The Archaeological Society of Ohio

Officers—terms expire 1984
President—Frank Otto, 1503 Hempwood Drive, Columbus, Ohio
Vice President—Mike Kish, 39 Parkview Ave., Westerville, Ohio
Executive Secretary—Don Gehlbach, 3435 Sciotangi Drive, Columbus, Ohio
Treasurer—Scott Haskins, 484 Stinchcomb Drive, Columbus, Ohio
Recording Secretary—Chris Olenick, 8140 Anne St., S.W., Navarre, Ohio

Trustees
Dana Baker, 17240 Township Road 206, Mt. Victory, Ohio 1982
Steve Balazs, 1010 N. Mulberry St., Mt. Vernon, Ohio 1982
Doug Hooks, 120 Yoha Drive, Mansfield, Ohio 1982
Wayne Mortine, Scott Drive, Oxford Heights, Newcomerstown, Ohio 1982
Ernest Good, 3402 Civic Place, Grove City, Ohio 1984
Alva McGraw, 1177 Eastern Ave., Chillicothe, Ohio 1984
Donald Casto, 138 Ann Court, Lancaster, Ohio 1984
Jan Sorgenfrei, Pandora, Ohio 1984

Regional Collaborators
David W. Kuhn, 2642 Shawnee Rd., Portsmouth, Ohio
Charles H. Stout, Sr., 91 Redbank Drive, Fairborn, Ohio
Mark W. Long, Box 467, Wellston, Ohio
Steven Kelley, Seaman, Ohio
William Trell, 13435 Lake Ave., Lakewood, Ohio
Robert Jackman, Box 30, Wellsville, Ohio 43968
James L. Murphy, 102 Wilbur Ave., Columbus, Ohio 43215
Gordon Hart, 760 N. Main St., Bluffton, Indiana 46714

STANDING COMMITTEES

NOMINATING COMMITTEE
Robert N. Converse, Chairman
Ensil Chadwick
Wayne Mortine
Don Bapst
Jan Sorgenfrei

PROGRAM COMMITTEE
Jack Hooks, Chairman
William Tiell
Charles Stout, Jr.
Gordon Hart

AUDITING COMMITTEE
Robert Hill, Chairman
Don Gehlbach
Jack Hooks

MEMBERSHIP COMMITTEE
Charles Stout, Jr.
Owen Cowan
Kendall Saunders
Tom Stropki
Jack Lanam
Steve Parker
George Morelock
Ed Hughes
Charles Voshall

EXHIBITS COMMITTEE
Steve Balazs, Co-Chairman
Don Gehlbach, Co-Chairman
Billy Hillen
John Baldwin
Frank Otto
Earl Noble

FRAUDULENT ARTIFACTS COMMITTEE
Jan Sorgenfrei, Chairman
Doug Hooks
Don Bapst
Ernest Good
Jack Hooks

LEGISLATIVE COMMITTEE
Alva McGraw, Chairman
Dwight Shipley
David Kuhn
Gilbert Dilley
Earl Townsend

STANDING COMMITTEES

SPECIAL COMMITTEES

NOMINATING COMMITTEE
Robert N. Converse, Chairman
Ensil Chadwick
Wayne Mortine
Don Bapst
Jan Sorgenfrei

PROGRAM COMMITTEE
Jack Hooks, Chairman
William Tiell
Charles Stout, Jr.
Gordon Hart

AUDITING COMMITTEE
Robert Hill, Chairman
Don Gehlbach
Jack Hooks

MEMBERSHIP COMMITTEE
Charles Stout, Jr.
Owen Cowan
Kendall Saunders
Tom Stropki
Jack Lanam
Steve Parker
George Morelock
Ed Hughes
Charles Voshall

EXHIBITS COMMITTEE
Steve Balazs, Co-Chairman
Don Gehlbach, Co-Chairman
Billy Hillen
John Baldwin
Frank Otto
Earl Noble

FRAUDULENT ARTIFACTS COMMITTEE
Jan Sorgenfrei, Chairman
Doug Hooks
Don Bapst
Ernest Good
Jack Hooks

LEGISLATIVE COMMITTEE
Alva McGraw, Chairman
Dwight Shipley
David Kuhn
Gilbert Dilley
Earl Townsend

SPECIAL COMMITTEES

PRESERVATION COMMITTEE
Dana Baker, Chairman
Jan Sorgenfrei
Charles Stout, Sr.
Alva McGraw
Bert Drennan
David Brose
John Winsch

SPECIAL PUBLICATIONS COMMITTEE
Robert Converse, Chairman
Lar Holtem
Jeff Carskadden
Wayne Mortine
Martha Otto
Gordon Hart

RAFFLE COMMITTEE
William Haney, Chairman
Graig Clola
Jerry Hagerty
Dorothy Good

EDUCATION AND PUBLICITY
Mike Kish, Chairman
Lar Holtem
Dorothy Good
Marylyn Harness
Martha Otto
Joy Jones
EDITOR'S PAGE

Just recently I received an anonymous letter from one of our members in northern Ohio. It detailed the activities of a person who allegedly fakes artifacts and regularly sells them at flea markets and to collectors. To quote the letter "He is cheating collectors and flea market dealers alike. He is making gorgets, birdstones, pendants, trophy axes, bannerstones, from black, brown, red and green slate. He is also faking large and small sandstone effigy pipes". According to the writer, one of these fake pipes is pictured in a current archaeological publication (not the Ohio Archaeologist).

As with any unsigned letter, this one must be put in limbo on the basis that anyone who has been cheated should not be afraid to give his own name as well as the name of the person who allegedly cheated him. Anyone giving such information need have no fear that his name will be divulged since it would be held in the strictest confidence anyway.

The letter does, however, bring to focus a continuing and growing problem—that of fake artifacts. Frauds in the field of collecting and archaeology have been perpetrated since the middle of the nineteenth century—the Piltdown hoax being a case in point. In a number of early instances there seemed to be only an attempt to fool the "experts". The old archaeological journals are replete with pictures of fake items. Later, such people as the Guffey family manufactured birdstones and bannerstones by the hundreds as a profitable business.

Today, with the technology of the lapidarist and the ever increasing research of archaeologists into the flint knapping field, the faker has a ready body of reference material he can use to perfect his forgeries and make illegal money.

One faker in particular, who I am sorry to say at one time lived in Ohio and was a member of our Society, presently carries on a thriving business of producing and selling fraudulent flint artifacts. For several years he has been flooding the market with his phony material. When confronted at one of our meetings by your Editor before he moved from our state he fell back on the lame pretext that he was making "reproductions", a dishonest but convenient refuge for such cheaters. This particular defrauder now veils his dishonest activities with an aura of supposed honesty by publishing pseudo-scientific publications on flint chipping. In reality he has probably done more to undermine legitimate collecting and to break the hearts of unsuspecting young collectors than any single person. Incredibly, a recent archaeological publication actually advertised one of this charlatan's books which is analogous to giving a loaded gun to someone who is trying to shoot you. Ironically, advertising anything from such a faker for whatever reason defeats the very purpose to which this archaeological journal is dedicated.

TABLE OF CONTENTS

| The FAI-270 Project and the Keller Figurine | 4 |
| A Bird Point Site | 8 |
| The Basinger Dovetail | 8 |
| Archaeological Conservancy Acquires Hopewell Mounds | 9 |
| A Mesoamerican Artifact in Ohio | 12 |
| A Lake Erie Bifurcated Point From Miller's Ridge | 14 |
| Spencer Ohio Blade Cache and an Unusual Drill | 15 |
| Artifacts From the Glenn Spray Collection | 17 |
| Underwater Archaeological Find From Lake Erie | 18 |
| East Central Indiana-West Central Ohio Flint Artifacts | 19 |
| From Our Old Files | 20 |
| An Outstanding Adena Artifact From Putnam County, Ohio | 21 |
| Alette Stemmed Pipes From The Vietzen Collection | 22 |
| Artistic Achievement In A Rare Pipe Format | 23 |
| Surface Hunting in Indiana | 24 |
| Some Outstanding Slate Artifacts From The Walls Collection | 25 |
| The Hunt Site (33BL16) Part V Burials and Interpretation | 26 |
| Part of the Copeland Collection | 29 |
| Intrusive Mound Type Pipes From The Col. Raymond Vietzen Collection | 30 |
| Maize of the Brokaw Site | 31 |
| An Engraved Slate Artifact | 34 |
| Ohio Banner Axe | 35 |
| The Libben Site, Ottawa County, Ohio—Part IV | 36 |
| Flint Artifacts From Southern Indiana | 38 |
| An Unusual Dental Wear Pattern In A Late Archaic Individual | 39 |
| Fraudulent Artifacts and Criminal Liability | 42 |
| Book Review | 43 |

My own personal advice to the unwary or novice collector is this—know who you are buying from or if you don't know him, ask the advice of someone who is more knowledgable. While bargains occasionally surface at flea markets, and legitimate dealers often sell there, beware of those who seem to have large numbers of birdstones, trophy axes, gorgets and pendants of exotic material, or bannerstones. Usually material of such quality does not have to be carried to a flea market by a legitimate dealer to be disposed of. In addition, if the seller is legitimate, he should have no qualms whatever about allowing return privileges on any piece he sells. While the Archaeological Society of Ohio cannot legally interfere with such fraudulent practises, we can offer the services of our Fraudulent Artifact Committee to give an opinion on questionable pieces. We can also remove from our Society anyone who has been proved to sell such material.

Robert N. Converse
Editor

FRONT COVER

The Keller figurine. The second of two outstanding figurines found during excavations of the FAI-270 Project near East St. Louis, Illinois. Its discovery is detailed in the article on pages 4, 5, 6, in this issue of The Ohio Archaeologist by project director Dr. James W. Porter.
The FAI-270 Project and the Keller Figurine

James W. Porter
Project Director
University of Illinois, Urbana-Champaign
Photographs by Jeff Abrams, FAI-270 Project

Fig. 1 (Porter) Rear view of Keller figurine.

The Winter issue of this journal contained an article by N.E. Hakiel (1980) which was designed to briefly present the FAI-270 Project objectives, record some of the results obtained thus far, and accompany a cover photograph of the impressive bauxite figurine known as the Birger Figurine, recovered by Project investigations. The following short contribution is intended as an update, emphasizing the details surrounding the recovery of the second bauxite figurine from the BBB Motor site (11-Ms-595). This second figurine has been labelled the Keller Figurine (Fig. 1) (See front cover). Those persons not yet familiar with the FAI-270 Archaeological Mitigation Project in Illinois can refer back to Hakiel’s article since it contains the basic details about the project area and the potential for the research involved.

Since the initial 1978 season, the FAI-270 Project has removed approximately 500,000 square meters (123.6 acres) of plowzone from more than 50 archaeological sites in the highway alignment and adjacent uplands where borrow pits are located. These sites represent a time span from 3,000 BC to AD 1500. Most previous work on the American Bottom in Monroe, St. Clair, and Madison Counties, Illinois has concentrated on the Late Woodland-Mississippian sites and on the well
Johannessen has now completed a preliminary analysis of representative samples from various time periods and has noted a few trends for the time from Late Archaic through Mississippian. One of the trends involves a shift in the most frequently appearing wood types over time from dominants of the bottomland zones (elm and ash) to dominants of the upland forest (hickory and oak). Another trend is an apparent decrease through time in the number of wood and nut taxa present. The amount of floral material thus far recovered by water flotation procedures developed by FAI-270 Project staff and under the direction of Michael Morelock, is staggering. Ethnobotanists will probably be busy for years assessing the nature of these remains and informing us about the exploitation of the local environment by prehistoric peoples living in the American Bottom. Of importance to some of us is the fact that this data has been properly preserved and can now be studied in the laboratories, and will not be destroyed by the bulldozers active in the ongoing highway building.

In his report, Hakiel referred to the Keller figurine which was found at one of the project sites. The base portion of the Keller figurine was found in a prehistoric pit, about 12 meters from the location of the Birger figurine which was shown on the cover of the Ohio Archaeologist. At that time the Keller figurine consisted of a base portion and an arm fragment that did not attach to the base. When the excavations were terminated in the late Fall of 1979 due to weather conditions, the Project had recovered a nearly complete Birger figurine and the base/arm fragment of the Keller figurine. Debates continued as to what they represented and whether or not these may have been pipes. Since the Birger figurine occurred in its own small pit with no other associations, it was important for archaeological interpretations to find the Keller figurine in a nearby pit in direct association with pottery and with a variety of carbonized botanical remains for identification. A 14C sample of carbonized wood from the pit fill containing the base of the Keller figurine yielded a date of AD 1205 ± 75 (ISGS-637). The pit also contained one large rim sherd of a type known in the American Bottom as Ramey Incised (Figure 2). The design consisted of inverse nested triangles and hachured lines on the shoulder. This pottery type is consistent with the date obtained and with data obtained from other recorded sites in the American Bottom for this time period.

The botanical materials associated with the base of the Keller figurine are interesting because they include such items as wood from six (6) tree species and the remains of a large number of edible plants. This assemblage of botanical remains attracted the attention of the Project Ethnobotanist because it was so unusual to have this much diversity in one pit. Of the wood species present, cedar is of special significance in view of our knowledge of Southeastern symbolism where cedar is seen as ritually pure (sacred wood) and is burned only in ritual situations. The edible plants included two varieties of corn, hazel nuts, walnuts, hickory nuts, wild beans, and sunflower seeds as well as chenopods, Polygonums, Phalaris, and other weed seeds.

The Spring work of 1980 began at the BBB Motor site by continuing to excavate the prehistoric features that were defined in the sub-plowzone a short distance from the pit containing the base of the Keller figurine. Approximately 3 meters away from that pit was a small shallow basin structure that had been constructed with single posts. At this time the botanical remains from the structure have been identified and the preliminary analysis again suggests a large number of wood taxa being present. Located along one wall of the structure was a prehistoric pit that had been redug at least 3 or 4 times, as if used repeatedly for some specific purpose. The torso of the Keller figurine came from the last fill of this pit, with the earlier fills containing shell tempered ceramics that fall into the previous age assignment of AD 1200. Included are a Ramey Incised vessel (Figure 3), a lobed vessel probably representing a pumpkin, and a small beaker locally referred to as a Tippets Beanpot. Even the ceramics suggest a strong association with the products of an agricultural society, with some researchers noting that the Ramey Incised designs may represent rain and rainbows.

The torso of the Keller figurine was fitted to the base found in 1979, and the arm fragment found with the base also fit the break on the
left side of the torso. Similar to the Birger figurine, the Keller figurine represents a kneeling figure engaged in some activity with an object in front. In the case of the Keller figurine we also now have the left arm fragment showing a straightened arm to meet the clear representation of the left hand resting on the “pillow” like object, first thought to represent the top of a basket. Others have suggested that the “pillow” top of the basket is a cloud and the rectangular basket-like looking object is actually a way of portraying rain. Speculation of this sort is now more meaningful since we have the good fortune to have recorded in perfect context most of the rest of the Keller figurine. The debate over these being pipes also seems to be resolved since the torso shows a long straight hairdo, created by many fine incised lines, with no trace of any feature that might suggest a pipe (Figure 4).

Of more interest on the Keller figurine is the right shoulder, where the right arm projects outward in a slightly raised position as compared to the left arm, which slopes at the correct angle to meet the depicted hand. On this other side of the “pillow”, instead of the right hand being depicted, we find a large broken area as if the right hand had held an object intended to perform some activity on or with the “pillow”. This situation might be compared to the Birger figurine where the right arm holds a hoe and she is “scratching” the back of the serpent. Also similar is the left hand resting on the serpent, and in the case of the Keller figurine, resting on the “pillow”.

Archaeologists will now be able to spend long hours speculating about the prehistoric meaning of these figurines and attempting to make comparisons to other such finds recorded in archaeological contexts as well as in ethnographic documentation. The FAI-270 Project has also recovered other bauxite pieces, including an ear-spool, from other sites in the American Bottom. The dating of these other fragments also appears to be ca. AD 1200 based on the associated ceramics. If agricultural symbolism is the basic feature of this complex of associated data, one might begin to reflect on current debates regarding climatic change in the Midwest around AD 1200 that may have drastically affected our prehistoric cultures. Those searching for the causes of the demise of Cahokia might now have yet another small bit of data to add to the growing belief that a trigger such as climatic change can cause drastic cultural changes in the Midcontinent USA.

The FAI-270 Project at its inception maintained that large scale and total excavation of all prehistoric features within the highway alignment was a must for research purposes. This strategy was the only one we felt would be acceptable for recovering what remains of our archaeological data base in the heavily metropolitan American Bottom area. Critics of this approach in the archaeological profession have preferred to project a “scientific” image via discussions and excavation strategies involving sampling. Some individuals working in the American Bottom remove one-half of the prehistoric pit fill, profile the pit, and leave the other half to be devoured by the bulldozer.

In defense of our FAI-270 excavation strategy we can note the following facts in the case of the bauxite figurines. When the Site Director, Thomas E. Emerson, requested permission to expand the excavation to the east edge of the BBB Motor site within the right of way, his rationale was based on the “look of the slight rise” to the east rather than any suggestive surface debris. Repeated walking of that area revealed only a light scatter of chert flakes and no real evidence for the materials below the plowzone. When he removed the plowzone from that area with a paddlewheel earth scraper, the Birger figurine was found, along with traces of pits and structures nearby. Many archaeologists currently practicing today under the “cultural resource management” banner (contract) would never have located this important find utilizing their excavation strategies.

The removal of one-half of the contents of a prehistoric pit can easily be seen as a sample that also conserves time, hence funds. When Field Technician Charles Witty was following the FAI-270 procedure for excavating a pit, he had first removed one-half of the pit to study and record the various fills in the pit, as well as mapping the profile. It was while removing the second half of the pit that the torso for the Keller figurine was found. He was able to carefully record the fill zone in which it occurred. Archaeologists excavating only one-half of a prehistoric pit would have never recovered the torso, but left it to be lost through the activities of highway building. There are many other examples from the FAI-270 Project that will eventually be published in an effort to improve on our excavation strategies in archaeological contract situations.

References Cited
Hakiel, N. E.
Fig. 2 (Porter) Rim sherd of Ramey Incised pottery found in pit with basal portion of Keller figurine.

Fig. 3 (Porter) Ramey Incised vessel found near torso portion of Keller figurine.

Fig. 4 (Porter) Head and torso of Keller figurine. Note fine hairlines and no suggestion of pipe bowl.
A Bird Point Site
by Jim Miller, 4526 Woodland Ave.
Portsmouth, Ohio

The Bird Point site is in Pike County, Ohio, in the Scioto River bottoms. It is only about 1/2 acre in extent, as are most of the sites of this kind in southern Ohio, and is surrounded by sites of other periods.

I have spent a good deal of time on the site and have found 208 good bird points and 86 larger ones. Counting both whole and broken examples, I would estimate that 80% of the point total are bird points. These tiny projectiles are finely worked and are made almost exclusively of Flint Ridge material. The site has also produced 8 drills, 2 small axes, as well as fragments of tubular pipes of Fuert Hill pipestone. Thus far no pottery has been found although the soil is ashy and black and seems to be a village midden.

The Basinger Dovetail
by Paul Nusbaum
Pandora, Ohio

In May, 1977, Brent Basinger of RR 4, Findlay, Ohio, found the dovetail shown in Fig. 1 while plowing. The find was actually almost a subsurface find since only a portion of one notch protruded from the side of a dead furrow. Brent had been collecting artifacts for several years and was convinced before he got off the tractor for a closer look that this was probably going to be another broken point. Before he picked it up he noticed the fine workmanship around the notch area and he actually closed his eyes as he removed it from the soil. With eyes closed he felt the base and edges of the blade. The jubilation he felt when he found that this fine dovetail was unbroken needs no further explanation for the readers of this article.
Archaeological Conservancy Acquires Hopewell Mounds

by

Mark Michel, President
The Archaeological Conservancy
Santa Fe, New Mexico

When the first European settlers entered the Scioto Valley of southern Ohio nearly two centuries ago, they were startled by the large number of massive earthworks and mounds. Unable to relate them to Native Americans, they began a long series of "rational" explanations linking them with Celts, Welsh and Phoenicans. The truth of course is that they are all that remained of great civilizations that flourished in Ohio around the time of Christ. In time these civilizations became known as Hopewell and Adena after landowners in Ross County on which the most spectacular of these ancient sites rest.

Foremost of these sites in southern Ohio is the Hopewell Mound Group (Fig. 1). Farmed for 200 years, investigated by archaeologists, pot hunted, split by a road, a railroad and a high-voltage transmission line, the Hopewell site nonetheless remains essentially intact. Yet the biggest threat to this irreplaceable part of American history is only a short time away—urban development from a growing Ross County.

The Hopewell mound group consists of an earthen embankment more than 3 miles long enclosing about 130 acres. Within the embankment at least 29 burial mounds are located, including Mound 25, the largest burial mound in the United States. The Hopewell site mounds contain the greatest concentration of fine Hopewellian art objects ever discovered (Figs. 2-4). Objects made of mica from the Carolinas, copper from Lake Superior, pearls from Illinois, shells from the Gulf, grizzly bear teeth from the Great Plains, and obsidian from Yellowstone National Park are abundant. It is also believed that there are two habitation sites at Hopewell which could someday help unravel many of the mysteries of this great civilization. N'omi Greber of the Cleveland Museum of Natural History has recently conducted ground radar tests at Hopewell, and Mark Seeman of Kent State University has made ground surveys of the complex and the surrounding area. Both confirm the richness of the site.

Like many Hopewellian sites, the Hopewell complex is constructed in a geometric pattern. There is a large rectangle and a small square. The small square is identical to the square earthwork at Mound City Group National Monument, and a line bisecting the Hopewell mounds also bisects Mound City, 5 miles away. We may yet discover that Mound City was a kind of staging area for the major ceremonial events practiced at Hopewell.

But now the Hopewell Mound Group is close to being permanently preserved for future generations to study and enjoy. The Archaeological Conservancy, a non-profit organization founded in the fall of 1979 by concerned preservationists and archaeologists, is purchasing the property to permanently preserve it. If all the necessary funds can be raised, the Hopewell site will soon be in public ownership, forever preserved.

The Archaeological Conservancy is a new, national preservation organization based in Santa Fe, New Mexico, that seeks to permanently preserve the most important prehistoric sites in the United States. The Conservancy seeks to acquire the land on which these sites rest, the only sure way of preserving sites on privately-owned land. Only through ownership can the ravages of urban development, land leveling, and organized looting be held back, and these priceless remains of former civilizations preserved.

The Conservancy has been working closely with the Ohio Historical Society to preserve the most important remaining sites in Ohio. A priority list was developed and over the next several years, the Conservancy hopes to acquire most of these sites. Hopewell, of course, was first on the list. Working with the dean of Ross County archaeology, Alva McGraw, the Conservancy was able to reach an agreement to purchase 107 acres of the Hopewell Mound Group. The former owners, Mrs. Marjorie Johnson and Richard Johnson, Jr., were anxious to see the site preserved and were willing to make a substantial contribution against the total purchase price.

The George Gund Foundation of Cleveland and the Ohio Historic Preservation Office have put up money for the Conservancy to purchase the Hopewell site. Over the next two years, the Conservancy will be seeking to raise about $100,000 to pay off the balance. It is hoped that most of this amount can be obtained in Ohio.

Meanwhile the Conservancy continues to work its way through its list of priority projects
in Ohio. Some of them may be purchased, others donated by concerned owners wanting to permanently preserve sites they have long privately protected. Unfortunately, there is little left of the great mound-builder sites in Ohio, thus, those that remain are of critical importance. When the Smithsonian Institution surveyed the Ohio and Mississippi Valleys in the 1840’s there were an estimated 20,000 mound sites. Today, only about 200 remain. For those not already protected in some manner, the threat of destruction remains high. Urban sprawl continues and modern agricultural practices such as land leveling take their toll each year.

The Conservancy does not intend to hold on to the sites it acquires but rather to turn them over to a local university, museum, or governmental agency for permanent curation. Other projects in the eastern United States include Powers Fort, a Mississippian temple complex in Missouri, and Savage Cave, a Palaeo-Indian site in Kentucky that Dr. Louis S. B. Leakey believed to be one of the earliest human sites in the United States. Many more are in various stages of negotiation.

To assist in its work, the Conservancy, like its model organization, the Nature Conservancy, hopes to organize volunteer chapters in these states. Within the next year it hopes to have a strong chapter in Ohio as well as an eastern field office staffed by a specialist in acquisition. The Conservancy would be delighted to have contributions for the preservation of the Hopewell site and other Ohio projects. Contributions are fully tax-deductible. Ohioans wishing to help organize and participate should contact The Archaeological Conservancy, 415 Orchard Drive, Santa Fe, New Mexico 87501; (505) 982-3278.

![Fig. 1 (Michel) Squier and Davis (1848) map of Hopewell, then known as the North Fork Works.](image-url)
Fig. 2 (Michel) Obsidian blade, Mound 25, Hopewell Group.

Fig. 3 (Michel) Mica claw, Mound 25, Hopewell Group.

Fig. 4 (Michel) Double-headed duck/goose effigy pipe, Mound 17, Hopewell Group.
A Mesoamerican Artifact in Ohio
by Charles C. Kolb
Department of Anthropology
The Behrend College of The Pennsylvania State University
Erie, Pennsylvania 16563

The artifact recently reported by Blickensderfer (1980:20) and thought to be "a double-bowl pipe made of hard grey igneous material" with an assumed provenience from the American Southwest is an object known to archaeologists who work in the Basin of Mexico. It is neither a pipe or is it manufactured from igneous material. The specimen is one of numerous types and varieties of ceramic portable incense burners called candeleros ("candlesticks" or "candle holders"), a term which is a misnomer since wax or tallow candles were not associated with its use during the Prehispanic era.

These incense burners were apparently used in both social ceremonies and religious rituals in which a resin from trees of the genus Burcera called copal (copalli in Aztec Nahuatl) was inserted into the two chambers and ignited with a spark, thereby producing a voluminous gray smoke. Burcera trees are found in tropical lowland areas of Mexico, especially the northern Yucatan Peninsula and the monte bajo (foothills) of the Pacific Lowlands of southwestern Mexico. Such artifacts were most likely used by private individuals in ceremonies, since large ornate censers (incensarios) were employed by priesthoods in religious rituals in temples. Occasionally copal residue adhered to the bottoms of the chambers, although combustion would normally consume the resin resulting in a blackened chamber interior. The four smaller perforations, two on each side of a chamber, were designed as draft holes to facilitate combustion and the flow of smoke from the mouth of the chambers.

These portable incense burners were manufactured by artisans at the Classic Period urban center of Teotihuacán (B.C. 100-750 A.D.), the capital and commercial center of a pan-Mesoamerican pre-industrial state and empire. This archaeological site during the Classic Xolalpan Phase (ca. 450-650 A.D.) occupied at least 20.5 km² (2,050 ha.)—nine square miles—and had over 2,500 major structures and over 500 workshop areas (Kolb 1979:219-245, 367-368). The site, known to tourists as "The Pyramids," is located approximately thirty miles northeast of modern Mexico City in the Teotihuacan Valley, a portion of the Basin of Mexico. This Prehispanic metropolis had ceramic workshops in various locations, some of which are overlain by the modern Mexican pottery-making communities of San Martin and San Sebastian.

Candeleros were made of locally available clays, as discerned by petrographic and thin section analyses, most probably at the latter community. Such personal, portable incense burners were mass-produced probably for sale in the nearby major market (Gran Mercado) of the urban center, and are found on Classic Period Teotihuacan sites throughout the Basin of Mexico. My ceramic technological analyses and replication studies indicate that for the simpler forms a craftsman (or woman) could produce approximately forty candeleros per hour if the clay and aplastic was premixed, wedged, cured, and ready for use. The aplastic or temper included local river sand and sometimes vegetable fibers, especially cattail "fuzz" (from the cylindrical flower spike of members of the genus Typha). The combustion chambers were gouged either with the fingers or an implement, and the draft holes added with a perforator. The resulting clay flashing was often not removed from the chamber interior. Decorations, especially burnishing, polishing, and incising, were often added while the ceramic was in a "leather hard" condition. Firing temperatures of 800-900°C. are suggested on the basis of replication and sherd reﬁring experiments, so that the final product was well-fired and durable.

These artifacts have been reported in the archaeological literature for the Basin of Mexico since the late 1880s, and the "candlestick" misnomer was applied in these early days of Mexican archaeology (Peñafiel 1900:52). Studies of these incense burners are numerous (Seler 1915:496, Ceballos Novelo 1922:205-212, Linnè 1934:113-114, Sèjournè 1966:32-44, Kolb 1965). The many types and varieties include single, double and triple chambered types, and a wide variety of decorative techniques (incision, punctation, applique, zone burnishing, etc.), and effigy forms. Blickensderfer's specimen appears to be a relatively common type with matte surfaces and burnished lip, and is well-represented in collections at the Museo Nacional de Antropología, México; the American Museum of Natural History, New York City; and
the Department of Anthropology, The Pennsylvania State University, University Park, Pennsylvania. The specific type illustrated in Blickensderfer's report was made during the Early and Late Xolalpan Phases (450-550 and 550-650 A.D.) but probably not later since an inset septum between the combustion chambers is more characteristic of the subsequent Metepec Phase. The calcareous nature of the local soils often renders a gray cast to the "tan" paste, which is specifically "light reddish brown" (5YR 6/3), "pale brown" (10YR 6/3), "pinkish gray" (5YR 6/2, 7.5YR 6/2), or "light brownish gray" (10YR 6/2) on the Munsell color scale (Munsell 1954). Both color and hardness therefore give the ceramic an appearance of having been made from "igneous material." I know of no portable incense burners made of igneous or other lithic raw material.

The specimen is reputed to have been "brought back from the American Southwest many years ago." The Teotihuacán empire, expansive as it was, did not include the areas of northernmost present-day Mexico and the American Southwest; hence, the mechanisms whereby such an artifact was transported to the Southwest are conjectural. It is possible that sellers of artifacts in the Southwest may have obtained this incense burner at a Teotihuacán Valley or Basin of Mexico site and brought it to sell to tourists in the American Southwest. There is presently no incontrovertible evidence to suggest Teotihuacán contact with the Southwest, although some Post Classic Aztec contacts are known (ca. 1400-1520 A.D.). Readers should be aware that the clandestine removal of artifacts from Mexican sites is contrary to federal law and is met with severe penalties.

In summary, Blickensderfer's artifact, a personal, portable incense burner made of highly-fired ceramic was manufactured at Teotihuacán, Mexico ca. 450-650 A.D., and was neither a pipe or made of igneous material as speculated. Candelero fragments and complete specimens are frequently found on the surface and in the excavation of Classic Teotihuacán sites, and this type is among the two or three most common in the Basin of Mexico.


Peñañuelas, Antonio 1900 Teotihuacán: estudio histórico y arqueológico. Oficina Tipográfica de la Secretaría de Fomento, México, D.F.

Séjourné, Laurette 1966 Arqueologia de Teotihuacán: La cerámica. Fondo de Cultura Económica, México, D.F.

A Lake Erie Bifurcated Point From Miller’s Ridge

by Jonathan Bowen
Department of Archaeology
The Ohio Historical Society
Columbus, Ohio 43211

Miller’s Ridge is a sandy knoll which rises above the lacustrine clay soils of Riley Township in Sandusky County, Ohio. The field work which has been carried out at this locality since July 3, 1979, has been focused on the exploration of a Sandusky Tradition village which was occupied about A.D. 1500 (Bowen 1980; Otto and Bowen 1980). Appalachian Archaic, Early Woodland, and Euroamerican components are also present, however, The Appalachian Archaic component is represented by a single Lake Erie Bifurcated point (Converse 1970: 30) from the surface of the 4x4 meter unit R104, 172 m, which is near the highest point of the knoll.

The Lake Erie Bifurcated point from Miller’s Ridge (Fig. 1) is 30 mm. in length, 4 mm. in thickness, and weighs 2 grams. The material from which it was manufactured is Pipe Creek flint (Stothers and Rutter 1978: 13) which was from which it was manufactured is Pipe Creek flint (Stothers and Rutter 1978: 13) which could easily have been obtained 15 km. southeast of Miller’s Ridge. It is interesting to note that, in this area, Appalachian Archaic points older than about 6400 B.C. are usually made of Flint Ridge or Upper Mercer flint, while labor points of this tradition are mostly made from locally available materials. This is the case in the upper Green Creek area in eastern Seneca County (Bowen 1978) and several public and private collections from the Seneca-Sandusky County region support this observation.

The Lake Erie Bifurcated point was left on Miller’s Ridge by Appalachian Archaic peoples sometime around 6300 B.C. (Blank 1970: 275; Broyles 1971: 69). It was once believed that this area was on the northern frontier of the Appalachian Archaic Tradition (Bowen 1976: 10; Fitzhugh 1972: Fig. 2, a), but it is now known that this group also inhabited southwestern Ontario, where many of their points were manufactured from Ohio materials, such as Upper Mercer; it is suggested that population movements to Ontario from the south may well have passed through the Sandusky County area (William Fox 1980: personal communication). Forsyth (1975: 44) has suggested that Lake Lundy was suddenly drained about 10,000 B.C. when a new channel opened up at its eastern end, and that for the next several thousand years early Lake Erie was a relatively small body of water in what is now its eastern basin. This hypothesis would help explain the presence of three fluted and one unfluted point (Converse 1970: 4, 9) at the Libben site (33OT6) (Vietzen 1978: 225), which would have been dry ground after this time. At the time that the Lake Erie Bifurcated point was left at Miller’s Ridge by Appalachian Archaic people about 6300 B.C., only lake plains and rivers covered the area which is now the western basin of Lake Erie.

Acknowledgement

The author would like to thank Dr. Luther P. Miller for allowing the Department of Archaeology of the Ohio Historical Society to conduct field work on his property.

Blank, John Edward

Bowen, Jonathan


Broyles, Bettye J.

Converse, Robert N.
1970 Ohio flint types. The Archaeological Society of Ohio, Columbus.

Fitzhugh, William

Forsyth, Jane L.

Otto, Martha Potter, and Jonathan Bowen
1980 Surface oriented tactics at Miller’s Ridge: how to conduct an overall investigation of a Sandusky Tradition vil­ lage without moving massive amounts of dirt. Paper pre­ sented at the 88th Annual Meeting of The Ohio Acad­ emy of Science, The University of Toledo, Toledo.

Stothers, David M. and William Rutter

Vietzen, Raymond C.
1978 From the earth they came. White Horse Publishers, Elyria.

Fig. 1 (Bowen) Lake Erie Bifurcated point from Miller’s Ridge site, Sandusky, Ohio.
Spencer Ohio Blade Cache and an Unusual Drill
by John R. Heath
Box #82, Sullivan, Ohio 44880

The 25 blades pictured (Fig. 1) are part of cache of 36 plowed out in Spencer Twp., Medina Co., Ohio.

The site is an elevated ridge of sandy soil surrounding about two acres of low swampy land. Nearby flows a salt spring where early settlers boiled down water to make salt.

Being planting time, the farmer only allowed me time for a quick excavation below the plow zone. No more points were found, but a proper excavation will be done at a later date.

These blades are made of Upper Mercer flint. All are percussion flaked, and a few have pressure retouching along the edges. The largest blade measures 3½ in. long, 2½ in. wide, and ¾ in. thick.

The drill (Fig. 1) was a surface find from Penfield township, Lorain County, Ohio. It is made of Upper Mercer flint, and measures 2½ in. long, 1¼ in. wide at base, and ¾ in. thick.

In my limited experience, this is the only bifurcated drill I have seen. I would like to hear from other collectors with similar drills.
A group of outstanding colored Flint Ridge points from the collection of Steve Olenick, Navarre, Ohio.
I have collected Indian artifacts since I was a boy in 1940. In the accompanying photographs are some of the pieces in my collection, many of which I have found while surface hunting.

Fig. 1 (Spray) A dovetail of white Flint Ridge flint. It is 4½ inches long and was a personal find on our Knox County farm in the early 1940's.

Fig. 2 (Spray) A colorful dovetail of Flint Ridge flint. It is brown, white, blue and purple. It is 5 1/2 inches long and was found in Licking County in 1977.

Fig. 3 (Spray) A 3¼ inch fluted point of Indiana hornstone.

Figs. 4 and 5 (Spray) A frame of Archaic bevels and a group of several types of points. All are personal finds.
A few years ago one of the most interesting exhibits at the Cleveland Boat Show was the display of a small cannon found by a friend of mine, Paul Reynolds. Paul is an expert and professional skin diver who operates the Buckeye Diving School, 46 Warrensville Road, Bedford, Ohio. He is also interested in Lake Erie history and is an authority on sunken ships in that lake. This cannon was a personal find by Paul Reynolds not far from Cleveland with only its muzzle protruding above the bottom silt of Lake Erie.

The gun has English markings and according to the Smithsonian dates from the French and Indian War era—1754—or before. It weighs 163 pounds and fired grape shot, bar shot or a ¾ pound ball. This type gun was usually mounted on the gunwale and used to repel boarders. As may be seen in the photograph, the cannon is mounted on a swivel with a projecting stock at the rear by which the weapon was aimed. (Author's note: Underwater archaeology in Lake Erie is possibly one of the most neglected areas of this field).

Fig. 1 (Converse) English cannon from French and Indian war period, found in Lake Erie not far from Cleveland.
East Central Indiana-West Central Ohio
Flint Artifacts

by Doug Johnson
Latonia, Ky.

Pictured below are several artifacts that I have found while surface hunting the past few years.

Fig. 1 (Johnson)
A— The dark stripe emitting from the bifurcation and the numerous serrations make this an interesting piece/Preble Co., Ohio.
B— The base of this paleo point is carefully ground, but there is no trace of fluting/Logan Co. Ohio.
C— This broken point tip of black flint apparently fractured because of the weakness caused by a distinctive fossil imprint/Mercer Co., Ohio
D— A 4 1/4" diagonal notched point/Delaware Co., Indiana
E— A birdpoint of rose colored flint/Logan Co., Ohio
F— This 4” Hopewell blade displays exceptional craftsmanship and is probably the finest piece in my collection/Randolph Co., Indiana
G— A crudely chipped Adena point/Logan Co., Ohio
H— A small, Ashtabula point of typical gray flint/Mercer Co., Ohio
From Our Old Files
by Robert N. Converse, Editor

The Editorship of our Society has passed through a number of capable hands since it came into existence forty years ago. Among the material passed on to me by the late Ed W. Atkinson of Columbus were the photographs shown here. With these interesting photographs there was only a copy of a letter to a Mr. Deal of Canton, Ohio, requesting more information on the silver crosses—apparently no reply was given and these photographs have lain in our back files for at least eighteen years. If any of our members have any data on these intriguing pieces your Editor would welcome it.

Fig. 1 (Converse) Obverse and reverse of eight silver crosses from the Historic period.
An Outstanding Adena Artifact from Putnam County, Ohio
by Lloyd Harnishfeger and Paul Nusbaum, Pandora, Ohio

Paul Nusbaum has been a surface hunter and collector of Indian artifacts for the past ten years. The son of a farmer, he has been provided with the opportunity of finding several artifacts from the seat of a tractor just as many rural collectors have done for years. The majority of Paul’s collection, however, has been found while surface hunting sites throughout Putnam County. There have been many times when Paul’s parents would have preferred to see him working on the farm rather than wandering the ridges and river bottoms. When Paul had the good fortune of finding the fine spear shown in the illustration, from the seat of a tractor on May 21, 1980, his mother’s comment was—“Listen to your mother, just stay on the tractor”.

On Wednesday evening May 21st, I was working down spring plowed ground in preparation for corn planting and as always I was almost unconsciously scanning the ground below the diesel tractor for artifacts. The field I was working in, which is located in Riley Township along Riley Creek, had produced few artifacts with the exception of some small broken Archaic points made of local chert. As I made a turn in a corner of the field I noticed an object which looked a lot like a piece of flint. The field was full of broken pieces of cornstalks and I decided not to stop the tractor since I was pulling a field cultivator and two spike tooth harrows. I didn’t want to stop all that equipment to look at a cornstalk or a piece of plastic deposited in the field after a spring flood. As many rural collectors do, I occasionally stop the tractor to check out a prospective looking object and sometimes I do pick up an artifact. At this time however, I opted to pass over what I had seen and continued on with the tractor and the three implements I was pulling. But after making a wide turn for another pass across the field I decided for some reason to stop and take a closer look at whatever I had seen. To my dismay I could not relocate it as I walked over the area I had just tilled. Broken cornstalks were everywhere and I couldn’t find what I thought I had seen—but I knew I had passed over something which was not a cornstalk or a piece of plastic. I moved the freshly tilled soil with my boot and on the second pass I unearthed the large Adena spear shown in Fig. 1. I became weak and sank to my knees in disbelief when I thought how I had just driven over it and actually reburied it. Only a small corner of the spear had been showing when I saw it from the tractor. After saying a brief but verbal prayer, I stepped the distance off to the nearest fence row in order to mark the spot permanently in my mind. Several minutes passed before I was mentally prepared to climb back on the tractor to finish the field. As I closed the cab and pushed the throttle forward, a series of extremely loud and exhilarating screams muffled the sound of the tractor engine.

Fig. 1 (Harnishfeger, Nusbaum) This fine Adena spear was found May 21, 1980 by Paul Nusbaum of Pandora, Ohio. It is made of blue-gray-white Flint Ridge chalcedony. It is six inches long and three inches wide. The somewhat expanded stem and slightly barbed shoulders are characteristic of later type Adena flint work and this spear probably represent the transitional period between Adena and Hopewell.
Pictured are four outstanding alate stemmed pipes from the collection of Raymond C. Vietzen of Elyria, Ohio. Probably the rarest of all pipe forms to be found in Ohio, it is doubtful whether there are more than two dozen unbroken examples in the state. Their distribution seems to be oriented to the Ohio River area of southern Ohio which may be a reflection of southern ancestry or influence. The glossy black steatite from which they are invariably fashioned originates in the Virginia-Carolina area which is also an indication of their possible origin. The top specimen was found in 1880 in association with three skeletons in a rock shelter at Kettle Hill south of Lancaster, Ohio. Also accompanying these burials were an elbow pipe and two bone tubes. The second pipe comes from the same area and is 5¼ inches long with a 1½ inch wide stem. The third example was found near Apple Grove, Ohio, on the great bend of the Ohio River in Meigs County. It was washed out of the banks of the river during the 1913 flood.

The largest pipe has an engraved stem, as does the first example. It was found 15 miles north of Ironton, Ohio, many years ago by a Mr. Dattin.

Our thanks to Col. Raymond Vietzen for sharing part of his outstanding collection and to Steve Fuller for the fine color photography.
Artistic Achievement In A Rare Pipe Form
by D. R. Gehlbach
3435 Sciotangy Drive
Columbus, Ohio

Pictured in color is one of the rarities of the Hopewellian platform pipe family. Reddish-brown fossilized material impregnated into cream colored limestone produces a very pleasing visual effect. The pre-columbian's taste in choosing the proper material and then "working down" the artifact to highlight the beautiful symmetry of the blending pigments are marks of a skilled specialist. This adds credence to the theory that these individuals and their industry were selected segments of primitive communities some 2000 years ago.

Indicative of the early Hopewell monitor form found at the famous Tremper site in southern Ohio, this pipe was discovered in Greene County, Ohio in 1888. This locus produced a number of Hopewell ceremonial mounds and exotic artifacts which were exploited in the late nineteenth century.

The pipe bears evidence of considerable use and one side of the bowl is encrusted with a heavy organic deposit. Evidently, its original power valued both the utility and aesthetic qualities of his possession. This writer would appreciate hearing of any similar examples in the midwestern Hopewellian heartland.
Surface Hunting in Indiana
by H. B. Campbell
7846 Clarendon Rd., Indianapolis, Indiana

Several years of surface hunting in south central Indiana has shown that evidence of early man can be found in almost every square mile. An isolated point or a few chips or flakes may be found, but the key to successful searching is to hunt in an area where man would have been likely to live, hunt or travel. It is in these places that concentrations of artifacts are likely to occur.

My two friends and I have found such a place and for two years we have been surface hunting on a farm a few miles north of Spencer, Indiana. The site is a plowed field on the first elevation of land adjacent to a bend in the White River. Artifacts are distributed for several hundred yards on a sandy ridge which is about twenty feet higher than the river floodplain.

The types of artifacts which are found at any site are evidence of the kind of activity in that particular area and the kind of people who lived there. Our findings indicate we have found a hunting site. There are many chips and flakes, points, and a few scrapers. We have found only one celt and one gorget in two years. We have not found any charcoal, burned stones, axes, hammerstones, or pot sherds—such things that might indicate a village site.

Prehistoric man used this site for thousands of years. The points we found range from early Archaic to the Mississippian period (Fig. 1). They are made from a number of varieties of flint and chert, most of which is not found locally, indicating travel or trade with distant places.

Fig. 1 (Campbell) A variety of point types from Archaic to Mississippian from a site near Spencer, Indiana. (Editor’s note) Large point on left is a late Archaic type found in considerable numbers in western Ohio.
Some Outstanding Slate Artifacts From The Walls Collection
by Jan Sorgenfrei, Pandora, Ohio

Mr. Gilbert Walls of Gomer, Allen County, Ohio, has been a long time collector of Indian artifacts. In the accompanying photograph are some pieces out of his fine collection amassed over a lifetime. Nearly all of the Walls collection is from northwestern Ohio and includes exceptional examples of the great variety of slate types found in that area. Shown is a notched ovate and several types of Glacial Kame gorgets. Also included are three bird-stones, boat stones, knobbled and spineback gorgets, bannerstones and pipes.

Fig. 1 (Sorgenfrei) Examples of a variety of slate types found in northwestern Ohio from the Gilbert Walls collection. Photograph courtesy Painter Creek Auction Service.
The previous four reports on the Hunt site (Grubb and Allen 1979a-c; 1980) described the location, flint, ceramic, lithic, pipe, and bone artifacts recovered by members of the Sugarcreek Valley Chapter of the Archaeological Society of Ohio. This fifth and final report describes the radiocarbon dates, midden and pit deposits, burials, and grave goods from the site. Using all of these findings and reports describing similar hilltop sites in southeastern Ohio, such as Brokaw (Pickenpaugh 1974), Brown’s Hilltop site (Brown 1976), Bedway and Mattie Stewart (Whitman 1975), as well as reports from contemporary regional sites, Philo II and Richards (Carskadden and Morton 1977), Blain village (Pruefer and Shane 1970), Graham village (McKenzie 1967), Incinerator (Heilman 1974), Riker (Vietzen 1974), and Drew (Buker 1970), the authors conclude with their interpretation of the history of this site in prehistoric times.

Radiocarbon Dates

Two charcoal samples from a single refuse pit were radiocarbon dated 1545 ± 15 and 1565 ± 15 (J-N 1959, 1960). However, these dates are not considered realistic since artifacts recovered from the same pit indicated a much earlier time. While contamination of a sample is always a possible cause for inaccuracies, in recent years the reliability of radiocarbon dates has been questioned by some experts (Ogden et al. 1977); in fact, one of them has facetiously called such dates “rubber band” dates since they can be stretched so greatly. In the absence of a creditable date for the Hunt site, it appears plausible to compare its location and artifacts with those of the nearby and contemporary sites previously mentioned with their C-14 dates which are considered reliable indicators for the Late Woodland periods (A.D. 1200-1300).

While the period from A.D. 900 to 1300 is generally considered to mark the transition from grit to shell tempering in Ohio, this time-temper relationship appears to depend to some extent on the site location as shown in Table I. Thus when shell tempering frequency at the eastern and western sites is compared, shell tempering at the eastern sites is much more frequent in a given time period. Therefore the high frequency of grit tempering at the Hunt site appears anomalous unless the sampling procedure at the various sites has been so inequitable that valid comparisons are untenable. Finally it should be mentioned that shell and grit tempered sherds were recovered from the same level of a previously undisturbed refuse pit indicating that they had been discarded at the same time and therefore used contemporaneously. Alternate explanations for the high incidence of grit use might be its greater availability, or that during a transitional period the younger pot makers had begun to experiment with shell tempering.

Burials

The location of the 48 burials uncovered (43 adults, 3 subadults and 2 infants) was shown in Figure 1 of the first Hunt site report (Grubb and Allen 1979a) and suggests three or possibly four distinct clusters. While other causes might explain this distribution, it is most likely that each cluster represents a different time of occupation by the same or different groups of Indians. The Hunt burials (91%) were interred in a flexed position (Fig. 1), were seldom accompanied by grave goods and included a double burial (Fig. 2)—three traits characteristic of the Monongahela culture. A satisfactory study of all the burials could not be made since the previous excavators had left 35 open pits in the south field, 18-20 of which were probably burials. In addition, dirt piles from the coal stripping had exposed fragments of human bones indicating the destruction of still more uncounted burials. Previous plowing and bulldozing by farmers had also destroyed additional inhumations indicated by the bone debris in the plow zone.

Since the Sugarcreek Valley excavators were not trained or experienced osteologists and thus were not competent to perform and report an accurate study of the skeletal material, six complete burials including one infant were sent to Tuscarawas Branch of the Kent State University for further study and only a resume of the burial data is reported here. The death of more males (67%) than females (33%) is the normal finding in primitive societies where males are more exposed to the hazards of hunting and warfare. For these and possibly additional reasons the life span of males was also much shorter than that of females. The only evidence of a violent death
was the finding of a triangular point in the rib cage of one of the burials.

**Grave Goods**
A shell bead necklace (Fig. 3), described in Part IV (Grubb and Allen 1980), was found with one infant burial. Six marginella beads accompanied one burial and single bone beads were found with each of three others. Turkey bone awls were identified in two burials and triangular points were recovered in several others. One burial contained a turtle shell spoon and a drilled antler tip.

**Midden Deposits**
Midden deposits mixed with soil in the south field were covered by a yellow clay soil. Midden was also found under the plow zone up to 18 inches deep in some places. The uncultivated wooded area contained a midden sheet 3 to 4 inches deep. In the north field topsoil up to 10 inches deep was found with a subsoil shale deposit containing sporadically deposited midden 2 to 12 inches deep. Midden deposits throughout the site contained discarded debris such as potsherds and several fine artifacts.

**Refuse Pits**
Of the 111 pits located at the site, approximately 15 had been excavated by the previous group. With the exception of one oval pit, all were round with slightly rounded bottoms and ranged from 30 to 36 inches in diameter. The depths ranged from 30 to 36 inches with a few reaching 40 to 42 inches. Eight pairs of intersecting pits were uncovered in the north field which may indicate an intrusion of a later pit into one which had been dug and overgrown so that subsequent dwellers did not know that it was there. The pit contents varied with many being filled with charcoal, ashes, sherds, flint chips, bird and animal bones or burned and fire-cracked rocks (Fig. 4). One pit contained a cache of mussell shells with a granitic hammerstone. No corn residues were identified in any of the pits suggesting that none was used for food storage which in turn might be explained by the supposition that the Hunt site Indians planted their crops in the spring on river terraces, then moved to the cooler hilltops in the summer.

**Interpretation**
Most of the archaeological evidence cited in this and the preceding reports leads to the conclusion that the earliest occupants of the Hunt site were small numbers of hunters who camped briefly beside a game trail, later to become a well-trodden path. Next came hunting parties searching for game for the winter months as well as parties traveling to and from flint quarries. Many of the artifacts indicate that traders from the nearby sites passed through the area. As the Indian population increased, whole tribes traveling up and down the Ohio River may have trod the path as they migrated eastward or westward. There is much evidence that the site was occupied mostly during the summer when the women made pottery and the men hunted or fished; in the winter, refuge may have been sought in the Hunt hollow. During the more extended occupations there were many deaths and the bodies were buried with little ceremony and no elaborate grave offerings. Thus during the Late Woodland period the Indians, now designated as members of the Monongahela and Ft. Ancient cultures, must have lived a very peaceful existence here with plenty of food and water. While no stockades appeared necessary for defense, there was at least one indication of warfare—the single skeleton with a triangular point within its rib cage. Finally, the absence of any European trade items provides almost positive proof that the white man never set foot on this small area whose history has now been uncovered and recorded for posterity.

The authors extend their thanks to the members of the Sugarcreek Valley chapter who contributed to this series of articles and to the field operators of Consol who moved their operation northward from the site thus affording an additional 6 months for the salvage efforts.

### Table I: Location and percentage of shell tempered shards reported from various Ohio Woodland sites.

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Date Range</th>
<th>Shell Temper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philo II</td>
<td>East</td>
<td>A.D. 1230-1260</td>
<td>99.8%</td>
</tr>
<tr>
<td>Drew</td>
<td>East</td>
<td>A.D. 1110</td>
<td>99.0%</td>
</tr>
<tr>
<td>Richards</td>
<td>East</td>
<td>A.D. 1260-1290</td>
<td>99.19%</td>
</tr>
<tr>
<td>Riker</td>
<td>East</td>
<td>A.D. 1440</td>
<td>90.0%</td>
</tr>
<tr>
<td>Brokaw</td>
<td>East</td>
<td>A.D. 1590</td>
<td>99.2%</td>
</tr>
<tr>
<td>Graham Village</td>
<td>West</td>
<td>A.D. 1210</td>
<td>2.7%</td>
</tr>
<tr>
<td>Blain</td>
<td>West</td>
<td>A.D. 970-1225</td>
<td>3.3%</td>
</tr>
<tr>
<td>Incinerator</td>
<td>West</td>
<td>A.D. 1150</td>
<td>2.5%</td>
</tr>
<tr>
<td>Mattie Stewart</td>
<td>East</td>
<td>Undated</td>
<td>55.0%</td>
</tr>
<tr>
<td>Hunt</td>
<td>East</td>
<td>A.D. 1250</td>
<td>56.0%</td>
</tr>
</tbody>
</table>


Fig. 1 (Grubb and Allen) Typical flexed burial of the Hunt site.

Fig. 2 (Grubb and Allen) A double burial (back-to-back) characteristic of the Monongahela culture.

Fig. 3 (Grubb and Allen) A shell bead necklace with an infant burial.

Fig. 4 (Grubb and Allen) Pit containing refuse and fire-cracked rocks.
Intrusive Mound Type Pipes From The
Col. Raymond Vietzen Collection

by Robert N. Converse
Plain City, Ohio

Very little is known about the Intrusive Mound culture of Ohio. However, one type of pipe has been found in burial association on rare occasions. In the accompanying color photograph is a group of pipes similar to those of the Intrusive Mound people. All are from the remarkable collection of Raymond Vietzen of Elyria, Ohio.

Characteristically, these pipes have a platform which is thin and flat and never curved. A longitudinal ridge to accommodate the stem drilling runs from the bit to the bowl on the upper surface of the platform. The bowl is not normally centered on the platform and is usually placed somewhat forward away from the bit end. Quite often the bowl is set at a slight angle sloping away from the smoker. A ridge usually encircles the upper rim of the bowl although not all specimens are thus decorated. Typically this class of pipes includes some remarkably thin and carefully crafted examples of prehistoric pipe design. Materials are variable although a number of them are made of black steatite with Ohio pipestone and polished limestone not uncommon.

It should be emphasized that not all types of this design are considered as originating with Intrusive Mound. Pipes with corresponding characteristics are found over a broad area of the eastern United States from the upper Great Lakes to the Carolinas (which incidentally may be the source for the black steatite found in Ohio specimens). In time they are post-Hopewellian and may be considered refined descendants of Hopewell platform pipes.
Part of the Copeland Collection
by Jan Sorgenfrei, Pandora, Ohio

The late Stanley Copeland of Columbus, Ohio, had one of the most remarkable collections of Indian artifacts in the state. Included in his collection was nearly every type of flint and slate artifact native to Ohio. After his death in the early 1970's his collection was not entirely dispersed and some of the remaining pieces are shown in the accompanying picture.

Fig. 1 (Sorgenfrei) Slate artifacts from the Copeland collection. Notched bannerstone top center is one of the finest of its kind. The pipe varieties and the double crescent, lower right, are also exceptional examples.
The Brokaw site (33BL6), located 12 miles west of Wheeling, West Virginia, and 2 miles west-southwest of St. Clairsville, Ohio (Belmont County), has Middle and Late Woodland cultural affiliations. Limited excavations on the site by the junior author from 1972 to 1978 have produced great quantities of cultural remains which suggest that the site was perhaps extensively and intensively occupied by Monongahela-Fort Ancient Peoples. This Late Woodland archaeological assemblage and two radiocarbon assays (DIC 391 and 392) indicate that the site was inhabited between A.D. 1200 and 1600. The Middle Woodland evidence suggests that the site was also occupied after 100 B.C. but before A.D. 450.

The analyzed maize is associated with the Monongahela-Fort Ancient occupation. It is from three field samples (F.S. 75, F.S. 76, and F.S. 81; Table 1) from the 14.25 to 15.25 inch (35.2-38.7 cm) level of a hearth in excavation unit K-8, S.E. quadrant. Both large and small cob fragments are included; all are charred. Four of the items in the samples are sections of maize cobs which had not fragmented into separate alicoles (cupule/spikelet-pair sets), allowing a count of row numbers and study of interalicole relationships. The rest are single or paired alicoles. Other materials found in the samples include six pieces of what seem to be hickory (Carya sp.) nut shells and a variety of very small unidentified pieces of charred material.

The cob fragments, weakened by charring and later deterioration, were first stabilized with glue (1 part Duco cement or ethyl acetate in 4 parts acetone) and then cleaned if needed. Three of the cob sections arrived imbedded in dirt; first attempts at loosening the dirt also loosened the alicoles of the cobs. Once the glue solution had been applied to these sections and had dried, the dirt was easily removed without disturbing the cob structure.

Measurements were made under a dissecting microscope using calipers accurate to 0.1 mm. The percent of shrinkage for charred material of this type may be about 25%, estimated by Hugh Culter and Leonard Blake of the Missouri Botanical Garden (personal communication). This shrinkage is not accounted for in the tables. The measurements have been chosen from the several score described by many investigators (Wellhausen et. al. 1952; Grobman et. al. 1961; Bird 1970, 1978, 1979; Bird and Bird n.d.). Representative specimens from numerous sites in South America have been measured by the set of characters presented for the cob sections (Tables 2-4). Separated alicoles can sometimes be measured nine ways (Tables 3-4), and cupules alone can be measured eight ways (Table 4).

Table 2 contains data for eight measurements chosen as the most useful in comparisons to published data while also representing overall patterns of maize variation (Bird 1970). Even badly eroded and broken cobs can be compared using these dimensions since they are rachis and cupule traits. When the glumes and rachillae remain unbroken and attached to the alicoles, another nine very useful measurements are possible (Table 3). These have proven basic to describing influences of teosinte on maize. Table 4 contains data from 20 cupules, including those of the four cob fragments and 16 alicoles of Table 3.

Another 15 cob measurements are part of a survey of the variation in maize, an attempt to see how a wide range of cob traits varies across archaeological maize types and modern races. Though taken on the four cob fragments, they are not published here. The charred kernels are too few and incomplete to be worth more than a mention. The one in F.S. 75, bag b, measures 5.4 x 8.8 x 4.6 mm. (length, width, thickness). Those in F.S. 75, cob packet, measure 6.8 x 9.1 x 5.8 mm. and 7.4 x 5.9 x 3.7 mm. None of these, especially the last, is very representative because of fragmentation.

Discussion

The Brokaw site maize belongs to the Northern Flint complex of races (Brown and Anderson 1947)—the Eastern Eight Row "race" of Cutler and Blake (1976; n.d.). Where comparisons are possible, few of the data fall outside the range known for that complex in

---

1Cupules are depressions in the cob rachis (central core) closely associated with each pair of spikelets. A spikelet is the kernel and the associated chaff (glumes, etc.) and small stem attached to the rachis. Alicoles (pairs of spikelets and the associated cupules) are building blocks of the cob, slightly separated from each other by softer rachis tissue.
the pertinent time and area. However, most Northern Flint plotted on the diagram in Cutler and Agogino (1960) have wider cupules. Comparison with tables presented by Cutler and Blake (1976; n.d.) demonstrated that the Northern Flints vary considerably, with broader cupules (over 9.0 mm) in historic times, at many, but not all, sites in the Northeast and the northern Plains states. The maize which Galinat (1970) calls Maíz de Ocho from the Blain site (Fort Ancient Tradition in Ohio) seems by appearance to be the same as the Brokaw site maize, although he presents no comparable data. Six out of sixteen few-rowed cobs (6-10 rows) reported by Galinat et al. (1970) for the Southwest have cupule widths overlapping those reported here, in the 6.4 to 10.0 mm range. Three of the six also overlap in alicole length (roughly equivalent to internode length of Galinat et al. (1970). As expected this relatively low level of overlap indicates that the Brokaw site maize is not closely related to the Southwest sample.

The variation between cobs, alicoles, and cupules is probably due to a combination of effects—the range of races or subraces deposited, position of alicole and cupule on the ear (Galinat 1970), position of the ear on the plant, and varying growing conditions. There has not been enough study of these sources of variation to say whether all the variation in the Brokaw site maize falls within the range expected in the Fort Ancient Northern Flints for these effects, but it seems reasonable that this may be the case. More detailed comparisons will be possible when more data from other samples are available.

Bird, R. McK.

Galinat, W. C.

Brown, W. L. and E. Anderson

Cutler, H. C. and G. A. Agogino
1960 Analysis of maize from the Four Bear site and two other Arikara locations in South Dakota. Southwest Journal of Anthropology 16: 312-316.

Cutler, H. C. and L. W. Blake

Wellhausen, E. J., L. M. Roberts and E. Hernandez X. with P. C. Mangelsdorf
1952 Races of maize in Mexico. Bussey Inst. of Harvard University, Cambridge, MA.
Table 1. A catalog of the Brokaw site maize samples and a count of their components.

<table>
<thead>
<tr>
<th>Identification</th>
<th>Cot</th>
<th>Other elements</th>
<th>RPS</th>
<th>Other</th>
<th>History</th>
<th>Consort</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.S. 75 (L15K° dep)</td>
<td>Bag 1</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>m</td>
</tr>
<tr>
<td>Causal packet</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>cob 1</td>
</tr>
<tr>
<td>F.S. 76 (L5° dep)</td>
<td>Bag 1</td>
<td>1</td>
<td>4</td>
<td>21</td>
<td>1 (11)</td>
<td>0</td>
<td>cob 4</td>
</tr>
<tr>
<td>Causal packet</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>cob 2</td>
</tr>
<tr>
<td>F.S. 81 (C24–34K° dep)</td>
<td>Bag and causal packet</td>
<td>0</td>
<td>0</td>
<td>2*</td>
<td>0</td>
<td>0</td>
<td>cob 3</td>
</tr>
</tbody>
</table>

* M, multi material remains in matrix.

** One of the two fragments fits into the cob section.

Table 2. Measurements of maize cob fragments from the Brokaw site. This is a set of characters applied to materials from many sites especially in South America. For easier comparison to the data from these sites, cupule data from Table 6 are repeated. FSHG L, fragment length; LON GLUM DIAM, lower glume diameter; RACH DIAM, diameter of the rachis or cob less shaft; RACH WING, external width of the cupule across the cob; LEN EXT, external length along cob axis; DEP WING, amount of lateral extension of the cupule, called wing or flap; RACH SEG LEN, the length along the cob from glume to glume, usually three at base. All dimensions are in millimeters. Parentheses indicate the item is broken or eroded where the measurement is taken.

<table>
<thead>
<tr>
<th>Identification</th>
<th>FSHG</th>
<th>LON</th>
<th>RACH</th>
<th>GLUM</th>
<th>DIAM</th>
<th>RACH WING</th>
<th>DEP WING</th>
<th>RACH SEG LEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.S. 75 cob</td>
<td>Cob 1</td>
<td>(32.0)</td>
<td>-</td>
<td>-</td>
<td>(8.9)</td>
<td>7.8 ca 1.8</td>
<td>1.7</td>
<td>3.6</td>
</tr>
<tr>
<td>F.S. 76 bag</td>
<td>Cob 4</td>
<td>(11.2)</td>
<td>(11.2)</td>
<td>9.4</td>
<td>6.6</td>
<td>7.3</td>
<td>1.7</td>
<td>3.1</td>
</tr>
<tr>
<td>F.S. 76 cob</td>
<td>Cob 2</td>
<td>(19.6)</td>
<td>(12.9)</td>
<td>9.3</td>
<td>8.4</td>
<td>6.4</td>
<td>1.8</td>
<td>3.6</td>
</tr>
<tr>
<td>F.S. 81 bag and cob packet</td>
<td>Cob 3</td>
<td>(23.0)</td>
<td>(15.6)</td>
<td>11.7</td>
<td>8.0</td>
<td>8.0</td>
<td>1.8</td>
<td>3.7</td>
</tr>
</tbody>
</table>

* Only one of four allicoles runs present.

Table 3. Measurements of allicoles from the Brokaw site: glume cushion height, lower glume length, thickness and angle, sessile spikelet thickness, reduced length, thickness and angle, allicole length. These may be taken on less fractured specimens and are defined in Bird (1970) except the fifth which is the dimension along the cob of the thickest of the two spikelets where it joins the cob rachis. Parentheses indicate the item is broken or eroded for that dimension. All are in millimeters or degrees.

<table>
<thead>
<tr>
<th>Identification</th>
<th>CUSH</th>
<th>GLUM</th>
<th>LON</th>
<th>SESS</th>
<th>RLLA</th>
<th>RLLA</th>
<th>ALIC</th>
<th>ALIC</th>
<th>11C</th>
<th>ca</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.S. 75 bag a</td>
<td>Alic 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(2.1)</td>
</tr>
<tr>
<td>Alic 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(2.4)</td>
</tr>
<tr>
<td>Alic 3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(2.7)</td>
</tr>
<tr>
<td>Alic 4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Alic 5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(3.6)</td>
</tr>
<tr>
<td>F.S. 75 bag b</td>
<td>Alic 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(3.1)</td>
</tr>
<tr>
<td>Alic 2</td>
<td>ca 1.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(4.4)</td>
</tr>
<tr>
<td>Alic 3</td>
<td>-</td>
<td>0.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(4.6)</td>
</tr>
<tr>
<td>F.S. 75 cob packet</td>
<td>Cob 1</td>
<td>ca 1.9</td>
<td>-</td>
<td>ca 55</td>
<td>1.8</td>
<td>ca 1.6</td>
<td>ca 0.7</td>
<td>ca 20</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Alic 1</td>
<td>1.4</td>
<td>0.6</td>
<td>2.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Alic 2</td>
<td>1.7</td>
<td>3.4</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Alic 3</td>
<td>ca 0.8</td>
<td>0.6</td>
<td>-</td>
<td>1.5</td>
<td>-</td>
<td>ca 0.6</td>
<td>-</td>
<td>-</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Alic 4</td>
<td>0.8</td>
<td>2.0</td>
<td>0.6</td>
<td>1.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.9</td>
<td></td>
</tr>
<tr>
<td>F.S. 76 bag</td>
<td>Cob 1</td>
<td>ca 0.8</td>
<td>(2.6)</td>
<td>ca 60</td>
<td>2.6</td>
<td>ca 24 ca 0.9</td>
<td>ca 60</td>
<td>3.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 1</td>
<td>0.07</td>
<td>0.6</td>
<td>-</td>
<td>2.4</td>
<td>-</td>
<td>0.6</td>
<td>-</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 2</td>
<td>1.22</td>
<td>0.8</td>
<td>-</td>
<td>2.1</td>
<td>0.6</td>
<td>-</td>
<td>3.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 3</td>
<td>1.1</td>
<td>0.5</td>
<td>-</td>
<td>2.6</td>
<td>-</td>
<td>0.8</td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 4</td>
<td>1.4</td>
<td>0.5</td>
<td>60</td>
<td>2.2</td>
<td>1.0</td>
<td>-</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.S. 76 cob packet</td>
<td>Cob 2</td>
<td>1.2</td>
<td>2.6</td>
<td>0.6</td>
<td>ca 60</td>
<td>2.0</td>
<td>ca 24 ca 0.9</td>
<td>ca 60</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>F.S. 81 bag and cob packet</td>
<td>Cob 3</td>
<td>1.6</td>
<td>3.1</td>
<td>0.6</td>
<td>ca 55</td>
<td>1.9</td>
<td>ca 1.7</td>
<td>ca 0.6</td>
<td>ca 80</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Table 4. Measurements of cupules from the Brokaw site. In addition to the abbreviations of Table 2, WID INT, internal width excluding the two cupule wings; LEN INT, length from the pedicellate spikelet base to the inside of the cupule lips; THIC, the radial distance from a line across the cupule to the edge of the rachis pits; DP, depth from the base line to the bottom of the cupule depression; WING HT, amount of rise of the cupule wing from the rachis; All dimensions are in millimeters. Parentheses indicate the item is broken or eroded where the measurement is taken.

<table>
<thead>
<tr>
<th>Identification</th>
<th>CUSH</th>
<th>CUP</th>
<th>CUP</th>
<th>CUP</th>
<th>CUP</th>
<th>CUP</th>
<th>CUP</th>
<th>WID INT</th>
<th>WID INT</th>
<th>WID INT</th>
<th>WING</th>
<th>WING</th>
<th>WING</th>
<th>WING</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.S. 75 bag a</td>
<td>Alic 1</td>
<td>(9.1)</td>
<td>5.5</td>
<td>1.9</td>
<td>0.7</td>
<td>3.4</td>
<td>1.3</td>
<td>ca 2.0</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 2</td>
<td>(9.1)</td>
<td>4.0</td>
<td>1.3</td>
<td>1.3</td>
<td>0.8</td>
<td>3.1</td>
<td>2.0</td>
<td>ca 2.0</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 3</td>
<td>9.4</td>
<td>5.1</td>
<td>1.4</td>
<td>1.3</td>
<td>1.3</td>
<td>1.1</td>
<td>2.2</td>
<td>1.6</td>
<td>1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 4</td>
<td>10.2</td>
<td>5.4</td>
<td>1.8</td>
<td>1.8</td>
<td>1.8</td>
<td>1.8</td>
<td>2.1</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 5</td>
<td>9.7</td>
<td>5.5</td>
<td>1.5</td>
<td>1.7</td>
<td>1.7</td>
<td>1.5</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.S. 75 bag b</td>
<td>Alic 1</td>
<td>8.7</td>
<td>4.6</td>
<td>2.2</td>
<td>1.3</td>
<td>2.1</td>
<td>1.9</td>
<td>1.9</td>
<td>1.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 2</td>
<td>2.5</td>
<td>4.5</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>2.0</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 3</td>
<td>7.4</td>
<td>4.5</td>
<td>1.7</td>
<td>ca 1.4</td>
<td>2.4</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.S. 75 cob packet</td>
<td>Cob 1</td>
<td>7.0</td>
<td>ca 5.0</td>
<td>ca 1.5</td>
<td>ca 1.9</td>
<td>ca 2.0</td>
<td>ca 0.9</td>
<td>ca 1.8</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 1</td>
<td>(5.0)</td>
<td>5.5</td>
<td>1.7</td>
<td>0.9</td>
<td>2.4</td>
<td>1.0</td>
<td>ca 1.8</td>
<td>(1.1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 2</td>
<td>9.6</td>
<td>4.6</td>
<td>1.8</td>
<td>1.3</td>
<td>3.4</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 3</td>
<td>8.6</td>
<td>3.5</td>
<td>2.3</td>
<td>1.9</td>
<td>2.6</td>
<td>0.8</td>
<td>1.6</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 4</td>
<td>6.6</td>
<td>3.3</td>
<td>2.2</td>
<td>1.3</td>
<td>2.2</td>
<td>0.9</td>
<td>1.7</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.S. 76 bag</td>
<td>Cob 1</td>
<td>7.3</td>
<td>3.6</td>
<td>1.8</td>
<td>1.7</td>
<td>2.8</td>
<td>1.0</td>
<td>1.7</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 1</td>
<td>7.6</td>
<td>3.5</td>
<td>1.7</td>
<td>1.2</td>
<td>2.8</td>
<td>1.1</td>
<td>1.9</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 2</td>
<td>6.3</td>
<td>3.4</td>
<td>1.7</td>
<td>1.4</td>
<td>2.6</td>
<td>0.9</td>
<td>1.6</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 3</td>
<td>5.6</td>
<td>4.1</td>
<td>1.6</td>
<td>1.1</td>
<td>2.4</td>
<td>1.5</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alic 4</td>
<td>7.9</td>
<td>4.0</td>
<td>2.1</td>
<td>1.4</td>
<td>2.8</td>
<td>1.1</td>
<td>1.9</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.S. 76 cob packet</td>
<td>Cob 1</td>
<td>6.4</td>
<td>2.9</td>
<td>1.4</td>
<td>0.9</td>
<td>2.2</td>
<td>1.4</td>
<td>1.1</td>
<td>1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.S. 81 bag and cob packet</td>
<td>Cob 3</td>
<td>8.0</td>
<td>4.4</td>
<td>1.8</td>
<td>1.3</td>
<td>3.0</td>
<td>1.0</td>
<td>1.7</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
An Engraved Slate Artifact
by Mr. and Mrs. Royal Nickler, Jr.
6366 Monnett. Galion, Ohio

This highly engraved slate piece was found while surface hunting in Crawford County, Ohio, in May of this year. Like many engraved pieces, it appears to have been made from a broken pendant or gorget. This particular piece, however, may have been broken more than once since the incised lines go past the broken edges in several places.

The principal engraving is shown on the obverse (Fig. 1) and is a spiderweb-like design with a non-symmetric outline in its center. All of this is surrounded by a border which follows the original contours of the artifact from which it was salvaged. The reverse is also engraved with a less intricate pattern consisting of a border which is not as carefully engraved as the opposite side. In addition to the engraving are four tiny tally marks at one corner of the original end. The dimensions are 2½ by 1½ by ¼ inch.

Fig. 1 (Nickler) Obverse of engraved slate pieces from Crawford County, Ohio.
Fig. 2 (Nickler) Reverse side of slate pieces. Note tally marks at one corner.
Ohio Banner Axe
by Gale V. Highsmith
2825 S. Burrell St., Milwaukee, Wisconsin

This artifact was found in Ross County, Ohio. Its length is 8\%\textfrac{1}{4} inches and it weighs about 2\%\textfrac{1}{4} pounds. The material is a fine, nearly microscopic, grained igneous rock that appears to be andesite. It's color is cream and deep olive drab with heavy rusty iron incrustations over most of the cream surface. There are numerous small phenocrysts of white, tan, brown, black, ruby, garnet, and three hues of green. Near the upper right there is an 8mm x 15mm oval black speckled conglomerate phenocryst and a 25mm spherical multi-green conglomerate at the center of the right edge (Fig. 1).

At the center of the left edge (Fig. 2) is a 10mm hemispherical vug. The two corners adjacent to the vug have been rounded to a distance of \%\textfrac{1}{4} inch above and below the vug, and the opposite corners to a distance of 1\%\textfrac{1}{2} inches above and below indicating that this natural cavity was used as a centering device for a haft.

The artifact was completely ground after pecking so that only traces of pecking remain over the central half of the two flat sides. One half inch long striations on the cutting edges suggest considerable usage.

I obtained this unusual piece on October 23, 1965, from the estate of the late Dr. Edgar G. Bruder of Milwaukee. It was one of his most prized artifacts.

I attach the word banner by virtue of the beauty and symmetry. I would appreciate hearing from anyone with an axe/banner of this type.

---

Fig. 1 (Highsmith) Front view of Ross County axe/banner.

Fig. 2 (Highsmith) Side view showing worked vug or natural cavity.
The Libben Site, Ottawa County, Ohio
Part IV: External Cultural Relationships and
Relationships to Historic Tribes and Linguistic Groups

by William F. Romain
Department of Sociology and Anthropology
Kent State University, Kent, Ohio 44242

Abstract
As discussed in earlier articles (Romain 1979a&b; 1980a), the Libben Site is a single-component, early Late Woodland site in northwestern Ohio. This article, the last in a series, examines the cultural relationship between Libben and various sites in southeastern Michigan and southwestern Ontario.

Additionally, evidence for trade with southernly adjacent cultures is presented and an ethnic or linguistic affiliation for the Libben population is suggested.

External Cultural Relationships
Various biocultural patterns observed at Libben effectively relate the site to several early Late Woodland, southeastern Michigan sites including Younge (Greenman 1937), Riviere au Vase (Fitting 1965), Butler (Fitting and Zurel 1976:233-234) and certain southwestern Ontario sites (Fox 1976).

With reference to Late Woodland, southeastern Michigan sites, Fitting (1965:130-131) notes the following common biocultural patterns:

. . . collared and castellated ceramics with predominantly oblique or chevroned motifs; horizontal motifs are also common. There are a number of methods of executing these designs. The projectile points are predominantly triangular types . . . sites are comparatively large with large mortuary areas suggesting a sedentary or semisedentary population with an agricultural base. There is a tendency toward multiple burials with such mortuary specializations as clay packed into the skull and skulls with disks removed.

Commensurate with Fitting’s observations, the following biocultural patterns describe the primary Libben component and demonstrate its cultural affinity with relevant southeastern Michigan and southwestern Ontario site components:

1) Of observed and analyzed Libben pottery rims (N=592), 37.6% are collared and 22.6% have castellations (Fossett 1975). Exterior rim decorative motifs consist almost exclusively of parallel obliques. Several rim decorative techniques were utilized, however, the most predominant technique is dentate-stamping.

2) Of the 195 recovered and identified projectile points, at least 40% may be classified as either Concave-base or Straight-base Triangular types (Tallan 1977).

3) The Libben Site certainly includes a large mortuary area (approximately 1,500 recovered individuals) and as discussed elsewhere (Romain 1979b:42-43), the primal population appears to have been quite sedentary. However, in lieu of an agricultural economic base, subsistence seems to have been primarily dependent upon aquatic or riverine resources.

4) Multiple interments including double and mass burials were relatively frequent at Libben (Romain 1980a:53-55) and mortuary specializations including altered long-bones and drilled and trephinated crania were also observed.

Additional similarities between Libben and various Late Woodland, southeastern Michigan-southwestern Ontario sites include: burials in an extended position; evidence for stockade-type perimeter enclosures; and a high incidence of stylistically similar ceremonial or ornamental artifacts including elbow pipes and bone and shell beads and pendants.

Given the foregoing, it is suggested that the primary Libben occupation may be classified as the representative component of the Libben Phase (Prufert and Shane 1976:299) of the Western Lake Erie Basin Tradition (see Stothers 1978:11-17 for a discussion of the temporal and spatial extent of the Western Lake Erie Basin Tradition). Notably, the Western Lake Erie Basin Tradition includes what was formerly identified as the Younge Tradition.

Evidence for Trade
Substantial evidence indicates cultural contact between the Libben inhabitants and presently undetermined Mississippian Tradi-
tion cultures to the south. Specifically, such evidence includes recovery from the site of several Chesser-notched projectile points and large quantities of Marginella and Columella shell beads and ornaments. Accounting for similar artifacts at the nearby Eiden Site, McKenzie, et. al. (1973:82) suggest that northern furs may have been traded to intermediary, southerly adjacent cultures in return for Gulf Coast products.

**Relationship to Historic Tribes and Linguistic Groups**

As McKenzie, et. al. (1973:85) note:

... the Younge Tradition did not last up to European contact, and we can make no direct connection to any known tribal or linguistic group. However, they further argue (McKenzie, et. al. 1973:85) that:

... there is some evidence that the Younge Tradition represents ancestral central Algonkin peoples. Alternatively, Greenman (1937) foreshadowed the position more recently expressed by Fitting and Zurel (1976:249), i.e.:

... the Younge Tradition is a developmental Iroquoian Tradition...

And, based upon extensive excavation and comparative research in the area, Stothers (1978:28) argues that:

... the Western Basin Tradition... is ethnically and linguistically Iroquoian.

Although the issue is still controversial, it is becoming increasingly clear that the preponderance of evidence as well as opinion supports the position that the Western Lake Erie Basin Tradition represents an antecedent or developmental Iroquoian manifestation. If this is in fact the case, then the most likely ethnic and linguistic identity of the primary Libben component (which is clearly associated with the Western Lake Erie Basin Tradition) is that of proto-Iroquoian. The following observations tend to further substantiate this conclusion:

1) Willey (1966:310) notes that "A unique feature of the Iroquoian vessel collar is that it was rectangulated or castellated". Concordantly, 22.6% of all observed Libben pottery rims exhibit castellations (Fossett 1975).

2) The importance placed upon the manufacture of elbow pipes as an Iroquoian diagnostic feature has been noted by Fitting and Zurel (1976:248) and Willey (1966:310). Notably, a relatively large number of complete elbow pipes and pipe fragments were recovered from Libben (Mortan 1971); and they are stylistically identical to those recovered from sites definitely identified as Iroquoian.

3) According to Fitting and Zurel (1976:248), "Elaborate variations on the ossuary burial form, with all types of post-mortem mutilation..." are also diagnostic of Iroquoian culture. Significantly, extensive post-mortem cranial and postcranial alterations are manifested by the Libben skeletal population (Romain 1980b).

**Summary**

There seems little doubt that Libben is culturally associated with various sites (formally identified as Younge Tradition) in southwestern Michigan and southwestern Ontario. Accordingly, the Libben Phase of the Western Lake Erie Basin Tradition may represent a southwestern expansion of proto-Iroquoian peoples into the areas of Michigan and southwestern Ohio, from southwestern Ontario possibly as early as 700 A.D. In support of this idea, Wilkinson (1971:99) with reference to Younge Tradition sites proposes that: "a major source of genetic influence is seen as coming into the Michigan area from the northeast".

Obviously though, more research is necessary to substantiate this theory.

**REFERENCES**

Fitting, James E.

Fitting, James E. and Richard L. Zurel

Fossett, Ruthanne

Fox, William A.

Greenman, Emerson F.

McKenzie, D. H., John Blank, James Murphy, and Chris C. Shane III
1973 The Eiden Site: Terminal Late Woodland on the South-Central Lake Erie Shore. Lorain County Metropolitan Park District, Elyria.

Morgan, Nancy C.

Pruffer, Olaf H. and Chris C. Shane III

Romain, William F.


Stafford, David M.

Willey, Gordon R.

Wilkinson, Richard G.
Flint Artifacts From Southern Indiana
by David Stemle, 15 University Woods Dr., New Albany, Indiana.

In the accompanying pictures are artifacts found while surface hunting in Harrison County, Indiana.

Fig. 1 (Stemle) A 4½ inch turkey tail point made from gray Indiana hornstone. It was found in two pieces in a single clod of dirt.

Fig. 2 (Stemle) A turkey tail of dark blue Indiana hornstone.

Fig. 3 (Stemle) An Archaic side notched point. It is 3 inches long and made of a beautiful brown chert unusual for the site on which it was found.

Fig. 4 (Stemle) An Adena point of Indiana hornstone 3 inches long.

Fig. 5 (Stemle) A Hopewell point made from blue gray Harrison County flint. Found by Linda Stemle.
An Unusual Dental Wear Pattern In A Late Archaic Individual

by

Ralph W. Alexander, Jr.

Department of Sociology and Anthropology
Miami University
Oxford, Ohio 45056

The specimen described in this report is catalog number PA-3-1 of the collection of prehistoric human skeletal materials housed in the Laboratory of Physical Anthropology, Department of Sociology and Anthropology, Miami University. The adult male skeleton was recovered in 1978 from the south central area of Site 12, Ohio County, Indiana. This site has previously been reported on in a preliminary manner by Black (1934) and Sanders (1978), and on the basis of associated artifacts the skeletal specimen (burial number 4 from the site) has been tentatively assigned to the Late Archaic time period. Radio-carbon dating of the site is being conducted at the present time under funding provided by an Undergraduate Research Grant from Miami University to Mr. Allen Sanders, under the supervision of this author. The specimen was recovered from approximately two to three feet below the present ground surface in a flexed position. Associated artifacts included a McWhinney heavy stemmed projectile point, a fragment of a banded slate prismoidal atlatl weight, and a small splinter bone awl.

The dental arches of the specimen are complete and intact, with the complete permanent dentition present. The alveolar bone is well preserved, with only slight resorption of the alveolar margins due to periodontal disease. Slight calculus deposits are present, and there is a slight amount of post-mortem erosion of the alveolar bone at the tooth roots of non-pathological origin. All teeth are heavily worn, with attrition having proceeded to the point where only the neck and root area of the teeth remain, the crowns having been entirely worn away with the exception of the second and third molars in both the maxilla and the mandible where portions of the crowns remained intact (Fig. 5, 6). The unusual nature of the pattern of dental wear in this specimen does not derive from the amount of wear present in the dentition as a whole, as extreme wear such as this is common in prehistoric North American skeletal samples (Dahlberg, 1963). Neither is the unequal wear pattern on the premolar and molar teeth resulting in a sloping or oblique occlusal surface particularly unique. Such unequal wear on individual teeth, in cases where attrition has proceeded to the point of loss of the majority of the crown of the tooth, is also fairly common, and erratic wear patterns on individual teeth may occur for a variety of causes when wear is extreme (Anderson, 1965; Brothwell, 1972).

The unusual aspect of the pattern of dental wear in this specimen involves the overall contours of the wear around the entire dental arcade. Since the teeth function more frequently as a unit rather than individually, changing wear patterns on adjacent teeth and the overall contours of the worn dental arches may provide useful information, including the possible use of the teeth as tools. For example, if some type of tough fibrous material is frequently pulled between two teeth, the wear patterns eventually resulting would produce wear planes that would angle toward each other or produce a tell-tale groove worked into the tooth row (Molnar, 1971). In specimen PA-3-1, when viewed from the front of the dentition, the overall wear pattern exhibits a smoothly undulating "roller coaster" effect, virtually symmetrical on both sides of both dental arcades (Fig. 1-4). In the maxillary dentition, the lateral incisors, canines, and first premolars are worn more heavily than the central incisors, and the first, second, and third molar teeth are worn to a much lesser extent. In the mandibular dentition, the reverse pattern is exhibited, with the central incisors heavily worn, less wear on the lateral incisors, canines, and first premolar teeth, and heavy wear on the molars, particularly the first and second. The second premolars are worn in an intermediate amount in all cases, and provide for the continuity in the smoothly curving line of occlusion which results. This "roller coaster" pattern does not occur in four other specimens from the site dating to the same approximate time period, although heavy wear on the second molars is found in other specimens from Site 12. No specific cause for this wear pattern is obvious or postulated at this time. Similar wear patterns have been occasionally noted by physical anthropologists familiar with skeletal materials from the Mid-
west, but no specific explanation has been offered (J. A. Gavan, E. C. Scott; personal communication). Obliquely worn surfaces of teeth, and dental arches in which different teeth may slope acutely in a different direction (found in the mandibular first and second molars in specimen PA-3-1) have been noted in six burials from the El Riego phase at Tehuacán in the Valley of Mexico by Anderson (1965), and attributed to pulling of sand-covered fibrous plant material obliquely through the teeth to strip off the fleshy edible parts in this plant collecting and small game hunting culture. No overall pattern is noted, however. Similar heavy and erratic wear has been reported from a collection of skeletal materials from a "Middle Horizon" (2,000-3,000 BP) California Central Valley site with an apparently similar subsistence pattern of game and wild plant foods (Molnar, 1971). Again no overall pattern such as found in the PA-3-1 specimen is reported.

The loss of the occlusal surface of the teeth or tooth wear is the result of a combination of several factors. Frictional wear from abrasive materials in food, individual chewing activities engaged in during life, and the use of the teeth as tools may all account for a large amount of tooth wear. Tooth wear relates to the culture of the population in terms of the diet, methods of food preparation, and any manipulatory functions for which the teeth are frequently used. Heavy tooth usage and a rapid rate of wear is associated with non-agricultural hunting and gathering groups utilizing a wide assortment of foods and relates to differences in the level of technology of the material culture of such groups as compared with increasingly urbanized agriculturalists (Davies and Pedersen, 1955; Brothwell, 1963; Greene et al, 1967). Studies of archaeological skeletal remains and the patterns of dental wear in conjunction with other archaeological materials can be expected to lead to a broader understanding of the technology and environmental conditions of the past, and a more accurate reconstruction of a prehistoric culture and its people.

ACKNOWLEDGEMENTS

The PA-3-1 specimen was skillfully excavated and donated to the Laboratory of Physical Anthropology, Miami University, by Mr. Allen J. Sanders. Funds for dating of Site 12, Ohio County Indiana were generously provided by Miami University through an undergraduate Research Grant. Cleaning, cataloguing and preparation of the specimens in this report was professionally done by Ms. Stephanie Burk.

REFERENCES

Anderson, J. E.

Black, G. A.

Brothwell, D. R.


Dahlberg, A. A.

Davies, T. G. H., and P. O. Pedersen

Greene, D. L., G. H. Ewing and G. J. Armelagos

Molnar, S.

Sanders, A. J.
Fraudulent Artifacts and Criminal Liability

by
William F. Romain
4304 Oak Park Avenue
Cleveland, Ohio

The recent proliferation of legitimate lithic experiments (Semenov 1964, Ellis 1965, Bordaz 1970, Crabtree 1972, Swanson 1975, et al) has unfortunately, also provided an excellent technical data base for the illicit manufacture of fraudulent artifacts. Such objects may be manufactured of flint, slate, granite, sandstone, steatite or other materials and are often manifested in the form of projectile points, axes, celts, birdstones, bannerstones, gorgets and pipes. Frequently, such items command prices of hundreds or even thousands of dollars from unwary collectors and detection of these objects is often difficult. Additionally, as the result of an increase in the number of persons who collect prehistoric artifacts and a generally heightened awareness of the financial value of such collectibles (Hothem 1978), it is expected that the incidence of frauds involving the manufacture and sale of fake artifacts will increase.

Fortunately though, specific provisions of the Ohio Revised Criminal Code prohibit the sale or manufacture of fraudulent antiquities or objects of rarity including those of archaeological interest. The Theft and Fraud chapter of the 1974 Ohio Revised Criminal Code, section 2913.32 entitled Criminal Simulation specifies in part:

(A) No person, with purpose to defraud, or knowing that he is facilitating a fraud, shall do any of the following:

1) Make or alter any object so that it appears to have value because of antiquity, rarity, curiosity, source, or authorship, which it does not in fact possess;

2) Utter, or possess with purpose to utter, any object which he knows to have been simulated as provided in division (A)(1) ... of this section.

(B) Whoever violates this section is guilty of criminal simulation, a felony of the fourth degree.

Regarding the definition of certain terms found within the above statute, ORC section 2901.22(A) establishes that:

A person acts purposely when it is his specific intention to cause a certain result ... and according to ORC section 2913.01(B); 'Defraud' means to knowingly obtain by deception, some benefit for oneself or another . . .

Additionally, ORC section 2913.01(H) states that:

'Utter' means to issue, publish, transfer, use, put or send into circulation, deliver, or display.

As already indicated, Criminal Simulation is a felony of the fourth degree and according to ORC section 2929.11(B)(4) and (C)(4), the penalties for a felony of the fourth degree are:

1) a minimum term of imprisonment for six months, one year, eighteen months or two years, and a maximum term of imprisonment for five years; and

2) a fine of up to two thousand five hundred dollars.

Given the foregoing, it should be evident that the criminal liability attendant to violation of the Criminal Simulation statute is a matter for serious concern. Particularly noteworthy is the provision that persons convicted of this crime be sentenced to a minimum of six months in prison. Hopefully, awareness of this liability may have the result of causing potential violators to reevaluate contemplated illegal activities.

REFERENCES

Bordaz, Jacques
Natural History Press, Garden City, N.Y.

Crabtree, Don E.
1972 An Introduction to Flintworking. Occa­sional Papers of the Idaho State University Museum, No. 28, Pocatello.

Ellis, H. Holmes
1965 Flint-working Techniques of the Ameri­can Indians: An Experimental Study. Ohio Historical Society, Columbus.

Hothem, Lar

Semenov, S.A.
1964 Prehistoric Technology.
Cory, Adams and Mackay, London.

Swanson, Earl (editor)
Book Review

HOPEWELL ARCHAEOLOGY: The Chillicothe Conference
edited by David S. Brose and N'omi Greber
336 pages, bibliography, illustrated, notes

The Indian mounds of the Ohio River Valley have long been one of the most striking and mysterious features of the area. From the time the first explorers wrote about them in the late seventeenth century, these giant earthworks have been the source of endless speculation and study. Indeed, American archaeology can be said to date from the time the first person dug into a mound to find what it contained.

The archaeologists are still digging, still speculating, still finding as many new questions as answers. In 1978 a major conference of archaeologists was held in Chillicothe, Ohio, at which the people most active in this area of research reported their newest findings and theories, discussed their different methods and hypotheses, argued their various interpretations. The papers from this conference, together with summaries of the discussions that accompanied them, are now published by The Kent State University Press in a fat volume entitled HOPEWELL ARCHAEOLOGY, edited by David S. Brose and N'omi Greber (April 30, clothbound $22.50, paperbound $12.50).

It has long been known that the Ohio mounds were not the work of the Indians in the region at the time the white man came. They were the work of an earlier, extinct culture. Subsequent scientific archaeology has revealed that not one but several cultures were involved with the mounds. The dominant one was the Hopewell culture which flourished between 200 B.C. and 500 A.D. It is on this culture that the conference concentrated, reporting on the latest news from burial mounds and camp sites, comparing notes on bone tools and pottery markings. And the more the archaeologists learn, the more questions arise, questions of cultural sequences, the extent of time and area of the Hopewell culture, its influence on such other cultures as the Adena. The work goes on in one of the most active areas of archaeological activity on the continent.

The thirty-four papers in HOPEWELL ARCHAEOLOGY are grouped into regional studies—ranging from Ontario to the southeast coast—introductory and background essays, topical studies, and ethnographic papers. The volume also includes an extensive bibliography of the existing literature on the Hopewells. Although written by and for professional archaeologists, the great general interest in the mound builders and the digs in the midwest should lead many interested amateurs to this book as well.

David S. Brose is the editor of the Mid-continental Journal of Archaeology and this book is published as a "Special Paper" of that journal, though also issued in a clothbound edition for library use. Dr. Brose is Curator and his co-editor, N'omi Greber, is Associate Curator of Archaeology at The Cleveland Museum of Natural History.

BACK COVER

Two slate sandal sole gorgets from the collection of William Tiell of Cleveland, Ohio. This gorget style, a documented Glacial Kame type, may be drilled with one, two, or three suspension holes. The gorget on the left is from St. Joseph County, Michigan, and is highly engraved. The three indentations may represent repaired damage—engraving is often present on damaged slate artifacts (see The Glacial Kame Indians—Converse, 1978). The gorget on the left is of green banded slate and was found in Medina County, Ohio. As is the case with many Glacial Kame gorgets, it shows a great deal of wear and exhibits fine workmanship. Photograph, courtesy of William Tiell.
OBJECT OF THE SOCIETY

The Archæological Society of Ohio is organized to discover and conserve archæological sites and material within the State of Ohio, to seek and promote a better understanding among students and non-professionals of archæological material and archæology itself, including individuals, institutions and institutions of learning, and to disseminate knowledge on the subject of archæology. Membership in this society shall be open to anyone of good character interested in archæology or the collecting of American Indian artifacts upon independence of wealth, affiliation and payment of dues.