

MINNESOTA HISTORY

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RECENT DISCOVERIES IN MINNESOTA PREHISTORY¹

In 1919 the late Professor William H. Holmes of the United States National Museum uttered his final word about glacial-age man in Minnesota, and since that year no further data have been presented regarding the man-worked quartz artifacts which Miss Franc E. Babbitt discovered in 1870 at Little Falls. Miss Babbitt in the eighties published a paper on the subject, entitled "Vestiges of Glacial Man in Minnesota."² Professor Holmes in his final conclusion of the Little Falls contention said: "No other view seems reasonable than that, while the inclosed artifacts correspond in age with the superficial terrace deposits, the period to which these pertain is quite imperfectly made out." He did not believe the quartz fragments were of glacial age.³

This conclusion was not shared by three well-known Minnesotans, all of whom died believing man had been resident in America during glacial time. I refer to Dr. Newton H. Winchell, Dr. Warren Upham, and Mr. J. V. Brower. Time does not permit details regarding the substance of the beliefs of these three men. Their writings on the subject are readily available, however. So I pass on to the

¹ Presented on January 21, 1935, as the annual address of the eighty-sixth annual meeting of the Minnesota Historical Society. *Ed.*

² *American Naturalist*, 18: 594-605, 697-708 (Philadelphia, 1884).

³ W. H. Holmes, *Handbook of Aboriginal American Antiquities*, 88-99 (Bureau of American Ethnology, *Bulletins*, no. 60 — Washington, 1919).

subject on which your superintendent has invited me to speak, that of "progress in the field of Minnesota archaeology, with some attention to possibilities that are before us," limiting my discussion to discoveries in Minnesota prehistory that have been made since 1930.

There are many reasons why the region of the upper lakes, centering in Minnesota, is important to American archaeology. First, this region has definiteness and distinction largely because of the marks the glaciers have left upon it. These marks bid fair to reveal relatively accurate and clear dating of man in glacial time in America.

Second, lying within the upper lakes archaeological region is the "driftless area," once an unglaciated island in the midst of deep-lying glaciers, where glacial-age man at all times could have survived in sufficient numbers for the spread of future population when a more genial climate offered an expanding geographic area. The driftless area is most extensive in southwestern Wisconsin, but it covers also the southeastern part of Minnesota, the northeastern corner of Iowa, and the northwestern section of Illinois. When one looks at the driftless area as it was during the last glacial period (that of the Wisconsin glacier) he notes that an even larger land surface than formerly was then available for human habitation. The importance of that area during the lesser periods of advance and retreat of the Wisconsin ice sheet has not been adequately evaluated.

Third, the upper lakes region is the only one in the western hemisphere that has produced an accredited glacial-age man, namely, the "Minnesota man" of glacial time — about twenty thousand years ago and preceding the origin of glacial Lake Agassiz.⁴

Fourth, the region has produced the only human skele-

⁴Albert Ernest Jenks, "Pleistocene Man in Minnesota," in *Science*, 75: 607 (June 10, 1932), and "Minnesota Pleistocene Homo: An Interim Communication," in National Academy of Science, *Proceedings*, 19: 1-6 (January, 1933).

ton associated with the oldest classified flint artifacts of America, the "Browns Valley man" with Yuma-Folsom flints. This skeleton and the artifacts from a man-made burial at the outlet of glacial Lake Agassiz probably date close to twelve thousand years ago.⁵

Fifth, the region has revealed the burials of a people with ivory culture. Ivory artifacts are otherwise unreported in the western hemisphere, except in the Eskimo area and the area of Terra del Fuego. The burials with ivory artifacts are on both the eastern and western Campbell beaches of glacial Lake Agassiz.⁶

Sixth, Minnesota contains abundant skeletons and archaic culture of a people, probably Siouan, who lived here before the great Algonkin linguistic stock worked its way westward into the upper lakes region. Distinct types of burials, abundant evidence of cannibalism, and beautiful pottery are features of that archaic upper lakes culture.

Seventh, the region, even within Minnesota alone, has on record more than eight thousand prehistoric earthworks; this is at least two thousand more than have been reported by any other state.

The region to be briefly considered is larger than the state of Minnesota, all its boundaries lying outside this state. The northern boundary is in Canada beyond the border lakes. The eastern boundary toward the north is the area of extinct glacial Lake Duluth and its drainage, the St. Croix River; and toward the south the boundary is the eastern limit of the driftless area. The southern boundary toward the east is coextensive with the limit of the driftless area. The western boundary toward the north is the area

⁵Albert Ernest Jenks, "Discovery of an Ancient Minnesota Maker of Yuma and Folsom Flints," in *Science*, 90:205 (August 31, 1934); *Science Service News Letter*, August 30, 1934; "New Knowledge about Ancient Americans," in *Literary Digest*, 118:18 (October 27, 1934).

⁶Albert Ernest Jenks, "The Problem of the Culture from the Arvilla Gravel Pit," in *American Anthropologist*, 34:455-466 (July-September, 1932).

of extinct glacial Lake Agassiz and its drainage; and toward the south it is the James River drainage in South Dakota. One may say that this region of upper lakes archaeology is not coextensive with any now known archaeological culture areas, though within it lie parts of three such areas, as now designated by several archaeologists. They are the upper Mississippi, the Lake Michigan, and the Hopewell culture areas. Doubtless there are other archaeological culture areas within the larger region, as further data in this paper may suggest.

This society is composed of persons having special interest in history. I presume that even your most enthusiastic research members will not expect to learn of written historical records more than ten or twelve thousand years old, far older than any now known. Even within historic time, important records have a way of disappearing. Charles Kingsley has been credited with the following stanza:

So fleet the works of men
Back to their earth again;
Ancient and holy things
Fade like a dream.

But Kingsley overlooked the archaeologist when he wrote that stanza. Edgar Lee Hewett of our own Southwest has paraphrased Kingsley's lines to point the truth that all the works of men have not faded like a dream. Hewett's stanzas are:

So *rest* the works of men
Safe in their earth again;
Ancient and holy things
Slumber and dream.

So *live* the works of men
Back from their earth again;
Youthful and lovely things
Wake from their dreams.⁷

⁷ Edgar Lee Hewett, *Ancient Life in the American Southwest*, 375 (Indianapolis, 1930).

It is the chief purpose of this paper to attempt to show that some of the works of ancient men have rested safely in their earth for several hundred years, even for several thousand, and that some of them now live again "youthful and lovely things" because of the humble shovel, trowel, whisk broom, and blowing breath of the archaeologist. I may add that the sure foundation of the history of a region is accurate knowledge of its prehistory.

MINNESOTA MAN

I begin with the find which is oldest in prehistoric time and consequently the most important so far in our region; it is, further, the most important archaeological find in the western hemisphere at this time. I give the Minnesota find this distinction because so far as it has been published it is accepted, and because it is the only find of glacial-age man now accepted for the western hemisphere.

On June 16, 1931, a maintenance road crew found a human skeleton in glacial lake silt nine feet and nine inches below the present land surface near Pelican Rapids, Otter Tail County. Documentation of that silt had been published by Dr. Frank Leverett, the foremost glacialist in America, seventeen years before the skeleton was found. Other documentation fixing the depth of the silt below the surface had been made and filed away in the state archives three years before the find. Still further documentation of a startlingly descriptive nature occurred in a daily dated notebook kept by the road boss at the site on the day of the find. Geologists agree in dating the skeleton in the silt as in glacial time about twenty thousand years ago. The skeleton of "Minnesota man" confirms in its primitiveness the geological evidence that it is of ancient age.

The people of whom the Minnesota man becomes the type specimen were very much more primitive Mongoloids than are the Mongoloid American Indian, American Eskimo,

Asian Chinese, Japanese, and Mongols proper, or any other group having Mongoloid blood which has wandered afield from the probable Asian nest of the ancient primary Mongoloid race. At the time our specimen lived the Mongoloids were much more prognathous, or muzzle-faced, than any now known. The skull also in the occipital region is more primitive than any other specimen of *Homo sapiens* yet published.

But the most outstanding primitive feature of Minnesota man is the teeth. Having in mind that the great size of the lower molars is accepted as the best proof of primitiveness in early man, I present the comparative measurements of the Minnesota man's lower molars as indisputable evidence of the primitive character of the specimen. Each pair of these lower molars — that is, both first molars, then both second molars, and then both third molars — is compared with the lower molars of all other prehistoric mankind, as published by Martin.⁸ The Minnesota man's first molars in mesiodistal diameter (front to back or length measure) are the largest known. The same first molars of Minnesota man in labiolingual diameter (side to side or breadth measure) are the largest known. In crown-module measure (the sum of length and breadth divided by two) the Minnesota man's first molars also are the largest known. In other words, there are no other humanoid first molars known which are as large as those of Minnesota man. In mesiodistal diameter the second molars of five other prehistoric men are larger than those of the Minnesota man, but for the labiolingual diameter the second molars of Minnesota man are the largest known. In crown-module measure the second molars of our specimen are the largest, except for those of the Neanderthal youth of Le Moustier, which are of equal size. In mesiodistal diameter the third molars of Minnesota man are exceeded only by the youth of

⁸ Rudolf Martin, *Lehrbuch der Anthropologie* (second edition — Jena, 1928).

Le Moustier. In labiolingual diameter the Minnesota third molars are equaled by Le Moustier and exceeded only by the Neanderthal specimen known as Spy number 2. The crown-module measure is exceeded only by Le Moustier. Again, however, the crown-module averages of all six lower molars of Minnesota man, that is, the total crown measurements of all the molars, exceed those of all other known prehistoric men.

It is to be borne in mind that Minnesota man is a *Homo sapiens*, while some of the other prehistoric men are of earlier species and still others are of earlier genera. But the amazing fact remains that the Minnesota lower molars are in size extremely primitive. They will set a new standard for comparative measurements of *Homo sapiens*.⁹

BROWNS VALLEY MAN

We cannot claim glacial age for the Browns Valley man. It has, however, unique distinction because it is the type specimen of American Indian who made the oldest types of flint artifacts now classified in America. The age of the Browns Valley man is probably somewhat less than twelve thousand years.

As was noted in *Science* for August 31, 1934, I had the good fortune on July 28, 1934, to confirm a private report that a human skeleton in association with beautiful flints had been rescued by Mr. William H. Jensen of Browns Valley from a gravel-pit burial on the western border of Minnesota, in Traverse County. In our confirmation of the report, we found seventeen additional fragments of the skeleton, some of which contact with parts earlier rescued, and a sixth flint artifact, which was of Yuma-Folsom type, as were the five others obtained by Mr. Jensen.

While Browns Valley man is not so primitive as Minnesota man, it is more primitive than more recent Indians

⁹The complete study of Minnesota man will be published late in the present year.

whose skeletons we have obtained from mound burials of the same area. In its long head and in its narrow nose it more closely resembles the marginal Indians of America, the Greenland Eskimo, and the Asiatic Mongoloid Chukchi than it does the mound-buried and living Indians of the Browns Valley area, who have broader heads and broader noses. The skull is also somewhat primitive in its strong supraorbital ridges, associated with the deep depression above the nose, and in its long frontal segment of the skull arch. The peculiar feature seen in the extremely wide lower jaw, associated with the great width of the floor of the skull, also probably should be considered as a primitive feature. I speak of the wide lower jaw as a "peculiar feature." When it is noted that the Browns Valley jaw is wider than the gigantic jaw of Heidelberg man, though it is not otherwise comparable in primitiveness, the reason for my statement will be clear. The Heidelberg is the largest jaw known among paleolithic men.

MANDIBULAR MEASUREMENTS

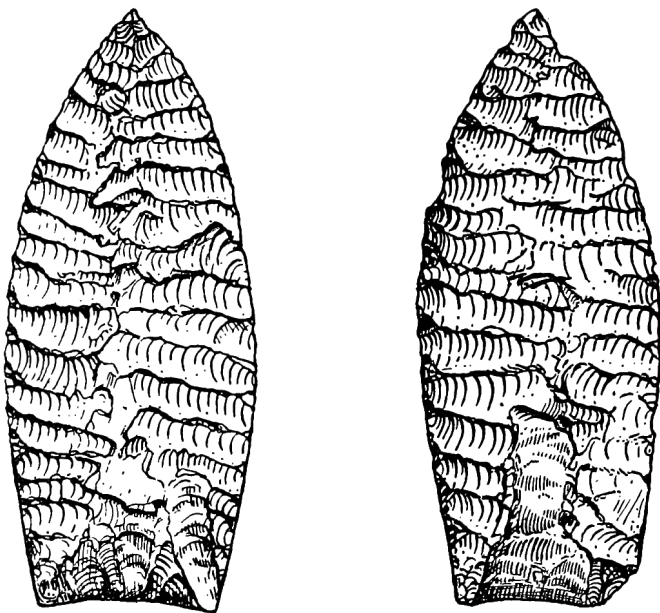
| SPECIMEN | BICONDYLAR WIDTH | BIGONIAL WIDTH |
|-------------------|------------------|----------------|
| Heidelberg man | 131 mm. | 110 mm. |
| Browns Valley man | 135 mm. | 118 mm. |

These morphological features and others, which cannot here be presented, clearly indicate that Browns Valley man was an Indian, but one who still retained characteristics of earlier ancestral types — features which succeeding Indians of the extensive land-locked heart of America have more largely lost. Another unusual feature of the Browns Valley skull should be noted, though no claim is made that it is a primitive feature. It is the Cro-Magnon-like asymmetrical combination of a long skull with a broad and short face. All the above-mentioned measurable features combine to distinguish the skull of Browns Valley man from any other now recorded.

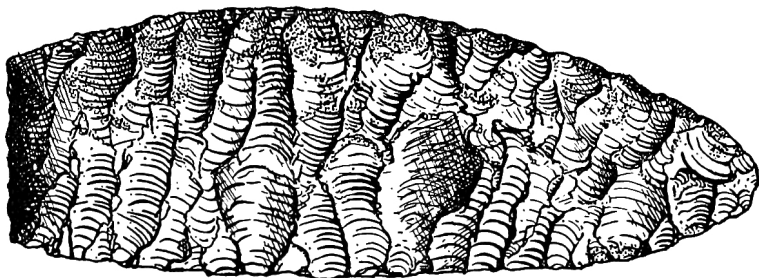
Five flint artifacts were rescued by Mr. Jensen when he

obtained the fragmentary skeleton. A sixth one was found by us when our excavation confirmed the finding of earlier date. I shall here describe three of the flints. The first one found was a projectile point picked up October 9, 1933, by Mr. William H. Nichols in gravel from the Browns Valley village gravel pit after it had been dumped on the driveway at the Jensen grain elevator. Its maximum length is 80.0 mm., maximum breadth 33.5 mm., and maximum thickness 6.4 mm. The last flint found was a projectile point exposed and picked up on July 28, 1934, by one of my students, Mr. Nels Sorensen, in the loose gravel at the base of the gravel-pit bank, which had fallen from the burial pit when dug in October. Its maximum length is 79.6 mm., maximum breadth 32.7 mm., and maximum thickness 6.5 mm. In cross section both artifacts are of thin lense form. Both are thicker near the base than near the point. Both are broadest near the middle, halfway between the base and the point. For a distance of about 20.0 mm. from the base of each artifact, both edges are smooth to the touch. From that place onward to the point the edges are finely serrated and very sharp. The base of each artifact is concave for a depth of about 1.5 mm. A knife was the second flint found. It was found *in situ* in the lowest part of the burial pit by Mr. Jensen on October 9, 1933. It has a maximum length of 118.2 mm., a maximum breadth of 43.4 mm., and a maximum thickness of 9.7 mm. The edges are everywhere sinuous and sharp. The base is straight, not concave.

Both faces of all three artifacts reveal the typical Yuma type of flaking, that is, the flakes removed are long and broad. On both faces of all three artifacts the chipping has resulted in a diagonal design, as from the lower right to the upper left. The projectile points are of Folsom outline in every detail, even to the smooth edges near the base. Though neither has the excavated, or grooved, faces characteristic of the true Folsom type, yet each has been some-



PROJECTILE POINTS FROM THE BROWNS VALLEY GRAVEL PIT
[Actual size]



KNIFE FOUND AT BROWNS VALLEY
[Reduced about one-fifth]

what thinned at the base by the removal of one or more chips from the face of the blade—that from the second being 25.7 mm. long.¹⁰ I believe the evidence shows that these artifacts are transitional in type from the probably older ancient Yuma type to the probably more recent ancient Folsom type.

All the artifacts are of mineralized wood. They are brown in color. When similar flint was first found in our Minnesota diggings we named it “dark amber color.” The name is still applicable, or it may be called simply brown; there are various shades. West of the Missouri River in North Dakota, in September, 1934, we dug out a flint quarry pit, one of more than four hundred where the same mineralized wood was once quarried by Indians. It may well be the source of the Browns Valley artifact material.

PREHISTORIC IVORY HUNTERS

In 1908 Mr. E. H. Kennedy, then a road boss for the Great Northern Railroad, was in charge of an extensive job of excavation at a gravel pit near Arvilla, North Dakota. It was his task to take gravel from the pit to ballast the roadbed from Cass Lake, Minnesota, to Minot, North Dakota. During the removal of the gravel by steam shovel large numbers of human burials were destroyed. A few artifacts thus exposed came into the hands of Mr. Kennedy, who carefully conserved them for some twenty-three years. These he turned over to me in March, 1931, together with his story of their finding. Among them was a tooth-edged knife of ivory.

Ivory artifacts in the heart of North America had never been reported. In fact, the only artifacts of ivory that had been reported in the western hemisphere were all marginal finds, as in the Eskimo area and in the area of Terra

¹⁰ F. H. H. Roberts, Jr., “True Folsom Points,” in *Literary Digest*, 118: 18 (July 28, 1934).

del Fuego at the tip of South America. Clearly the ivory knife set an important archaeological problem. The story of the ivory find was published in 1932.¹¹ It brought no additional information from private collectors or museums. Consequently, the solution of the problem was sought in the field. We went to North Dakota twice to visit the exhausted Arvilla gravel pit. It was determined to have been a part of the Campbell beach of glacial Lake Agassiz. Permission to excavate on the near-by farm of Mr. Archibald Vondersmith was obtained. During the summer of 1933, with a group of six students, we had the good fortune to dig three low mounds on the Vondersmith farm which, though absolutely sterile, lured us on to subsurface excavation because of the description of the type of deep graves in the Arvilla gravel pit. In these subsurface excavations we were rewarded by finding in a deep burial pit three ivory artifacts with a human skeleton. One is a tubular smoking pipe more than five inches long, two inches in diameter at the bowl and tapering to a decent mouthpiece at the other end. The other two ivory artifacts are carved to look like the tusks or canine teeth of a bear. Although they are much larger than the canines of the black bear of Minnesota, they are so well done that at first we had no suspicion that they were artificial.

Thus we had substantial evidence to support Mr. Kennedy's claim of ivory artifacts in deep pit burials in what geological surveys show to be Campbell beach sand and gravel of glacial Lake Agassiz. Evidently we were dealing with men who predated any living tribes of the area. The culture might be, and suggestively was, relatively old. Both the known sets of burial ivory were found on the west Campbell beach. Could it be that those people who made utilitarian and aesthetic artifacts of ivory were as old as extinct glacial Lake Agassiz when it extended from its western Campbell beach in North Dakota to its eastern

¹¹ Jenks, in *American Anthropologist*, 34: 455-466.

Campbell beach in Minnesota? That question raised the problem of whether ivory in deep burial pits was to be found in Minnesota.

In the summer of 1934, with a party of six students, we started to work on that problem in Traverse County. To make clear our work, I must note that the southern tip of glacial Lake Agassiz, from which it was drained by the forerunner of the Minnesota River, was always confined, both to the east and to the west, by high bluffs, which still impound the fast vanishing waters of Lake Traverse. Even when Lake Agassiz was at its greatest expanse—when it laid down its Herman beaches, both to the east and to the west—it was confined near its outlet within the present high bluffs just mentioned. Thus, if the shores of Agassiz were inhabited, those high bluffs were available throughout the life of the lake.

We obtained permission to dig certain mounds on the eastern high bluff. In one of them, where it had been much disturbed by "pot-hunters," we found fragmentary ivory arm bands. We also found the undisturbed buried skeleton of a youth of about fourteen years. Around each lower arm were two arm bands; they were made of bone or antler in excellent imitation of ivory. We then had ivory burial artifacts on the Minnesota or eastern shore of glacial Lake Agassiz, but they were not in deep burial pits.

We moved northward into Polk County, and there dug three mounds on the Campbell beach. All three were typical of the culture we sought—all were sterile, and beneath all we found deep pits with multiple burials. In one we found the burial of a small child with imitation ivory beads which had evidently been around its neck. We thus have deep pit burials beneath sterile mounds on the eastern Campbell beach of glacial Lake Agassiz as well as on the western beach; and we also have burial ivory on the eastern shore as well as the western shore of the lake. In consequence, we are of the opinion that the ivory users lived on

both the western and the eastern shores of glacial Lake Agassiz while that lake was in its Campbell beach stage, some eight to nine thousand years ago. Still, I wish specifically to state that we have not as yet completely solved the ivory problem. We have in mind future field researches which it is believed will point toward an answer more conclusive than the present opinion.

Where did those early people get the ivory? We do not know, but the ivory we found is elephant ivory and not walrus ivory. The intimate problem about the ivory is whether there is now available an expert who can determine whether artifacts of mammoth ivory were worked as fossil or as living ivory. I believe, however, that some of the many skeletons we obtained in excavating the graves of ivory users are those of men who not only saw the mammoth but who successfully hunted it, probably for flesh food as well as for ivory, during the Campbell stages of glacial Lake Agassiz. The human skeletons have not yet been studied.

Thus, we have visualized an early and quite unfamiliar pageantry of culture during a time when the surface of the upper lakes region was very different from what it is now.

MINNESOTA ARCHAIC POTTERY CULTURE

In August, 1932, with a student party of six, we dug a village site on the farm of William Schwacker on the southern shore of Black Duck Lake in Beltrami County. We anticipated standard Siouan culture. We found, however, among other things, pottery of the type which in Wisconsin and New York state is being assigned to Alkonkin-speaking peoples, and which Holmes, it now appears with more propriety, had earlier called "archaic northern." So far we have named the three bowls found *in situ* each on its fireplace and the thousands of potsherds dug from this site simply "Black Duck pottery," a working name for our local use. Even with data of archaic pottery from the other

Minnesota sites, we are not yet ready to adopt any name for this culture more definitive than "Mississippi" with its basic pottery culture.

From many Minnesota sites we have similar potsherds, but those from Black Duck show the best workmanship; among them are many with very beautiful impression designs. It is our opinion that the people at Black Duck were Siouan and not Algonkin, though the skeletal material has not yet been studied. The human bones are badly broken, for the site was plowed over and dug into by the owner of the land. Reconstruction now going on will restore two or three crania for measurement. The Black Duck data present not only a local problem, but a problem with ramifications extending eastward into Wisconsin and New York. An aspect of it is whether the archaeologist may not sometimes err in thinking of types of material culture as being too closely linked with types of language. For instance, may not distinctly Algonkin types of pottery sometimes have been made by Siouan-speaking peoples?

In further pursuit of Minnesota pottery culture, in the summer of 1933 with a party of five students we dug our most interesting mound up to that date. We have listed it as "Laurel mound number four." It was on the farm of Mr. Fred Smith at Laurel in Koochiching County. The mound was only two rods from the southern bank of the Rainy River, which forms part of the international boundary with its northern bank in Canada. It is a peripheral mound for the United States. It was about fifty feet in diameter and four and one-half feet high and was extremely rich in human burials. On five succeeding levels within the mound large numbers of typical Siouan bundle burials had been made. On three of the five levels there were also primary burials—skeletons with their artifacts—including complete, though broken, pots. Among those pots were some most distinctly of the so-called Algonkin type with tapering or conoidal bottoms.

Early Siouan tribes in the Minnesota forests had their primary placement of the dead on scaffoldings of poles resting on limbs of trees some feet above the earth, away from dogs and wolves. Eventually such scaffolding became insecure, letting the bones fall to the ground. The bones were in time gathered up and given secondary bundle burials in mounds. Secondary bundle burials consist, in most cases, of the skull and the long bones of both legs and arms. All bones in each bundle are placed close together. In the Laurel mound the bundles were not isolated, but many, even as many as twenty, lay close together on a relatively horizontal plane, as on a long broad shelf. The Laurel mound clearly had been built up in five successive layers, each with its complement of many bundles of bones. The bundles had been spread out on the then surface of the mound and covered by a layer of dirt brought in small baskets or earthen pots. Many separate loads were seen along the vertically cut faces of the mound as we dug. The small oval piles of sand, clay, black forest loam, or grayish river silt were clearly outlined, lying where they were dumped adjoining similar loads of other colors or textures. There were more than a hundred bundle burials in the mound. Now and then we found stone implements and potsherds in the mound dirt, which had been unwittingly brought in with the load or had been lost by some laborer as she worked on the mound.

Fortunately, as has been noted, among the bundle burials we found a few primary burials, with skeletons or parts of skeletons. One was the burial of a woman. The entire body in flexed compact position had been buried in the mound with a complete, though broken, pot, several large clam shells, half a dozen beaver teeth, two crude but useful stone knives, one end scraper of stone used for dressing green skins, and two flat spatulate bone implements which also probably were used in skin dressing. This was quite a complete set of the tools of a woman for her task of skinning,

dressing, tanning, and cutting hides. Another primary burial was that of a man whose entire trunk bones, hands, feet, and kneecaps were present. The head and long bones of both legs and arms, however, were absent. In the peculiar burial of this man one sees loyalty to the ideal of secondary burial of long bones and skull, but also loyalty to the ideal of equipping the spirit of the dead with useful personal things. There were with this skeleton a complete but broken pot, several clam shells, four beaver teeth, a stone tubular smoking pipe, and a beautiful, small arrowhead of banded agate. Here was all the imperishable equipment of an Indian man in a hunting stage of culture. In another part of the mound was a pot filled with powdered yellow and red ochre in which was a businesslike flint arrowhead and an excellent stone tubular smoking pipe. No bones were near enough to the cache to be considered as buried with it. It may have been a memorial to a warrior who never returned.

On the old forest floor, beneath and lower than any mound dirt, were fire hearths and a few stone implements and potsherds. Clearly, there had been a village on the site before the mound was built. Beneath the ancient habitation floor, we found a bundle burial containing parts of two different skeletons. Thus we know that bundle burial was practiced before the mound was built. We also know that ninety-five per cent of the burials in the mound were of the bundle type. But the ideal of primary burial existed from first to last during the use of the burial mound, since a partial primary burial was found in the bottom layer of burials, another in the second, and another in the fifth, and two complete primary burials were in the fourth layer. Two "memorial" caches without bones were found in the fifth or top layer.

Laurel mound is believed to be at least five hundred years old. The skeletal material obtained from it is most abundant and affords the largest amount for the study of can-

nibalism known from any single prehistoric Minnesota mound. But the most important find from the mound is the four complete pottery bowls, which are extremely rare from Minnesota mounds. All the material recovered at Laurel will have significance and importance in American archaeology.

I am fully aware that the position here taken regarding the probable Siouan makers of Minnesota archaic culture, as briefly presented from finds at Black Duck and Laurel, may be questioned. Consequently, it seems wise at this point to mention the fact that in the summer of 1933 we dug in a habitation site of pure Siouan culture near the southwest corner of Mille Lacs. That site is documented by some of the earliest French explorers within what is now our state. According to those explorers the largest known Siouan community within the borders of present Minnesota consisted of three large villages and several smaller temporary ones. All were situated on or close to Mille Lacs's outlet, which is now called Rum River. It was the "Spirit" River of the Indians, but rum seems to have been the chief spirit with which our early Minnesotans were intimate. These Mille Lacs villages were completely destroyed by the Algonkin Chippewa during a three-day massacre about 1745. The badly shattered Sioux never reoccupied any of these habitation sites. One of the old villages has continued to be occupied by the Chippewa conquerors and their descendants; it is the largest Chippewa village on Mille Lacs. Another has long been a Chippewa burial site. Others have never been disturbed, unless by temporary rice-gathering Chippewa.

Our reconnaissance of old Sioux settlements close to the southwest shore of Mille Lacs resulted in our excavation of subsurface habitation litter at three separate sites. One site was dug much more extensively than the other two. It is believed to be the large prehistoric settlement of Izatys, where Father Hennepin is said to have been taken as a pris-

oner in 1680. This site revealed only homogeneous cultural material and is thus believed to be solely Siouan. We found recent Chippewa cultural evidence at both the other sites.

Our small excavation of the Izatys site, in the forest at the edge of a cornfield, brought us many typical potsherds; a number of chipped and some pecked stone artifacts, such as knives, scrapers, and arrowheads; and a few fire hearths. There was also the usual amount of broken animal and bird bones. All things found were typical habitation-site refuse. Most of the finds were from the top twelve inches of the ground, so the habitation layer was not deep. So far as the surface materials found at Izatys bring evidence, it seems that no site dug by us was occupied longer than a hundred years or four or five generations. Sections of packed dirt floors were found, but no floor was complete so that its size or form could be determined. None of the potsherds are such that exact forms of vessels can be determined for reconstruction, but the types of pottery paste, tempering, thickness and general size of vessels, types of rims, and types of decoration are all determinable from the sherds abundantly rescued. Such pottery evidence is good, dependable, and quite sufficient for study and comparison.

We thus have from an historically documented Sioux village abundant pottery of the same type as our Black Duck pottery. Consequently we must assign Minnesota's archaic culture to the Siouan peoples until it is proved to be the work of another people.

FUTURE ARCHAEOLOGICAL POSSIBILITIES

I wish to note a most gratifying condition of alert public interest in archaeological matters; for instance, materials from a bone layer beneath or deep in marl recently came to my laboratory because one family on a farm located near the spot where they were found was intelligent and interested enough to think that the University of Minnesota

would desire to know of the materials. It is gratifying to see that an educated public opinion is abroad in the upper lakes archaeological region, so that it is no unusual thing for the university to receive letters reporting finds of artifacts, human bones, animal bones, and suspicious looking fragments of wood which have been found by persons under, to them, unusual conditions. Letters regarding such finds come to us not only from Minnesota, but from Canada, Wisconsin, North and South Dakota, Montana, Colorado, New Mexico, the state of Washington, Ohio, Vermont, and other states where individuals have an awakened interest in ancient America.

When I remind you that in 1930 not one of the five finds presented in this paper had been discovered and that three of them came from everyday industrial life, am I oversanguine, do you think, when I say that there must be other important finds within our upper lakes region waiting for the scientific technique of the archaeologist? All of us who have well in hand the data now known and who project into the future their lines of reasonable development are amazed at the apparent assured richness of our region. But this, I take it, is not the place to list a score of projects that seem to hold more than fair promise for archaeological success in the field. Such a list would be quite meaningless without maps, plats, and detailed descriptions. It is a task to be worked over with time and place for discussion. Such data, however, are available for those especially interested and equipped.

I may add that the future archaeological possibilities of which I was asked to speak depend mostly on financial resources. All the projects presented this evening fortunately have had such financial support.¹² All future work, if there

¹² The Minnesota field work described above has been financed by the University of Minnesota and the following citizens of Minneapolis: Messrs. James Ford Bell, George D. Dayton, G. Nelson Dayton, Frank T. Heffelfinger, and Mrs. C. C. Bovey.

is to be such, must also be adequately financed. So I come back to the statement that future archaeological possibilities in the important upper lakes region depend mostly on financial resources. The region, I can assure you, will provide the sites. The real problem, almost the sole problem, is who will provide the money that digs.

I wish to add a few suggestions of conservation possibilities for the future. Arizona, New Mexico, and Ohio all consider their prehistoric sites as valuable assets to be conserved. They are assets for financial gain to their citizens and also for inestimable gains in recreation and in knowledge. In Minnesota alone, there are more earthworks than in any other state. Those most strategically located for accessibility should become the subjects of state conservation. Others, even though less accessible, if of great or unique value to science, should be similarly conserved. So, in closing, I propose the following three steps toward such conservation: first, the completion of a survey of the prehistoric sites of Minnesota, following, as far as possible, the work of the late T. H. Lewis as financed privately some fifty years ago by the late Alfred J. Hill; second, the addition of data regarding all sites now identifiable, and a field check to bring knowledge of the present status of all such sites up to date; and third, the publication of all such data in form, say, such as was recently used by the state of Michigan. Thereafter a permanent and sane active program of state conservation should be inaugurated.

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