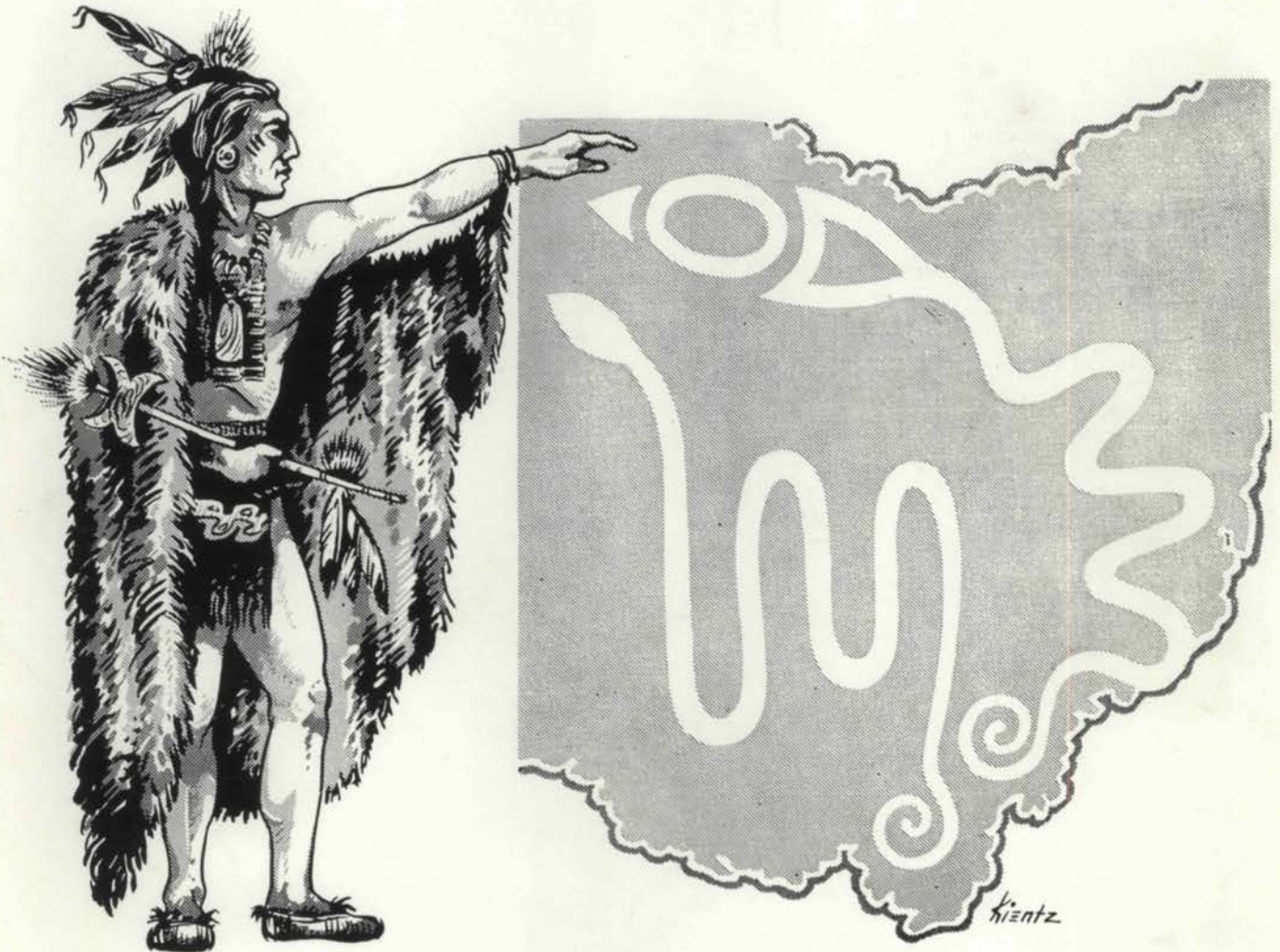


Vol. 7

Number 4

# Ohio Archaeologist



OCTOBER, 1957

**THE ARCHAEOLOGICAL SOCIETY OF OHIO**

(Formerly Ohio Indian Relic Collectors Society)





AN OHIO DISCOIDAL

by  
*H. C. Wachtel*

Ohio does not generally produce discoidals to compare with those found in Illinois, Kentucky, Tennessee or Missouri, but occasionally we do come up with as nice a discoidal as found anywhere.

Some will compare very favorably as to size and shape with the best of them but instead of the material being the beautiful ferruginous quartz found farther west, we will substitute some very beautiful granitic discoidals with varigated colors.

The one you are looking at on the opposite page is of a yellowish mottled granite, very symmetrically shaped and  $5 \frac{3}{4}$  inches in diameter and  $1 \frac{7}{8}$  inches thick. This is deeply cupped on each side with the small secondary cups usually associated with this size and shape.

This discoidal is from northern Ohio.

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## OBJECT OF THE SOCIETY

The Archaeological Society of Ohio is organized to discover and conserve archaeological sites and material within the State of Ohio; seek and promote a better understanding among collectors of archaeological material including individuals, museums and institutions and to disseminate knowledge as to subject matter of Archaeology. The membership is composed of United States citizens of suitable character and interest. The annual membership dues are \$3.00 payable January 1st each year. The annual membership dues (up to 18) are \$1.50. The funds are used for mailing notices of the meetings and publishing of The Ohio Archaeologist of which we put out four issues each year. Articlee and pictures are furnished by the members.

\* \* \* \*

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## THE PRESIDENT'S PAGE

by

Stanley G. Copeland

Our picnic meeting at Schaeffer's cabin, June 16th was well attended. Over one hundred members, their wives, children and friends, really had a fine time at this meeting. A delicious box lunch was served, some lively swapping of artifacts took place, the latest finds were proudly displayed, many old acquaintances were renewed and the young fry had a big time down at the lake. If you were not there, plan on being at our next picnic meeting. We all sincerely thank Virgil Schaeffer of Dayton, Ohio, for the use of his fine cabin and picnic area.

At the time of this writing, Raymond S. Baby, Curator of Archaeology of the Ohio Historical Society, with his summer class, is again doing some salvage work near Columbus. On Route 23, about one mile south of Columbus, the well known Zencor Site (known to we old timers as the Merion Site), is to be destroyed by a building project. So far some very interesting features have been uncovered, including a house pattern, fire places and refuse pits. Numerous artifacts recovered are establishing the archaeological significance of this site which is believed to be late Woodland. Your president hunted the site once in 1926. Several of our members have hunted the site for many years. Phillip Kientz probably holds the record, having hunted the site for over sixty years. This site is just one of many being destroyed by building projects, new highways and reservoirs every year.

If you know of a site that is to be destroyed, write to Raymond S. Baby at the Ohio State Museum at Columbus, Ohio. If Mr. Baby finds it impossible to get away from his many pressing duties to investigate the site, then by all means, get together some of your archaeological friends and salvage some of the information for posterity. Make records, take measurements and photos and publish your findings in *The Ohio Archaeologist*.

I'm taking this opportunity to thank the many members who have sent me compliments on our publication, *The Ohio Archaeologist*. I appreciate these words of encouragement very much, but, they should be directed to our hard working and ever faithful editor, Mr. Hubert C. Wachtel and to the individuals who wrote the articles. I am sure they will be grateful to hear from you. Write the authors. Tell them if you enjoyed their articles. Offer criticism when helpful, after all, most of use are only amateurs. I can tell you from personal experience that a few words of encouragement makes one feel like his time and efforts were not wasted. While on this subject, when are you going to send in *YOUR ARTICLE?*

Collecting Indian relics or artifacts is a wonderful, interesting and thought provoking hobby. One gets out into the great outdoors and walks the freshly plowed fields along a beautiful stream. In the springtime, the scent of wild flowers and blossoming trees gives one a feeling of a new life and makes one pause to think of the great *Creator* who made all these things possible for us to enjoy.

In our homes and at our meetings we see our friends. We show each other our finds or acquisitions. We have a common interest which knits us together in a kind of brotherhood. Indian relics we all love and desire to possess, but friendships are infinitely more valuable. No Indian relic or collection of Indian relics has more value than a *friend*.



## EDITORIAL PAGE

by  
H. C. Wachtel

*This is the last issue* of Volume No. 7 and we hope, even though we have had a lot of short comings, that we have pleased you in the past four issues and that you have received a certain amount of pleasure and satisfaction reading of some of our member's activities and experiences and that we have pictured some artifacts of interest to you. We hope, also, that the various fill-ins may have given you some broader views relative to our hobby and happenings of the year.

Some members have had issues from 1950 to 1953 incl., bound into book form in the past, which makes for quite an interesting volume and more readily accessible for reference. This issue, Volume 7, No. 4 has again built up another set of about the proper size for binding to conform to a standard book size and some of us are again figuring to have our copies bound, so, if any of you have your full complement of issues of Volumes 4 through Volume 7, and wish to have yours bound at the same time, we can get a reasonable binding cost at a book binder in Cincinnati. If you so desire, you can send your loose copies to the Editor and we will make a combined order of them to have them all bound at the same time.

We have had a number of members becoming delinquent in the past several years. This is to be expected, but we, of course, would like to know the cause so that we can come up with a remedy and we hope to again interest some who have dropped by the wayside. It is a suggestion, that if any of you who know of someone who has dropped out, please again contact them, and if possible, sign them up again and try to interest them in their hobby and our Society. Don't forget that each and every one of you are on the Membership Committee, so do a good selling job.

**CORRECTION** -- Page No. 104 of Volume 7, No. 3, under "Widening Crack In Earth Studied." 1st. line should be 45,000 miles. Thank you.

We have recently been promised some articles that we hope will be quite interesting to you and hope to have items of overall coverage along various lines. We also have several members who are doing some digging of which we hope to carry some interesting reports concerning their progress, which should make us, who do not have the time or opportunity, feel we are a part of their discoveries. They might even appreciate your help.

Again we owe a vote of thanks to Virgil Schaeffer for the use of his Cabin and grounds for our annual picnic meeting. It was well attended, a little unduly warm, but I believe that all enjoyed a nice day. The editor wishes to thank the McNeals, Mac Schumm and Don McBeth for their assistance.

In the previous issue it was mentioned that we had received several criticisms of our cover design and we suggested that such criticisms should be accompanied with a constructive design, but so far only one was forthcoming, namely Instituto Interamericano, Denton, Texas. Lets hear from you further critics and we will take it up before the membership at a future meeting. Numerous replies on file say, "don't change."

In speaking of criticism. We continually hear from "out of State" as well as from "in State", comments concerning the Archaeological display in Ohio State Museum. Some fear it may gradually slide out of the corridors (into which part has been relegated now), into oblivion. They thought it was predominately "Archaeology," like it used to be. Are we hiding our heritage? What some institutions would do, if they only had a chance at our stored material!

Your editor really stirred up an old controversy in the previous issue with the article "An Early Copper Enigma" and the picturing of several very unique copper pieces from the collection of Charles C. Smith of Modoc, Indiana which were formerly in the Dr. Bunch collection. In this issue you will find some interesting comments on the subject which are both very illuminating and educational.

Again we are told to be wary of some western flint which is now on the market. Hope to picture some in future to acquaint you with same.



## A VERY EARLY ARCHAIC OR LATE PALEO-INDIAN TYPE

by  
*Arthur George Smith*

The artifacts figured on the opposite page are of a type that appears to be a derivative of the fluted point techniques. It is characterized by a concave base, stem widening towards the shoulders without any suggestion of notching, deliberate basal thinning, sometimes amounting to fluting, the edges of base and stem are heavily ground to the very points of the shoulders.

The blade is either excurvate or incurvate with slightly projecting shoulders. This may be due to repeated resharpening, as in the plate, figs. 2 and 4 were made from the same core or block of flint. This type is found in the upper levels of the Quad site in Alabama above the true fluted points.

In some southern shell heaps it is found underneath steatite bowls. In Virginia it is found with steatite bowls. I have found the type from Central Georgia to the shores of Lake Erie, and I have seen one specimen that was dredged from 20 feet of water off Long Island.

West of the Appalachians it is found sporadically not on regular sites with the same distribution pattern as Paleo-Indian types. In the south nearly all of this type are incurvate and often irregularly serrated and show hard use as knives.

### Top row left to right.

Strongsville, Ohio. The lad who found this died winning the Medal of Honor in World War 1. White flint.

Berea, Ohio. Purplish gray flint with black tip.

Huron County, Ohio. Mottled grey flint, very thick.

Brighton Twmsp, Lorain Co., O. Same flint as Fig. 2. Grinding extends over broken shoulder.

Olena, Huron Co., O. Brown Pennsylvania jasper.

Huron Valley. Pinkish brown Flint Ridge flint.

Lakewood, Ohio. Pinkish chert.

### Bottom row, left to right.

Franklin County, Ohio. White flint.

Delaware, Ohio on the Olentangy. Grayish white flint.

Central Ohio, exact location unknown. Brownish white chert.

Norwalk, Ohio. Blue black flint, very fine and thin.

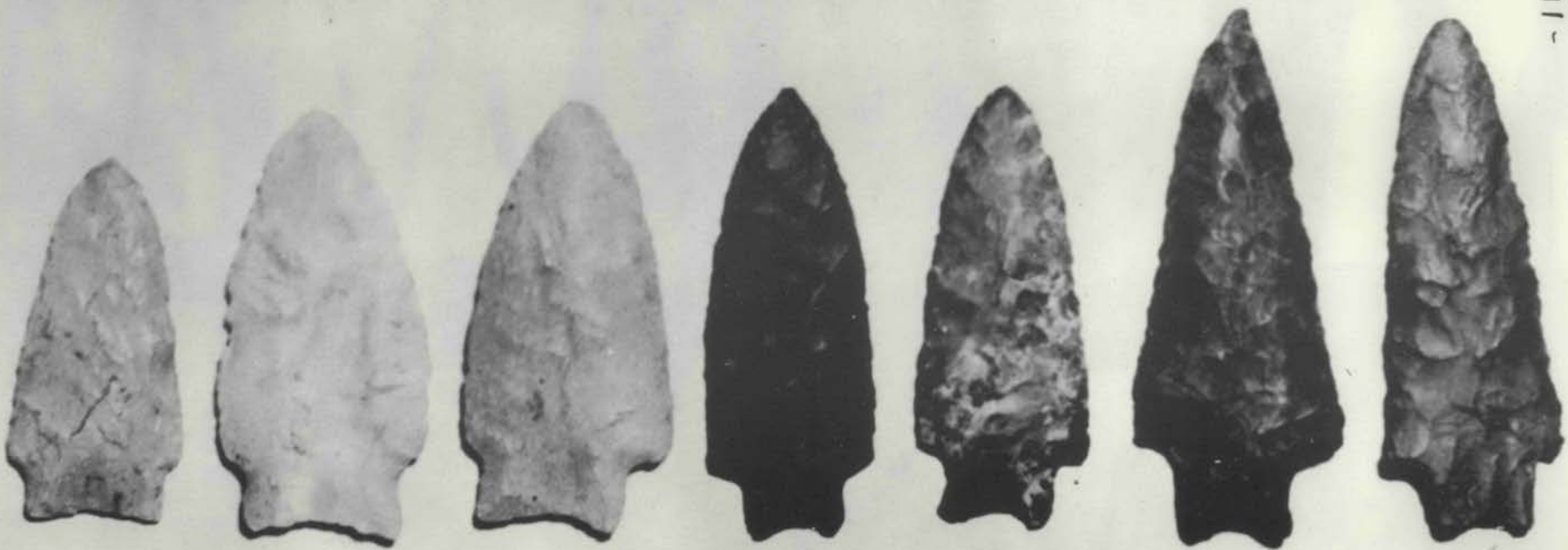
Erie County, Ohio. Blue and white. Flint, very thin

Jackson County, Ohio. Dark grey flint, edges battered by use.

Fairfield Twmsp., Huron County. Ohio grey chert, edges battered.

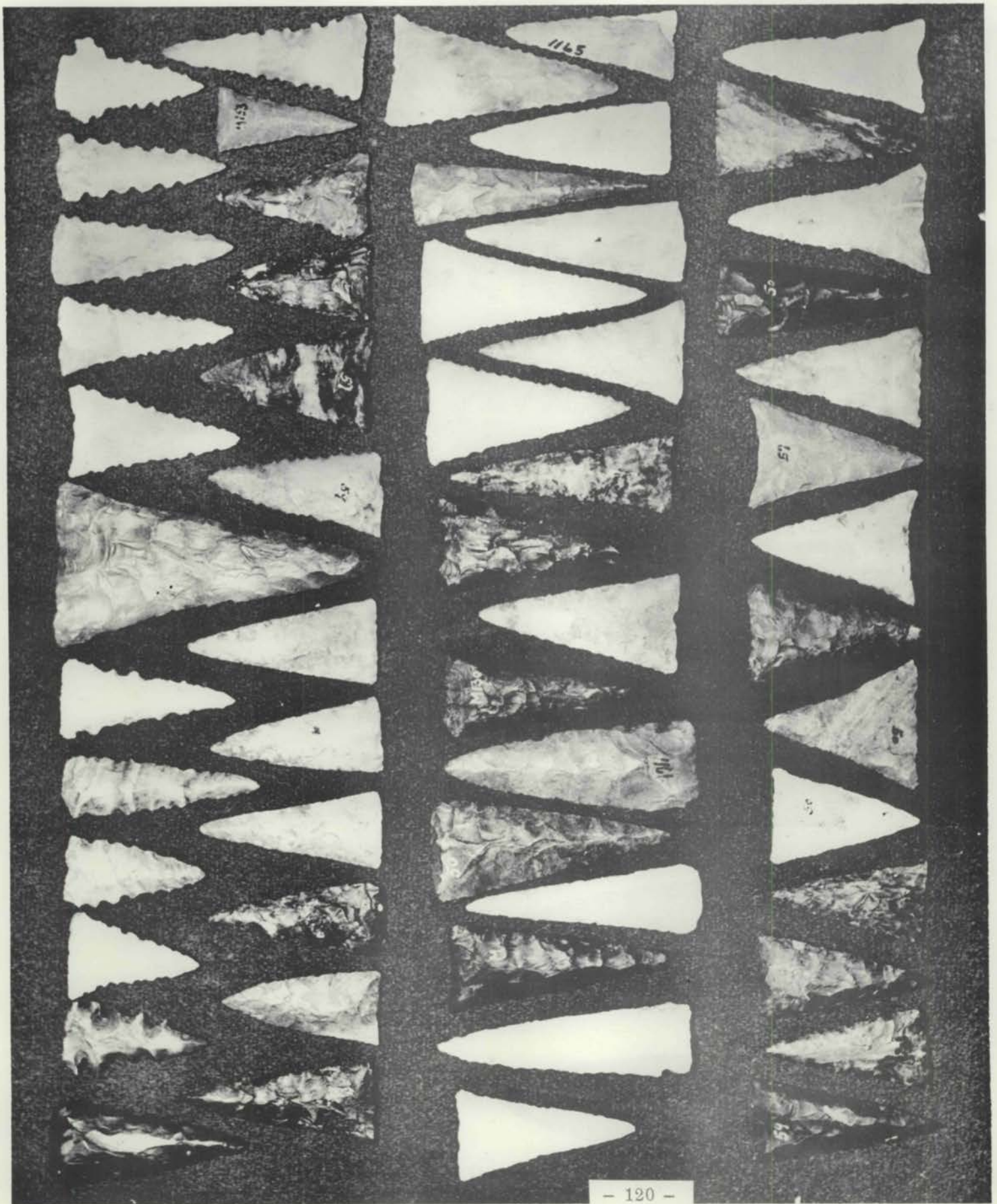


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## OHIO TRIANGLES

by  
H. C. Wachtel

In most Ohio collections you will find the triangle points similar to the one shown on the opposite page. In some localities they are more prevalent than others and as I understand they are ancient as well as almost historical, going into the Eries of fairly recent date.

The type lends itself to nice arrangement in a display frame and being envious of Mr. Kenneth McNeal's fine frame, I finally gathered together all the loose triangle points I had in my collection and made a frame for display in my hobby room and I am quite proud of it. It is arranged in concentric circles as to color and types and I believe it is the most attractive frame in my entire collection.

Not too often are they made of our Flint Ridge material, but I have been quite fortunate in securing quite a few of this material which are exceptionally long, slender and very thin. Most of these have been found in the southwest section of Ohio.

A lot of these points are found around Fort Ancient sites in southern Ohio and also in Kentucky. One of my favorite hunting grounds for this type is about fifteen miles from Dayton at a site I have known of for many years, which I name to myself as "The Miniature Fort Ancient" due to its location on a very high promontory overlooking Twin Creek. The bluff to the south being at least 100 to 150 feet straight down and a natural defense. The inner enclosure comprises approximately five acres in sort of a triangular shape. The north side also has a partial bluff along a smaller stream and raised embankments and moats and the west side, where it tapers toward the apex of the triangle, has several embankments in tiers with moats and where it narrows to a neck on east side, again several defense embankments with moats. Just like the embankments and moats of Fort Ancient.

The enclosed field is usually cultivated each year and still a few triangles will be turned up, but I can remember of finding at least a dozen good ones every time I hunted it years ago. I have found some on this site 1 1/2 to 2 inches long, extremely finely chipped and as thin as I believe it is possible to work flint. The top surface has been turned year after year with shallow plowing and I often wonder what would turn up if it were plowed several inches deeper. This reminds me, maybe Bob and I should look it over again this year. It is quite a climb but eleven year old boys like that.

I have made a circle in my frame of the "serrated triangles" which are found on some Fort Ancient sites and which are the rarest type of the triangles. Others are very minute and almost equal sided triangles, no longer than 3/8 to 1/2 inches, and either of the three points could be the front, whichever way they were mounted onto the shaft.

These triangles are often spoken of as "war points" and I have been told they were so mounted that when trying to extract the arrow, the point would pull off and remain in the victim. Dr. Bennett of Portsmouth, Ohio has a very unique burial on display in his Museum where over 30 triangular points were found with the skeleton with one or two points imbedded in the ribs, showing they had been shot into the body from the rear. Why? Maybe an execution? Have always been intending to photograph this burial association and will try to do so for some future issue.

One pleasurable part of a collection of Indian relics is to mount your specimens attractively in frames as to types, especially the smaller flint types. Usually a white background will show them to the best advantage and they give a very nice background to your collection.



## THE ART OF FLINT CHIPPING

by  
*John Witthoft, Penna.*

*Final Installment*

### ARE MICROBLADES MICROLITHS?

The terms microlith and microburin are familiar enough in North America, but I have never seen an American industry that includes either. This may be because my definitions are too restrictive, but these terms, as I understand them, were set up to describe very distinct artifact types, which are of vast importance in large areas of the Old World, and they are terms that lose all meaning by extension. A microlithic industry, as I understand it, must parallel the very specialized bladelet treatment that characterized Tardenoisian and the other Old World cultures that include geometric flints made in a specific way. The microlith was made from the tip of the bladelet, and the microburin or micrograver was the bulbar end of the bladelet, broken off in a special manner and discarded. The bladelet or laminate was drawn by flat flaking, and had a very flat and plane tip, and an uneven bulbar area. This uneven area was not wanted, so the butt of the microblade was removed in the following manner. A deep, wide notch was chipped into the microblade from one edge, nearly or quite to the center. Then a sharp blow was struck in this notch, directed obliquely towards the bulbar end of the bladelet, severs it into two halves. The tip portion with its flat faces had a chipped and broken edge extending towards its former base, of the same shape as the same part of a trapezoidal geometric flint. Other edges of this tip portion were then retouched to shape, sometimes symmetrical with the base to form a trapezoid, as in the case of a transverse edged arrow head, sometimes into other forms, the raw edges of the break were also retouched to an even edge. The use edge was generally a lateral edge, and its thin, razor edge was not modified. The basal portion, which had been discarded was worthless because of its bulbar irregularities, superficially resembles a burin. It has some chipping like the thinning and shaping flake scars so often seen on burin tips.

The break across the big facets at an angle, and at right angles to the plane of the bladelet, forms a chisel edge like the cutting edge of an angle burin. Some of these microburins may have actually been used for slotting wood and bone, but that is uncertain, and the vast majority of them are merely a waste product of the making of a microlith. These two types of artifacts, the microburin, and the pygmy or geometric flint, make up a microlithic industry. As far as I know, such has not been found any place in the New World.

### BURINS

The major significance of the burin in America is, that one should never consider any tool type to be too peculiar or unimportant for it to be searched for in the newly studied parts of the world. The burin, scarcely known in the New World only a few years ago, is now known to be a basic form in Arctic archaeology. Burins are to be expected any place in North America. I am surprised that they have not been found in Paleo-Indian sites, especially at Lindenmeier, where bone needles were made by slotting slivers from animal leg bones, and then grinding them into tools that look like our own steel needles or the bone needles of Paleolithic Europe. The gravers of our Paleo-Indian sites were not used for this purpose, because they are mere tiny spurs, single teeth formed on the thin edges of flakes, and too weakly supported and too unworn to have served for slotting bone. They are in no way comparable to the "graver" of European archaeology, which term is the English equivalent of the French word "burin". Both terms were taken from the jargon of the art of the engraver, and were the names for a tool used in the hand-engraving of steel and copper plates. These names were extremely apt at the time that they came into use, for the stone burin and the steel burin resembled each other closely and represented the same mechanical principles. Now that plate engraving, burins and gravers are nearly extinct



In our culture, the terms call no visual analogy to the mind. Even spurred spalls are now called *gravers*, and have usurped the English term for the burin.

The engravers burin was a chisel-like bar of steel, of small rectangular cross section, with the end ground off very precisely at right angles to the axis of the bar. No machinist needs to be told that a perfectly formed right angle on steel is a sharp edge, which will cut flesh as easily as a thin sharp knife. The tip of the graver, or burin, was pushed across the printing plate, gouging or plowing up a ribbon of metal, the cross section of the cut line was controlled by the part of the edge used, whether the narrow edge, a corner or a skewed corner. Some designs on our money and postage stamps are still cut in metal by the burin. The cutting edge is a right angle because it must be strong and not liable to chipping or deformation. It must be frequently resharpened.

Flint burins were the one-toothed saw of many primitive craftsmen. They were formed from a blade, a bladelet, or a bifaced tool which was thin and fairly flat, by striking it on the end and splitting off a corner of it. This left a sharp corner, a *graving angle*, with its cutting edge perpendicular to the plane of the tool on which it was formed. Most burin blows are resolved flaking under very perfect control. The burin flake removed by this blow very frequently ended with a hinge-out. Burins were ordinarily resharpened many times, with each successive burin flake removed by resolved flaking and ending in a hinge-out, the accumulated evidence of hinge fracture shows on the tool as a whole series of little steps or saw teeth in the concave corner below the cutting edge of the burin. The flaking of these tools both European and American, is remarkable. Burins often characterize cultures with many tools made from bone, and probably there are archaeological cultures which consist mainly of burins, the other tools having long since rotted away. Burins are known in a great many forms and are frequently worked on other tools, or rather, are often but one feature of composite tools. Regardless of some of the dates proposed for American burin bearing industries, the burin is to be considered primarily a tool of the Upper Paleolithic, and to be only a survival in later complexes. This theory remains to be proven in the New World.

#### RANDOM FLAKE KNIVES AND TURTLEBACK CORES.

In Europe, the turtleback core is a distinctive object, made by splitting a flint nodule in half, and then chipping away the nodule surface around the circumference of the split surface. Finally, a sheet of flint was split away with the break parallel to the plane which had previously split the nodule in half. This sheet a more or less perfect section of the nodule, with the edge cross flaked before it was split off the nodule, is the Levallois knife, and the core left from the manufacture of such flakes is called a "turtleback", because it has a smooth natural surfaced dome, chipped obtuse edges, and a flat split plane base. Many different tools and cores have been called turtlebacks in America, but none of them resemble in any way the European turtleback core. In our literature, turtlebacks include thick unfinished and rejected quarry blanks, big humped workshop scrapers or planes, subconical cores, and plano-convex cores. None of these were used as a source of basal flakes, and only part of them are cores, with flakes drawn from their convex side. I want to discuss briefly some of the cores that have been called turtlebacks and the flake tool which were struck from them. Since they exist in bewildering variety in all parts of the Americas, and since they have rarely been studied, I shall restrict my discussion to a couple of industries which I know best.

East and north of the limits of distribution of the classic Ohio Hopewell, and in the same period of time, several Middle Woodland cultures are found. They seem to be unrelated to Hopewell. These include Mayer-Oakes, Itaccoon Creek complex and my own unnamed jasper industry of the Middle Woodland in Eastern Pennsylvania, these as well as a number of others are all characterized by related subtypes of corner, notched wide points.



The sites are notable for the small number of conventional artifacts, and the large numbers of non-prismatic flake knives, and other tools, which they produce. In the eastern part of Pennsylvania we know these flake tools and their cores from two sources, tiny habitation sites along our rivers, and workshops near to the jasper quarries. The flake tools may be distinctive in this local area, but they also occur spasmodically in other complexes of the region and seem to be quite commonplace in some other parts of the Eastern Woodlands, they are also abundant in the Upper Ohio Valley "Hopewellian".

These flake tools were drawn from an oval or circular lens-shaped core, sometimes bi-convex, most often plano-convex, which had been shaped by flat flaking and free flaking from all edges. Usable flakes were struck from the convex surfaces of these cores by flat flaking and by very slightly resolved flaking from the edges. The flake tools are very thin broad sharp edged with flake scars, on their dorsal surface, that had been formed on the core by flaking from several directions. Each of our samples includes a few bladelets, almost all of them non-local flints, which must represent trade pieces from blade making industries, of other areas. None of these are of Ohio stone, or represent Hopewell bladelets however, and eastern Pennsylvania is beyond the easternmost limits of the discovery of Hopewell bladelets. Most of these eastern Pennsylvania bladelets are of Onondaga chert of the Western New York phase, of the variety found west of Rochester, and I believe that these bladelets originated in some undescribed Point Peninsula industry in western New York. Other Point Peninsula types of artifacts are also occasionally found on these sites. These random flake tools are extremely variable in size and outline, but are generally oval or sub-rectangular. They have a small bulbar area with prominent irregularities. They represent a technique of shaping on the core that suggests the Levallois pattern, but they are the product of a highly sophisticated flint industry. Both the flakes and the thinned down cores were used as tools, but the cores are much more frequent at workshops than at habitation sites. The razor edge of the flake was used just as it came from the core, but it was often delicately retouched, (by use) to a thin, very steeply beveled edge. Retouched flakes are often very small. The flake thickness at the bevel is generally less than one sixteenth of an inch; use retouch frequently follows irregular outlines of the flake edge, and varies in bevel angle from sixty to ninety degrees. Bevels sometimes show irregular damage from use, but in most cases they are only slightly worn, with the keenness of the cutting edge polished away. Used core edges have the same slight delicate retouch, and almost any shape of flake and of core remnant seems to have been used. Most of the flake tools of this industry resemble a sheet split off the face of a spearpoint; some are long and narrow like a bladelet but their top faces show cross flaking rather than the long narrow core-facets of a bladelet running the length of the flake. Flakes with miniature use-retouch seem to have taken the place of all conventional knives and scrapers in this particular culture.

This flake industry has strong parallels in several Paleo-Indian industries, particularly Lindenmeier, Bull Brook and the tiny Wilhelm site sample, but not in the Enterline industry. At the Bull Brook site one of the more interesting stereotypes is a large flake fashioned in this manner, which the collectors at that site called and "earshaped scraper" because of its unsymmetrical oval outline. These flakes are finely retouched around their whole periphery, and are a quite homogeneous series in shape, size, flake-pattern and retouch. The Lindenmeier series includes a fairly large number of tools which are flake drawn by this same procedure, but in a variety of sizes and shapes. Some of these were used as knives without edge-modification, others received a fine retouch, while some were chipped to normal scraper bevels. In both cases I believe that such Paleo-Indian flake tools represent a derivative from the making of blades and bladelets on faceted cores. They thereby indicate an even further trend away from basic blade traditions of early Paleo-Indian complexes, than do the varied, and variously patterned, blade and bladelet industries at these sites. Late Paleo-Indian sites seem to show a progressive loss of the blade tradition, more use of spalling as a flake-forming technique, more emphasis on free flaking, and more and approximation to the non-descript "Neolithic" flint working of most Archaic and Woodland cultures.



## PALEO-INDIAN FLINT BARS

The most finished and peculiar tool from the Paleo-Indian epoch is an elaborate form of scraper, which is long, narrow, often thicker than wide, with semi-circular ends, with a curved plane bottom-facet, and a very convex upper surface that has been so modified by secondary flaking that it is completely covered with flake scars. The steep edges generally form an angle of ninety degrees. It is impossible to say whether these tools were made from blades, because the retouch chipping has obliterated every trace of earlier upper surfaces. The flake scars curve over the back of the tool, are long and narrow and parallel, and are apparently the result of repeated re-edging of a tool which was originally much broader, and which had been in use for a long time. They were probably fashioned from large blades, drawn by flat flaking, to judge by the details of the plane face and the highly curved longitudinal axis of the tool. Some of these scrapers are startling examples of retouch chipping carried to the extreme. I have seen no specimens which intergrade between these scrapers and normal blade scrapers, and I have seen no examples of these highly reflaked tools at a less advanced stage of secondary flaking. These tools are ordinarily somewhat polished by long handling.

Scrapers of this most peculiar type are so far known only in the Lindenmeier tool complex, in the Cape Denbigh Alaska, flint complex and at the Bull Brook site. I have also seen several scrapers of this type which have been found on Pennsylvania fields in places where no other tools or debris have been found. Arthur George Smith has others found in Northern and Central Ohio, also not on definite sites but by themselves. Pieces lost on the march or in an over-night camp or kill site. These bars are a very distinctive tool and should be watched for in other American complexes. They represent another specific tool which is known in the Old World. They are found in Britain and in Southeastern Asia. Present knowledge of the distribution of this tool-type in time and space is suggestive of another archaeological link between the Old World and the New World in Late Pleistocene times.

## THE EUROPEAN GUNFLINT

The manufacture of flint for flintlock guns, still carried on by a few men at Brandon, England, is the only example of a blade industry known to exist in the modern world. There are still a few spots in the world where flintlock guns are in use, and there are a few enthusiasts in this country who use flintlock rifles for target shooting. Brandon is their only source of supply. As late as 1904, Sears Roebuck and Company offered and illustrated gunflint in their mail order catalogues. The technique of the Brandon flintworkers has been studied by many archaeologists and antiquarians during the past century, and is the subject of an extensive literature. Nodules of flint from the chalk are split into polyhedral cores and roughly cylindrical formed with steel hammers, and the cores are then split into blades of essentially Upper Paleolithic form by flat flaking. They differ from paleolithic blades only in being flaked with steel tools. These blades were then knapped into segments with a hammer and chisel, and dulled on three edges with hammer and chisel, by trimming. The finished flint which retails at ten cents, has four beveled edges, one of them acute and formed by a lateral facet which is only slightly retouched, the other three are obtuse and formed by trimming. Flints for use in tinderboxes had one facet trimmed away entirely. Gunflints were placed in the hammer with the flat side up, and the frizzen damage developed first on the flat face.

Flints have been made in England by the same technique and to the same pattern for slightly more than 200 years. It is quite impossible to distinguish the modern gunflints from one of U. S. Army stores of 1850, or from examples found on American military sites of the Revolution. The only complicating factor which confuses study of gunflints is the secondary chipping and retouching which they received from the hunter or soldier while the flint was in the lock.



While a flint was in use, it was constantly being wasted and damaged. A discarded flint was often wasted to a small fragment, split by pressure in the hammer, and battered to an almost unrecognizable remnant. Details of form and edge produced during use, rather than during manufacture, can be very confusing in the study of flints from archaeological sites or from the locks of old guns. Still other types of use-modification can be found on flints from old tinder-boxes. Ordinarily the thinnest edge of the gunflint was the primary working edge, and the three trimmed edges were not striking edges.

The flint worker did not always form gunflints in this fashion. We know of two earlier types from archaeological studies of American sites of Colonial times. During the first half of the eighteenth century, flints were not fragments of blades, but were mere wedge-shaped spalls drawn from a block by free flaking, and shaped by trimming around the bulbar end and sides. The fourth edge, the terminus of the chip was left sharp as it came from the block while the back of the spall was retouched to a rounded outline. This type of gunflint, when in unused condition, looks something like a giant crescentic microlith, but it had been made by a very different process. Wedge shaped spalls were drawn by free flaking, by chipping from all edges of small cores which were made by breaking nodules into small blocks. The face of the wedge last broken, the inside face, next to the core, did not become the bottom face of the gunflint as in the later blade type, but became the top face. The trimming of the back edge removed the striking platform which went with this inside face. The secondary flaking formed an obtuse angle with this inside or top face, being chipped from the outside face. In use the thin edge struck the frizzen to strike the spark, and was chipped back, as it was battered, until the flint was too much wasted to be usable. These wedge-shaped flints of British chalk flint, were ordinary in America during the first half of the eighteenth century, and were being superseded during the 1750's. Samples from military sites of the French and Indian War show predominance of wedge-shaped flints over the prismatic forms. On the other hand, wedge-shaped flints first appear, to the best of my knowledge, just after 1675 in Indian sites, and are, even then a small minority as compared to gunflints of a still earlier type.

Gunflints from Pennsylvania and New York sites prior to 1675 are of two classes; those made by the Indians themselves, and those imported from Europe. Neither look at all like a modern gunflint. The native made ones are usually of local flint, and are little squares, ovals or circles, chipped all over both faces by the pressure flaking tool. They were made exactly like an arrowhead of the period, are not beveled, and are frequently mistaken for scrapers. The others, often the minority, are of European flints, but rarely of the Chalk flints of Britain or western France. Most are of the Chalk flints of northern Europe. They are neither blade fragments nor wedge spalls of controlled form and size, but were made from random spalls which were flaked into form by striking them on the edges and removing a few chips from each face by free flaking; generally each face shows six or eight flake scars. These flints probably came with the Dutch and Swedish fur traders, and the lithic material suggests such a source. These spalled to shape biface rectangular lenses of flints probably represent the first stage in the European gunflint industry, and were certainly wasteful of flint and labor in their manufacture as compared to later types. Thus the evolution of gunflint manufacture seems to include three stages, in a developmental sequence showing the growth of a blade technique from an industry which used free flaking and in an extremely crude fashion.

My reason for introducing gunflints here are several, but the major one is that modern forms are blades, and show precise parallels to some Paleo-Indian and Upper Paleolithic blades. Yet there is no flint industry anywhere that is more remote in its relationship to ancient techniques, than is this modern gunflint industry. Gunflints are a relatively recent invention, cut off by centuries from all Stone Age tradition, yet they are susceptible to the same sort of typological and chronological analysis that the more ancient archaeological industries merit. I also believe that my historical account of technology in gunflint making is valid, although there may be additional stages and transitions which have not yet been found.



It is a peculiar yet logical sequence, well worth comparing with very early stages of invention in flint-working. All of it represents work done with steel hammers, not with any "soft percussion" tools or intermediary punches, and all of it could as easily have been done with quartzite hammerstones, or with any other material of similar elasticity and toughness. It was a practical craft, followed by untaught mechanics who thought of flint forms with their muscles and tools rather than in descriptive words. The inventions and achievements of these craftsmen are not recorded in written history, but their products document and experiment in invention of flaking techniques carried on in recent centuries.

### CONCLUSION

I have tried to outline certain considerations of flint typology and technology which I believe have some bearing on Paleo-Indian problems, and particularly on comparative studies of flint industries of that epoch. I have tried to outline factors in technology which are of fundamental importance, yet which are all merely separate details or points to be examined in the study of flint implements. No single feature or even small complex of features will be the key to archaeological history. Wholesale application of precise methods of studying flints at many early sites will gradually bring about a chronological and geographical ordering of both archaeological cultures and methods of working flint. I have tried to emphasize comparable material from completely unrelated cultures, in order to indicate the size of the problem and the numbers of parallel developments that have taken place. I also believe that these later date typological problems have received too little attention, and I insist that Paleo-Indian problems do not exist in a vacuum; they must be studied as part of total American cultural history, and of world archaeology. It may seem that the parallels with later cultures that I have pointed out, and especially with British gunflint making weaken my claims for the Old World relationship of certain Paleo-Indian artifacts. I believe, however, that we can only evaluate such relationships in the light of far-ranging typological studies. As simple interpretations become untenable, we should approach closer to true knowledge of what actually happened in the remote, but very real past. I have attempted a very small segment of this sort of comparison, contrast and evaluation, in this paper. Disregarding the fault of execution, I believe that this general procedure is the correct one, and I hope that the next few decades may see the development of much more precise typological concepts. Only the thorough study of many more sites, rather than stray specimens, and a much more precise study of flint artifacts than I can attempt at present, will throw the light of truth on the origin and the early history of "*Man in the New World*".

*John Witthoft*  
*Pennsylvania State Museum*  
*Harrisburg, Pennsylvania.*

THE END

\* \* \* \* \*

### RADIOCARBON DATING: MYTH AND FOLKLORE

Carl B. Compton  
Instituto Interamericano

Since the inception of radiocarbon dating there has been a clearly discernible tendency on the part of certain persons to accept those dates which agree with their pre-conceived ideas and to find reasons why the disagreeable dates are wrong. This paper will answer most of the questions raised concerned "contamination" and other things which might cause false dating. In many cases it will be found that points raised in question of certain important radiocarbon dates stem from the ignorance of the questioners regarding the dating process itself.

Recently a point was made by two eminent and thoroughly competent European anthropologists that there might be "something comparable to ion-exchange between C - 14 and inert calcium" in some important carbon samples. The Instituto Interamericano went to some trouble to contact nuclear scientists from several important universities as well as from Oak Ridge to ask them about this possibility. The summary of their replies was that it is quite possible to have carbon-calcium interchange - not ion-exchange - but that there is no reason whatever to suppose that this interchange would be selective of a carbon isotope over normal carbon. Thus, in such an interchanged sample, there might well be serious error if the sample were tested by the solid-sample method. However, few, if any, laboratories still use the solid-sample



technique. The  $\text{CO}_2$  techniques now used disregard and eliminate everything but pure carbon. Thus, the objective mentioned by the scientists mentioned above is not valid.

Another possibility has been noted. Some persons have contended that since ultimately "all flesh is grass", organic material from a high  $\text{pH}$  soil area would contain more calcium and less  $\text{C} - 14$  than normal since the vegetation would have such a calcium-carbon ratio.

Our Research Associates, in collaboration with certain competent and respected botanists, spent a considerable amount of time searching the literature for any study of the calcium-carbon content of vegetation from soils of different  $\text{pH}$ . They were unable to find any such studies. However, again we need only to go to the radiocarbon dating process itself to understand the matter.

Even if organic material from high  $\text{pH}$  soils with much calcium did contain less carbon than that from low  $\text{pH}$  soils, this is inconsequential. The  $\text{C} - 14$  present would still be of correct date. As we have already shown that calcium is eliminated in the newer dating processes, the amount of  $\text{C} - 14$  for testing would only be somewhat smaller and this deficiency would be automatically overcome by using a larger original carbon or organic sample.

Still another objective advanced is that the calcium present is in the form of  $\text{CaCO}_3$  or Calcium Carbonate. Thus, say these people, you would have inert carbon in the Calcium Carbonate which would affect the dating. Outside of questioning as to where this carbon came from and asking why there should be any difference in the proportion of normal and isotopic carbon in Calcium Carbonate formed in association with the organic sample, there is another conclusive point based again on the dating technique.

Even in the original solid-sample technique this matter of Calcium Carbonate was considered and so the  $\text{CaCO}_3$  was eliminated by washing the sample with hydrochloric acid. This disperses the carbon in the form of gas but does not affect the pure carbon of the organic sample. Thus, again, the critics are in error.

An even more tenuous objection was recently advanced on the basis of certain laboratory experiments with ancient bricks by certain French scientists. Their hypothesis was that, first, their experiments indicated that the world magnetic field was much different 2000 to 4000 years ago. As the penetration of the atmosphere by cosmic rays responsible for the creation of carbon - 14 is directly affected by the strength of the magnetic field, then dates obtained from radio-carbon would be wrong.

This objection is easily answered. The original establishment of the validity of the radiocarbon dating system was based upon the testing of samples of historically dated materials. Many of these materials were from the period mentioned by the French scientists and several were actually from the area from which these scientists obtained their mud bricks.

A quite valid objection has been advanced that samples may become contaminated by modern carbon - 14 carried down through the soil by moisture from the surface. This appears to be a quite logical idea, especially in certain cases. However, this would result in making the radiocarbon dates more recent than they should be. Since most of the objection to  $\text{C} - 14$  dates comes from those who would prefer not to see Man in the Americas before about 15,000 years ago at the earliest, this becomes a minor point. It should be borne in mind, however. It is quite probable that some of our radiocarbon dates are far too recent rather than far too early.

Another source of error has been radio-active "fall-out" from nuclear bomb tests. Still other error was encountered because of increase in background radiation. All of this was soon remedied and, if the sample is properly protected from the moment of excavation, such errors are eliminated. It should be emphasized here that the archaeologist, professional or amateur, should place his samples in an air-tight container immediately on excavation. Some people advocate that this container be of lead and, undoubtedly, this would be ideal. However, except for long-term storage of samples it is probably an excess of caution.

#### SUMMARY:

In summation it can be said that calcium in a sample is eliminated before testing and thus can be disregarded. Carbon, in the form of carbonates or other non-organic combinations, is also dispersed before the radiocarbon test is made. Thus, no reasonable and logical way has thus far been advanced whereby a sample may be "contaminated" to make it yield a date older than the true date, though it may easily be contaminated to yield younger dates.





1.



2.



3.



4.

Lizard Effigies - Chas. C. Smith Coll.  
Modoc, Indiana







## LIZARD EFFIGIES

by  
*Chas. C. Smith*  
*Modoc, Indiana*

See page No. 129.

No. 1 - Banded slate. Clarke County, Ohio

No. 2 - Black slate. Found near Elwood, Indiana

No. 3 - Banded slate. Pickett Coll. Berne, Indiana

No. 4 - Banded slate. Found in Randolph Co., Ind. by Glenn Adamson near Carlos.

\* \* \* \* \*

## ANOTHER MYSTERIOUS COPPER PIECE

by  
*Thomas Porter*  
*Frankfort, Ohio*

Regarding this copper effigy knife. The folks from whom I purchased it could tell me nothing as the former owner had passed on. However, Capt. Arlington H. Mallory, the author of "Lost America" and an authority on primitive metal manufacture, took this piece to Washington D. C. to have the Bureau of Standards make an analysis to determine the method of manufacture or if it was unsmelted. Capt. Mallory reported that he was told the piece had been so hammered, that the structure was broken down and could not be analyzed. He also reported that The Smithsonian classed it as an early Alaska copper culture product.

As you can see, the English letters have been cut in with a steel knife - the name of a boy and an Eskimo community - the other figures are pecked. We might speculate on how this early Eskimo knife came to be in southern Ohio - could it have been stolen from the tribe by a disappointed Yukon gold seeker ?

\* \* \* \* \*

## THOSE CONTROVERSIAL MICHIGAN TABLETS

by  
*A. L. Spooner*  
*Dearborn, Michigan*

The tablets illustrated on pages 93, 94 and 95 of the July issue of The Ohio Archaeologist brings to mind a controversy that raged over a period of 40 years between archaeologists and others, as to the genuineness of the numerous objects reported to have been found.

The names of Daniel E. Soper, former Secretary of State Michigan; Rev. Savage, Dean of the Western Diocese and Pastor of The Most Holy Trinity Catholic Church of Detroit; and Dr. R. B. Orr, Director of the Provincial Museum at Toronto, Canada, are usually associated with them, but James O. Scotford, a sign painter who, Professor Kelsey of the University of Michigan declared, "Manifested a skill in finding relics that made him the envy of the region" seemed to be the key figure.

According to a report prepared in 1908 by Professor Francis W. Kelsey, the reported findings of the objects were in three phases. William A. Benscoter, a reporter for the Detroit News, established the fact that a number of persons were concerned with either the first or the third phase but Scotford was intimately connected with both.

The alleged discoveries commenced in October, 1890, in Montcalm County, Michigan and consisted of articles made from unbaked clay and decorated with hieroglyphics. Prof.

Alfred Emerson of Lake Forest College near Chicago, made an investigation and afterwards wrote "The articles were bad enough in the photographs but an examination proved them to be humbugs of the first water."

In 1898 more of the objects resembling those found in 1890 were reported but the workmanship had improved and the clay was baked hard.

In 1908 came reports that copper implements and tablets of an unique character were being offered to collectors, and that the distributing center was Detroit.

The first number of the American Anthropologist for 1908 had an article on the alleged finds and 1912 The Nation published some articles on them. The article in The Nation describes a volume of plates published bearing the title, "Engravings of Prehistoric Specimens from Michigan." In this volume appears the picture of Daniel E. Soper, who, we are told "belongs the credit of having been for several years the moving spirit in the investigation of these prehistoric relics."



About this time Reverend Savage, who had achieved some recognition as an archaeologist, and Dr. R. B. Orr joined Soper and declared the objects genuine. They hired Scotford, who had moved from Montcalm County to Detroit, and his son to do the digging and they seemed to have had the most luck in finding them.

Dean Savage became so intrigued that he had the trade mark, which was on every piece found, engraved on his letter-heads.

On the other side were Professor Kelsey of the University of Michigan, Professor Alfred Emerson of Lake Forest College, Professor Mavis Jastrow of the University of Pennsylvania, Professor Putnam, and others who denounced the finds.

The Mormons became interested and in 1909 Dr. James E. Talmadge of the Deseret Museum of Salt Lake City, came to Detroit to investigate them.

In Volume 14, Number 12 of the Improvement Era, dated October, 1911, appears an article titled, "The Michigan Relics", "a story of forgery and deception," by Dr. Talmadge. In this article Dr. Talmadge asserts that after meeting Soper and Savage, Scotford was recommended to him and hired to do the digging. Numerous objects were found, some copper which Dr. Talmadge says he had analyzed and found to be of ordinary commercial copper.

In a letter dated October 17, 1918, Warren K. Moorehead said, quote, "I have avoided being drawn into a controversy but have suggested that the way to settle the matter would be to have an independent survey, composed of men who have never worked in Michigan, go up there and explore mounds in the belt where these things are found. So much has been said concerning these sites that the Smithsonian Institute should settle the matter once and for all."

Reverend Savage in a letter stated that he had opened or divided the opening of 2,500 mounds in 7 Counties of Michigan, extending over 165 miles and attributed them to the same people who worked the copper mines of Michigan. In the same letter he states that John Hayes Hammond, considered the greatest living mineralogist, said that, "There is not a man living today that can duplicate one of them."

The controversy went on for a number of years, but after the death of Soper and Savage, died down, but periodically is brought to mind when one of the objects appears in a collection or is offered for sale. To my knowledge nobody has claimed to have found any in the last 30 years.

The material Dr. Orr is supposed to have found went to the Toronto Museum. Reverend Savage says in a letter, "I have never sold nor do I intend to sell an article." Soper stated that he never "sold, gave away or exchanged a piece"; however, in the files of the Detroit Institute of Arts are letters showing that he did offer some for sale but it appears that Scotford would profit the most.

\* \* \* \* \*

## THE ANCIENT SHRINE (?) OF THE MIAMIS

by

Walter F. Eisele  
Arcanum, Ohio

*Last spring I received information of a curious nature, regarding a peculiarly marked boulder to be found in north western Miami County, on the banks of the Stillwater River. My informant told me the local people called it an Indian shrine, but I was mystified by the description of the markings, as Indian hieroglyphics in a geometric pattern of holes in a circular groove sounded decidedly improbable.*

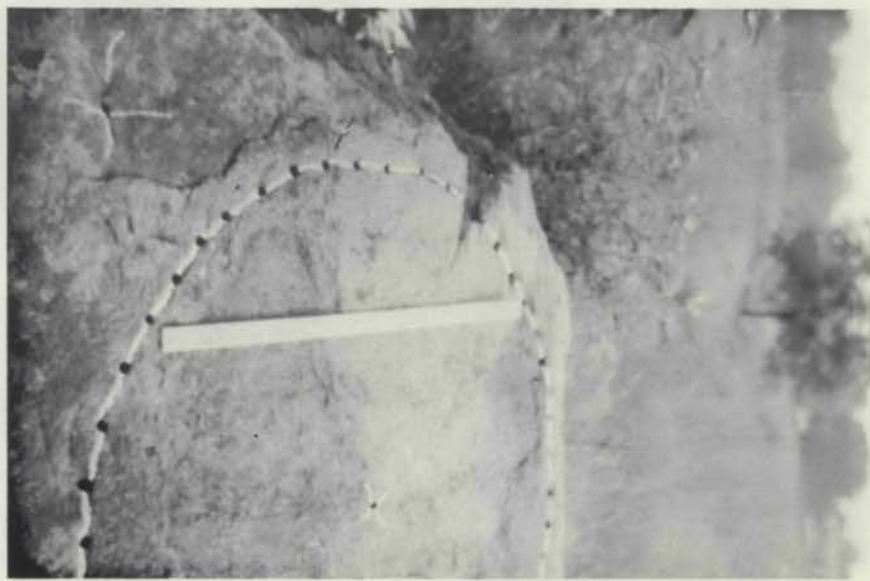
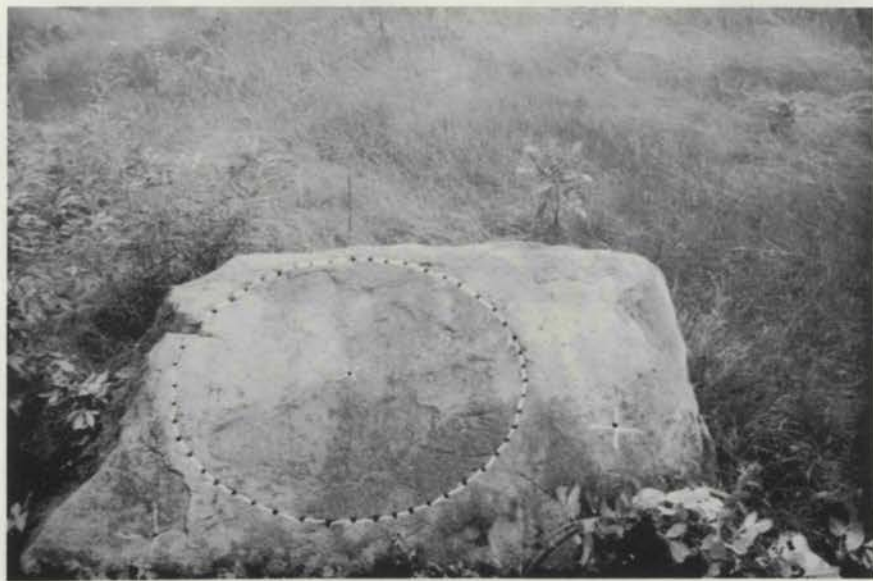
Taking my camera and with chalk to outline the figure, I located the so called shrine on the farm of J. E. Bitner, in Newberry Township, Miami County, but because of inclement weather it was no day to photograph it, so had to return later for my pictures.

The stone is flat sided, about five by seven feet, and has a circular groove 1/2 inch deep with a four foot diameter. In this groove there are 52 one inch holes about three inches in depth. There are four holes irregularly placed outside the circle and one hole in center.

Mr. Baby and Mr. Kientz, both told me this is the method used by the pioneers to make millstones from glacial boulders by inserting a tapering, circular, iron wedge into each hole, and by tapping each wedge around and around the circle until the increasing pressure causes the stone to split out along the line of the holes in the groove.

Until about 50 years ago the famous South Amherst, Ohio, quarries used the pressure method, best described by Victor von Hagen (in his book, *Realm of the Incas*) in the following quotation, "Quarrying of stone (building) was done in the Americas as the Egyptians and all other earlier cultures did it. Rock was searched for natural faults; after boring, the holes were







*3/4 size*



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2



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4



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23



24



filled with wooden wedges, swollen with water, and in time this swelling action cracked the rock mass. Von Hagen writes that "the Komans, even with the most advanced technology of the ancient world, did it no differently".

I believe the present owner, Mr. Bitner, would not object to the stone being removed and it is indeed regrettable that this interesting example of pioneer workmanship is not placed where it can be seen.

\* \* \* \* \*

## LATE WOODLAND PROJECTILE POINT TYPES FROM CENTRAL OHIO

by  
*John W. Schatz*  
*Columbus, Ohio*

The projectile points illustrated on page 134 have been found surface hunting by the author through central Ohio. The majority were found in Franklin, Madison, Union, Delaware and Pickaway Counties; on sites along the Scioto River, Big Darby Creek, Little Darby Creek, Big Walnut Creek, Little Walnut Creek and other streams flowing into the Scioto River.

Over one hundred and fifty complete specimens and several hundred broken specimens of this projectile type have been collected by the author, surface hunting. About half the projectile points illustrated are made from grey and tan cherts from the glaciated areas in Ohio; the remainder are made from black and blue flints from various sources in Ohio. Of the total in my possession only two are made from multi-colored Flint Ridge material. One is white and pink, found on Flint Ridge; the other is mottled yellow, pink purple found on a site a few miles south of Columbus along the east side of the Scioto River. The author has not found many of these points on any one site, but has found them on nearly every site he has hunted.

These projectile points range in size from seven eighths of an inch to about three and one half inches in length. I have measured some that are five eighths of an inch to three fourths of an inch wide and three eighths of an inch to one half inch thick. The average length of these points is about two inches. The majority of them are quite thick in proportion to their length. A few, however, are fairly thin. There are two predominate types shown in the illustration. The first type being slightly wider and thinner with slightly convex bases and rounded sides, such as numbers 1, 2, 3, 5, 6, 7, 13, 16, 17 and 24. The other type is narrow and thick with straight sides and straight base; such as 10, 11, 12, 14, 15, 18, 22 and 23. These are all side notched. The notching is rounded rather than triangular. The base is ground or polished on nearly all of these points. A few of these points have fairly straight edges and fine chipping. The majority, however, are ripple chipped and, or, serrated. One characteristic stands out: the chipping from the point back to the wide part of the body is diagonal; the chipping from this point back to the base is more or less transverse. The chips are short, (going about to the center) leaving a marked longitudinal ridge on both faces of the projectile point.

Projectile points of this type have been excavated on these northern Ohio sites of Upper Mississippi or (Iroquois) people. Little Cedar Point Site, South Park, Reeves Site, Fairport Harbor and White Fort have yielded these types. These points are in a minority group and are found in association with triangular types. In central Ohio they have been excavated from the Zencor or (Merion Site) near Columbus and at the Lickliter Site near Dayton.

Reference: (Cole and Devel 1936)



## TRIALS OF A MODERN INDIAN RELIC COLLECTOR

by  
*Kenneth McNeal*  
*Dayton, Ohio*

Indian Relic collecting is becoming more of a complicated procedure with the passing years. This is due largely to the increasing number of persons interested in collecting the artifacts. A few years ago, a collector could go out into the country and hunt over freshly plowed fields or along the banks of streams and find a number of fine pieces. A few articles of Indian culture are still found in this manner, but the instances are relatively few, especially in this Miami Valley. The modern collector must search the country side for persons with Indian relics which they are willing to sell or trade.

The pieces pictured in the accompanying photograph were acquired in different ways. Numbers one, two and four of the slate pieces were added to my collection at great expense of time and effort. I heard through a friend, of a woman who had inherited a few slate pieces in an estate willed to her by her aged father. As the woman had no interest in Indian relic collecting, my friend thought that she might be willing to sell the pieces. I drove thirty-five miles out into the country to inquire into the matter but found the woman reluctant to sell at that time.

In the next six months, I made two more trips but each time the woman had decided to keep the pieces a while longer although she intended to sell them at some future date. Several weeks after my last visit, my friend informed me that his relative was planning to have an auction sale of her father's belongings, and I would have to call upon the woman in the next few days if I wished to secure the pieces before they were to be put up for public sale. I hopefully drove the thirty-five miles again and was fortunate enough to buy numbers two and four, but she had decided to keep number one for a while longer.

In appreciation of the privilege of buying the pieces, I offered to help with the preparation for the sale. The people gladly accepted my services and, at the end of the morning, asked what I would charge for my work. I jokingly remarked that the right to buy the other slate piece would more than settle the bill. The woman said if I wanted the piece badly enough to work all morning for the privilege of buying it, she would just give it to me as a present. Altogether, the slate pieces cost me two-hundred and eighty miles of driving, five dollars in money, and a half day's labor, and I felt that my efforts had been well repaid.

Number three was given to me by a very dear old lady who was eighty-seven years old. She had found the piece when she was five years old and cherished it all her life. I had admired the piece since I was a little boy and she wanted me to have it for she felt that I would appreciate it as she had.

### Description of slate pieces in photograph:

Number one, found in Preble County, is light gray-green, banded slate with an unusual white blaze extending from one side towards the center.

Number two, also found in Preble County, is dark gray-green, banded slate, concave on one side.

Number three, found in Darke County, is an unusual piece of dark red slate, beveled and slightly concave on one side with three tally marks on each edge.

Number four, found in Preble County, is red banded slate.

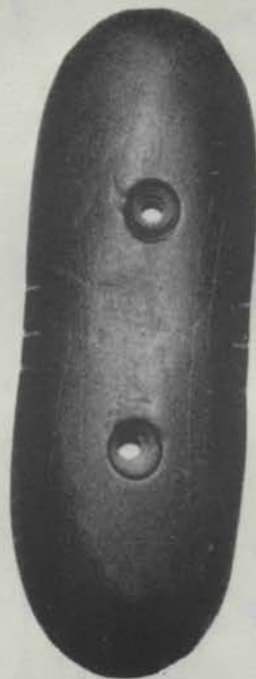




1



2

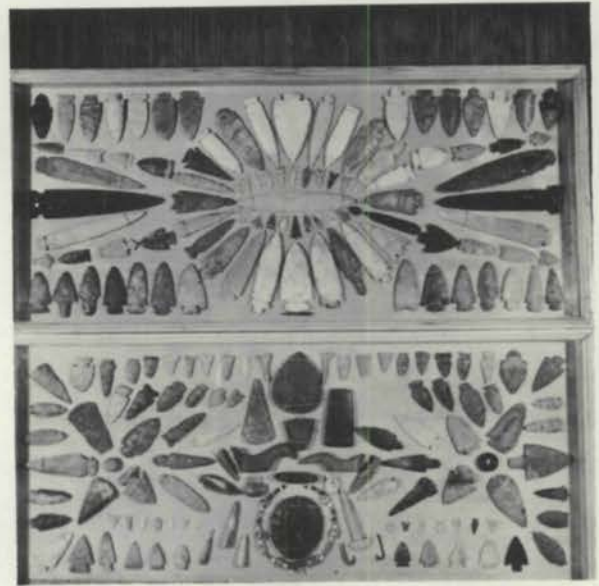


3



4





Southern Indiana Collection  
Jesse Albin  
Corydon, Indiana



SOUTHERN INDIANA COLLECTION

by

Jesse Albin  
Corydon, Indiana

Received your letter and was very much pleased that you might be able to picture my collection in the October issue of the Ohio Archaeologist. You are very welcome to do so.

I have collected Indian relics for quite some time. I live in Harrison County, Indiana, twelve miles from the Ohio River, Corydon being out county seat, and along the Ohio River is where I do most of my hunting. I know of a number of old village sites. I do mostly field hunting after fresh plowing followed with a hard rain and usually I can pick up a number of nice points with a good piece now and then.

Although my collection has been done in several states, when I traveled, estimating standing timber for a lumber company, then I hunted as I worked, and would buy some nice pieces occasionally, but the strange part of it was that many of the nicest pieces were given to me, as just a friendly gift, because I was interested in them.

Notice the pipe tomahawk. It was plowed up here in Southern Indiana. I replaced the handle as the old handle had rotted away. Note the deep pits rusted into it. A lot of the pieces have been bulldozed out of the earth when excavating for roads and buildings, such as basements.

Another nice part in our hunting along the Ohio River, is that we find many different colors in flint, different chipping and made for all purposes, as the many different tribes moved along the river.

Now and then after a high flood water, the river will wash whole skeletons out of the banks, with the tools they possessed.

I have several pieces not framed and the blank space in the frame with the pistol is where I would like to add a couple of guns to fill up. Once I borrowed some and mounted them when I was helping to put on an exhibit during deer hunting season, in a sequence, which showed the methods of how the deer was hunted with arrow and spear, then came the percussion guns, thus preserving of things which are of the past.

In no way can time be passed better than to go out on an Indian relic hunt. Roam the hills and fields around the water holes, villages sites and old washed out burial grounds and wondering what your lucky finds will be.

I would now like to sell my collection and put it toward a home but I will always spend some of my spare time hunting for more, but they are getting scarcer with the years.

Respectfully

Jesse Albin

Corydon, Indiana

PS - You have my permission to print both the pictures and letter if you desire.



## GLACIAL KAME ARTIFACTS

by  
*Edward Galitza*

Upper photograph: The only complete pottery vessel representing the Glacial Kame Complex was found in the famous Zimmerman gravel pit in Hardin County, Ohio. The vessel is grit-tempered, poorly fired, with polished edges on rim. It was uncovered by a gravel digger and was later sold to Doctor Charles Bondley of Belle Center, Ohio. Dr. Bondley realizing the uniqueness of the artifact and its great archaeological importance, coated the vessel with a preservative, which unfortunately, gives the vessel the appearance of having a high glossy finish.

Just recently, archaeologists have come to realize the importance of this association and several important revisions in the trait list and in the chronological position of the complex have resulted. It is now believed that the Glacial Kame people preceded the Adena Culture and possibly continued into early Hopewellian times. (Scale-photograph is slightly larger than actual size.)

Lower photograph: Characteristic of the Glacial Kame Complex, these artifacts were found in the Thomas Reber Glacial Kame Site (Wy-1), Wyandot County, Ohio. The bone harpoon is seven and one half inches long and approximately one inch at widest point. It has four notches cut into the base of the barbs to facilitate attachment to the shaft. It was found along with the stone and crinoid beads in 1933, when gravel was hauled from the site for road repair. The disc and cylindrical shell beads and the eagle talons were associated with skeletal remains found at this site in 1955. (See -"Ohio Archaeologist," Volume 6, number 1, January, 1956.)

### A REPORT OF THE ZIMMERMAN KAME SITE - THIRTY YEARS LATER.

by  
*Edward Galitza*

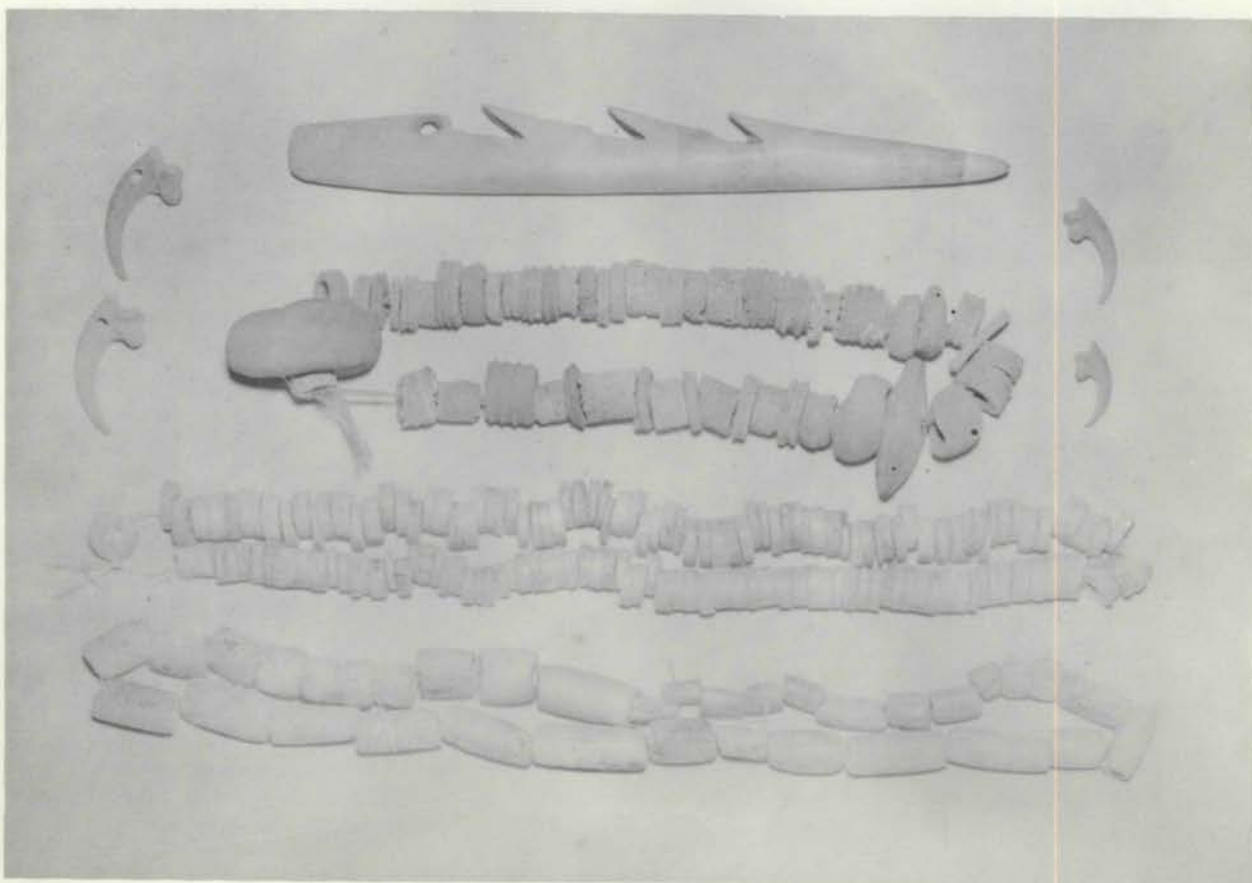
In the Spring of 1928, work was started in the Zimmerman gravel deposit to secure gravel for highway ballast, but due to the use of heavy machinery, archaeological material was not salvaged. It was not until 1931, that the workers began to notice skeletons and artifacts in the pit. Arthur Zimmerman, owner of the site, gave orders to the workmen to report any discoveries to him. News travelled fast, and people from all over the United States visited the site and made such fabulous offers for the artifacts that Zimmerman decided to sell. Collectors, dealers, students, and professional archaeologists viewed the remains, but few took photographs, and fewer realized the importance of the discoveries to archaeology. No report of the site has been written and the only reliable data available is what can be remembered by the workmen and a departmental paper written by Dr. Russell Long, when he was a student in Ada, Ohio. Over three hundred burials were encountered, the deepest being twenty-two feet.

The site, itself, occupies an area of nearly ten acres, and is located about two miles northeast of Roundhead, Hardin County, Ohio. It is of glacial origin, consisting of sand and gravel deposited by the retreating glacier.

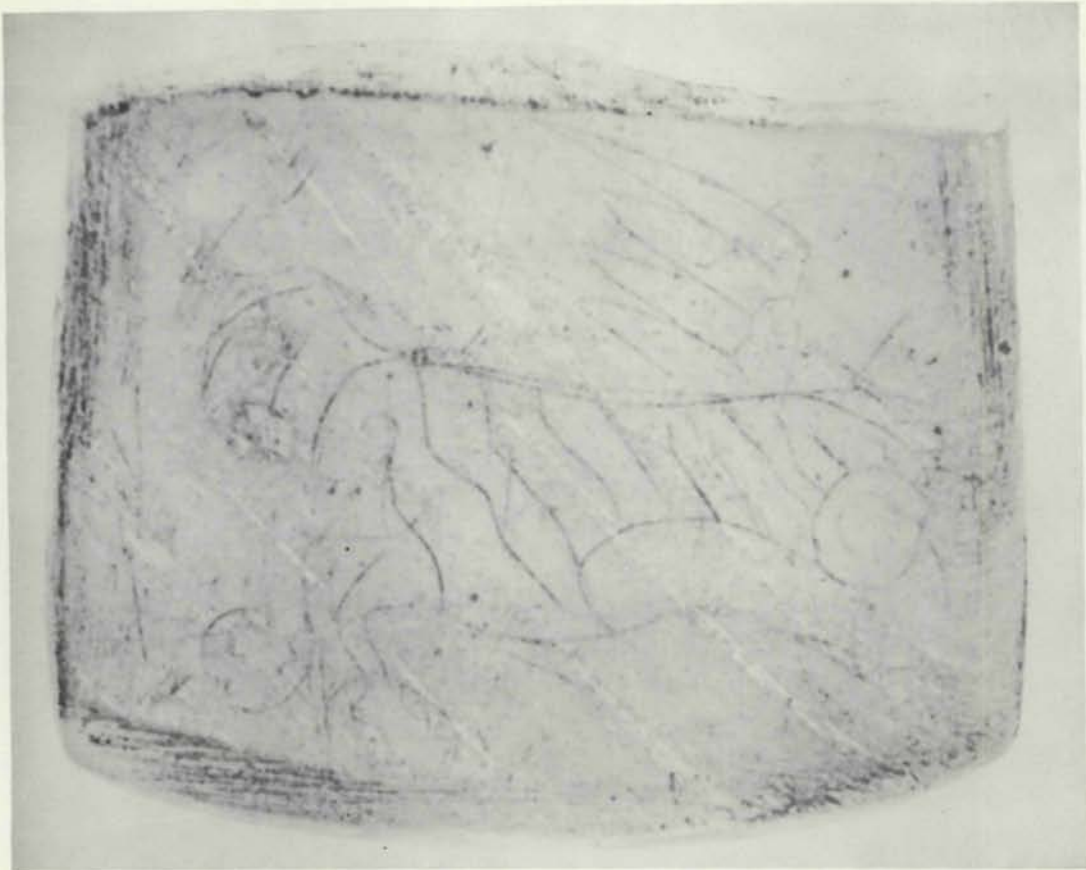
Numerous beads of copper and shell were associated with the skeletal remains, around the neck, arms and ankles. Bone harpoons, clam shell hoes, rectangular shell gorgets, circular shell gorgets, sandal sole gorgets, shell containers, arrow points and perforated animal teeth were found. Other outstanding artifacts consisted of a slate tube

(Turn to page 144)













### AN ANCIENT OHIO ENGRAVING

by

Walter V. Diamond  
Lucasville, Ohio

Engravings on Indian artifacts in Ohio are very rare, in fact, I believe engravings anywhere on this continent are a rarity, so I thought it could possibly be interesting to picture one I have.

Pictured on the opposite page are two views, one of each side, that were taken by the Smithsonian Institution and the one directly above was taken by Mr. Wachtel. The actual dimensions of this piece is two inches wide and two and one half inches high and picture directly above is twice size. The size makes it necessary to enlarge the views to make the details of the picture more discernible.

The usual method of filling the engraved lines with fine powder to photograph could not be used as the lines are too shallow and fine to retain the powder and only by reflected light, as above, or over printing as on opposite page, could the design be brought out.

This artifact was found in 1936 on the Schisler farm earlier known as the Bannon farm, about one mile south of Lucasville, Ohio. It was found at a depth of 18 inches while digging.

The figure on this artifact is somewhat similar to copper plate figure from Etowah Mound, Georgia, pictured on page 724 of *Archaeological History of Ohio* by Girard Fowke, which could mean a possible cultural connection between the Schisler people and the tribes of Georgia, or that the Georgia tribes once inhabited the Schisler Site before migrating south.



pipe, a cut and perforated wolf jaw, and ivory gorget, a cannel coal gorget, and a grit tempered, poorly fired, pottery vessel. Two of the gorgets were engraved, one with a snake design and the other with geometric designs.

Dr. Charles Bondley, of Belle Center, Ohio, purchased the majority of the artifacts and the remaining material became scattered nationwide. Numerous artifacts were carried home in the lunch pails of gravel diggers, some artifacts were dug out by pot hunters, trespassing on the property, and still others were purchased by collectors and dealers throughout the country. One collector in California is reported to have three pair of the sandal sole gorgets. Close to fifteen pair of these gorgets were reported to have been found. Ohio State Museum has several, Earl Townsend has thirteen, Dr. Charles Bondley's brother has two, Dr. Stanley Copeland has one, narrowing the total down to six - these are probably lying in some dusty case or attic somewhere.

Probably the most unique and most important specimen found in the Zimmerman site is the small undecorated, grit tempered, poorly fired pottery vessel. Although dull looking and seemingly insignificant, this vessel represents the only pottery vessel yet discovered in a gravel deposit of the Gravel Kame origin. Since the Glacial Kame Complex is one of Ohio's earliest, the vessel may represent one of the first attempts of pottery manufacture in Ohio. It was found by one of the gravel diggers and sold to Dr. Bondley and was later purchased by Irvin Dougherty. The piece was overlooked by Earl Townsend when he purchased the Zimmerman material from Dougherty, and finally ended up in the writer's collection.

The Zimmerman Site in Ohio, and the Great Temple Mound in Oklahoma, stand out as striking examples of plunder, neglect, and lack of good common sense by modern man. If the archaeologically minded people of the 1930's would have expressed interest and would have taken the time to record what they saw, the material from these sites might have given us a better understanding of the people who lived near, buried their dead in, and manufactured their implements on these two important sites.

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\* \* \* \* \*

#### MELTING OF GLACIAL ICE COULD FLOOD COASTS

*Can it happen? Geophysical Year Scientists Seek  
Answers In Probing Seas, Continents  
By Alton L. Blakeslee*

Glacial ice hides 10 percent of all the earth's land.

If it all melts, oceans, will rise 65 to 200 feet or more, drowning London, New York, Singapore, Washington, D. C., New Orleans, and huge areas of coastlines.



Can it happen? Are icecaps and icepacks retreating, growing, or standing steady? Where are we in respect to repeated great ice ages of the past?

Search for better answers to these questions is one phase of the International Geophysical year (IGY). Scientists from 20 nations will make a worldwide census of glaciers and snowfields, and measure great ice sheets covering Antarctica and Greenland.

IGY has already turned up on one surprise in Marie Byrd land east of Little America in Antarctica.

U. S. scientists discovered the ice cap there is nearly two miles thick. Yet, standing atop this ice, they were only 5,000 feet above sea level. The rocky land mass below lies nearly a mile below sea level.

Marie Byrd land was once thought to be part of the continental land mass. Sheer weight of all this ice could have pushed the land down considerably, but not that much. Perhaps this area is part of a string of islands which thrust up high mountains along the coast.

This finding — made by shooting sound waves down through the ice and timing their echoes — indicates there may be far more ice in Antarctica than had been thought.

Estimates are that 86 percent of all the world's ice is in Antarctica, about 4 per cent in Greenland, the rest in glaciers, including high mountains in the tropics.

GLACIOLOGISTS OF several nations will make 500 to 1,000 mile treks over the Antarctic continent, repeatedly measuring ice thickness, to best estimate the total amount.

Scientists floating on ice islands in the Arctic Ocean will try to learn whether the ice-pack there is growing or shrinking.

Britons will be busy with glacier research in the high mountains of Kenya and Uganda. Danish, German, French and Swiss scientists will check on inland glaciers and their effects on climate.

Some glaciers in the western United States are known to be growing. Special teams will make intensive measurements there.

Other glaciers are retreating, so much that sea level is estimated to have been rising recently at the rate of 2 1/2 inches a century.

By sharing all facts learned, scientists hope to learn what happened in the past to produce ice ages — ice sheets once covered a third of the earth's whole land mass — and what may be coming.

Water in unfrozen form — in the oceans — covers nearly three-fourths of our globe, and events in the seas vitally affect our weather and welfare.

But there are perplexing unknowns about the oceans, and oceanographers of 18 nations will go seeking the answers.

DEEP COLD currents and turnover of the ocean waters from top to bottom apparently have powerful effects on climate and weather. But no one knows yet how long it takes cold water from polar regions to reach the equator, or how long it takes bottom water to reach the top. Fertility of the seas, the abundance of seafood, partly depends upon that rate of turnover.

Deep holes in the oceans might be safe garbage dumps for radioactive wastes produced in growing amounts as atomic power plants start operating.

If the deep waters stay put for 50 to 100 years or more, these dangerous wastes could be buried there. But if the turnover is short, there's too much risk that the radio activity could escape the coffins it's buried in and poison the sea, and in time poison mankind too.

Making this kind and other measurements, dozens of ships will go sailing to analyze waters, waves and currents in the Atlantic, Pacific and Indian oceans, and elsewhere.

American oceanographers have plotted many long voyages, some in co-operation with ships of Argentina, Britain, Germany, Canada, and the Union of South Africa. Russians will sail the Pacific, North Atlantic, Barents sea, and elsewhere. Italians will be measuring tides in the Adriatic.



DOZENS of special stations on islands and along coast lines of participating countries will make sensitive measurements of changes in tides, waves, and seal level. Seal level is usually higher in summer and autumn than in winter and spring. Movement of masses of water among oceans could be a reason.

Using echo-sounders, some ships will draw maps of the unseen but spectacular ocean bottoms, cut by canyons, jugged with mountain ranges.

Some scientists will pull up long corings dug deep into the ocean bottom, to read from the record of sediments the history of past life and climatic changes in the seas.

Some will make gravity measurements over the sea bottoms, conduct seismic soundings to learn more of the interior of the earth below the ocean floors.

On land, other specialists will be probing into the depths of the solid earth, to piece out the story of the insides of this planetary ball on which we live.

\* \* \* \*

#### NEW MEMBERS

Bair, Edwin L., 823 Morse St., Findlay, Ohio  
Betz, Robert L., Plank Rd., R. R. No. 3, Norwalk, Ohio  
Boyd, C. H., Box 273, Minocqua, Wisconsin  
Cassity, Otis, R. R. No 2, Xenia, Ohio  
Corley, John, 316 West Palace, Hobbs, N. M.  
Daring, W. V., Box 102, R. R. No. 5, Napoleon, Ohio  
Day, Gordon L., Apt. No. 5, 609 Garfield Ave., Milford, Ohio  
Dunnell, Robert, Box 102, Valley Grove, West Virginia  
Eakins, Laura L, "Indian Trading Post, HWY 60, East Sikeston, Missouri  
Franks, Eugene R., Benton Ridge, Box 81, Ohio  
Hendey, Brett, 77 Lorne St., Estcourt, Natal, Union of South Africa  
Hendrickson, Guy, R. R. No. 3, Winchester, Indiana  
Hoke, George R., R. R. No. 2, Macomb, Illinois  
Hunsicker, Mrs. Frank C., Jersey Ridge Rd., Maysville, Kentucky  
Kegg, Donald J., 335 Church St., Chillicothe, Ohio  
Kent State University Library, Kent, Ohio  
Lanning, W. W., 911 25th St., N. W., Canton, Ohio  
Magrath, Willis H., 425 Waugh St., Alliance, Ohio  
Middleton, Ambrose, 811 Park Ave., West, Mansfield, Ohio  
Munn, James R., 285 Arch St., Chillicothe, Ohio  
Phillips, Herman, Lake James, Angola, Indiana  
Plumb, W. H., 1912 West Main, Waynesboro, Virginia  
Robinson, Francis Waring, The Detroit Institute of Arts, 5200 Woodward Ave., Detroit 2, Mich.  
Schwartz, Harry C., 105 Silver St., Lebanon, Ohio  
Seymour, John F., 3427-B. Middlesex Drive, Toledo 6, Ohio  
Stanley, Dr. Paul R., Acton, Indiana  
Stark, Dr. Jeremiah M., Lamar College of Technology, Beaumont, Texas  
Wentworth, Albert, 210 Briggs Rd., Quincy, Michigan

Any corrections as to names and addresses please notify the secretary.

Don't forget that all members are part of our Membership Committee and any new member you solicit will be appreciated.



Grand Rapids, Michigan  
July 14, 1957

The Ohio Archaeologist  
Mr. H. C. Wachtel - Editor

Dear Mr. Wachtel:

It was interesting to see in the Ohio Archaeologist of July 1957 the excellent photographs of Soper "finds" accompanying the short article of Mr. Charles C. Smith entitled "An Early Copper Enigma." Mr. Smith is quite right in ascribing these pieces to white men. However, they were not products of an early period but probably were produced somewhere between 1885 and 1912.

These and similar finds first received publicity about 1891 near Edmore in Montcalm County, Michigan and soon were appearing in quantity in that area. An archaeological "syndicate" was formed at Stanton to explore and exploit the artifacts. The first pottery found was unbaked clay and it was covered with bogus hieroglyphics and occasional cuneiform symbols, apparently stamped in the clay. The syndicate faded away when the objects were branded as frauds by archaeologists and did not take on with the local collectors.

In 1898 more of these artifacts were discovered, made with improved techniques and the clay was now baked. There were many strange designs, such as the Tower of Babel, Moses, the Deluge, pseudo-Egyptian carvings, Noah's Ark, which appeared in this baked clay period. Around 1908 a third phase of the phenomenon began when artifacts of similar character, pounded and cut out of copper, began to appear. The copper had a fine patina of great age.

A reporter for the Detroit News established several facts about these finds. They were first associated with Mr. James O. Scotford of Montcalm County and Big Rapids, Michigan. Scotford seemed to have made most of the wonderful discoveries, dug in the presence of witnesses. His name was associated with the early unbaked clay period and it is again closely associated with the later copper "discoveries." The name of Daniel E. Soper appeared in a book entitled "Engravings of Prehistoric Specimens from Michigan, U. S. A. The title page stated: Copyright 1910 by Rudolph Etzenhouser, Proprietor. The picture of Soper occupied the next page with a statement that he was the collector of the finds and that he had formerly been Secretary of State of Michigan. It did not state that he had left this office under the shadow of a very dark cloud.

Mr. Etzenhouser, onetime Bishop of the Church of the Latter Day Saints gives Soper credit for bringing the relics to light and he prints good replicas of many pieces which he had bought from Soper. This little book is quite rare but shows a fine selection of this Michigan material. It should be stated here that Soper was a friend of Scotford and had once run a stationery store in Newaygo, Michigan. As Soper and Scotford moved from place to place, remarkable "finds" were uncovered by both of them. At one time Soper lived for a short time in Arizona and oddly Newaygo-Montcalm artifacts appeared in Arizona sites. Arizona archaeologists were rude enough to insist that the sites had been "planted." Oddly Soper also "found" clay tablets in Hopewell mounds near Newaygo. It is thought that occasionally some of Soper's finds were real Indian artifacts, improved with the addition of Chaldean cuneiform. These strange and unique pieces seem to have had only the two main discoverers who either excavated the pieces themselves, or who were present and directed operations while the pieces were found by others. These rare artifacts have appeared in almost all of the areas where these gentlemen lived for any length of time, during their archaeological activity. Thus some pieces came to light in Chattanooga, Tennessee where Soper lived for a short time.

(con't on Pg. 148)



## PICKAWAY COUNTY SPEARS

by  
*Fred Gordon (deceased)*  
*Circleville, Ohio*

The three spears pictured on the opposite page were all found in Pickaway County, Ohio, approximately fifty years ago. They were a gift along with a number of other relics, and are shown in actual size, the largest being five and one half inches long.

The largest spear is mottled cream, black and grey. It is of the dovetail type but could almost be called a side-notched spear. The tip of this spear has been restored.

The middle spear is basal notched and is very thin. It is cream and light brown.

The smallest of the three is honey colored flint ridge chalcedony, and is translucent when held before a strong light.

\* \* \* \*

It is with regret and sorrow that we have to announce the death of Fred Gordon on August 9, 1957. Fred was one of our most promising, enthusiastic younger members, who was taken away at the age of 21 and we wish to extend our condolences and our sympathy to his family. The ones of us who knew Fred will miss him and wish to think that our contacts with him may have been pleasurable and helped the last year. Fred was very interested in our hobby, having collected for about five years. He was a member of our Society, The Indiana Indian Relic Collectors Society, The Missouri Archaeological Society and the Tennessee. This is his first and last contribution concerning the hobby he loved so much.

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(con't from pg. 147)

It has been stated that Bishop Etzenhauser, Father James Savage of Detroit, A Doctor Orr and a Major James of the Museum of Toronto invested considerable sums in collections of these "finds."

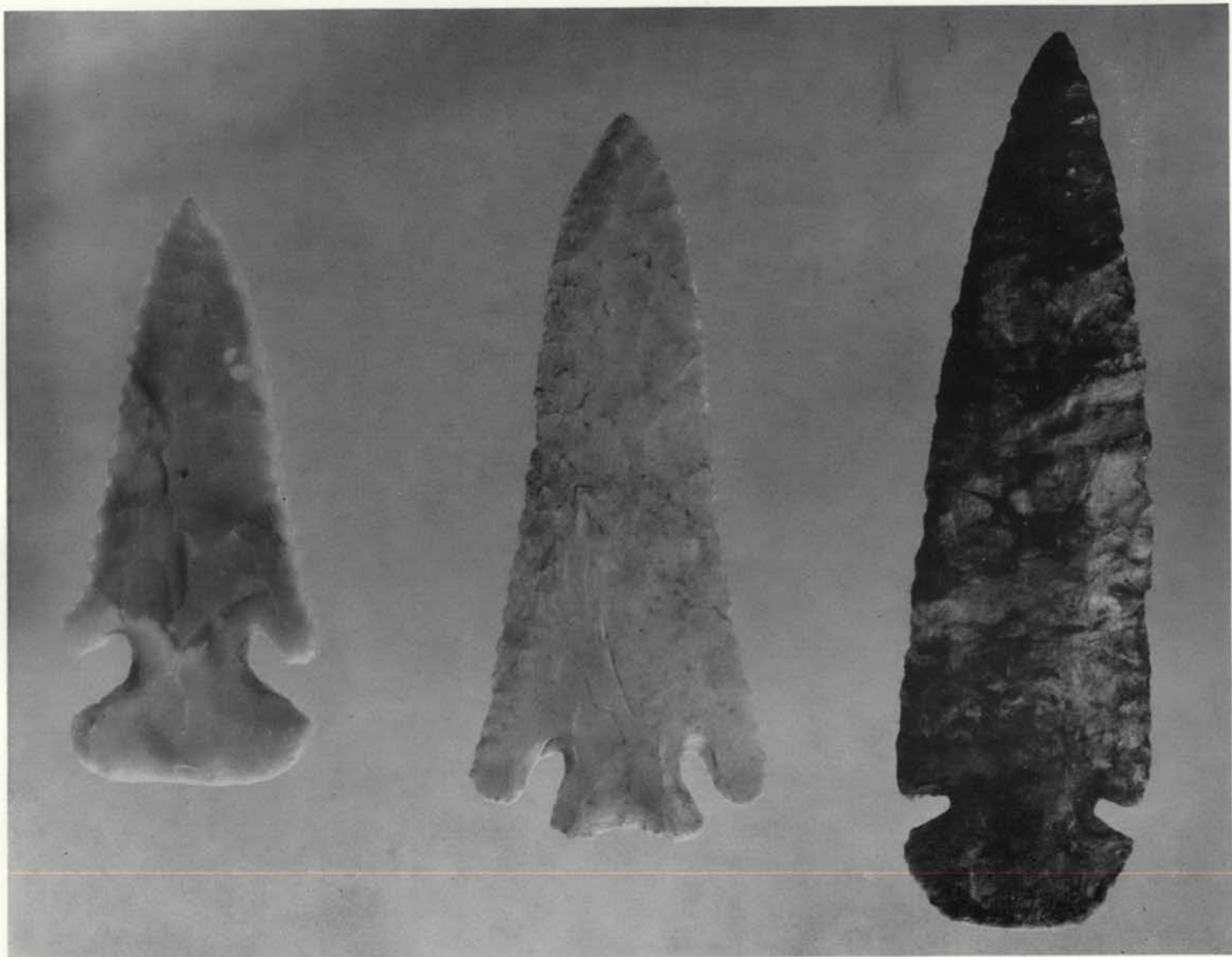
Mr. A. L. Spooner, to whom I am indebted for much of the above information, gave a long paper on Michigan's Controversial Finds at the meeting of the Michigan Archaeological Society held in Detroit, Michigan on April 18, 1953. It was subsequently published by the Aboriginal Research Club of Detroit. On December 28, 1953 the Detroit News printed a very revealing historical article by Allen Schoenfield which explained many previously unrevealed mysteries.

Schoenfield discovered that Soper and Scotford had been living about a block apart in Detroit in 1907. Soper was then offering rare ancient copper objects for sale. He was also active at the time in a "cattery" and in the sale of wildcat mining stock. He was offering for sale a collection of objects by Scotford on the Pine River, near Big Rapids, near Lansing, and from Palmer Park, Detroit. Late that year Soper sold "copper crowns found on the brows of prehistoric kings." Schoenfield noted that Scotford claimed "always to have made his finds in the presence of witnesses."

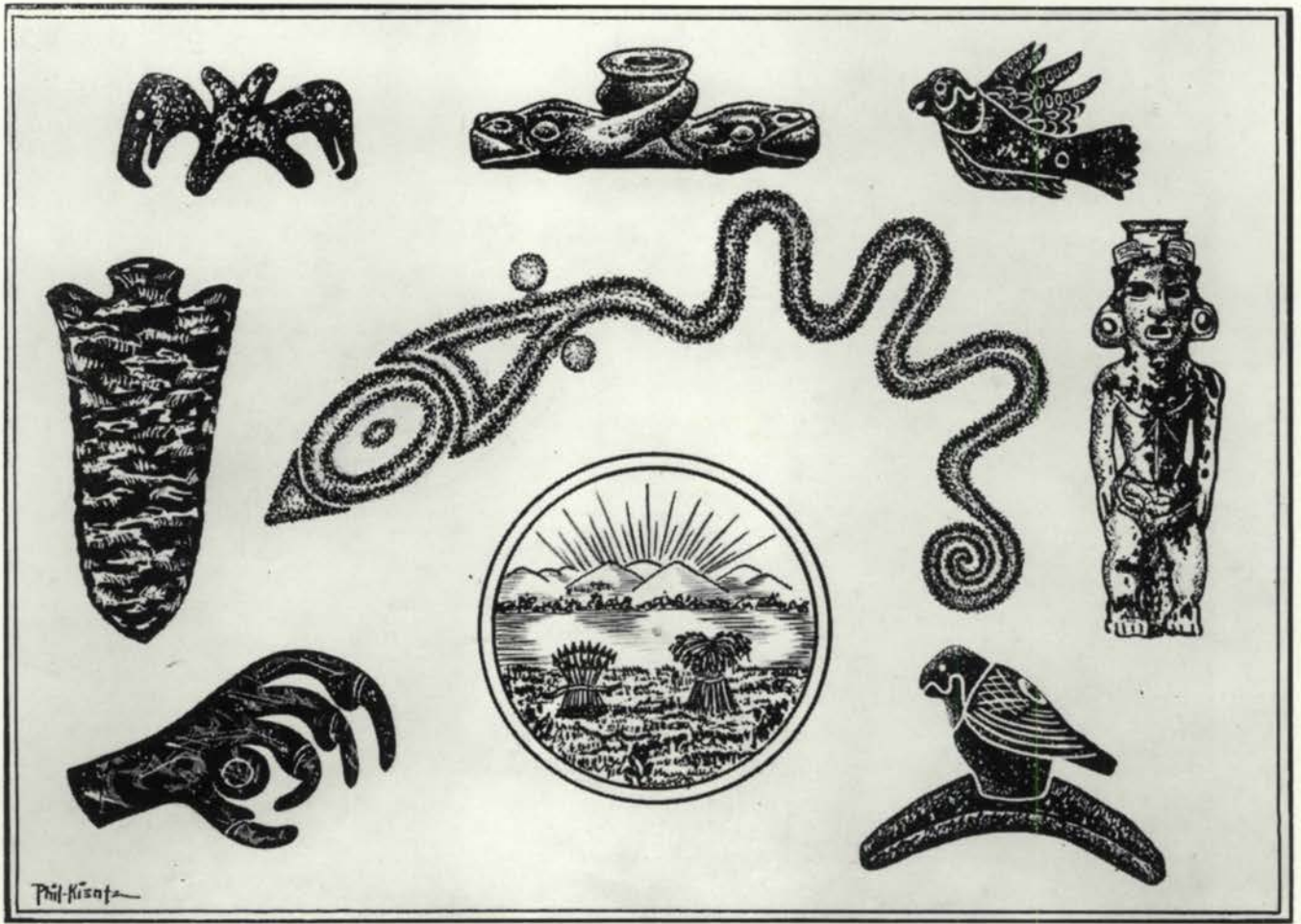
Schoenfield notes that an earlier reporter for the News had interviewed a Mary Robson who lived in a room adjacent to the apartment of Scotford. She said: "Hammering went on day and night." She said that one time she went to the room to borrow something and "they warned me out." Later they took her into their secret and told her that they were running a relic factory. There is a great deal more of this sort of thing but I think that this much will help to clarify the mystery of the Soper "finds."

Sincerely yours,  
Edmond P. Gibson  
Member of the Executive Board - Michigan Archaeological Society.









Phil-Kisato