Vol. 8 January to March, 1909 No. 1

THE WISCONSIN ARCHEOLOGIST

THE BIRD-STONE CEREMONIALS OF WISCONSIN

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY

DEMOCRAT PRINTING CO., MADISON, STATE PRINTER

Vol. 8 January to March, 1909 No. 1

THE WISCONSIN ARCHEOLOGIST

THE BIRD-STONE CEREMONIALS OF WISCONSIN

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY
MILWAUKEE

Wisconsin Archeological Society

MILWAUKEE, WIS.

Incorporated March 23, 1903, for the purpose of advancing the study and preservation of Wisconsin antiquities.

OFFICERS

PRESIDENT

OTTO J. HABHEGGER.....Milwaukee

VICE-PRESIDENTS

WILLIAM H. ELLSWORTH.....Milwaukee

A. B. STOUT.....Madison

DR. GEORGE L. COLLIE.....Beloit

REV. LEOPOLD E. DREXEL.....St. Francis

GEORGE A. WEST.....Milwaukee

DIRECTORS

JOS. RINGEISEN, JR.....Milwaukee

ARTHUR WENZ .....Milwaukee

TREASURER

LEE R. WHITNEY.....Milwaukee

SECRETARY AND CURATOR

CHARLES E. BROWN.....Madison

COMMITTEES

SURVEY, RESEARCH AND RECORD—H. L. Skavlem, P. V. Lawson, Geo. H. Reynolds, Dr. A. Gerend, G. H. Squier, Dr. E. J. W. Notz and H. P. Hamilton

PUBLIC COLLECTIONS—J. P. Schumacher, Dr. Reuben G. Thwaites, Rev. Wm. Metzdorf, E. F. Richter, Dr. W. O. Carrier and Dr. Louis Lotz

MEMBERSHIP—Arthur Wenz, Dr. Louis Falge, Mrs. Jessie R. Skinner, Rev. J. A. Riedl, Miss Bertha Ferch and W. H. Elkey

PRESS—E. B. Usher, John Poppendieck, Jr., J. G. Gregory and G. J. Seamans

JOINT MAN MOUND—H. E. Cole, A. B. Stout, J. Van Orden, Miss Julia A. Lapham, C. E. Brown and Mrs. L. H. Palmer

SESSIONS

These are held in the Lecture Room in the Library-Museum Building, in Milwaukee, on the third Monday of each month, at 8 P. M.

During the months of July to October no meetings will be held

MEMBERSHIP FEES

Life Members, $25.00. Sustaining Members, $5.00

Annual Members, $2.00

All communications in regard to the Wisconsin Archeological Society or to the "Wisconsin Archeologist" should be addressed to C. E. Brown, Secretary and Curator, Office, State Historical Museum, Madison, Wis.

TABLE OF CONTENTS.

Vol. 8, No. 1.

ILLUSTRATIONS

Frontispiece

WISCONSIN BIRD-STONES

Jos. Ringeison, Jr., Collection

THE WISCONSIN ARCHEOLOGIST

Quarterly Bulletin Published by the Wisconsin Archeological Society.

Vol. 8. MILWAUKEE, WIS., JANUARY TO MARCH, 1908. No. 1.

THE BIRD-STONE CEREMONIALS OF WISCONSIN

CHAS. E. BROWN,

Secretary Wisconsin Archeological Society

It is proposed to present in this paper a description of the known Wisconsin specimens of the interesting class of aboriginal ceremonial objects known to archaeologists as bar and bird-stones. Objects of this class are thus clearly defined in the recently issued Handbook of American Indians:

"....A class of prehistoric stone objects of undetermined purpose, usually resembling or remotely suggesting the form of a bird. In many cases the resemblance is so slight that without the aid of a series of specimens grading downward from the more realistic bird representations through successive simplifications, the life form would not be suggested. In its simplest form the body is an almost featureless bar of polished stone. Again the ends are usually curved upward, giving a saddle shape; but usually the head, tail and eyes are differentiated, and in the more graphic forms the tail is expanded and turned upward to balance the head. The most remarkable feature is the pair of projecting knobs, often on rather slender stems, representing the eyes, giving somewhat the effect of a horned animal."

"Although many kinds of stone were used in their manufacture, the favorite material was a banded slate which occurs

over a wide area in the Northern states and Canada. They are shaped with much care, being symmetrical and highly polished." (p. 148.)

Perhaps the most helpful contribution on the subject of these bird-stones is a pamphlet entitled "The Bird-stone Ceremonial" published in 1899, by Prof. Warren K. Moorehead. In this publication he has described and figured a large number of specimens giving a very considerable amount of valuable information upon the subject of the method of their manufacture, their distribution and probable use. He quotes from the writings of Beauchamp, Boyle, Fowke and other leading archaeologists who have previously described such objects. As the existence of only a very few Wisconsin specimens was known to him the value of the present monograph for those who have had the opportunity to study this class of objects will lie mainly in the additional information it presents on the subject of their form, number and distribution. On the subject of their use there is but little new to offer.

DISTRIBUTION

Of the distribution of bird-stones in North America the Handbook conveys the information that they:

" * * * Are most plentiful in the Ohio valley and around the great lakes, and occur sparingly in the S. and to the westward beyond the Mississippi." (p. 148.)

Beauchamp makes the statement that:

"Bird and bar amulets are very rare south of Ohio, nor are the latter frequent anywhere. One of the former has been found in Virginia, one in Pennsylvania, and one in New Jersey. They reach Wisconsin on the west, and occur sparingly in New England." (Bull. N. Y. S. M., v. 4, No. 18, p. 56.)

The A. E. Douglass collection in the American Museum of Natural History, he states, contains 70 bird amulets, 35 of them coming from Ohio, and 16 from New York. The collection contains 38 bar amulets, 22 of which are from Ohio and only one from New York. Bar amulets he pronounces to be rare in New York, not more than half a dozen having come to his notice; of bird-stones which are much more frequent, he has a knowledge of upwards of 50 in that state in addition to the Douglass examples.

Moorehead separates his bird amulets into two principal classes and gives the distribution of each. His Figure 1, corresponds to those which for convenience of description, we have included in our classes B and C. Of this class he states that it occurs:

"In the Eastern and Central States north of the Ohio River. It is very rare in the Potomac, Connecticut and Hudson Valleys and the eastern (northern) Alleghany region. But it is often found in Western New York, the Great Lakes region and Central Canada.

Inquiries sent to archaeologists in Iowa, Illinois, Missouri, Kentucky, etc., fail to establish its habitat as south or west of Indiana." (The Bird-stone Ceremonial, p. 5.)

His Figure 2 (our class D) he finds to be of less frequent occurrence:

"In Western New York, Central Canada, Northern Ohio and Indiana, Michigan and Wisconsin, it occurs occasionally. In the New England States and the Potomac and Delaware regions but one or two have been found." (p. 6.) He knew at the time of the publication of his monograph of a total of 264 specimens in public and private collections in the United States and Canada, a total which he regarded as "doubtless below the actual number on hand." Our largest Wisconsin collection is that of Mr. Joseph Ringeisen, Jr., of Milwaukee. This collection contains at the present time 25 specimens gathered from the states of Wisconsin, Michigan, Illinois, Ohio and Indiana. A portion of these are shown in Plate 2.

Dr. W. B. Hinsdale, of Ann Arbor, informs the author that his notes, records and other data warrant him in stating that he has a knowledge of at least 200 bird-stones which are reported to have been found in Michigan, a surprisingly large number. He believes that the variety of form is as great or greater than that of any other state.

Moorehead's statement leaves us to suppose that bird-stones have not been found in Illinois. This we know to be an error. In the Ringeisen collection are several specimens from that state, and the location of others has been reported. One comes from as far south as St. Clair County.

Indications are that the number which the state of Ohio has produced is considerably in excess of that which those who have contributed to the bird-stone literature have reported.

The author has as yet failed to locate any specimens in Iowa. There are no bird-stones from Minnesota in the extensive Brower, Lewis or Mitchell collections of the Minnesota State Historical Society's museum. We should expect that a few specimens might be found in both of these states. Dr. H. M. Whelpley informs the author that there are no specimens in the Missouri Historical Society's collections at St. Louis. He has in the years of his collecting never heard of a specimen being found in either Missouri or Southern Illinois. In the Mitchell collection is a slate bar ceremonial from Minnesota.

THEIR USE

The several theories which have been advanced upon the subject of the probable use of bird-stones are familiar to most students of American archaeology. For the benefit of those who have not had the opportunity to consult the available literature these are repeated.

It has been stated that such stones were fastened to the prows of canoes.

To this statement but little attention is paid by recent writers. Jones quotes from Hariot that the conjurers of the Virginia Indians fastened a small black bird over one of their ears as a badge of office. (Antiq. So. Ind., 30.) He does not mention that these birds were made of stone. But one bird-stone has ever been reported from that region.

Gillman was informed by an aged Chippewa Indian "that in olden time these ornaments were worn on the heads of Indian women, but only after marriage." (Smithson Rep. 1873, 1874). Abbott published a statement originating with Dr. E. Stirling, of Cleveland, Ohio, that "such bird effigies, made of wood, have been noticed among the Ottawa of Grand Traverse Bay, Michigan, fastened to the top of the heads of women as an indication that they are pregnant." (Primitive Industry, 370.) The Handbook says of these statements that "the probability, however, is that these bird-stones were used or worn by men rather than by the women." If used by women as stated we should expect to find bird-stones of quite common occurrence in certain localities. This is not the case.

It has also been suggested that they were used in playing a game, a statement which has not been credited by authorities.

Cushing thought that they were probably employed as are the little stone fetiches of the Zuni. These rudely executed figures of animals and birds are representations of various hunter gods. "Their possession insures success in hunting, and good fortune with domestic animals." Moorehead gives several illustrations, obtained from Prof. Cushing, suggesting that some of the perforated stone tablets known to students as gorgets might have served as bases upon which to bind bird-stones. The suggestion is interesting but lacks of proof. We know of not a single instance where a bird-stone and tablet have been found together. Beauchamp favors the Zuni fetich theory, believing that arrows or other objects may have been bound to them. (Bull, N. Y. S. Mus., v. 4, no. 18, p. 56.) He fails to show that any such articles have occurred with any of the New York specimens. He describes a broken specimen which when obtained was being worn by an Onondaga Indian girl, as an ornament, suspended by a string passed through one of the basal perforations. She may have been wearing it without any idea of its significance.

The Handbook, which gives the most recent information, suggests that the uses of bird-stones were evidently in connection with religious ceremonies or magic. "The two perforations at the extremities of the base (were) intended to serve in attaching the figure to the surface of some object, as a tablet, a pipe-stem, a flute, or a staff or baton, or to some part of the costume or hair." (p. 148.)

It would appear sensible to suppose that they were not everywhere employed in the same manner. That these little effigies had a religious significance to their former owners is not questioned.

In the State Historical Museum of Wisconsin are several Indian flutes upon the stems of which are bound small wooden effigies. In the Milwaukee Museum and elsewhere are pipe-stems bearing small wooden figures or heads of animals.

The close relationship of the bird-stone and bar ceremonials is now conceded. In the Ringeisen collection is a specimen which appears to form a connecting link between the bird and the banner-stones. It is fashioned in the figure of an animal

but is perforated through the middle as are the latter. The material is slate. It comes from near Fort Wayne, Indiana. It was probably mounted on a staff as the banner-stones are now supposed to have been mounted. It appears in Plate 2.

WISCONSIN SPECIMENS

The number of bird-stones which have been recovered in Wisconsin is not large, yet it is considerably greater than those engaged in local archaeological research would have believed. Careful inquiry shows a total yield of 54 specimens. The majority of these have now passed into the safe-keeping of two of our larger public institutions, and into half-a-dozen of the more notable private collections. Of the total number 10 are in the possession of the Milwaukee Public museum, 10 in Logan Museum at Beloit College, 9 in the collection of Mr. Joseph Ringeisen, 5 in the C. T. Olen and 4 in the P. H. Hamilton collection. The collecting of the Wisconsin stones has been accomplished during a period of about forty years. To three noted Wisconsin collectors, Frederick S. Perkins, W. H. Elkey and H. H. Hayssen, is due to the credit of obtaining the greater number of the specimens today in Wisconsin cabinets. Mr. Elkey has for several years made a special search for these and related ceremonial forms in stone in the most productive sections of the state and has been most fortunate in obtaining an unexpected number of bird-stones. In recent years a multitude of other collectors have been active in their respective districts. These facts are mentioned to show how very thoroughly the field has been covered by collectors since an intelligent interest in the value of assembling and preserving local archaeological materials was aroused. As a result of this well organized activity the finding of a bird-stone or other interesting artifact quickly becomes known, and is reported. Notwithstanding this great activity, during a long period of time, in a field exceeded in richness by but few other states in the Union, only a limited number of bird-stones have come to light. They are far out-numbered by both the banner-stones and gorgets, which have been obtained in Wisconsin during that time. Many Wisconsin collections, public and private, do not con-

tain a single example. Almost none have escaped into collections without the bounds of the state.

The map presented in Plate 3, illustrates the distribution, based upon present records, of bird and bar ceremonials in Wisconsin. It shows that nearly 95 per cent have come from its eastern counties. Centers of greatest abundance within this area are the embraced in portions of the counties of Calumet and Manitowoc, and Waukesha and Milwaukee. The Calumet-Manitowoc County center is scarcely ten miles in diameter. The first mentioned counties have yielded 11 specimens to date, the latter 9. From Kenosha, adjoining the Illinois state line, northward to Manitowoc all of the Lake Michigan shore counties have produced one, or a number, of examples. Future researches may discover additional specimens in Southwestern and Central Wisconsin. The Chippewa County specimen has wandered farthest north in the state.

Of the total number of bird-stones about 30 are surface finds, having been recovered during the cultivation of aboriginal village or camp sites, or obtained from other places where they were left or lost by their early Indian owners. Four are known to have accompanied burials. Accompanying one of these interments were also several articles made of native copper. Mr. John W. Evans who collected some of the best specimens in the Ringeisen cabinet, states that one of these was recovered from a grave at Joliet, Illinois. With the burial was also a fine flint drill or perforator, measuring 4½ inches in length. Further investigation of the matter will doubtless show that bird-stones have been found in similar situations in other states. Inquiry fails to show that any of our examples accompanied mound interments, although the region of their distribution is also the great mound region of the state. Moorehead records a single instance of the finding of a bird-stone in a mound. There is no published record other than our own of their occurrence in graves.

Although carefully fashioned and afterwards treated with respect, if not with veneration, by their savage owners, bird-stones were through accident, or otherwise, occasionally broken or damaged. Such accidents, if we may judge by the number of perfect specimens described by various authors, were however rare. Eight of the specimens we describe have

in the course of their use or at other times, sustained damages of a more or less serious nature. In one case the loss of a head by breakage has resulted in the smoothing down of the neck at the point where the break occurred. Other instances of a similar treatment of injured specimens have been noted in examples from other states. The value of the object to its owner was evidently not greatly lessened thereby. One unfinished specimen appears to have seen use in this state.

In the manufacture of Wisconsin specimens slate of either the plain or banded variety was most commonly employed. Twenty-three specimens are of this material. Three are made each of soapstone, sandstone and catlinite. Of the latter we are uncertain. Harder stones, especially the attractive porphyritic rocks, were in some demand.

All of the better known forms of bird-stones are represented. Some interesting variations of these are described. Several specimens are so greatly alike in size and shape that the suggestion that they are probably the products of the same aboriginal artisan is permitted. Beauchamp has offered a similar observation concerning the authorship of certain New York ceremonials. The form of bird-stone without eyes is the most common here as elsewhere. Moorehead believes it the earlier form. The bar form is apparently of rare occurrence in the state, which would bear out similar observations made in other states. Additional specimens of this form will undoubtedly be found.

Descriptions of the Wisconsin specimens follow: In addition to those described, Mr. Clarence T. Olen has five bird-stones in his collection. Four of these are made of banded slate, the other of granite. The latter was found upon the shore of Lake Poygan, Poygan Township, Winnebago County. Two others were found in the village of Winneconne, and at Neenah in the same county. The head of this last specimen is missing. A fourth specimen comes from Bear Creek, Outagamie County, and a fifth from the bank of the Wolf River, at Fremont, in Waupaca County.

Another specimen was found several years ago near Elkhart, Sheboygan County. Its present whereabouts is unknown. Dr. I. A. Lapham is said to have possessed a mutilated specimen. It is thought to have come from Waukesha County.

Mr. John T. Reeder has a granite bird-stone which was obtained from the bank of the Milwaukee River, at West Bend, Washington County. Dr. W. H. Bailey reports the finding of a bird-stone in Chippewa County.

Unless otherwise noted in the descriptions all of the Wisconsin specimens have perforated bases. The manner of classification used is that most generally adopted and is the most natural and convenient.

Description

The Bar Form. Class A.

The saddle-shaped stone shown in Fig. 1 (Plate 4) is from Waukesha County, and is in the collections of the Milwaukee Public Museum. Its base is not perforated. If ever bound to any object it was probably tied over its middle. It is made of granite. Length about 3 inches.

Fig. 2 is a fine example of the typical bar form. It is about 6 inches in length and is made of gray ribbon slate. Its base is perforated. It comes from near Concord, Jefferson County and is in the Logan Museum at Beloit College.

Fig. 3 is 6½ inches in length, and is made of the same material as the foregoing. It is triangular in section, the extremities semi-circular. The flat base is perforated at either end. This stone was found in 1868 in the dragging of a field located about two miles north of Mayville, Dodge County. Mr. Ferdinand Schley is the owner.

In the collection of Dr. Chas. H. Hall in the State Historical Museum, Madison, is a specimen obtained near Albion, Dane County. It is a straight bar 5 inches in length with a rounded top and flat base, and is made of dark-colored slate. On the base, connecting the perforations near the extremities and extending beyond one of them to the end is a shallow groove, a peculiar feature.

In the Logan Museum are two small ceremonials of the bar form. Both are triangular in section, and are made of gray slate marked with faint darker streaks. Both have one end slightly upturned. The larger measures about 3⅛ inches in length. A perforation extends through the upturned end and

through the base. At the other extremity the work of perforating has only been begun, slight indications of this show on both the end and base. The exact locality is not known. The smaller specimen is perforated at one extremity only. It comes from LeRoy, Dodge County. Length 2⅝ inches. In the collection of Rev. E. C. Mitchell is a bar ceremonial of gray slate from Sauk County.

Bird Form. Class B.

An interesting specimen is in the collection of Mr. Joseph Ringeisen, Jr., at Milwaukee. It is one of only two rude and apparently unfinished bird-stones of which the author has personal knowledge. It is roughly shaped of a heavy dark bluish-black stone. The base has been smoothed, but is not perforated. It measures 4½ inches in length. It was found near Kiel P. O., Schleswig Township, Manitowoc County. The other unfinished specimen is in the same collection. It comes from Hillsdale County, Mich. It closely resembles the former in outline but is of larger size. Both of these specimens are shown in Plate 2. It is likely that both were used in their unfinished state. Moorehead gives figures of several unfinished specimens.

Fig. 4 (Plate 5) is in the H. George Schuette collection and comes from Manitowoc County. The material is grayish syenite with large whitish crystals. It is about 4¼ inches in length. The surface on one side is rough, probably the result of its exposure to the weather.

A specimen very similar in outline was found near the Wisconsin River, in Roxbury Township, Dane County. It is made of dark colored slate and measures 3¾ inches in length. Dr. Chas. H. Hall is the owner.

Fig. 5 (Plate 5), in the F. J. B. Duchateau collection, comes from near Green Bay, Brown County. A full description of it is not at present available. Length 4⅞ inches.

Fig. 6 comes from Section 35, Franklin Township, Manitowoc County. It is in the H. P. Hamilton collection. The material is a porphyritic syenite of a light brown color with included large lighter colored crystals. It was found in August, 1896. Length 4⅛ inches.

Fig. 7 is also in the Ringeisen collection. The locality is Menomonee, Waukesha County. It was found with a skeleton, in 1891, by a man engaged in digging a vault. The material is grayish syenite with a number of large irregular whitish crystals. It is nicely polished. At the neck are several small incisions. The tail measures one inch across at its broadest point. The base is slightly concave. Length 3⅞ inches.

The specimen shown in Fig. 8 is in the Elkey collection, in Logan Museum, Beloit College. It is made of a fine-grained black stone with a profusion of large irregular pinkish crystals. It was found in the fall of 1894 on the shore of Lake Winnebago at a point about one mile north of the city of Fond du Lac, in the county of the same name. Length about 4¼ inches.

Fig. 9 (Plate 6) is also in the Schuette collection. The material is light gray slate. It came from Centerville Township, Manitowoc County. Length about 5⅞ inches. It is the largest specimen of this type which the author has seen.

In the S. D. Mitchell collection is a specimen somewhat resembling some of the foregoing. The material of which it is made is said to be a conglomerate. It is of a light greenish gray color mottled with deep green spots. It comes from the south shore of Green Lake, in Green Lake County. Length 3 3-8 inches. (See Figure A.)

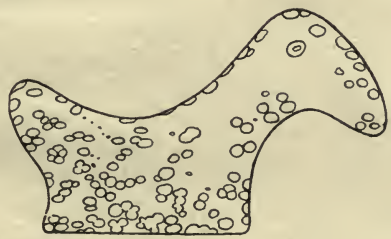


Fig. A
BIRD-STONE
Green Lake County

In the Milwaukee Public Museum are several specimens in form somewhat similar to the foregoing figured bird amulets. One of these (Acc. No. 2338) is nicely made of gray slate with

lighter colored irregular transverse bands. This Mr. F. S. Perkins, who collected it, thought to have come from Kenosha County. Four specimens in the same institution (Acc. Nos. 2328, 2333, 2335 and 2339) were collected by H. H. Hayssen, the localities being given as New Holstein, Calumet County; Schleswig, Manitowoc County; St. Ann, Calumet County, and Sheboygan, Sheboygan County. One (2335) is made of a dark red stone, probably catlinite. (I have not had the opportunity to closely examine it.) Another (2339) is of dark colored slate with lighter gray bands. The others are of harder materials.

It is peculiar that all of these four specimens should have lost their heads. We are thus unable to determine whether any of them were ever provided with eyes. In the Ringeisen collection are three specimens which appear to have met with similar accidents.

These may be readily recognized in Plate 2. They come from Manitowoc Township, Manitowoc County; Hillsdale, Michigan, and from Lawton, Michigan. The Wisconsin specimen is made of light gray slate. These specimens were evidently valued by their aboriginal owners for all have had their necks neatly smoothed at the place where the break occurred, thus continuing their usefulness. In one case the neck has been flattened and ornamented with two small furrows.

Fig. 7 (Plate 6) is in the Logan Museum. The material is gray slate prettily marked with darker irregular streaks and bands. It possesses several features not occurring in any of the foregoing specimens. An incision on either side of the head is intended to represent the animal's mouth, and smaller incisions crossing this at intervals, its teeth. The tail is fan-shaped. Its length is about 5⅝ inches. It was found in 1893 on the James Little farm near Waldo, Sheboygan County.

Fig. 11 comes from Section 6, Aurora Township, Waushara County, and is in the H. P. Hamilton collection. The material is syenite of a grayish-brown color, with a few lighter colored crystals, distributed over its surface. Length 4⅛ inches. The base of this specimen is excavated, thus forming feet-like projections.

Fig. 12 also possesses the latter feature. It is the property of Mrs. E. A. Notz, and comes from near Oshkosh, Winnebago

County. It is made of a black stone marked with pale greenish crystals. It measures about 3½ inches in length.

Fig. 13, in the Ringeisen collection, is unique. It comes from near Menomonee Falls, Waukesha County. Its back from the tip of the snout to the rear foot below is ornamented with small transverse incisions, such as are often found upon the edges of gorgets and pipes. The feet are formed by slightly elevated bars which cross the base. These are perforated. The material is probably diorite. Length about 3 inches. Beauchamp illustrates a New York specimen the entire outline of which is ornamented with notches. He states that this feature frequently appears though not to this extent.

Class C.

SPECIMENS WITH EYES

Fig. 14 (Plate 7) is also in the Hamilton collection. It is a very graceful and pretty object and comes from the town of Reedsburg, in Sauk County. The material is black slate marbled with streaks of brown. The eyes are represented by knobs, projecting from the head for a distance of about 1-16 of an inch. Length 4 inches.

Fig. 15, from Schleswig, Manitowoc County, is in the Milwaukee Public Museum collection (Acc. No. 2329). The eyes are represented by small knobs. It is made of bluish-gray slate, ornamented with darker streaks. Length about 9 inches.

Fig. 16 is in the same institution (Acc. No. 2327). The material is a dark bluish slate with darker bands. The disk-shaped circular eyes stand out prominently from the sides of the head. Length about 5 inches.

This specimen has an interesting history. The following information concerning it was furnished by the noted collector, F. S. Perkins, who formerly owned it.

"In 1873, a man in Menominee, Waukesha County, in the process of digging a cellar for a house found at 6 feet below the surface, the bones of seven persons laid in a circle with their heads toward the center, where he found a slate image of a bird with large, projecting eye-like appendages."

Fig. 17, in the H. P. Hamilton collection, was obtained in Section 2, Centerville Township, Manitowoc County. The

material is a dark gray syenite with yellowish-white crystals. Two small circular disks represent eyes. The base is slightly transversely convex. It measures nearly 4 inches in length.

Fig. 18, in the Elkey collection in Logan Museum, was plowed up on a farm in Section 27, Granville Township, Milwaukee County. The material is banded slate. It is interesting for its peculiar proportions, it measuring only about 3¼ inches in length and about 1⅛ inches in height at its middle. The eyes are large and prominent.

Figs. 19 and 20 (Plate 8) were collected by F. S. Perkins and are in the Logan Museum. The first of these is made of gray slate with darker bands and comes from Le Roy, Dodge County. Length about 4 3-8 inches. The other, of dark gray slate with faint darker bands, comes from Section 25, Polk Township, Washington County. Length about 5½ inches. Both specimens have very prominent eyes.

In the same institution are two specimens of somewhat similar shape. These are shown in Plate 1. The larger, is made of gray slate with darker bands and measures about 5¾ inches in length. When in the possession of the collector, Mr. W. H. Elkey, this specimen showed unmistakable traces here and there on its surface of vermillion paint. The smaller specimen, about 3⅝ inches in length and 1⅛ inches in height at its middle, is fashioned out of a hard black stone. Its base is not perforated. The tail instead of projecting at an angle from the back as in all of the figured specimens, is represented by a short upward projection. Both specimens have large eye disks standing prominently forth from the head.

These two bird-stones were obtained in 1904 or 1905 from a gravel pit located near 24th and National avenues, in the city of Milwaukee. They were found with a skeleton, with which were also a small copper awl 6 inches in length and a large-sized rolled copper bead.

Mr. David Van Wart reports the recent finding near Evansville, Rock County, of a specimen resembling the foregoing. It is made of slate. J. W. Foster briefly describes a bird-stone found at Jackson, Washington County. It was made of banded slate. His figures shows it to have had prominent eye-disks and an upturned tail with the corners truncated.

The bird-stone illustrated in Fig. 21 has the distinction of exceeding in size any other as yet recovered in Wisconsin. It is very narrow for its great length of 7 inches. Its eye-disks are very prominent, its back is quite sharply ridged, and it has the peculiar fan-shaped tail common to but a few bird-stones. Its base is unperforated, the drilling of a small hole having been only just begun in front. It is very nicely fashioned of a compact cream-colored sandstone, an unusual material. This specimen was found by a workman engaged in digging a cistern on the south shore of Lake Beulah, Waukesha County. It had been broken in two at the neck, but has been neatly repaired by Mr. Chas. E. Wood, its owner. Beauchamp describes a New York specimen measuring 9⅞ inches in length. Moorehead states that specimens exceeding 7 inches in length are rare.

The curious little bird-stone pictured in Fig. 22 (Plate 9) comes from Vernon County, and is in the U. S. National Museum. It is reported to be made of granite. In the Ringeisen cabinet is a specimen of almost identical form. It is shown in our frontispiece.

It comes from the mouth of Catfish Creek, Dane County. The material is dark colored steatite with a confusion of greenish-gray mottlings. Length 2⅝ inches. Moorehead gives an illustration of a third specimen of this form which is in the collections of the Dominion museum, at Toronto.

Class D.

The curious depressed specimen shown in Fig. 23 (Plate 9) is the property of Mr. Ringeisen and was found at a point about "4 miles north of Cedarburg, Ozaukee County." Three views are presented. The base is crossed by two raised bars, which are perforated. The back is ridged from the tip of the snout to the tip of the caudal appendage. The material is gray slate prettily marked with darker colored diagonal bands. Its length is about 3¾ inches. Moorehead shows a somewhat similar specimen from Michigan. It has the added feature of eyes.

Fig. 24 is also very odd, being quite unlike any specimen which the writer has seen. It is in the Ringeisen collection. It is made of a hard black stone with numerous whitish crystals.

The base is oval in shape. Length about 3 inches. It was found in 1901, on an Indian village site in Section 5, near Sherwood, Harrison Township, Calumet County.

The specimen illustrated in Fig. 25 comes from near Omro, Winnebago County. It is the property of T. R. Fowler, a resident of Chicago. The author has been unable to obtain a full description of it.

Fig. 26, of which a top view is given, somewhat resembles the foregoing. The eyes are represented by short projections. The material is dark gray ribbon slate. It comes from Racine County, and is in the Milwaukee Public Museum (No. 2332).

The fine specimen of which two views are shown in the frontispiece of this bulletin, in the Ringeisen collection and was found in 1891 on the Ewen place, about 2½ miles northeast of the village of Saukville, Ozaukee County. The material, a dark colored syenite, is marked with many irregular whitish crystals. The eyes are very prominent, and the back and tail very broad. On the base are two raised cross-bars, which are perforated. In the Milwaukee Museum there is a specimen of somewhat similar form (No. 2334). It differs from the foregoing in having an elevated fan-shaped tail. The head is missing. It is made of very similar material. Locality, Chilton, Calumet County. Moorehead, Beauchamp and other authorities figure and describe specimens of similar form.

CONCLUDING REMARKS

It is the author's belief that bird-stones were introduced into Wisconsin from the Ohio region, where objects of this class appear to be native, and are far more abundant. Their introduction came about either through the commerce which existed between the inhabitants of the two regions, or through tribal migrations. The area of their distribution in Wisconsin lies directly along a principal route of aboriginal movement. Their comparatively small number, and the fact that of the specimens found nearly half are made of Huronian or striped slate, a material which does not occur in southern Wisconsin, strengthens the belief that they are imports. If any of those described as made of other materials are the productions of native artisans, it is probable that their form was suggested by those procured in trade.

There is no mention in early Wisconsin history of the use of bird-stones in the religious or other observances of the local tribes, and as yet a lack of other local data bearing upon the subject. The belief exists that their use continued into this period.

Studies of other local ceremonial and ornamental forms in stone should be undertaken by Wisconsin students. The results should place in our possession important information concerning their age and authorship, manner of use, and help to solve various interesting problems with which American archaeologists are now concerned.

Plate 1

BIRD-STONES

Milwaukee County

Elkey Collection, Logan Museum

Plate 2

BIRD-STONES

Jos. Ringeison, Jr., Collection

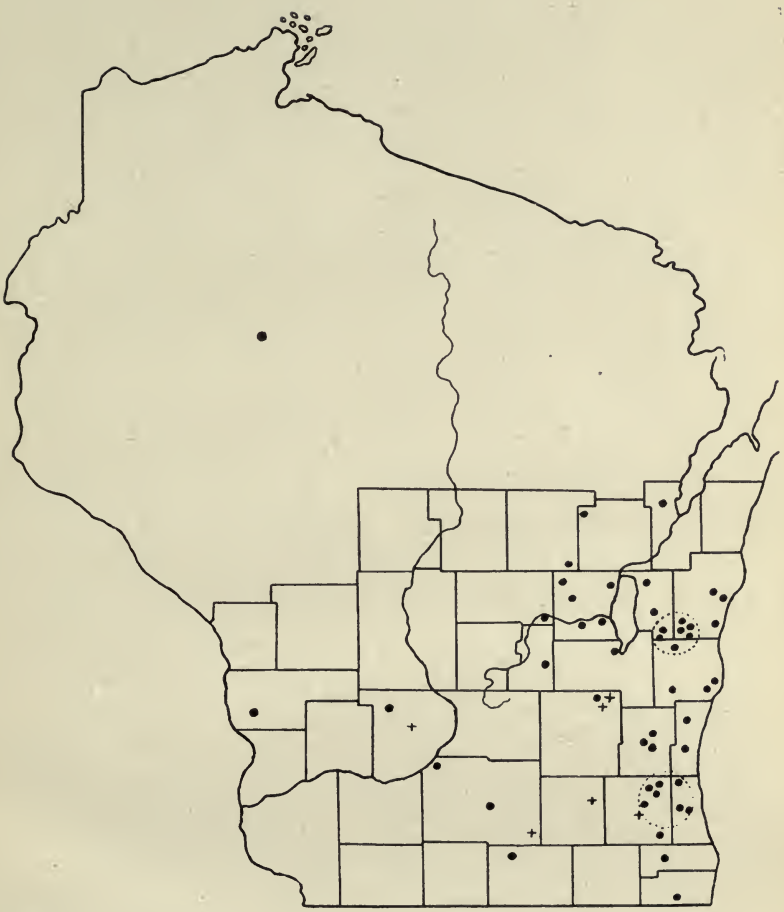


Plate 3

MAP SHOWING THE DISTRIBUTION OF BIRD-STONES IN WISCONSIN

• Bird form + Bar form

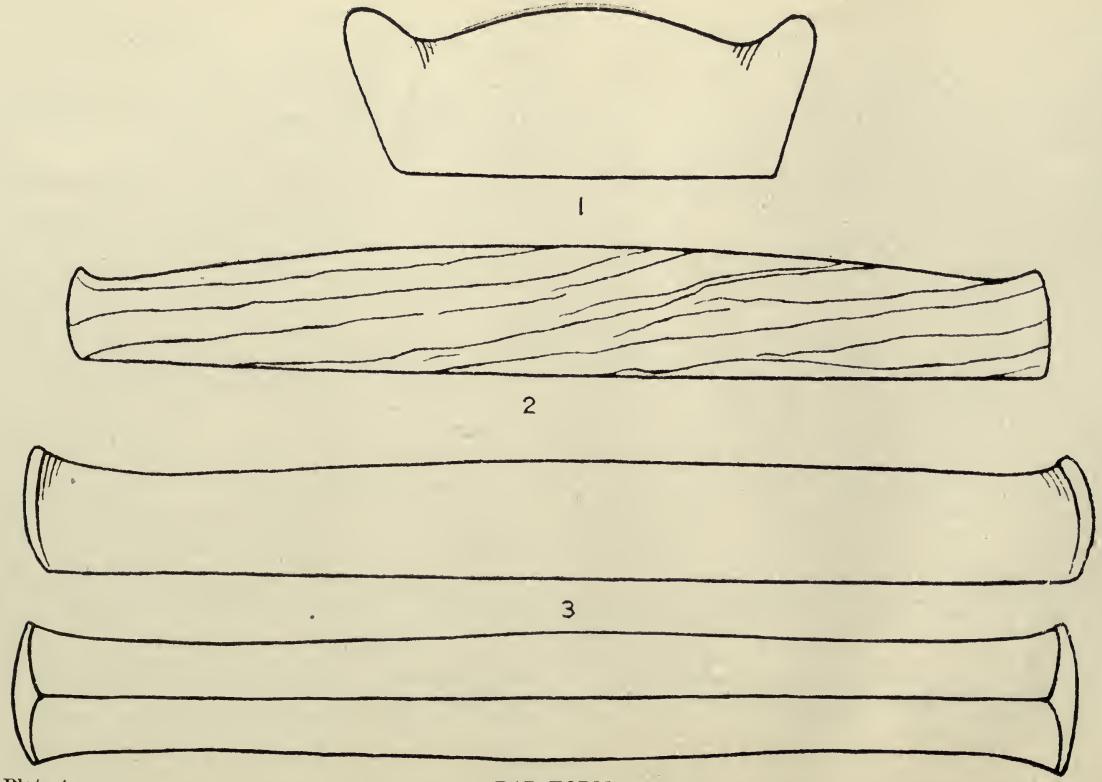


Plate 4

BAR FORM

Class A

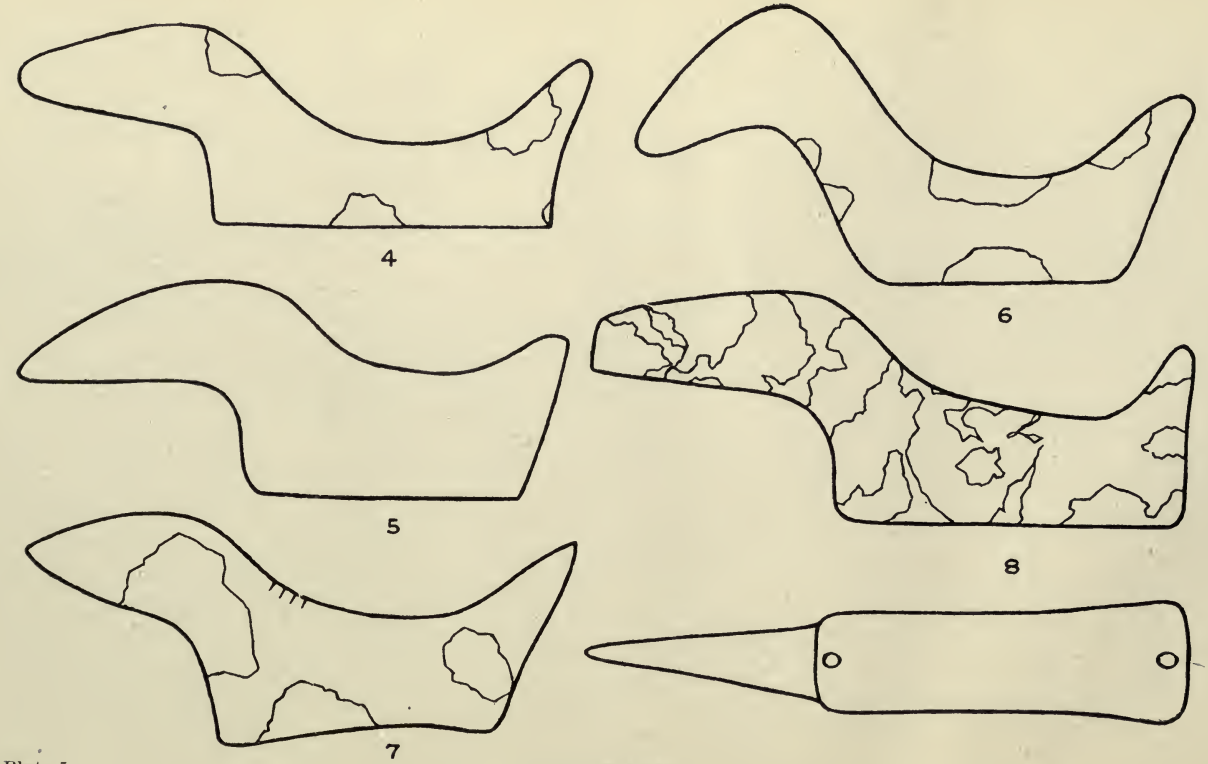


Plate 5

BIRD-STONES

Class B

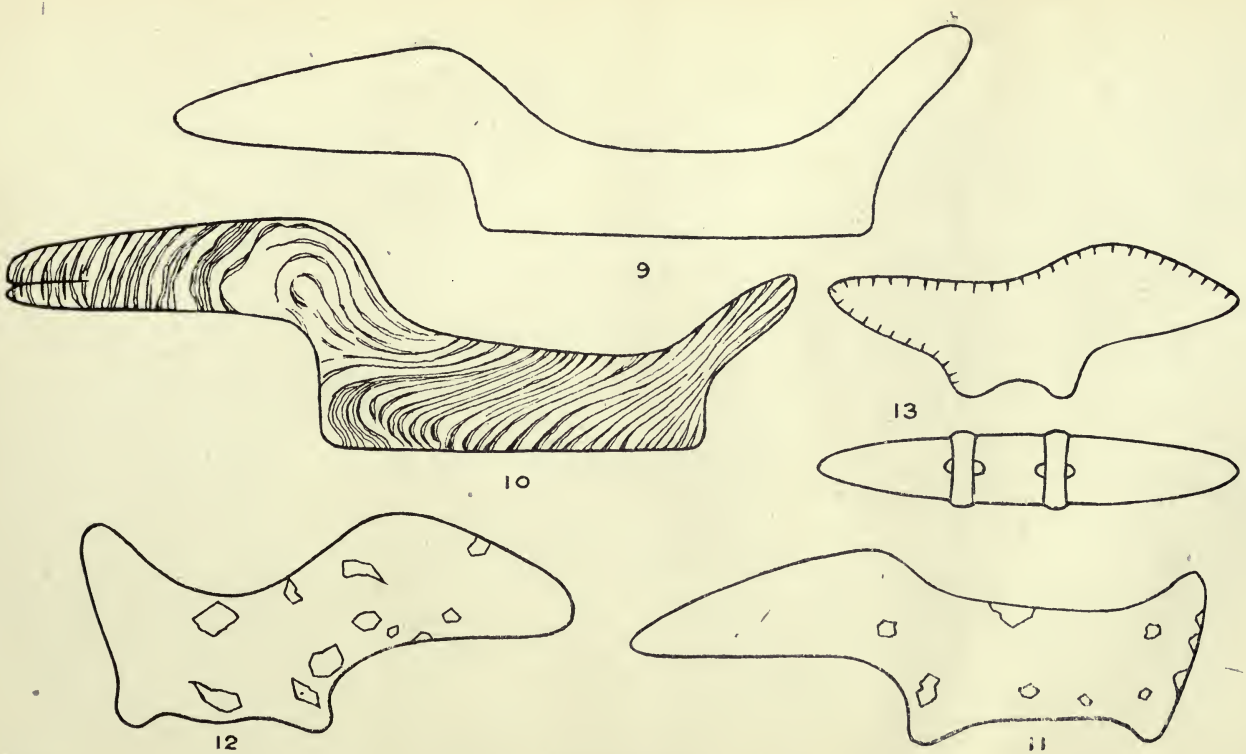
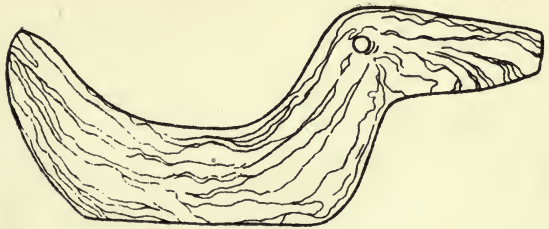


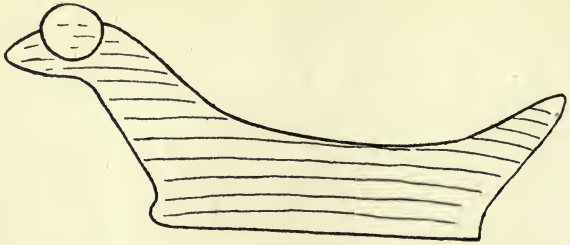
Plate 6

BIRD-STONES

Class B

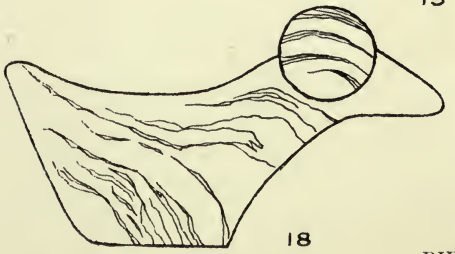


14



16

15



18

17

Plate 7

BIRD-STONES

Class C

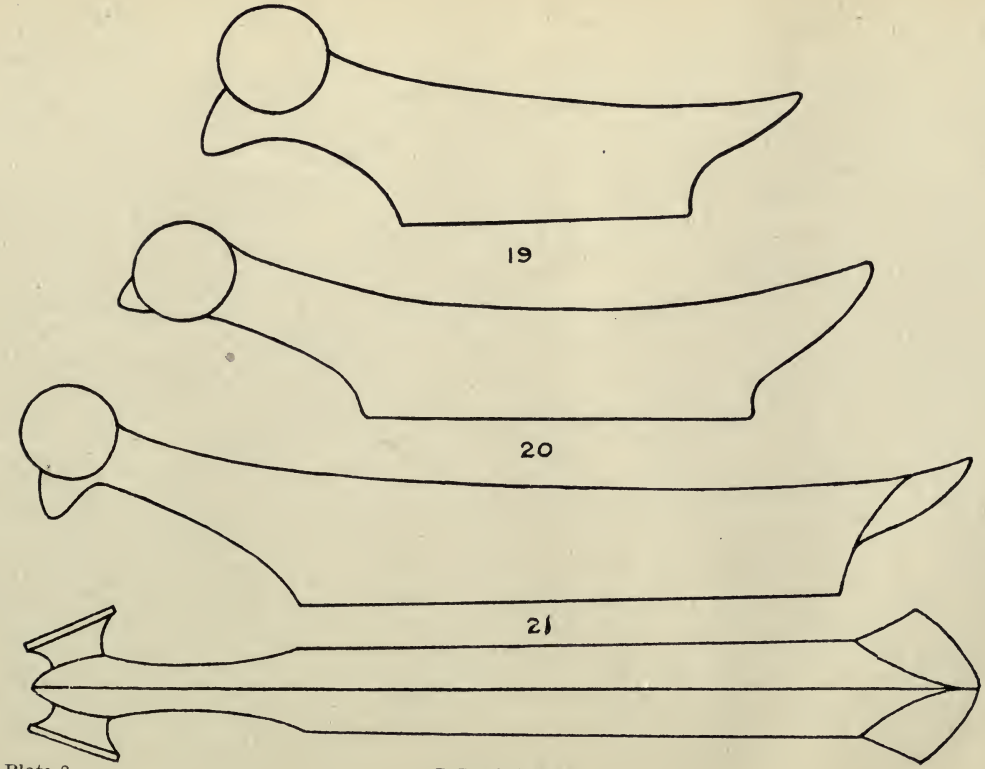


Plate 8

BIRD-STONES

Class C

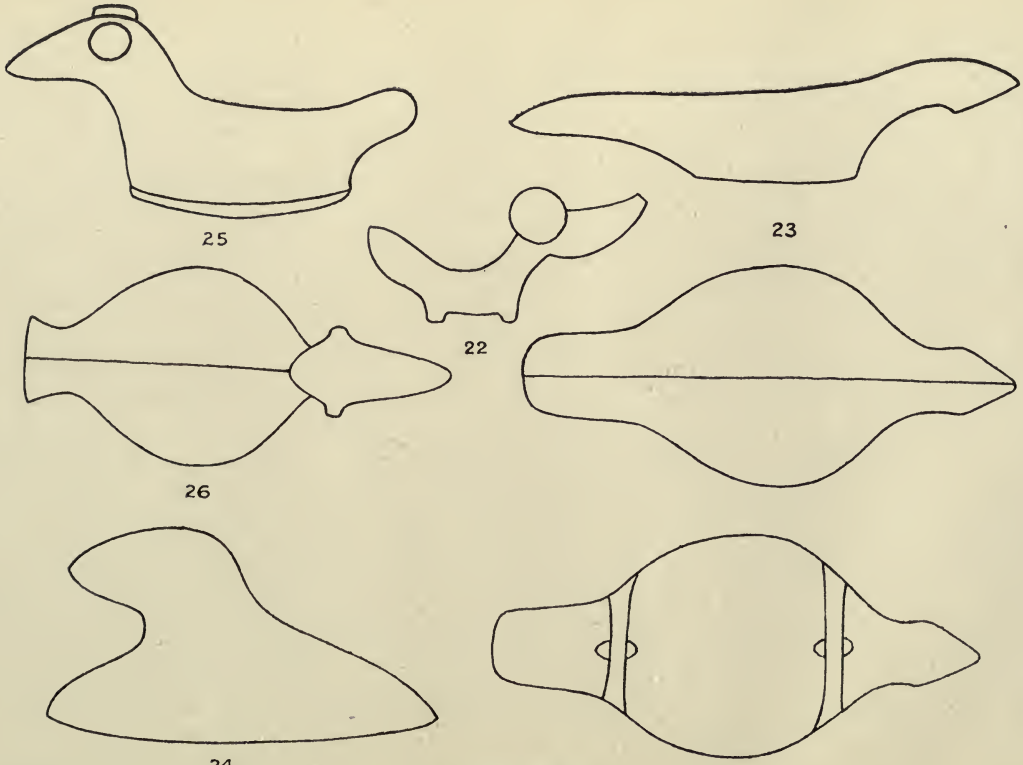


Plate 9

BIRD-STONES

Classes C and D

Vol. 8 April to July, 1909 No. 2

THE WISCONSIN ARCHEOLOGIST

CHIPPED FLINT PERFORATORS OF WISCONSIN

SUGGESTIONS OF MEXICO IN MOUND RELICS

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY
MILWAUKEE

Wisconsin Archeological Society

MILWAUKEE, WIS.

Incorporated March 23, 1903, for the purpose of advancing the study and preservation of Wisconsin antiquities.

OFFICERS

PRESIDENT

OTTO J. HABHEGGER.....Milwaukee

VICE-PRESIDENTS

GEORGE A. WEST.....Milwaukee
H. E. COLE.....Baraboo
DR. GEO. L. COLLIE.....Beloit
REV. L. E. DREXEL.....St. Francis
W. H. ELLSWORTH.....Milwaukee

DIRECTORS

JOS. RINGEISEN, JR.....Milwaukee
ARTHUR WENZ.....Milwaukee

TREASURER

LEE R. WHITNEY.....Milwaukee

SECRETARY AND CURATOR

CHARLES E. BROWN.....Madison

COMMITTEES

SURVEY, RESEARCH AND RECORD—A. B. Stout, H. L. Skavlem, P. V. Lawson, G. H. Squier, Dr. E. J. W. Notz and W. W. Gilman.

PUBLIC COLLECTIONS—E. F. Richter, J. P. Schumacher, Dr. R. G. Thwaites, Rev. Wm. Metzdorf, Dr. W. O. Carrier, Dr. Louis Lotz, Rev. S. E. Lathrop and W. E. Snyder.

MEMBERSHIP—Arthur Wenz, Dr. Louis Falge, Mrs. Jessie R. Skinner, Joseph Frisque, Miss Bertha M. Ferch, W. H. Elkey and S. G. Haskins.

PRESS—E. B. Usher, John Poppendieck, Jr., J. G. Gregory and G. J. Seamans

JOINT MAN MOUND—J. Van Orden, Miss Julia A. Lapham, T. C. Sherman, L. H. Palmer, Mrs. Henry Mertzke and S. J. Hood.

SESSIONS

These are held in the Lecture Room in the Library-Museum Building, in Milwaukee, on the third Monday of each month, at 8 P. M.

During the months of July to October no meetings will be held

MEMBERSHIP FEES

Life Members, $25.00. Sustaining Members, $5.00
Annual Members, $2.00

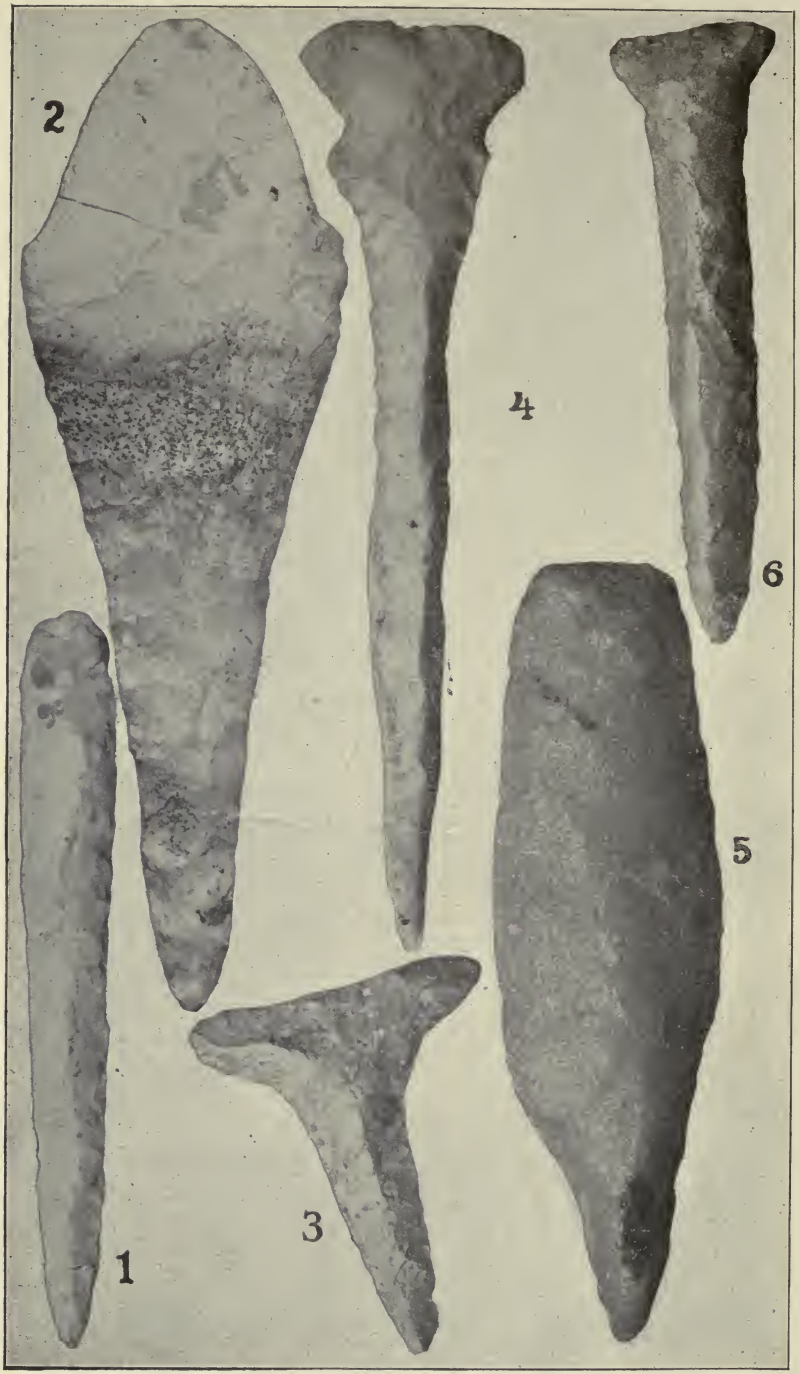
All communications in regard to the Wisconsin Archeological Society or to the "Wisconsin Archeologist" should be addressed to C. E. Brown, Secretary and Curator, Office, State Historical Museum, Madison, Wis.

TABLE OF CONTENTS.

Vol. 8, No. 2.

ARTICLES.

ILLUSTRATIONS.



WISCONSIN PERFORATORS.

THE WISCONSIN ARCHEOLOGIST

Quarterly Bulletin Published by the Wisconsin Archeological Society.

Vol. 8. MILWAUKEE, WIS., APRIL TO JULY, 1909. No. 2

CHIPPED FLINT PERFORATORS OF WISCONSIN

GEO. A. WEST

Vice-President, Wisconsin Archeological Society

FOREWORD

History does not reach back to a period when drilling was not understood. That primitive man knew how to perforate objects long before he chipped flint, is not only a reasonable conclusion, but is evidenced by the finding of objects of bone, teeth, ivory and shell with holes worked through them, and quite commonly accompanying other evidences of his early existence. But his first work with a pointed implement (most likely a thorn or splinter of wood) was probably in the making of holes through hides of the animals he killed, that he could the better use them for protection against the elements. Thus the antiquity of the awl would be carried back to the time when man first became a hunter.

Finding that awl-shaped implements of wood did not answer his requirements in making holes in wood, bone, shell or other substances, where the cutting and removal of a portion of the material was necessary, he probably tried a splinter of stone with success. Next, his spear and arrow, heretofore pointed with hard wood, bone or claws of animals were provided with the more desirable tips of stone. (See Fig. 13.) He soon learned that his flint-tipped weapons, when revolved between the fingers or palms of his hands, made admirable perforators, and enabled him to more quickly cut holes through such ma-

terial, including the softer varieties of stone, as he put to his simple use. By accident or otherwise, the addition of sand and water were found to greatly facilitate the process of drilling, and that, after the hole was started, a simple wooden point would best hold the gritty sand. (See Fig. 14.) Thus we find that the evolution of the most primitive drill known to man has resulted in the product of to-day, run by steam or electricity. The main improvement in this tool, being in causing it to revolve more rapidly, for the principle involved remains unchanged.

The arrival of white man in North America, and contact between the two races, produced a thorough change in Indian life. The implements and utensils furnished the Indians by the Europeans were so far superior to their own, that they soon ceased to manufacture and use those of their fathers. Thus the age of stone, copper and bone was supplanted by that of iron.

ABORIGINAL DRILLS

That the awl, most properly considered the oldest known type of perforator, was in common use among the Wisconsin Indians until a very recent date, the many examples made of bone and antler, found on the recent village sites of this state, indicate.

The straight shaft drill, twirled between the palms of the hands when in use, seems common to all the human race, with but few exceptions. This very primitive form of drill was the one exclusively used by the natives of this continent at the time of the Spanish invasion. It consisted of a straight shaft with a rounded point, used with sharp sand or sand and water, or to which was usually fastened a solid point of flint or copper.

What is known as the fire-stick (Fig. 15) is also a straight shaft of wood with a rounded point, the same as the shaft drill, and was used to produce fire by friction. This is accomplished by inserting the point in a shallow depression in a piece of dry wood and rapidly revolving the shaft between the hands, until the dust thus created ignites. This manner of fire making was in use by the Indians of Wisconsin, when first visited by white man. Fire making by percussion, as well as by means of the

firestick, seems to have had a general distribution over a large part of the earth at a very early date.

Instead of a solid pointed drill, a hollow shaft (Fig. 16) was sometimes used as a perforator. A piece of elder or sumach, with the pith removed, was suitable for this purpose and most easily obtained by the Indians of this state. A short tube of bone, horn or copper, (Fig. 17) was sometimes attached to a solid shaft and used as a drill point. With this form, known as the tubular drill, the addition of dry sand, or sand and water, was necessary to make it effective. The advantage of using this type of drill is the saving in cutting away of material, as a core is left which is easily removed.

Dr. Keller, after making some experiments with a hollow bone and quartz sand, tried a portion of an ox-horn, which he found to be a decided improvement, the sand becoming embedded in the horn and acting like a file. (Evans, Anc. Stone Imp., p. 52–56.)

From the tubular borer, it seems safe to assume, was evolved the diamond drill of to-day, which has proved so useful in mining and geological research.

In working the shaft drill, the Indian, held the object to be drilled either between the feet or the toes, according to the size of the article to be perforated. Bancroft informs us that the Nootka, in boring in wood, use a bird bone drill which is worked between the hands. (Native Races, V. 1, p. 189.)

The Santa Barbara Indians chip out rough disks of shell, pierce them with a flint drill and enlarge the hole with a slender round piece of sandstone. (Hayden Surv., Bul. 3, 1877, p. 43.)

According to Capt. Burke, the Apache Indians yet bore holes in the most primitive method known. "With an ordinary arrow held between the hands and revolved vertically, he bored holes in beads." (Am. Anth., Jan'y, 1890.)

Maj. J. W. Powell saw the Indians in Utah work the shaft drill by revolving it upon the leg while holding the stone to be perforated in the left hand. (McGuire, Drilling, Rep. N. M., 1894.)

"The Atlantic coast Indians perforate shells with a nail stuck in a cane or stick, rolling the drill on their thighs with the right hand, and holding the shell in the left." (Brickell, Nat. Hist. of N. C., p. 339.)

According to C. C. Jones, the southern Indians pierced shell beads with heated copper drills. (Antiq. of the South. Ind., p. 230.)

The wild tribes of the Amazon make tubes of crystal quartz, an inch in diameter and up to 8 inches long, by drilling with a shoot of wild plantain, twisted between the hands, with sand and water. (Stevens; Flint Chips, p. 96.)

The California Indians used the whiskers of the sea lion, fine sand and water for drilling in shell. (Hoffman; The Menomini Ind., B. E. 14.)

The pump drill (See Fig. 18), well known to the Indians of the southwest, appears to have been introduced by the Spanish, to whom it was familiar for centuries. It appears to be widely distributed, is known in Alaska, the islands of the Pacific and among the Chinese.

The strap drill (Fig. 19), as well as its near relative, the bow drill (Fig. 20), in common use by the Eskimo, was known to the inhabitants of Asia and northern Africa at a very early day.

According to Dr. John Miller, the Dakota Indians used the bow-drill in rotating the fire-sticks (Smith. Rep., 1868); but this custom, which, from other reports, was not general among them, was probably acquired from the early white traders.

FLINT PERFORATORS AND THEIR CLASSIFICATION

At the advent of white man in America, implements of chipped stone, as well as others of wood, shell, and bone were in common use by the Indians. A generation later numerous ships came annually from across the sea laden with goods for trade with the savages. The tribes of what is now Wisconsin, and from as far to the west as the Dakotas, made annual pilgrimages, by way of the Strait of Mackinac and the St. Lawrence river, to the Atlantic coast, with canoe loads of furs which were exchanged for scrap iron, files, hatchets, wire, beads and other trinkets highly prized by them. In this way the more serviceable implements of iron and brass long preceded the earliest explorers and traders into the dark recesses of our Wisconsin forests. Stone tools and weapons were made and used in the western portion of America, up to a much later date than was the case in the eastern part.

Certain stone tools, classed as "perforators," but used for various purposes are of common occurrence in Wisconsin, and are among the most remarkable and perplexing articles of flint. The forms secured here are the same, with one or two exceptions, as those found elsewhere in America. From the variety of their forms, one would almost conclude that they were designed for specific purposes. But their shapes tend more to indicate the manner in which they were used rather than the work they were to perform. Those with a very wide, flat base, evidently not intended for the attachment of handles, were revolved between the fingers and thumb when in use. Many of those that are thin and without a broad base or notches, may have been mounted in handles; while those with notches and barbs were evidently intended for attachment to a shaft by means of lashings of sinew or rawhide. The thick strong points, especially if worn from use, were probably employed in drilling stone. The more fragile examples were used as awls, lances, etching-tools, chisels, gouges, needles, bodkins, fish hooks and in fact for any of the purposes for which they were serviceable. They were also sometimes used as arrow or spearpoints.

The arrow and spear, with almost any form of point, was doubtless sometimes employed as a drill. It would therefore seem hardly safe to attempt a classification of perforators on the basis of their respective uses. Arrowheads of a slim form pass over almost imperceptibly into perforators, making it often impossible to show a distinction between them. It therefore seems best, in classifying perforators, to adopt, so far as possible, some comprehensive form of classification that is already applied to arrow and spearheads.

A study of the forms of chipped flint perforators shows that most specimens fall readily into the classification proposed for arrowpoints, spearheads and knives, by Dr. Thomas Wilson in his admirable monograph published in the 1897 Annual Report of the Smithsonian Institution.

The Wilson classification is as follows:

Division I, leaf-shaped:

Class A is pointed at both ends, the widest place one-third or one-fourth distant from the base.

Class B is more oval, less pointed, with base concave, straight, or convex.

Class C is long and narrow, short points, parallel edges, and bases concave, straight, or convex. These belong to the Pacific coast.

Division II, triangular.—This division includes all specimens which, according to geometrical nomenclature, are in the form of a triangle, whether the bases or edges be convex, straight, or concave. They are without stems and consequently without shoulders, though in some specimens the extreme concavity of the base produces barbs when the arrow shaft is attached.

Division III, stemmed.—This division includes all varieties of stems, whether straight, pointed, or expanding, round or flat, except those with certain peculiarities and included in Division IV; and whether the bases or edges are convex, straight or concave.

Class A is lozenge-shaped, not shouldered nor barbed.

Class B is shouldered, but not barbed.

Class C is shouldered and barbed.

Division IV, peculiar forms—This division includes all forms not belonging to the other divisions, and provides for those having peculiarities, or the specimens of which are restricted in number and locality.

Class A, beveled edges.

Class B, serrated edges.

Class C, bifurated stems.

Class D, long barbs, square at ends. Peculiar to England, Ireland and Georgia, United States.

Class E, triangular in section. Peculiar to the province of Chiriqui, Panama.

Class F, broadest at cutting end, tranchant transversal. Peculiar to western Europe.

Class G, polished state. Peculiar in North America to the Eskimo country and to New England and New York.

Class H, asymmetric.

Class I, curious forms.

Class K, perforators.

It will be observed that in Dr. Wilson's classification, perforators are all placed in Class K, Division IV, when all of them, by reason of their forms are entitled to be placed respectively in the other three divisions. Many examples are modifications of these types, but have not lost their identity by reason of change or exaggeration. Others in the form of birds, animals, ornaments or freaks may properly remain in Division IV. As the supposed use of many of these artifacts is simply conjectural, based upon the appearance of the implement itself, and is liable to be overturned by the discovery of any new fact concerning them, the classification is best that is based on the salient points of difference. An aboriginal skull in the U. S. National Museum, from Henderson county, Illinois, was found to have a hole in the squamosal bone on the left side, in which was imbedded a stone perforator or drill of a type that would appear to have been designed for use without the ad-

dition of a handle or shaft. It was without notches, tang or barb, and simply had a slight widening and flattening of the base as if intended to be used by revolving between the fingers and thumb. (See Cat. No. 60281–60282, U. S. N. M.)

Another skull was secured by the Smithsonian Institute from Dr. C. Yates, Alamedia County, California, and transferred to the Army Medical Museum. It was that of a man of advanced age. A long flint drill, similar in shape to the one found in the Illinois skull, except that its base was slightly concave, had penetrated the skull through the left orbit, and remained in place as originally implanted. (Fig. 39–5531, Army Medical Museum.)

Such discoveries as these prove quite conclusively that drills of this type were employed, occasionally at least, as arrow points; a use that would hardly be suspected from their shape.

The one form of perforator, quite common in Wisconsin, that does not seem to belong to any of the classes of the Wilson classification, is what might properly be called the broad-base type. (See Fig. 10.) The writer therefore deems it well to add one more class to the leaf-shaped implements, to be known as Class D of Division I.

This form has an exceptionally broad base, worked thin, square or rounded, neatly finished and not intended for the addition of a handle. Its blade is slim, either oval or nearly square in section. It was evidently designed for use as a perforator or bodkin; its wide base giving to the operator superior leverage when revolving it between the thumb and fingers. This cannot well be called a related form as it has such distinct peculiarities and is found in sufficient numbers here, and its distribution so extensive as to entitle it to be placed in a class of its own.

MATERIALS

The materials used for the manufacture of chipped implements by the aborigines of this state, are of many varieties and with changes of color that run through the entire spectrum, due principally to the presence of metallic oxides. The most common of these materials are flint or chert, jasper, chalcedony, quartzite, porphyry, rhyolite and crystal quartz.

The flint or chert may be either white, gray, shading through yellow green, blue and smoky black, or with tints or bands of red, yellow and brown. The jaspery variety runs from a light yellow to a deep red. The chalcedonic examples are principally of a dark, rich brown color, much resembling tortoise shell. Chalcedony of a white, waxy lustre and translucent was less frequently employed in implement making. The native quartzites are by far the most beautiful of all the materials used for chipped implements in this region. Many examples of this material are semi-translucent, with a metallic lustre and vary in color from nearly white to a very dark brown, and including delicate shades of pink and soft bluish gray. Specimens made of this material are to be found in nearly every collection in Wisconsin. The Public Museum of Milwaukee, the Logan Museum at Beloit College and the State Historical Museum at Madison each have large numbers of implements made from this beautiful material. The largest private collection Wisconsin quartzite implements is that of Mr. W. H. Ellsworth of Milwaukee. He now possesses more than one thousand examples, representing nearly all of the known forms of chipped implements found in this state.

WISCONSIN PERFORATORS AND THEIR FUNCTIONS

Fig. 1 of the Frontispiece, from Waukesha County, is 4″ long, of red jasper. The slender blade is oval in section and tapers to a fine point at one end. This is a well known type of awl. It most properly belongs in Division I, Class C. of our classification.

Among the related forms found here is one which is pointed at each end. These are sometimes considered as bait-holders and to have been employed in fishing. Another form has a somewhat expanded base; another a concave base, and still another parallel sides, a convex base and a short, strong blade with a stubby point. The last mentioned is evidently a drill and was used with the addition of a shaft or handle. A broken stone drill point of this type was found by the writer, firmly fixed in the stem hole of an unfinished catlinite pipe. Specimens of this character are usually of a compact jasper or of flint suitable for boring any substance not harder than indurated clay.

Fig. 2, from Washington County, is 5¼″ in length, of white flint crossed with bands of pink. It has a long thin blade, widest about ¾ of the distance from the point, with slight shoulders from which extend a thin convex, well finished stem. Its shape precludes the possibility of its having been intended for attachment to a handle. This beautiful specimen and its related forms, of which there are several in Wisconsin, belong to Division III, Class A. The fine point of this tool could easily be made to penetrate a green hide, and by further inserting the instrument, the hole could be enlarged to almost any desired size. Beside being useful in perforating soft materials, it is well suited for cutting lines on bone, horn, or wood, but rather fragile for drilling in stone.

Fig. 3, from Green County, is 1¾″ long and of about the same width across the base. It is of white flint and represents a type that has an exceptionally broad base, narrow but thick strong blade, usually square, but sometimes triangular in section. The base may be either straight, convex or concave, and its width gives a great leverage to the user. This form rarely exceeds two inches in length and is quite common throughout the state. It is placed in Division V of our classification. Examples of this type were not attached to handles, and being extremely short, were suitable only for drilling thin objects, if any. They are best calculated for perforating objects other than stone.

Fig. 4, from Racine County, is 5½″ long and of white flint. The blade is slender, nearly square in section, notched, stemmed, and evidently intended for the addition of a shaft or handle.

This is the most common form of perforator found in Wisconsin and is in fact the predominating type throughout the greater part of North and South America. Its frailness would almost preclude the possibility of its having been used for the drilling of stone harder than catlinite, slate, or steatite. It would, however, be serviceable as a gimlet in boring wood. These implements vary from one to five inches in length, are frequently beveled, giving them from two to four cutting edges. They are placed in Division III.

Mr. J. D. McGuire in his "Primitive Methods of Drilling," Fig. 72, shows a similar implement from Wisconsin and refers to it as a "wood-boring point." He refers to it as a very com-

mon American type, and states that "the length would insure its breaking with slight pressure in the hands of any but the most skilled workman. It may, however, be said that, as the American drill was only a straight shaft worked between the palms of the hands, a thin point could be worked safely, whereas a similar point would be broken if employed upon any of the drills with higher velocity than the hand drill." (Rept. N. M. 1894, p. 682.)

Fig. 5, from Marquette County, is 4¼" long and of yellow quartzite. It was evidently intended to be held in the hand when in use. It is widest in the center, tapers to a point at one end and to a broad, slightly convex base at the other. It is perfectly flat on one side and rounding or oval on the other, and seems to be intended for a rimmer rather than a drill. This form is occasionally found here. Several in the author's collection are of flint and jasper. Quartzite specimens are of rare occurrence. They are placed in Division I.

Fig. 6, from Jefferson County, is 3½" long and of yellow jasper. The slender blade is well rounded and finely finished with a slightly expanding base and without notches, shoulders or barbs. The base is thinned down for the reception of a shaft or handle, and is slightly convex. Related forms have a straight or concave base. This particularly interesting type, being slightly stemmed, belongs to Division III. It is one of our most common forms. It is said to be found from the British possessions on the north to the Amazon on the south. While this and several other forms are often referred to by writers as "drills," the student should not understand that such was their exclusive use. They could have been employed as engraving tools, or arrowpoints, or knives, or scrapers, or possibly for other purposes. The Indian, like his white brother, frequently used the same tool for a variety of purposes and without doubt at times his arrows and even his long handled spears were pressed into service as perforators. These were best used by revolving the shaft between the palms of the hands while holding the object to be drilled between the toes or feet.

Fig. 8, from Waukesha County, is 4½" long and an inch in width. The material is white flint. It is broadest near the base, from which it tapers toward each end. The base is slightly convex and broad; the blade thick and terminating in a

point which is considerably blunted from use. It is a strong instrument, doubtless intended as a rimmer or gouge and was held in the hand when in service. It would be an ideal tool for enlarging pipe bowls of soft rock. It belongs to Division I. An example in the writer's collection has beveled edges, which allows the tool to cut from both sides of the bore when revolved to the right, and the reverse action serves to sharpen its cutting edges by contact with the walls of the bore. Fig. 8, being flat on one side and oval on the other, has two equally strong cutting edges. When revolved, in the act of drilling, it cuts with only one side at a time and sharpens the opposite edge at each turn.

Fig. 9, from Jefferson County, is 2″ long, of yellow flint, and represents a type not infrequently met with in this state. Specimens vary from one to four inches in length. They are widest across their centers, where slight shoulders appear, from which they taper gradually to a thin, broad, convex stem at one end and rapidly to a thin blade and sharp point at the other. This type is quite generally distributed throughout Wisconsin and ranges as far south as the Ohio valley. It appears to have been held between the thumb and fingers when in use. It is placed in Division III.

Fig. 10, from Dodge County, is 4½″ long and of white ivory flint. It has a circular base, 2″ across its greatest diameter, and is worked thin and to a full edge all around. From the base tapers a slim, yet well rounded blade or point. A number of these interesting implements have been found in Wisconsin. Because of their exceptionally broad bases they are properly classed under Division I. Its broad base serves the purpose of a handle and gives to the thumb and finger a firm hold and great leverage. Related forms are found with square, straight, concave and convex bases. All are of exceptional width and thinly chipped. The base of the tool represented in Fig. 7 is worn very smooth, presumably from contact with the fingers while in use. Examples of this type show no certain indication of having been used for drilling in stone. They are far better adapted for the piercing of leather and other soft materials.

Fig. 11, from Jefferson County, is 2⅛″ long, of a jaspery white flint, straight, strong, with a thick blade, oval in section and nearly parallel sides. The base is worked down thin and its

point blunted by wear. It belongs to Division I. Its form indicates that it was intended to be set into a shaft. It appears to be the most practical of all forms of chipped stone perforators for boring in the softer varieties of rock. A number of specimens of this form, in the writer's collection, appear to have been used with the addition of sand, or sand and water. A type of drill, much like the last described, but with a slightly expanding base, is square in section with a four sided point, so shaped by grinding. This form scarcely ever exceeds two inches in length, and is of rare occurrence. It is related to the type last described.

Fig. 12 represents a very common Wisconsin form, and one that is found throughout America. It much resembles Fig. 4, but lacks the notches. Its prominent shoulders sometimes terminate in barbs. Some examples are in the form of a Roman cross. Many specimens of this form were probably used as arrowheads, while others, judging from the wear and polish of their blades, were employed in drilling. They were evidently intended to be used with the addition of a handle.

Among the peculiar forms, occasionally encountered, is one resembling in form a flying bird. Specimens of this style are deeply notched, with an expanding, convex tail or base, and with gracefully curved shoulders and barbs, which suddenly contract into a short, slim blade and sharp point resembling the head and outstretched neck of a flying bird. This and some related styles may have been employed as amulets or ornaments.

Another form, quite common here, is simply a rough flake or spall, with one extremity nicely worked to a sharp point. These vary in length from half an inch to as much as four inches.

A few have two or more short prongs or blades and may be regarded as freaks or ornaments. A most interesting form occasionally encountered, is evidently a broad-bladed arrowhead transformed into a perforator, by the secondary chipping of its point. The conversion of splintered arrow or spearpoints into scrapers, drills, knives or other suitable implements by rechipping was a common practice of the American Indians. In every case the tip of the blade of a well proportioned arrowhead was cut back fully half an inch in order to form the drill point. These short-pointed perforators appear to be designed for shallow work, such as the making of beads and gorgets.

AWLS, BODKINS AND NEEDLES

A careful examination of the perforated objects recovered from the village sites, graves and cultivated fields of Wisconsin, frequently show that two or more processes were employed, and two or more differently shaped tools were sometimes used in producing a single perforation.

The awls, bodkins and needles so found are either of bone, antler, stone or copper. Those of wood have long since disappeared. Those of stone are usually of chipped flint or jasper, the blades rounded and without sharp cutting edges. A few are made of slate or other laminated soft rock, ground smooth, and frequently have a perforation at one extremity, probably for the reception of a thong or string, and useful in suspending them from the neck or other part of the person of the owner while traveling, or for hanging them up when not in use. A rare example of bodkin (Fig. 21), made of finely finished slate 5 3-8″ in length, 5-8″ wide in the widest part and with a perforation near its base, is the archaeological collection at the Logan Museum, at Beloit College. This interesting specimen was found at Eagle Lake, Racine County. Another example in the same collection, about 3″ long, thick and rather crude, was found on the bank of the same lake.

The bodkin is a most convenient tool and was employed in sewing, in weaving, and in basketry, as well as in making tents, nets and bark canoes. For these purposes, the specimens generally employed were made of antler, bone or wood, and were provided with a smooth, rounded blade, tapering to a sharp point. This implement has been observed by the writer among the Menomonee Indians of northern Wisconsin. Here it is still employed in the manufacture of birch-bark canoes, and bark maple-sugar mococks, the seams of which are laced together with strips of the inner bark of the young basswood or roots of the spruce. Holes for the reception of the latter are made with the awl or a jack-knife blade, and enlarged or stretched by the insertion of a bodkin. Another use of these smooth-bladed perforators by the Wisconsin Indians is suggested by Carver in his "Travels in Wisconsin," about 1776, who says of the

natives: "They bore their noses and wear in them pendants of different sorts. I observed that sea-shells were much worn by those of the interior parts and reckoned very ornamental."

The chipped stone drill, calculated for producing clean cut holes in substances, such as wood or stone, shell, horn, or bone and where the removal of a portion of the material is necessary, can with no certainty be distinguished from implements used for perforating softer materials that are merely stretched or thrust aside in making the hole. The use of this class of primitive implements required no particular skill. The cobbler of today manipulates his awl of metal in the same manner as did the American savage his awl of bone, wood or stone.

Thin-bladed stone perforators, with sharp edges, were probably used as knives or lances, for thrusting and slitting, as well as in tattooing, etching and drilling. These implements vary in size from diminutive points, almost too small to be firmly grasped with the fingers, to those of half a foot or more in length.

In the processes of perforating hard substances, pecking, grinding, cutting, scraping and gouging were more or less resorted to. Sir John Evans specifies five ways of making holes in stone, viz:

"(1) Chiseling or picking with 'picks,' 'celts,' or 'drills' of flint or other stone; (2) boring with a solid borer, as wood, hard or soft, or horn, with sand and water; (3) grinding with a tubular grinder, as horn, cane, elder etc., with sand and water; (4) drilling with a stone drill, e. g., of flint or sand stone; (5) drilling or punching with metal." "Holes produced by any of these means could, of course, receive their final polish by grinding." (Evans, Ancient Stone Imp. etc., G. B. 50–52.)

The local Indian village sites and graves produce considerable numbers of bone, pearl and stone beads, perforated teeth, bear claws, wampum, gorgets and pendants, that in prehistoric and historic times were worn suspended from the necks of the natives. The boring of most of these objects was doubtless done with the small stone drill, and they, like most thin specimens, were usually drilled from both sides.

Laskiel says "that wampum, before the discovery of the country by Europeans, was made of wood which was colored black and white, and that it was seldomly made of shells, be-

cause of the time required to bore them, and because they were of awkward appearance. (Geschichte der Evangelischen Brüder in N. A., p. 34. McGuire, Drilling, p. 629.)

While chipped stone perforators are found throughout America, their "greatest ornamental development seems to have been in Missouri, where they grade into animal forms."

COPPER PERFORATORS

Native copper implements, like those of stone, were doubtless employed in various ways. Many of them appear to have been primarily intended for the purpose of making holes, and are usually referred to as perforators. These, by reason of their various shapes, are classified as needles, awls, drills, pikes, punches and cylinders.

The needles, while rude, are of the same form as now in common use by white people. Mr. Chas. E. Brown describes them thus:

"All are provided with eyes and, except in their somewhat rude fashioning, do not differ from the needles in ordinary domestic use at the present day. These implements range in size from less than two to as much as eight and an eighth inches. The average size appears to be between two and three inches. Such implements are to be seen in most of the eastern Wisconsin collections." (Nat. Copper Imp's. of Wis., V. 3, No. 2, p. 83.)

The awls and drills found in this state are described as follows:

"The simplest and most frequent form is a slender cylindrical piece of metal pointed at one or both extremities. A second and usually stouter form is either round or square in section and tapers from a well marked shoulder at or near the middle to both extremities. Sometimes one end only is pointed. Occasionally also the upper half of the implement is straight and the lower half tapers to a point." (Ibid. p. 81.)

Many of these implements were probably provided with handles or shafts. A copper awl with horn handle was found in Loudon county, Tennessee. (Rau. Drilling, p. 61). Although Wisconsin is most prolific in the production of copper

artifacts, so far as the writer has been able to learn, but one perforator has been found with any portion of the handle attached. This, however, is not surprising as the materials from which they were made could not, from their nature, long resist the destroying influence of time. This interesting specimen is in the cabinet of Mr. F. H. Lyman of Kenosha, and was recovered from a village site, on the shore of Lake Michigan, adjoining the city of Kenosha on the south. Its total length is 2 2-16 inches, the antler handle being 1 1-16 inches long and the exposed part of the copper awl 1 2-16 inches in length. In a letter to the writer the owner states that "associated with this perforator were found a skeleton, numerous flint implements, bone edged tools, bone or antler barbed spear heads, antler perforators (sharpened at each end, from 4 to 8 inches long), hammer-stones, fragments of turtle shell and fresh water bivalves."

Mr. McGuire learned by experiment that a copper drill, with quartz sand, made "a most excellent cutting tool."

For boring the stem-holes in catlinite pipes, the writer found that a four cornered copper drill (Fig. 22), with the use of sharp sand, cut a smoother hole and in a shorter length of time than either the sand-stick or drill of flint.

Jones (230) says that the southern Indians pierced shell beads with heated copper drills.

Of pikes and punches Mr. Brown states:

"They are rod-like in form, usually circular or square, less frequently rectangular in section, and taper to a point on each end. In a number of examples one end only is pointed. The largest of these is in the Wyman collection in the Field Museum of Natural History. It is about 40 inches in length, one inch in diameter at the middle and tapers to a point at either extremity. It weighs five and a quarter pounds and was obtained from a burial mound on the Abraham place at Peshtigo, Marquette county." (Ibid. p. 80.)

These implements, were in many cases probably provided with a handle and may have been used as weapons, and for many other purposes. A tool of this kind when heated would be a most serviceable instrument for burning holes in wood.

Spikes, according to Brown, run from four and a half to seven inches in length and about a quarter of an inch in thick-

ness; one end being blunted and the other tapering to a point. A few examples are decidedly square in section and may have been used as perforators or drills. Some of the larger ones, with a flat or broadened point, may have been used as chisels or gouges. Many tubes and stems of pipes found in Wisconsin may have been excavated with some such tool.

Copper articles of globular or tubular form, made by rolling or over-lapping thinly beaten native metal, are frequently found in eastern Wisconsin. Those of globular shape were worn as beads. The short tubes were sometimes attached to clothes as bangles or possibly worn suspended from the ears or nose, while many of the longer ones were doubtless employed as tubular drills, Rev. W. M. Beauchamp tells us that the Indians of New York used copper and brass tubes for the ornamentation of belts. (Met. Ornam. N. Y. Ind., p. 25.)

In order of effectiveness and rapid progress in drilling, Mr. McGuire found the gradation of drilling tools to be: "Copper-tube; reed; elder; bored wood; copper rod; and wooden stick."

DRILLING

Probably the best examples of drilling in stone by the aborigines of Wisconsin are to be found in the stone pipes recovered here. The writer's collection contains nearly six hundred of these artifacts, the majority from this state. These afford an excellent opportunity for study of the various methods of drilling.

In this collection are two stone tubes, from Winnebago County, this state, of dark slaty rock, elliptical in section, 4½″ long, 2″ wide at one end and tapering to one inch at the other. These appear to have been shaped by the use of a stone hammer and finished by grinding. The cone-shaped cavity of each is an inch in diameter at one end and less than half an inch at the other. The bore shows no rotary drill marks, but is very irregular in shape, having been enlarged by scraping or gouging the long axis of the specimen, with a narrow tool, apparently of stone, by working from each end and resulting in leaving the bore the largest at the middle.

A keel-shaped pipe, from Vilas County, shows that both bowl

and stem hole have been excavated by the gouging process, probably after being first drilled with a solid-pointed drill. This pipe is made of Lake Superior brown stone. It is an inch in thickness, both bowl and stem-hole being about half an inch in diameter. This specimen shows no evidence of metal tools having been used in its making. From the presence of a small conical hole at the bottom of the bowl cavity, it is evident that a narrow bladed drill was first used in producing the excavation. Thus we find the employment of at least three varieties of perforators in the production of a single pipe.

Two interesting catlinite tubes are from Sheboygan County. Each is 5½″ long, 1½″ in diameter at the mouth of the bowl, and half an inch at the stem end. Each was drilled for its entire length by means of a solid drill and sand. The bore was subsequently enlarged by rimming and scraping. In places the striations of two distinct sizes of rotary drills are visible, and part of these are cut away by the use of a chisel or gouge. The mouth of the cavity, for a short distance in, was slightly widened by the use of a rimmer or scraper. It seems safe to conclude that at least four tools of different types were used in the production of these bores.

Other tubes have cone-shaped bowl holes, drilled entirely from one end and doubtless with a solid stone point. Examples so drilled, however, seldomly exceed two inches in length. Others have a straight bore of nearly uniform diameter reaching to within a very short distance of the opposite end, from which a hole of a trifle smaller diameter meets that of the larger.

That tubular drills were in common use here is evidenced by the number of pipes recovered that have, in the base of the bowl hole, slight remains of a core. That many of the stem holes were thus drilled can well be doubted. Some bowl cavities, first started by means of a solid drill-point of stone, appear to have been enlaged by means of the wood pointed drill, with the addition of sand and water. Other holes seem to be purely the product of the sand drill or sand-stick, as it is often called.

The interior of the bowls of the monitor pipes found here, as well as the stem holes of the Wisconsin disk pipes, are almost

invariably well polished and terminate in a cup-shaped base. The striations, or drill marks, usually found on the walls of the bore, are carefully ground away, making it apparent that the rotary drill of wood, together with fine sand, was used in polishing as well as in drilling. Here we have an example of the application of the same implement for two kinds of work.

The bowl cavities of the older Wisconsin pipes, used principally for ceremonial purposes, were large. The Siouan, rectangular type, which cannot be considered as among the most ancient forms, is the only type that has a very narrow bowl hole, but what it lacked in diameter is usually made up in length. After white man came and his tobacco was substituted for kinnickinnic, and the Indian had learned to smoke for pleasure, it is likely that the bowls of the pipes, long possessed by him, were enlarged, and those subsequently drilled, made with increased capacity.

The forming of bowl cavities, during the Stone age, required far less skill and accuracy in drilling than did the stem holes. The latter had to be bored with extreme care, especially in pipes having extended bases. Stem holes were not only less in diameter than those of the bowls, but of greater length, and had to be so directed as to meet the bottom of the bowl hole at, or just below, its centre.

That the stem hole, as well as the bowl cavity, was sometimes started with a stone pointed drill, and bored as far as possible without endangering its brittle blade, is quite certain. The bore was then enlarged by a rimmer or larger drill point; again the smaller drill was used and thus by repeating the process, the bore was carried to the desired length. An unfinished rectangular pipe, of Barron county catlinite in the writer's collection nicely illustrates this manner of making a bowl or stem hole, so far as starting the bore is concerned. In its partly drilled stem hole was found the fractured tip of a slim stone drill securely wedged fast. The broken bowl lays bare a narrow drill hole, an inch in depth.

Another specimen also illustrates one manner of producing a stem hole of considerable length with stone tools. It is a broken limestone stem, 4″ long, of an old type of Siouan calumet, the bore of which distinctly shows three diameters, sep-

arated from each other by rather abrupt shoulders and indicating that as many sizes of drills were used in producing the bore.

Hoffman, in writing of drilling by Wisconsin Indians, says: "In the manufacture of articles requiring perforation, I was informed that the Menomoni used sharp pointed pieces of quartz and jasper, rotating these rude drills with the hand and fingers." (14th Rept. B. E., p. 266.)

That the secondary drilling was frequently done with a sand-stick, is evident from the appearance of the stems of several pipes in the writer's collection. Catlin found that the Sioux of Minnesota bored their pipe stems "by drilling into it with a hard stick, shaped to a desired size, with a quantity of sharp sand and water kept constantly in the hole." (Catlin, Indians, 1, 234.)

Many of the catlinite pipes found here contain file marks and other evidences of the use of metal tools in their manufacture. Their stem and bowl holes present unmistakable evidence of having been drilled with such tools. These modern productions are copied after aboriginal types and are often so cleverly executed as to make it exceedingly difficult to distinguish them from those of pre-historic make. Of all examples of aboriginal drilling found in this state none quite equal those of the stem hole of the so-called platform or monitor pipes. In the writer's collection is one with a drill hole 1/8″ in diameter and 5″ long extending through a very thin, flat extended base. It is not the thin base that should excite particular wonder, as that was worked down thin after the drilling was completed, but the skill that is shown in producing so small and extended a bore. If authorities do not err, smaller holes have been made with tubular drills, but the writer is convinced that neither this type of perforator nor the sand-stick were employed in boring the stem of this pipe. Native copper, when pounded out into a slim rod, would make an admirable drill for this purpose, and was the tool used in this case. Mr. McGuire made such an implement from a nugget of this metal, by beating it into shape with a quartzite hammer and found that the fine particles of the crystals of the stone, which became firmly embedded into the metal, caused it to make a most

excellent cutting tool. With slender rods, as well as tubes of copper, so prepared, he "has bored crystallized quartz." (McGuire, Drilling, 685.)

The tubular drill seems to have been preferred for drilling the harder varieties of rock, used in the pipe making, as many examples in the writer's collection indicate. One specimen, worthy of mention, bored with this type of drill, is keel-shaped, of white quartz, bowl hole half an inch in diameter and two inches deep, at the bottom of which remains a portion of a drill core.

Hoffman could find no evidence of the use of the bow drill among the Wisconsin Indians. He informs us that fire-sticks were used by these people for making fire and for drilling hard substances, like bone and shell. "The aperture drilled was probably not of greater depth than could conveniently be accomplished by rotating by hand the drill point of silicious material used." (14th B. of Eth. Rept., p. 266.)

Small, thin objects, such as gorgets, ornaments and beads, were usually drilled—from each side. Hoffman found globular shell beads among the Menomoni of Wisconsin, about the size of a buck-shot, made from the thick portions, or perhaps joints of fresh water mussels. "They are drilled from each side towards the middle. The perforations being somewhat funnel-shaped, and showing marked striae, would indicate that the drilling had been made with other than a metal instrument." (Ibid, p. 266.)

The writer has interviewed several of the old men of the Chippewa tribe of Wisconsin, and found none that knew anything about the bow drill, but all seemed familiar with the fire-stick and shaft drill.

While the perforations of many objects found in this state, because of the smallness of the bore, are exceedingly interesting, the cylindrical shell beads found in the graves of the California Indians are still more so. For the sake of comparison it may not be out of place to state that they are sometimes as much as four or five inches in length with "perforations but little more than a millimeter (or less than one-sixteenth of an inch) in diameter, and the difficulty in making them must have been very great." (Wheeler, U. S. G. Survey etc., V, VII.)

The tools used in producing these small holes were the

whiskers of the sea lion and silt. Bundles of triangular pieces of horn-stone have been found in the graves of those Indians, thought to have been used in making indentations at the end of the cylindrical beads, which assisted in seating or starting the point of the bristle drill.

EXPERIMENTS IN DRILLING

The time required by the aborigines for perforating objects with their primitive tools is usually considerably overestimated. Extensive experiments made, by careful students of the subject, with all known types of drills, indicate that this art was much less difficult than has generally been supposed. Mr. J. D. McGuire says:

"Recent investigations are fast forcing the conclusion that primitive mechanical methods did not entail the vast amount of patience which they would be supposed to require." (Drilling, 660.)

The time required for perforating a certain kind of stone depends entirely upon the hardness of the material to be drilled and the implement employed. Burke tells us that "with an ordinary arrow held between the hands and vertically revolved, the Apaches bored holes in beads. A bead (of torquoise) was made in my presence, under very disadvantageous circumstances, in a trifle less than twenty-six minutes." (Am. Anth., Jan. 1890, p. 61.)

With a bow drill and stone point, McGuire drilled a hole through a silicious rock, an inch and a half thick, in three hours. A hole five inches deep was drilled in a piece of catlinite in three hours; this is about as hard as banded slate. (McGuire, Lapidary.)

To give a complete report of the results of the writer's experiments would require more space than is allotted for this paper, and being, as it was, practically a repetition and confirmation of similar work done by McGuire, Rau and other investigators, as described by them in their valuable contributions on the subject, but a few results will be given here.

The writer, with a strong beveled jasper point set into a shaft of about the same weight as an ordinary arrow and revolved be-

tween the palms of the hands, was able to drill through an inch of catlinite in 40 minutes. By adding dry sharp sand, it required but 32 minutes to make a similar bore. It was found that by adding water the cuttings became a paste that adhered to the drill point, retarding its work, and compelling the frequent cleaning of it by scraping. In drilling slate or other stone, excepting catlinite, the addition of water greatly facilitates the work.

With the same drill point, set into a shaft weighing about ten pounds, and used with dry sand, a hole an inch in depth was drilled into catlinite in 22 minutes. To bore through an inch pine board required exactly five minutes, and for an inch of dry maple, less than 16 minutes.

It might be interesting to note that although the writer drilled nine holes, each an inch in depth, into a block of catlinite, using the same jasper drill point, without the addition of sand and water, it showed but slight evidence of having been used. In drilling the first hole the weak, projecting points were broken away, giving it the appearance of having been slightly re-chipped. The grinding and polishing of the drill point, resulting from this rather severe test, was scarcely noticeable. These experiments seem to indicate that many of the so-called perforators that show little or no wear, may have performed considerable service in drilling.

When boring in soft stone of any considerable thickness with a stone drill point, great care must be exercised to prevent the brittle tool from binding in the bore, as this is liable to cause the blade to break. This fact may, in a measure, account for stone objects being frequently drilled from each side.

In boring steatite, slate, sandstone or limestone, with a stone point, without water, the drill usually begins to choke up and bind at the depth of about half an inch. By the addition of water, or water and sand, this difficulty is much lessened and the work made easier.

As a sand-stick, the writer tried pine, basswood, maple, ash, hickory and the tip of a cow's horn, filed to the desired size. The pine was found to be too soft, especially when water was added; hickory so hard that the sand would not sufficiently bed or adhere to it, and maple but slightly better in this respect. Ash proved to be the most durable of the woods, and

the horn far superior to any in holding the sharp sand and in retaining its shape.

With an ash rod three fourths of an inch in diameter, three feet long, with a rounded point, and the use of sharp sand, made by crushing quartz crystals between two stones, the writer was able to drill a cone-shaped hole into Barron county catlinite, an inch deep and of the same width at the mouth of the cavity, in 66 minutes. With the horn point, both sand and water being used, a hole of the same dimensions was drilled into this rock in 48 minutes. The bore is necessarily larger than the drill point. If the drill, throughout the operation, could be held without variation from side to side, the hole bored would be the width of the drill plus that of the sand adhering to it; but it is hard to avoid a wabbling motion, which tends to still further enlarge the hole. All holes made with the sand-stick gradually become cone-shaped because of the rapidly wearing away of the shoulders of the drill point.

It is further found that considerable care must be exercised in feeding sand to a rotary drill, whether of the sand-stick, or cylindrical type, as a greater quantity than will supply the point will result in causing the walls of the bore to become cut out and deeply striated.

A piece of inch lead pipe, when furnished with sharp quartz sand, was found to cut through catlinite very rapidly. In all these experiments, a slight pecking away of the material to be drilled was found necessary in order to start the drill with any degree of accuracy.

McGuire found that a piece of native copper, hammered into cylindrical shape with a quartzite hammer, was a most excellent cutting tool, "equal to almost any tried in the course of his experiments." What gave it such qualities was the fine particles of the crystals of quartzite, which became firmly embedded into the metal by hammering, so that as the copper wore away the crystals continued to cut. (Drilling, p. 685.)

After the Indians of Wisconsin learned the art of making copper tools, the drills of this metal were most likely used to considerable extent in pipe making.

Dr. F. V. Hayden informs us that the Northwest Fur Company manufactured nearly two thousand catlinite pipes during two years, immediately following 1865, and traded them

to the Indians on the upper Missouri. This should not, however, cast a reflection on all Indian pipes, as these products of white man's ingenuity are generally readily distinguishable.

A large number of the pipes found in this state, especially of the Siouan type, appear to be of Indian make in every particular, except that they have smoothly cut stem holes that cause them to be considered by many as modern products, principally on the theory that their stem holes were drilled with iron tools. These stem cavities have perfectly straight sides, tapering to a small opening, with striations that can scarcely be distinguished without the aid of a magnifying glass. With an awl or drill of native copper (Fig. 22), attached to a shaft, just such holes have been produced by the writer. The number of copper implements found here, suitable for drilling purposes, and that nicely fit the bores of a large number of pipe stems, would lead to the conclusion that copper drills were used by the aboriginal pipe makers in producing many of these holes. Some stem holes show evidence of having been produced with the sand-stick.

Catlin saw the Dakota Indians of Minnesota boring their pipe stems with a stick and sharp sand. Copper was almost unknown in the country visited by him.

With a copper awl 5 inches long, set into a shaft 3 feet long, and with the addition of dry quartz sand, the writer succeeded in drilling a hole 3 inches deep into the end of a piece of catlinite in 55 minutes. This hole was half an inch wide at one end and tapered to a point at the other. It was as cleanly cut and of the same shape as the stem hole of the ordinary Siouan calumet.

By using the same drill in a brace, that it might be more rapidly revolved and be given greater pressure, the same depth was reached in less than 40 minutes. The hotter the drill became through friction, the more rapidly it seemed to cut. It was found that by occasionally roughening the drill, by pounding it with a piece of rock, the sand was allowed to bed and cut with greater rapidity.

MODERN PIPE STEMS

Catlin describes the manufacture of pipe stems by the Sioux of Minnesota, saying: "The shafts or stems of these pipes are from 2 to 4 feet long, sometimes round, but most generally flat, of an inch or two in breadth, and wound half their length or more with braids of porcupine quills, and often ornamented with the beak and tufts from the woodpecker's head, with ermine skin and long red hair, dyed from white horse hair or the white buffalo's tail. The stems of these pipes are carved in many ingenious forms and in all cases they are perforated through the center, quite staggering the enlightened world to guess how the holes have been bored through them, until it is simply and briefly explained that the stems are uniformly made of the stalk of the young ash, which usually grows straight and has a small pith through the center, which is usually burned out with a hot wire, or a piece of hard wood by a much slower process." (N. A. Indians I, p. 234.)

The Chippewa of Wisconsin, up to a recent date, made pipe stems in the same manner described by Catlin. Previous to obtaining wire from the Europeans, or making it from native copper, the Indians of this portion of America produced the stem cavity in the same manner as did the natives of South America that of their blow-guns. A straight stalk or piece of wood was cut to the desired length, split longitudinally, the pith removed, or a channel or groove made along one part, then again glued together, smoothly polished and all marks of the split obliterated by pigment or by use. The Eskimo practiced the same method of producing holes in some of their curved pipe stems, but after gluing the two parts together they wound the stem with strips of green sinew, which shrunk tightly to it in drying.

Mr. McGuire (Drilling, 630) tells us that from old specimens in the U. S. National Museum collection it is judged that prior to the advent of Europeans, pipe stems were made from split pieces of wood, treated as above described.

Wooden pipe stems, ornamented by having holes of various shapes cut through them from side to side, have excited con-

sidearble wonder as to just how the stem cavity could reach around these holes.

Fig. 23 represents a pipe stem in the writer's collection that illustrates the manner of accomplishing this feat. The middle portion of this stem is well cut away and in order to provide a stem hole a thin strip of wood was removed from one edge of the stem, a channel gouged out extending to within half an inch of either shoulder. At each end of this groove was a hole burned to about the center of the stem; a hole was next burned from either end to intersect it at right angles. The strip was glued back into place, smoothed down and painted. So skillfully was this done that only a most careful inspection would disclose any marks of the split.

LITERATURE

Adair: History of the American Indians (1775).
Abbott, C. C.: Primitive Industry.
Brown, Chas. E.: Native Copper Implements of Wisconsin, Wis. Archeologist, V. 3, Nos. 2, 3.
Beauchamp, Rev. W. M.: Aboriginal Chipped Stone Implements of N. Y.
Butler, J. D.: Historic Relics of the Northwest, W. H. C. IX.
Carver, Jonathan: Travels in North America.
Carr, Lucian: Mounds of the Mississippi Valley Historically Considered in Sm. Rep., 1891.
Catlin, George: North American Indians.
Cushing, Frank H.: Primitive Copper Working; in Amer. Anth. VII, Jan. 1894.
Drake, Samuel: Aboriginal Races of N. A.
Evans, Sir John: Ancient Stone Implements of Great Britian, N. Y., 1872.
Fowke, Gerard: Stone Art, 13th Rept. Bureau of Ethnology.
—— The Archaeological History of Ohio.
Foster, J. W.: Prehistoric Races of the U. S.
Gillman, Henry: The Ancient Man of the Great Lakes.
Hough, Dr. Walter: Fire-making Apparatus in the U. S. N. M, Rept. 1888.
Hoffman, W. J.: The Menomini Indians, in B. E. 14.
Holmes, W. H.: Stone Implements of the Tidewater Province; in B. E. 15.
—— Art in Shell of the Ancient Americans; in B. E. 2.
Jones, C. C.: Antiquities of Southern Indians, N. Y., 1873.
Lubbock, Sir John: Prehistoric Times.
Lapham, I. A.: The Antiquities of Wisconsin.
Moorehead, Warren K.: The Antiquities of Wisconsin.

Moorehead, W. K.: Prehistoric Implements.
McGuire, J. D.: Materials, Apparatus and Processes of Aboriginal Lapidary in American Anth., V. Apr. 1892.
—— Primitive Methods of Drilling, Nat. Mus. Rept. 1894.
—— American Aboriginal Pipes and Smoking Customs, Nat. Mus. Rept., 1897.
Rau, Chas.: Prehistoric Fishing in Europe and North America.
Stevens, Edward T.: Flint Chips, London, 1870.
Smith, Capt. John: Account of Captivity among the Indians.
Thruston, Gates P.: The Antiquities of Tennessee, Cincinnati, 1890.
Thomas, Cyrus: Burial Mounds of the Northern Sections of U. S.
West, Geo. A.: Aboriginal Pipes of Wisconsin, V. 4, Nos. 3 & 4, Wis. Archeologist.
Wilson, Thomas: Arrowpoints, Spearheads, Knives of Prehistoric Times; in Rept. N. M., 1897.

SUGGESTIONS OF MEXICO IN THE MOUND RELICS

Edson C. Smith

Even the novice in North American archeology, in looking over museum collections, cuts and pictures in books and printed articles, of culture objects gathered from all over the North American continent, is haunted, so to speak, by a feeling of peculiar likenesses and resemblances running here and there throughout the entire mass.

The subject is a large one, however, and it requires much time and work to classify mentally the different objects one sees in these lines, and to state just where and in what the similarities lie.

That this feeling is justified, however, is evidenced by reference to the books. At page 18 of his work "North American Archeology" Prof. Cyrus Thomas speaking of similarities of cultures in different parts of aboriginal North America, says:

"As indicative of this similarity, a few of the types may be noticed. The singular form of carving representing a figure with the tongue hanging out, and usually communicating with a frog, otter, bird, snake or fish, is observed on the North West coast from Oregon to Prince William Sound and also in Mexico and Nicaragua. We may say that this feature is found in numerous instances in statues and bas reliefs from Mexico to the Isthmus and also in the codices of Mexico and Central America."

"The prominent Tlaloc nose of Mexican and Central American figures, of which the supposed elephant proboscis is but one form and the thunderbird bill of the North West coast another, is a characteristic of the Pacific slope. The method of superimposing in totem posts and statues, one figure upon another,

is found, with the exception of California, from Alaska to the Isthmus."

"Compare the figures of A. P. Niblack's work "The Indians of Southern Alaska and Northern British Columbia" with the Mexican and Central American monuments and figures. Such a comparison shows such marked resemblance as to lead to the inference that they were derived from some common source."

And again on page 180:

"The mania among North West coast Indians for introducing symbolic figures is carried to such an extent, that we find them on their war clubs, oars, masts, rattles and even on their fish hooks."

"The strong general resemblance which many of these figures bear to some of those found in Central America is too evident to be overlooked. The method of bounding and grouping the various symbols of individual pictographs reminds one of the forms and method of grouping in the Maya hieroglyphic writing and sculptured inscriptions. The superimposed square faces on certain ceremonial robes are almost a repetition in idea and form of the square conventionalized face series in the facades of some of the ancient Yucatecan structures. The resemblance also between some of the North West coast figures and forms seen on the pottery and other works of art of the Province of Chiriqui in Central America is remarkable."

But all this is only a general background for the subject of this paper which is "Suggestions of Mexico in the Mound Relics," and which may best be covered perhaps in the three general queries:

Are there suggestions of Mexico in the Mound Relics?

What are these suggestions?

What do they indicate?

As to the first proposition there seems to be no dispute among investigators; all agree that there are such suggestions. Later citations will show what some of them are and what some of the investigators think about them. The suggestions are many. Some of them are vague and apparently fanciful and some are very marked. With all the apparent agreement as to materials, however, the matter is anything but simple, as might be at first supposed. It is quite complicated, in fact, and requires a most intimate knowledge of the characteristic features

of both cultures, the Mexican and the aboriginal Indian to deal with it properly. Even the authorities best posted in these lines seem unable, as yet, to arrive at any general all around satisfactory conclusions.

As to the suggestions themselves: Before discussing the principal sort of relics which offer these Mexican resemblances, it may be well to clear out of the way certain minor varieties which serve somewhat as straws, so to speak, showing which way the winds of similarity blow.

And first some gorgets. These ornaments are so well known in archeological writings it seems unnecessary to describe them. In Vol. II of the Bureau of American Ethnology Reports, dated 1881 in his article entitled "Art in Shell of the Ancient Americans," Mr. W. H. Holmes shows, among many varieties, four of these gorgets that bear each a banded square with looped corners and on each side of the square a peculiar looking bird's head. In the center of the square on several of them is a cross. Three of these were found in Tennessee and one in Mississippi. Mr. Holmes sees Mexican likeness here and gives also a cut of a square with similar looped corners and a cross in the centre, which he finds in an Aztec painting, the Vienna codex. He says also of this loop and bird pattern, at page 285:

"A similar looped rectangle occurs several times in the ancient Mexican MSS. It is not a little remarkable that a cross occupies the enclosed area in all these examples."

In the same article in Vol. II Mr. Holmes shows also, four so-called spider gorgets one from Missouri, one from Tennessee and two from Illinois, each bearing a well executed representation of a spider. The spider, it is generally admitted, has a certain mythic religious significance among the American aborigines. At first sight there does not seem to be anything particularly characteristically Mexican-looking about these spider gorgets; still there are some details tending that way, and as in general they resemble so very closely other gorgets that do bear characteristic Mexican devices, it seems proper to include them in this connection.

Next the so-called serpent gorgets. In this same article, in Vol. II Mr. Holmes gives a dozen or more of this variety, most of them from Georgia and Tennessee. These have much

of the disjointed crazy-patch character of Mexican designery; much of the design is broken up into and arranged in beads or bosses, so common in the Mexican and Mayan time symbols and similar work.

Then come what Mr. Holmes calls the scalloped discs. They are shown in the same article in Vol. II and there are cuts of seven of them all from Tennessee. Mr. Holmes considers these to be time or calendar symbols. In the text accompanying his article he speaks of them as follows:

"The student will hardly fail to notice the resemblance of these discs to the calendar or time symbols of Mexico and other Southern nations of antiquity; there is, however, no absolute identity with Southern examples. The involute design in the centre resembles the Aztec symbol of day, but it is peculiar in its division into three parts, four being the number almost universally used. The circlets and bosses of the outer zones give them a pretty close resemblance to the month and year zones of the Southern calendars."

So much for the minor varieties. Now to the real cause of trouble. The battle rages principally around the gorgets portraying the human figure.

In this same article, in Vol. II Mr. Holmes gives four of these human figure gorgets, three from Tennessee and one from Missouri. It is to be regretted that cuts of these cannot be referred to, as it is very difficult to give any intelligible description of the details of such designs. In fact much of the characteristic Mexican, Aztec and similar art appears to be beyond reach of the English language any way. Only the most striking details can be referred to here.

No. 1: Is from Tennessee. It may be called "The Crude One," as no one, without the aid of outside help, would ever have dreamed it was intended for a human figure; it is apparently a collection of joints with an eye or so in each joint. As long as it was the only one, it would hardly attract attention as having meaning of any kind, but later similar and more lucid specimens served to show that it was intended to be the figure of a man.

No. 2: Is also from Tennessee, but from a different locality; it is similar to No. 1, but of a more coherent style and served

to identify No. 1 as intended for the representation of a human figure.

No. 3: Is a ceremonial figure from Missouri. It has the real Mexican flavor and apparently depicts a male figure duly disfiguring in some way the dissevered head of his opponent or victim. Both faces are tattooed. There is the peculiar belt and pendant and the equally curious object before the mouth which appears in so many designs of this sort. It has been called "The Sacrifice." Mr. Holmes says of it, on page 301:

"Any one at all familiar with the curious pictograph MSS. of the ancient Mexicans will see at a glance that we have here a sacrificial scene in which a priest seems to be engaged in the sacrifice of a human being. In the extraordinary MSS. of the ancient Aztecs we have many parallels to this design. So closely does it approach the Aztec type, that there is not a single idea or a single member or ornament that has not its analogue in Mexican MSS."

No. 4: Is from Tennessee, and is the famous bilateral Fight Scene showing two plumed and winged warriors with eagle talons and deadly weapons doing all kinds of damage to each other. Mr. Holmes says of it at page 301:

"It has a general resemblance to the marvelous bas reliefs of Mexico and Central America, and must be regarded as the highest example of aboriginal art ever found north of Mexico."

Bear in mind that these four human figure gorgets in shell were pictured by Mr. Holmes in 1881. In 1884 Mr. Cyrus Thomas in his article "Burial Mounds of the Northern Sections of the United States" in B. A. E. Vol. V presented various other similar relics with human figure designs. One of these may be added to our list, as—

No. 5: It is also a shell gorget and is from the famous Etowah Mounds near Cartersville, Ga. It represents a winged warrior figure kneeling. Before the mouth is the curious object, which in this case appears to be suspended from the head dress. There is the usual belt and pendant. The face is tattooed. The wings are represented in peculiar lines of scallops, so characteristic of the later described copper plates.

No. 6: Is also a shell gorget from the same Etowah Mound group, and is very similar to the last one described. It has,

however, two contending warrior figures, and the gorget itself is much damaged.

Changing now from gorgets of shell to copper plates, there may be added to our list:

No. 7: A ceremonial figure on a thin plate of copper from the same Etowah Mounds. Mere words cannot describe this design. It requires a cut of the article itself, to do it justice. Noticeable items are the belt, apron and pendant; the peculiar beak nose, the elaborate head dress, and the object hanging before the face; many beads and bands; also the bilateral lines of scallops representing wings and feathers.

No. 8: Also an elaborate ceremonial figure on copper plate, from the Etowah Mounds, but not so complete as No. 7. It represents, however, about the same details.

No. 9: Copper plate from near Peoria, Ill. It represents an eagle. Notice should be taken of the bilateral wings and feathers represented by the lines of scallops. An eagle similar to this was found in the Etowah Mounds, and another in Union Co., Ill. And there is a similar one from Jackson Co., Ill.

No. 10: Copper plate from Jackson Co., Ill., showing a dance scene. The most notable feature is the object before the face; it apparently hangs from the head dress. A plate similar to this was found in Alexander Co., Ill.

So much for the contribution of Prof. Thomas. Now comes:

No. 11: The Douglass gorget from New Madrid, Mo. This is a shell ornament and was found in 1887 and is illustrated and described by Mr. G. P. Thruston in his work "Antiquities of Tennessee" at page 346. It represents a ceremonial figure similar to those described above. Some of the details, such as the apron, belt and pendant, are exact copies of these items in the Etowah copper plates. There is a peculiar headdress, evidently a mask, and the nose is exaggerated, being 8 or 10 inches long apparently, and curled up at the end into a sort of spiral.

These are not all the relics of course that might be included in the above list, but they were enough to puzzle the wise. It will appear later what the difficulties were. Attention only may be called to the fact that these objects came from several different localities, in several different states, and that there were many resemblances and some actually identical features among them, showing all to have been of similar origin and

design. And no one could examine them for a moment without being impressed with their collective and at times detailed resemblance to designs such as are common in illustrations of Mexican and Mayan ruins, calendars, books and codices.

Leaving now the enumeration of objects, suggesting Mexico in mound relics, something may be said as to what they are supposed to indicate, and first in order will come the views in regard to these objects and designs which were presented by Mr. Holmes in his early discussion of the subject in 1881. In Vol. II B. A. E. in the article on "Art in Shell," before referred to, he says on page 305:

"Gorgets of shell are a marked characteristic of the personal embellishment of the Northern peoples; they may have been in use among the Aztecs, but do not appear among Southern antiquities and no evidence can be derived from history. This gorget, referring to the one from Missouri, belongs in its general character as an ornament to the North; in all its features, together with its technical execution and its manner of inhumation, it is identical with the well known work of the mound builders. These analogies could hardly occur if it were an exotic. It is true, however, that the design itself has a closer affinity to Mexican art than to that of the North; no such design is known in the art of any nation north of Mexico. * *

* As an ornament, this Missouri gorget is a member of a great family that is peculiarly northern; but the design engraved upon it affiliates with the art of Mexico, and so close and striking are the resemblances that accident cannot account for them and we are forced to the conclusion that it must be the offspring of the same beliefs and customs and the same culture as the art of Mexico."

So we have here the real issue; the puzzling problem about these relics of the mounds that bear suggestions of Mexico; culture objects of one people, admitted by experts to be an institution peculiar to that people and giving every evidence of having actually been made by that people, and which bear, nevertheless, art designs of an entirely different people, of a far removed locality. How did it happen? How could the combination have been made? Surely the mound building peoples did not take or send their gorgets down to Mexico to have the Mexican art delineated thereon; nor is it likely the

Mexicans went for or sent after the gorgets of the northern people for the purpose of putting their own art thereon. And making allowance even for all we know about ancient trade routes; admitting the fact that the Indians carried the Minnesota pipe stone to New York and New Mexico, or brought obsidian from Mexico to Ohio, or marine shells from the Gulf to the Interior, no working of trade route theories would seem to apply to this case, if the gorgets are held to be peculiar to the North. So Mr. Holmes is forced to the conclusion, as he says, that the art of the gorgets indicates a common basis of culture of the Mexicans and the mound building peoples of the North.

One may well hesitate to question such authority; but is it not a legitimate objection to this conclusion that the Mexican and Mound Builders' cultures ought to show likenesses in many other ways; in almost all ways in fact, if it is true that they are the offspring of the same beliefs and customs and the same general culture? Should not this likeness permeate in fact the whole culture of the Northern peoples, even though in a weakened, modified or diluted form? Should there not be many other offspring besides merely gorgets and a few similar objects? The fundamental culture of a people is a sort of subconscious working affair and can hardly be controlled in such way as to come out only in certain definite lines and be obliterated in all others. It ought to appear everywhere. And yet, there seems to be no valid claim on record anywhere, of a resemblance in general between the culture objects of Mexico and those of the Northern peoples.

Mr. Holmes himself seemed later not quite so well satisfied with his first statement. Moreover, since the date of his first article, the Etowah copper plates and other material had been added to the group of relics under discussion. In April 1884, reviewing the whole matter in "Science" he gives cuts of most all of the eleven objects appearing in the above list and says:

"All are identical as to time and origin. The copper plates are sufficient evidence of European post Columbian agency. Furthermore, brass and iron were found in the mounds with one of these gorgets. I believe it quite probable that they are southern works copied in favorite American materials by the

avaricious Spanish conquerors and used in trade with all the tribes of the Gulf states."

It is here seen, that, in the opinion of Mr. Holmes, the plates are of post Columbian origin, and the gorgets not much better; in fact, that both are of the same late origin. In other words, the Spaniards put Mexican religious and symbolical designs on copper plates and shell gorgets and passed them off on the Northern peoples in trade; making it a question of trade and contact rather than of common culture, as indicated in the previous article in 1881.

Two items in the above would be questioned, as many investigators are convinced that some of the plates are pre-Columbian, and as for the gorgets, much evidence is forth-coming that they were in general the work of the Indians themselves.

There is also an added difficulty here. Thus far nothing has appeared to contradict the view that gorgets were an institution peculiar to the Northern peoples; if so, they would be more or less unfamiliar to Europeans or Mexicans and it hardly seems probable that the Spaniards would have been so far sighted in their trading schemes as to study up Indian culture and select a material object peculiar to that culture on which to place the Mexican art.

Mr. Holmes again refers to the matter in Vol. XX, B. A. E. in 1899 in his article "Aboriginal Pottery of the Eastern United States." In discussing some small toy like funeral or votive objects from Ohio and Tennessee that were suggestive of Mexican work he says, page 42:

"The occurrence of such unusual features of art as this adds force to the suggestion afforded by certain unique works in stone, copper and shell, found in the general southern region that some of the early peoples had contact more or less direct with the advanced nations of Mexico."

Also at page 113:

"In specimens from Mobile shell heaps, there is a certain suggestion of Mexican or Central American art. It is not impossible that definite correlations with the ware of the south may in time be made."

And, as a somewhat final expression of his views favoring the contact theory, there may be cited a late utterance of Mr. Holmes of the year 1906, in the American Anthropologist Vol.

VIII, N. S., entitled, "Certain Notched or Scalloped Stone Tablets of the Mound Builders." Discussing here certain designs suggestive of Mexican ideas he says, page 107:

"These designs are not mere random products, but like the copper ornaments, the earthenware decorations and the shell engravings of the same region are evidently the work of skilled artists, practicing a well matured art, which distinctly suggests the art of the semi-civilized nations of Mexico and Central America. These plates may be regarded as furnishing additional proof, that the influence of the culture of middle America has been felt all along the northern shores of the Gulf of Mexico and has passed with diminished force still further to the North."

Thus far for Mr. Holmes. But previous to the date of the last quotation, of 1906, in fact in 1896, Prof. Frederick Starr, in his researches in Mexican archeology, complicated matters for the experts apparently, by the discovery of another gorget of shell, bearing designs of a type precisely similar to those on the list of gorgets and copper plates herein given; only this gorget was not found in the United States, but in Mexico in the state of Michoacan in the vicinity of the city of Morelia. Discussing the subject of Mexican and Indian connections and writing more especially of this Mexican gorget, Prof. Starr says in an article in Vol. VI of the Proceedings of the Davenport Academy of Natural Sciences:

"Many points of similarity might be found between this design and those of the United States. For example, the stiff and formal trunk, the claw-like foot, the curious object at the mouth, the tattoo markings and the belt and apron-like projections, etc. Form, function and character of this Michoacan specimen are plainly the same as those of the pieces from Tennessee, Georgia and Missouri. It can no longer be said the type is essentially Northern, nor that it belongs exclusively to the Mound Builders of the United States. We must modify Mr. Holmes' statement, and may say of the Missouri gorget 'it is a member of a great family, *not* peculiarly Northern.' We may emphasize also the other statement, 'We are forced to the conclusion that it must be the off-spring of the same beliefs and customs and the same culture as the art of Mexico.' In fact, there are greater differences between the Tennessee specimens

themselves, or the Missouri specimens alone, than there are between the United States specimens as a class and this Mexican gorget."

All of which may be a happy solution of the matter that will be confirmed by further discoveries, especially of Mexican gorgets. It has been urged, however, that as one swallow does not make a summer, so it might be hardly fair to conclude on present evidence that one shell gorget found in all Mexico proves that the gorget was a common culture object of the Mexicans. It does seem as though the archeological overhauling in Mexico in recent years would have brought to light a large number of similar gorgets if it is really true that they were a large family common to the Mexicans as well as to the American Indians.

As further indication of the variety of opinions, held by investigators as to the matter of Mexican suggestions in the Mound relics, a few other references may be given: Prof. Cyrus Thomas had much to do with these Mound Builders' relics. In 1891 he wrote regarding them in Vol. 12 B. A. E. in his article "Mound Explorations," page 307, as follows:

"We notice the fact, which is apparent to every one who inspects the figures, that in all their leading features the designs are suggestive of Mexican or Central American work, yet close inspection brings to light one or two features which are anomalies in Mexican or Central American design. * * * In 'The Story of a Mound of the Shawnees in Pre-Columbian Times,' I have ventured to suggest a possible explanation of their presence in the interior regions. I may add that these figured copper plates and engraved shells present a problem very difficult to solve. * * * The fact that some of the designs were found in connection with articles of European manufacture is unquestionable. * * * The evidence that some of the engraved shells can be traced to the Indians is well nigh conclusive."

Another authority on Mound Builders' relics, Mr. G. P. Thruston says, in 1890, in his work "Antiquities of Tennessee."

"The illustrations presented in the preceding chapters have called attention to many analogies and identities connecting the antiquities of Tennessee with the ancient arts and industries of Mexico and the Pueblos. The remarkable mythological figures

upon the shell gorgets and copper plates surely show unmistakable evidences of a Mexican origin or affiliation; the tubular pipes from the valley of the Cumberland, the large ear ornaments, the images, the idols, the grotesque forms, the long ceremonial flints all seem to connect the mound tribes with the arts, culture or religion of the peoples of the West and South West and to separate them from the tribes of the North and North East. * * * The remains of ancient arts discovered in the Cumberland and Tennessee valleys, as we have stated, were probably in the main of indiginous growth, the original independent product of the culture of the stone-grave race,—the Mound Builders of Tennessee. The traces here and there of Mexican, Southern or Pueblo culture, save in occasional instances, were probably but the outgrowths of customs and tendencies derived from a common ancestor. The mound building tribes doubtless lived during many generations upon various planes of development in the fertile and widely extended territory in which their monuments are discovered. This progressive race was evidently making steady advances towards a better condition of life. The semi-civilization of the Aztecs was developed through a series of centuries from humble beginnings of culture among tribes of aborigines, no farther advanced than these mound building villages."

In 1894 Mr. F. H. Cushing reviewed the whole matter in his article "Primitive Copper Work," in Vol. 7 of the American Anthropologist. Considering the extent and varied nature of his knowledge archeological, it was not too much to hope that Mr. Cushing would throw some light on the problem tending to its solution. However, after many pages of fascinating archeological discussion, far reaching suggestions, interesting comparisons, etc., in connection with Indian and Zuni mythology; the arts of copper working and shell engraving; tattoo marks of war and doom; transformation masks and ceremonial dancing; eagle gods; man eagles of war; eagle men; etc., just at the climax, where was to be expected the illuminating ray, the light failed and the question at issue was dismissed with the remark, that there *were* considerations of importance in answer to the question of connections of the Mexicans and Northern peoples in ancient times; but they did not belong to an article on

the experimental study of copper working and would be omitted. He did say however, among other things, on page 116:

"The art in these mound builders' specimens certainly resembles that of Mexico and Central America. It may be adventitious, or may indicate to some extent, derivation by the mound builders from one of these countries. The Indians of the south were great navigators; they astonished the Spanish with their canoes; it may well have been that they visited the southern peoples, and gave them, as well as took from them, art forms."

This seems to lay the blame on the Indians themselves, as well as the avaricious Spaniard. And here in an apparent confusion of "contact" or of "common culture" or of "interchange" the problem seems to have remained even unto this day. It is to be hoped that further discoveries will give evidence that will settle the matter of these connections of the Southern Indians and the nations of Mexico to the satisfaction of everybody. Prof. Starr's explanation would simplify the problem greatly and needs only a few more gorgets or similar evidence found within the borders of Mexico to put it far in the lead. Something tending that way is shown in an article by Prof. Starr in A. A. Vol. X, entitled "Stone Images from Tarascan Territory." Cuts are given of a group of small stone images of a peculiar type, found in Mexico that are singularly like in type and detail to another group of similar images found in the Tennessee Stone grave area, which are described and illustrated in an article by Cyrus Thomas in A. A., Vol. IX in 1896, entitled, "Stone Images from Mounds and Ancient Graves." It is significant, that the Tarascan images reported by Prof. Starr in his article, are from the same district in Mexico, namely the State of Michoacan, as was the shell gorget which was referred to in the pages above. The present State of Michoacan is located in the part of Mexico that was occupied formerly by the ancient Tarascans.

This whole problem as to the exact connection between the ancient peoples of Mexico and the Indians of the North is an interesting one and an important one as well. Upon it depends in a way the solution of the greater mystery as to the movements and migrations of the many peoples that roamed the great North American continent prior to the Columbian dis-

covery. Indirectly also, the settlement of this problem may have more or less to do with the more general and greater mystery of mysteries in American archeology, namely the question as to the peopling of the continent itself.

In any event until the details of such connection are worked out with a reasonable degree of accuracy, there will always be work ahead for the American archeologist or ethnologist and of a kind that will furnish him opportunity for exercise of all his resources of ingenuity and learning, however great they may be.

ARCHAEOLOGICAL NOTES.

The Society greatly regrets to announce the death on May 5 of Mr. E. D. Coe of Whitewater, who had been one of its members since 1905. In announcing his death Mr. Robert K. Coe, editor of the Whitewater Register, states that his father "felt a personal interest in the work of the Society, and was very much gratified by what it had accomplished."

The Sauk County Historical Society will meet at old Newport on the Wisconsin river, below Kilbourn, on August 27. On the way from Baraboo to Newport a stop will be made at the grave of the noted Winnebago chief, Yellow Thunder, for the purpose of marking his resting place with a tablet or other suitable monument. An invitation is extended by the Society to all interested persons to participate in this, its third annual pilgrimage.

The Twenty-first Archaeological and Historical Congress will be held at Liege, Belgium, on July 31 to August 5. "This section of Europe is one of special interest to the archaeologist and historian, and this congress will be an important reunion of some of the foremost savants of Europe, and will attract the attention of American archaeologists. The date of the opening will coincide with the opening of the new Archaeological Museum."

The Mississippi Valley Historical Association met at St. Louis, June 17, 18 and 19. Secretary Chas. E. Brown was extended an invitation to speak at this meeting on "Popularizing a Museum Exhibit" but was unable to participate owing to a pressure of other duties.

Curator H. C. Fish of the State Historical Society of North Dakota has been conducting a survey of some old Indian village sites in that state which are being cut through by a branch of the Northern Pacific railroad.

The American Association of Museums is preparing a directory of museums of art, science, etc., in North and South America with the object of promoting mutual aid and coöperation in exchange of material and publications, and, by bringing together accurate information concerning the organization and activities of such institutions, to stimulate museum development. Mr. Paul M. Rea of the Charlestown Museum, Charlestown, S. C., is secretary of the Association. The Buffalo Society of Natural Sciences will publish the report.

Mr. Olgar P. Olson of Argyle, a member of the Wisconsin Archeological Society, will place his archaeological collection, in the museum of the newly organized La Fayette County Historical Society. The County Board has voted $500.00 for museum cases.

The Milwaukee Public Museum has purchased the collections of Wisconsin copper implements belonging to the Messrs. E. F. Richter and W. H. Elkey. These make a very valuable addition to its collections. Logan Museum, Beloit, has acquired the copper implements belonging to the N. H. Terens Estate.

The State Historical Museum of Wisconsin is making extensive additions to its archaeological and ethnological collections.

The Standing Committee on Landmarks of the Wisconsin Federation of Women's Clubs has issued to the clubs a circular letter containing suggestions for landmarks work during the year 1909. From this communication the following is extracted:

"That you devote one club day during the year to Landmarks, and on that day take up some point of historic interest in the vicinity or the life of some Wisconsin man or woman whose name should not be forgotten. The commttee will furnish material or speakers if the club desire it.

"We would also suggest that the clubs enlist the interest of the school children in local landmarks work, encouraging them to gather information from old settlers in regard to events of pioneer days; perhaps offer prizes for the best essays secured in that way. By this means much valuable unpublished history may be preserved.

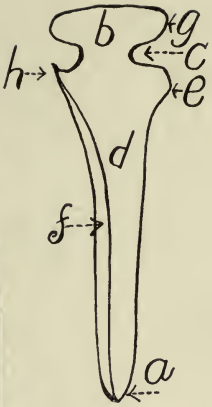
"As many of our Indian mounds are being destroyed, it has become necessary for some one to preserve the best ones that are left. Therefore we are asked to join the Wisconsin Archeological Society in the purchase of one or more of the effigy mounds near Madison. We consider this a most important part of the Landmarks work, and ask you to contribute towards the fund."

Mrs. Jessie R. Skinner, Madison; Miss Julia A. Lapham, Oconomowoc; Mrs. P. V. Lawson, Menasha; Mrs. Albert Salisbury, Whitewater; Mrs. Frank B. Fargo, Lake Mills, and Mrs. J. H. Rogers, Portage, are members of this committee, which is the strongest which the Federation could appoint. The Wisconsin Archeological Society requests of its members throughout the state that they coöperate in every way with the Committee and with the Clubs in their respective neighborhoods in this work.

Members of the Society will be gratified to learn of the recent appointment of Mr. Warren K. Moorehead as a member of the United States Board of Indian commissioners. This Board passes upon the affairs of the United States Indian Department and has general control over the supplies issued Indians, their education, discusses questions of land ownership and other matters of consequence. It seeks to better the condition of the Indians and to advance their prosperity.

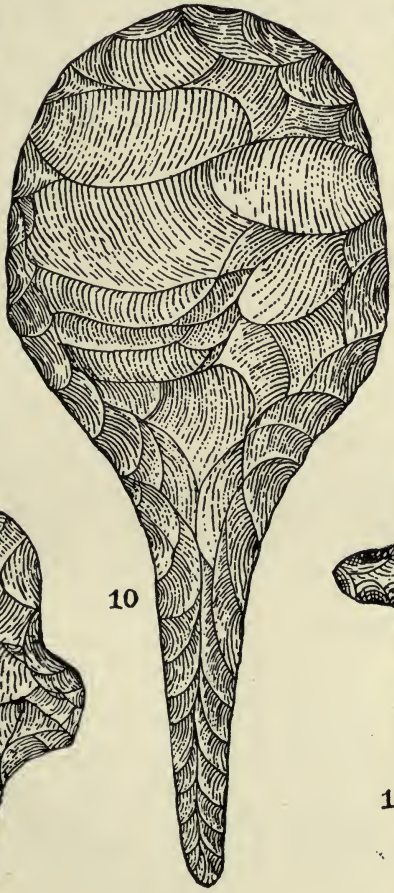
The Society is urging upon the University of Wisconsin the preservation of a group of mounds located upon the new University fruit farm, on the south side and but a short distance from Lake Mendota, at Madison. There are in this group a bird effigy and two linear mounds. Of the linear mounds one measures 165 feet in length and from 14 to 17 feet in width, and the other 96 feet in width with a uniform diameter of 17 feet.

It is highly desirable that these mounds should be permanently preserved and especially as the University does not now own a single good example of the linear type of Wisconsin Indian earthworks.



7

a ... point
b ... base
c ... notch
d ... blade
e ... shoulder
f ... bevel
g ... tang
h ... barb



8

10

11

9

12

Plate 1

WISCONSIN PERFORATOR TYPES.

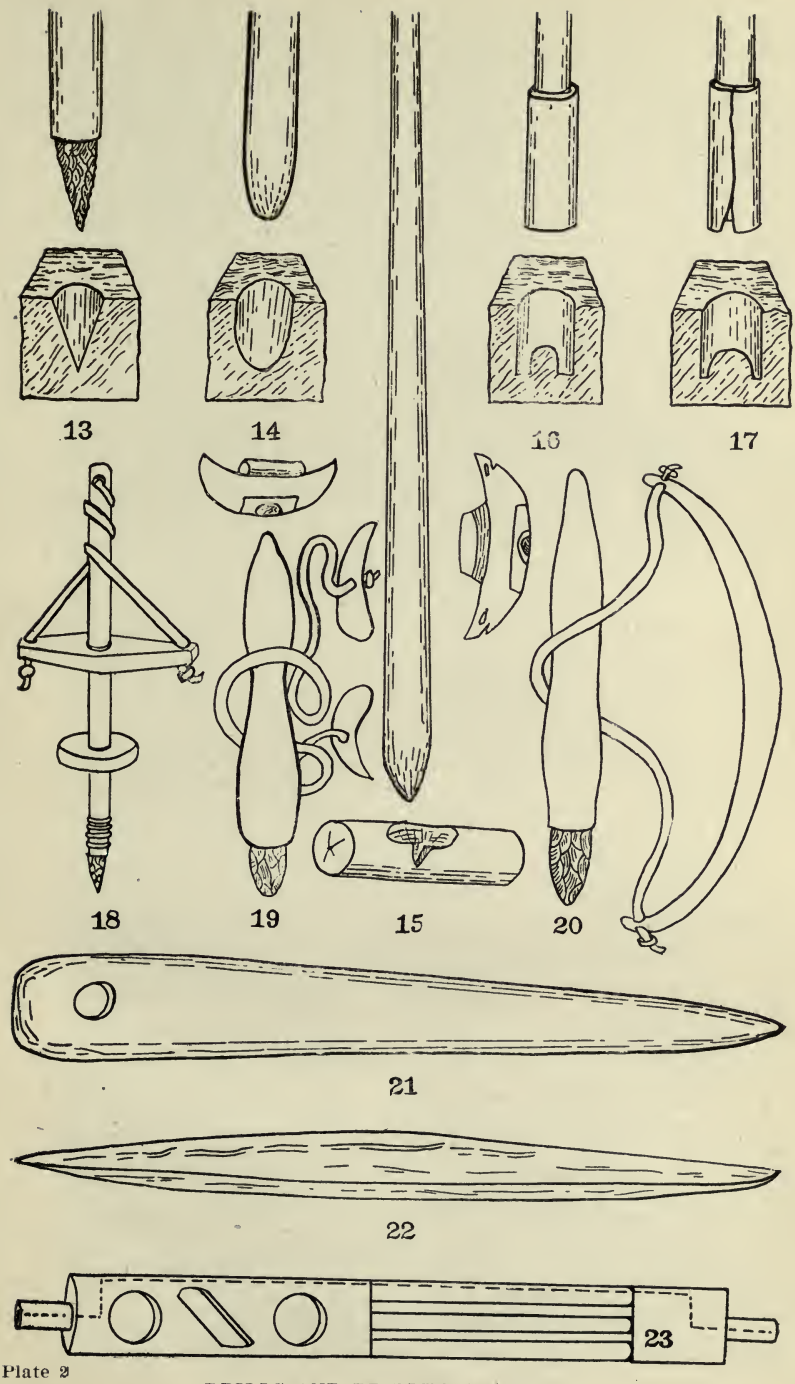


Plate 2

DRILLS AND DRILLED OBJECTS.

Plate 3

CONICAL MOUND, MERRILL'S SPRING, MADISON.

Vol. 8 August to October, 1909 No. 3

THE WISCONSIN ARCHEOLOGIST

REMAINS OF ABORIGINAL OCCUPATION IN PEWAUKEE TOWNSHIP, WAUKESHA COUNTY

THE FIELD OF THE SMALL MUSEUM

WISCONSIN GARDEN BEDS

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY
MILWAUKEE

Wisconsin Archeological Society

MILWAUKEE, WIS.

Incorporated March 23, 1903, for the purpose of advancing the study and preservation of Wisconsin antiquities.

OFFICERS

PRESIDENT

OTTO J. HABHEGGER.....Milwaukee

VICE-PRESIDENTS

GEORGE A. WEST.....Milwaukee
H. E. COLE.....Baraboo
DR. GEO. L. COLLIE.....Beloit
REV. L. E. DREXEL.....St. Francis
W. H. ELLSWORTH.....Milwaukee

DIRECTORS

JOS. RINGEISEN, JR.....Milwaukee
ARTHUR WENZ .....Milwaukee

TREASURER

LEE R. WHITNEY.....Milwaukee

SECRETARY AND CURATOR

CHARLES E. BROWN.....Madison

COMMITTEES

SURVEY, RESEARCH AND RECORD—A. B. Stout, H. L. Skavlem, P. V. Lawson, G. H. Squier, Dr. E. J. W. Notz and W. W. Gilman.

PUBLIC COLLECTIONS—E. F. Richter, J. P. Schumacher, Dr. R. G. Thwaites, Rev. Wm. Metzdorf, Dr. W. O. Carrier, Dr. Louis Lotz, Rev. S. E. Lathrop and W. E. Snyder.

MEMBERSHIP—Arthur Wenz, Dr. Louis Falge, Mrs. Jessie R. Skinner, Joseph Frisque, Miss Bertha M. Ferch, W. H. Elkey and S. G. Haskins.

PRESS—E. B. Usher, John Poppendieck, Jr., J. G. Gregory and G. J. Seamans

JOINT MAN MOUND—J. Van Orden, Miss Julia A. Lapham, T. C. Sherman, L. H. Palmer, Mrs. Henry Mertzke and S. J. Hood.

SESSIONS

These are held in the Lecture Room in the Library-Museum Building, in Milwaukee, on the third Monday of each month, at 8 P. M.

During the months of July to October no meetings will be held

MEMBERSHIP FEES

Life Members, $25.00. Sustaining Members, $5.00
Annual Members, $2.00

All communications in regard to the Wisconsin Archeological Society or to the "Wisconsin Archeologist" should be addressed to C. E. Brown, Secretary and Curator, Office, State Historical Museum, Madison, Wis.

TABLE OF CONTENTS.

Vol. 8, No. 3.

ARTICLES.

ILLUSTRATIONS.

Wisconsin Bone Implements

THE WISCONSIN ARCHEOLOGIST

Quarterly Bulletin Published by the Wisconsin Archeological Society.

Vol. 8. MILWAUKEE, WIS., AUGUST TO OCTOBER, 1909. No. 3

REMAINS OF ABORIGINAL OCCUPATION IN PEWAUKEE TOWNSHIP, WAUKESHA COUNTY

STANLEY G. HASKINS

In the succeeding pages there is given an account of the principal archaeological features of Pewaukee Township, in the county of Waukesha. The information offered, unless otherwise credited, is taken from reports made by the author to the Wisconsin Archeological Society. To Mr. Arthur Wenz the author is indebted for assistance in locating and determining the character of several of the features described. The Clark mounds and Horn effigy were platted and described to the Society in 1903 by Prof. A. R. Clifton, and information concerning the so-named Stewart, Junction and Waukesha Road mound groups contributed by Mr. I. N. Stewart, in 1906. Some of the mound groups in this township were known to Dr. Increase A. Lapham and are described and figured in his Antiquities of Wisconsin, published in 1855. His descriptions are quoted in the Western Historical Company's History of Waukesha County.

Some of the burial mounds formerly located in this township, have been excavated in the past by persons seeking relics. Others have been destroyed through the cultivation of the soil. Almost no reliable information concerning the nature of their construction or contents has survived. The late well-known collector of archaeological materials, Mr. Frederick S. Perkins,

reported to Secretary Brown that in 1842 a burial mound near the village of Pewaukee was explored by Mr. George P. Peffer. In it he found the bones of a large skeleton. Imbedded in the skull was a large flint spearpoint from which the stem and a portion of the blade had been broken. Mr. Perkins, during his day, secured by gift and purchase from farmers and others residing in the vicinity of Pewaukee Lake, a considerable number of stone and other Indian implements found there. Some of these are in the State Historical Museum, having been acquired with a large collection purchased from him by the state in 1878. These include a number of grooved stone axes, celts, a stone spud and several flint and native copper implements. Mr. E. J. Heming of Pewaukee and Mr. Walter C. Ward of Waukesha have also collected many valuable specimens in this district. In the Ellsworth collection in the Logan museum of Beloit College, at Beloit, is a very fine fluted grooved stone axe, which was recovered on the north shore of Pewaukee Lake. This axe equals in beauty of fashioning any axe of its class which has been found in Wisconsin. The surfaces of the blade are ornamented with eighteen longitudinal grooves or flutes. The poll is fluted in a spiral fashion, the flutings beginning just above the handle groove and winding upward to the crown. They make four complete turns. A fine heavy fluted stone hammer is in the State Historical Museum. Mr. Geo. A. West describes in the Aboriginal Pipes of Wisconsin (Wis. Archeo., v. 4, Nos. 3 and 4, pp. 144–45) a vase-shaped catlinite pipe, which was found on the shore of Pewaukee Lake. Mr. Brown mentions a cache of six blue hornstone knives which were found on the east shore of the lake, near the village. (Wis. Archeo., v. 6, No. 2, p. 64.) Several copper spearpoints have recently been found on the north and west shores. In the author's cabinet is a collection of flint arrow and spearpoints, perforators, knives and blanks from some of the village and camp sites to be described. These do not differ in style from those common to other sections of Waukesha and adjoining counties. Some pebble hammerstones were found in the same places. An iron hatchet of the well known trade pattern comes from near the fork of the Pewaukee–Waukesha trail. An oval stone gorget with two perforations and a slight incised ornamentation

on one edge was obtained from the G. W. Haskins place in Section 4. A series of stone spheres are from 1¼ to 3 inches in diameter. A grooved stone hammer comes from the J. Hodgson place in Section 4. Some stone gorgets in the Ringeisen collection in Milwaukee come from about the lake.

THE INDIANS

According to the traditions of the Winnebago Indians, the region in southern Wisconsin of which Waukesha County forms a small part, was in prehistoric times the territory of their tribe. These traditions the early Pottawatomie occupants of Waukesha County appear not to have questioned. The conclusion that the Winnebago were the builders of Wisconsin's effigy mounds and associated earthworks appears to be now quite generally accepted. Marks of their early ownership still remain in the numerous groups of mounds located about the lakes and streams of Waukesha County.

Jacques Vieau, the Milwaukee fur trader, visited large Pottawatomie villages at the present locations of Mukwonago and Waukesha in 1804–05, in the interests of his business.In that early day there appear to have been only a few small Winnebago camps still in the limits of the county. The Pottawatomie had then been long in possession of the Lake Michigan shore counties.

In the year 1827, Ebenezer Childs found the Pottawatomie village at Waukesha to be capable of putting into the field the large number of 400 warriors. The village must thus have contained 2000 inhabitants. The village, or camps, at Pewaukee Lake were composed of several hundred Indians. The Winnebago had at that time been endeavoring to persuade the Waukesha Pottawatomies to join them in taking the warpath against the whites. The warriors were in a restless, if not ugly, mood.

About the year 1827, Aumable Vieau, acting as agent for his father Jacques, established a trading post at the Waukesha Pottawatomie village. He remained for about two years visiting during this period other villages and camps of that tribe in the county. He furnished the Indians with ammunition, calico, beads and tobacco. Other traders also sent agents from

as far away as Green Bay and Prairie du Chien, among the Indians for their peltries. The testimony of all of the early settlers of Waukesha County is to the effect that the Pottawatomies were very peaceable Indians.

"The surface of Waukesha County is composed of prairies, oak openings, small marshes, almost innumerable lakes and small hills." (Hist. of Wauk. Co., 1880.) There are also a large number of fine springs. Of the lakes Pewaukee is the second largest as well as one of the most beautiful. Its banks are high and were formerly well timbered. Its eastern half lies in Pewaukee and its western in Delafield township. The village of Pewaukee is located at its eastern end. The name of the lake is said to be a corruption of the Pottawatomie name Pee-wauk-ee-win-ick, meaning "the dusty place". This lake was formerly a little less than four and one-half miles in length and about one and one quarter miles in width across its widest portion. The Fox (Pishtaka) River, a stream with many branches in the county, flows through Pewaukee township.

Everywhere throughout the county fish and game were abundant. Wild rice grew in some of the streams and lakes, and nuts and berries could be gathered in quantity. Materials for the making of stone implements were at hand. Its natural resources continued to attract the Indian to Waukesha County for thirty years after its cession to the Government (1833) and settlement by the whites.

The Pottawatomie Indians of Waukesha County are thus described: "None of these Indians were permanently located. During the season of corn-planting, their women and children occupied the higher lands among the lakes and rivers throughout the country, and pursued their primitive methods of agriculture, while the adult males spent the time in hunting, fishing and lounging about the camp." (Hist. Wauk. Co., p. 383.) The framework of their habitations was made of poles, and this was converted into a hut by means of a covering of skins or strips of bark. The village of Waukesha was permanent until 1837, except during the winters, when its inhabitants moved southward. Of the Pewaukee village or camps there is little recorded information.

These Indians buried their dead in shallow graves, the body

being frequently first wrapped in a blanket. Various articles belonging to the deceased were placed in the grave, which was covered with stones or brush. Burials were also made, it is stated, directly on the ground, or in trees. (See Hist. Wauk. Co., p. 382.)

TRAILS

On the map accompanying this article are shown the several Indian trails which it has been found possible to re-locate. They have been long obliterated by the cultivation of the lands which they traversed. On the farm of Mr. T. Connor (Sec. 29), a portion of the Pewaukee–Waukesha trail still exists. Its breadth has been increased by the passage over it of the conveyances of early settlers. Here it forked one branch leading southward toward the Waukesha springs and the other toward Mukwonago. From the Connor farm the trail followed in a northeasterly direction to Pewaukee.

In the southeast corner of Section 33, a trail leading to Green Bay connected with the above. It followed a general northeasterly course. On the G. Hodgson farm, near the north line of Section 11, it passed a spring at the base of a hill around which it wound, and took a northwesterly direction to a spring and passed on to the farm of A. Evart. Here was located a third spring. Thence it proceeded northward across the Isaac Edwards place and into Lisbon township. Old settlers say that a portion of this trail is identical with the path which cattle now follow on Mr. Hodgson's farm. About the year 1835, a maple sugar camp was operated by two settlers named Nickerson and Young, on this place. Mr. Grignon, who was employed by them to superintend the sugar-making remembers well when the Indians passed over this trail. They frequently paused in their journey at this place, camping on the hill, and traded with the men employed in the camp. In Section 22, the trail crossed the M. S. Hodgson place. Both Mr. Hodgson and Mr. Grignon agree as to its location and course.

Mr. Chauncey C. Olin describes the course of a trail connecting the Indian villages at Pewaukee and Waukesha. This

trail followed a general southeast course from the former place crossing the Fox River "at what is now Hadfield's quarry (Sec. 26), then came directly down the river to where White Rock Spring (at Waukesha) is located. About this spring was a great place for game. It was known to both Indians and whites as the "Salt Lick." (Hist. Wauk. Co., p. 495.) The exact line which this trail pursued from Pewaukee to Hadfield's is uncertain.

MOUNDS AND SITES

1. *Channel Mound.*—An effigy mound, thought to be intended to represent the bear, is located on the farm of Mr. E. Channel (E. ½, N. E. ¼, Sec. 6). A portion of it (the head) has been destroyed by cultivation. This mound lies on the line between this and the adjoining Holger farm and is on the top of a small hillock surrounded by a marsh. This mound was originally about fifty feet in length, and thirty-two feet in width. It measures from fifteen to twenty-six inches in height.

2. *Holger Mounds.*—On the farm of Mr. H. Holger (N. W. ¼, Sec. 5) there were formerly several mounds, thought to have been effigies. Of these only a trace remains.

In the early days of settlement the Pottawatomie Indians occasionally camped on this farm.

3. *Wood Camp Site.*—On the farm of Mr. W. Wood (N. W. ¼, Fract. Sec. 8) are indications of an early Indian village site. From a twelve acre lot on this farm a large number of stone and other implements have been recovered.

4. *Griswold Camp Site.*—Mr. Griswold reports the location after 1890 of an Indian camp (probably Winnebago) on the Fract. N. W. ¼ of Sec. 8. This strip of land is heavily wooded and is now used as a camp ground by summer tourists.

5. *Young Mound.*—On the farm of Mr. John Young (N. E. ¼, Sec. 4) are traces of an effigy mound. It is situated on the highest point of land on the farm. A short distance away is a fine spring in the neighborhood of which a large number of flint arrowpoints and a copper spearpoint have been found.

6. *Hodgson Workshop.*—A flint workshop was located on the farm of Mr. John Hodgson (N. ½, S. E. ¼, N. W. ¼, Sec. 4) on the bank of a small stream tributary to the Fox.

7. *Haskins Workshop.*—Traces of a flint workshop were formerly to be seen on the farm of G. W. Haskins (S. ½, S. E. ¼, Sec. 4). These have now been scattered by the cultivation of the field in which they were located.

8. *Hodgson Village Site.*—Indications of a village site are found on a large hill about one half mile east of the house on the farm of Mr. George Hodgson (Sec. 11). Large numbers of flint chips and fragments are scattered over the surface of the ground. At the base of the hill is a spring, which probably had much to do with the selection of this place as a village site. In about the year 1890, a burial was exposed in a sand pit on this farm. The bones were too much decayed to be removed. An iron knife of trade pattern was afterwards found near this spot.

9. *Mielenz Mounds.*—On the E. F. Mielenz place (Sec. 11) were several conical mounds. These have been long obliterated by cultivation and no information concerning their dimensions or contents is now obtainable.

10. *Pewaukee Camp Site.*—Mr. Miles Griswold, an old resident of Pewaukee, states that in 1845 a Pottawatomie Indian camp was located just in the rear of the location of the present C. M. & St. P. Ry. passenger depot, in Pewaukee. There were about 400 Indians in the camp which continued in this location until 1846. In those days the lower lake was a marsh through which a small stream flowed.

This spot has very probably been the site of successive earlier Indian camps. In the year 1900, the C. M. St. P. Ry. built a new depot near this place and in grading into the bank to the north and northwest, found many stone and metal implements and some human bones. The specimens were divided among the workmen and soon lost track of.

11. *Tischaefer Camp Site.*—In 1842, the Pottawatomie Indians had a camp on the south shore of Pewaukee Lake, in about the place where the Tischaefer hotel now stands.

12. *Chapman Camp Site.*—On the farm of Mr. William Chapman (S. ½, S. W. ¼, Sec. 17), at a distance of about 200 rods east of his house, is the site of another early Pottawatomie camp. Mr. Passault, an old settler of Pewaukee, remembers the camp at this place, which had about 35 occupants

They subsisted largely on the prairie chickens, which were abundant in the marshland near by.

13. *Belleview Camp Site.*—Mr. Thomas Connor, an old settler, states that during pioneer days a camp of Pottawatomie Indians was for several years located at the place now known as Belleview, on the south shore of Pewaukee Lake. (Fract. Sec. 18.) The number of Indians in this camp he remembers to have been about seventy.

14. *Clark Mounds.*—These earthworks are located on property belonging to Mr. Walter Clark (S. W. ¼, S. W. ¼, Sec. 9). They are in a wooded pasture, on a hill overlooking the village of Pewaukee and the east end of Pewaukee Lake. The top of this hill is about 125 feet above the level of the lake. There are two mounds in this group one being oval in outline and the other an effigy mound of the turtle type. They are separated from one another by a distance of one hundred feet. Both mounds are in a good state of preservation, and are in no immediate danger of destruction. Their dimensions are given in Figure A.

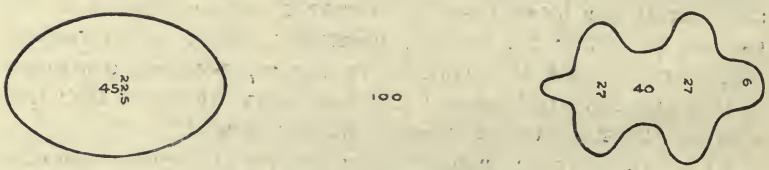


FIGURE A.—CLARK MOUNDS.

15. *Horn Effigy.*—This mound is located on property belonging to the Solomon Horn estate (E. ½, N. W. ¼, Sec. 16), at a distance of about one mile southeast of the village of Pewaukee. It is on the brow of a hill, in the corner of a cultivated field. This hill overlooks Pewaukee Lake and an old lake bed, now a marsh and hay meadow, each about a mile distant.

The mound is a poor example of the familiar "panther" type, lacking the tail, which was either never completed or has been destroyed. Its general direction is north and south. The material entering into its construction is largely clay and gravel.

16. *School Section Group.*—Of this group, which was located in Section 17, Dr. I. A. Lapham gives an illustration and brief description:

"But the most remarkable collection of lizards and turtles yet discovered is on the school section, about a mile and a half southeast from the village of Pewaukee. (See Plate XXIII.) This consists of seven turtles, two lizards, four oblong mounds, and one of those remarkable excavations before alluded to. One of the turtle mounds, partially obliterated by the road, has a length of four hundred and fifty feet; being nearly double the usual dimensions. Three of them are remarkable for their curved tails, a feature here first observed. (Plate XXIV. Nos. 2, 3, and 4.) One of the smallest has the tail turned back by the side of the body. (Plate XXIV. No. 4.) These curved figures have another peculiarity in the obtuseness of the extremity; the end being round and flat, instead of a sharp point, as in most other similar mounds. While these have a width of about four feet at the end, others gradually diminish in height and breadth so that it is almost impossible, as before observed, to determine the precise point of termination. One has a rectangular bend at the extremity of the tail, and in each there is a change of direction in passing from the body to the tail." (Antig. Wis., pp. 30–31.)

Lapham's plate of this group is reproduced by Rev. S. D. Peet (Preh. Am., Vol. 2, p. 256), but with some small errors and omissions. The plate also, whether by intention or accident, is reversed. The effigies referred to by Lapham as "lizards" are considered by present-day archaeologists as being very probably intended to represent some member of the cat family and are known for convenience of description as the "panther" type of mounds. The "excavation" mentioned by him is one of a rare and sparsely distributed class of effigy earthworks now known as intaglios. Of these he located examples also at Milwaukee (Indian Prairie, and Forest Home Cemetery groups), at Theresa, and at Fort Atkinson. Of these only the specimen at Fort Atkinson still remains. No others have since been located.

Lapham's survey of the "School Section" group was made in May, 1850. It shows the thirteen mounds comprising it to have been located along the top of a narrow densely wooded ridge or plateau having a general north and south direction and being bounded on either side by lower oak-overgrown lands, beyond which were marshes. The road to Pewaukee crossed the lower extremity of the ridge, passing between the several

most southern mounds of the group. Here, on the west side of the road, was a log cabin surrounded by some cultivated fields. The intaglio effigy lay near the center of the group. The survey of this group, situated as it was in a rather dense forest, must have been a matter of considerable difficulty and Wisconsin students are indebted to Lapham for his interest and labor in preserving a plat and other information concerning its features.

17. *Stewart Mounds.*—These are on the old R. A. Stewart farm (W. ½, S. W. ¼, Sec. 22). The most northerly mound was of the "turtle" type. Its tail was short. Its head was directed toward the southwest. The pioneer trail to Pewaukee passed by it, and an abandoned beaver dam crossed the stream a short distance to the north of it. A short distance to the south of the mound above described, on the opposite side of the stream, was a conical mound. This was plowed down by Mr. I. N. Stewart in his boyhood. In so doing he disturbed a quantity of burned corncobs and sticks, probably the remains of a provision cache which had been constructed there by later Indians.

Dr. Increase A. Lapham mentions that a "lizard" mound was located on the road in the S. W. ¼, Sec. 22. It was nearly destroyed at the time of the publication of his note concerning it. (Antiq. of Wis., p. 30.) It evidently belonged to the above group. Miss Mary E. Stewart states that in her girlhood a considerable number of Pottawatomie Indians camped on the farm.

18. *Junction Mounds.*—These mounds are located by Mr. I. N. Stewart, in a communication addressed to Mr. Charles E. Brown, August 6, 1906. All were situated north of the junction of the Waukesha to Pewaukee, the Milwaukee, and the U. S. Military roads. This junction point is just north of the Waukesha city limits.

Two conical mounds were on land now, or until recently, owned by Mr. C. N. Taylor (S. E. ¼, Sec. 27.) These were early plowed over and reduced to the level of the surrounding land. An oval mound was situated on the opposite (east) side of the Waukesha road (S. W. ¼, Sec. 26.) It was not very prominent. A conical mound was located to the south of this,

on the south side of the road to Milwaukee, in the southwest corner of the same section. This mound was well constructed and prominent. Both were on land belonging to Mr. J. J. Dixon. The Fox River is about one-half mile distant from these earthworks. About a quarter of a mile to the northeast is a large marsh.

Lapham states that at the crossing of the old Madison road, in the S. W. ¼ of Section 26, were "three conical mounds in front of four lizard mounds." (p. 30.) Of these he gives a plat. (Fig. 9.) This shows also two oval mounds directly east of the first "lizard" mound.

19. *Waukesha Road Mounds.* (N. E. ¼, Sec. 27.)—There were three mounds in this group all being situated at the side of the Waukesha to Pewaukee road, which for many years angled around them. In recent years, all were destroyed in straightening it. The most northerly was a mound of the familiar "turtle" type. Its head was pointed northwest, in the direction of the highway. In front of it was a slight declivity. Southeast of this mound was another of the same type. It was headed in a southwesterly direction. Just below it was a conical mound. All of these earthworks were on the M. S. Hodgson farm.

20. *Lapham Mounds.*—Lapham mentions that on the N. W. ¼ of Sec. 26 were some conical mounds and one of the "lizard" shape. They were at the foot of a hill that borders the outlet of Pewaukee Lake. (p. 30.)

The following sites are just across the township lines in Delafield and Lisbon townships, Waukesha County. The author has therefore thought it well to append descriptions of them to this paper.

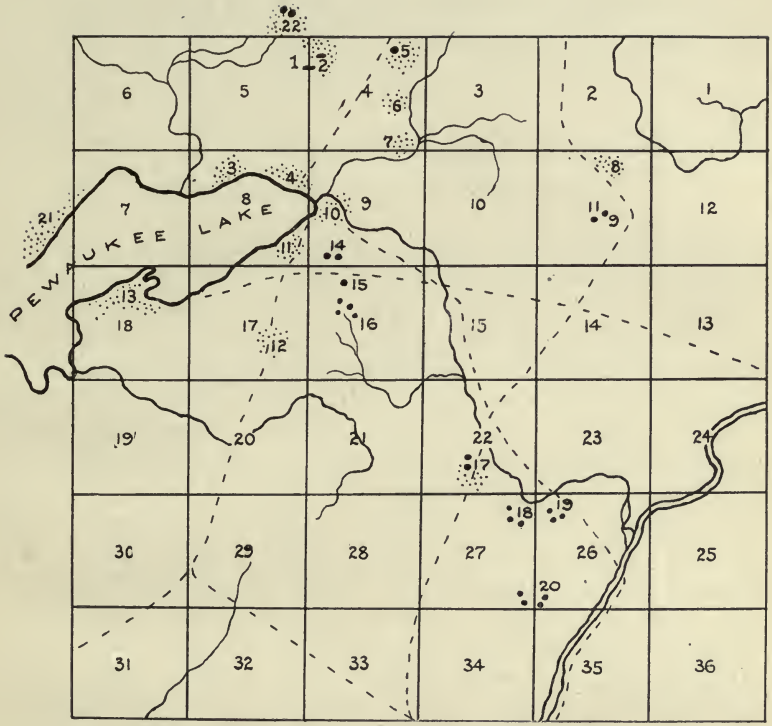
DELAFIELD TOWNSHIP

21. *Lakeside Camp Site.*—On the O. Bjorquist place, on the north shore of Pewaukee Lake, adjoining the well-known summer recort called Lakeside, in the S. E. ¼ of Section 12, was located an aboriginal camp and flint workshop. From this site Dr. Joseph Quin of Milwaukee has collected during frequent visits made in recent years, a large number of flint

blanks, rejects, scrapers, knives, perforators and arrow and spearpoints. He had also obtained therefrom a number of sherds of pottery vessels having a cord-marked ornamentation, and several stone hatchets or celts. From the same site some arrowpoints, pebble hammers and two grooved stone axes have been gathered by others. These articles have been collected both along the shore of the lake and in the nearby fields. A conical mound is reported to have existed , or still exists, on the same property. This site is just across the line in Delafield.

LISBON TOWNSHIP

22. *Billings Mounds and Camp Site.*—A short distance northeast of the house of Mr. Isaac Billings, on his farm (S. E. ¼, Sec. 32) are indications of a flint workshop and camp site. These are on the top of a small sandy hill. Bushels of flint chips and fragments are strewed over its top. The owner of the property states that there were formerly several mounds on the land. These have been obliterated through cultivation.



Archeologic Map of Pewaukee Township

Plate 1.

THE FIELD OF THE SMALL MUSEUM

George L. Collie.

Curator, Logan Museum, Beloit College.

There is a marked tendency in one or two of our northwest ern states to establish small local museums in connection usually with the town libraries. This movement is commendable, but it needs guidance and direction. Several museums in the same region are engaged in collecting without reference to the work others may be doing. The curators of small museums are not acquainted with the problems of museum administration, nor with the possibilities that lie in co-operation with near or remote museums. The large museums pay little attention to their small brothers. They have all they can do to attend to their own troubles without inviting others. On the other hand the curator of the small museum does not, as he ought, seek advice from those of more experience. The result is that there are a number of museums springing up, each practically duplicating the work of the other and none of them accomplishing what they might did they labor with a common understanding.

I feel very strongly that this association can perform a very useful service by issuing through some committee a bulletin relating to the small museum, giving advice and making suggestions which those of wide experience in the larger fields could so well furnish to their co-workers in the smaller institutions. If the cause of museums is to advance, if they are to fill an important role in the field of education, then there must be more co-ordination in the movement, some central brain must direct matters. This association can do some such work better, perhaps, than any other agency, at least at the outset.

After these preliminaries I would like to set forth what, in

my opinion, constitutes the field that these smaller institutions should try to cover, especially those which are connected with an educational institution. They should collect along one or, at most, two lines, making complete local collections supplemented, of course, by all the material that may be obtained from other sources along these special lines. This is not a new idea, but it has been carried out in the museum with which I am connected and the experience there may bear repeating.

It must be remembered that the small museum not only has limited funds at its disposal, but also a small amount of space for exhibition purposes, a small curatorial staff and worst of all it ordinarily possesses a great lot of miscellaneous objects, much of it junk, to classify, catalog, label and exhibit. The museum at Beloit College fifteen years ago may be taken as a typical example. It was housed in a dark, dusty, unheated and locked room, measuring 35 x 65 ft. It contained a small collection of Ordovician fossils, a few minerals, some of them being choice specimens, a lot of rocks accumulated from the Wisconsin Geological Survey, two spool cases of bugs and butterflies, a few birds and mammals, some old crockery, embroidered work made by representative needlewomen of Wisconsin, some silver trophies won by a local fire company and a miscellaneous lot of relics of the sort ordinarily found in such places. It seemed to the curator that such a collection was undignified for a college museum, that it served no useful purpose nor valuable end and that another type of museum should be sought. The materials of the collection were therefore divided among the several departments of the college where they naturally belonged, while that which belonged nowhere was removed to a room by itself. A few arrowheads and stone axes that were found in the rubbish were taken as a nucleus for a new museum, which it was resolved should be one of archaeology, and of nothing else.

Our choice of a field was partly determined by local conditions, as it always should be in such cases. Wisconsin is rich in archæological remains and the state offered at that time peculiar advantages for the development of a museum of that character. Then at the very outset the museum was fortunate

in securing a friend who was greatly interested in that particular subject, Mr. F. G. Logan of this city, who gave the museum a great impetus by donating the Rust collection of materials from Southern California and Arizona. Then quickly followed the gifts of the Perkins, Elkey, and finally the Ellsworth collections largely composed of Wisconsin artifacts. Mr. Logan also established a good fund for the maintenance of the building and for the purchasing of further collections, the only stipulation being that the income should be devoted to purely archæological purposes. If the college had retained the old general museum neither Mr. Logan nor any man of wealth would have given one copper to it. By making it exclusively a one-idea collection it was comparatively easy to secure the assistance of men interested along similar lines.

As a result of this policy the Logan Museum has a fairly representative general collection from the United States, and a large and complete collection from Wisconsin. I doubt whether as good a collection in stone and copper from that state will again be gathered under one roof. All this has been accomplished in less than fifteen years and the results in this case at least have justified the position taken at the outset, namely, that it is wise to develop one department of knowledge rather than several, especially when the limitations of the small museum are to be considered.

The question may now be asked: Of what value is such a museum when it is once secured? It is located in a small town of 15,000 inhabitants and in a small college which averages 400 students. It cannot fulfill the purposes of any of the larger museums in any direction. It cannot reach large numbers as an educational agent nor can it be used in any large degree as a research center. What purpose then may it serve? It must be devoted chiefly to the use of the college students. It is true the museum is open several hours a day and it is freely visited by townspeople and their guests and also by pupils in the public schools. Lectures are given on archæology which are open to the general public and every effort is made to bring the public in contact with the museum in a helpful way. Primarily, however, the museum exists for

the students of the college. It forms the basis for a course in American archæology open to Sophomores and between forty and fifty take the work each year. Such a course could not be given in many American colleges and there are universities where it would not be feasible to offer it, but it has a place in the college curriculum provided there is a good working collection for illustration. It is the presence or absence of a good museum that should settle the question of the teaching of archæology in the college rather than the pedagogical quibble whether it has a place in the curriculum or not. I have thus briefly outlined to you one solution of the problem of the small museum. In general I believe these institutions would be benefited by following out some such line of definite work, the exact nature of which would be determined by local conditions and opportunities.

Reprinted from the Proceedings of the American Association of Museums, Vol. II, 1908.

WISCONSIN GARDEN BEDS

Charles E. Brown.

Dr. I. A. Lapham appears to have been the first to note the existence in Wisconsin of the class of agricultural earthworks known to archaeologists as garden beds. In his plat of a group of Indian mounds and intaglios surveyed by him in 1851, at Indian Prairie (now known as Bender's Mill, or Highland Springs) on the Milwaukee River, in Sections 29 and 30 of Milwaukee Township, Milwaukee County, he locates a small plot of these beds. These were so situated as to extend across the body of a rather poorly constructed example of bird effigy mound. (See Antiq. Wis., pl. 8.) Elsewhere in the neighborhood of this group he located several plots of Indian corn-hills.

The garden beds he describes as consisiting of:

"Low, broad, parallel ridges, as if corn had been planted in drills. They average four feet in width, twenty-five of them having been counted in the space of a hundred feet; and the depth of the walk between them is about six inches." (Antiq. Wis., p. 19.) In the vicinity of the Wisconsin River Dells, in Dell Prairie Township, Adams County, he found another plot of garden beds. These were associated with a small rectangular enclosure "and some other slight works, mostly oblong mounds." The beds he describes as extensive (pp. 71-72). In Williamstown Township, Dodge County, (N. E. ¼, Sec. 14) directly north of Mayville, on the eastern declivity, and near the base of a ridge, he found other beds.

"In one place where the beds were examined, they are one hundred feet long, and had a uniform breadth of six feet, with a direction nearly east and west. The depressions between the beds are eight inches deep and fifteen inches wide." (p. 57.)

Rev. S. D. Peet states that Lapham found similar beds ex-

isting at Theresa, in Dodge County. (Preh. Am., v. 2, p. 121.) He also mentions that Canfield found garden beds at Baraboo. This is an error. He mentions the existence of a series of garden beds near Sextonville, Richland County. They were situated on a side hill which sloped to the west and were nearly 300 feet in length. (Preh. Am., v. 2., pp. 244, 296.)

In the "Catalogue of Prehistoric Works", published by the Bureau of Ethnology in 1891, Dr. Peet is credited with reporting the existence of "mounds and garden beds in Sec. 26, T. 12 N., R. 16 E." (p. 231). This location is in Williamstown Township, in Dodge County. Of these no description has been found.

In recent years, other plots of Indian garden beds have been located in Wisconsin by various members of the Wisconsin Archeological Society and of these this article aims to record for the convenience of students such information as is available. Doubtless others yet await discovery and description.

In 1886, Mr. A. V. Drown reported to the Dodge County Farmers' Institute on the location of garden beds on the Uriah Grant place, east of Beaver Dam, in a township of the same name. No report on these has been published.

In his "Summary of the Archaeology of Racine County, Wisconsin", Mr. Geo. A. West presents the report of a committee of the Lapham Archaeological Society, of Milwaukee, made on May 4, 1877, on a plot of garden beds discovered by Dr. P. R. Hoy, on the James Walker farm, in Mount Pleasant Township, about two miles west of Racine.

"The garden is situated on a river bottom, only a few feet from Root River. The soil is river deposit and very rich. The ridges average about four feet in width, and the path between them about fifteen inches, the depth of which is about six inches. They are parallel, running from east to west, except at one place where several of them after running east and west a short distance, turn north and south making nearly a right angle. The ground is so densely covered with large trees that cultivation under them has been impossible since the present forest growth obtained a foot-hold. We examined the stump of one of the largest trees and counted about 400 rings which would make it about 400 years old." (Wis. Archeo., v. 3, no. 1, p. 23.)

In September, 1905, Mr. Geo. A. West located a patch of garden beds in connection with a group of conical, oval and effigy mounds on Willow Point, a point of land lying between the Fox River and Lake Puckaway, in Section 18, Marquette Township, Green Lake County. The beds are separated from the nearest mound of the group by a distance of only about 70 feet. The rows are about 90 feet in length and four feet in width. The paths separating them are one foot wide and about 6 inches deep. One plot contains 21 rows, their direction being north and south. Adjoining this on the south is another plot of beds in rows of which run east and west. They are of about the same size as the first. There are however only 20 rows in this plot. Both plots are plainly outlined. Numerous patches of cornhills also exist in the vicinity of the mounds.

Mr. William McGowan has reported to the Society that garden beds exist on the Hathaway property (N. W. ¼, Sec. 7) on the Kewaunee River, in Kewanee township and county. Another patch is located in the vicinity of two conical mounds in the Joseph Duval place in the N. W. ¼ of Section 17, in the same township.

In June, 1907, the author located a small plot of garden beds on the Jacob Jaeger place on the bank of the Milwaukee River, in the S. E. ¼ of Section 19, Milwaukee Township, Milwaukee County. Near them is a group of several conical and oval mounds. At the time of the author's discovery of these beds they were overgrown with trees and shrubs and the taking of measurements was difficult. The direction of the rows was northwest and southeast. The rows were no longer very definite. Ten of these were located. The largest were found to measure from 24 to 36 feet in length, from 3 to 4 feet in width, and from 4 to 6 inches high. The paths between the rows were from 2¾ to 3 feet wide.

Dr. Alphonse Gerend, in July 1906, reported the existence of a plot of garden beds on the V. Brenner farm, on a branch of the Sheboygan River, in the S. E. ¼ of Section 31 of Marshfield Township, Fond du Lac County.

In August, 1905, Dr. Louis Falge located a patch of garden beds on the property of Mr. Justus Demming, situated about

four miles east of Stockbridge, on Lot 370, in Stockbridge Township, Calumet County. The dimensions of this patch were about 84 by 162 feet. The ridges were some 6 or 8 inches high and 162 feet long. Their direction was north and south. There were 27 ridges in all with distinct paths between. The distance from the center of one ridge to the center of the other was about 6 feet. The soil appeared to be very rich. The beds were overgrown with a forest of hard maple, beech and ironwood trees.

In May of the year following, the Doctor made a second visit to the Demming place and succeeded in locating five additional patches of beds.

Southeast of the beds above described, a plot of 17 rows, each about 50 feet long and running northeast and southwest, was found. To the north of these was another plot, there being 28 rows each about 120 feet in length. Of this plot a photograph was taken, which appears as an illustration in a recent issue of the Wisconsin Archeologist. (v. 5, nos. 3 and 4.) The ground was covered at that time with a matting of dry leaves. To the southwest of the first described plot was a remnant of a fourth plot of beds with 11 rows. Their direction was northeast and southwest, and their length then about 52 feet, a portion having been obliterated by the plow. On another plot of ground, lying to the west of that upon which all of the above described are situated, occurred a fifth plot of beds, having a northeast and southwest direction. The rows numbered 12 and were about 48 feet long. A sixth plot of beds, running north and south, numbered 28 rows, each about 84 feet long. Its dimensions were about the same as those of the first plot. Both the fifth and sixth plots are on Lot 356. These are illustrated in Plate 2, Fig. 4.

During August, 1906, Dr. Falge also located a plot of garden beds on the Frank Bartz place, north of the Manitowoc River, in the E. ½, N. W. ¼ of Section 36, Rantoul Township, in Calumet County. These were closely associated with a large group of effigy and burial mounds, and patches of Indian cornhills. His map shows that there were a number of beds, each consisting of a number of rows, the patches being closely joined and the rows of each patch extending in a different direction. (See Plate 2, Fig. 2.)

WISCONSIN GARDEN BEDS

PLATE 2.

Mr. S. D. Mitchell informed the Society of the former existence of a plot of garden beds on the W. A. Miller Estate, in the N. E. ¼ of Section 2, Green Lake Township, Green Lake County. The rows were, as he remembers them, of large size, each about 5 feet wide and 2 feet apart. Their direction was northeast and southwest. His father, Mr. A. Mitchell, in cultivating the land upon which they were located destroyed these beds in 1852. A portion of the beds were then encroached upon by Indian cornhills, a plot of which surrounded them. At that time, Mr. S. D. Mitchell cut down a bur oak tree having a diameter of 3 feet, which had grown upon these beds. In this district are a number of groups of Indian mounds, village sites and plots of cornhills.

In August, 1909, the author and Mr. Joseph Frisque visited under the guidance of Mr. J. P. Schumacher, an Indian planting ground located on the Vincent place, a short distance from the Red Banks, on Green Bay. At this time the discovery was made that small plots of garden beds everywhere adjoined the irregular patches of cornhills at this site.

There were no fewer than twelve of these small beds, having from 5 or 6 to as many as 27 rows each. The rows are about 3 feet wide and are separated from one another by about the same distance. Some of the largest rows measured about 50 feet in length. The most prominent were about 6 inches high. This planting ground occupies all of the higher land between a small creek and two drains which here unite and flow toward Green Bay, but a short distance away. The larger portion of the beds and cornhills are today plainly visible, being in a pasture grove of hickory and basswood trees. A few only are hidden beneath patches of hazel and other brush. Mr. Schumacher declares that this planting ground is not identical with that visited by Rt. Rev. J. J. Fox and Mr. P. V. Lawson in recent years. (See Wis. Archeo., v. 2, p. 30.)

Early writers on the subject of Wisconsin antiquities delight in assigning a remote antiquity to the state's Indian mounds. Recent investigation has shown their conclusions to be without foundation in fact. The local garden beds, of which less than half-a-dozen plots were until recently known, were considered to belong to a more recent period than the mounds. They also were supposed to be of great age and their origin equally

shrouded in mystery. They were thought to represent an earlier and more perfect type of cultivation than the Indian cornfields. Much has been said of the remarkable regularity of their construction, which was thought to place their construction beyond the accomplishment of the ordinary Indian squaw.

The discovery in recent years of other plots of garden beds has placed us in the possession of additional information concerning the relationship of local mounds, garden beds and cornfields which should be available to students.

At Indian Prairie, both the plot of garden beds and the cornhills occurred in connection with a group of effigy and burial mounds. This place was the site of an Indian village during the period when stone and native copper implements were in use and being manufactured. It was also during the early days of settlement a favorite Pottawatomie camp site. Some of the plots of cornhills which formerly existed here undoubtedly were the remains of their planting grounds. The plot of garden beds at this place Lapham's survey shows to have been quite irregular in shape, its greatest length (north and south) being about 250 feet and its greatest width about 120 feet. The rows, which ran east and west, varied in length from about 15 to 120 feet. They ran across the body of an effigy mound thus permitting of no doubt of their more recent construction. It would be wrong to conclude from this single instance of the encroachment of garden beds on an effigy mound, that all garden beds are relics of a period later than that of the mounds. It is not absolutely certain that the beds at Indian Prairie were of aboriginal origin.

Mrs. Joseph Porthier is quoted as stating: "That her father, Jean Baptiste Mirandeau, raised corn and garden vegetables on the spot during several years, but abandoned it after a large canoe, which he purchased from the Indians and in which he ascended the Milwaukee (River) from his residence (on the site of Milwaukee), was carried away by a flood. But before her father's time, Alexis (Alexander) Le Framboise planted seeds on Indian Prairie, because the ground was clear of trees and very mellow. The parallel ridges mentioned by Dr. Lapham, she thinks, were undoubtedly made by her father about 85 years ago." (Hist. of Milwaukee, p. 14.)

Concerning the garden beds formerly located near Mayville, Sextonville and Beaver Dam we possess only shreds of information. All were located in districts rich in mounds and with which they were very probably contemporaneous. Rev. S. D. Peet came to this conclusion concerning the Mayville remains. "There was a permanent village residence in this locality, and . . . the inhabitants resorted to the various hill tops for their burial places, but placed their cornfield and garden in the valleys." (Preh. Am., v. 2, p. 139.)

The garden beds on the Walker farm, in the valley of the Root River, near Racine, were associated with several burial mounds and a field which recent observation proves to have been the site of an early Indian village. The latter indications were on the high river bank just east of the beds. (See also Preh. Am., v. 2, p. 135.)

The committee sent to investigate the garden beds were novices in the reading of archaeological evidence, and undoubtedly greatly overestimated the age of the tree stump which they found upon the beds.

On Willow Point, in Marquette Township, Green Lake County, are both garden beds and plots of cornhills. Both are very closely associated with a group of burial and effigy mounds and remains of an Indian village site. A few feet only separate the nearest mounds and the garden rows. The rows are not strikingly regular, neither can it be judged from the state of their preservation that they are older than the nearby cornhills.

The garden beds on the Jaeger place on the Milwaukee River are closely associated with several mounds. The rows are of uneven length, and give evidence of no superior intelligence on the part of their makers.

Mr. Mitchell's description and sketch of the Green Lake garden beds (See Plate 2, No. 1) are from memory. These beds are on the edge of a district rich in mounds. The hills of the surrounding cornfield encroached on the garden beds. This is the only instance of this nature known. We attach to it no great importance since in a locality of this kind, in the neighborhood of an Indian trading post successive Indian camps were certain to be established and crops of corn grown

in the same fertile spots obliterating perhaps the indications of earlier cultivation. If we assume that Mr. Mitchell's recollection of the size of the burr oak tree which he cut is correct, give to it its greatest possible age according to present tables of tree growth, and allow for the passage of some years between the time of the preparation of the beds and sprouting of the acorn, we have still no excuse for assigning a remote antiquity to these beds. They were probably constructed either just without the date (1634) of the beginning of history in Wisconsin.

The garden beds on the Demming place near Stockbridge, Dr. Falge states are of very uniform length. Some of the trees growing on these plots were estimated to be about 150 years old. No traces of a village site have yet been discovered in their immediate vicinity.

The beds on the Bartz place, at the "Forks" of the Manitowoc River occupy an area having a diameter of about 250 yards. The many separate sets of beds at this place have rows running in various directions, the rows being of varying lengths. Attention has already been directed to the proximity at this site of mounds and cornhills.

The several plots of garden beds recently located at the Red Banks, are shown in the sketch presented in Figure 3 of Plate 2. They are so closely connected with the cornhills at this place that there can be no question of their common origin and age. Both are but different features of the same Indian planting ground. It is an open question whether this planting ground was not under cultivation within historic times. The hills give certain evidence of the growing of corn; the ridges of the cultivation of a different vegetable product, probably, in this instance, of beans. Neither the beds or rows are of very noticeable regularity of construction. No tape measure was employed in laying out these beds.

In concluding an examination of the evidence now available upon the subject of the age of the Wisconsin garden beds, it may be stated that examples have now been located in sixteen different localities in the state. The area in which these occur may be described as being bounded by Green Bay on the north and Racine County on the south, and extending from Lake

Michigan westward to the Fox-Wisconsin waterway. In nearly every instance where garden beds are closely associated with mounds there is good reason to believe that their origin and age is identical. Like the mounds most garden beds are prehistoric, but some were constructed in early historic times. There association in some instances with plots of cornhills indicates that in these cases these two features of our archaeology are also contemporaneous. It is a matter of history that besides corn, beans, tobacco, squash, pumpkins and gourds were also grown on the planting grounds of many of the Indian villages in Wisconsin, which the early explorers, priests and traders visited. The much lauded "remarkable regularity" of the garden beds exists only in the minds of writers who have never had the pleasure of viewing them, or of those who in their archaeological studies misread the indications, or seek the mysterious rather than the truth. In some of our Indian cornfields the lines of hills are quite as regular as are the ridges in the best constructed examples of the garden beds. We should not be surprised if a re-examination of some of the celebrated Michigan garden beds would show that the early descriptions of many of them are incorrect and misleading.

Note. Since the printing of this article the author has had the opportunity of visiting a plot of garden beds located on the E. Glenn place (S. ½, S. W. ¼ Sec. 20) in Wyalusing Township, Grant County. These are located on a hillside. Some of the rows are no longer very distinct.

ADDITIONAL BIRD-STONE CEREMONIALS

Charles E. Brown.

Since the publication in the January to March, 1909, number of the Wisconsin Archeologist of a paper on the Bird-stone Ceremonials of Wisconsin, the occurrence of three additional bird amulets has been reported. These, while they do not extend the habitat of these objects in the state and are none of them unusual forms, are worthy of notice in these pages.

The existence of the first is reported by Mr. T. B. Blair of Neenah, and has the present distinction of being the only local specimen as yet obtained from a mound. It was obtained in about the year 1860, by a Mr. Lloyd Teal, during the needless and lamentable destruction by the Chicago & Northwestern Railway of the celebrated Butte des Morts, or Hill of the Dead, on the west shore of Little Lake Butte des Morts, in Winnebago County. Mr. Blair describes this specimen as being finely fashioned of a hard black stone with white mottlings. It had prominent projecting eye disks. The body is triangular in section, broadening out at the rear into a rounded flattened tail.

The second specimen was recovered from an Indian grave in a gravel pit at Hustisford, Dodge County, in the year 1870. Through the courtesy of Miss Josephine L. Hustis this specimen has now been placed in the State Historical Museum, at Madison. It is of much the same style as the specimen depicted in the upper figure of the frontispiece in the monograph above mentioned. The prominent eye disks have however been broken away. It measures three inches in length. The material is porphyritic syenite.

The third example is in the collection of Mr. Horace McElroy, at Janesville.

It is made of banded slate and comes from Four Mile Creek,

near Janesville, in Rock County. It measures 5 inches in length and is somewhat similar in general appearance to Fig. 4 of Plate 5 of the monograph mentioned.

In a recent communication, Mr. C. V. Fuller, a prominent collector of Grand Ledge, Mich., states to the writer that it is evident that bird and bar amulets, though considered rare, are of far more common occurrence in that state than in our own. This information bears out the statement previously secured from Dr. W. B. Hinsdale of Ann Arbor, and presented in the Wisconsin monograph. Mr. Fuller mentions that the township of Oneida, in Eaton County, has to his knowledge yielded ten specimens. Mr. Fuller has 20 specimens in his own cabinet some of which are of types not yet recovered in Wisconsin. Three other Michigan collectors known to him have 16, 12 and 8 specimens respectively.

Dr. David Boyle has kindly furnished some information concerning the Canadian bird amulets. Their range in Ontario is south of a line drawn from Kingston at the east end of Lake Ontario, to the town of Kincardine, on Lake Huron. But few have been obtained from localities east of Toronto and not many across Lake Ontario to the south. The specimens in the Provincial Museum come almost entirely from the counties of Essex, Kent, Elgin, Norfolk and Haldimand, that is to say from the counties on the north shore of Lake Erie. Elsewhere they are of much rarer occurrence. He finds no reason to believe that any bird amulets were introduced into Canada from the South but thinks that no doubt some were, in the course of native movements.

ARCHEOLOGICAL AND HISTORICAL ITEMS

The Society is preparing to publish in a succeeding number of the Wisconsin Archeologist a third addition to the Record of Wisconsin Antiquities. This contribution will include several hundred items. Among the principal contributors will be Dr. W. G. McLachlan, S. G. Haskins, J. P. Schumacher, J. A. H. Johnson, A. B. Stout, Rev. L. E. Drexel and Chas. E. Brown. We ask those of our fellow members who have notes or information concerning groups of mounds, cemeteries, village and camp sites, planting grounds or other aboriginal remains in their districts or elsewhere, not yet of record, to turn the same in to Secretary Chas. E. Brown in order that they may be added. Corrections of the previous records may also be made. There is need that a larger number of our friends should engage in this needful and valuable work. In many Wisconsin counties there still remain large and interesting areas which no painstaking investigator has yet entered. To those who desire to assist in the Society's researches full instructions will be furnished.

On the evening of June 14, the Wisconsin Archeological Society celebrated the tenth anniversary of its existence and work in the state by a dinner given in the banquet room of the Hotel Blatz, at Milwaukee. About one hundred members and guests attended this dinner, which proved to be in every respect a most entertaining and successful affair. President Otto J. Habhegger, who acted as toastmaster, gave a brief account of the organization's history and of what it had accomplished in creating a wide interest in the character and educational value of the state's antiquities. It had at the present time over 500 members and was one of the most active organizations of its nature in the country. Its publications reached educational institutions, scientists and students in nearly every part of the United States and Canada. He expressed the thanks of the Society to those of its members, who, during the years of its existence had always given to its labors their loyal support. He expressed the hope that in its future work it might be as successful as in the past. A sheaf of congratulatory letters and telegrams had been received from scientific societies and individuals in various parts of the state and country.

The speakers of the evening were Dr. Reuben Gold Thwaites, of Madison, who delivered an address on "The History and Work of the State Historical Society of Wisconsin"; Dr. Louis Falge of Manitowoc, who spoke of "The Wampum," a noted Wisconsin Chippewa chief, and Dr. Frederick Starr of the University of Chicago, who addressed those present on the subject of "The Peoples of the Philippines."

Of the earliest members of the Society there are still on its rolls the names of: Dr. Charles D. Stanhope, William H. Ellsworth, Lee R. Whitney, Geo. A. West, O. J. Habhegger, James A. Sheridan,

O. L. Hollister, H. A. Crosby, H. M. Jaycox, W. H. Elkey, David Harlowe, William Finger, Dr. Louis Lotz, Dr. Lewis Sherman and W. H. Vogel of Milwaukee; W. P. Clarke, Milton; P. O. Griste, East Troy; Rudolph Kuehne, Sheboygan; W. W. Gilman, Boscobel; F. B. Fargo and S. W. Faville, Lake Mills, H. Geo. Schuette and Dr. Louis Falge, Manitowoc; Henry P. Hamilton, Two Rivers; F. H. Lyman, Kenosha; Rev. J. G. Laurer, Mosinee; W. H. Canfield, Baraboo; Frank Mueller, Princeton; P. V. Lawson, Menasha; Horace McElroy, Janesville; S. D. Mitchell, Green Lake; E. C. Perkins, Prairie du Sac; E. H. Stiles, Gotham; H. H. Willard, Mazomanie; T. W. Hamilton, Berlin, A. J. Barry, Montello; E. E. Bailey, Little Rapids; Miss Julia A. Lapham and Dr. D. M. L. Miller, Oconomowoc; Chas. E. Brown, Madison; Dr. A. Gerend, Cato; Prof. M. E. Morrissey, St. Francis; Rev. E. C. Mitchell, St. Paul, Minn.; M. C. Long and E. E. Butts, Kansas City, Mo.; Dr. W. B. Hinsdale, Ann Arbor, Mich.; John T. Reeder, Houghton, Mich.; Dr. E. R. Buckley, Rolla, Mo.; James G. Albright, Grand Rapids, Mich.; Dr. C. E. Slocum, Defiance, O., and Dr. W. K. Moorehead, Andover, Mass.

During the month of July (20–26), Secretary Brown, accompanied by Dr. E. J. W. Notz, made a trip down the Wisconsin River from Lone Rock to Bridgeport. The greater part of this journey was made with a flat-bottomed boat, the river being at that time impassable for a considerable part of the distance to even small launches. Sites of historical and archaeological interest were visited near Lone Rock, Richland City, Muscoda, Boscobel, Wauzeka and other places along the stream, and a considerable amount of valuable information collected. A day was spent in visiting the various places of historical and archaeological interest about Prairie du Chien. The specimens collected by Mr. Brown have been placed in the State Historical Museum.

Members of the Society are requested to acquaint the Secretary with the names and addresses of any persons in their respective counties, not already enlisted, who are engaged in the study and collection of local aboriginal implements, or who may be prevailed upon to take an active interest in the value and progress of its researches. An effort will be made to secure their membership.

About twenty-five members of the Wisconsin Archeological Society attended a joint convention of the State Historical Society and the Green Bay Historical Society, held at Green Bay, on August 10 to 12. During this meeting, a fine bronze tablet, the gift of the Chicago and Northwestern Railway, was erected on the depot grounds to mark the location of the early French Fort St. Francis, the British Fort Edward Augustus and the American Fort Howard. On the same afternoon the Tank cottage, built in about 1785, and said to be now the oldest dwelling in Wisconsin, was formally opened. This building has recently been removed to Union Park from its old location on the bank of the Fox River. On the following day, a pilgrimage was made by boat to the famous Red Banks, on Green Bay, where a tablet commemorating the discovery of Wisconsin in 1634, by Jean Nicolet, was unveiled.

During the meeting, a large and valuable collection of local historical and archaeological materials was exhibited in a room in the Kellogg Public Library. This was greatly enjoyed by many persons. The archaeological exhibits included the valuable collections of the Messrs. J. P. Schumacher and F. J. B. Duchateau, and other specimens exhibited by Mr. Joseph Frisque, Mr. E. R. Theby and others.

Following the meeting, Secretary Brown was given an opportunity to view, under the guidance of the Messrs. Schumacher and Frisque, the various evidences of aboriginal occupation still visible in the vicinity of the Red Banks. Of the mounds once located there only one good example, a conical mound, could be located. Of this a photograph was taken. Of the embankment, the existence of which Morgan L. Martin reported to the State Historical Society in 1851, some supposed traces were pointed out on the edge of the country road in front and at the side of the farmhouse of Mr. Speerschneider. According to the statements, made to Mr. Schumacher, of several old settlers, who remember the enclosure, the embankment was of a horse-shoe shape, the opening resting on the edge of the Green Bay bank. It enclosed only a small area, several acres.

An extensive plot of aboriginal cornhills and garden beds was also examined. Information concerning these is given elsewhere in this bulletin.

About the Bender resort at Red Banks, and to the north and south of it along the bank of Green Bay, are village and camp sites with the usual now scattered indications of early Indian occupation. From these the Messrs. Frisque, Schumacher and A. G. Holmes have made interesting collections.

A visit was also made with Mr. Frisque to various Indian village sites about Big Suamico, on the opposite shore of Green Bay. It is highly desirable that the Society's researches should be continued from this point northward to Marinette.

During the month of August, 1909, Mr. A. B. Stout was again engaged to assist the State Historical Society of North Dakota in its archaeological field work. Among the important results of these researches was the location by Mr. Stout of a turtle-shaped boulder effigy. It was found near Sanger in the Missouri Valley. A total of 173 boulders had been used in its construction. These ranged from 3 to 15 inches in diameter. A careful diagram of the effigy was made and the stones then numbered and packed for transportation to Bismarck. Here the effigy has now been replaced stone for stone on the state capitol grounds. It has the distinction of being the first boulder effigy preserved in that state. The Wisconsin Archeological Society has a right to be proud of what three Wisconsin men, Dr. O. J. Libby, Mr. H. C. Fish and Mr. A. B. Stout, present and former members of its organization, have accomplished in the past several years in making known the character of North Dakota's antiquities. Mr. Fish is in charge of the state museum at Bismarck.

A long to be remembered event in Manitowoc County history was the dedication at the village of Manitowoc Rapids, on Sunday, August 8, by the Manitowoc County Historical Society, of a monument to commemorate the life and services to the early whites of the county, of the noted Chippewa Indian chief, "The Wampum," otherwise colloquially known as Mexico or John Y. Mexico.

The small village had never before held such an assemblage of people as gathered there on this occasion from the four corners of the county. Upwards of 4,000 persons were in attendance. Hon. Emil Baensch president of the county society, presided over the exercises. He briefly explained the nature of the celebration and paid a glowing tribute to the Indian chief in whose honor the event took place. He also took occasion to thank the donor and designer of the monument, Mr. Nic. Kettenhoffen of Manitowoc, for his gift.

Dr. Louis Falge, the principal speaker, presented an interesting resume of the life and deeds of the chief whose honor has been perpetuated. Dr. Reuben G. Thwaites, who was present as the representative of the State Historical Society; Mr. O. J. Habhegger, who represented the Wisconsin Archeological Society, and Mr. Ralph G. Plumb of the county society, also delivered addresses. Full accounts of this notable gathering appear in the *Manitowoc Daily News*, and the *Manitowoc Daily Herald*, of Monday, August 9. An oil portrait of "The Wampum" (Waumegesako) hangs in the State Historical Museum.

On August 27, the Sauk County Historical Society made its annual pilgrimage, on this occasion, to the site of the old lost Wisconsin River town of Newport. On the way from Baraboo to Newport a halt was called at the Corners on the East Street road, five miles north of the city for the purpose of dedicating a monument to the noted Winnebago war chief Yellow Thunder. In the erection of the monument, which is built of boulders cemented together, the Sauk County Historical Society and the Twentieth Century Club of Baraboo joined. It stands under some old oak trees opposite the C. C. Allen farm on the main road from Baraboo to Kilbourn. To this site the remains of the chief and his wife, "The Washington Woman," were recently removed (August 17, 1909) from their former resting place on Yellow Thunder's "Forty," the site of their burial in 1874.

At Newport interesting addresses were delivered by Dr. Reuben G. Thwaites and others, from the top of one of the large Indian mounds located there.

The Waukesha County Historical Society held its annual meeting at Delafield, on Saturday, September 4, one hundred persons being present. Mr. Lee R. Whitney, treasurer of the Wisconsin Archeological Society, was one of the speakers. The society has a rich field in which to labor. In many places in this county are groups of mounds and historic spots which should be preserved and marked. Miss Julia A. Lapham of Oconomowoc is its efficient secretary.

Secretary Chas. E. Brown of the Wisconsin Archeological Society has been honored with an appointment as a member of the executive committee of the Mississippi Valley Historical Association. He will use his efforts to promote a greater activity among state historical and archaeological museums of the Mississippi Valley states. Dr. Orin J. Libby of Grand Forks, N. D. is the present president Mr. Benjamin V. Shambaugh of Iowa City, Ia., vice-president and Mr. Clarence S. Paine of Lincoln, Neb., the secretary and treasurer of the Association. Other members of the executive committee are Mr. Dunbar Rowland, Jackson, Miss.; Mr. Francis A. Sampson, Columbia, Mo.;

Mr. Thomas M. Owen, Montgomery, Ala., and Mr. Clarence W. Alvord, Urbana, Ill.

An effort is being made by a local literary society to secure a portion or the whole of the S. D. Mitchell archaeological collection for exhibition in the public library at Berlin. This collection is a valuable one and should be secured by some local institution. In recent years the Wisconsin Archeological Society made an effort to obtain this collection for Ripon College.

The ladies of the Monday Night Club of Waupaca are considering the marking with a tablet of the fine group of mounds at the head of Clem Lake of the Chain-o-Lakes, near that city.

During the month of June, there was made at the State Historical Museum a special exhibit of dolls, which, because of its archaeological, historical and pedagogical interest, attracted thousands of visitors from many sections of our own and adjoining states. Six hundred dolls were exhibited, eight large table and wall cases being required to hold them all. The archaeological series included dolls of clay, wood, bone, antler and ivory from graves and mounds in various parts of the United States, Canada and Mexico. Dolls collected from 25 American Indian tribes proved to be of great interest. The American historical series consisted of specimens ranging in age from the time of the Revolution to the present. The collections from Europe, Africa Asia, and Central and South American countries were extensive, and attracted great attention because of their character, and often curious costumes. These dolls were loaned to the museum by many generous friends in Wisconsin and other states. All were accompanied in the exhibit by individual labels, and by class labels explaining the methods of doll manufacture, and the customs attending their use in various parts of the world.

Dr. W. G. McLachlan is engaged in making archaeological researches for the Society on the west shore of Lake Waubesa, in Dane County. Mr. J. A. H. Johnson has recently furnished notes on the mounds and other features of Lake Chetek, in Barron County. Mr. Chas. E. Brown is conducting researches about Lakes Monona and Mendota, in Dane County.

Of the several state park sites offered to it, the Wisconsin State Park Commission has selected the Door County lands. We trust that the next site to be chosen will be that located at the mouth of the Wisconsin River in Grant County. On tne Glenn tract at this point are located some of the finest and most extensive groups of Indian earthworks in Wisconsin. The site is a very beautiful and interesting one.

We learn that Governor Deneen of Illinois has appointed Prof. James A. James of Northwestern University Evanston, as chairman of a state park commission. We trust that this awakening to the future public needs in our sister state will mean the parking and preservation of the Great Cahokia mounds at East St. Louis, and other valuable aboriginal monuments and sites.

DISCOIDALS
Green Lake County, S. D. Mitchell Collection

Vol. 8 October to December, 1909 No. 4

THE WISCONSIN ARCHEOLOGIST

ADDITIONS TO THE RECORD OF WISCONSIN ANTIQUITIES. III

THE DISTRIBUTION OF DISCOIDALS, CONES, PLUMMETS AND BOAT STONES IN WISCONSIN

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY
MILWAUKEE

Wisconsin Archeological Society

MILWAUKEE, WIS.

Incorporated March 23, 1903, for the purpose of advancing the study and preservation of Wisconsin antiquities.

OFFICERS

PRESIDENT

OTTO J. HABHEGGER.....Milwaukee

VICE-PRESIDENTS

GEORGE A. WEST.....Milwaukee
H. E. COLE.....Baraboo
DR. GEO. L. COLLIE.....Beloit
REV. L. E. DREXEL.....Milwaukee
W. H. ELLSWORTH.....Milwaukee

DIRECTORS

JOS. RINGEISEN, JR.....Milwaukee
ARTHUR WENZ.....Milwaukee

TREASURER

LEE R. WHITNEY.....Milwaukee

SECRETARY AND CURATOR

CHARLES E. BROWN.....Madison

COMMITTEES

SURVEY, RESEARCH AND RECORD—A. B. Stout, H. L. Skavlem, P. V. Lawson, G. H. Squier, Dr. E. J. W. Notz and W. W. Gilman.

PUBLIC COLLECTIONS—E. F. Richter, J. P. Schumacher, Dr. R. G. Thwaites, Rev. Wm. Metzdorf, Dr. W. O. Carrier, Dr. Louis Lotz, Olgar P. Olson and W. E. Snyder.

MEMBERSHIP—Arthur Wenz, Dr. Louis Falge, Mrs. Jessie R. Skinner, Joseph Frisque, Miss Bertha M. Ferch, W. H. Elkey and S. G. Haskins.

PRESS—E. B. Usher, John Poppendieck, Jr., J. G. Gregory and G. J. Seamans

JOINT MAN MOUND—J. Van Orden, Miss Julia A. Lapham, T. C. Sherman, L. H. Palmer, Mrs. Henry Mertzke and S. J. Hood.

SESSIONS

These are held in the Lecture Room in the Library-Museum Building, in Milwaukee, on the third Monday of each month, at 8 P. M.

During the months of July to October no meetings will be held.

MEMBERSHIP FEES

Life Members, $25.00. Sustaining Members, $5.00
Annual Members, $2.00

All communications in regard to the Wisconsin Archeological Society or to the "Wisconsin Archeologist" should be addressed to C. E. Brown, Secretary and Curator, Office, State Historical Museum, Madison, Wis.

TABLE OF CONTENTS.

Vol. 8, No. 4.

ARTICLES.

ILLUSTRATIONS.

THE WISCONSIN ARCHEOLOGIST

Quarterly Bulletin Published by the Wisconsin Archeological Society.

Vol. 8. MILWAUKEE, WIS., OCTOBER TO DECEMBER, 1909. No. 4

ADDITIONS TO THE RECORD OF WISCONSIN ANTIQUITIES. III.

EDITED BY CHARLES E. BROWN.

Secretary and Curator of the Wisconsin Archeological Society

It is with pleasure that we present to the members and patrons of the Wisconsin Archeological Society a third addition to the records of the character and location of our state's antiquities. These new records were assembled with the assistance of its field workers during the years 1908 and 1909, and include a total of about 200 separate items located in 31 Wisconsin counties. These items include among others 82 village, camp and workshop sites, 10 cornfields, 8 plots of garden beds, 7 cemeteries and burial places, 8 caches, 3 quarries, and 110 groups of mounds and solitary mounds. The names of those of the Society's members who have aided in the advancement of local history and education by conducting researches in the Wisconsin field, are recorded beneath the items reported by them. Their interest and activity is deserving of the grateful thanks of the Society and of the state. All of their work was conducted at their personal expense. Of the researches conducted there are particularly noteworthy those of the Messrs. Arlow B. Stout and H. L. Skavlem in the Lake Koshkonong region, the results of which have been published. Dr. W. G. McLachlan merits special honors for his painstaking survey of the Lake Waubesa region. Mr. Stanley G. Haskins has given excellent assistance in the Pewaukee Lake region, and Mr. J. A. H. Johnson in the Lake Chetek region. A full account of Mr. Haskins' work has just appeared in print. In several expeditions made by the Secretary he was accompanied and assisted by Rev. L. E. Drexel whose name thus appears as co-contributor.

In addition to the items presented in the present record of archaeological research, there have been placed in the Society's files a very considerable number of reports, corrections and resurveys of antiquities previously recorded. This addition does not therefore convey more than an idea of what has been accomplished by the Society in the line of field work since the beginning of the year 1908.

The original Record of Wisconsin Antiquities, published by the Society in 1906, has now come into very general use as a guide to the state's Indian monuments. Requests for copies are frequent and with the growing demand for it on the part of schools, libraries, women's clubs, tourists and antiquarians, it is probable that the issue will soon be exhausted.

In endeavoring to complete an accurate surface survey of the ancient Indian memorials of Wisconsin the Wisconsin Archaeological Society has undertaken a great and educationally important work. The truth of this statement every intelligent citizen of the state should realize. The vast amount of valuable information which its members have collected during the past ten years and placed within the public's reach represents but a small part of the great amount of both surface survey and actual exploration work which yet remains to be done. The archaeological resources of thirty-five or more Wisconsin counties have not been more than tapped. These are in the northern half of the state. In many counties in the southern half much remains to be done. The chief obstacle in the way of invading these regions is the lack of exploration funds. In the still sparsely settled northern half of the state the Society has but few workers and it is plain that the only way in which an adequate knowledge of their archaeological resources may ever be gleaned will be by dispatching well equipped agents and expeditions to those regions. The time is at hand when the Society must no longer depend wholly upon its volunteer workers in advancing its researches. There are two ways in which the needed financial assistance may be secured—by enlisting the interest of one or a number of Wisconsin's men of wealth in providing a permanent exploration fund, or by asking the aid of the state itself. This proposal the Secretary recommends to the careful consideration of every member of the Society.

THE RECORD

1. ADAMS COUNTY.

Strong Prairie Township.

Effigy mound one mile east of the Wisconsin River, Sec. 23. Camp and workshop site nearby.

Reported to C. E. Brown (C. W. Ward), Aug. 6, 1909.

Jackson Township.

Group of mounds on the north shore of Park Lake.

Group of mounds on the east shore of Goose Lake.

Reported to C. E. Brown (F. M. McConick), Dec. 16, 1908.

Effigy (bear) on the shore of Wolf Lake.

Reported by H. E. Cole, Baraboo News, Aug. 13, 1908.

2. BARRON COUNTY.

Cedar Creek Township.

Catlinite (pipestone) quarry in the N. E. ¼, Sec. 34.

Catlinite quarry on the west bank of Silver Creek, S. ½ Sec. 35.

Reported on by G. A. West, Oct. 4, 1909.

Chetek Township.

Garden beds in the E. ½, Sec. 10, west of Prairie Lake, on the Ole Lee property.

Garden beds on the west shore of Prairie Lake, in the S. E. ¼, Sec. 11, on the Chas. Musens place.

Group of about twenty-seven mounds on the Chris Olson property on the west shore of Prairie Lake, in the N. W. ¼, Fract. Sec. 13.

Camp and workshop site on the east side of the Chetek River, near the outlet of Prairie Lake, in the N. E. ¼, Sec. 19.

Camp and workshop site on the east side of the Red Cedar River, in the S. W. ¼, Sec. 23, on the J. A. H. Johnson place.

Burial places on the camping grounds at Chetek between the Chetek River and the west shore of Lake Chetek, in the N. W. ¼, Fract. Sec. 29.

Garden beds northwest of Chetek, in the N. E. ¼, Sec. 25, on the E. J. Banks place.

Group of twenty conical mounds on the K. Rosholt place on the east side of the Chetek River, at Chetek, in the N. E. ¼, Sec. 31. Most were obliterated in the building of the dam, in 1866.

Group of from sixty to seventy-five conical and linear mounds on lands owned by F. A. Southworth and the Lake Chetek Chatauqua, on the south shore of Lake Chetek, in Fract. Sec. 29.

Group of six conical and an effigy mound on the Stephen Olson place, on the west side of the Chetek River, at Chetek, in the N. W. ¼, Sec. 31.

Several mounds at the outlet of Lake Chetek, in Chetek.

Two conical mounds on the property of Christ. Mortenson, on the west side of the Chetek River, two miles south of Chetek, in the N. E. ¼, Sec. 1.

Group of eight mounds and planting ground at the mouth of the Chetek River, on the Ole Hanson property, in the S. W. ¼ of Sec. 11. Garden beds on the same property.

Reported on by J. A. H. Johnson, July 12 and Dec. 13, 1909.

3. BROWN COUNTY.

An Indian trail leaving Red River followed along the Green Bay shore to Shoemakers Point and thence along the shore to Red Banks and on to Green Bay.

Suamico Township.

Camp and workshop site in the rear of the C. & N. W. Ry. depot at Big Suamico, Sec. 22.

Camp and workshop sites in several places in Secs. 23 and 24, on the south side of the Suamico River.

Oval mound (?) in the rear of the cottage on the John Ebling place, Sec. 25.

Notes by Joseph Frisque and C. E. Brown, Aug. 12, 1909.

Scott Township.

Indian planting ground (cornhills and garden beds) on the Vincent place, southeast of Red Banks (Benderville).

Reported by J. P. Schumacher, 1909. Briefly described by C. E. Brown, Wis. Archeo., v. 8, no. 3, p. 101, pl. 2.

City of Green Bay.

Village and workshop site on the former site of Washington Park, near the bank of East River, in the east side of the city. Partly obliterated by grading, in 1908.

Reported by J. P. Schumacher. Notes taken by C. E. Brown, Oct. 21, 1908.

Corn-mill rock on Private Claim 4, on the west bank of the Fox River, about one-fourth mile south of the C., M. & St. P. railroad bridge.

Reported by J. P. Schumacher, 1907.

4. CALUMET COUNTY.

Stockbridge Township.

Group of mounds (4 oval, 5 effigy and 1 linear) on Lots 62 and 64, one-fourth mile east of Quinneyville and adjoining P. V. Lawson's group on Spar (Johnsons) Creek. (Lawson omits one mound in his record.)

Platted by Rev. L. E. Drexel and Rev. J. H. Huhn, Apl. 1908.

Brothertown Township.

Group of mounds (9 effigy, 1 conical and 1 linear) on Lots 32 and 33 (J. T. Wicklein) and Lot 34 (Nic. Wagner).

Platted by Rev. L. E. Drexel and Rev. J. H. Huhn, Apl. 1908.

5. CHIPPEWA COUNTY.

Quartzite quarry and workshop on a hill near Melville settlement.

Reported to C. E. Brown (J. A. Duncan), Jan. 12, 1909.

Group of mounds formerly existed on the R. A. Lang property, on the Chippewa River, at Chippewa City. Human bones and flint implements found during their destruction.

Reported by Dr. W. H. Bailey, Mar. 7, 1909.

6. COLUMBIA COUNTY.

West Point Township.

Linear mound on the S. W. ¼, S. W. ¼, Sec. 9. Nearly obliterated by cultivation.

Conical mound on the S. W. ¼, S. W. ¼, Sec. 27. Nearly obliterated by cultivation.

Camp and workshop site on the shore of a small lake, in the N. W. ¼, Sec. 34.

Reported to H. E. Cole (N. G. Abbott), Dec. 12, 1908.

Camp and workshop site at base of Pine Bluff, on E. Odell place (near Spring Creek) at Okee. (Replaces item 2, p. 300, Wis. Archeo., v. 5, nos. 3 and 4.)

Reported on by C. E. Brown and Rev. L. E. Drexel, Nov. 1908.

Lodi Township.

Camp and workshop site on north side of base of Wild Cat Bluff, in Sec. 5, about one mile north of Okee.

Reported by C. E. Brown and Rev. L. E. Drexel, Nov. 19, 1908.

Dekorra Township.

Flint workshop and conical mound on Rowans Creek, on the McLeod place, in Sec. 32, west of the road to Dekorra.

Camp and workshop site on S. and E. Knudson place, near the foregoing, on the Dekorra road.

Camp and workshop site on the John Nieman place (N. ½, Sec. 5) on the banks of the Wisconsin River and Rocky Run, at Dekorra. Oval mound, now nearly obliterated by cultivation, on the same property.

Reported by C. E. Brown and Rev. L. E. Drexel, Nov. 20, 1908.

Lewiston Township.

Cache of seven blue hornstone knives found on the Grossman place, in Sec. 32, opposite Pine Island in the Wisconsin River.

Reported to C. E. Brown and Rev. L. E. Drexel, Nov. 20, 1908.

7. CRAWFORD COUNTY.

Marietta Township.

Winnebago Indian camp and cornfield was located in the "fifties," on the site of Manhattan, (opposite Boscobel), at the base of a high bluff on the Wisconsin River road.

Reported to W. W. Gilman (Hiram Comstock), 1909.

Several linear mounds along the Wisconsin River road at the mouth of Marietta Hollow.

Reported by W. W. Gilman. Notes taken by C. E. Brown, July 24, 1909.

Wauzeka Township.

Group of mounds on the Fogarty place, about five miles west of Wauzeka.

Reported to C. E. Brown and Dr. E. J. W. Notz, July, 1909.

Prairie du Chien Township.

Camp and workshop sites on the bank of the Marais de St. Feriole, below the site of old Fort Crawford in Prairie du Chien. Conical mound, much reduced, on vacant block, between Main Street and the Marais.

Reported by C. E. Brown and Dr. E. J. W. Notz, July 26, 1909.

8. DANE COUNTY.

Mazomanie Township.

Camp and workshop site on the Wisconsin River, in Fract. Sec. 29.

Two mounds and camp and workshop site on the B. Laws' place, near the bank of Wisconsin River, in Fract. Sec. 21.

Camp and workshop site on the J. C. Morrill place, near the Wisconsin River, in Fract. Sec 6.

Conical mound on the north side of the Black Earth River, almost within the limits of Mazomanie, in the S. E. 1/4 Sec. 9. Explored, results unknown.

Reported by H. H. Willard, Sept. 30, 1908.

Springfield Township.

Group of two bird effigies, two conical and a linear mound in a grove on the Bernard place, a short distance east of the source of Pheasant Branch, in Sec. 36.

Group of four conical and a linear mound on the crest of a high hill, at the source of Pheasant Branch, in Sec. 36.

Reported by Mrs. Jessie R. Skinner, 1908. Platted by C. E. Brown, Jun. 19, 1908.

Westport Township.

Camp and workshop site at Borcher's Beach, on the north shore of Lake Mendota, in Fract. Sec 28. Winnebago camp and cornfields here in early days of settlement (Geo. W. Stoner). Several conical mounds now nearly obliterated by cultivation. Large conical mound on F. G. Mueller place excavated August,

1908. burials of several classes found, accompanied by a few stone implements, shell beads and fragmentary pottery vessel.
Notes taken by C. E. Brown, 1908.

Camp and workshop site in cultivated field on Wisconsin State Hospital grounds, between the lawn and Farwell Point, in Sec. 35, on the north side of Lake Mendota. Refuse pits containing clam shells, animal bones, etc., examined Oct. 14, 1908.

Camp and workshop site on Governors Island, belonging to the Hospital grounds.
Reported by C. E. Brown, 1908.

Camp and workshop site in a cultivated field, at the turn of the Pleasure Drive beyond Maple Bluff (McBrides Point), in Fract. Sec. 1.
Reported by C. E. Brown, Oct. 14, 1908.

Madison Township.

Camp and workshop site at Mendota Beach.

Camp and workshop site on the E. N. Warner place at Merrill Springs, in Sec. 17.
Reported by C. E. Brown, Nov. 15, 1908.

Group of two tapering and a conical mound on the crest of Eagle Heights, on the west shore of Lake Mendota, Sec. 17.
Platted by C. E. Brown, June 1909.

Group of five conical and two oval mounds on Picnic Point, on the south shore of Lake Mendota, Fract. Sec. 15. Indications of camp and workshop site. Winnebago Indians camped here in early days of settlement.
Mounds platted by C. E. Brown, Aug. 21, 1909.

Group of two linear mounds and bird effigy on the ridge on the new Wisconsin University fruit farm (Sandsten and Whitson tracts), in Sec. 16.
Platted by C. E. Brown, May 29, 1909.

Group of three effigy mounds in wooded pasture and on the Pleasure Drive, east of the creek on the Wisconsin University grounds. Camp and workshop site in adjoining cultivated field.

Linear and a tapering mound in grove on the Pleasure Drive on the Wisconsin University grounds, Fract. Sec. 15. Linear (?) mound of this group nearly obliterated in adjoining field.
Platted by C. E. Brown, June 1909.

Effigy mound was destroyed in the building of Main Hall on the Wisconsin University grounds, in 1859.

Reported by Dr. R. G. Thwaites, 1908.

Winnebago camp was located on outlet between Lakes Mendota and Monona, on and near present site of Tenny Park.

Reported to C. E. Brown (Ira Hulbert), 1909.

Winnebagos formerly camped on Lake Mendota shore on and about the site of the present W. P. Vilas residence, in the City of Madison.

Reported to C. E. Brown, Oct. 1909.

Camp and workshop site on the shore of Lake Wingra in Henry Vilas Park. This site was in former days the site of a Winnebago camp. Winnebago camps were formerly located in the "Big Woods," on the west shore of Lake Wingra, in Sec. 28.

Reported by C. E. Brown, 1908.

Camp and workshop site on the south end of the dividing ridge between Lakes Monona and Wingra, in South Madison, among remains of group of mounds. (This ridge is now being rapidly removed by the operation of large sand pits.) A Winnebago burial place is reported to have been located where the northern (Wm. Keyes) pit is now located. Human remains occasionally encountered during operations. Burials found in one conical mound on crest of ridge, destroyed in 1908.

Camp and workshop site on Kayser place adjoining group of seven conical and one linear (or effigy) mound on the Willett and Royce places, on the east shore of Lake Wingra (Sec. 26), in South Madison.

Reported by C. E. Brown, 1908.

Village and workshop site formerly indicated along the present Lakeside Street, on the shore of Lake Wingra, in South Madison.

Reported by W. W. Warner, Sept. 1908.

Blooming Grove Township.

Group of conical and linear mounds of the Knute Reindahl and adjoining properties, on the east shore of Lake Monona, in the N. E. ¼ Sec. 17.

Group of two effigies, two tapering and a linear mound in

the woods, on the F. H. Edsall place, on the east shore of Lake Monona, W. ½ Sec. 20. Some others destroyed in the adjoining cultivated field.

Camp and workshop site on Griffiths estate near the south shore of Lake Monona, S. ½, S. W. ¼ Sec. 20. Former site of Winnebago camps.

Winnebago camps were formerly located on the east side of the Yahara River, between Lakes Monona and Waubesa.

Reported by C. E. Brown, 1908.

Group of seven linear, a tapering and a conical mound in woods on the C. H. Hoyt place, east of the Yahara River, S. E. ¼ Sec. 20.

Platted by C. E. Brown, July 9, 1909.

Dunn Township.

Group of four linear, three oval and an effigy mound in Edwards Park on the east shore of Lake Waubesa, in the N. W. ¼ Sec 3. Some mutilated.

Conical mounds in Larson's "Park," along the lake shore, a short distance east of the foregoing.

Group of four linear mounds on the C. Daly place (one extending over on to the O. E. Evans place), in the N. W. ¼ Sec. 3. A linear mound formerly existed near the Daly house.

Group of five linear, three conical and an effigy (bear) mound on the top and slope of a hill on the H. Lewis place, in the S. W. ¼ Sec. 3, about one quarter mile east of McFarland. Burials found in two of the conical mounds.

Line of mounds (two groups) on the S. Johnson place in the S. E. ¼ Sec. 3 and N. W. ¼ Sec. 11, about one quarter of a mile south of McFarland and extending to the shore of Mud Lake. The series consists of eleven linear, three conical, and an effigy mound, and an elliptical enclosure. Other mounds destroyed by cultivation.

Winnebago Indians formerly camped on the present site of McFarland.

Large group of mounds were formerly located on the Anderson and Holverson places in the E. ½, N. W. ¼ Sec. 11, near a marsh formerly a part of Mud Lake. Destroyed by cultivation. A single linear mound remains.

Group of six linear and a conical mound on the Tollef Olsen

place, in the northeast part of the N. E. ¼ Sec. 11, on rising ground about eight rods south of the Yahara River. Others destroyed in the vicinity. Mounds were so numerous across the west line on the Ottum place that it became known to the Norwegian pioneers as "Indians Rygen." Remnants of two linear and an effigy (?) mound still exist.

Group of eight linear, two conical and an oval mound on the Eli Johnson place ,Cent. of Sec. 10, on a hill directly south of and overlooking the Yahara River. Burial found in one conical mound. West of the hill on elevated ground near Johnson's out-buildings are the remains of a bird effigy. Indian cornfield was located on an island in the marsh east of the mounds.

Group of three linear and a conical mound on land extending into the marsh on the B. Larson place, in the Cent. of Sec. 9. Burial found in gravel pit at the south end of the group.

Group of six linear and a conical mound on the north and west slopes of an elevation on the Morris Brown place at Morris Park, Cent. Sec. 9. Linear mound with crook along the shore of Lake Waubesa, near the east line of the Brown farm.

Group of mounds formerly existed on the western part of a range of hills, on the Bryngelson place, in Fract. Sec. 4. Only a few remain.

All of the foregoing described and platted by Dr. W. G. McLachlan, 1908. Located on map. These records supercede and are explanatory of items 5, 6 and 7, p. 311, Wis. Archeo., v. 5, nos. 3 and 4.

Albion Township.

Group of seventy-eight conical, effigy and linear mounds (Koshkonong Group) lying chiefly on the crest of a ridge paralleling the west shore of Lake Koshkonong, in the S. E. ¼ Sec. 36. Village site adjoining the group.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 52–53, 77–78, pl. 2. Located on map.

Group of four conical and linear mounds (John Son Group) about one-half mile north of the foregoing on the Son and Weisendonk places, east of the center of Sec. 36.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, pp. 53–54, fig. 2. Located on map.

Group of sixty-four conical, effigy and chain mounds at Noe Springs, Lake Koshkonong, in N. W. ¼, N. E. ¼ Sec. 36. (Noe

Springs Group). Indications of camp or village site at the same place.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 54–55, 78, pls. 3, 11, 13. Located on map.

Group of seven scattered conical, linear and effigy mounds (North Group) on the Rucks and North places, near Lake Koshkonong, near the center of Sec. 25.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, pp. 55–56. Located on map.

9. DUNN COUNTY.

Dunn Township.

Mounds at the junction of the Chippewa and Red Cedar rivers, near Dunnville.

Reported by Dr. W. H. Bailey, Jan. 12, 1909.

Sand Creek Township.

Burial place in Sec. 3.

Reported by J. A. H. Johnson, Oct. 29, 1909.

10. FOND DU LAC COUNTY.

Taycheedah Township.

Burials uncovered in digging foundation for a building on M. Michel's (Goutermout) place at Peebles. Large sea shell found with remains.

Reported to C. E. Brown (M. Michels), July 31, 1909.

11. GRANT COUNTY.

Wyalusing Township.

Camp and workshop site on the Robert Glen place, in the N. E. ¼; N. E. ¼ Sec. 30. Mounds formerly existed in a cultivated field in the rear of Robert Glenn's house, in the S. E. ¼, S. E. ¼ Sec. 19.

Reported by Robert Glenn, Nov. 2, 1909.

Indications of a camp and workshop site in Forehand Park (Harris Grove) at Bagley.

Reported by C. E. Brown and Rev. L. E. Drexel, Nov. 4, 1909.

Camp and workshop site on the F. J. Schrenk place, in the N. W. ¼ Sec. 17.

Reported by C. D. Calkins, Nov. 4, 1909.

Cassville Township.

Winnebago Indians camped in 1857 on the bank of the Wisconsin River between the site of the old sawmill and Furnace Branch, at Cassville. Scattered indications of a flint workshop in Kleinfelters Park on this site.

Indications of a small workshop site on slightly elevated land above the Cassville brewery on Furnace Branch, at Cassville.

Bird effigy and part of a linear mound preserved in Riverside Park at Cassville.

Group of three linear mounds on the crest of Oakey's Hill, in the N. E. ¼ Sec. 28, at Cassville.

Group of two linear and three conical mounds on the Geiger estate between the bank of Jacko Slough and the C. B. & Q. Ry. tracks at the southern limits of Cassville. Linear mound on the crest of Oakey's Hill above the C. B. & Q. Ry. tracks, just south of Cassville (E. ½ Sec. 28?).

Line of mutilated conical mounds south of Cassville, on the C. B. & Q. Ry. right of way, opposite the Newman and Bernard farms (S. ½ Sec. 27?). Nine are visible. Small tepee and workshop sites on the adjoining James Finley farm.

Group of six conical mounds on the C. B. & Q. gravel pit property between the right of way and Jacko Slough (N. ⅓ Fract. Sec. 35?). Other mounds reported destroyed in the pit and on the right of way.

Reported by C. E. Brown and Rev. L. E. Drexel, Nov. 5, 1909.

Millville Township.

Linear and a conical mound on the M. B. Bergum place, on the bank of the Wisconsin River, in Sec. 25.

Reported by C. E. Brown and Dr. E. J. W. Notz, July 25, 1909.

Muscoda Township.

Camp and workshop sites on the bank of the Wisconsin River, in Secs. 1 and 2, at Muscoda.

Reported to C. E. Brown and Dr. E. J. W. Notz, July 23, 1909.

12. GREEN LAKE COUNTY.

Princeton Township.

Group of linear mounds south of Stillwater, on the east side of the Fox River. Camp and workshop site near the mounds.

Reported by W. H. Ellsworth, Nov. 6, 1908.

13. IOWA COUNTY.

Ridgeway Township.

Group of mounds on Harvey Theobald's farm, about seven miles south of Barneveld Station.

Reported to C. E. Brown, Mar. 1909.

Arena Township.

Camp and workshop site on the Jones and Sawall places at Arena.

Reported to C. E. Brown, Sept. 15, 1909.

14. JEFFERSON COUNTY.

Some of the following items, although not new to the county record, are introduced here as intended to supercede or furnish additional information concerning certain evidences previously recorded under these two townships in the Record of Wisconsin Antiquities, appearing in the Wisconsin Archeologist, vol. 5, nos. 3 and 4. For the locations of the trails about Lake Koshkonong see the map accompanying The Archaeology of the Lake Koshkonong Region, Wisconsin Archeologist, vol. 7, no. 2.

Sumner Township.

Group of twenty-one conical and effigy mounds, (Rufus Bingham Group) and threshing pits on the old Bingham place, on Lake Koshkonong, in the N. W. ¼ Sec. 30.

Group of twenty-nine conical, linear and effigy mounds (Le Sellier Group) near the foregoing, on Crabapple Point, Lake Koshkonong, in the S. ½ Sec. 19. An Indian trail passes through the group. Village site, cornfields and site of the cabin of the French trader Le Sellier near the mounds.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 56–57, 78–82, pls. 4, 11 and 13. Located on map. Mentioned by S. D. Peet, Preh. Am., v. 2, pp. 242, 268.

Group of twenty-eight conical, linear and effigy mounds

(Kumlein Group), in the E. ½, N. W. ¼ Sec. 18. Some others effaced by cultivation.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, pp. 57–58, pls. 5 and 13.

Burial place in N. E. ¼ Sec. 19. .

Garden beds formerly existed in the S. E. ¼, S. E. ¼ Sec. 18.

Noted on map, Wis. Archeo., v. 7, no. 2, by A. B. Stout and H. L. Skavlem.

Linear mound on a wooded slope in the S. E. ¼, N. W. ¼ Sec. 7. Three linear mounds near the center of the N. ½ Sec. 7. One almost leveled by cultivation. Two conical mounds and village site on the W. D. Hemphill farm, in the E. ½, S. E. ¼ Sec. 7. These mounds are all located on Koshkonong Creek, and are known by that name.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 58, 95–96. Located on map.

Cache of three conch shells found in 1867, in the N. W. ¼ Sec. 16, near Lake Koshkonong.

Described by H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 94–95. Located on map.

Group of three effigy and three conical mounds (Draves Group) on the sides and crest of a knoll in the S. W. ¼, N. W. ¼, S. W. ¼ Sec. 16.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, pp. 58–59, fig. 3 and pl. 6. Located on map.

Village and workshop site near the center of the S. W. ¼ Sec. 17, about one-fourth mile east of the Draves mounds. Camp site about 1,000 feet south of the foregoing site in the Koshkonong Creek bottom woods.

Described by H. L. Skavlem, Wis. Archeo., v. 7, no. 2, p. 95. Located on map.

Group of five conical mounds (Skavlem Group) on the edge of a marsh on the shore of Lake Koshkonong.

Briefly described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 60. Located on map.

Remnants of two conical mounds and village site on Carcajou Place (Lees Point), Lake Koshkonong, (N. E. ¼ Fract. Sec. 27 and E. ½ Sec. 16). Site of White Crow's Winnebago village, 1828.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 60, 82–90. Located on map.

Group of three conical mounds (Loge Bay Mounds) formerly located on the crest of a knoll on the N. E. ¼ Sec. 16, on Loge Bay, Lake Koshkonong. One mound excavated in 1893, stone implements and copper finger ring accompanied skeleton. Camp and workshop site and garden beds near the mounds. Cache of flint blades found on Wm. Loge place in 1899.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 60–61, 94–95, fig. 4. Located on map.

Group of twenty-eight conical, effigy and linear mounds (Altpeter Group) on a rolling upland, at the northern extremity of Lake Koshkonong, in Secs. 2 and 11. Indications of former camp and workshop sites on the Altpeter farm, N. E. ½ Sec. 11. Location of the Winnebago village of White Ox, in 1830.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 61, 96, pls. 7, 11 and 14. Located on map. White Ox village mentioned in Hist. Dodge Co., p. 477.

Indian camps located in early days of settlement on Black Hawks Island near the northeast shore of Lake Koshkonong, in Sec. 13.

Mentioned by H. L. Skavlem, Wis. Archeo , v. 7, no. 2, pp. 96–97. Located on map.

Koshkonong Township.

Village of the Winnebago chief, Man Eater, located in 1831, on or in the vicinity of the Shekey farm, on the east shore of Lake Koshkonong, W. ½ Sec. 24. Indian cornfield north and east of the village site.

Described by H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 97–9. Located on map. Man Eater's village mentioned in Waubun, p. 325.

Group of seventy-three conical, linear and effigy mounds (Gen. Atkinson Group) on highland overlooking the east shore of Lake Koshkonong, in the S. W. ¼ Sec. 24.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, pp. 62–64, pls. 8, 9, 11, 12 and 14. Located on map.

Group of thirty-six conical, effigy and linear mounds on the Lake View resort grounds on the east shore of Lake Koshkonong, N. E. ¼ Sec. 26 and N. W. ¼ Sec. 25. Location of camp of the Pottawatomie chief Kewaskum, 1850.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 64–65, 98, pls. 10, 12, 13 and 14. Located on map.

Conical mound and cornfield on Fun Hunter's Point, Lake Koshkonong, near the S. W. corner, N. W. ¼ Sec. 25.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 65. Located on map.

Group of nine effigy and a linear mound (Lookout Group) on the crest of a ridge on the east shore of Lake Koshkonong, in the northeast corner of Sec. 35.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 65, fig. 5. Located on map.

Group of ten conical mounds (Haight's Creek Group) on a highland overlooking Bingham's Bay, on the east shore of Lake Koshkonong, in Sec. 35.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 66, fig. 6, pl. 12. Located on map.

Group of nineteen conical and linear mounds (Ira Bingham Group) and village site on Bingham's Point, on the east shore of Lake Koshkonong, in the N. W. ¼, S. E. ¼ Sec. 34.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 67, 98–99, fig. 7. Located on map.

Village site and cornfields on Thiebeau Point on the east shore of Lake Koshkonong, in the N. ½ Sec. 33.

Described by H. L. Skavlem, Wis. Archeo., v. 7, no. 2, p. 99. Located on map.

15. JUNEAU COUNTY.

Fountain Township.

Group of mounds on the Wm. Alds place on the north side of a branch of the Lemonweir River, in Sec. 9.

Reported to C. E. Brown, 1908. May be identical with item 5, p. 339, Wis. Archeo., v. 5, nos. 3 and 4.

Lindina Township.

Camp and workshop site on the A. Heineman place on a branch of the Lemonweir River, south of Mauston, in Sec. 24 (?). Winnebago camp and cornfields here at the base of Coon Rock, in 1868.

Reported to C. E. Brown (A. Heineman), Mar. 26, 1908.

16. KEWAUNEE COUNTY.

Kewaunee Township.

Cache of 162 flint blanks and arrowpoints found on the Moore farm, S. E. ¼, S. E. ¼ Sec. 14.

An Indian ford is said to have crossed the Kewaunee River at this place, which is about 2 miles west of Kewaunee.

Reported on by William McGowan, May 13, 1908; by Dr. Louis Falge, May 14, 1908, and by J. P. Schumacher, May 30, 1908.

17. LA CROSSE COUNTY.

Shelby Township.

Flint workshop on the E. Mataik place in Mormon Coulee.

Mentioned in the La Crosse Leader, Nov. 12, 1908.

Flint workshop on the top of Neumeister's Bluff, southeast of La Crosse.

Reported to C. E. Brown (W. Tillman), Mar. 25, 1909.

18. LA FAYETTE COUNTY.

Fayette Township.

Mound on the S. W. ¼ Sec. 10.

Grave partly enclosed with stone slabs, in N. E. ¼ Sec. 4. Destroyed during cultivation of land in 1907. Large grooved stone axe accompanied burial.

Reported by Olgar P. Olson, Jun. 28, 1909.

Argyle Township.

Mound on the Holmen Estate, in the S. W. ¼ Sec. 26.

Small circular enclosure on the bottom land, in the S. W. ¼ Sec. 18.

Reported by Olgar P. Olson, Jun. 28, 1909.

Two linear mounds on knoll crossed by road leading from Mud Branch to the Yellowstone, in the S. W. ¼ Sec. 22.

Camp and workshop site on the Ole Gilbertson (old J. C. Andrew's) place on the west side of the east branch of the Pecatonica River, W. ½, S. E. ¼ Sec. 10.

Reported by Byron Andrews, Sept. 8, 1909.

19. MANITOWOC COUNTY.

Cato Township.

Two conical mounds in the S. W. ¼, S. W. ¼ Sec. 22, on the north side of a creek tributary to the Manitowoc River, just north of Clarks Mills on the road to Cato. Excavated without results.

Reported by Dr. Alphonse Gerend, Sept. 21, 1909.

Kossuth Township.

Cache of 185 flint blanks found on the S. E. ¼ Sec. 2.

Reported by Dr. Louis Falge, May 14, 1908.

Manitowoc Rapids.

Garden beds were formerly located on the Fred Wincke place, on the north side of the Manitowoc River, N. W. ¼, N. E. ¼ Sec. 26. Obliterated by recent cultivation of the land.

Reported by Dr. Louis Falge, Aug. 24, 1908.

20. MILWAUKEE COUNTY.

City of Milwaukee.

Camp and workshop formerly existed on the edge of a small ravine at the southeast corner of Block 101, Seventh Ward, between Oneida and Mason streets and a short distance west of the present Juneau Park.

Reported to C. E. Brown (C. W. Askew), Jan. 15, 1909.

21. OCONTO COUNTY.

Stiles Township.

Camp and workshop sites along the Oconto River between Oconto Falls and Stiles.

Reported by J. P. Schumacher, Nov. 20, 1908.

22. RACINE COUNTY.

Norway Township.

Conical and effigy (turtle) mound on the north bank of Lake Waubeesee. S. W. ¼ Sec. 8.

Reported by G. A. West, Jun. 28, 1909.

23. RICHLAND COUNTY.

Bloom Township.

Camp and workshop site on the Lester Long place in Sec. 28.
Reported to C. E. Brown (L. Long), Sept. 8, 1909.

Eagle Township.

Group of seven linear, a conical and an effigy mound near the public highway, on the Schaeffer farm, S. ½ Sec. 35. Several of the linear mounds recently partly destroyed to obtain soil for road making. Group of caches near the mounds.

Group of two linear mounds and a bear effigy on the higher land north of the foregoing, on the same property. Group of caches nearby.
Platted by C. E. Brown, July 23, 1909.

Group of conical, effigy and linear mounds on the Henry Eckstein farm on the Wisconsin River, W. ½, S. E. ¼ Sec. 35. Some nearly obliterated.

Group of fourteen conical, an effigy and a linear mound on the McCleary place, on the high bank of the Wisconsin River, in the S. ½ Sec. 34. Several of the conical mounds partly destroyed.
Notes taken by C. E. Brown and Dr. E. J. W. Notz, July 23, 1909.

Orion Township.

Group of three linear mounds west of the school house, on the farm of Mrs. Sarah Dooley, in the S. W. ¼ Sec. 32.

Solitary linear mound near the Wisconsin River bank, on the same farm. Mutilated.
Notes taken by C. E. Brown, July 22, 1909. Explanatory of item 7, p. 20, Wis. Archeo., v. 7, no. 1.

Buena Vista Township.

Winnebago Indian camp at the mouth of Pine River, at Richland City up to 1867, and later.
Reported by P. A. Seifert, July 1908.

24. ROCK COUNTY.

Fulton Township.

Group of three conical mounds and camp and workshop site

on the Hubbell farm on the west bank of the Rock River, in Sec. 30.

Reported by Horace McElroy, Sept. 5, 1908.

Janesville Township.

Camp and workshop site in S. E. ¼ Sec. 15.

Indications of camp and workshop site near the Rock River, in the N. ½ Sec. 23.

Reported by Horace McElroy, Sept. 5, 1908.

Milton Township.

Cache of conch shells found in 1842, south of the Rock River, in the N. E. ¼ Sec. 7.

Reported by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2. Located on map.

Two conical mounds (Ogden Group) on an elevation on the south side of the Rock River, at the foot of Lake Koshkonong. Traces of a conical mound on a ridge 300 feet west of the foregoing. Two small conical mounds about 500 feet beyond the last. Three linear mounds about one quarter mile to the southeast on the N. E. ¼, N. W. ¼. S. W. ¼ Sec 7. Burials found in excavating basements for farm buildings.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 50. Located on map. Supercedes items 6 and 7, p. 375, Wis. Archeo., v. 5, nos. 3 and 4, p. 375.

Site of Black Hawk's camp in 1832, on the south side of the Rock River, near the center of Sec. 7. Shell heaps formerly existed there. Winnebago Indians camped here for several years after 1836.

Described by H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 74 and 75. Located on map.

Group of eleven conical mounds (Rock River Group) on the north side of the Rock River in the northwest corner or Sec. 7. Several excavated by the Prof. W. C. Whitford and W. P. Clarke, in 1877.

Village site and shell and refuse-heaps on the river bank adjoining the above mounds in the S. W. ¼ Sec. 6. and N. W. ¼ Sec. 7.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 50–51, 75. Located on map.

Group of fourteen conical, linear and effigy mounds, (Tayehedah Group) on Taylors Point, Lake Koshkonong, near the Cent. Sec. 6. Location of an early Sac (?) Indian village. Indications of village site found there.

Described by A. B. Stout and H. L. Skavlem, Wis. Archeo., v. 7, no. 2, pp. 51–52, 75–77, fig. 1. Located on map.

Group of twelve conical, effigy and linear mounds (Taylor House Group) on Taylors Point, near the former summer resort known as the Taylor House, in the N. W. ¼ Sec. 6.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 52, pl. 1. Located on map.

Fulton Township.

Three conical mounds (Fulton Group) in the N. E. ¼ Sec. 1.

Described by A. B. Stout, Wis. Archeo., v. 7, no. 2, p. 52. Located on map.

25. RUSK COUNTY.

Mounds on the shore of Island Lake in the southwestern part of the county.

Reported by J. W. Carow, Oct. 7, 1909.

Group of fifteen mounds on the property of A. Kryminski, on the south shore of Little Rice Lake.

Reported by J. A. H. Johnson, Dec. 13, 1909.

26. SAUK COUNTY.

La Valle Township.

Group of fourteen conical and one linear mound on the P. J. Milbauer place, west of the C. & N. W. Ry. tracks and Baraboo River, in the S. E. ¼ Sec. 17. Many are greatly reduced by cultivation.

Reported by H. E. Cole, Baraboo News, May 5, 1908.

Troy Township.

Winnebago camps were located in the southwest corner of this township in 1854 and 1855.

Reported to C. E. Brown, Oct. 1909.

Delton Township.

Camp and workshop site at the base of Coon Bluff, on the E. T. Shepard farm, in Sec. 13.

Reported to C. E. Brown (Frank Shepard), Sept. 8, 1909.

Greenfield Township.

Bear effigy on the H. H. Porter place on the west side of the Baraboo River, in the N. E. ¼ Sec. 26. Burial removed from site of levelled mound on the same property.

Reported by H. E. Cole, Baraboo News, May 20, 1909.

27. ST. CROIX COUNTY.

Somerset Township.

Village and workshop site near Hammond. Reported to be the site of a struggle between the Dakota and Chippewa.

Reported to C. E. Brown, 1908.

28. VERNON COUNTY.

Hillsboro Township.

Group of mounds on the Luther Johnson and adjoining farm in the northern part of this township, about four miles west of Elroy.

Reported to C. E. Brown (E. L. Mason), Sept. 1908.

29. VILAS COUNTY.

Spirit stone, the "Crawling stone," in Crawling Stone Lake.

Reported to C. E. Brown, 1908.

30. WASHBURN COUNTY.

Group of conical mounds on high ground overlooking Lake Pokegama, three miles west of Minong.

Reported by Rev. S. E. Lathrop, Oct. 12, 1908.

31. WAUKESHA COUNTY.

Information concerning the Indian trails in the vicinity of Pewaukee Lake is given by S. G. Haskins, Wis. Archeo., v. 8, no. 3. Located on map.

Oconomowoc Township.

Conical mound on the John Sherer place, in the S. ½, N. W.

¼ Sec. 23, destroyed in road building. Other mounds in the vicinity levelled by cultivation.

Indian cornfield was located on the same property (N. W. ¼, N. E. ¼ Sec. 23), in early days of settlement.

Large circular enclosure formerly located on the west side of Marks Pond, on the C. B. Brown property, in the N. E. ¼, S. W. ¼ Sec. 23. Small portion of circumference is still to be seen.

Camp and workshop sites on both sides of the Oconomowoc River, near the outlet of Lake La Belle, in Secs. 31 and 32.
Reported by Dr. F. C. Rogers, Jan. 23, 1908.

Summit Township.

Mounds on the Fred Fitz place and in the rear of the Goetz cottage on the south shore of Silver Lake, N. ½ Sec. 16.
Reported by Chas. W. Lamb, Aug. 4, 1908.

Cache of sixty-one flint blanks and two arrow points found on R. Houghton place, on the east shore of Upper Nemahbin Lake, in the E. ½ Sec. 3.
Reported by A. V. Drown, Nov. 13, 1908.

Two linear mounds on Gustave Pabst place on the north shore Upper Genesee Lake, S. ½, N. W. ¼ Sec. 22. One other on adjoining Leavitt estate property.

Group of mounds on the Williams place on the east shore of Lower Genesee Lake, N. W. ¼ Sec. 27.
Reported to C. E. Brown (E. K. Nye), Oct. 1909.

Delafield Township.

Conical mound on O. Bjorquist place, on the north shore of Pewaukee Lake, in the S. E. ¼ Sec. 12.
Reported by Dr. Joseph Quinn. Mentioned by S. G. Haskins, Wis. Archeo., v. 8, no. 3, pp. 91–92.

Mukwonago Township.

Conical mound southeast of Potters Lake.
Reported by O. L. Hollister, Aug. 25, 1908.

Cache of forty flint blanks found on B. S. Avery place about one mile north of Mukwonago, Sec. 26.
Reported by Rolland L. Porter, June 2, 1909.

Lisbon Township.

Camp and workshop site on the Isaac Billing's place, in the S. E. ¼ Sec. 32. Several mounds formerly located on the same property now obliterated by cultivation.

Mentioned by S. G. Haskins, Wis. Archeo., v. 8, no. 3, p. 92.

Pewaukee Township.

Effigy mound (bear ?) on the E. Channel place, E. ½, N. E. ¼ Sec. 6. Partly destroyed by cultivation.

Mounds formerly existed on the H. Holger place, N. W. ½ Sec. 5.

Camp and workshop site on the W. Wood place, N. W. ¼ Fract. Sec. 8.

Winnebago Indians camped after 1890, on Fract N. W. ¼ Sec. 8.

Traces of a former effigy mound on the John Young place, N. E. ¼ Sec. 4.

Flint workshop on the John Hodgson place, N. ½, S. E. ¼, N. W. ¼ Sec. 4, on the bank of a small stream tributary to the Fox River.

Flint workshop on the G. W. Haskin's place, S. ½, S. E. ¼ Sec. 4.

Camp and workshop site on a hill on the Geo. Hodgson place, Sec. 11. Burial found in sand pit on the same place.

Several conical mounds formerly existed on the E. F. Mielenz place, Sec. 11.

Pottawatomie Indians camped in 1842 where the Tischaefer hotel now stands, on the south shore of Pewaukee Lake.

Pottawatomie camps were located in the early days of settlement on the William Chapman place, S. ½, S. W. ¼ Sec. 17, and at Belleview in Fract. Sec. 18.

Described by S. G. Haskins, Wis. Archeo., v. 8, no. 3, pp. 86–91. Located on map.

Turtle effigy on the Bergman place, on the north side of Pewaukee Lake, N. W. ¼, N. ½ Fract. Sec. 7.

Reported by S. G. Haskins, Feb. 24, 1909.

Vernon Township.

Group of five mounds on the McBean place, on a creek tributary to the Fox River, in the S. E. ¼, S. E. ¼ Sec. 15. Other mounds now obliterated (?).

Reported by J. M. W. Pratt, Nov. 11, 1909.

Muskego Township.

Camp and workshop site on the northwest shore of Big Muskego Lake, below Bass Bay, W. ½, Fract. Sec. 15.

Reported by O. L. Hollister, Dec. 1909.

Corrections and Explanations of Earlier Records.

Volume 5, Nos. 3 and 4.

Page	Item	
296	5	For additional information concerning the evidences at the Red Banks see Wis. Archeo., v. 8, no. 3, pp. 101, 104 and 110.
298	5	These garden beds are on Lots 356, 370 and 371. They were reported on in Aug. 1905 and May 1906.
309	1	There are at least five distinct groups of mounds in this series.
311	1	These mounds appear to have been located in Blooming Grove Township, in Sec. 20 or 29.
329	8	These are in Marquette Township.
339	12	These mounds were re-platted by A. R. Clifton. June 1908. Peet's Diagram XVI is incorrect as to the position of one effigy. The group is located on the Gee farm, on Gees Slough, in the NE. ¼, SE. ¼ Sec. 17.
388	6	A recent sketch of this group by J. P. Schumacher (May 1908) shows only eight conical and one effigy (?) mound. They are on the bank of the Wolf River.

Vol. 7, No. 1.

9	10	Read NE. ¼ for SE. ¼.
22	5	On Fract. Lot 3.

THE DISTRIBUTION OF DISCOIDALS, CONES, PLUMMETS AND BOAT STONES IN WISCONSIN.

Charles E. Brown.

Of the discoidals, cones, plummets and boat stones of Wisconsin nothing has been published. The present paper is offered with the intention of placing at the disposal of our co-workers in Wisconsin and adjoining states such information as is at hand on the subject of their frequency and distribution. It is based, as previous contributions have been, on an acquaintance with the specimens in a large number of local and other collections, public and private, gained by the author during the past ten years. By thus calling attention to the limited number and interest of these particular aboriginal stone objects he hopes to learn of the existence of other specimens. The additional data thus obtained will be employed in a future, more comprehensive paper. Our archaeological friends in Michigan, Illinois, Indiana, Iowa and Minnesota will confer a favor on Wisconsin students by contributing information on the occurrence of these and other classes of aboriginal implements within their boundaries.

In the publications of Fowke, Moorehead, Beauchamp, Thruston and other authors there is available a valuable store of information on the subject of the manufacture, forms and probable uses of discoidals, cones, plummets and boat stones, which the scope of this paper has not permitted the author to include. In future papers there will be described other classes of the least known stone implements and ceremonials of Wisconsin.

Discoidals.

The stone disks known as discoidals are familiar to most Wisconsin students hence no lengthy description of the various forms or of their probable uses need be entered into at this time. In

the 13 Annual Report of the American Bureau of Ethnology, Fowke describes and figures all of the well established and some of the unusual types. In the Handbook of American Indians there is offered interesting information concerning their form, use and distribution in the United States.

The author has personally examined, or has a record, of the finding of examples in the following localities in Wisconsin:

Southeastern Wisconsin (six specimens).
Waterford, Racine County (2 spec.).
Elkhorn, Walworth County.
Delavan Lake, Walworth County (2 spec.).
Milwaukee, Milwaukee County (2 spec.).
Milton, Rock County.
Jefferson, Dodge County (2 spec.).
Rubicon, Dodge County.
Fox Lake, Dodge County.
Beaver Dam, Dodge County.
Grafton, Ozaukee County.
Four Lakes, Dane County (12 spec.).
Baraboo, Sauk County.
Greenfield Township, Sauk County.
Wilson Township, Sheboygan County.
Winnebago County (2 spec.).
Oshkosh, Winnebago County.
Green Lake County (3 spec.).
Berlin, Green Lake County.
Durand, Pepin County.

It will be noted from this tabulation that the number of discoidals found in Wisconsin is not large. They are confined in their distribution to the southeastern corner of the state. The known western boundary of their habitat is Sauk County. From the Illinois–Wisconsin state line they range north to Winnebago County. Future researches will undoubtedly both increase the number of specimens and extend the habitat of this class of stone objects. The single specimen from Pepin County is separated from the Sauk County specimens by a distance of about 130 miles. Other specimens may yet be found between these widely separated stations.

Not a few of the Wisconsin specimens are well made, while a few are highly polished and the equal in beauty of form of any

found elsewhere. Some rudely fashioned examples occur. So far as known all are made of materials readily procurable in the state, most being fashioned of very hard rock such as syenite, granite, greenstone and quartzite. A few are made of sandstone. The cavities on the sides of the various specimens differ considerably in diameter and depth. Among the specimens are three with a central perforation. The largest Wisconsin discoidal now known measures 3¾ inches in diameter and is about 1½ inches wide at the edge. The smallest measures only 1⅝ inches in diameter and is about ⅝ of an inch thick.

The Handbook says of the distribution of discoidals in the United States: "The finest specimens, in greatest numbers, come from the states south of the Ohio River, and from Arkansas eastward to the Atlantic. The territory within a range of 100 miles around Chattanooga, Tenn., and for about the same distance around Memphis, is especially rich in them. From southeastern Ohio to central Mississippi a considerable number has been found, though few of them are as well wrought as those from the South. Rather rough ones occur along the Delaware River. Beyond the limits indicated the type gradually disappears. Discoidal stones corresponding closely with the eastern types, save that the faces are rarely concave, are found in the Pueblo country and in the Pacific states."

Fowke states that discoidals "are most plentiful in the region traversed by the lower ranges of the Appalachians, the finest specimens being found there." (Archaeo. Hist. of Ohio, p. 551.) Abbott reports their common occurrence in New York and New England (Primitive Industry, p. 350). Beauchamp does not include discoidals in his report on the polished stone articles of the New York Indians.

Our brother archaeological students in northern Illinois, Iowa, Minnesota and Michigan can assist the cause of American archaeology by communicating information concerning the occurrence of discoidals in their states. In Ohio, Missouri and Tennessee discoidals have been found in mounds. None of our Wisconsin specimens have been so found, nearly all coming from aboriginal village sites.

Cones.

By this name there are known to archaeologists a class of small polished stone objects of a conical or somewhat conical form. The manner of their use by the early Indians is a problem awaiting solution. "It is surmised that they were carried as charms or served as a part of the 'medicine' kit of the shaman." It is also thought from an examination of certain of the hematite cones found in other states, that these may have been employed in making paint. The Pueblos of to-day are said to use similar conical objects of hematite for this purpose, the cone serving as a muller and also yielding the paint. (Handbook.)

The number of cones known to have been found in Wisconsin up to the present time is surprisingly small. Specimens are at hand in public and private collections from the following localities:

Burlington, Racine County.
Kansasville, Racine County.
Beaver Dam, Dodge County.
Sumner Township, Jefferson County.
Albion, Dane County.
Madison, Dane County.
Elkhart Lake, Sheboygan County.
Mitchell Township, Sheboygan County.
Manitowoc County.
Kewaunee, Kewaunee County.
Winneconne, Winnebago County.
Lake Poygan, Winnebago County.
Dale, Outagamie County.
Princeton, Green Lake County.
Viroqua, Vernon County.
Richland City, Richland County.

Thus it appears that in our state cones range in their distribution from the shore of Lake Michigan westward to the Mississippi River. In eastern Wisconsin their known northward range is to Outagamie and Kewaunee counties. Of our specimens only one is made of hematite and one of limestone. Three are of slate and three of steatite. The remainder are made of harder stones. Two of the specimens have the circumference of their bases ornamented with small incisions. One

cone made of Huronian slate has the apex rubbed off flat. The largest specimen measures 1⅛ inches in height. Its base is about 2 inches in diameter. Mr. Richard Herrmann of Dubuque informs the author that he has a hematite cone from eastern Tennessee the base of which is similarly ornamented with incisions or notches.

None of the Wisconsin specimens were obtained from mounds or graves.

The Handbook gives the information that cones occur most plentifully in the states east of the Mississippi, and that they are usually made of hematite or other hard material. When Gerard Fowke published his paper, "Stone Art," in 1891–92, the Bureau of Ethnology possessed only thirteen cones, these specimens coming from Georgia, North Carolina, West Virginia, Tennessee and Illinois. Six were of hematite and four of steatite, one being made of each quartzite, granite and sandstone. A cone made of native copper from Carter County, Kentucky, was formerly in the W. H. Ellsworth collection in Milwaukee.

Plummets.

These obtain the name by which they are now widely known from the resemblance which some specimens bear to the plumb-bob of the white man. Fowke thus describes this class of stone objects. "The general shape is ovoid, sometimes quite slender, sometimes almost round, the ends may be either blunt or pointed. They may be grooved near the middle or near either the larger or the smaller end. Some have two grooves, some are only partially grooved. * * * Still others have only a crease, scarcely larger than a coarse thread; many are drilled or perforated; while a few have "necks" or slender prolongations at one end. All of these features may have been intended for the purpose of facilitating suspension, though in some instances it would have required no little care and attention to prevent the pendant from hanging awry." (Archaeo. Hist. of Ohio, p. 556.)

Plummets occur in various sizes and materials. Many are made of hematite, slate, sandstone, granite and shell. Several theories as to their use in aboriginal life have been advanced. Fowke believes that their variation in form, size and degree of

finish indicates a diversity of purpose. Other writers appear to be undecided whether to consider them amulets or sinkers. In New York, Beauchamp found that stone objects of this class seemed to be "confined to good fishing places" and concluded that they might well be classed as sinkers. Some, he admits, however, appear hardly to be fitted for this use. The Pennacook Indians are said (Schoolcraft) to have employed them as sinkers. The Eskimo have similar sinkers, but perforated. The California Indians, it is stated, used them as rain charms. The author finds no reason to believe that any of the Wisconsin specimens were employed as sinkers. Most of them are too heavy for use on a light line. In only one instance have several been found together. Their rarity and finish argue against their use as net-weights. It is more than likely that the local specimens were worn as amulets.

Plummets have been found in the following localities in our state:

Sussex, Waukesha County.
Pewaukee Lake, Waukesha County.
Janesville, Rock County.
Kekoskee, Dodge County.
Dane County (12 spec.).
Roxbury, Dane County.
Lake Kegonsa, Dane County.
Sauk County.
Baraboo, Sauk County.
Wilson Township, Sheboygan County.
Manitowoc, Manitowoc County.
Adams County.
Fox River, Green Lake County.
Princeton, Green Lake County.
Rush Lake, Winnebago County.
Big Suamico, Brown County.
Langlade, Langlade County.

Sauk County marks the western and Langlade County the present known northern range of these objects in Wisconsin. Dane County has produced half of the total number of specimens. Twenty-eight have the smaller end encircled by a groove. Two have a groove at both extremities, and one is without a groove. The largest specimen measures 3¼ inches in length,

and 1⅛ inches in thickness at its widest part. One specimen is ornamented on one side with a horizontal and a number of short diagonal incisions. Another has a groove at each end, and another groove midway between the middle and the ends. With only two or three exceptions all the specimens are well made and polished. One specimen is made of slate, two of limestone and the remainder of harder rocks. Four are of hematite.

Plummets have a wide distribution in the United States. Beauchamp states that many have been found in the South, and that they occur in New England, Ohio and California. Of the southern specimens some are perforated at one end instead of grooved. Fowke describes specimens in the Bureau collection which came from Louisiana, West Virginia, Arkansas, Ohio and Illinois.

Clarence B. Moore mentions the finding of considerable number of hematite plummets in a field, which may have been an Indian cemetery, near Seven Pines Landing, in Louisiana. (Antiq. of the Ouachita Valley ,p. 161.)

In New York, Beauchamp ascertained that they had a very moderate distribution. Brewerton, at the foot of Oneida Lake, probably furnished a larger number of examples than all the state beside.

Boat Stones.

These, it may be noted from our illustrations, have somewhat the form of a canoe. The base may be flat, slightly concave, or deeply excavated. Many boat-shaped objects have a perforation at each end. Some specimens with a flat base have in place of the perforations a groove which passes over the top at the middle from one side to the other, or only across the top. All of the local specimens which have come to our notice are well made and smooth or polished. The use to which these stones were put is not known. It is thought that they were employed as charms or talismans, being bound to the person or to some other object by means of cords passed through the perforations or over the central groove.

Only a comparatively small number of boat-stones have been recovered in Wisconsin. These are from:

Brighton, Racine County.
Cedar Creek, Washington County.
Hartford, Washington County.
Four Lakes, Dane County (4 spec.).
Elkhart Lake, Sheboygan County (2 spec.).
Mitchell Township, Sheboygan County.
Holland Township, Sheboygan County (2 spec.).
Russell Township, Sheboygan County.
Centerville, Manitowoc County.
Near St. Johns, Calumet County.
Green Lake and Marquette Counties (3 spec.).
Waupaca County.
Partridge Lake, Waupaca County.
Wolf River, Waupaca County.
Buena Vista Township, Richland County.
Eastern Wisconsin (2 spec.).

Richland County is the present western, and Waupaca County the present northern known limit of their distribution in Wisconsin. Of the total number of specimens eleven are made of plain or banded slate. One example is of catlinite, one of steatite, and one of lead. The remainder are of granite and other harder materials. About one-half have concave or deeply excavated and perforated bases. Two have flat bases and a central groove. One with a flat base has neither perforations or a groove.

The smallest specimen measures a little less than 2 inches in length. The largest known specimen measures 6 inches in length and one inch in width at the base. The base is very slightly concave and is ornamented on one edge with a small number of incisions. The curious style of its flattened top and the unusual distance of the perforations from the ends is shown in Figure 9.

Boat stones are reported in the Handbook as occurring sparingly in most of the states east of the Mississippi River, as well as in Canada. Ohio has furnished many specimens. Beauchamp states that New York has probably as many forms as any other state. They occur along Lake Champlain, at several places on the Hudson River, and in other localities.

ARCHEOLOGICAL NOTES.

The bone implements illustrated in the frontispiece of the preceding issue of the Wisconsin Archeologist (v. 8, no. 3) are selected from a large number in the collection of Mr. S. D. Mitchell of Green Lake. Examples of the form of harpoon there illustrated have also been recovered from several village sites on the shores of Green Bay. We shall be pleased to learn of the existence of others.

The archeological collection of Mr. Olgar P. Olson of Argyle, a member of this Society, is now arranged in a case in the newly established Lafayette County museum, in the court house at Darlington. Mr. Olson is to be commended for placing his collection where students and the public may benefit by its presence. Members of the Society will regret to learn of the removal to Eugene, Oregon, of Rev. Stanley E. Lathrop, who was until recently so active in securing the establishment of a historical museum at Ashland. Others will continue the work of which he has laid the foundation at that place.

The seventeenth session of the International Congress of Americanists will be held in Buenos Aires (Argentine Republic) from May 16–21, 1910. Señor José Nicolas Matienzo is the president and Dr. Robert Lehmann-Nitsche the general secretary of the Commission of Organization.

The establishment of a public collection of archeological and historical materials at Chippewa Falls is receiving the consideration of several members of the Wisconsin Archeological Society and State Historical Society residing in that city. The day is not far distant when every important city in the state will have its public museum. It is with pleasure that the Society notes the continued activity of its own members in this educational movement.

Mr. Clarence B. Moore has published a new and very valuable archeological work, Antiquities of the Ouachita Valley, being a report of the investigations conducted by him in November, 1908, and January to April, 1909, in the Ouachita Valley in Louisiana and Arkansas. It is illustrated with a large number of fine figures and plates.

Miss Mary E. Stewart, an active member of the Wisconsin Archeological Society, is endeavoring to create an interest in the protection and preservation of Tennessee antiquities. We present a communication on this subject recently published in the American.

"A recent visit to Mound Bottom, on the Harpeth River, Cheatham County, was of much interest. These mounds are of great historical value. Tennessee is rich in the remains of the labor of a race of

which little is known. I am sorry to see that Tennessee puts no value on these remains that almost any other State would protect and preserve. Such mounds should be owned by the State and kept in original form and size as far as possible. If an examination of the contents is desirable it should be made by men of scientific ability, and they be made responsible to the State to restore the mounds in form and place any relics that might be found in the historical museum. Surveys should be made and descriptions given, with illustrations, and in a way to be available to all who are interested in archaeology. Students from all over this country and Europe could come here to view and learn from these unique mounds.

It would seem that the men of Tennessee were asleep, that they sit idly by and let these mounds be ruined by being plowed over and planted to corn or oats. Plowing loosens the soil, then the rains wash it away. The mounds must now be much less than their original size. Can not the influence of such men as Gen. Thruston and others of like ability rouse the people from their apathy? Some measures ought to be taken before too late to preserve these valuable objects.

If men are too indifferent to the value of these to the State, will not women interest themselves and take some measures to save this work of a former race?

It would be well if women were placed in charge of the State Historical Society's museum in Nashville. It is now much neglected. It needs cleaning, putting in order, and so labeling articles that one desirous of learning could know what he was looking at. An attendant should be there who knows something of the objects and is ready and willing to give required information. One should have pride enough in the collection to take pleasure in showing it. I feel quite confident that I saw this year the same dust on some of the things that I saw last year. And there are many things of real interest and value there and would probably be much more did those in charge show sufficient interest. More might be said. I am strongly impressed with the need of proper attention being given to these matters."

From the University of Wisconsin the State Historical Museum has received the gift of several valuable collections of foreign archeological materials which will soon be placed on exhibition. Most important of these is a collection of flint implements collected by H. W. Seton-Karr from the sites of neolithic villages in the desert west of the Fayum oasis; from the ancient flint mines of Wadj Sheikh, and other localities in Egypt. Smaller but equally interesting collections of stone implements, made by the same investigator, come from Poondi and Gazapeet, in the Madras Presidency, in India; from the Gilgal River, Great Rift Valley, in Central Africa; from Zényen, Tunis, and from the Knowle pit, near Swindon, England.

Through the interest of Mr. Paul G. Miller the Museum has secured and is exhibiting a small collection of prehistoric stone implements and fragments of pottery vessels from Porto Rico. Through the interest of other friends prehistoric stone and other implements from France, Switzerland, Mexico, Japan and Greece have recently been added to its rapidly improving archeological series.

EXPLANATION OF PLATES 3 AND 4.

The figures are slightly reduced.

Figure 1. Cone. Hematite. Winneconne, Winnebago County.

Figure 2. Cone. Steatite. Near Albion, Dane County.

Figure 3. Cone. Slate. Menominee, Waukesha County.

Figure 4. Cone. Basalt. Kewaunee County.

Figure 5. Plummet. Hematite. Roxbury, Dane County.

Figure 6. Plummet. Basalt. Baraboo, Sauk County.

Figure 7. Plummet. Porphyritic Syenite. Near Janesville, Rock County.

Figure 8. Plummet. Basalt. Dane County.

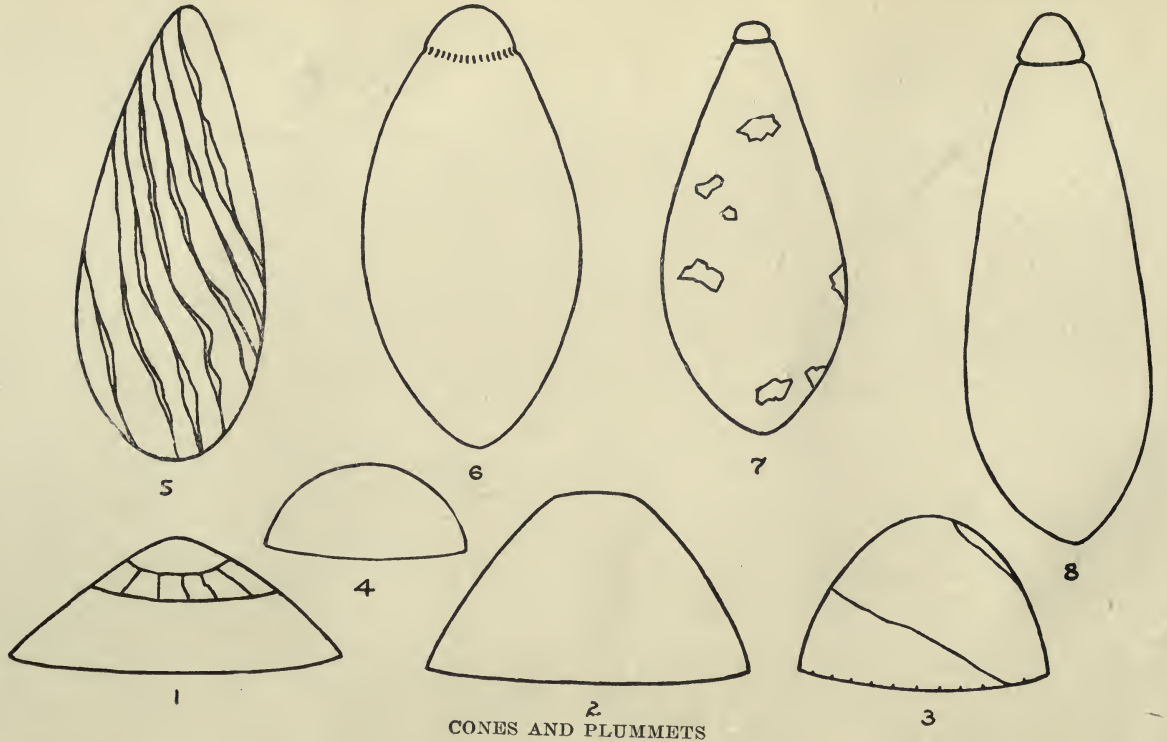
Figure 9. Boat Stone. Catlinite. Partridge Lake, Waupaca County.

Figure 10. Boat stone. Slate. Cedar Creek, Washington County.

Figure 11. Boat Stone. Slate. Near Hartford, Washington County.

Courtesy of Dr. A. Gerend

CONICAL MOUND
Pipe Village, Fond du Lac County
Plate 1



CONES AND PLUMMETS

Plate 2

Vol. 8 April to July, 1909 No. 2

THE WISCONSIN ARCHEOLOGIST

CHIPPED FLINT PERFORATORS OF WISCONSIN

SUGGESTIONS OF MEXICO IN MOUND RELICS

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY
MILWAUKEE

DEMOCRAT PRINTING CO., MADISON, STATE PRINTER

Your Aid Is Desired

o o o

The Wisconsin Archeological Society is endeavoring to awaken a live interest in the great historical and educational value of Wisconsin's antiquities. It is encouraging the preservation of representative groups of Wisconsin mounds; is conducting surveys and researches, and assisting in the establishment of archaeological collections in the educational institutions of our state.

Become a Member of the State Society and Encourage the Work Now in Progress

Its worthy and very necessary labors deserve the full support of all intelligent and public spirited citizens. No one desires that the antiquities of our state shall be destroyed before a full record of their location and character shall have been made.

o o o

The Society has 600 members now. It wants three times that number.

Subscriptions to its research and survey funds are needed.

Donations of collections and specimens will be thankfully received.

o o o

Annual membership, $2. Sustaining membership, $5.
Life membership, $25.

Address

THE WISCONSIN ARCHEOLOGICAL SOCIETY
Chas. E. Brown, Secretary and Curator,
MADISON, WISCONSIN.

Vol. 8 August to October, 1909 No. 3

THE WISCONSIN ARCHEOLOGIST

REMAINS OF ABORIGINAL OCCUPATION IN PEWAUKEE TOWNSHIP, WAUKESHA COUNTY

THE FIELD OF THE SMALL MUSEUM

WISCONSIN GARDEN BEDS

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY
MILWAUKEE

DEMOCRAT PRINTING CO., MADISON, STATE PRINTER

Your Aid Is Desired

o o o

The Wisconsin Archeological Society is endeavoring to awaken a live interest in the great historical and educational value of Wisconsin's antiquities. It is encouraging the preservation of representative groups of Wisconsin mounds; is conducting surveys and researches, and assisting in the establishment of archaeological collections in the educational institutions of our state.

Become a Member of the State Society and Encourage the Work Now in Progress

Its worthy and very necessary labors deserve the full support of all intelligent and public spirited citizens. No one desires that the antiquities of our state shall be destroyed before a full record of their location and character shall have been made.

o o o

The Society has 600 members now. It wants three times that number.

Subscriptions to its research and survey funds are needed.

Donations of collections and specimens will be thankfully received.

o o o

Annual membership, $2. Sustaining membership, $5.
Life membership, $25.

Address

THE WISCONSIN ARCHEOLOGICAL SOCIETY
Chas. E. Brown, Secretary and Curator,
MADISON, WISCONSIN.

Vol. 8 October to December, 1909 No. 4

THE WISCONSIN ARCHEOLOGIST

ADDITIONS TO THE RECORD OF WISCONSIN ANTIQUITIES. III

THE DISTRIBUTION OF DISCOIDALS, CONES, PLUMMETS AND BOAT STONES IN WISCONSIN

PUBLISHED BY THE
WISCONSIN ARCHEOLOGICAL SOCIETY
MILWAUKEE

DEMOCRAT PRINTING CO., MADISON, STATE PRINTER

Your Aid Is Desired

o o o

The Wisconsin Archeological Society is endeavoring to awaken a live interest in the great historical and educational value of Wisconsin's antiquities. It is encouraging the preservation of representative groups of Wisconsin mounds; is conducting surveys and researches, and assisting in the establishment of archaeological collections in the educational institutions of our state.

Become a Member of the State Society and Encourage the Work Now in Progress

Its worthy and very necessary labors deserve the full support of all intelligent and public spirited citizens. No one desires that the antiquities of our state shall be destroyed before a full record of their location and character shall have been made.

o o o

The Society has 600 members now. It wants three times that number.

Subscriptions to its research and survey funds are needed.

Donations of collections and specimens will be thankfully received.

o o o

Annual membership, $2. Sustaining membership, $5.
Life membership, $25.

Address

THE WISCONSIN ARCHEOLOGICAL SOCIETY
Chas. E. Brown, Secretary and Curator,
MADISON, WISCONSIN.