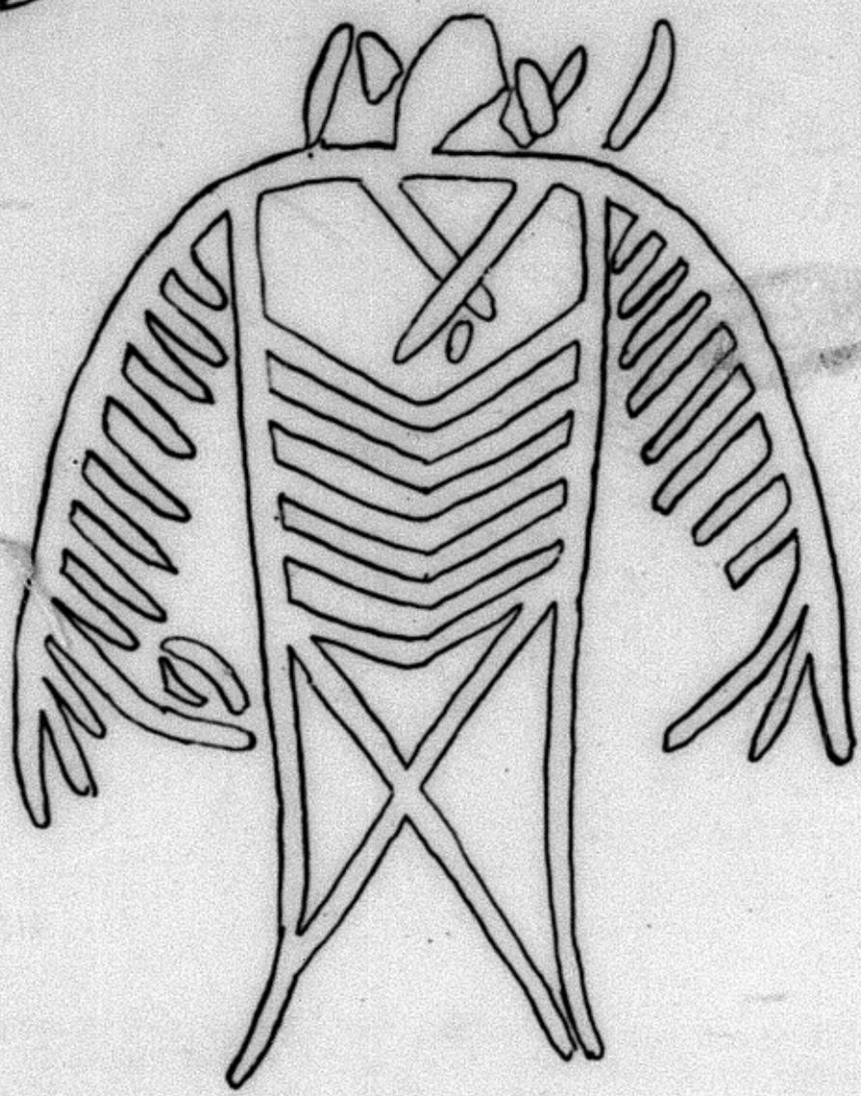
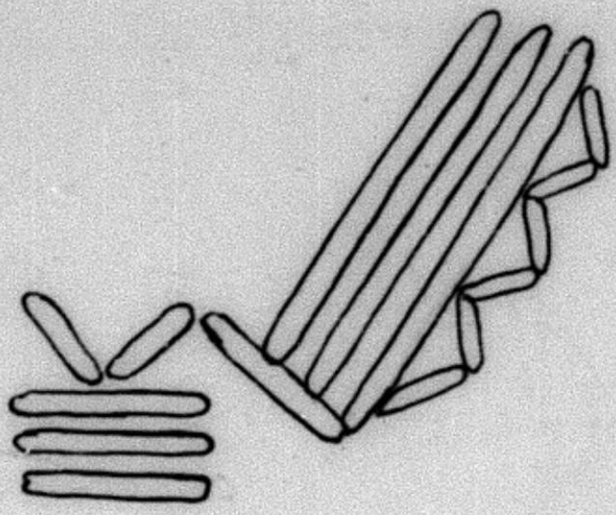


Entrance to Upper Fissure - narrowing farther in. Note sandstone pillar at center, with one petroglyph, "I", one foot above floor. Also a second "I" on the south wall, the head just above the point of the fallen rock.



A "close-up" of the entrance to the Upper Fissure, looking diagonally towards the north wall. Sandstone pillar not in picture. White spots behind writer are places where hardened dark old face of wall has sloughed off.

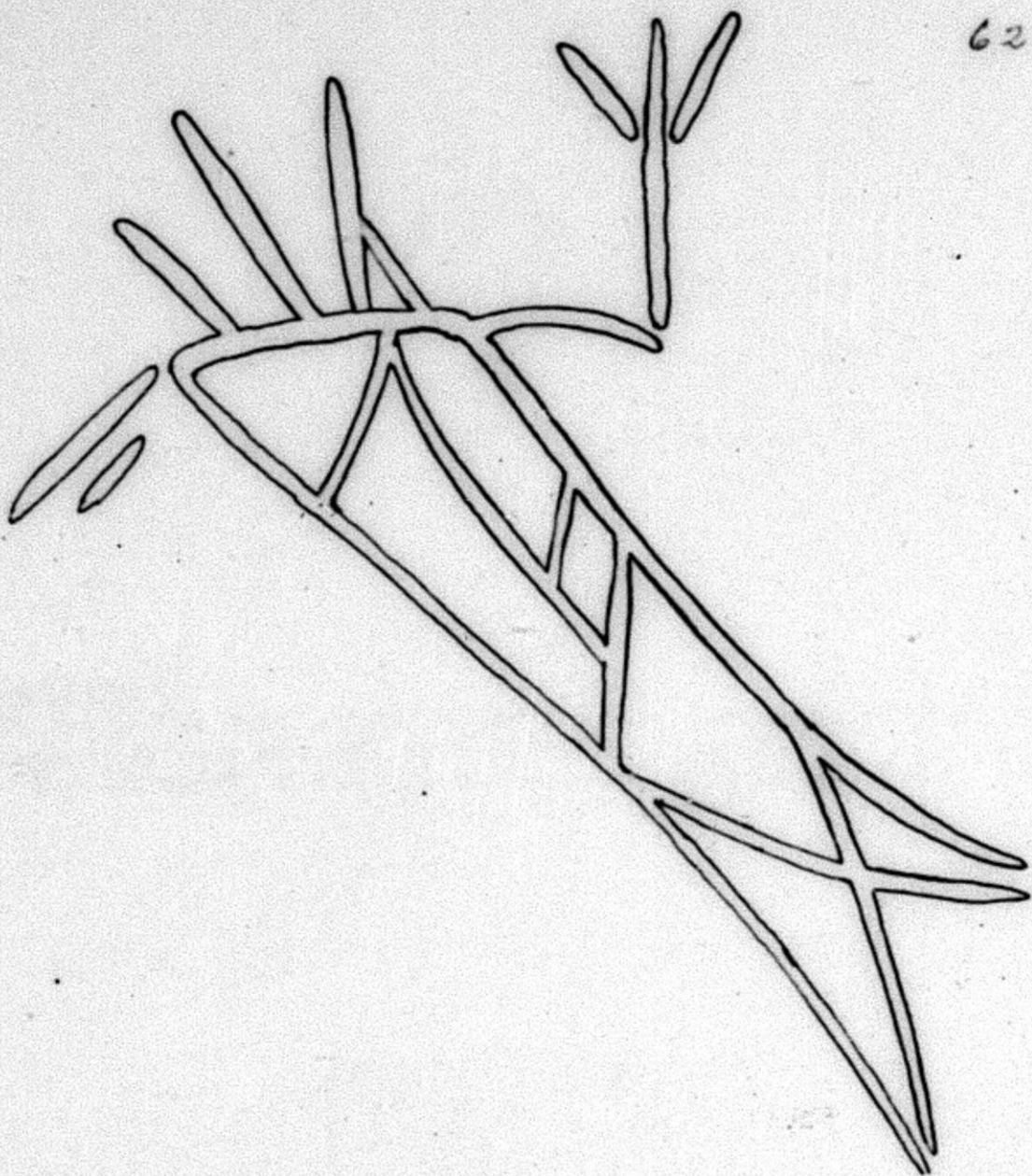
Note "turkey track" on wall where indicated and another one foot above. Directly beneath these, at one foot above the floor, is a third Petroglyph "I".



PETROGLYPH "D"

The King of the Thunder Birds and Pattern of Parallel Lines with Zig-Zag Border a little above and to the Left, on South Wall of Upper Fissure, four feet back of sandstone pillar and approximately one foot above floor of "Indian Cave", 3 and 1/2 miles south - down the river - from Lansing, Iowa.

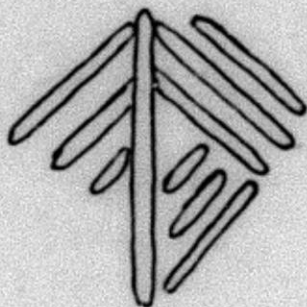
Scale 4 in. to Inch.



PETROGLYPH "K"

Above and between Petroglyph "E" and "F" on the North Wall of Upper Fissure. "Indian Cave" 3 and 1/2 miles south of Lansing, Iowa.

Scale, 4 in. to Inch.

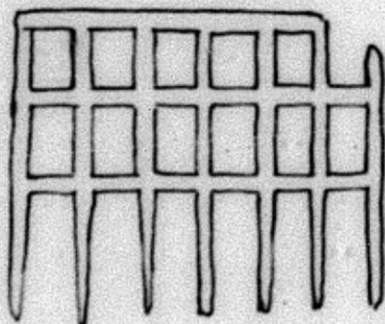


PETROGLYPH "F"

On the North Wall of the Upper Fissure just back of the Sandstone Pillar and one foot above Petroglyph "G".

"Indian Cave", 3 and 1/2 miles south of Lansing, Iowa.

Scale, 4 in. to Inch.

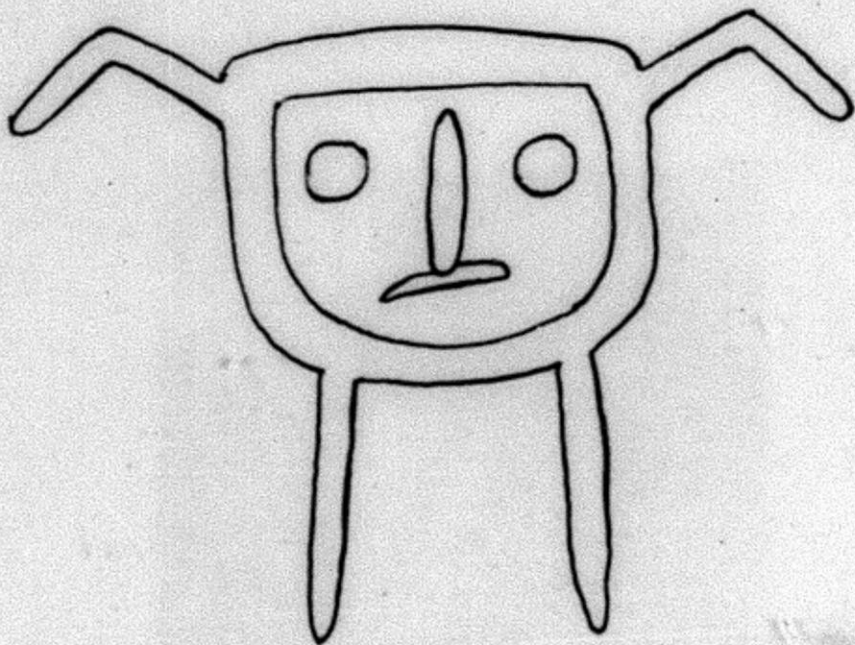


PETROGLYPH "G"

"Grid" on the North Wall of Upper Fissure, 2 ft. above floor and just back of the Sandstone Pillar.

"Indian Cave", 3 and 1/2 miles south of Lansing, Iowa.

Scale, 4 in. to Inch.



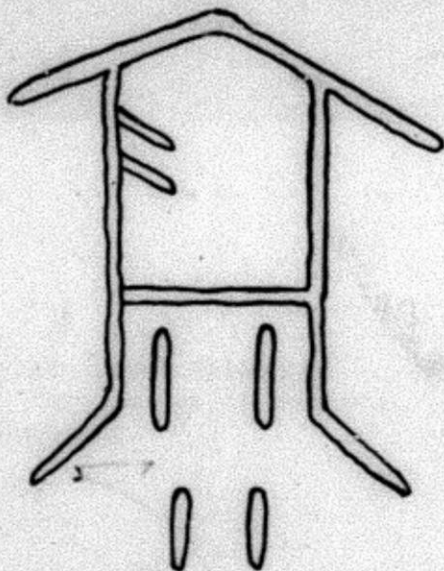
PETROGLYPH "A"

On the North Wall of the Lower Fissure at Two Feet above the Floor and Seven Feet from the Entrance.

"Indian Cave" 3 and 1/2 miles south of Lansing, Iowa.

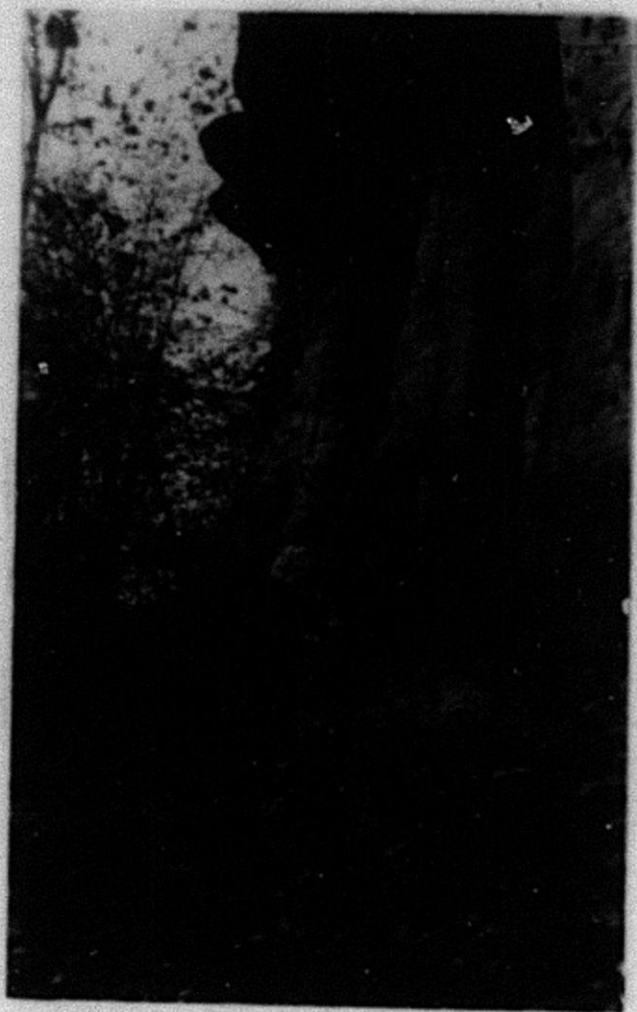
The grooves forming this Figure are exceptionally wide (1 in.) and deep (1/2 in.), and altogether it is the most clean cut and best preserved of any Figure in either Fissure.

Scale, 4 in. to Inch.

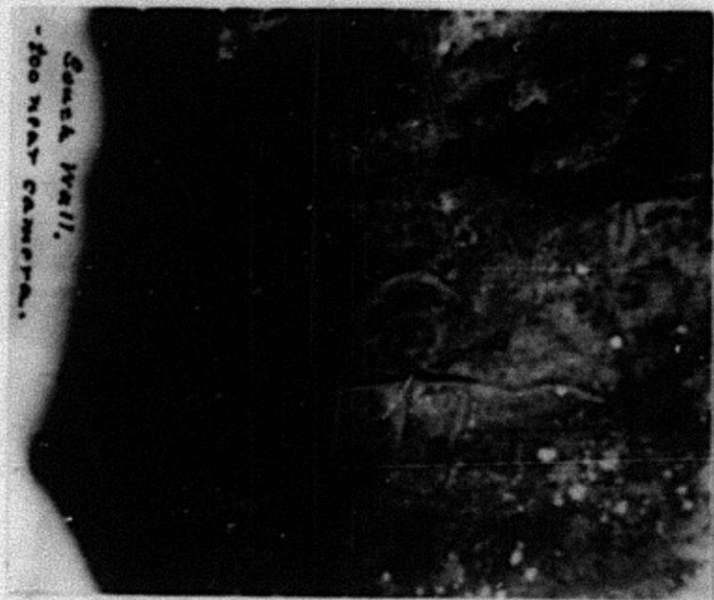


PETROGLYPH "H"

On North Wall of Upper Fissure, 2 ft. above floor and 20 ft. back from entrance. Indian Cave, 3 mi. south of Lansing, Iowa. Scale, 4 in. to Inch.



Dr Hayes at entrance to Lower Fissure. Note tendency for this (Jordan Sandstone) formation to weather into pillars, often shaped like an hour-glass.



Photograph of Petroglyphs "A" and "B" on the north wall of the Lower Fissure near entrance, across from the point of the south wall at the entrance, which shows white in the picture.

DIGGING A HOLE IN MOUND NUMBER 1 of the
PAINT ROCK MOUND GROUP.

In the summer of 1932 two high school boys from Waukon, seeking adventure, climbed the 300 ft. high bluff back of the "Painted Rock", three-fourths mile north of Waukon Junction, Iowa, and dug a pit in the center of the most south-easterly mound of the Paint Rock Group, - No. 1.

They must have their ardor somewhat cooled by the hard climb and by the harder digging for they succeeded only in carrying the south end of their excavation down to the "floor" of the mound.

But they were in luck, for at the bottom they uncovered the upper part of a large skeleton and with it a quantity of badly broken up pottery.

While we were spending a week on the river this (1933) summer, the man who lives on the small terrace at the foot of the Paint Rock precipice; complainingly told of the work done by the boys. He said that they had thrown out human bones and scattered them about - leaving them there exposed - and that they did not fill the hole again. He thought that it wasn't right.

Up to that time the four round mounds and the one unusually long one of this group had never been disturbed and we had come to believe that, because of their inaccessibility, they might escape the fate that has befallen so many others and be preserved for posterity in connection with the historic rock below.

So of a fine October afternoon we made the hard climb to see what damage had been done.

On the edge of the pit lay three quite large pieces of the neck of a finely ornamented, grit-tempered, black pot and several pieces of a skull, while a number of other bones were scattered over the earth thrown out.

Here was real mound-builder's pottery and we immediately wanted the rest of that vessel very badly.

Getting down into the hole we worked over and threw out with our hands - we had brought nothing with which to dig - all the loose dirt which the boys had left in the bottom, and in it we found fifty-four small pieces, that, with one exception, appeared to be parts of the same vessel.

The darkness was coming on as we gathered up our finds and hurried down the hill.

Mound No. 1 is saddled across the narrow crest of the divide between the Mississippi river and a deep ravine parallel to it on the west, and near its southern end.

No. 1 The most south-easterly mound of this group.

It is 44 ft. in diameter north and south and 47 ft. east and west. Its center rises 36 inches above the natural surface and is 6 inches west of the west side and 4 ft. south of the north end of the pit, and is indicated by a circle in red ink on the sketch or diagram of the excavation following.

About 6 inches of the natural surface soil appears to have been removed down to the red disintegrated rock subsoil and on the "floor" thus made were placed the remains.

Skeleton # 1, the one partly uncovered by the first digging, and farthest to the south, was that of a large man. The bones of the upper part of the body were badly decayed - none were whole, and the smaller ones entirely gone.

From what we can learn from the boys as to their positions we are unable to say whether this was a burial in the flesh or the re-interment of a disarticulated skeleton - what is usually called a "bundle burial." Certain it is that the lumbar vertebrae, the pelvis and the bones of the lower extremities were all in their proper positions.

On the following day we went up and completed the uncovering of these bones by undercutting the side of the pit. No relics of any kind were found with them.

We then finished excavating the pit by digging out the north end down to the "floor" where we found the upper part of skeleton No. 2, the bones lying "every which way" in a heap.

They were badly decayed - most of them entirely gone.

Strangely enough on top of this heap lay a quite well preserved skull, No. 1031, entirely filled with earth.

At the bottom of the pit on its north side was the pelvis of a woman with the femora lying in their proper relation to it and extending farther under the earth on that side.

This was probably the burial of a "bundle" of which a part had been placed in their relative natural positions. This, also, may have been the case with skeleton No. 1.

Both skeletons lay extended, except for the bundling of the upper parts, north-west and south-east, - the feet to the north-west. Over them was a deposit of light gray, hard earth, 12 to 18 inches thick, and over that was yellow loess, except for a few inches of surface soil, to the top.

There were no indications of fire nor were any other relics found except the broken pottery.

Owing to the lack of accurate observation by the boys as to the location and condition but little is known as to the manner of occurrence of the pottery found, except that it was very much broken up.

Altogether we were able to salvage a total of fifty-seven grit-tempered pieces, running in diameter from one-half to two and one-half inches. And we believe that we found all of them.

Then the boys gave me three pieces of the neck which they had taken away with them, making sixty in all, or about two-thirds of the complete pot.

From these we were able to restore two sections from which it was possible to determine the shape and dimensions, except the bottom, no part of which it was possible to rebuild out of the pieces left.

The lower half was probably, though not certainly, sub-spherical or shaped like the bottom of a pot.

The greatest diameter of the body, at about 4.75 in. below the rim, was 7.6 in., from which with an S-curve it contracted to 5.3 in. at the middle of the neck, and from there curved outwards to the rim where it had a diameter of 6.4 in.

The height was probably about 7.6 in. if the bottom was pot-shaped or around 9 in. if shaped like the small end of an egg.

On a following page is a correct outline, in heavy lines, natural size, so far as we were able to restore it, and the probable shapes of the remainder in dotted lines.

A horizontal cross section at any point would be a circle.

On the outside this pot is gray, somewhat blackened in places. The inside is more or less blackened, sometimes heavily, apparently, and in some cases, certainly, by the incrustation of what is probably carbonized food.

With the pieces which apparently belonged to the one vessel there was included a fragment of the neck of another one, which resembles the first in material, color and shape, but differs in having no decoration on the thin lip. This is No. 5159

The pattern of the ornamentation on the pieces which we were able to join, consists of a continuous line of small punctures or indentations with a pointed instrument or with a stamp having four such points, entirely around the neck at .8 inches below the top, the indentations being .1 inch apart.

Above this on the upper part of the neck is a series of lines of indentations with an indented straight line running through them downwards, the left to within .1 to .2 inches of the continuous encircling line.

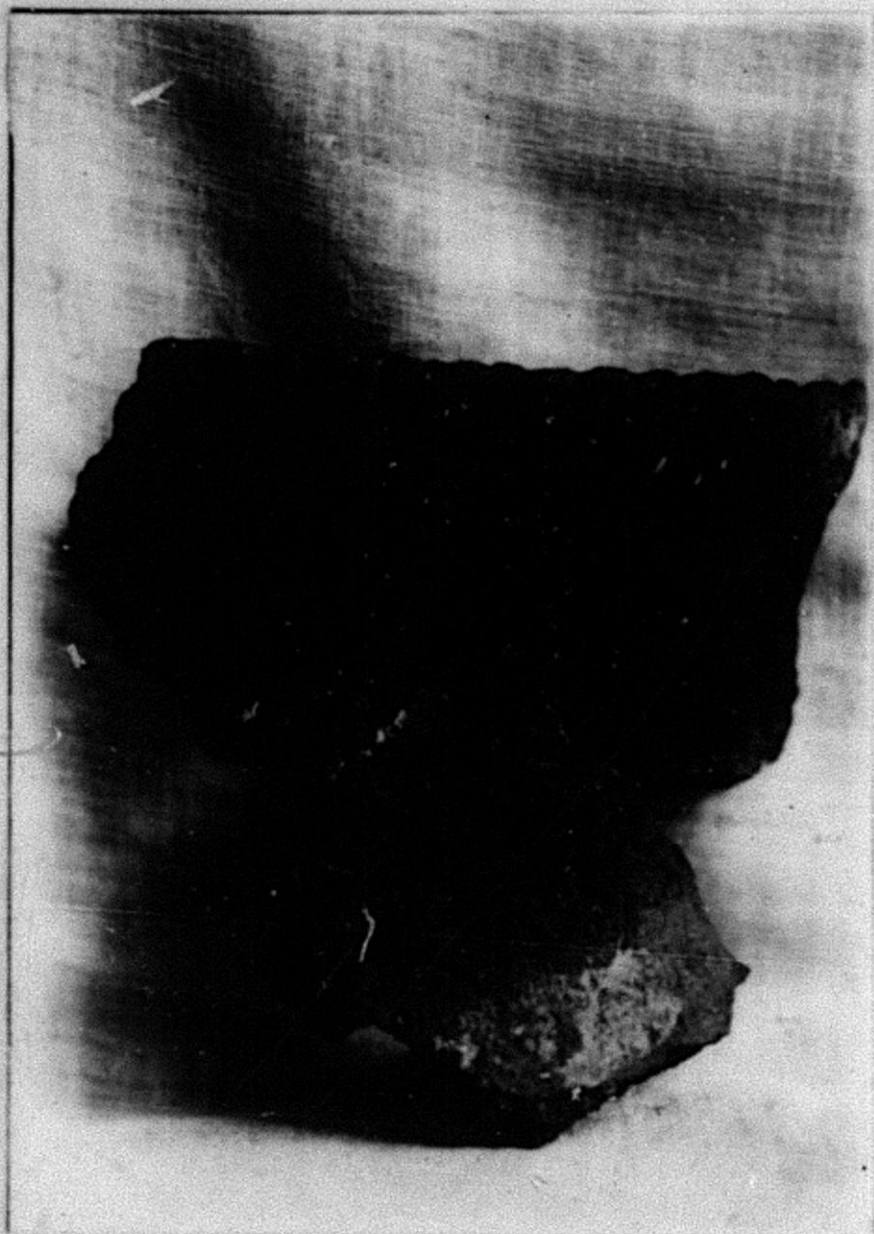
Diagonally across the lip are indentations made with probably a flint piece - not with a finger nail. - These are .2 to .3 inches apart and .1 inch deep.

Below the encircling line on the neck are strips of horizontal indented lines - four indentations to the line - running diagonally to the right down the neck to the bowl. These decorated strips are .5 inch wide and have a length of about two inches, and are about 1 inch apart.

Still lower than the above is a belt of obscure vertical string indentations.

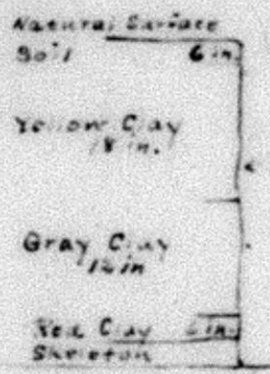
The photographs, sketches and diagrams following will help materially, we believe, to understand what we are describing in this paper.

The catalogue number of this pot and of the fragments that it was impossible to fit together is 5157 - A and 5157 - B for the two restored sections and 5158 for the fragments.

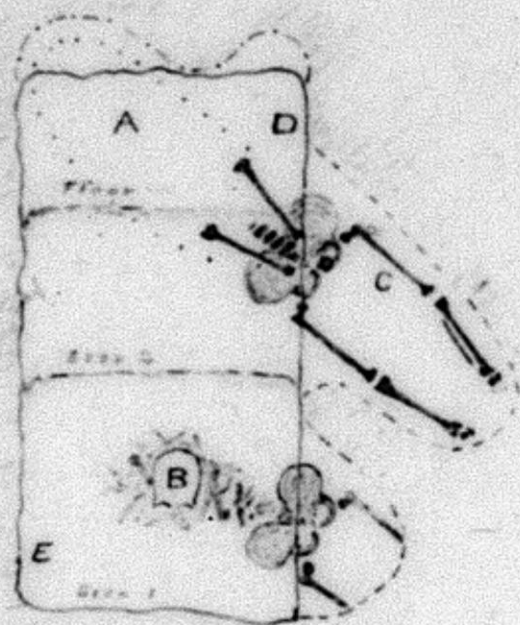
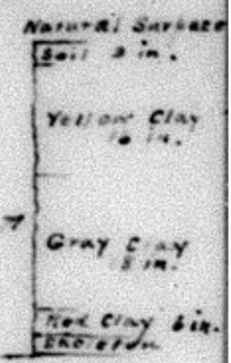


Photograph of Restored Part of Pot found with Skeleton
No. 1 in Mound No. 1 of the Paint Rock Mound Group.
Actual Size. No. 5157-A

Vertical Section of side of Pit at E



Vertical Section of side of Pit at D



Scale, 2 ft. to Inch.

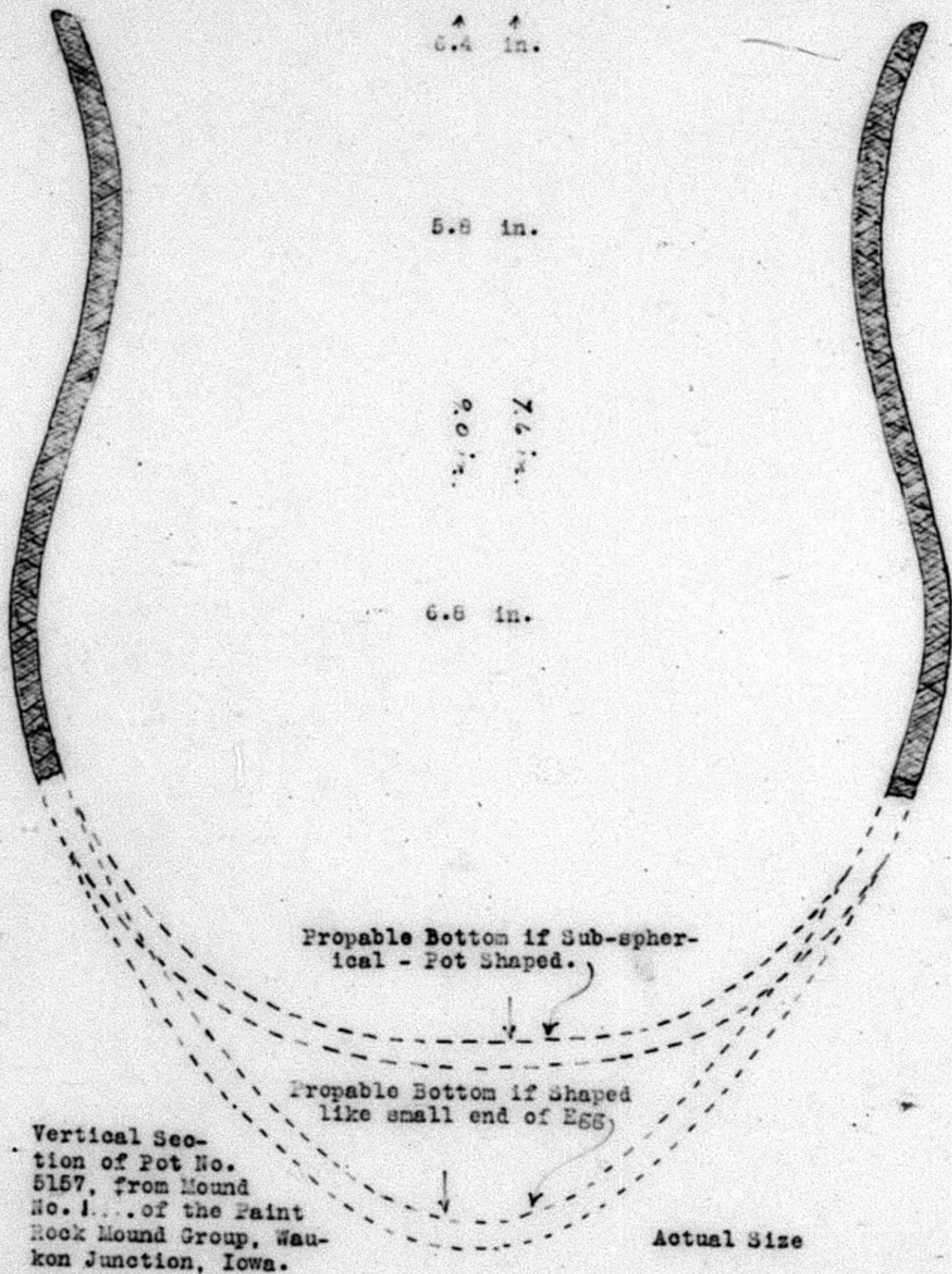


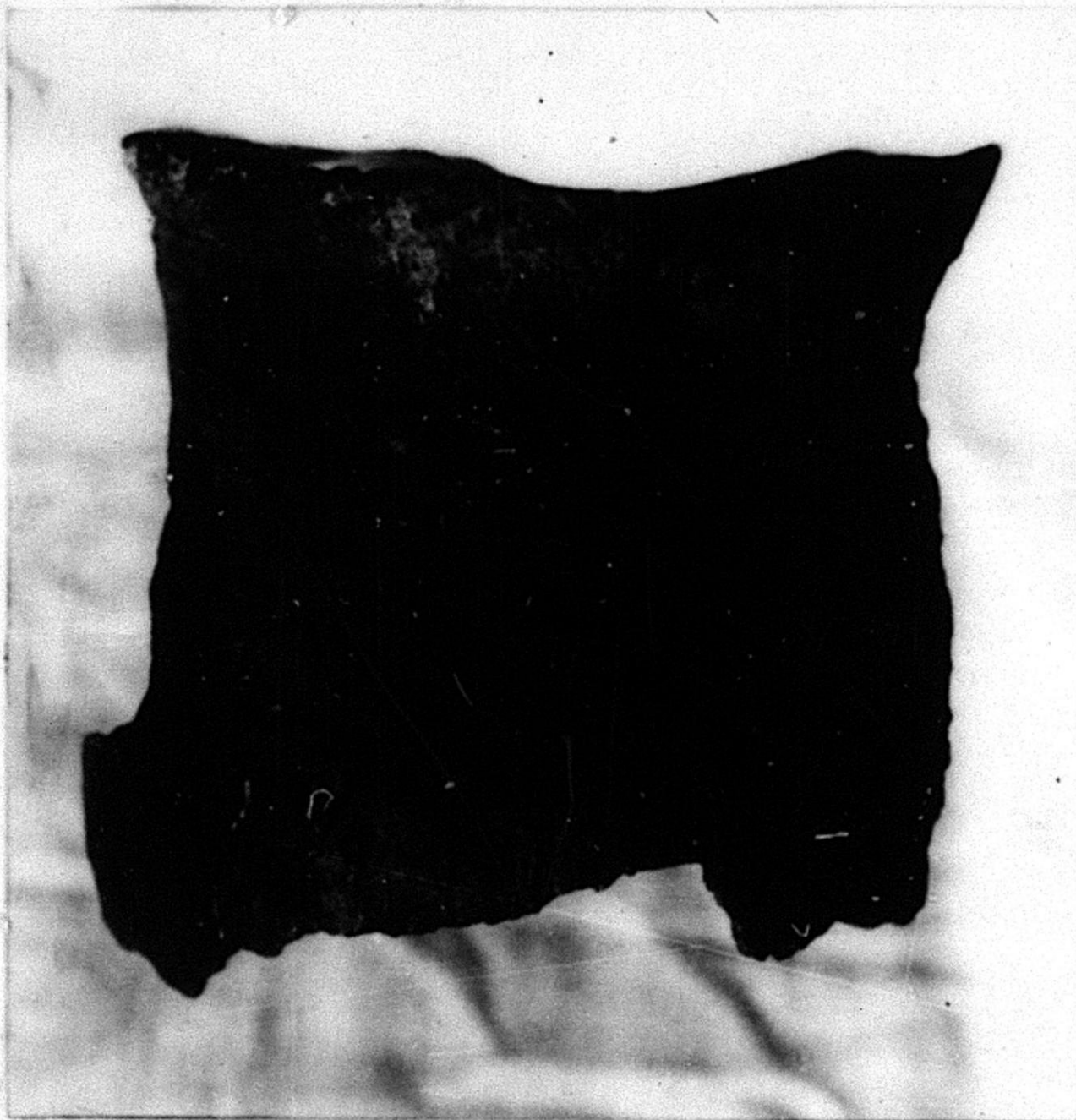
Sketch of Pit Excavated in Center of Mound No. 1 of the Paint Rock Mound Group, on Bluff Top over the PAINTED ROCK, on the SW NE Sec. 3, T. 96, R. 6. Three-fourths mile north of Waukon Junction, Iowa. (Lot)

E and W diameter of Mound	47 ft.
N and S diameter of Mound	44 ft.
Height	36 inches

- Outline of Pit at Surface of Mound.
- - - - - Undercutting done at first excavating.
- Undercutting done at second excavating.

- A Area from which bones of skeleton No. 1 and pottery fragments Nos 5157, 5158 and 5159 were removed first excavating.
- B Skull, No. 1033, lying on top of disarticulated, disarranged and badly decomposed bones of skeleton No. 2 - probably that of a woman - uncovered second excavating. Both skeletons lay on floor of reddish subsoil and small rock fragments, about 6 in. below the the natural surface. Over these skeletons was a deposit of light gray clay, 12 - 18 in. thick and very hard.
- C Femur in good condition. Preserved, No. 5132. First Excavation, 1932. Second Excavation, Oct. 21, 1933.





Photograph of Restored Part of Pot found with Skeleton
No. 1 in Mound No. J . of the Saint Rock Mound Group.
Actual Size.

No. 5157-B

See Page 93, Vol. 1



View of Mound No. 1 . . . Looking South.
Foot of Mound on the West at Edge of Picture. Foot
of Mound to the East three-fourths inch from left edge
of Picture.



View of Mound No. 1 . . . Looking North.

Oct. 21st, 1933.

THE O'REGAN CLAM SHELL CACHE.

Traveling up the Oneota River road not long since, from Mt. Hope to Highway # 13 at Herman Gang's farmhouse, - all that now remains of old "New Galena", - we noted clam shells on the slope of the high roadside bank at the west end of the O'Regan Terrace.

Driving again that way on Sept. 23d with Dr. and Mrs Field of New Albin, we found at a depth of two feet, on digging away the bank, a compact horizontal layer of small river clam shells.

This was rectangular in outline with a length approximating thirty inches, a width of twenty and a thickness of three inches.

By far the most abundant shell was an elongated thin shelled species. With these was an occasional "niggerhead" and a few of a larger species, nearly round.

A very few specimens came out perfect but for the most part they fell to pieces when handled.

We estimated that there were well over a thousand shells in the cache.

All around and above them was the apparently undisturbed yellow loess of the river terraces. That is, there was no intermingling with it of the black surface soil, ashes or other foreign substance.

After the shell was all shoveled out we went down three feet deeper but found only the same undisturbed loess. On the top of the deposit, near its center, were some half dozen burned (?) limestone rocks, and to one side but still in the shell layer, was a fragment of a pot rim, tempered with clam shell and the bowl part decorated with irregularly parallel marks 1/10 inch wide and 2/10 inches apart. The neck part was not decorated. (No. 103)

Dr. Field thought this shell might have been cached by some pre-historic potter in order that she might have a supply convenient for her wares. This might be the reason but why bury them two feet when six inches would have concealed them just as effectively.

About one hundred and fifty feet away in this same roadside bank, we found some years ago, a fine celt and finer spud, on cache, at about eighteen inches below the surface of the terrace.

At something like forty rods to the east on this terrace, exposed by the caving off of the side of the big ditch, we found some years ago a very compact bundle of what appeared to be willow twigs in a very good state of preservation, large enough to fill a pail. This bundle was buried about a foot below the surface.

Then there are the large pots like Nos 15 and 16 of our collection, buried upside-down almost any place; the cache of pieces of large pots, all different, found in the loess over the County Gravel Pit near New Albin, and in the Harvey Beardmore terrace remnant; and the double handful of creamy flint flakes found at a depth of over three feet in the roadside bank near the Hartley school house.

Without doubt many things were buried for safe keeping but certainly not all of them, and it seems to us that we must look for other reasons for the placing of these objects, like the cache of shells, where found.

THE TURKEY RIVER MOUND GROUP.

On the 20th of Aug., 1932, Fred and I visited the "Hog Back Group" of Turkey River Mounds, surveyed and platted by T. H. Lewis, Apr 27th and 28th, 1885.

The mounds of this group are quite free from the usual mutilation and apparently they are just as they were at the time of the Lewis survey.

This group lies on the high and narrow divide separating the valley of the Turkey river from that of the Mississippi.

The height at the north end where it widens out into the general upland is 260 ft. above low water in the big river below.

From this high point it extends about S45E across three sags and three other high points, having elevations respectively of 240, 240 and 260 ft., for a distance of about .8 mile, beyond which is another .5 mile of battlements and castellated crags of Galena dolomite.

Along the crest to the last high point is a fairly level area; having a width of around 200 ft., with a couple of short spurs running out to the west.

On the east it pitches almost vertically down to the Mississippi. On the west not so steep but that one can descend, to the valley of the Turkey.

At about 650 ft. south of the most southerly mound shown on Lewis' plat, No. 38, is the third sag, beyond which at about 400 ft., is the top of the last high point, on which are two mounds that apparently have been pretty well excavated.

It is to be noted that in the "procession" are to be found earthworks of every type known in Iowa except the bird effigy mound.

It contains the most northerly of the tailed effigy mounds (all of those along the bluff tops or on the terraces north of this group are without tails) and is unique in having the only earthwork resembling an enclosed area, along the Mississippi, in Iowa.

This latter is an irregular C-shaped embankment, or perhaps we should say, heap, of earth, with the opening towards the river on the east, and with a lower apron, one-half the height of the embankment, extending farther east and a similar one extending south.

Enclosed by the embankment is an irregular bowl-shaped depression, the bottom of which is about at the natural level.

This embankment is from 5 to 6 ft. high and from its foot on the west to the center of the bowl is 70 ft.

From an average distance out from the foot of this earthwork of 65 ft., an irregularly circular trench with two gaps, extends from the Mississippi river bluff's edge on the north-east around to same on the south-east.

This trench has an approximate width of 12 ft. and a depth of 18 inches.

As there is no corresponding embankment - as there is at the New Galena Enclosed Area on the Upper Iowa - the soil excavated in the making of it was apparently used to construct the embankment which it surrounds.

At no other place in the group do we find excavations and must conclude that the material of which its earthworks are constructed was carried there.

The round mounds run from 20 to 36 ft. in diameter and from 18 inches to 5 1/2 ft. in height. The long mounds have lengths of from 80 to 165 ft. and a height of around 18 inches, except No. 21, which has a height of 2 ft. Lengths, diameters and distances apart can be determined from the Lewis plat which is drawn to a scale.

When its surroundings are considered I believe that this Turkey River "Hog Back Group" is the most outstanding group of prehistoric mounds in Iowa. ☉

From different points along the ridge fine views of the Mississippi and Turkey river valleys and bordering bluffs are to be had. Seen from either river the castellated southern end of the ridge presents a striking land mark.

Except for the south high point the whole area is as free from high grass as a well kept lawn, and except for the mounds at the north end which lie in open pasture, the whole is well shaded by an open growth of red, chestnut and white oak.

Wherever there is a root hold on the precipitous bluff sides there is a covering growth of shrubs and trees and in season a mosaic of spring flowers - a riot of dainty color.

Much red cedar grows along the ledges and on the battlements of the the south end.

Except for the two strings of combined long and round mounds at the north end the whole area is not likely to ever be disturbed by cultivation.

This forest covered hill, outstanding for its ruggedness, and hiding amidst its trees the old, old monuments of a forgotten people; with its magnificent vistas of older rivers, shimmering in smoky haze, should be secured and set aside and preserved in ~~its~~ all its natural beauty and all its historic interest for the enjoyment and benefit of posterity for all future time. ☉☉

The castellated southern end of this divide was known to earlier residents in the vicinity as Bixby's Park. In some book somewhere I have seen a description of it in the very flowery language characteristic of pioneer days.

- ☉ *Not in Iowa - 1935 - but certainly in Clayton County*
- ☉☉ *In 1934 seventy Acres of this "backbone" - from river to river - and running from the S. point N. to include all the mounds, was purchased by Judge McGuire, The Adams Co., The McDonald Co. and others of Dickinson to be eventually turned over to the State for a Park.*



MOUND No. 32

"Hog Back Group" of the Turkey River Mounds.
Looking West towards the Valley of the
Turkey River



MOUND No. 38

"Hog Back Group" of the Turkey River Mounds.
Looking East towards the Valley of the
Mississippi River.

THE "BURNED EARTH MOUND".

MOUND No. 4 of the WAUKON JUNCTION MOUND GROUP.

In the valley of the Paint Creek at its mouth and scattered along the foot of the bluff on the north, consisting of a store, a school house, depot, and some half dozen dwelling houses, is the hamlet of Waukon Junction on the C. M. St. P. and P. Ry.

Two hundred and fifty feet above it and directly north of the store, is Mound No. 4 of the Waukon Junction Mound Group.

Sixty-five feet north of this is a smaller mound, No. 5, and running north from a point about one-hundred feet north of this latter, along the peak of the upland bluff top, then north-east and east, and terminating one-hundred feet west of the top and center of the great north and south precipice facing the Mississippi river, is a procession of long embankments totaling 1514 feet in length - the intervals between totaling 625 feet.

These with a 129 feet long and three large round mounds on the point directly north of the depot, where the Paint Creek and Mississippi river bluffs meet, and an obscure bear effigy and one of a flying bird to the south of the last three of the procession, constitute the Waukon Junction Group of Mounds. Being on the E 1/2 of the SW 1/4 of Sec. 3, T. 96, R. 4, in Iowa.

To the north across a half mile wide and three-hundred feet deep ravine is the high precipice of the Painted Rock, that for long before the coming of the white man was "wakon" to the red one.

(See sketch map of the locality following.)

Mounds No. 1, 2 and 3 had been excavated some years prior to our survey of the group in 1902 but mounds 4 and 5 had not been disturbed

In visiting this group a few years after the survey had been made we noticed in earth thrown up by a pocket gopher on Mound No. 4, a few small pieces of burned red clay looking like tiny bits of soft red brick.

Since then we had wanted to open that mound and see what it contained, but the opportunity never came till the fall of 1931.

After some delay in securing permission to excavate from the different parties having an equity in the land on which it is located, we, with two young fellows anxious to dig, went down to the Junction.

I could not remember whether it was on Mound N. 4 or 5 that I had seen the gopher hill but as No. 5 was the smaller and meant the least work, we concluded to tackle that.

In this mound, 30 feet in diameter, and 2 feet high, we dug a pit 8 feet long east and west and 4 feet wide, and to a depth of 3 feet below the natural surface. But we found nary red nor anything else - the mound was barren.

Then we dug a couple of test pits in No. 4 and in the one on the south slope struck an abundance of burned earth.

As we did not have time to do any further work we refilled the pits, planning to return later and complete the work.

It was not till the fall of 1932 that Fred Orr and myself were able to spend part of three days in digging a four foot wide trench through from the south margin of the mound to the north and down to the mixed clay and disintegrated rock just over the solid Onocota Limestone ledges of the bluff top.

Briefly, we found on top of the disintegrated rock, a more or less obscure layer of black earth, and on this, scattered over a central area of approximately ten feet in diameter, were abundant fragments of burned human bones.

Directly over these was an irregular mass of earth burned very red, mostly crumbly and dusty but containing some chunks roughly 4 to 8 in. in diameter burned very hard.

One of these contained the impression of a finger into which my forefinger fitted very nicely.

Between the calcined bone fragments and the red earth were a few scattering rocks approximately 4 to 6 in. in diameter, some of which were burned to quicklime,

At 8 and 1/2 feet both north and south from the center, especially south, were some larger pieces of unburned rock, possibly part of an attempt at an encircling wall.

From the appearance of the red earth - the irregularity of the mass and the absence of any charcoal - we were inclined to the belief that the burning was elsewhere, and that afterwards the burned material was brought in baskets or skins and dumped over the calcined bones, the burning of which, we are also inclined to believe, was done at some other place, after which ordinary upland clay and soil was brought in quantity and the mound completed.

The burned earth appears not to have been soil of the bluff tops as some pieces were only part burned, the unburned portion resembling very much the soil of the Mississippi river flood plain. Also the finger mark or impression in one of these partly burned pieces would seem to indicate that the material had been puddled before burning.

88

Less than half a dozen of very small pieces of charcoal were found with the burned bones and black layer and none in the red earth.

There were no traces of an ash bed.

The line of contact between the body of burned earth and the covering of upland clay and soil was quite sharp and distinct but irregular.

In parts of this covering clay and soil there was quite a red color due to the inclusion of small separate particles and bits of the burned material scattered through it.

That bodies, or what is more likely, bundles of human bones, were cremated, there is no doubt.

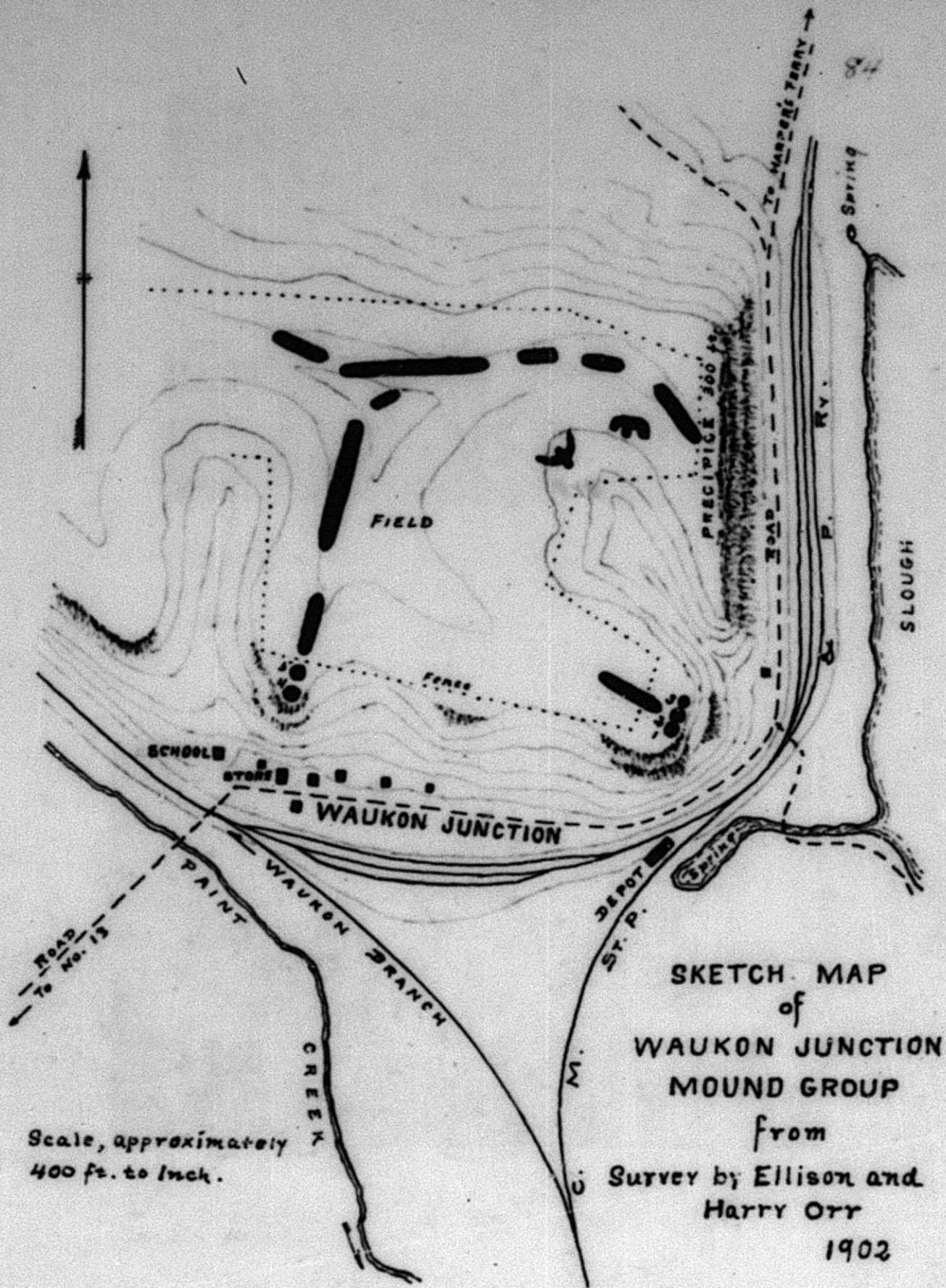
The general appearance of everything exposed in excavating, however inclines us strongly to believe that the burning of both the human remains and the earth, was done, probably somewhere down on the river bottom lands, and the residual bones and the burned earth carried to the bluff tops and there deposited and a mound built over them.

There is nothing in the mound itself to indicate that there was ever such an intense fire there as would be necessary to so thoroughly burn such an irregular mass of earth having a maximum thickness of three feet and a diameter of less than ten.

To do this would take several days and such a fire covered with such a thickness of earth would certainly be more or less smothered, resulting in the making of quantities of charcoal.

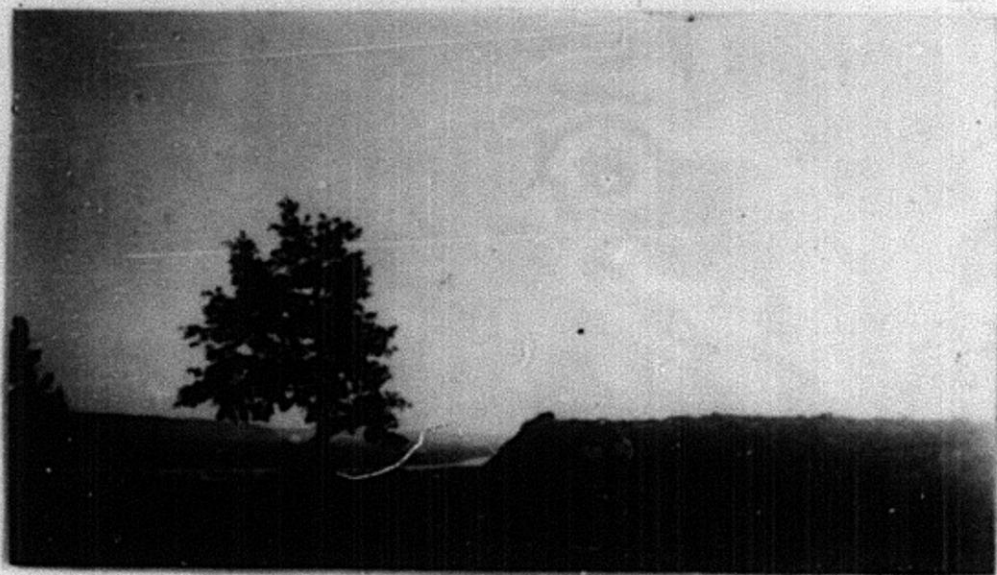
But no charcoal was found except the very few small pieces.

Besides if we have properly interpreted the conditions found in Mound No. 33 of the Yellow River Mound Group, the burned earth was there found in a thick (1 foot) layer spread over a completed mound, except for a thin veneer of common upland forest soil at the top.

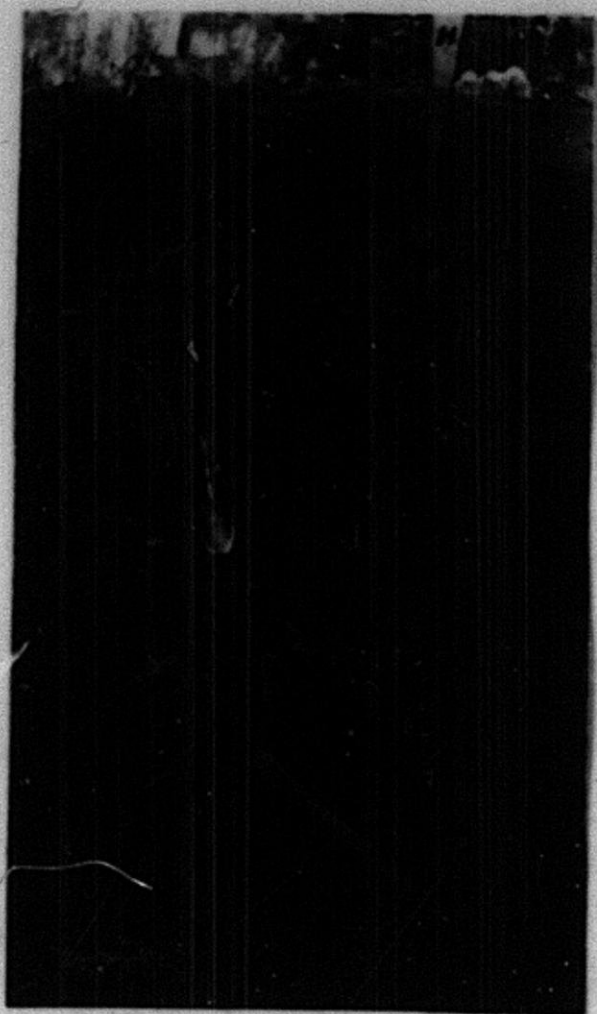




View of Mound Number Four - Looking West

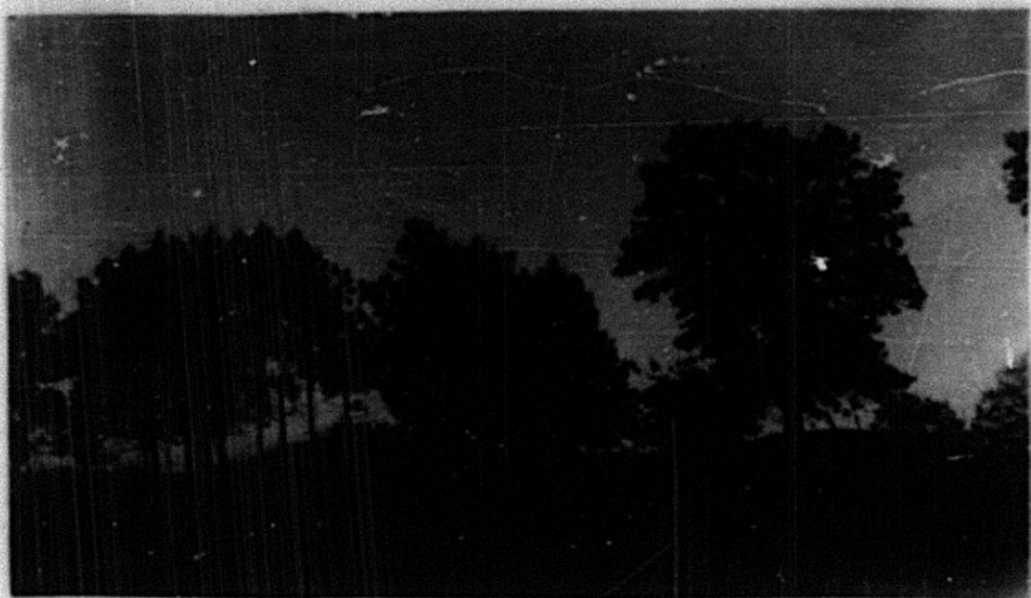


View of Mound Number Four - Looking South. Note Point of High Mississippi River Bluff on South Side of Mouth of Paint Creek



Looking into half completed Trench from the South
End. Center of Mound at H. A indicates Disintegrated Rock.
B indicates Black Earth. E indicates Burned Earth. C indi-
cates Upland Clay and Soil.

Note Calcined Bones resting on Black Earth between Trowel
and Pick.



Photograph of Mounds No. 2 and 3 of the Waukon Junction
Mound Group.



Looking into half completed Trench from the South-west. Center of Mound at H. V indicates corners of Trench. B indicates Black Earth. C indicates Upland Clay and Soil. D is a pocket of same dipping down into the pure Burned Earth, in which is considerable Burned Earth. E indicates pure Burned Earth.

This is a View of the same part of the trench as in the preceding picture but taken from side instead of the center of the Trench.

A BURNED-EARTH MOUND AT DAVENPORT.

An account of the construction and contents of a mound near Davenport, Iowa, opened by Mr. A.S. Tiffany, which appears on page 64 of Vol. 1 of the Proceedings of the Davenport Academy of Natural Sciences, published in 1876, is of interest in connection with what was found in the excavation of Mound No. 4 at Waukon Junction.

We give it verbatim as follows:

"Situated on the farm of Mr. J. Staffelbach, seven miles below the city (Davenport), and three-eighths of a mile from the river (Mississippi) which he (Tiffany) had recently explored, in company with S. P. Stevens, Esq.

"The mound explored was on the crest of a spur bearing a little south of west from the main bluff, which here forms a prominent projecting point, known to river pilots as Eagle Point. The mound was about twenty-five feet in length, and two feet high, although from its peculiar position upon the very narrow and sloping ridge, its dimensions were difficult to determine.

"The surface was the usual black soil to the depth of from six to twelve inches. Next was found a burnt indurated clay, resembling in color and texture a medium burned brick, and about thirty inches in depth. Immediately beneath this clay was a bed of charred human remains six to eighteen inches thick. This rested upon the unchanged and undisturbed loess of the bluffs, which formed the floor of the pit. Imbedded in this floor of unburned clay were a few, very much decomposed, but unburned human bones. No implements of any kind were discovered.

"The furnace appears to have been constructed by excavating the pit and placing in the bottom of it the bodies or skeletons, which had possibly been collected from scaffolds, and placing the fuel among and above the bodies, with a covering of poles or split timbers extending over and resting upon the earth, with the clay covering above, which latter we now find resting upon the charred remains. The ends of the timber covering, where protected by the earth above and below, were reduced to charcoal, parallel pieces of which were found at right angles to the length of the mound. No charcoal was found among or near the remains - the combustion there having been complete. The porous and softer portions of the bones were reduced to pulverized bone-black."

"This paper gave rise to an animated discussion, several members not concurring with Mr. Tiffany in his idea of a furnace used for cremation. Some thought it more likely to have been used for sacrificial purposes."

PROFILE OF MOUND



- LEGEND
- A - Black surface soil, 6 in.
 - B - Burnt clay 30 in.
 - C - Charred human remains 16 in.
 - D - Undisturbed loess
- Scale - 1/2 in. = 1 ft.



View of South Wall (?) from south end of Trench.



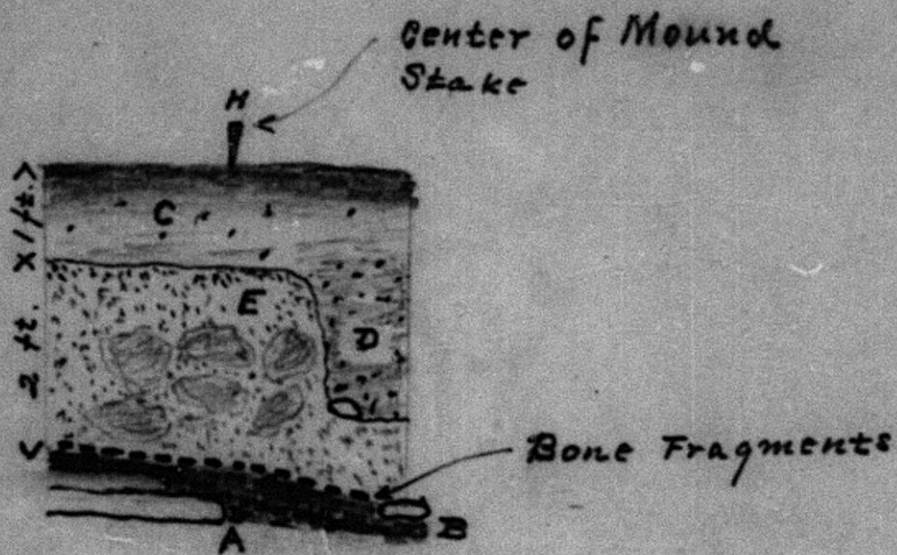
Looking through Trench from the south end.
Center of Trench at H. F indicates Rocks.

EXPLANATION OF SKETCHES.

On the pencil sketches following of the sides of a 4 ft. wide trench dug through Mound No. 4 of the Waukon Junction Mound Group, from its south to its north perimeter, and down to the natural soil of earth and broken rock lying on top of the heavy beds of Onecota limestone at the tops of the bluffs, the different deposits forming the mound are indicated by letters as follows:

- A - Undisturbed soil and rock fragments immediately over the Onecota limestone, - 0 to 10 inches in thickness.
- B - Stratum of black soil, - 1 to 6 inches in thickness and fading out towards the margin of the mound.
- C - Natural upland forest soil, - the last material used to shape up the mound.
- D - The same as C but containing more or less burned clay in the shape of scattering specks and bits up to 1/4 in. in diameter.
- E - Burned earth unmixed with any other material
- F - Rocks, - the smaller ones not lettered.
- Area of scattered calcined human bone fragments in center of mound on top of deposit B and covered directly by deposit E, having an approximate diameter of 10 ft.
Between deposit B and E were also scattered a few small (4 in.) rocks burned to lime.
- H - Stake set in center of mound.

North End of South Trench.

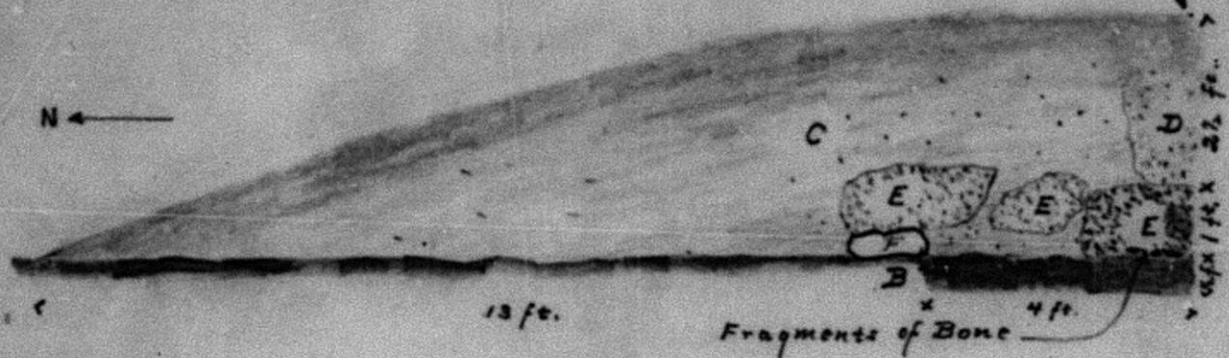


Scale, $\frac{1}{2}$ in. = 1 ft.

East Side of North Trench.

Center of Mound

N ←



13 ft.

Fragments of Bone

4 ft.

2 1/2 ft.

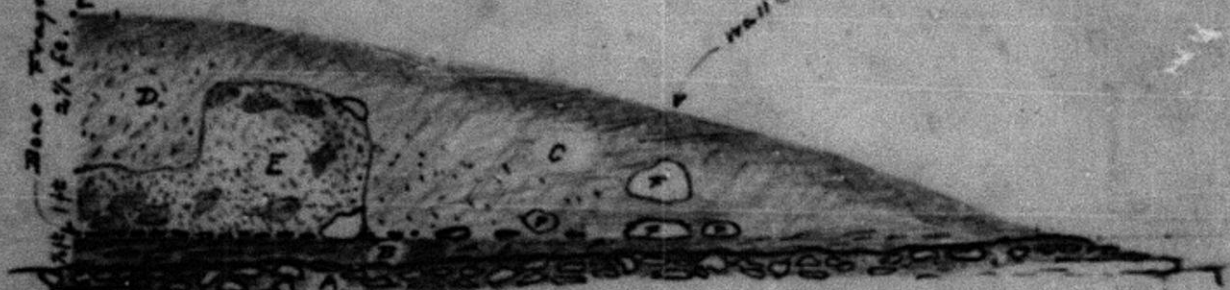
Scale, 1/2 in. = 1 ft.

East side of South Trench

Bone fragments 50% of which are calcined
3 1/2 ft. 2 1/2 ft.

Center of Mound

Wall (?)

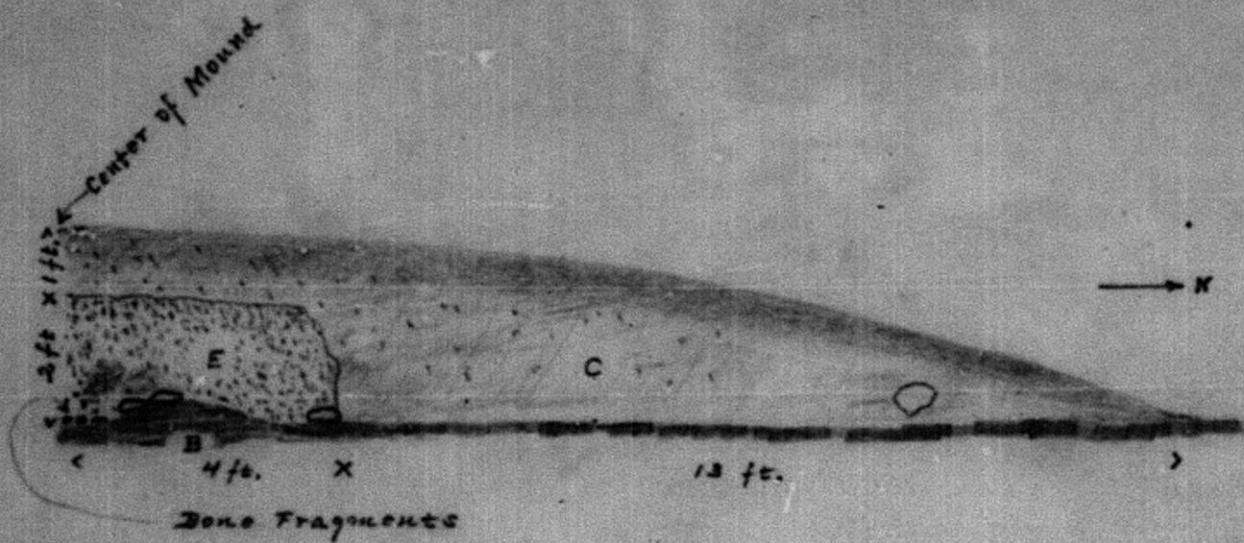


< 2 ft X 2 1/2 ft. X 4 ft. X 6 1/2 ft. >
15 ft.

X 7 ft. to Precipice >

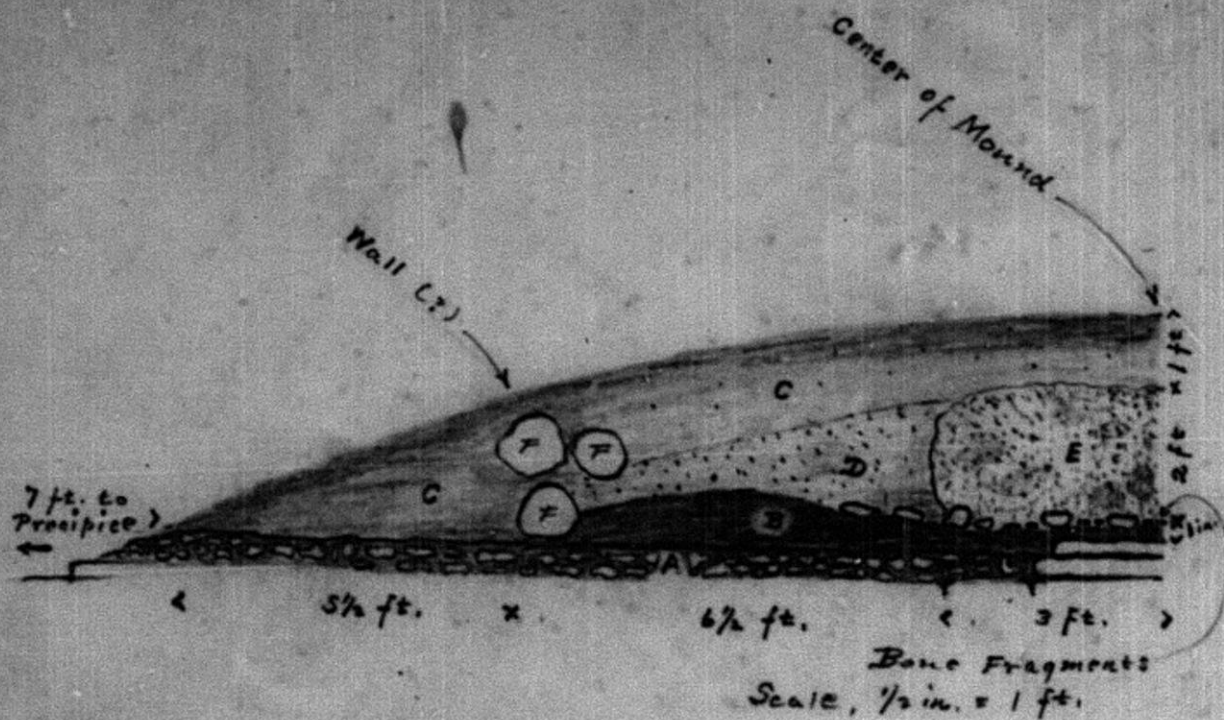
Scale, 1/2 in. = 1 ft.

West Side of North Trench.



Scale, $\frac{1}{2}$ in. = 1 ft.

West Side of South Trench.



AN OLD TRAIL.

When the surveyors who ran the section lines for Uncle Sam did the work, they were required, besides setting posts to mark the section and quarter-section corners, to keep memoranda, or "field notes" as they were called, of their work, giving something descriptive of the very new country which they were laying out for sale and settlement.

Among other things they had to describe the kind of soil over which each line ran; whether it was through timber or across prairie; at how far from the corner which they had last left

it was to where they crossed a stream or lake and how far it was across it; the location of any squatter's cabin; and where they crossed a trail or road and the distance it was from their last corner.

In the "field notes" turned in by one, McDonald, the Deputy Surveyor who ran the section lines of Post township in 1849, nearly eighty-two years ago, we find that he notes that he "intersected an Indian trail" ten different times in as many different places.

This "Indian trail" entered the township where the village of Hardin now is and ran from there in a pretty direct line, northwesterly, crossing Williams Run east of where Bethel church stood; through the village of Lybrand and across the "Dry Ford" of Yellow River a mile north-west of there; leaving the township a little east of the north-west corner of section five.

It is possible that by going over its route carefully some remnant of this old trail might still be found, especially where it was crossed by the surveyed lines, which places can be definitely located by the field notes.

Perhaps a grass-grown depression crossed by a line fence or a moss-covered, leaf filled obscure path in the woods may still remain.

But it is more likely that it, like the Indian that traveled it, has entirely disappeared.

Over it in the years that have gone into history, from time to time passed in single file straggling parties of the people who claimed this land and to whom it was home before our fathers came. The leaders well to the front followed by other braves, squaws burdened with pappoose or camp equipage, children and youth, the old men and women bringing up the rear.

Perhaps a few heavily laden ponies plodded along with the rest and always there was the indian dog. A wild people traveling in a wild and beautiful land.

This would be a family or band of the Winnebago tribe for this was a Winnebago trail made by them at the time that they occupied the "Neutral Ground" which included Allamakee and Winnesheik counties.

After leaving Allamakee county the trail continued on past where is now Frankville, in the same general direction, to Chief Decora's village on the Upper Iowa, where is now the city named after him.

Somewhere, Frankville it forked, a branch of it running north-east across Ludlow township; past where is now the Eells School House in Union Prairie township, where there is a fine spring; then for a mile its route is followed by Highway No. 9 past the County Farm; down across the head of a branch of Silver Creek and up on to the divide to the east; from there coinciding ~~with~~ with the present road across the remainder of French Creek township down to the prairie bottom land of the Iowa River, where on the north part of sections 5 and 6 ~~was~~ was Chief Winnesheik's large village.

Just to the west of this village was the "Indian Thicket" near where is now the Chilson's Ford Bridge. This was a veritable wild orchard of crab apple, black cherry, plum brush, grape vines and gooseberry bushes, affording in season an abundance of these fruits not only to the Indians but to the white settlers coming after them. It covered several acres.

A little to the south-east the large Hartley spring gushed out of the foot of the bluff.

The first white settlers coming into the valley in the early 50s found the weathered and broken frames of the wigwams of this village still in evidence.

The Indian when he traveled went straight to the place that he wanted to reach. He made no "roads of a thousand curves." Yet he used an intuitive sense in selecting the best and easiest as well as the most direct routes.

So much primitive engineering skill did he show that the white man coming after was prone to follow these trails with his roads.

Then came the immigrant's canvas covered wagons and those of the freighter together with the six horse drawn lumbering yellow stage coach, the acme of public traveling equipment of that day, along the old trail, and along it sprang up Hardin, Lybrand and Frankville, towns with great prospects and greater expectations.

But the rail-road came and the towns decayed and the stage became but a memory. Now we have the automobile and the air-ship and the rail-road is getting too slow. We can not wait for trains.

Not long since we stood on one of these old Indian trails in in another part of the county as the afternoon waned, and we could almost envisage the weary Indian procession toiling along towards its camp for the night.

Then from far overhead came the droning of the Chicago-Twin Cities mail plane, shining like burnished silver as the setting sun shone on it, and the spell was broken.

THE NAME, "ONEOTA".

In 1883, Dr. Samuel Calvin, State Geologist of Iowa, personally made a survey of Allamakee county.

In his report, published in Vol. IV of the Iowa Geological Survey Reports for the year 1884, on pages 61-62, is a discussion of the name "Oneota" by which the massive limestone formation that forms the picturesque cliffs and precipices topping the bluffs along the Mississippi and Upper Iowa rivers is known.

In this discussion he agrees with the conclusion reached by Dr. W. J. McGhee as published in 1881 in the Pleistocene History of Northeastern Iowa, and says "--- and so he (McGhee) proposes to call the assemblage of strata ----- the Oneota Limestone, a name derived from the Indian name of the river along which the formation attains its typical development."

Referring to the Pleistocene History we find on page 204, "--- the natural gateway through which the Oneota embouches on the greater river - a gateway a mile wide between the 500 ft. high salient of sandstone and limestone on the north (the 'Minnesota Bluff' of the whites and the 'Oneota' of the poor remnant of the Winnebago Indian tribe still lingering about its base) and the scarcely lower Iowa Bluff on the south."

Here McGhee is describing the mouth of the Upper Iowa at New Albin, the "greater river" being the Mississippi. The Oneota, or as it is now called, the Minnesota Bluff, is the high point to the north of the town and just over the line in Minnesota.

The bluff on the south side of the river which he calls the Iowa Bluff is now known as Gabbett's Point or as Brookman's Bluff, and is the high promontory around which the Lansing-New Albin road curves just before reaching the bridge over the Iowa river.

In a foot note to McGhee's description is the following:
"This is the Iowa or Upper Iowa river of most maps. The Indians about its mouth call the bluff flanking it on the north 'Oneota', and recognize the river under the same name. The signification of the term as used by the Winnebagos is obscure. It signifies in the Mohawk dialect 'the people who have sprung from a rock.'"
(Schoolcraft; Oneota, or the Characteristics of the Red Race of America. 1845, p. V.)

Schoolcraft apparently used the name as a part of the title of his book because it was one of the tribes' traditional account of their origin. How another unrelated tribe, several hundred miles distant came to use the same word as the name for a river is remarkable.

However he lived at a time when there was the best opportunity to verify his statement and we must accept it as correct.

Schoolcraft, then McGhee, and after him, Calvin, attempted to perpetuate this Indian name of the river which we persist in calling the Upper Iowa.

Neolithic Man - Europe.

"The Origin of the Aryans"

By Isaac Taylor,

Scribner and Welford, 1890.

- were nomad herdsmen who had domesticated the dog - wanderers over the plains in waggons drawn by oxen - were ignorant of metal except, possibly copper - in summer living in huts built of branches of trees, in winter in circular pits dug in the earth roofed with poles covered with earth - clad in skins sewn together with needles of bone - kindled fire with fire sticks - could count up to a hundred - probably collected and pounded in a mortar wild spelt or barley - only social institution was marriage - were polygamists - practiced human sacrifice - property consisted in cattle, not land - no fenced in land - believed in a future life - religion shamanistic - had no idols and probably no gods but revered in some vague way the powers of nature.

Science News Letter, Jan. 21st, 1933.

"Pictures of Mayan Gods, some older than 600 A.D., some made in the fifteenth century, show how very little the art and religion of these Indians changed in a thousand years."

STONE AGE TOOL IN NEBRASKA CLIFFS.
Science News Letter for Mar. 25th, 1933.

A new, important-sounding clue to the oldest human inhabitants of America is reported by Dr. Earl H. Bell and Dr. William Van Royen of the University of Nebraska. The discovery may raise the question of man's presence in the New World as far back as the last great Ice Age, when mighty glaciers moved down from their Arctic headquarters.

The clue to America's ancient men is a small stone tool such as primitive men shaped for their work of cleaning skins. It is a type that archaeologists call a snub nose or thumb nail scraper.

The tool was found in a partially cemented sand cliff, eight feet below the present surface. The discovery was made by Gladys Cape, of Daulton, along a creek ten miles from her home. Her father and a paleontology student at the University of Nebraska removed the artifact in a block of matrix for study.

As the resting place of the flint tool suggested great antiquity, Dr. Bell was consulted. He arranged to visit the site to examine the geological evidence in the hope of learning how long ago the tool-makers lived. The expedition was sponsored by the University of Nebraska, Science Service and Col. G. L. Waters of Lincoln.

Dr. Bell now reports that the flint tool, and several others from the same creek, must have come to their resting place before the sand bank took on its present contour. No evidence could they find of gopher holes, cracks, or other means whereby the flint objects could have been inserted into their hard bed. Nor could the tool have been buried by recent Indians. The ground is undisturbed.

"There can be little doubt", Dr. Bell declared, "that the age of the artifacts may be counted in thousands, rather than hundreds of years.

As a conservative estimate, he figures that the tools were made no less than six thousand years ago.

There is some possibility, however, that the tools point indirectly to much earlier inhabitants than this. They may show that men were in America in the inter-glacial period, before the ice sheet crept down for the fourth and last time from its polar home. This would mean that America has been inhabited at least 30,000 years.

Studies of the glacial age, by the Swedish scientist, Ernest Antevs, demonstrate that the last advance of the ice sheet raised an ice blockade across Alaska that would have shut out immigrants for thousands of years. This means that America's immigrants from Asia must have crossed Bering Strait before the great ice blockade, or else they waited until it lifted. Either man is a really old occupant of the New World, over 30,000 years old, or else he is just a newcomer, occupying the land merely some eight or nine thousand years.

Studying the story of deposited soil and climate fluctuations recorded in the sand and gravel layers of the Nebraska creek, the University of Nebraska scientists are inclined to believe that the tools embedded here may point to an American migration before the last advance of the ice sheet.

The tools themselves are not so old as that. But it is believed that any race of men who reached Nebraska early enough to have their stone tools embedded in the sand bank must have entered the continent before the ice blockade formed across northern America.

Dr. Bell and Dr. Van Royen expect to make further studies of the site.

GLACIATION OF THE SANTA MONICA MOUNTAINS.

On the Santa Monica mountains which rise out of the ocean directly west of Los Angeles, California, the effects of three successive glacial periods are visible. During these the sea receded and the steep cliffs which it wore from the mountains were left to be softened and filled in by land deposits. Meanwhile the land was rising, so that after the glacier withdrew the sea could not reach its old shore-line and consequently made new sharp cliffs at a lower level.

It is estimated that during a glacial period the sea level may sink thirty feet or more. Since the water removed from the sea forms ice on the continents and since these cover only about one-fifth of the earth's surface, the ice layer must attain an average thickness of several hundred feet, even if it is spread over half the earth. The present sheet over Greenland is thousands of feet thick (about one and one-half miles in the center of that island where it attains its greatest thickness)

It is well known how fast the land is rising in California; so from the difference in level between successive cliffs estimates can be made of the elapsed time between glaciers and since the last one. It turns out that the last one was quite recent in comparison with the interval between glacial periods. Prof. Davis suggested that this may indicate that the earth may get warmer before it starts to cool again prior to the next glacier. The ice caps in the polar regions may disappear entirely and the poles become inhabited places.

Even though the average temperature of the earth need drop only about five degrees below the present average to bring on a glacial period, the consequent change in climate may be enormous. If the earth warms up enough to melt all glaciers now existing a remarkable change in climate all over the world would probably result.

Science News Letter, Apr. 15th, 1933

Effect of Climate on Prehistoric Culture.

From Science News Letter, Sept. 16th, 1933.

"Much evidence of changing climates in North America during the past one thousand years or so has been produced by the study of pollen grains and other plant remains buried in peat bogs, and a good correlation between these changes and similar ones in Europe has been worked out. In these researches Prof. Paul B. Sears of the University of Oklahoma has made himself a leader.

"The succession of post-glacial climates has been cold-moist, cool-dry, moist, warm-dry and moist again. With each succeeding type of climate a characteristic type of vegetation has developed in any given part of the eastern U.S. In the Ohio region it worked from forests of evergreens in early post-glacial times up to a rich mixed forest of hardwoods some five thousand years ago.

"Then came the period of warmth and comparative dryness. The forest became more open, invaded by open grass-lands. This set up conditions most favorable for the cultivation of corn and for the invasion of bison herds. This phase ended in the return of a moister climate and the re-growth of the heavy forest which was found when the first explorers entered the Ohio valley.

"The archaeological records examined by Prof. Sears indicate that with type of natural vegetation there was probably associated a special type of Indian culture. At the crucial time when the Iowa-like prairies invaded Ohio and made corn-growing and bison-hunting possible, there was in possession of the land a predominantly hunting people, of the Algonkian Indian culture group. As their native forests retreated eastward they went with them, and their place was taken by a corn-raising people from the west, a people that we know now only from their mound-building culture, one high type of which we call the Hopewell. They held the land and built their monuments; but when the climate switched to forest-favoring humidity again they had preferred to return whence they came, where cornfields and buffalo-hunting were still possible. As they left the forest-dwelling Algonkian repossessed themselves of the land."

**"Folsom Dart Points Distributed Over a Wide Area."
From Science News Letter of Sept. 16, 1933.**

"A thesis by a young student anthropologist at the University of Denver opens up new thoughts on America's first inhabitants.

"The student, Jack Cotter" has gathered together threads of evidence dealing with human beings who seem to have lived in America before the various known types of Indian culture began to develop. The evidence is in the shape of curiously shaped stone blades used by primitive Americans in hunting. No such blades were shaped for use by Basket Makers, Plains tribes, Aztecs, Incas or other Indians of the long period of pre-history that preceded the coming of the white man. Now and again the soil of some old river bed or buffalo wallow has yielded one or more of these old stone blades.

"Folsom points and Yuma points the archaeologists call them, after the places where they first attracted signal attention. Usually these blades are found associated with the fossil bones of mammoths, ground sloths, or other animals that departed this life near the end of the Ice Age.

"Mr. Cotter has made a study of these weapons that have been turning up from time to time. He finds that no less than 343 specimens are known to anthropologists. And the record of ancient stone weapons shows that they were found in 30 states.

"From New Hampshire to Oregon across the country, and from North Dakota to Louisiana spread the groups of ancient hunters who tipped their spears with with these stone blades. nine types of blades have been differentiated by the young anthropologist, in his inspection and measurement of the Folsom and Yuma stone points. But all nine types are, to the eye of the expert in stone craft, typical of that remote hunting age in America.

LUSTER HEIGHTS MOUND GROUP.

From Luster Heights, - the top of the high outlying spur of St. Peter sandstone where it is crossed by the section line road one-eighth mile east of the little school house at the corner to Sections 15, 16, 21 and 22, T. 96, R. 4., - one of the grandest views on the Mississippi River is to be had.

A few rods to the east the road (to Waukon Junction) turns north and then north-east, at three-fourths of a mile dropping down from the top of the sandstone to the lower level of the top of the Onecta limestone.

In the brush alongside the road, just before it starts down the steep pitch, are two well preserved long mounds, end to end, one hundred and twenty-five and one hundred and fifty feet respectively, and separated by a space of thirty feet.

As this pair of earthworks is more than half a mile back from the precipitous face of the bluff line (we know of no other group so far back) we conclude that they were placed on this "high place" because of the magnificent outlook which we have mentioned.



Since the above was written the road before leaving the sandstone outlier has been moved several rods west. The mounds lie along the old, now abandoned, road.

Jan. 4th, 1932.

THE BROOKMAN BLUFF MOUND GROUP.

Opening into the valley of the Upper Iowa River, from the south, at a quarter of a mile from where it in turn opens into that of the Mississippi, is the wide and deep valley of a brook that functions as such only when it carries the run-off storms.

It is like a mile long pocket in the hills, separated from the larger master valley to the east by a sharp steep-sided ridge terminating at its northern extremity in a hundred feet high precipice above one hundred and fifty feet of talus, the Brookman Bluff.

Towards its south end where it joins the main line of the bluffs, whose tops are of the same level as the uplands back of them, this ridge is lower.

Along it to the south of where it is crossed by the "forty" line between the SE NE and NE NE of Sec. 22, T. 100, R. 4 is a "string" of four round mounds, the location, dimensions and distances apart of which are given in the accompanying map.

The survey of this group was made on May 26th, 1917. Our notes do not say, but if our recollection is correct, all of this group had been dug into.

No excavating has been done by us in an effort to determine to what culture they belong.

The Fish Farm Group, one mile south-east, belongs to an Algonkian culture as determined by bits of pottery thrown out by Col. Morris who excavated them for the Smithsonian in 1882, (See Annual Report of the Bureau of Ethnology for 1883-1884) while the pottery fragments found in excavating the Blackhawk Cave (by us in 1829) at the foot of Brookman's Bluff precipice were all Siouan.

Jan. 4th, 1932

MARIN'S FORT

At Mouth of Sny McGill Creek.

According to Hoffman in "Antique Dubuque", "After more than half a century of conflict, the French and Reynards (Foxes) had entered at last into a semblance of more or less protracted peace, at least between themselves." The French officer who brought this about was Sieur Paul Marin.

The Foxes at this time appear to have been scattered along the Iowa shore of the Mississippi River from opposite the mouth of the Wisconsin River, south to Rock Island.

In order to strengthen the friendly relationship between them, in 1738, a fort and trading post was built by Sieur Marin at the mouth of McGill's Slough about six miles below McGregor, which afterwards was known as Marin's Fort.

Whether this was on an island bordering the main channel of the Mississippi River or on the main land where the valley of Sny McGill Creek opens into that of the larger river, can not now be determined.

This fort was probably occupied but for a few years.

However that may be, the large group of ninety-four mounds of all types, on the right bank of Swift Slough and directly east of the opening of the Sny McGill valley about one-half mile, long antedated this fort and also the occupancy of this territory by the Foxes. **

The island on which this very compact group is located is an old sand and gravel bar, outwash from the Wisconsin glacier, and has an elevation above low water in the Mississippi River of 26 ft., and about 10 ft. above the surrounding flood plain. At times of very high water it must have been submerged.

The entire bar, about 1300 ft. long by 300 ft. wide is well dotted with mounds.

Between it and the main land to the west there was formerly a swamp but this has now filled up and is covered with soft wood timber, while along the east side runs Swift Slough.

As the whole area is suitable for a permanent camp except at very high water, one wonders where was located the village whose dead are here buried in such numbers.

* "Sny" is a scotch name for a creek, hence, McGill's creek.

** Near the center of this group, on the right bank of Swift Slough, are some quite sizeable rocks lying about in such a way as to indicate the site of a building of which all else has disappeared. Could this have been the site of Marin's Fort?

McGowan

To Waukon Junction.

FAINT CREEK

Half SE NW
Sec. 15, T. 96, R. 4.

Old Road
OUTLIER

Precipices

1/4 Sec. Cor.

BLUFFS

Boardman

SANDSTONE

LUSTER HEIGHTS MOUND GROUP

SCALE 3 IN. = 1/4 MI.

Luster

Top of Onesta

WOODED

Boardman

ST PETER

LUSTER
HEIGHTS

PRECIPITOUS

G. M. ST. P. & N. W. R.

MISSISSIPPI RIVER

MISSISSIPPI

1/8 Mile to School House
and Section Corner.



BROOKMAN'S BLUFF MOUND GROUP

SW NW Sec. 23, T. 100, R. 4.

SURVEY BY ELLISON ORR

MAY 26, 1917.

Scale, 3 in. = 1/4 Mi.

BROOKMAN'S LOG HOUSE

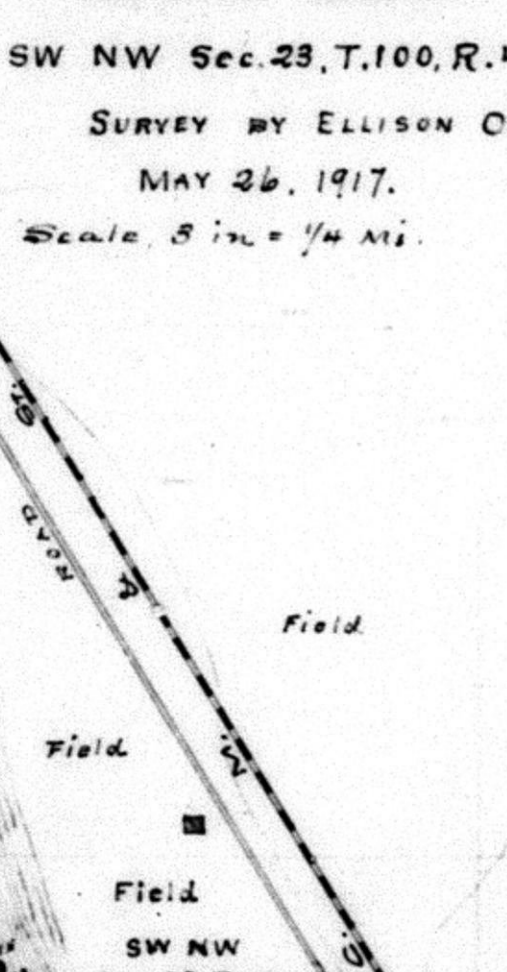
Flood Plain

Artesian Well

BLACKHAWK CAVE

BROOKMAN'S BLUFF

Deep Ravine



Field

Field

Field

SW NW Sec. 23, T. 100, R. 4.

Bakerwell's

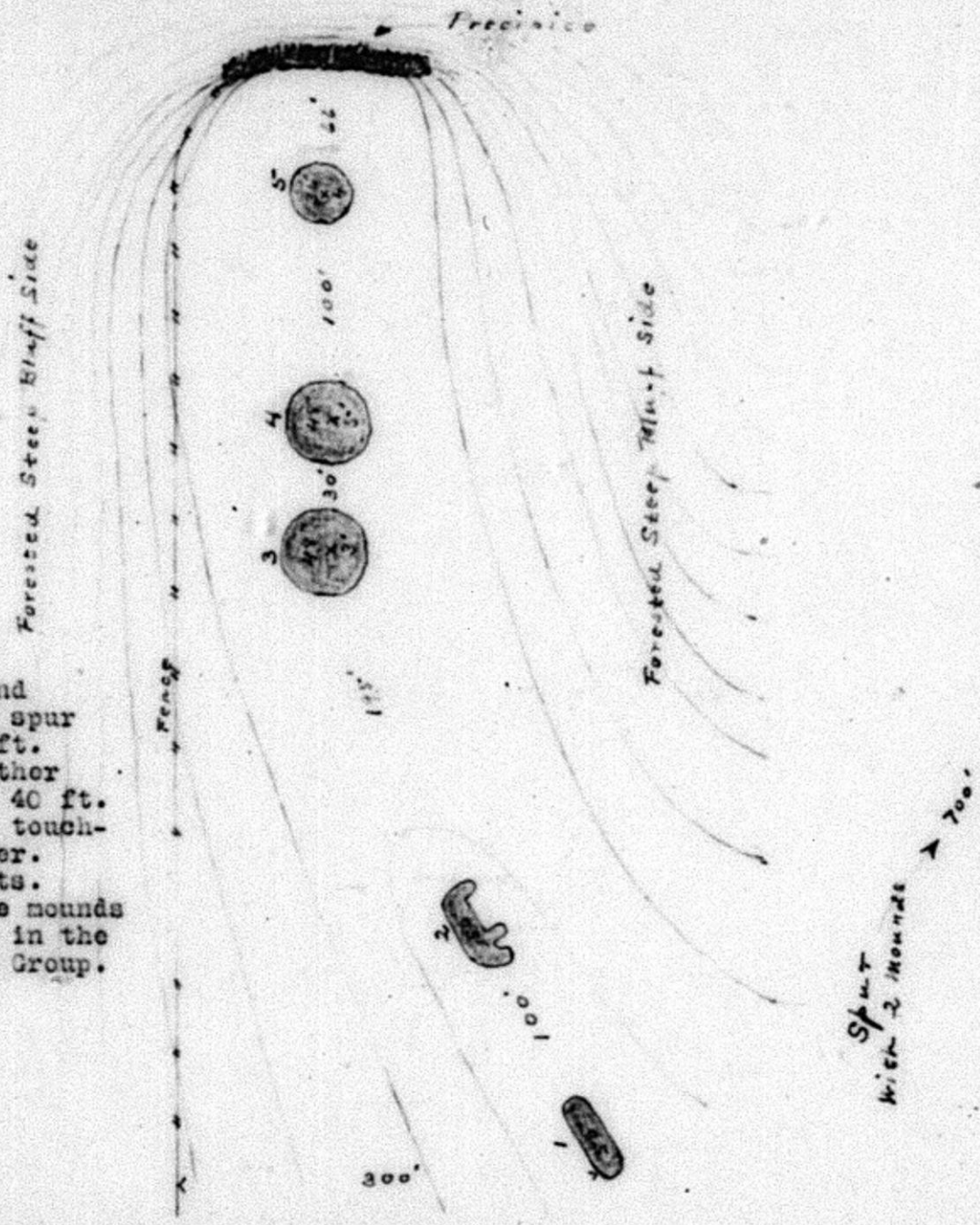
Field

30X1
20X1
5X15
30X1



High Wooded Bluff.

1/3 mile to Fish Farm Mound Group



On extreme end of tributary spur running 700 ft. SE are two other round mounds 40 ft. in diameter, touching each other. Both have pits. None of these mounds are included in the Yellow River Group.

MOUND GROUP SOUTH OF "HANGING ROCK."

Group of one linear, one "bear" effigy and three round mounds on top of bluff across ravine south of "Hanging Rock" and near line between Sections 22 and 27, T. 96, R. 3. Surveyed by Ellison and Fred Orr, Oct. 22, 1933.

All round mounds had old excavation pits in center. In earth thrown out of # 4 were bits of burned earth - the third mound so far known containing this material.

114 A



MOUND GROUP on TERRACE
N. of YELLOW RIVER
at its Mouth.

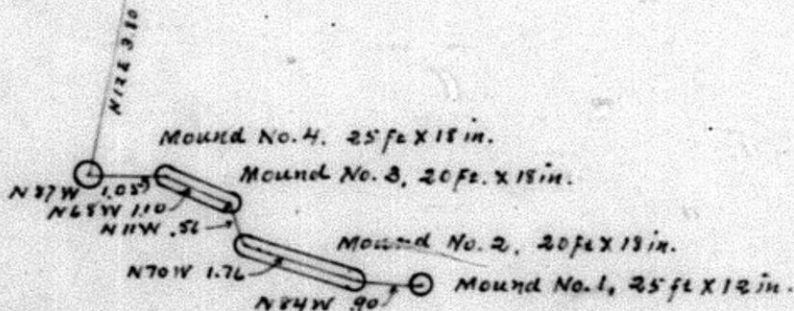
See P. 97, Field Notes 1935 and 1936
Scale, $\frac{1}{2}$ in. = 100 ft.

N42E 92' Mound No. 6, 40 ft. X 24 in.
Mound No. 5, 40 ft. X 24 in.

MAZEKAW MOUND GROUP
Destroyed by Cultivation.
See page 107, Vol. XII

N62E 11-60

Highway No. 13



See page 107, Vol. XII

115-

SADDLER'S CEMETERY MOUND GROUP.

On the Saddler Terrace on the NE NE Sec. 5, T. 99, R. 5, twenty rods east of the Saddler Cemetery, across a ravine, is a mound twenty feet in diameter and eighteen inches high.

Sometime in the past this mound has been pretty thoroughly excavated.

At about six rods to the south-east are two smaller very obscure mounds. All above are round mounds.

Near them runs an old wagon road.

MOUNDS ON YELLOW RIVER.

On the bluff top north of the corner to Sections 28, 29, 32 and 33, T. 96, R. 3, and in the woods south of the Ralph Blackwell residence, are two long mounds running approximately east and west. These are fifty feet apart and each is fifty feet long, ten feet wide and one foot high.

Discovered on trip to Old Government Dam with Tousley, Nov. 1933.

116

EXCAVATION OF GRAVES OF THE
O'REGAN TERRACE.

On this 22d of May, 1932, with Drs. Hayes of Lansing and Field of New Albin, visited the O'Regan Terrace in which I now have permission to dig.

Besides the Saddlers who were tenants last year, others have been at work, some two dozen graves having apparently been found, excavated and refilled during the last twelve months.

Mr. Timmerman of New Albin seems to have purchased all that the Saddlers found. He secured five pots of the ordinary burial type and one large one the rim of which was oval - 14 and 1/2 X 16 in.

One of the smaller ones is the common round two-handled type while another of the same size has four handles. A third is a high-necked, two-handled vessel, a fourth being a duplicate of our # 5130. The fifth was an oval vessel burned very black, with handles at right angles to the short diameter, in which was a shell with some half dozen notches cut on one edge. The neck of this one had the appearance of having settled down into the bowl while the clay was plastic, giving it a unique appearance.

In one of the graves was found over 100 blue glass (?) beads about 1/4 in. in diameter that were without doubt secured from some white trader.

After probing some with a steel rod we finally discovered a burial just on the north side of the field road, with the feet towards the south.

Only parts of the leg bones and of one arm remained and these lay fully extended at 18 in. below the surface. This grave was about 12 ft. east of where pot # 5130 was found by young Saddler.

At 100 ft. east Ed. Sadd found pipe No. P-29 on the sloping roadside bank.

Dr. Field found a copper bead in the earth that had been thrown out of one of the graves, and Dr. Hayes, one of the blue beads belonging with the string sold to Timmerman.

Incidentally Ed. Sadd told us that the old log house under Gabbett's Point was built in 1852.

Spent the most of Sunday, Oct. 2d, 1932 with Dr. Hayes and two helpers in excavating on the O'Regan Terrace.

Mr. Ed. Wild had dug here at two different dates not long since. The first time he found nothing but the second time from two graves side by side he took, from one, a pot, from the other, a pipe, copper bracelet and copper snake.

The ground was so hard and dry that it was difficult to force

the steel ramrod, which we used for exploring, into it.

We had better results by digging a small cone-shaped hole with a shovel anywhere that we thought might be a likely place and then slicing off the ground around it - thrusting the shovel in full length - about 10 in. - but not otherwise disturbing it.

In this way we discovered the rocks that had been placed over burials - six of them.

The first - the farthest east and a few ft. north of the farm road, contained, at a depth of 3 ft., a badly decayed, undisturbed, extended skeleton of a woman lying in a nearly N. and S. direction with the head to the north. The skull, however, was in a fair state of preservation and was saved. There were no relics of any kind.

The next one to the west which we located we found had been opened at some former time and the earth and rocks thrown back in again. Only the bones of the lower limbs, those of a large person, had not been disturbed and lay extended at a depth of 3 ft. Of those of the body, head and arms, only scattered fragments remained. Anything buried with the body had evidently been found by the former excavators and removed.

The next, number three, had also been opened. The excavation had been complete and only fragments of the skeleton were found scattered promiscuously through the filled-in earth. There were no relics.

In number four, the next west, below and a little to the west of the large rock that indicated a burial, at a depth of about 18 in., two copper bracelets of the usual type, 1 and 1/2 in. in diameter with the ends overlapping 1/4 in., were found. These had both encircled the same wrist close together, a piece of dried and wrinkled skin with indentations in it made by the bracelets, that had been preserved by the verdegris, still adhered to them.

No other objects nor traces of bone were found in this place.

Under the rocks indicating number five were only a few fragments of bone. Enlarging the first shallow pit dug, towards the road, we came upon a bone awl with the point decayed away, # 1026, and in making a last downward slice with the shovel we cut just back of a child's pot which slice before had barely missed but not exposed, and the man with the shovel said, "Well I'm d--d if that wasn't luck." Pot # 5137

This pot was about 18 in. below the surface and except for the awl nothing else was found. It is bowl shaped, 1 and 3/4 in. deep and 2 in. in diameter and has holes .2 in. in diameter on opposite sides .3 in. below the rim. It is without ornamentation, is burned red and appears to be tempered with very fine sand.

The last grave excavated, number six, like all but number one, had been opened and refilled years before. It contained the most large rocks of any excavated.

A piece of a large skull and fragments of two humeri were found near where once had been the floor at 3 ft. below the surface. Two trade glass beads, Sundry # 356, and one of copper, indian make, Sundry # 357, were found in as many shovels full.

In all of the graves except the one from which the bracelets, and the one from which the child's pot had been taken, the burial had been at a depth of about 3 ft. below the surface.

In the last the body apparently lay in a general E. and W. direction. In the others they lay in a general N. and S. direction, with the heads of at least the first three, to the north.

The burials in the first two were without question fully extended, and very probably of the 3d and of the last.

The skull from No. 1 is brachycephalic and was tilted forward resting squarely on the base and was filled completely full of sand.

In the earth thrown out of No. 1, at about half the depth, was a small curved scraper, No. 4298, and from No. 3 at about the same depth, scraper No. 4299.

Also in the earth thrown out of No. 6 was a fragment of Oneota Culture pottery, No. 5137 about 1 in. in diameter, and one of Algonkan Culture, No. 5136, about 1 in. in diameter.

A GIGANTIC FOSSIL SPONGE (?)
FROM THE CAMBRIAN DRESBACH AT LANSING, IOWA.

Back of the stores on the north side of Main St. at Lansing, is a fine exposure of some forty feet of the Dresbach shales of the Cambrian System.

At the top of these shales was a harder, bedded, limestone rock suitable for laying rough walls. Over about a half acre - all that was accessible - this has all been quarried out.

Back of this old quarry is the face of the overlying St. Lawrence Limestone, a thin bedded, soft yellow limestone of no economic value.

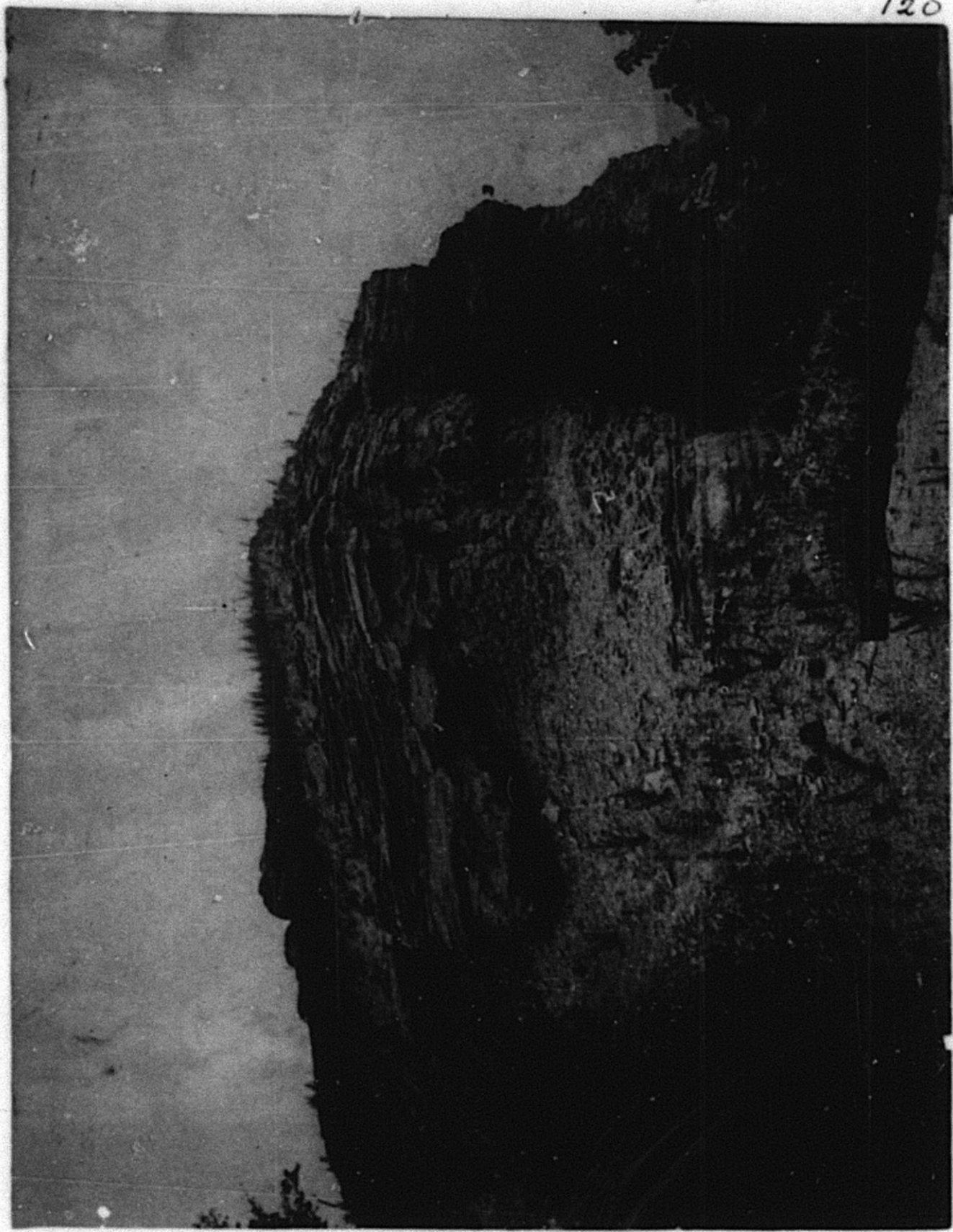
This ledge is about twenty feet high and about half way up its face is the horizon where fragments of the trilobite, *Dicelloccephalus Minnesotensis*, can be found by splitting by splitting the thin layers horizontally. A species of small *Lingulella* and fucoids or worm trails also occur sparingly.

There is also what appears to have been a gigantic fossil sponge, reaching a diameter of four feet and a thickness of two feet. The structure of this fossil - if fossil it is - is very obscure. It consists of a homogenous, massive rock of a somewhat different color, and harder than the surrounding rock, the strata of which follow the outlines of the lens-like mass of the fossil, bulging or arching up over it and dipping down on the sides.

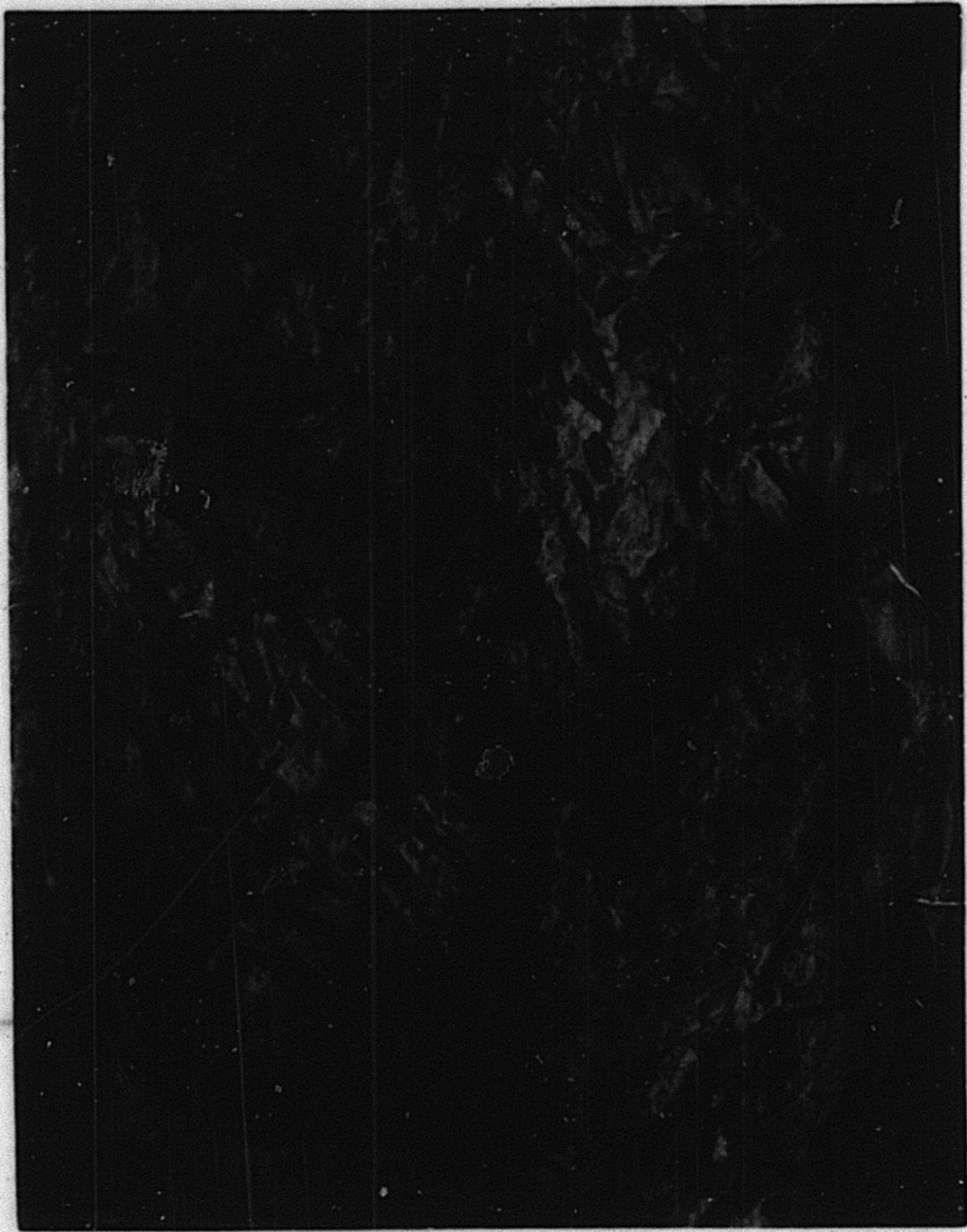
Some of the specimens, though not all of them, show an abundance of what appear to have been canals or pores about three-eighths of an inch in diameter, with some approach to parallelism, filled with a darker rock.

During the forty years that I have been familiar with this outcrop some four or five feet of the face of the ledge has crumbled away and perhaps ten of these fossils have been exposed and have fallen down and gone to pieces with the other rock.

Waukon, March 26th, 1934.

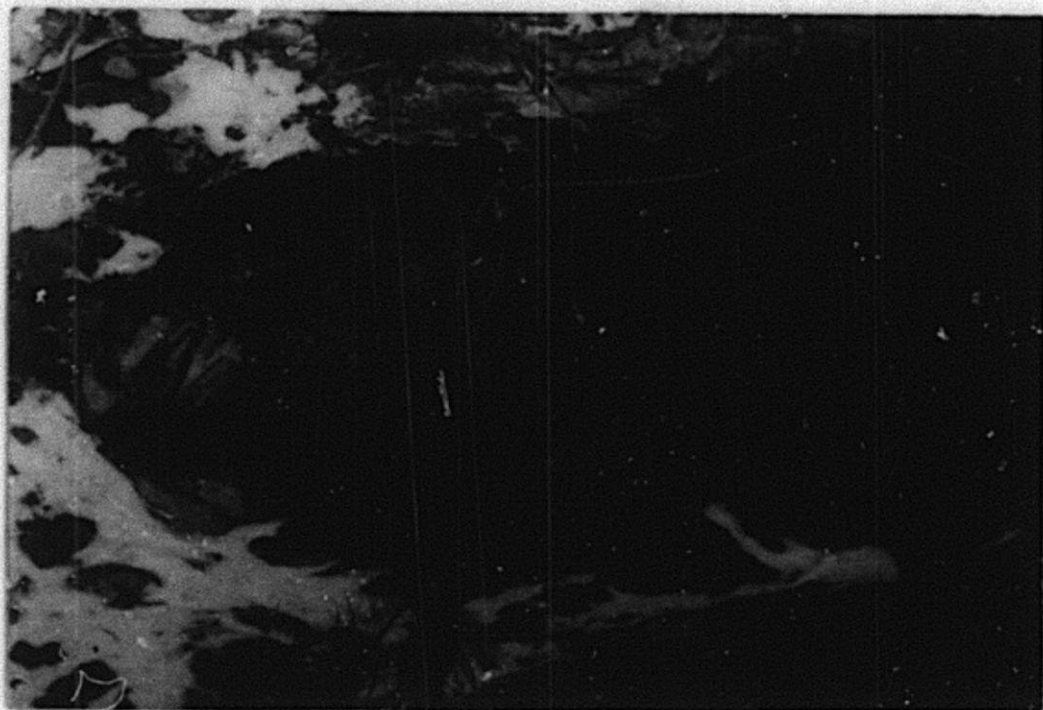


The ledge of St. Lawrence limestone as it appeared about the year 1900. Note the fossil sponges at A, B and C. Photograph taken about 1900.

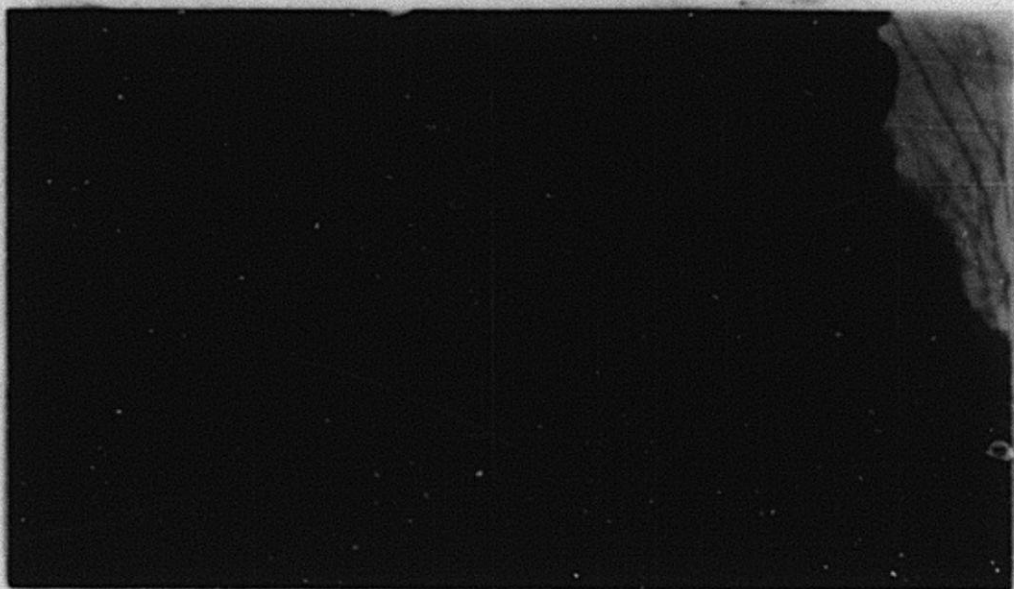


Bottom of Specimen.

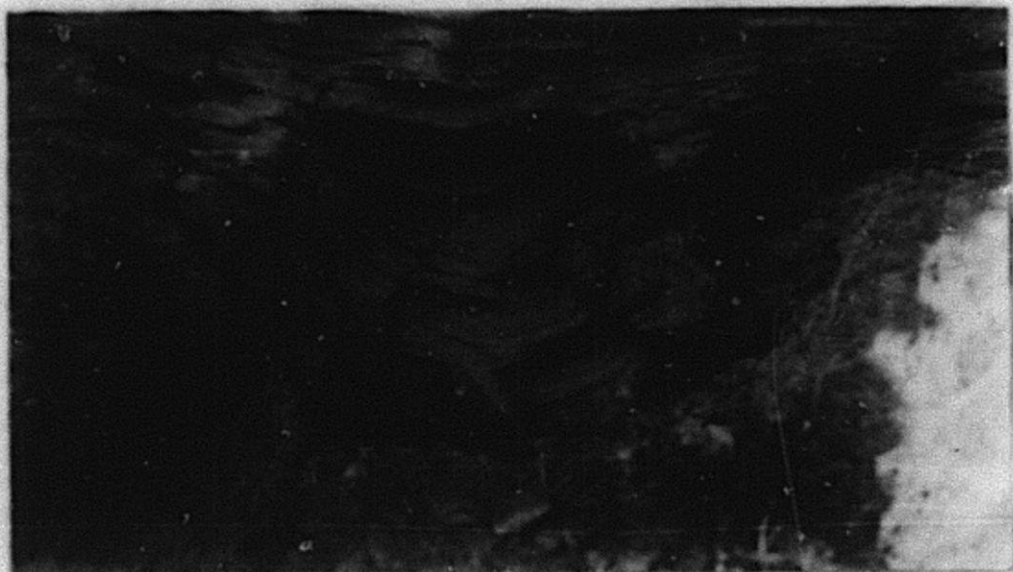
Photograph of a fragment of a fossil sponge, about one-half size, showing the canals. Photograph taken about 1900.



Photograph of an entire specimen of the fossil sponge,
about one-sixth actual size. Note the canals.
Photograph taken about 1900.



Photograph of a specimen of the fossil sponge. An entire specimen about one-eighth actual size showing massive character, but no canals.



Photograph of parts of two specimens of fossil sponge, showing the dip of the stratified rock between them.
Photograph taken 1931

Aboriginal Camp and Village Sites in the Far South.

In "Idle Days in Patagonia", a recent (1917) book by W. H. Hudson, an english ornithologist who was studying the bird life along the Rio Negro, a river which flows into the Atlantic ocean three hundred miles or thereabouts south of the mouth of the La Plata, tells of his experiences in that still primitive land.

His studies and findings were not entirely connected with birds, though he tells of many and strange ones and their habits, songs and migrations.

Except in the valley of the river the country appears to be almost semi-desert.

The two or three years preceeding Mr. Hudson's visit had been more than unusually dry and the sandy surface soil had been blown away from the ancient camp and village sites of the aborigines, leaving the heavier camp debris well exposed.

Mr. Hudson tells of his findings at these places quite at length.

He tells of "visiting a half dozen village sites in the course of an hours walk so numerous were they," and says "where the village had been a populous one, or inhabited for a long period, the ground was a perfect bed of chipped stones, and among these fragments were found arrow-heads, flint knives and scrapers, mortars and pestles, pieces of hard polished stone used as anvils, perforated shells, fragments of pottery, and bones of animals."

During his stay he picked up some three or four hundred arrow-heads.

"The arrow-heads found in different villages were of widely different types, - some large and rudely fashioned, the others small, from an inch and a half to two inches long."

The ruder and more ancient weapons were found on the hill sides, the finer ones occurring in the valleys.

Only a few ornaments and arrow-heads were found with the skeletons in the cemeterys adjacent to the villages, that had been exposed by the blowing away of the sand that covered them.

Henry Fairfield Osbourne says in "Men of the Old stone Age", that no barbed flints or barbed arrow heads of bone occur at any time in the European Pleolithic.

If a hunter's arrow missed its mark "he cast upon the ground a bit of his garment, or plucked a bead from his wampum, or threw away an arrow as an offering to appease the Spirit through whose displeasure the failure had come, or to avert in the future a repetition."- Rev. E. Adams, pastor of the Congregational Church, thanksgiving dinner at Decorah, 1867.

SPALLS, FLAKES, REJECTS AND BROKEN
PIECES FROM FLINT RIDGE, OHIO.
May 1st, 1927.

I received today from Mr. E.R.Drumm of Pleasant Valley, Ohio, ninety-one pieces of flint from the vicinity of his home on the east end of Flint Ridge, Ohio.

Twenty-eight pieces have been worked, the remaining sixty-three are spalls and flakes.

The seven largest spalls are a grayish white, slightly mottled, flint having a few small cavities lined with very small quartz crystals.

Then there are thirteen pieces of a very translucent, waxy, parafine colored material and among the worked pieces is the broken-off base of a thin pointed leaf-shaped spear head, deeply notched at the shoulders. About two-thirds of the pointed end appears to be broken off.

Also a four in. flake and the rounded base of a leaf-shaped piece, apparently broken square off at about its middle, not notched, of a translucent lead colored material, mottled with black splotches and streakings, resembling moss agate.

Of the remaining pieces four varieties were represented by two specimens each and thirty-three pieces were of as many different kinds.

All was nice looking stuff usually showing some translucency.

Only one piece, a dull pinkish white, at all resembled our local cherts.

Of the worked material there were six pointed leaf-shaped pieces, two, and possibly four, of which would probably be classed as "turtle-backs". The work on all of these was rather coarse, the larger the piece the coarser the work.

Then there was a 3 X 5 inch oval, 1 and 1/4 inch thick, very roughly blocked out.

There were two pieces of an opaque jet black and two of a slate-colored material, roughly flaked out. Two of these had the ends broken off.

The broken-off bases of what were probably ^{seven} leaf-shaped ovals, of as many different varieties of very fine material, including the one of moss agate mentioned before, made a very fine showing. All were thin and symmetrical, showing fine workmanship.

Then there were the the broken-off points of two spears of gray flint, about half the base end of a four inch spear head with round unnotched base, and two base ends of what had been intended to be leaf-shaped pieces.

Two small hammer stones, one of greenstone and the other of quartz, a rough chunk showing very marked banding, and a nodule showing an interior of blue-black and red flint, completes the material except for two perfect rather broad arrow heads, barbed and with broad stems, and one long-stemmed arrow head.

127

FLINT RIDGE, OHIO.

The Ohio Archaeological and Historical Quarterly for Apr. 1921, loaned me by Mr. E. R. Drumm, contains an article of 70 pages by William C. Mills, curator of the museum of that society, on Flint Ridge, in Licking and Muskingum counties of that state.

A very exhaustive exploration of the pits, work-shops and refuse heaps was made and Mr. Mills' finds and conclusions are clearly set forth.

It appears that a large part of the flint was worthless for the purposes for which it was wanted, especially at the extreme western and eastern parts of the plateau. The material from these places was found by the early white settlers to make excellent buhr-stones for grinding and was quite extensively used by them for that purpose.

The outcrop around the edge of the plateau was also unsuited for making flints. It did not chip well.

The entire deposit appears to have been very variable as to quality, workability and color. In some of the pits only a part of the material struck appears to have been workable, - one side of the ledge being taken, the other left. In other pits none of was taken, and the pits abandoned.

The centers of mining, where the desirable material was found are at the cross-roads three miles north of Brownsville, at Clark's blacksmith shop, and around Flint Ridge School in Hopewell township, Muskingum county.

It has been believed that the ancient miners broke up the tough rock by first heating it with fires built in the pit and then removing the fire and throwing cold water on it, the supposition being that this would fracture and split up the rock extensively.

Mr. Mills tried this experimentally with no results. Only thin scales separated from the ledge. There was nothing at all approaching extensive flaking or breaking up.

Many hammer stones, both large and small, were found in the pits and Mr. Mills is of the opinion that the mining was done with these and wedges, helped by levers, and taking advantage of natural cracks and fissures.

Mr. Mills believes that the miners at the pits blocked or roughed out pieces suitable for working, and that these "Blocked Out" pieces or "Blanks" were taken to workshops, usually near by, and there fashioned into "Rounded Base Blades" and "Square Base" Blades, usually from two to six or eight inches long, to be traded far and wide and afterwards worked into spear and arrow-heads and other implements.

The work of blocking out and of chipping into blades, Mr. Mills believes was done mostly by the small hammer stones found so abundantly in the refuse heaps of the work shops. Mr. Mills says, "In the process of shaping the blades many eccentric forms are necessarily developed, due for the most part to defects in the flint itself or to the non-flakable quality found in conjunction with good flakable material.

Specimens are often found showing that one side has been reduced readily and been given the proper convex surface while the other side worked badly, giving a high hump, attempts to remove which usually ended in breaking the piece.

Many rejects and broken pieces were found in the refuse heaps around the sites of workshops. In one place fifteen broken blades were picked up on the surface in an area of 5 X 6 feet.

The finished product of the quarries and workshops, as Mr. Mills sees it, were the roughed out blanks and the blades, and in addition, cores of the choicest material from which long, thin, sharp edged flakes could be struck to be used as knives.

These cores, last mentioned, are found in limited numbers around the workshops to the south of the cross roads, and only rarely at any other locality.

In a mound located one and one-half miles west of the cross roads, eighty-five feet in diameter and eighteen feet high, surrounded by a wall of flint blocks, was found the walls of a house eighteen feet square also constructed of flint blocks, with evidences of posts that had supported a roof.

On the floor of this house was one complete undisturbed skeleton with an X shaped piece of flat copper under the skull, two ear ornaments of copper consisting of two similar concavo-convex plates connected by a central cylindrical column, a necklace of beads made from the columellas of sea shells, a copper covered bit of wood, and a bit of woven fabric preserved by the salts of copper.

The people who built this mound are believed to have been of the "Hopewell Culture".

Mr Mills in his Resume says:

"The flint was quarried by the use of stone mauls and hammers (none of which were hafted) together with wedges made of wood or horn (although no wedges of any kind were found) and pries made of wood." (None of these last were found)

"No evidence showing the use of fire in quarrying was found in the thirty-three quarry-sites examined and I firmly believe fire was not used as an agent in quarrying the flint, directly or indirectly, as some evidence would have been found in this great number of quarry-sites."

"The flint was removed from the quarry sometimes only a short distance away, where it was blocked out and then taken to the workshops, usually in close proximity, where the blocked-out pieces were made into blades or cores, the two principal commodities manufactured at the quarries."

Was Man in America During the Ice Age?
Science News Letter, Apr 2, 1927

Primitive man lived in America at a vastly earlier time than has generally been believed by most scientists. This is the conclusion that has been drawn from "new and striking" evidence gathered by J.D.Figgins and Harold J.Cook, scientists of the Colorado Museum of Natural History at Denver, who have investigated three Western Discoveries of arrowheads and other artifacts showing human handiwork.

Instead of dating back some 8000 to 25000 years, the time when most archaeologists say the Indian came to America from Asia, these human relics, because of their association with extinct animals and geological deposits of known antiquity, are assigned to the geological period that scientists know as Pleistocene. That was the time of the Great Ice Age; when northeastern North America was periodically covered with an immense glacier and when prehistoric elephants and mastodons roamed the land. It was from 25000 to a million years ago.

From three localities have evidences of human antiquity on the American continent been obtained. Frederick, Tillman County, Okla.; Colorado, Mitchell County, Texas; and Folsom, Union County, New Mexico. Investigation at the site of the Oklahoma discovery have just been completed and none of the findings have yet been announced, even to the scientific world. Publication of the full scientific details will be made by the American Museum of Natural History, New York City, about July 1st in its magazine, Natural History.

From all three sites arrowheads have been unearthed in close association with extinct animals. Along Lone Wolf Creek, near the town of Colorado, Texas, flood waters exposed the bones of an extinct species of bison, and while large blocks of earth in which they were embedded were being removed for transportation to the Museum, three arrowheads, totally unlike those in any known collections, were found beneath a nearly complete skeleton. The arrowheads were of grayish flint, thin and not notched.

At Folsom, New Mexico, fossil bones were discovered at the extraordinary altitude of 7000 feet, and among the fossil bones were found two arrow-heads similar to those found in Colorado. The bones were identified as those of three hitherto unknown and extinct species of bison and an ancient deer-like animal. Discovery of this deposit was made through the interest and observation of Fred Howarth and Carl Schwacheim. An exact geological determination of the age of the deposit has not been made but it is believed to be late Pleistocene.

The locality richest in evidence of ancient man in America is near Frederick, Oklahoma. F.G.Priestly read an article by Mr. Cook, calling attention to the possibility of ancient man having existed in America. He realized that arrowheads and stone grinding implements that were being uncovered from time to time by steam shovels in a sand and gravel pit might be of some interest. With the cooperation of A.H.Hollman, owner of the gravel pit, he reported the discovery to Mr. Cook, who with Mr. Figgins, promptly investigated. There they found three distinct layers of deposits, and in a very short time, two arrowheads and some seven metates, primitive grinding instruments, were excavated from the pit. These working in

in the pit remembered other worked stones that had, before realization of their significance, been thrown away. With the artifacts, as in the other cases, remains of extinct animals were found, and eight feet above the level at which the grinding stones nearest the surface were discovered, there were found remains of the mammoth, including numerous teeth. This is considered strong evidence of the great antiquity of the arrowheads and the metates. A representative of the Colorado Museum of Natural History is now located at the gravel pit to collect and preserve any other such finds.

Inspection of the arrowheads discovered shows them to be primitive, and yet the man who made them must have progressed considerably in culture, according to Mr. Figgins. Mr. Cook has made a careful study of the geology of the three places where discoveries were made and he has expressed himself as "convinced of contemporaneous association" of the artifacts with Pleistocene deposits and animal remains "surprising as such a culture at that time may seem".

Many of the bones of prehistoric animals found in association with human artifacts have been sent by the Colorado Museum of Natural History to Dr. O.P. Hay of the U.S. National Museum in Washington for identification and determination of their age. Dr. Hay described the bones as "interesting" and, although not yet ready to make a formal report, he revealed that they contain several new species.

Reports of the discovery of early man on the American continent have been made on numerous occasions in past years, and scientists are not agreed as to the authenticity of the claims that have been made. Charcoal evidence of a prehistoric fire was unearthed beneath a mastodon in New York State, an arrowhead was reported discovered in close association with an extinct bison in Kansas, and more recently human remains from Florida have been put forward as being of equal antiquity to prehistoric man of Europe. A tooth ascribed to a hitherto unknown ancient man was discovered by Harold J. Cook in Nebraska several years ago. In 1914 human remains were discovered at Vero, Florida, and in 1925 Dr. J.W. Gidley unearthed in Pleistocene strata what is known as the Melbourne skull. At both Melbourne and Vero the human remains were found in association with the bones of extinct animals.

The first images of gods carved out by primitive man everywhere seem to have been feminine deities, says Dr. E.B. Renaud of the University of Denver.

Four little clay figurines found in Arizona show that prehistoric American Indians carved feminine fetishes just as stone age cave men of Europe did, when they began to copy the human form.

Two very primitive figurines were found in the Canyon del Muerto by Earl Morris while conducting research work for the American Museum of Natural History, said Dr. Renaud. These rare prehistoric fetishes are in the Museum of the University of Colorado.

The other two statuettes, more decorated, were also found in Arizona by Dr. Bryan Cummings of the University of Arizona, and are now being exhibited in the museum of that university.

CORN RAISED BY INDIANS

Lieut. Zebulon Pike says of the Sacs: "They raised a great quantity of corn, beans and melons."

(Pike's Exploratory Travels, 1811, Page 125)

Of the Iowas he says: "They cultivated some corn."

"The Kantongs are the only band of Sioux that use canoes, -- or cultivate any kind of vegetables, and then but a very small quantity of corn and beans."

"The Reynards-Foxes" raised a great quantity of corn, beans and melons, the former of these articles in such abundance as to sell many hundred bushels per annum."

From The Stone Age in North America. - Morehead.

Necklaces of Long Bones.

Page 216 - "Among the Crows, Mandans, Sioux and other Indians, in the days of Lewis and Clark, necklaces of long bones of three to four and sometimes five inches in length were common. These were highly prized."

Mound No. 2 of the Hopewell Group contained, according to Morehead, - see page 218, idem., - and taken out by him when he excavated it, in 1891 - 2, disks of flint about six inches in diameter, now in the Field Museum of Natural History, 7532 pieces

Given by him to Mr. Hopewell and others 50 ..

In addition there was taken out by Squier and Davis in 1845, about 600 ..

Total taken from this mound 8182 ..

Mr. Morehead believes that this cache was a storage of raw material taken from a quarry 18 miles south of Hopkinsville, Ky., 700 or more miles away, having been conveyed there by canoe.

These disks, as stated above, were about six inches in diameter and 1/2 inch thick, weighing 1/4 to 2/3 lbs, and the material a blue-gray flint.

Native American Food Plants or other Plant Products,
Contributed by the American Indian, of Benefit to the
Human Race.

"The Aborigines of America did not find upon the Continent
a single economic plant of Europe, Asia or Africa."

"The ancestors of the Indian were not acquainted with any
cereal, legume or fruit of the Old World."

But their gift of foods and other vegetable products from
native American plants was large.

The following list was taken from a paper published in the
Annual Report of The Bureau of Ethnology:

Common Name	Scientific Name	Native of	Part Used
Indian Corn	<i>Zea mays</i>	S. and Cent. Am.	Seed
Bean	<i>Phaseolus vulgaris</i>	S. Am.	Seed
Lima Bean	<i>P. lunatus</i>	S. or Cent. Am.	Seed
Peanuts	<i>Arachis hypogaea</i>	..	Tuber
Cayenne pepper	<i>Capricum frutescens</i>	..	Pods
Potato	<i>Solanum tuberosum</i>	..	Tuber
Sweet potato	<i>Ipomoea batatas</i>	..	Tuber
Manioc	<i>Manihot utilissima</i>	..	Root
Squash	<i>Cucurbita pepo</i>	..	Fruit
Pumpkin	<i>C. maxima</i>	..	Fruit
Gourd	<i>C. lagenaria</i>	..	Fruit
Jerusalem arti- choke	<i>Helianthus annuus</i>		Tuber
Maple	<i>Acer socharum</i>	N. Am.	Sugar from sap.
Tapioca		S. or Cent. Am.	

Plants Valuable for their Fibre.

Hemp			
Cotton	<i>Gossypium peruvianum</i>	Peru	Fibre
Sea Island Cotton	<i>G. barbadense</i>		Fibre
Upland cotton	<i>G. hirsutum</i>		
	<i>G. hopic</i>		
	<i>G. brasilense</i>		Fibre

Intoxicants, Narcotics and Stimulants.

Datura	<i>Datura arborea</i>		
	<i>D. sanguinea</i>		
Peyotl cactus	<i>Lophophorum williamsii</i>	Cent. Am.	

Intoxicants, Narcotics and Stimulants, continued

Common Name	Scientific Name	Where from	Part used
Tobacco (petun)	<i>Nicotina tabacum</i>	S. Am.	Leaf
Tobacco (appowoc)	<i>N. rustica</i>	N. Am. Virginia	Leaf
Tobacco	<i>N. attenuata</i>	W. of Miss. river	Leaf
Paraguay tea Yerba mata	<i>Ilex paraguariensis</i>	Paraguay	Leaf
Coca Cacao	<i>Erythroxylon coca</i>		Fruit
Balsams			
Peru balsam	<i>Myroxylon pereirae</i>		
Tolu balsam	<i>M. toluifera</i>		
Copavia balsam	<i>Copava langsdorffii</i>		
Liquidamber	<i>Liquidamber styraciflua</i>		
Medecines			
Cinchona Peruvian bark Quinine			
Quassia	<i>Quassia amara</i>	S. Am. C. Am.	Bark
Ipecaco (vine)		S. Am.	Root
Cocaine			
Dyes			
Logwood	<i>Haematoxylon campechianum</i>	S. Am.	heart wood
Brasil wood	<i>Caesalpinia echinata</i>	S. Am.	
Cochineal	Insect infesting certain species of cactus used for dying red.		
Sundry			
India rubber	<i>Castilla elastica</i>	Brasil	sap
India rubber	<i>Hevea brasiliensis</i>	Brasil	sap

OBSIDIAN ARTIFACT WITH MAMMOTH BONES IN NEVADA.
Science News Letter, Nov. 1933.

"Highly suggestive if not absolutely conclusive evidence" has been discovered that man roamed the region of Nevada as a living contemporary with ancient camels, little wild horses, huge mammoths and other animals that have long since departed from the American scene. The discovery is reported by Dr. George Gaylord Simpson of the American Museum of Natural History.

The object pointing to the existence of man in such early times in America, is a small flake of volcanic glass, known as obsidian. It bears marks of chipping, such as a primitive man would make on material chosen for a blade. Nowhere in the region has obsidian been found, except for this piece. This fact strengthens the view that human hands transported the bit of volcanic glass to the place where it was dropped and where it was buried in what is now an "ancient stratum."

The obsidian flake was found when a field party, led by Fently Hunter, was quarrying out bones of fossil animals. The important object was cut away from its resting place with a block of the undisturbed matrix still left around it, and the entire block was transported to the museum, where the obsidian flake was removed and examined in the presence of several scientific observers.

Charcoal was found in three well defined areas by the expedition and is considered further evidence of human presence. The charcoal is thought to be remains of camp fires.

The animal bones immediately associated with the charcoal and the obsidian flake were remains of camel, bison, horses and deer. These were American animals of the Pleistocene or earliest Post-Pleistocene geologic time.

And the discovery adds important evidence to the accumulating data pointing to early habitation of the New World by man, is Dr. Simpson's view.

Some Irish History Notes.

The Siege of Londonderry was in 1689.

H.V.Morton in "In Search of Ireland", has this to say of Connemara:

"In the center of the field a piece of ground higher than the rest has never been leveled. A thorn bush grows on its summit. The farmer who owns this useless and heart-breaking land has cultivated all around the tiny hill, leaving it to sprout weeds and thorns.

"The reason why he has done this is simple and well known. The high ground is a fort or rath. The people say that such forts were built by the Danes. Some say that this word is a corrupted form of De Danann, the mysterious people called Tuatha de Danann - the tribes of the Goddess Dann.

"They are said to have conquered Ireland by virtue of great magic. But the Druids of the people of Mil were too strong for them; and magic meeting magic, the Tuatha de Danann were forced to fly and take refuge in the fairy mounds.

KNOWN INDIAN MOUNDS ON MISSISSIPPI RIVER TERRACES AND BLUFFS
IN ALLAMAKEE COUNTY.

	Round.			Long.			Effigy.		
	Wholly obliterated	Partly obliterated	Preserved except for pits	Wholly obliterated	Partly obliterated	Preserved except for pits	Wholly obliterated	Partly obliterated	Preserved
New Albin	10								
Brookman's Bluff			4						
Fish Farm			30						
Mt. Hosmer			3						
Hemingway			1						3
South Lansing	4								
Keller			23				5		3
Capoli		4					1		5
Gavin's School			5						
Harper's Ferry									
1			1				2		1
2			6						
3		5							
4		1							
5		15			4				
6	13								
7	2								
8		1							
9	4								
10			2						
11			7						
Others reported by T.H. Lewis	860							3	
Mud Hen Jo.			5						
Paint Rock			4				3		
Waukon Junction			5	9				2	
Hanging Rock			21				3		
Luster Heights							2		
Yellow River Bluffs	1		32	4			5	4	3
Yellow River Terrace	37		5	15			3	1	
Reported by T.H. Lewis									
Yellow River Valley			1				1		
Alexander Grant's	931	26	154	31	4		22	10	15
Burke Farm			2		1			1	
Liebhart - Yellow Riv.							2		

KNOWN INDIAN MOUNDS ON ONEOTA RIVER TERRACES AND BLUFFS
IN ALLAMAKEE COUNTY.

	Round			Long			Effigy		
	Wholly obliterated	Partly obliterated	Preserved except for pits	Wholly obliterated	Partly obliterated	Preserved except for pits	Wholly obliterated	Partly obliterated	Preserved
Ferris' Mill			13						
Simonson's Farm House			2						
Simonsons Ford									I
Otto Voll Farm			4				3		/
Lyons Plateau		I	I						
New Galena									
Reinhold Farm		32							
Saddler's Cemetery	6								
Lane Farm	88								
Collins' Pond			2						
School			2						
Sand Cove									3
Hartley School	2		6	I					
	96	33	30	I		3			4

KNOWN "ENCLOSED AREAS" ON THE ONEOTA RIVER TERRACES AND BLUFFS.

	Wholly Obliterated	Partly Obliterated	Well Preserved
Simonson's Ford			I (small)
Lyons' Plateau			
New Galena	I		I
Bulman's	I		
Kumph's	I		
Ratcliffe's	I		
Lane Farm	I (circular)		I (rectangular)
	5		3

SUMMARY OF KNOWN INDIAN MOUNDS
ON MISSISSIPPI AND ONEOTA RIVER TERRACES AND BLUFFS
IN ALLAMAKEE COUNTY.

Mounds Wholly Obliterated			
On Mississippi River			
Round	931		
Long	31		
Effigy	<u>10</u>	972	
On Oneota River			
Round	96		
Long	1		
Effigy	<u>0</u>	97	
Enclosed Areas			<u>5</u>
			1074
 Mounds Partly Obliterated			
On Mississippi River			
Round	26		
Long	4		
Effigy	<u>0</u>	30	
On Oneota River			
Round	33		
Long	0		
Effigy	<u>0</u>	33	
			63
 Mounds well Preserved except for Pits			
On Mississippi River			
Round	154		
Long	22		
Effigy	<u>15</u>	191	
On Oneota River			
Round	30		
Long	3		
Effigy	<u>4</u>	37	
Enclosed Areas			3
			<u>231</u>

142

GRAND TOTAL KNOWN INDIAN MOUNDS IN ALLAMAKEE COUNTY AS PER
PRECEDING SUMMARIES.

Wholly Obliterated	1074
Partly Obliterated	63
Preserved	231
	1368

Of this entire grand total we have authentic records by competent observers.

Surveys and plats have been made by us, and a more or less complete description written, of 318 of these, 83 of which have been either wholly or partly obliterated since these surveys were begun in 1900.

1050 of the total number of mounds were wholly destroyed, either prior to the beginning of the surveys or during the progress of the work and before its completion.

For a period of over twenty-five years, off and on as we had the time we worked on these mound surveys in Allamakee and Clayton counties until we are able now to say that we have surveyed, platted and described all the existing Indian earthworks in Allamakee county of which we have any certain knowledge, and have pretty well completed Clayton county.

To the above grand total of known mounds in the county we may with considerable certainty add:

3 round, 3 long and 9 effigy mounds surveyed and platted by T.H.Lewis in 1885-1892, and which we have been unable to locate exactly because of their destruction by cultivation	15
Large mounds on still unexplored bluff tops of the Mississippi river	5
Small obscure or unnoted mounds on the bluff tops of the Miss., Yellow River, Paint Creek, Village Creek and the Oneota, scattering.	10
Small obscure mounds on the talus slopes at the foot of Miss. river bluffs	10
Bringing the grand total up to 1408.	

An examination of the foregoing lists and summaries shows that of the total of 1137 wholly and partly obliterated mounds, 1039 were located on the Harper's Ferry and Yellow River terraces on the Mississippi and on the Reinhold and Lane Farm terraces on the Oneota, on land which because of its adaptability to cultivation, was early brought under the plow.

Waukon, Feb. 23d, 1932.

SUMMARY of the KNOWN EFFIGY MOUNDS
in
CLAYTON and ALLAMAKEE COUNTIES.
(Some of these Mounds have been Destroyed by Cultivation.)

	Tailless Animals (Bears)	Short Tailed Animals	Long Tailed Animals	Lizards	Birds
ALLAMAKEE COUNTY					
Oneota River (Orr)					
Simonsen Group					I
Voll Group	I				
Sand Cove Group	3				
Mississippi River (Orr)					
Waukon Junc. Group	I				I
Yellow River Group	5	I (wild cat)			
Mississippi River (Lewis)					
Hemenway Group	3				
Lansing Group	I				
Keller Group	3				
Heitman's Group	I				
Harper's Group	4	2			I
Hasekaw	2				
<hr/>					
Total Allamakee	24	3			3
CLAYTON COUNTY					
Mississippi River (Orr)					
Marquette Groups	I				I
McGregor Groups	3				
Pike's Peak Group	3 (buffalo)				
Sny McGill Group	I				
Harvey's Island Group	3				2
Mississippi River (Lewis)	I				
Pleasant Ridge Group	10				3
Turkey River Groups	2	I	9	3	I
<hr/>					
Total Clayton	24	I	9 ✓	3	7

	Tailless. Animals (Bears)	Short Tailed Animals	Long Tailed Animals	Lizards	Birds
Total Allamakee	24	3			3
Total Clayton	24	1	9	3	7
<hr/>					
Totals	48	4	9	3	10

Grand Total of all Types of Effigy Mounds 74

This also is probably the grand total of all the effigy mounds in Iowa, as none are known along the Mississippi river below the Turkey River groups; none on its tributaries except those on the Oneota; none on the Missouri or its tributaries.

The effigy mounds of Iowa are apparently an overrun from Wisconsin, in the southern part of which state they are very abundant.

A study of the distribution of the different types shows that the tailless or bear type is distributed quite evenly among the different groups from the state line south to Guttenberg.

South of that town or in the Turkey River groups only three of the total of fifteen are of the tailless or short tailed types, the remaining twelve being the long tailed or lizard types.

In the Yellow River groups along the bluff tops north of the mouth of that stream was one unique form probably representing a wild cat or lynx, now destroyed by cultivation.

In one of the McGregor groups (on the second bluff spur south of Point Ann) were two unquestionable effigies of the buffalo, with probably a third nearly destroyed by cultivation.

The outstanding group of effigy mounds in Iowa, and perhaps in the U.S., the group of ten animal and three bird mounds, the Pleasant Ridge Group or Group No. 5 of the Marquette-Yellow River Groups.

The mounds of this group are large and well preserved, none of them ever having been disturbed, and the outlook from the outlier of St. Peter sandstone on which they lie is among the finest on the Mississippi river.

This group is on land susceptible of cultivation and should be set aside as a National Monument.

Mar. 10th, 1932.

A STUDY OF THE MILL CREEK CULTURE.

Characteristic Features
of the
Mill Creek Culture.
In OBrien, Clay, Buena Vista and Cherokee counties
Iowa.

Village Sites;

On "High Spots" on low terraces in the valleys of Waterman and Mill creeks and of the Little Sioux river. These sites are approximately circular with a diameter of 200 to 300 ft.

The earth and rubbish of which they are composed forming a low, flat mound, sometimes reaching a present height of 4 ft. though the average is much lower. Alluvial soil has been deposited by the creeks and the river, since they were built, to a depth of 1 to 2 ft. covering the base of the mound to that depth. The total depth of the village debris above the ancient terrace on which they were built, then averages about 4 ft.

No traces of post holes indicating a palisade or houses with large pole or timber frames were found in the limited trench excavations made, except in the Bultman site in which were 2 carbonized logs 6 inches in diameter.

Houses:

The kind, material, size or shape not known except as noted above. It is not unlikely that more systematic excavation may produce evidence of post and pole framed houses.

Our survey located eight of these village sites;

No. 1 - Matt Brewster site	Sec. 4, T. 92, R. 40
No. 2 - Braunschweig site	Sec. 23, T. 94, R. 39
No. 3 Magnussen site	Sec. 34, T. 94, R. 39
No. 4 - Akers site	Sec. 10, T. 93, R. 39
No. 5 - Bultman site	Sec. 11, T. 83, R. 38
No. 6 Phipps site	Sec. 15, T. 92, R. 40
No. 9 - Washta site	Sec. 24, T. 89, R. 42
No. 10 - Witrock site	Sec. 11, T. 94, R. 39

The Witrock site which was on land that had never been plowed, was rectangular and surrounded by a two foot high embankment outside of which was a shallow ditch.

Another type of village site was the

Crosby site on a 20 ft. high terrace on Secs 22 and 27, T. 95, R. 39

Waterman site on terrace 60 to 70 ft. above the Little Sioux, on Sec. 26, T. 94, R. 39

Hill site on a 60 to 70 ft. high terrace of glacial outwash, with an area of 1/2 X 1/4 mile, on Sec. 24, T. 94, R. 39

A Study of the Mill Creek Culture
as shown by Mound Group Surveys
and Mound and Village or Camp Site
Excavations made under Project
1047 of the Iowa Planning Board,
1934 and 1935.

Dr. Charles R. Keyes,	Supervisor
Ellison Orr	Asst. Supervisor
Fred Orr	Field Worker
Harrison Toney	Field Worker

As studied and defined by Dr. Keyes, the Mill Creek culture, so named because first studied by him along Mill Creek in Cherokee County, Ia., is found in a long narrow area extending across Cherokee County north into SE O'Brien, SW Clay and NW Buena Vista, and South into NE Woodbury and NW Ida Counties, - altogether a strip, so far as known, having a length of about forty and width of five miles.

In addition to this main territory of occupation, - there is the anomalous Broken Kettle Mound in the Cherokee area forty miles west from the south end, as the crow flies, on the Broken Kettle Creek, one mile from its junction with the Big Sioux river, without a single known site between, although the Floyd river valley, would seem to be desirable territory for their occupancy.

The evidences of occupancy of the Cherokee area are wholly in the valley of the Little Sioux and Waterman and Mill Creeks, and in at least a part of the mounds on the bluff tops immediately adjoining.

This Cherokee area is near the western edge of that part of Iowa once occupied by the Wisconsin and Iowa glaciers, and in places large deposits of gravel outwash are found apparently laid down before the streams of the present drainage system had eroded their valleys.

Remnants of such gravel trains are the deposits on top of the bluff back of the Witrock residence on the NW. Sec. 11, T. 94, R. 39 W; the isolated large mound hill half a mile north rising out of the bottom land of Waterman Creek and believed locally to be an "Indian Mound"; and the county gravel pit one-half mile still farther north.

The gravel terrace 65-70 ft. high on the Hill farm on the N. side of the Little Sioux about one mile up that stream from the mouth of Waterman Creek on SW. Sec. 24, T. 94, R. 39, is evidently these ancient graves worked over and deposited there by the river. The gravel deposit just north of the city of Cherokee and the one south of the same place on Sec. 32, T. 91, R. 40, also are probably river deposits.

The level valley of the Little Sioux, one to one-half mile wide, consists of its flood plain back of which are one to three not very distinct alluvial terraces having an aggregate height above the flood plain of around 20 ft.

The bluffs to the south and east, 250 to 300 feet high, are now well wooded with oak and hickory and along the river, with elm, ash and box elder, and probably always have been.

This deep sheltered valley with its abundant fuel, never-failing river full of fish, and the country all about teeming with game may account for its possession by a people well advanced, as their pottery shows, in savage culture.

In the river valley sherds of the Mill Creek pottery are found abundantly associated with quantities of buffalo, elk and other animals, bird and fish bones in what are designated as camp or village sites. With the pottery are commonly found what are regarded as typical thin triangular notched arrow heads, many piercing instruments of bone of different kinds, and small irregularly shaped hand boulders showing more or less polish.

Less common are lens-shaped polished diorite, quartzite and quartz stones about 2-1/2 inches in diameter and 3/4 inch thick. The men dubbed these "door knobs" but the perimeter is sharper than that of a door knob.

Mr. Witrock, owner of the farm on which is the Witrock Village site, has one of these objects made of quartz highly polished - a beautiful specimen. Celts, not differing from those of other cultures, are occasionally found.

The total absence of knives, spear-heads, axes or pipes, is noticeable. So far as known no copper has been found.

In view of the nearness of the pipestone quarries in SW. Minnesota, the absence of pipes of this material appears strange.

A considerable number of pipestone tablets, on which are inscribed pictographs, have been collected in the vicinity of Cherokee, - surface finds, - but these may be Siouan, as similar tablets have been found on village sites believed to be Siouan, on the Blood Run terrace in NW. Lyon County. The larger number of these pipestone tablets are in the collection of Mr. N.L. Stiles of Cherokee.

In his collection are other unusual pieces but almost wholly field finds. Many others living on or near the Cherokee area have small collections gathered in part from the terrace surfaces and by excavating in the village sites, and in part from the fields of the general upland plain.

Of these collections, however, it certainly cannot be said that all the material is of Mill Creek culture. There is little doubt but what evidences of Siouan culture can be found on all sides, and even in the Cherokee area.

To the south at Anthon, and 12 miles NE. of the last Mill Creek culture site up the Little Sioux valley, Sioux pottery sherds, mullers and copper beads have been found in the valley and on the bluffs on either side and at Paulina on Mill Creek.

On a terrace remnant on the Lewis Martin farm on Waterman Creek, near the center of Sec. 14, T. 94, R. 39 W, Mr. Martin found on the surface a large quartzite slab metate[Ⓢ] 18x10 in. and 2.-3 in. thick, now in the collections of the State Historical Society. In the little museum of the Quaker school on Sec. 30, or 31, T. 95, R. 40 W, there are two of these metates, - one of granite, - both found on Waterman Creek. Mr. Jacob Cross, living 1 mile S. of An-

Ⓢ 'mealinq stones'

then, has a very fine one of Sioux quartzite which he found on his farm on the bottom land of the Little Sioux, on which in ~~an~~ one of two mounds he found shell tempered (Siouan) pottery.

Also nearly every collector has one or more large, rather rough grooved mauls weighing sometimes 10 - 12 lbs., found not only in the valley but in the fields on either side.

Occasional pipestone tablets and numbers of these large mauls are found on the Blood Run terrace in Lyon County and are tentatively regarded as Siouan.

The metates, mauls and tablets of the Cherokee area, then, may not be Mill Creek but Siouan. In fact no artifact should be certainly considered Mill Creek unless it, or an exact duplicate has been found associated with the typical pottery culture. The so-called village sites are certainly not all alike. It is perhaps best that we should take up these sites, one at a time, and describe them and the excavations in them and the material found, during the summer of 1934 and 1935.

CROOKES SITE.

The most northerly site, the Crookes Site, of which we have knowledge, is located on a level terrace of perhaps 15 acres, on the west side and 20 ft. above the flood plain of Waterman Creek, on SE. Sec. 22, and NE. of Sec. 27, T. 95, R. 39 W, O'Brien County. An E. and W. road on the Sec. line cuts the area in two. On the S. side of the road are farm buildings. On the N. side pasture, with scattering burr oak trees, which apparently has never been under cultivation.

In making a cut in the terrace edge in grading the road down to the bridge across the creek, a celt and sherds of Mill Creek pottery were found. The farmer living S. of the road has a few pieces which he has picked up on the sides of the cut.

We visited this site in Sept., 1935, and found a few small pieces of Mill Creek on the sides of the cut.

We saw no indications of the embankment of an enclosed area as at the Witrock site and no indications of hut pits, or of camp refuse heaps as at Braunschweig's or the other sites on the alluvial bottoms farther down.

On the bluff top one-fourth mile south is a string of three round mounds, 25 ft. in diameter by 18 in. high.

WITROCK SITE.

Three miles almost due south of the Crookes Site, is the Witrock Site, an enclosed area. This is located along the west edge of the terrace on the East side of Waterman Creek, the top of which is around 15 ft. above the flood plain.

It covers a rectangular area approximately 190 ft. N. and S. by 175 ft. E. and W., in the SW. corner of the NW. NW. Sec. 11, T. 94, R. 39 W. Surrounding it is an embankment the top of which averages 2 ft. above the natural level of the surface of the terrace, outside of which is a shallow ditch, 2 to 10 in. deep.

The inside at a few inches below the level of the embankment top, is covered, except in the SE part, with shallow, irregular depressions.

Dr. Keyes believes these to be, for the most part, hut pits, but at the time of our visit, Sept. 21, 1934, it was covered with such a dense growth of prairie grass and flowers that it was impossible to form a definite idea of the surface.

It may have been a palisaded camp but this can only be determined by excavation, as also whether or not there are certainly hut pits inside. Considerable desultory digging has been done years ago on this site by "relic hunters". It is said that considerable pottery was found. From the SW corner the terrace slopes down very steeply to an old completely filled channel of the creek. Perhaps at the time of occupancy it flowed there. On the terrace slope here we found small pottery sherds of Mill Creek culture. It was on this site that Mr. Witrock found the lens-shaped piece of polished quartz. The area has never been under cultivation. There is a story current in the neighborhood that one of the former owners tried to "break it up" but his plow struck so many rocks that he had to give it up. We saw no rocks nor signs of plowing.

On the bluff top to the west, was a large mound now much reduced by cultivation.

(During the summer of 1937 this site was purchased by the State of Iowa and will be set aside as a preserve.)

North-East of this site the creek valley widens out forming a bay in the hills in the north part of which is the high isolated round hill probably part of the old gravel train. To the SE is a similar bay. Both are one-half mile wide. Between them lies a salient to the west of the East bluff on the top of which is a remnant of the gravel deposit. On the west part of this bluff is a string of three round mounds.

On every salient point of the East bluff from here to the Big Sioux, are found straggling groups of small round mounds. Four of these we excavated but all were barren.

BRAUNSCHWEIG SITE.

At two and one-half miles south of Witrock's on a low alluvial terrace on the west side of Waterman Creek at the point where its valley opens into that of the Big Sioux, near the center of the NW. of Sec. 23, T. 94, R. 39 W, is the Braunschweig village mound site.

This is a mound of alluvial earth and camp or village refuse approximately four feet high and three hundred feet across. It is located on a "high spot" on the west bank of an ancient, completely filled-in channel of the Waterman Creek. The Braunschweig farm buildings and Waterman RR siding are 40-50 rods north on the north and south highway which crosses the site.

Mr. Paul Braunschweig, whose father was a pioneer settler, who is now about forty years old, a fine fellow and a veteran of the World War, does not recall that there was an embankment and ditch around this site. The field on the west of the road has been long under cultivation and there is certainly no trace of them now.

On Sept. 24, 26 and 27, 1935, we excavated three four feet wide trenches across the SW. attenuated margin of the mound but encountered no remnants of palisade posts or sign of holes in which they might have been set, as we had hoped we might.

On Sept. 19, 20, 21 and 22, 1934, working under Project 1047 of the Iowa Planning Board, Dr. Chas. R. Keyes, Supervisor; the writer, Ellison Orr, Asst. Supervisor; Fred Orr and Harrison Toney, Field Workers, we excavated five pits, 5x5 ft. at as many different places in the central part of the mound area on the west side of the highway.

The mound earth appeared to be the same black alluvial soil as the surrounding terrace with which was mixed in places thin irregular strata and lenses of ashes. No certain indications of pits were found.

Very little in the way of pottery or other relics was found in the first foot. In some of the pits this condition persisted to the bottom of the pit. In others accumulations of mostly large broken buffalo and elk bones with a sprinkling of those of smaller animals - deer and dog - with those of fishes and birds were met with. Half shells of river clams were common everywhere.

With this camp rubbish was mixed, abundantly in places at all levels, in others scarce, sherds of the two commoner types of Mill Creek pottery with a few of those less common. Bone piercing implements of both animal and bird bones were not rare and an occasional triangular notched arrow head was found. Mr. Braunschweig has in his small collection over forty triangular notched arrowheads all found on or in his site.

Of the unusual artifacts were a lens-shaped piece ("door knob") a piece of the bit of a diorite axe and a bone fish hook.

Small hand boulders of granite and diorite, some of them showing polish, were common.

By far the most outstanding inclusions were the great abundance of pottery sherds and large animal bones. All the bones were broken short off, none were split lengthwise.

Digging in the bank alongside the highway crossing the mound, while we were excavating, a farmer boy uncovered a cache of 13 buffalo skulls of different sizes. The last day that we dug on this site, Toney found a large piece of a human skull. From its "slick" appearance it was evidently a trophy or part of one.

Approximately 95 per cent of the pottery found was of two general types.

~~TYPE 1 POTTERY.~~ *Subsequent to Excavations in Broken Kettle and Kimball Mounds in 1939 this type became Type 2; -flaring rim and Type 3; -collared rim.*

No whole vessels of any type were found.

The most plentiful type, judging from the sherds, none of which exceeded 5 in. across, had a globular, unornamented body probably often reaching a diameter of 12 in., the sides having an approximate thickness of 1/4 in. The material of which they were made was a compact clay tempered with crushed rotten granite or of teneer with a very fine sand.

Firing produced a strong, compact, decay resistant pottery of a gray or ash color, which was colored both inside and out, a pinkish, brown or black color by a slip, the black polished till it "shone like a nigger's heel".

The necks and rims had a seemingly endless variety of shapes and the decorative patterns made on them of incised straight lines had an even greater variety. All the pottery sherds recovered in excavating, were sent to Dr. Keyes at Mt. Vernon, who is now making an intensive study of the different types.

At the end of the first four days' digging in 1934, we had 84 sizeable pieces of these on only two of which the decorations were alike.

~~TYPE 2 POTTERY.~~ *Subsequent to Excavations in Broken Kettle and Kimball Mounds in 1939, this type became Type 3*

The next most abundant type, (Type 2) had a globular bowl of thinner, gray or drab ware, tempered with fine sand and decorated with closely parallel straight incised lines running horizontally entirely around it and the neck as well.

Larger pieces of this type were found than of Type 1. From the Broken Kettle mound in Plymouth County - to be described later - we recovered enough of one vessel to restore it and there were also pieces enough of the pot found by Mr. R. L. Little in the mound on his farm 7 miles S. of Cherokee, on the bluff top on SE. Sec. 32, T. 91, R. 40 W, to have an excellent restoration made.

Pieces of this type pottery were found only about half as often as the type first described. Like that type the pottery was strong and durable.

~~TYPE 3 POTTERY.~~ *We seem to have found this type in the excavations in Broken Kettle or Kimball Mounds, 1939.*

A third type not found in near so great abundance as either of the foregoing and much smaller - often not exceeding four inches - the finest ware of the Mill Creek culture, - 3/8 in. thick, was globular or somewhat pear-shaped - the neck prolonged. It was wholly without ornament and highly polished black inside and out. In the course of excavations in the Mill Creek sites, we found several pieces of this type showing one-fourth to one-half of the bowl and neck of this elegant ware

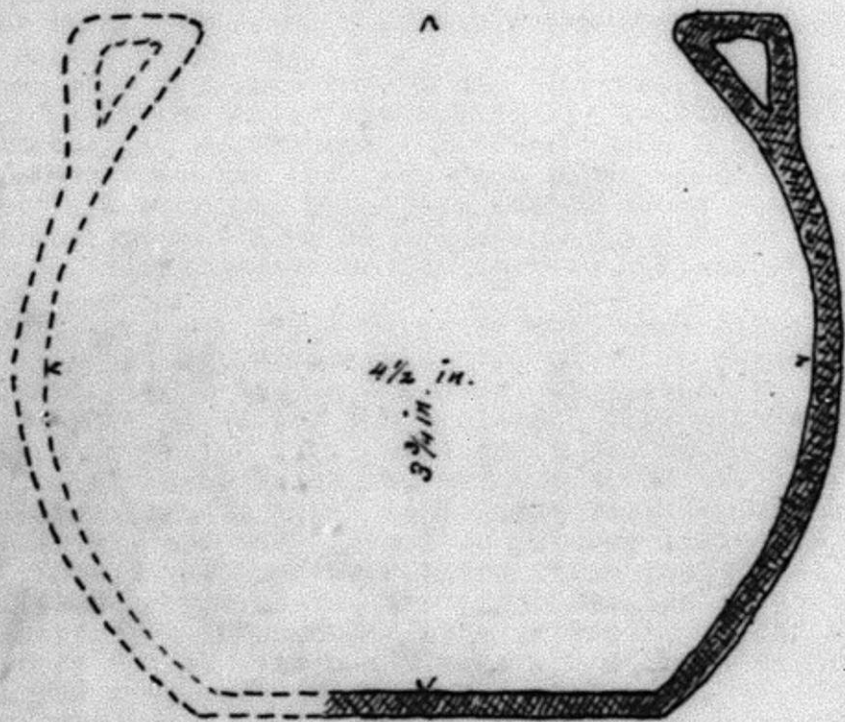
~~TYPE 4 POTTERY.~~ *Subsequent to Excavation of Broken Kettle and Kimball Mounds, this Type became Type 5*

A fourth type was a coarse undecorated, uncolored vessel shaped like a basin with straight sides and a flat bottom, or like

the old fashioned "milk pan" of 50 years ago. Except for a small piece broken out of the rim, a complete vessel of this type was found in the Broken Kettle mound and near it half of another. The whole vessel had a diameter of approximately 10 in. In other sites we found occasionally a piece of one of this type. It is quite likely that the semicircular flat lugs about 1-1/2 in. in diameter, and those shaped like the head of a bird or animal found occasionally, notably by Rev. Van Voorhis in the Magnusson site, were broken off the rims of vessels of this type.

TYPE 13 POTTERY. *Not Found in our Excavations in Broken Kettle or Kimball Mounds, 1939*

In a pit on the Hill terrace, we found one-fourth of a vessel of the 5th type. The cross section of this, actual size, below gives the best idea of its shape. It was undecorated and uncolored. x 13th



A fine 3 in. greenstone celt and many good sherds of first and second types were also found in this pit.

HILL SITE.

Up the valley of the Big Sioux about one and one-half miles East from the mouth of the Waterman, is the west end of the Hill terrace lying along the foot of the bluffs on the north of the former stream with a length of one-fourth mile, half as wide, and having a height of 60-70 ft. above the river bottom lands on the south.

Its surface is "as level as a floor" and has been under cultivation for many years, and in working it the owner, and others, have found prehistoric material over the entire terrace.

Towards the east end was a string of three small mounds reduced by cultivation to a few inches in height.

Early in the summer of 1935, a company commenced with a drag line shovel to strip the three feet of soil from over the underlying gravel deposit. Work had progressed from the west end uncovering a strip about one-hundred and fifty feet wide in the middle, to near one half the length, ^{spilling} the earth in great heaps along the south margin.

It was reported to Dr. Keyes that they were finding Indian skeletons and pottery, and we were sent there to get all possible information and salvage such material as was uncovered before all was destroyed.

On arriving we learned that several skeletons with broken pottery had been thrown out.

We first excavated thoroughly the three mounds but found them absolutely barren.

Four pits approximately 4 ft. in diam., dipping down into the gravel 8 to 12 in. below the bottom of the black soil were found as the stripping progressed. In these were a few bone fragments and sherds of the two most abundant types of Mill Creek pottery.

On work with the drag line shovel being suspended, we excavated what appeared to be a small, very obscure mound near the south edge of the center of the terrace and south of the spoil heaps.

Following are field notes of this excavation:

-----"dug E and W trench, at W. end of which struck a boulder lined pit, 3 ft. in diameter, at the bottom of the black soil, 36 in. below the surface. This pit was filled loosely with yellow soil, sand and a few hand boulders, reaching a total depth below the surface of 56 in. In it were a few broken buffalo bones, one large shoulder blade digging implement, and many pieces of pottery including some fine rims (of type one) and corrugated (type two) ware. Among them was 1/4 of a type new to us. (Type 5 1/3) Also a fine 3 in. celt of greenstone. Connected with this pit, on the south, was another filled with black soil and clay, which contained only a few fragments of type one pottery."

Although there were abundant signs of this terrace having been used for camps or villages, we were unable to find any indications of a mound of village refuse as at Braunschweig's, nor did Mr. Hill or others that we questioned know of there ever having been such a mound.

Quite likely these were also the conditions at the Crook's Site on Waterman Creek.

FRED BULTMAN SITE.

On Sec. 11, T. 93, R. 38 W, on a high terrace on the north side of the Little Sioux, about five miles SE of Peterson in Buena

Vista County, is the Fred Bultman camp site.

This when first visited by Dr. Keyes, was mostly raw prairie and he is confident that he was able to distinguish hut pits. Surface finds when cultivating led to its discovery.

It lies on a slight elevation of the general surfade of the terrace between two shallow depressions on the East and West respectively, and near its river edge along which there still remains a narrow strip of virgin prairie.

On Oct. 3, 1934, we dug three 5x5 ft. pits in the corn field now covering the cultivated parts of this site. In the first two we found not very abundant sherds of the first two types of Mill Creek pottery.

In the third at a depth of 30 in., was a 5 in. stratum containing much burned clay, at E and W sides of which was a charcoal log around 5 in. thick and a foot long lying horizontally N and S. Above the south end of the East log at 12 in. below the surface was a nest of 3 perfect greenstone celts and beneath the south end of the same log, a fourth.

The one thing which is to be regretted in connection with our work on the Mill Creek culture sites is, that we did not return the next day and enlarge this third pit. It may have been the site of a burned hut.

Although we looked the ground over carefully, we saw no indications of an enclosing embankment or ditch, either in the field or the raw prairie, nor of hut pits in the prairie. A part of what was prairie when Dr. Keyes saw it had, between his visit and ours, been plowed up, and it may have been on this strip that he saw the hut pits. The third pit, in which we found the charcoal logs, was on this strip.

WATERMAN SITE.

On a high terrace remnant on the south bank of the Little Sioux, on the NE. of Sec. 26, T. 94, R. 39, W, is the Waterman site discovered by the finding of pottery in cultivating it.

On it, now in hog pasture, we found a few small sherds of type one and two Mill Creek pottery.

MAGNUSSEN SITE.

The Magnussen village site is located just west of the corner to Secs. 2, 3, 10 and 11, T. 93, R. 39, W, in Cherokee County, on a "high spot" on the second alluvial terrace. This, like the Braunschweig site, is a low mound of soil and village refuse and like that site lies on the bank of an old filled in channel of the stream. It has a probable diameter of at least two hundred feet.

On Oct. 1 and 2, 1934, we dug four pits in this site. Two contained almost nothing, the other two were quite prolific.

Alternating irregular deposits of ashes and common black alluvial earth were encountered in both for a depth of five and one-half feet down to the undisturbed bottom land soil.

In these types 1 and 2 of the Mill Creek, were found abundantly in connection with broken large animal bones, with a tendency to occur in nests or bunches from 1 ft below the surface to a depth of five and one-half feet - the bottom of the deposits. Besides the pottery sherds four bone implements, 3 unfinished or or broken disks 1-1/2 in. in diameter made from pottery sherds, a piece of an implement made from limestone, and a not very perfect lens-shaped stone - "door knob", were found, but no flint pieces or flakes.

This mound appears to have yielded "relic hunters" digging in it, a number of half moon-shaped, and animal and bird head, lugs. We found none but secured one, a bird head, from Mr. Magnussen who found it when cultivating over the mound. We also got from him, an unusually fine notched triangular - typical Mill Creek - arrow-head found in the same way.

AKERS SITE.

The Akers site like the Braunschweig and Magnussen sites, is a low mound of village refuse on a high spot on second alluvial terrace on SW. Sec. 20, T. 93, R. 39 W, and like them lies on the W. bank of a long abandoned filled channel of the river.

In it Oct. 9, 1934, we dug two pits finding broken large bones, pottery sherds of Types 1 and 2 of the Mill Creek, and a few bone implements.

MATT BREWSTER SITE.

Near the center of Section 4, T. 92, R. 40 W, on both sides of the north and south public road which here leaves the bottom lands and climbs to the top of the 40 ft. high remnant of terrace, - or perhaps it is a long drawn out low spur of the bluffs of drift farther East, - and turns East along the level top on the south side of Mill Creek, is the Matt Brewster village site, the type site of the Mill Creek culture, about four miles north and one and one-half mile west of the city of Cherokee in Cherokee County.

Perhaps an eighth of an acre of the site lies west of the road, the remainder on the East side on the Matt Brewster farm.

As there is no indication of a refuse mound, embankment or ditch it is impossible to say, without extensive excavation, how large this site is. It was discovered by finding pottery, bones, etc., in the earth plowed out of the ditches in grading the road.

On Oct. 6, 1934, we excavated a trench five by ten feet along the east side of the road in which we found abundant pottery sherds of types 1 and 2 of the Mill Creek culture, large broken bones and half a dozen bone piercing implements. No chipped flint or other material was found. To the north-east on the bluff top are two round mounds much reduced by cultivation.

On the bottom land occupying a re-entrant curve in the east-bluff line, to the SE of the site, we were told the finding of pottery indicated another village site but we did not have time to look over this. We were also told that about three miles up the creek was still another site.

Forty rods down the creek there is a wide compact bar of "nigger-head" boulders across the stream, V shaped with the point down stream. Above it is a long reach of deep still water. This bar is believed to be a prehistoric fish trap.

It probably is a natural formation as around a bend of the creek, a little farther down, the boulder rift again shows. However for all that it may have been used for a fish trap.

PHIPPS SITE.

One and one-half miles below the Matt Brewster site, on the opposite side of Mill Creek on a natural mound, a shred of terrace 20 ft. above the bottom lands, on the NW. Sec. 15, T. 92, R. 40 W, is the Phipps Site.

In this site we dug two pits on Oct. 8, 1934, finding abundant pottery sherds of types 1 and 2 but none out of the ordinary. Also a few bone awls but no other material. Mr. Gilchrist who shows this site said that Mr. _____ Stiles once found a whole small pot on the north slope of the terrace about five rods from where we dug, out of which it had been worked by rains. Bits of pottery were found on the surface over the entire top of the mound, roughly oblong, about 200 by 300 ft.

CHEROKEE MOUNDS.

On the north end of a long high terrace just north of Cherokee, west of the Little Sioux, highway No. 21 and the RR, and south of the viaduct across Mill Creek, is a procession of 13 round mounds running from the steep north slope of the terrace at the foot of which is Mill Creek, south. These mounds have been greatly reduced by cultivation. We were told that the owner of the land would not allow "relic hunters" to dig in them but years ago had excavated them himself finding nothing but skeleton^s which the relic hunters regarded as a good joke.

In the field along the north edge of this terrace, and especially around the North end of the string of mounds, much heavy material - mauls, hammer stones, rubbing stones, mullers, etc., has been picked up, and the fields to the north of the creek have been good hunting ground.

At four miles south of Cherokee, north of where road No. 31 crosses the Little Sioux, the 60-70 ft. high terrace on the East side of that stream has a width of half a mile on SW. Sec. 22, T. 91, R. 40 W.

A little East of the edge of the steep west side, about forty rods apart are what were once two large mounds now much spread out by cultivation.

Over the large area of this very level terrace considerable scattered, mostly the larger, rougher, material has been picked up.

Except pottery sherds, lens-shaped stones and notched triangular arrow-heads, none of the abundant surface artifacts found over the entire Cherokee area can with any certainty be considered Mill Creek - it might be Siouan. To be certain that any particular find is of the Mill Creek its co-type must have been found in a village site or with Mill Creek pottery.

Mounds are without doubt to be found along all the prominent bluff tops along the Little Sioux, Waterman, Mill and other tributary creeks in the Cherokee Mill Creek culture area, and less frequently on the higher terraces.

Bluff top mounds apparently seldom exceed three feet in height. Many of them, even on land that never has been under cultivation, as on the top of the high prominent bluffs as on Sec. 34, T. 94, R. 39 W, in O'Brien County, - or beside the road along the S. side of Sec. 9, T. 90, R. 41 W, in Cherokee County, do not reach a foot in height.

Although most of these mounds have been "dug into" by relic hunters, we were unable to learn of but three instances where skeletons were found - in the Patterson bluff top mounds on the SW. Sec. 23, T. 94, R. 39 W; the high terrace string on Sec. 23, T. 92, R. 4 W, one mile north of Cherokee; and the R. L. Little mound on the bluff top on SE. Sec. 33, T. 91, R. 40 W, 7 mi. south and 2 mi. west of Cherokee.

Only in the Little mound so far as we could ascertain, was pottery found and that was Mill Creek culture. In all we excavated seven small mounds in the vicinity of the mouth of the Waterman, and all were barren.

BROKEN KETTLE MOUND.

The Broken Kettle Mound, on Broken Kettle Creek, a little to the East of the center of the half mile wide flood plain of that stream, and at less than a mile from its junction with the valley of the Big Sioux, on Sec. 3, T. 90, R. 48 W, twelve miles north of Sioux City, is separated, as noted on page 144, from the nearest site of the main Cherokee area by forty miles as the crow flies, without a single intervening site.

The mound material composing this mound as shown on the sides of the pit silo in the NE part, and two pits dug by us in the NE quarter, Sept. 27 and 28; one additional in NE quarter and two in the SE, Oct. 12 and 13; and seven which together made a trench from the SE perimeter to the mound center, Nov. 14 to 23, 1934, consists of clays of different shades of black, gray, red and yellow, in places showing some stratification.

In no place was a stratum continuous for more than three to ten feet, nor does the mound present the appearance of small heaps that would be made by dumping in baskets-full without spreading.

There was some evidence of fire or refuse pits being sunk into accumulated mound material, in which bone fragments, pottery sherds - sometimes large pieces, - bone implements, and beds of ashes with bits of charcoal, were found more abundantly than elsewhere. It was however impossible to determine the location of the

sides of these pits if such they were.

Pottery sherds, clam shells and broken bones, were found in varying quantity at all levels in all parts of the mound exposed. All large bones were broken short off - not split as in the Waterville Rock Shelter. In a few places fish bones and scales were found in abundance.

There was a very noticeable absence of chipped flint, flakes or spalls. One fine triangular arrow-head notched on the side - the same type as found in the sites along Waterman Creek and the Little Sioux in Cherokee and O'Brien Counties, was found. Besides this there were less than half a dozen very inferior others.

Of other stone implements and weapons only one small celt, and two lens-shaped pieces, which the men called "door knobs" were found. Antler tines, bone awls and other used bones were common.

The people were preeminently, as in the Cherokee area, pottery makers and users of bone implements. Though the earth from seven pits that made up the trench excavated from the circumference of the mound to its center was largely sifted through half inch screens, and the material from each foot level kept separate, we were unable to discern any difference either in the structure of the mound or its inclusions, between the bottom and the higher levels - they were all of the same culture.

By far the greatest number of the abundant pottery sherds found in making the excavations, were the same as types one and two of the Mill Creek culture found in the village sites of the Cherokee area. The quantity found of the two types being in the same proportions in both localities.

Type three was also found in about the same proportional quantity in both areas. (Type five we found only in the one pit dug (pit 5), of the Hill Site as noted on page 157.

In our excavations of the Broken Kettle, we were puzzled by finding from time to time pieces from two to four inches across, absolutely flat. The matter was finally solved when we found an unornamented vessel complete except for a small piece broken out of the rim, shaped like the pans used 50 years ago before the day of cream separators, for cooling milk. Like a basin with straight flaring sides and flat bottom. This was type 4. In the same pit we found half of another as also the only celt found in the Broken Kettle mound.

In studying the Broken Kettle Mound and the village site refuse heaps of the Cherokee area, one ~~one~~ of the first questions that occurs is; why and how were they made?

Dr. Shetrone in the Mound Builders, on page 184, in commenting on the occurrence of similar accumulations in connection with the villages of the Feurt prehistoric people of Sciota County, Ohio, says: "Instead of collecting and removing the garbage, they preferred the much more laborious method, when the accumulation becomes so great as to be unbearably obnoxious, of carrying earth and burying the debris where it lies scattered about. As a result of this practice it is apparent that the level of the village would be raised at some points, as much as several feet above the original surface of the ground".

If the Broken Kettle mound with its sub-hemispherical shape is really a village site and not just a place of ceremonial feast-

this may be a sufficient explanation of its occurrence.

In Vol. IX, Page 309 of Records of the Past, is a contribution by Mr. H. C. Powers of Sioux City, following the digging a trench from the south perimeter to the center and of two pits forty feet east and west of same by Mr. A. S. Garretson with a party of helpers in Sept., 1910.

Mr. Garretson says: "No bluff soil was found in it". Really there is considerable as an examination of the smoothed sides of the pit silo showed. There just didn't happen to be any where he dug. He found "ashes and bushels of bones and broken pottery in heaps", as did we, and concludes that "these materials were brought to the mound from somewhere else".

Then he says that "the building of this mound must have required the labor for many years of large numbers of people who were settled in a village close to this work". (Where?)

"All the refuse of such a village consisting of ashes, bones and broken pottery was thrown in with the earth required to construct so large a mound as this one. The object of those who built it could not have been to dispose of this refuse, but was probably to commemorate some important event, while perhaps some one or more of their chiefs may be buried under the mound".

We are inclined to think this a much more likely explanation than Shetrone's.

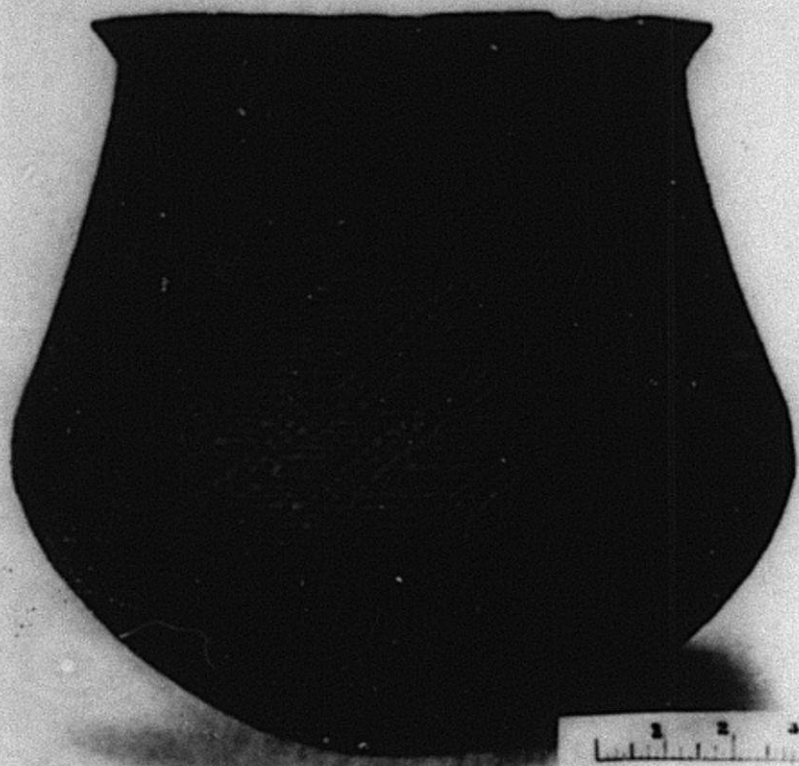
On the highest point of the bluffs a mile or thereabouts to the north, a farm boy showed us where in plowing corn he had turned up some bones. On digging there we uncovered at a depth of around one foot a deposit of a compact mass of bundled bones six inches thick over an area of roughly eight feet square. The only included artifact was half of a diorite celt. These may have been the people who built the mound but there is no evidence to prove it.

The lugs, characteristic of the Magnussen site, and found not so commonly in the others, were semicircular flat pieces of pottery attached, apparently to the rims of type 4, to facilitate handling. They had a radius of around one inch, were usually decorated, and projected upward in the same direction as the sides of the vessel, or approached the horizontal.

Quite frequently they were shaped to represent a bird or animal head three-quarters to an inch in thickness.

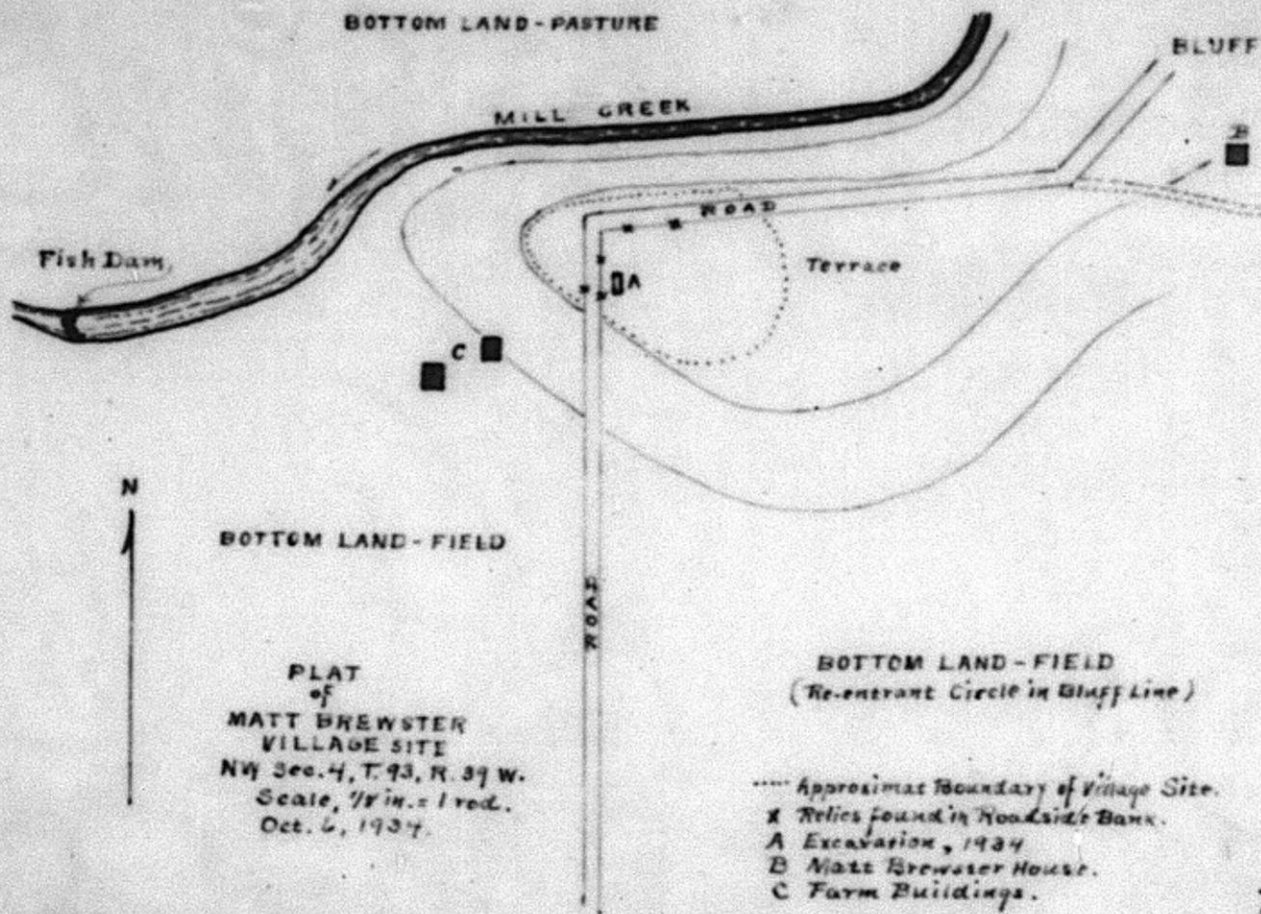
Pottery disks, roughly cut out of flat body sherds have average diameters of one and one-half inch. Their use is problematical.

Piercing implements, - awls, - are made from the leg bones of deer and crane, by cutting with a flint two parallel creases about $\frac{3}{8}$ inch apart the long way of the bone. At one end they approached each other forming a point on the bone lying between them. At the other end a short crease across the bone connected them. When these creases were cut through the piece of bone thus cut out was scraped and polished with a piece of flint or with sandstone.



JAR FROM CLIFF-HOUSE, NEW MEXICO

If figures were omitted from the decoration of this jar, the remaining closely parallel horizontal incised lines covering the entire body would resemble the decorations on Type 2 of the Mill Creek Culture pottery.



159

EXPLANATIONS.
MAP CHEROKEE AREA

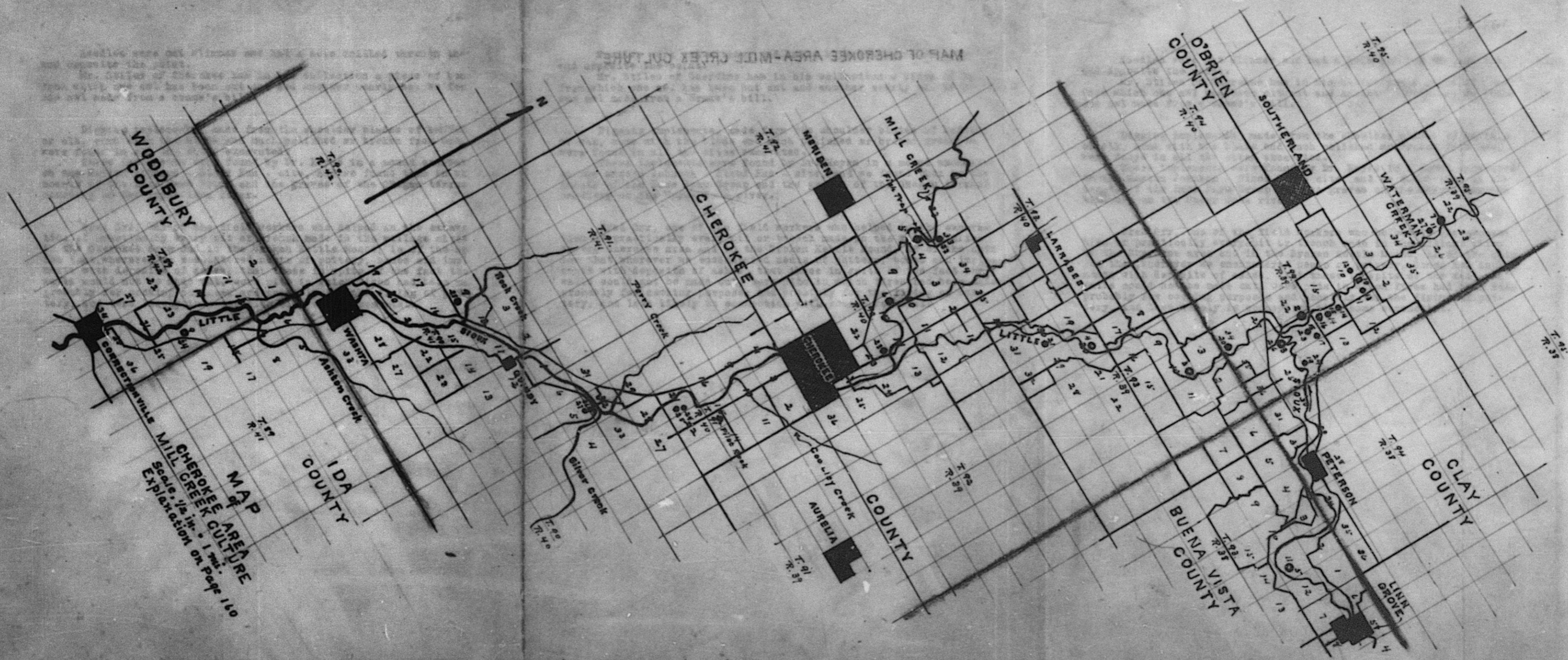
26, 9

- 1 Numbers in Red- Numbers of Sections
- 2 Red Lines - Section Lines
- 3 Black Lines - Roads
- 4 Blue Lines - Streams
- 5 Matt Brewster Village Site
- 6 Braunschweig Village Site
- 7 Magnussen Village Site
- 8 Akers Village Site
- 9 Bultman Village Site
- 10 Phipps Village Site
- 11 Crooks Village Site
- 12 Waterman Village Site
- 13 Washta Village Site
- 10 Witrock Enclosed Area - Village Site
- 11 Crooks Mound Group
- 12 -----Mound
- 13 Witrock Mound Group
- 14 Brady Mound Group
- 15 Lewis Martin Mound Group
- 16 Webb Mound Group
- 17 Patterson Mound Group #1
- 18 Patterson Mound Group #2
- 19 Hill Mound Group
- 20 -----Mound Group
- 21 Johnson Mound Group
- 22 ~~Matt Brewster~~ -----Mound Group
- 23 Cherokee Mound Group
- 24 ~~Pilot Rock~~ -----Mound # 1
- 25 ~~Pilot Rock~~ -----Mound # 2
- 26 Little Mound #1
- 27 Little Mound #2
- 28 Quinby Mound Group

MAP OF CHEROKEE AREA-MILL CREEK CULTURE



MAP OF CHEROKEE AREA-MIDDLE CREEK CULTURE



MAP OF
CHEROKEE AREA
MIDDLE CREEK CULTURE
Scale: 1/2 in. = 1 mi.
Explanation on page 160

WOODBURY COUNTY
IDA COUNTY
BUENA VISTA COUNTY
CLAY COUNTY
O'BRIEN COUNTY
SOUTHERLAND COUNTY

WOODBURY COUNTY

IDA COUNTY

CHEROKEE

CLAY COUNTY

BUENA VISTA COUNTY

CLAY COUNTY

O'BRIEN COUNTY

SOUTHERLAND

WATERMAN CREEK

LINN GROVE

MERIDEN

LARNABEE

CHEROKEE

AURELIA

PETERSON

LITTLE

LITTLE

CONNECTAVILLE

WASHITA

ASHLON CREEK

GILDER CREEK

PERRY CREEK

COO-LIBY CREEK

MILL CREEK

PETERSON

WATERMAN CREEK

WOODBURY

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

WASHITA

ASHLON CREEK

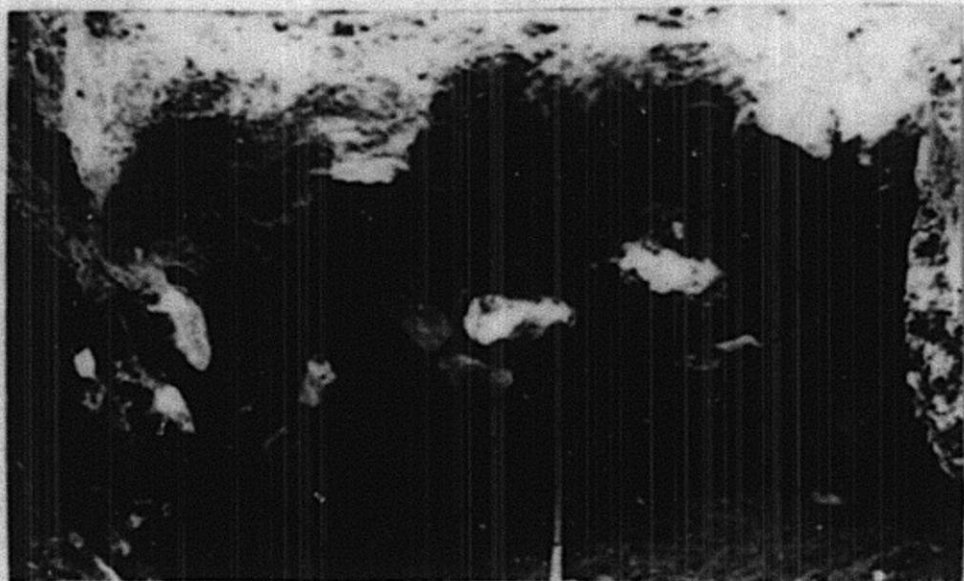
Needles were cut slimmer and had a hole drilled through the end opposite the point.

Mr. Stiles of Cherokee has in his collection a piece of bone from which one awl has been cut out and another nearly so. We found one awl made from a crane's bill.

Digging implements, made from the shoulder blades of buffalo or elk, some with the blade end much polished or broken from use, were found in all the sites excavated.

These implements were found by Dr. Keyes in a mound excavated on the Martin Johnson - Blood Run - site, and we found them in the mounds of the Lane Farm Group and the graves of the Oregon terrace cemetery on the Upper Iowa river.

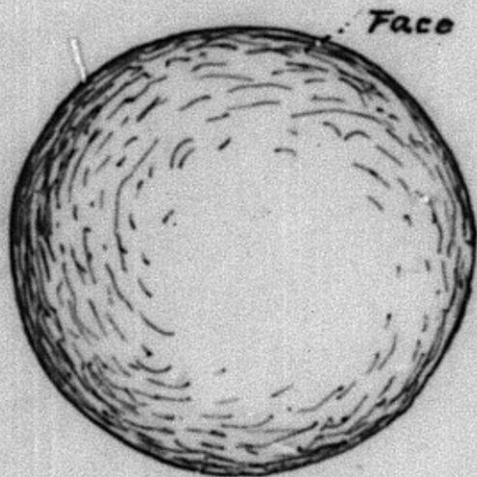
Fred Orr, one of the field workers who helped in the excavation of practically every pit or trench made in the village sites in the Cherokee area and in the Broken Kettle Mound, is of the opinion that, wherever we encountered nests of pottery, bones and implements with deposits of ashes, that these in spite of the fact the walls could not be made out, were pits in which fires had been made probably for cooking purposes and possibly for the firing of pottery, and less likely in connection with some ceremonial.



North side and bottom of pit in obscure mound on Hill Terrace in which Type 5 Mill Creek Culture Pottery was found. See pages 151 and 152.



West slope of Broken Kettle Mound. Cow Barn on South Slope. West end of Cow Barn shown, Center of Mound at NE corner of barn. Water Tank at top of steep N. slope down to creek



Face

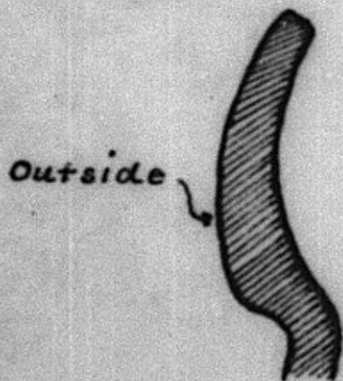


Edge

"Door Knob"
(Actual Size)



Typical Mill Creek
Arrow head.



Outside



Outside

Section of Rims of Mill Creek Pottery
(Actual Size)