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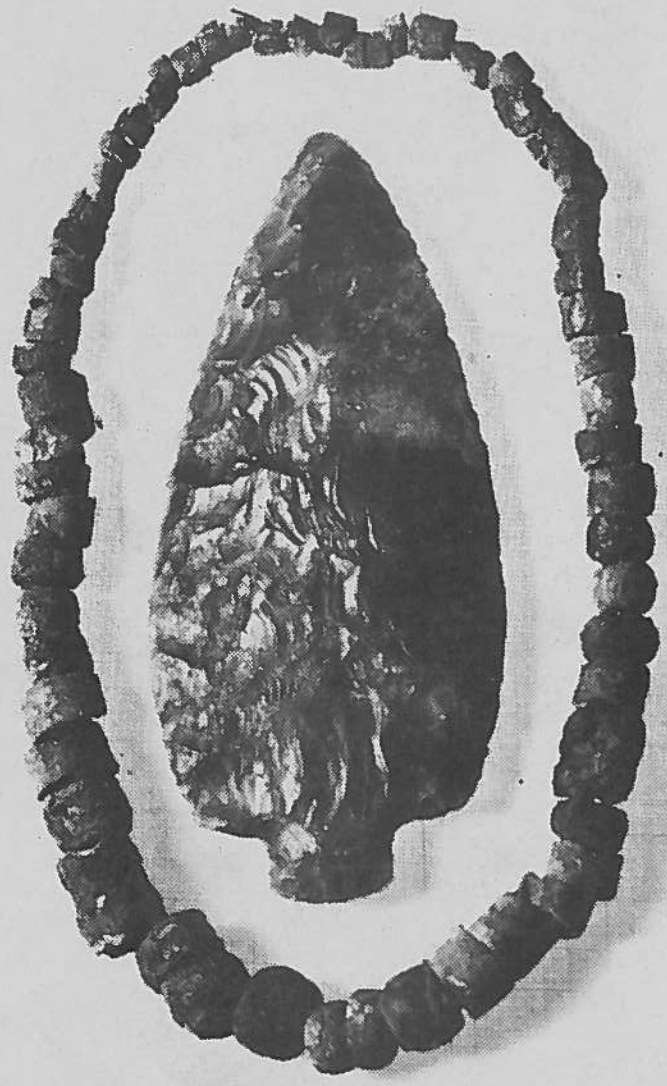
DELAWARE



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A GENERAL SURVEY OF THE ADENA CULTURE ON THE DELMARVA PENINSULA

by

Meril L. Dunn, Jr.

INTRODUCTION*

The purpose of this presentation is to provide a general reference source on the findings and excavations of Adena sites on the Delmarva Peninsula and related areas. This is believed to be the first of such a publication to date.

This paper is intended to present the following as general reference material:

1. Speculations as to the reason for and the date of the Adena migration.
2. Brief summaries of the major sites and their contributions to the general picture.

OUTLINE OF THE ADENA IN THE OHIO VALLEY

Between the approximate dates of 1000 B.C. and 200 A.D., a culture arose out of the archaic peoples of the Ohio Valley and developed into a complex civilization which would extend its influence, directly and indirectly, across the entire eastern portion of North America. The fascination that this "mound builder" culture has held for both the collector and the professional archeologist is due to its being the hub for the development of the many other high cultures of early Woodland times, the Copena, Middlesex, and the outstanding Hopewell.

For some time it was thought that the Adena were a civilization founded on cultures of early Meso-America. C. P. Snow pointed out the skull structure of the Adena as

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*In accepting this excellent article by one of the younger members of the Society, the Editorial Board wishes to emphasize that many matters treated in it have long been the subject of unsolved controversy.

The Hopewellians still seem to many to deserve credit now often given almost exclusively to Adena, and the Glacial Kame people may not have been given their proper position. The great natural resource of glacial copper in the Ohio River Valley must have had an effect important in many ways.

being similar to that of Peperpan Man, dated at 8000 B.C. This compounded with the many cultural trait similarities suggested the Meso-American link. However, it is important to observe that the principal burial trait similarities are to be found in late Adena sites, rather than what would be chronologically correct, Early Woodland. In studying the archaic cultures of this locale, it is found that many traits bear a stronger and more plausible relation to early Adena. In particular, the archaic peoples of the Baumer, Red Ocher, Glacial Kame and Old Copper cultures bear significant similarities. These four cultures contain strong similarities, in burial customs and also in cultural employments, to the traits of early Adena. Seven major traits are worthy of note: employment of red ocher in burials, cremations (though scarce in Red Ocher), animal masks, medicine bags, conical tubular pipes, grooved axes, and atlatls. The pottery associated with these cultures is scarce; however, what has been found is related to Adena and is known as "Fayette Thick" (particularly in Baumer complex). It has been suggested by Dragoo that the Adena were, in physical structure, similar to the Red Ocher peoples and in early stages of Adena development inhabiting the same regions.

Evidence of burial cults are to be found in cultures as early as the Mississippian period. Throughout late archaic times this "cult" practice expanded and it was in the growth of the Adena that it was extended and compounded with the dawn of actual permanent settlements and farming.

In Delaware, one is concerned with the stage of Adena known as "Robbins Complex". In the Ohio Valley at this time, the Adena practice of burial included elaborate sacred circles and the burial of the dead in a conical mound. Frequently, extended burials are to be found scattered in the mound fill. The tombs themselves were often placed over house sites. Dragoo presents an excellent description of a mound type in the diagrams and description of Burial 17 in the Wright Mound, Montgomery, Kentucky. In this excavation there was found a prepared clay floor covered with bark. There was an extensive use of grave goods and an elaborate log construction. It is hypothesized that this burial was one for a person of high rank. In these same burial mounds, there are often found extended burial cremations. The bodies were either cremated <u>in situ</u> or simply cremated elsewhere, then, redeposited. Bundle burials are also not uncommon. Both bones and artifacts are to be found extensively covered with red ocher.

The archeologist has been fortunate in that a great many Adena skeletal remains have been unearthed thus giving an excellent description of the Adena physical type. They have been recognized as "a large, round-headed, long faced, medium statured group with occasional tall members." The facial characteristics portray a thick skulled people, possessing a prominent forehead and chin with unusually prominent cheekbones (both laterally and forward). This is particularly in contrast to the small, long faced peoples of the Eastern shore. These people were of delicate wiry bone structure,

considerably different from the thick massive Adena stature.

Adena craftsmanship is well known for the variety and detail of materials. Adena blades are found to be made of such a variety of materials as Idaho obsidian to the more local flint ridge chalcedony, Arkansas novaculite and Wisconsin quartzite. The method used to construct these large blades is a combination of both pressure and percussion chipping. The Adena blade is well known for its quality. The pottery is generally thick and crude. The "Fayette Thick" type of early-middle Adena times is a coarse limestone tempered, flatbottomed vessel which was seldom decorated though interior and exterior markings by a cord wrapped paddle have been found. The later Adena pottery is thinner, still limestone tempered, rounded and, generally speaking, better made. In later Adena development, pottery is incised or stamped with diamond shaped decorations (Montgomery-incised and Paintsville-simple stamped). Precious few sherds of Adena pottery have been found in Maryland and Delaware due to the comparatively sanitary manner of Adena existence. Refuse was always removed from near the houses thus, particularly in Delaware, much material has undoubtedly been lost.

Beginning around 500 B.C. the Hopewell peoples began an increasing rate of growth and influence in the Ohio Valley. By 200 A.D. the absorption of the Adena peoples into this and other surrounding cultures had begun. Now the eastern migration of the Adena is to be analysed. Did the Adena disperse to the East as a military invasion at the height of Adena influence or did they come in flight to avoid absorption by the ever-growing Hopewellian culture? John Witthoft proposes they came as a result of the population explosion in the Ohio Valley at about the year 500 B.C. These dates and theories shall be analysed next.

THE ADENA IN DELAWARE

In establishing the reasons for Adena migration, it is observed that much of the decision as to why, hinges upon the dates received from the site reports. However, there have not been many opportunities to obtain dates and those dates which have been arrived at are somewhat questionable. Two dates have been reported for the Sandy Hill site at Cambridge, Maryland, one at 1400 B.C., the other at 400 - 750 A.D. This would give the Adena over a thousand years of habitation on the Eastern shore. This is a highly improbable situation. The first date may be discarded due to the fact that the material excavated is of later Adena type; the second date is almost too late for the Adena in the Ohio Valley. The dates to the West River Site, south of Annapolis, Maryland, fall at about 200 A.D. John Witthoft believes that this date is from contaminated material and thus cannot be relied upon. This is substantiated by the fact that all appearances indicate that the pit in which the dating material was found was left open. Thus the dirt and humus subsequently filled this pit from which the dated materials were obtained.

Thus the dating of the Adena cultures on the Eastern Shore must be obtained through observation of available material and speculation. The migration of the Adena could thus be interpreted according to the three major theories already stated. The theory of flight to avoid absorption would be substantiated by these late dates which are of some question. The large number of seemingly ceremonial blades (large exceptionally well worked blades) and copper armaments (the copper breastplate found at Frederica, Delaware) would seem to indicate a movement of religious leaders in order to protect their customs. Hence the people moved onward up the rivers (Susquehanna and Delaware) where they merged with the peoples of the Middlesex and Paint Peninsula cultures. However, this theory is of some doubt for the only Ohio materials found were found in the Long Sault Island Mounds along the St. Lawrence River. Had the Adena moved along the Delaware and Susquehanna Rivers, sites verifying this migration would have been found. Thus far none has been found. Further, evidence indicates that the Middlesex Complex is older than the Adena Settlements in Delaware. Thus it is probable that the Adena were absorbed by local peoples. Had they migrated to avoid absorption by a peoples whose culture was related to theirs, it is doubtful they would have allowed themselves to dissolve into a peoples of even more remote culture. As no other explanation can be substantiated as to the disappearance of the Adena culture from the Eastern Shore, it can be questioned that the eastern dispersal from the Ohio Valley is doubtful of the cause for the flight.

The theory of an invasion of conquest is also of some speculation. The Adena were not known as an imperialistic peoples. Their trade routes extended for hundreds of miles beyond the Ohio Valley in all directions and thus is the evidence of their dispersal in all directions. The Woodland peoples of these areas were also developing and it is highly doubtful that a primitive peoples with no known previous evidence of militarism would have extended themselves so far beyond their limits. The Adena peoples give evidence to being primarily concerned with their own internal affairs and religious customs.

The extension of the Adena peoples as a result of an Ohio Valley population explosion is a theory well worth consideration. This migration would be one of a peoples simply expanding much along the lines of trading and agriculture. These peoples do not seem to have retained rigidly the ancient customs of the burial cult, as at both Frederica and West River. The graves were left open and few traces of a mound have been observed at these sites. (It must be noted however that the typographical situation of the Eastern Shore is considerably different from that of the Ohio Valley.) It must be stressed that these primitive pilgrims left of their own free will rather than being forced to flee in order to preserve their culture. Witthoft has hypothesized the date for this migration to be at the height of Adena development between 500 and 1000 B.C.

It is highly probable that these peoples originated in the

south eastern half of the Ohio Valley, particularly in the region of south eastern Ohio and western West Virginia. A large concentration of Adena settlements can be found at Charleston, West Virginia and at Athens, Ohio and easy access to the Potomac River valley can be found. Approximately a dozen sites have been located along the Potomac River. In 1957, Webb and Baby reported approximately fifty Adena Sites in this area, (as compared to only a few minor Hopewell). In 1961, Dragoo reports in Mounds for the Dead an additional eight mounds very close to the present western boundary of Maryland, well within range of migratory routes eastward.

It is highly probable that these people, in an area which to them was crowded, moved eastward in the same spirit in which our forefathers went west. That is, to spread their culture and economically benefit themselves and those in the Ohio Valley through trade.

THE WEST RIVER SITE

In 1954 an Adena site was discovered on the Western shore of the Chesapeake Bay near West River, Maryland (18A n 18). The site is located one mile from the bay on a fifty foot cliff of miocene clay covered by a sandy loam. This type of soil differs from the majority of the Maryland-Delaware Adena sites in that at Frederica, Delaware, St. Jones, Delaware and Cambridge, Maryland the sites were located upon gravelly soils. The site itself consisted of two pits, the first, a crematory fourteen feet wide by nineteen feet long, and the second, one-half a reburial pit seven feet long by five feet wide. The other half of this pit has been lost due to river erosion.

The crematory pit produced evidence of eight fire pits at a depth of between twenty four and fifty four inches below grade level. A large quantity of red ocher and cremated bones were removed along with fire-burned artifacts: Fire-burned clay, eight intentionally "killed" artifacts, five whole artifacts.

The reburial pit was dug to a depth of thirty nine inches producing cremated bones, charcoal, burned clay, only three "killed" artifacts being found. A total of seventeen artifacts was found within the ash colored subsoil.

The total number of artifacts found in the pits and at the base of the cliff are as follows: 18 blocked end pipes, 33 blades, 7 one-holed gorgets, 11 flat based blades of quartz, 3 hematite pyramids, 26 miscellaneous small blades, 1 piece of grooved hematite, 4 shark's teeth, 2 copper beads and a siderite cone. Ohio fire clay, flint, banded slate, Indiana flint and limestone, West Virginia flint, and Vera Cruz, Pennsylvania jasper comprise the materials from which the artifacts were made (Ford).

This site is of particular value in tracing Adena movements for its close proximity to the Potomac River drainage and its location at one of the narrower points on the Chesapeake Bay, in particular the Sandy Hill (Cambridge 18 Do 30) Maryland,

Adena site on the Eastern shore.

THE CAMBRIDGE SITE
(SANDY HILL)

The Sandy Hill Site is the oldest known of the Adena sites on the Eastern Shore. It was excavated under highly adverse conditions and thus much of the information has been lost. This is highly unfortunate due to the large amount of Sandy Hill artifacts recovered and still in local collections.

Ralph W. Jackson's description of the site in Vol. VI, No. 3 of The Archeolog indicates that a burial mound was the main attraction to collectors in 1927 when the site was worked. The soil was a coarse gravelly sand built up to a height of four to five feet and was profusely filled with artifacts of the Adena. Seventy-nine miscellaneous smaller points were found, many of these belonging to the later cultures which inhabited this region. This profuse number of later artifacts can be easily explained by the close proximity of the Sandy Hill Site to the Nanticoke ossuary excavated by Mercer in 1897. This indicates a continuing occupation of this area from Early Woodland to historic times. Thus the Cambridge area was home to various cultures for a period of nearly 2000 years.

Within this mound, Jackson speculates that nearly one hundred burials were located and no burials were located in a layer above another burial. In association with these burials large quantities of red ocher were found, not only with the burials but profusely covering the artifacts also. However, the types of burial (bundle, extended, flexed, cremated, etc.) is not recorded. Eighty-six large blades (an average of six to seven inches in length) and fifty-four flat-based spear points of quartz were found. The majority of the eighty-six blades were fashioned of Flint Ridge, Ohio, chalcedony. One hundred seventy two gorgets of various shapes and number of drilled holes were removed, many of which were of banded slate. Thirty blocked-end tubular pipes were found and one Copena reptile effigy pipe, five pendants, a birdstone, two boatstones, twelve green steatite paint cups, one of copper and one of pottery, a cone, fourteen slate pestles, three sharks teeth, three hammer stones and one hundred fifty copper beads round out the artifacts recovered. T. Latimer Ford reports four percent fire burned and nine percent stained with red ocher. It is highly probable that these percentages would have been higher had time and proper excavation methods been employed in the work.

In spite of the difficulty in the excavation of the Sandy Hill site, the materials found and the knowledge of the location have provided valuable information as to Adena movements.

The tentative radiocarbon date reported by Jackson for the Sandy Hill site was 400 to 750 A.D., but considering the adverse conditions under which this site was excavated, a good deal of material contamination is indicated. Thus by contamination the date would have been updated too much to be considered valuable.

THE SAINT JONES SITE (7 K-D-1)

On May 11, 1960 the director of the Delaware State Museum, Mr. Leon de Valinger, Jr., began the excavation of the finest Adena site yet to be found in Delaware. The site is located near the town of Lebanon on the east side of the St. Jones River. The site was discovered by commercial gravel removing, thus tracing definite pit outlines was made impossible. The soil, again was the gravelly mixture which seems to typify the Adena settling places.

In all, fifty two burials were uncovered, the majority being bundle burials placed in very shallow wide pits. However, evidence of total cremations covered with red ocher were found. A total of two hundred and sixty seven blades were found, of these the majority were leaf-shaped "Robbins Complex" or stemmed. These blades were made predominantly of Flint Ridge, Ohio chalcedony and Harrison County, Indiana flint. Three tubular pipes of Ohio fireclay, copper beads and marginella shell beads, four rectangular slate gorgets, a biconcave two holed copper gorget, an additional copper strip, an expanded center bar gorget and a trapezoidal two holed gorget.

Dragoo reports in Mounds for the Dead the Yale University radiocarbon dates for this site as being 2225-80. The radiocarbon dates being taken from charcoal. Mr. DeValinger intends to soon publish a complete report of the findings of this site.

THE FREDERICA SITE (7 K-F-2)
(See Cover Illustration)

During the construction of the Frederica by-pass a nearby gravel quarry began to yield points of such unmistakable quality that the construction workers soon became arrowhead collectors in their off hours. The findings were reported but due to a breakdown in communications the news of the site was not immediately reported to the proper authorities. During this time a great deal of material was lost. When archeologists from the two societies began excavation work over Memorial Day weekend 1964, they were further hampered by the fact that news of the site had reached the newspapers and the general public had been invited to join in the dig.

The section of the gravel knoll on which the site was located had been, before the gravel stripping began, in fairly matured forest. A large oval pit was uncovered with straight cut walls. Like the West River site, the pit appears to have been left open to be filled by nature with sand and humus. Three feet below the topsoil an irregular bottom of black occupation soil was found and into this the individual burial pits had been dug. Due to the adverse conditions, no post molds were uncovered. Therefore no knowledge of what type of structure which had existed was found. The fact that both the pits at Frederica and at West River were left open possibly indicates that a burial house of some type existed over them. In the excavation the archaeologists recovered what artifacts they

could and over six hundred copper beads which the workmen had overlooked. Occasionally artifacts, later than the Adena, of local cultures were found. This included triangular points and shell tempered pottery. This is a highly possible occurrence as two Late Woodland sites, the Frederica By-pass site and the Hollinger site are to be found nearby. It is plausible that the later artifacts simply fell in as a result of the subsequent habitation of these peoples so nearby. Also two Jack's Reef points, diagnostic of the Point Peninsula Culture were found.

The most important result of the Frederica Site was in the analysis of the skeletal material, badly damaged as it was. Nearly all the bone material could be identified as definitely Adena. An extremely small portion of the bone was of the type belonging to the peoples of local cultures. Within many of these bones was found the tar-like scorched hydro-carbon created by decaying flesh. This hydro-carbon is not subject to contamination and thus should produce concrete dating material in the future. A copper breast plate was also found. Through rough handling and cleaning, the edges were broken away and the exact shape of the breast plate and the exact amount of torso covered cannot be discerned. Upon the skeleton which this breast plate covered was found much flesh, cartilages and muscular tissue preserved through the calcium carbonate deposits. This tissue is also not corruptible by surrounding humus and after analysis can also produce concrete dating information.

OTHER MINOR ADENA SITES

Nearby the Frederica Site are to be found the Killen Pond Site (7 K-E-3) and the Browns Branch Site (7 K-E-2). It is interesting to note that both of these sites are in close proximity to the Murderkill River on the south bank of which is located the Frederica Adena Site. All the information available about these sites is to be gathered from the collections of artifacts obtained from these sites, as the sites have been destroyed. The other site worth mentioning is the Malleable Iron Works site (7 NC-E-19) in New Castle County. This site has also been destroyed, but the artifacts found there are on display in the Delaware State Museum in Dover. This collection includes two very large blades of Flint Ridge Ohio chalcedony.

Eleven Adena sites have been reported in the eastern Delaware and Maryland area. Of these only four have been excavated by the most meager standard. This indication of a major movement should produce more sites in the future which may yield valuable additional evidence to support the expansion of this culture. The three minor sites and one south of Northeast, Maryland have contributed much already.

There appears to be a definite travel route on the Eastern Shore which the Adena used. From the West River site across the Chesapeake Bay to the Cambridge Site is not a great distance today. Two thousand years ago it was even less. From Cambridge the main stream of the Choptank River provides extremely accessible water transportation to points very close

to the Murderkill and St. Jones Rivers; a definite relationship can be seen here. The Western Branch (Tuckahoe) flows from a more northerly route giving access to other water ways such as the Appoquiniminx, Red and White Clay Creeks and the locale of the site below Northeast. It is highly probable that more Adena sites are located along these rivers and their tributaries. These areas must be explored and the sites reported to the proper authorities in order that the sites may be correctly excavated and the materials studied.

At least one Hopewell site has been found in the cache found on Elk Neck. Point Peninsula material has been found throughout the shore.

The Delmarva Peninsula appears to have been an area the Neolithic cultures of the north and middle west had great desires on for its good farm lands and fishing grounds and local cultures provided an excellent trading opportunity for the well worked materials.

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Note: I thank the following persons for their assistance in the accumulation of this information: Mr. Henry H. Hutchinson, Delaware State Archeological Board; Mr. John Witthoft, Pennsylvania Anthropologist; Mr. Warren Callaway, Past President of the Sussex Society of Archeology and History, and Mr. Ronald A. Thomas, Delaware State Archeologist.

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THE REWARDS OF SURFACE HUNTING FOR INDIAN RELICS

by Marion Tull, Jr.

Today more than in past years, people generally are becoming more enthused over the way of life of pre-history man and the manufacture of his clay products and stone implements. This is evident by our many magazines and local papers which we buy, and hardly a day goes by that we do not see an article on archeology.

Many years ago archeology was greeted with incredulity, but today it has made a great step forward in unlocking some of the records of man buried in the remote past which have long been hidden from the archeologists' eyes. But the most important achievement is that it is establishing the antiquity of pre-historic man in America by solving many of the problems which have existed. This is being done through study and archeological research. Many questions on problematical stone artifacts may never be answered or fully understood, but surface hunting and the recording of the relics found is the best way for the amateur archeologist to help solve some of those problems. Year by year the secrets of primitive man in paleolithic and neolithic times are being revealed.

After contact with the white man, the American Indian discontinued the manufacture of his stone artifacts and pottery making. Why should he labor for hours over stone implements when he could trade a few furs and get all his necessities such as steel axes, metal pots, guns and trinkets. Thus the making of stone tools died almost overnight, figuratively speaking, and many of his secrets, methods, and the usage of them, died with him. If this had not come about so quickly, we might today know more about some of his tools and pottery we find surface hunting. After the Indian's departure one can imagine the thousands of artifacts left lying on the ground only to be covered by wind blown sand or silt and years of accumulated humus from the forest.

Anyone interested in archeology can find no better pastime in winter or summer than surface hunting for stone age relics on the Delmarva Peninsula. The generally soft sandy soil, now

largely cleared, and the numerous permanent streams furnish a nearly ideal layout for surface hunting. It offers you a chance to get out in the fresh air, exercise, and perhaps add a little to archeology by showing the relics you find and discussing them with others. Your most important duty will be to make a written record and label all the artifacts found that day. Where, when, and how they were found is obligatory; otherwise, the artifacts are useless for research purposes. A well kept recording system for the artifacts is the most rewarding work a surface hunter can perform. All relics, broken or complete, have some archeological value. It is much better for a surface hunter to belong to an Archeological Society so he may exhibit and report his findings, obtain the opinions of his fellow workers, and possibly have them published by the Society.

Although surface artifacts have become less plentiful in recent years as surface hunters have increased in number, there are still enough relics to justify anyone for his day's efforts. As with anything else, the scarcity of relics makes them more in demand. The sad part of some surface hunting is that many of the relics found will never be recorded or seen by others. They will be thrown on a shelf or in some boxes and in a short time be forgotten by the finder as to where and when they were found.

The odd and unusual forms of clay and stone artifacts used by primitive man in his way of life have a cumulative value to students and research workers in trying to determine their use and the methods of manufacture. What could be the reason for shaping some of those strange forms of stone?

Many types of artifacts can be found on the surface today, and this includes the arrow, spear, axes (grooved and ungrooved), drills, pendants, gorgets, hammer stones, celts, mortars, pestiles, and other tools. The surface hunter will learn to recognize these in a short time by looking at local collections and reading books on stone artifacts.

The hunter should learn to recognize the Folsom and Clovis points, which have raised and help solve many questions in archeology. These points have been found with long extinct bison in the West and in many different sections of the eastern United States. They are usually found on the surface where the soil has been eroded away by wind and water, indicating they were deep in the soil. The Clovis point can be recognized as such, fluted, lanceolate, with parallel or convex sides and concave bases. They are from 1½" to 5¼" long. The flutes extend almost the full length in some, but mostly only halfway. The flute on one side is usually longer than the other side. The flute is usually made by the removal of more than one flake with some grinding at the base.

The Folsom point is much better as regards workmanship and is usually from 3/4" to 3" long. It is lanceolate in shape and has concave bases with ear-like projections. There is sometimes a small nipple in the center of the basal concavity. The flute, usually made by one flake, runs the full length of the point with evidence of grinding on the lower edges. These points are very important and should be watched for and reported.

When surface hunting, permission to hunt on private property is very important. Going ahead without it can spoil surface hunting for others. It is better to go with an eased mind than with a guilty conscience. Most people will let you go if you ask. Go with just one or two rather than with a large crowd. Relics can be found anytime but after a good rain on a recently plowed field is ideal. Try to plan the day in advance so you will not waste too much time in looking for a site. Here in our area one can be on a site within a half hour from most any place in Sussex County or to nearby Maryland sites.

Old village sites, or town sites, are the ideal places to hunt at first, even though these sites have been excavated. Artifacts lost in the top soil are not always recovered by these diggings. They may go unnoticed for years until they are finally uncovered by the plow. One never knows what he will find but one thing is certain - he will never find two stone artifacts alike. As all objects were hand flaked, pecked or ground to size and shape, they naturally would vary.

Perhaps you may want to take a day and just look for new places to surface hunt, for after you have hunted the known sites for a while and you have surface hunting in your blood, and you truly want to help in archeology, you will want to discover new sites. Most sites will be found along rivers or their tributaries. It only stands to reason that the Indian would camp near water, as the rivers were the highways then. The campsite was usually on high, well drained soil, mostly on sandy ground. When you find what you think is a new site, a trip or two across it will tell you if it is worth hunting by looking for concentrated areas of flakes, shell, pottery sherds or rejects. Such fields you may want to hunt completely; so take the field in sections instead of just roaming around. Make a half dozen markers and take them with you. As you move over the field, move the markers over. All stones should be turned over and examined, for sometimes an unfinished pendant or gorget may be found, as was the writer's experience. To save your back make a stick with a handle to turn the stones over.

Local collectors in your area can be of great help to you. You can discuss his collection with him and learn a great deal about what to look for and how to recognize different artifacts. He may even show you some good places to hunt or offer to go with you, for surface hunters seldom refuse to hunt when the chance arises.

Many very interesting pieces of pottery can be found on sites. These should be saved, labelled and recorded, for much can be learned from these sherds regarding the makers and perhaps trace their migration from place to place. You are not likely to find enough surface sherds to make a pot, but you can acquire enough to make a study of them.

Open fields near water are sometimes productive places, and some fine artifacts can be found even though they are not village sites. River banks at low tide also reveal stone tools and arrows at different times, for the writer and his family at one time recovered 35 arrows within a ten foot radius on the McKelvey Site (18-Dor-2) on the Marshyhope River. Did the Indians

find this a good fishing place, for nothing was found up or down stream?

It is interesting to find a workshop site, for here the making of tools and arrows was carried out. Here material and stone blanks from distant places were brought and mixed with local stone. Even today numerous implements of stone can be found along with thousands of different colored stone flakes which were the refuse of arrows, spears, and knife making.

In twelve years of surface hunting the writer has in his collection over 2500 artifacts, over 3/4 of them being found and recorded by the family.

This article was written in the hope of increasing and stimulating interest in surface hunting and to preserve the artifacts and the records of same, so that they may be of some benefit in solving some of the problems of stone tools, their manufacture and their usage.

* * *

EXCAVATION OF A BALD CYPRESS STUMP
(Taxodium distichum)

by

Henry H. Hutchinson

During the building of the large "Home for the Aged" east of the Memorial Hospital at Seaford, Delaware, it was necessary to install a deep sump to collect sewage for a booster pump to deliver same to the main sewage lines of the city sewage disposal system. In building this sump the contractor installed long sheet piling around the excavation for the sump building, pump, etc., and excavated inside this caisson-like enclosure with a toothed grab-bucket.

Beneath about one foot of top soil they excavated 26 to 28 feet of clean sand and gravel mixed with occasional traces of light colored clay, then they met a bed of heavy blue-black water soaked clay, about 10 feet deep. In this layer of blue clay was an upright stump of a tree about 36 to 38 inches in diameter.

An observer notified the writer, but the contractor continued his excavation and by the time I got to the scene, the crane operating the grab bucket had chewed off the top of the tree stump and dumped it with the rest of the excavated material, as he was working against time and water. The Construction Supt., Robert R. Ritter, at my request had the crane operator bite off a hunk of the root of this tree with the grab bucket and deposit it on the side of the spoil pile where I could pick it up. This I retrieved by picking it up and touching only the ends of two protruding root ends. This was taken home and wrapped in fresh aluminum foil, so it has no contamination from any modern material, and is a good sample for C-14 dating.

Other samples of the wood from this stump were taken from the spoil pile, and given to me, but as they had been handled by an unknown number of hands they are not suitable for C-1r dating. However, some of these samples have been cross-sectioned with a hand saw, and the section smoothed with sand paper. The wood is soft, brownish in color, fully preserved, and quite light in weight with no signs of petrification. The annual growth rings are very narrow but quite uniform in width averaging thirty eight (38) rings per inch over a two and a quarter (2-1/4) inch section. It has been identified as Bald Cypress (Taxodium distichum) by local naturalists, and the State Forrester, Mr. Wm. S. Taber also identified it as Cypress.

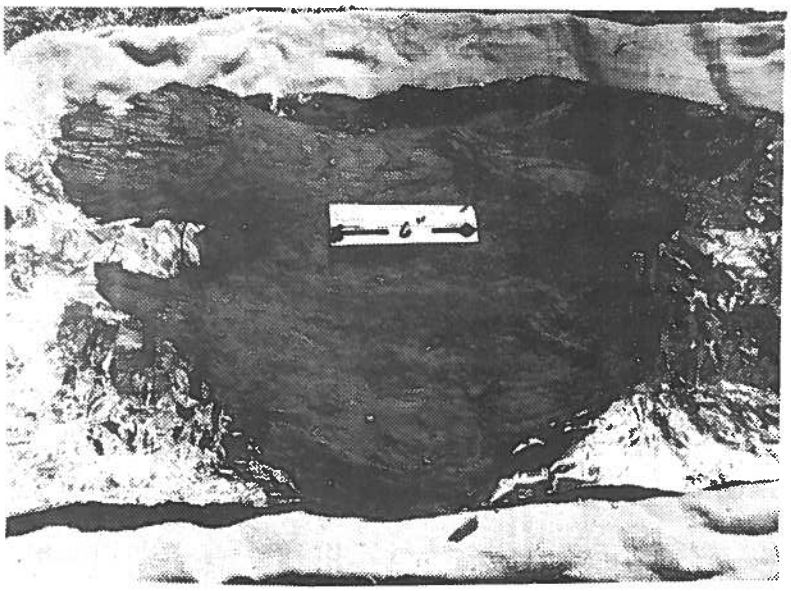


Fig. 1.

The uniformity of the annual growth rings and the geological location suggests that the tree was growing in a swamp before the out wash from the melting glaciers rafted the 26 to 28 feet of sand and gravel and buried the swamp.

It appears to us that this tree may have been growing in this swamp during the Lake Erie Interstadial (16,000 to 13,000 B.C.) of the Wisconsin Glacial period, using the "Climatic Succession in the Western Hemisphere" by Maude Levey Kerby (Quarterly Bulletin of the Archeological Society of Virginia, Vol. 19, No. 2, 1964).

The location of this find is just east of the town of Seaford, Sussex County, Delaware, on what is locally known as "the Island." It is between the Nanticoke River and a small stream called "Clear Brook" (See Seaford Quadrangle U.S.G.S. Map, Edition of May 1915, reprinted 1944).

The figures given above on depths and thickness of the soils were not measured accurately, but were estimated by the Construction Supt. Mr. Robert R. Ritter, and Mr. Jarnett T. Burton, an employee, and confirmed by several workmen in and around the excavation, all of which gave figures within the range as given.

Samples of this unwashed root (Fig. 1) have been sent to a radiocarbon laboratory for C-14 dating. No separate sample of the blue-black clay surrounding the root was taken for pollen identification but there may be enough adherent clay for such an examination.

SHELL BRIDGE SITE

7-S-H8

by Henry H. Hutchinson

The Shell Bridge Site was first reported in Nov. 1952 when the State Highway Department was improving the road from Bethel to Portsville. At that time Mike Gill and Hutchinson searched the sides of the roadworkings and found one small fire pit containing a few shell tempered and grit tempered cord-marked potsherds.

In 1965 the owners of the land south of the highway started bulldozing and clearing the area for a building development. Hutchinson found in surface hunting more grit tempered potsherds and an occasional worked jasper or quartz chip. The owner, Mr. R. B. Lynch, while excavating for a buried power line to his trailer uncovered seven soapstone potsherds (Fig. 1), six of which can be matched together to give a good indication of the size and shape of the soapstone pot, which we figure was about 6" deep, 8" to 9" wide, and 10" to 12" long with lugs on the ends.(Fig. 1). The walls vary in thickness from 7/16" to 3/4".

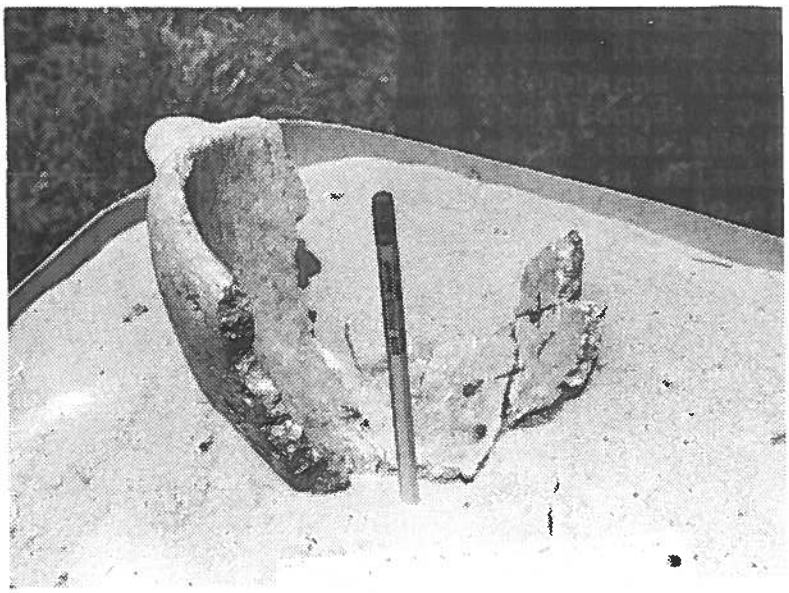


Fig. 1. Partially restored Soapstone Pot with lug and mending hole.

Across the small stream that flows under "Shell Bridge" Mr. Lynch has built his home, and a rubble stone wall to wall off his garden. In excavating for the foundation of this garden wall he recovered several hundred regular potsherds, representative samples of which are shown and described in Fig. 2.

Verbal reports from old residents in the neighborhood indicate that many arrowheads used to be found in this immediate area, but detailed descriptions of them are not possible at this time. Mr. Lynch has promised to watch for and notify the writer of any further discoveries. Most of the top-soil

has been piled in one big dyke along the top of the grade, and it is hoped that additional parts of the soapstone pot may be recovered therefrom.

Fig. 2.

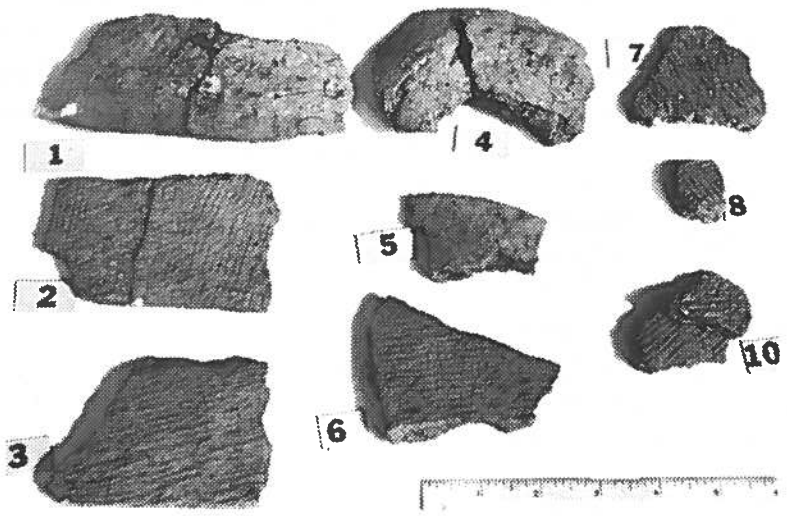


Fig. 2. Variety of pottery types: No. 1, shell tempered, coil construction, fabric impressed, smoothed. No. 2, cord wrapped, paddle impressed shell and grit tempered; diameter of pot about 16". No. 3, shell and grit tempered, cord marked; diameter of pot about 18". No. 4, part of bottom sherds showing flattened bottom, shell tempered, smoothed. No. 5, rim flattened, fabric impressed, shell tempering material leached out. No. 6, cord marked, grit tempered, diameter of pot about 18". No. 7, very coarse quartz tempering, criss-cross cord wrapped, paddle impressed. No. 8, same as No. 7 but different paddle used. No. 10, similar to No. 7 but more distinct cord impressions.

SITE NO. 7-S-B18.

Preliminary Report

by Henry H. Hutchinson

This is a new site on Marshyhope Creek recently reported by Marion Tull, and on which he has surface hunted for about one year. About two years ago the land was bulldozed to remove second growth trees and underbrush, and prepared for the cultivation of farm crops. Mr. Tull has found three stone axes, each a distinctive and different shape (Fig. 1), a large number of stone projectile points, none of which are the usual triangular type, and a small artifact of carved soapstone with a good likeness of a turtlehead (Fig. 2), and with a carved knob where the neck would be. This could be a pendant or, as some have suggested, a fish line sinker. This site may be important and efforts to obtain permission for a careful exploration and excavation should be made.

Fig. 1.

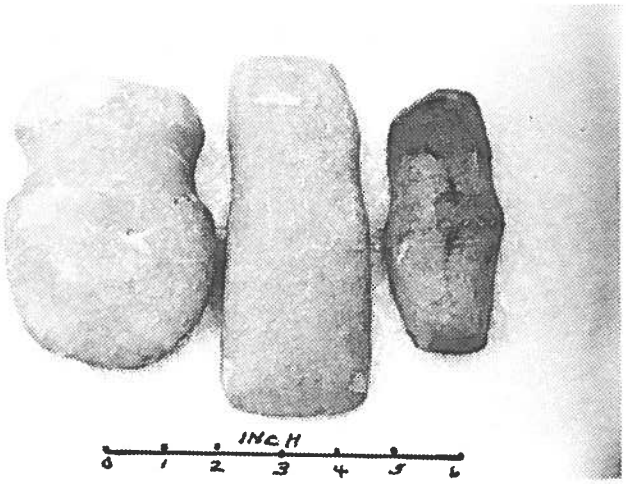
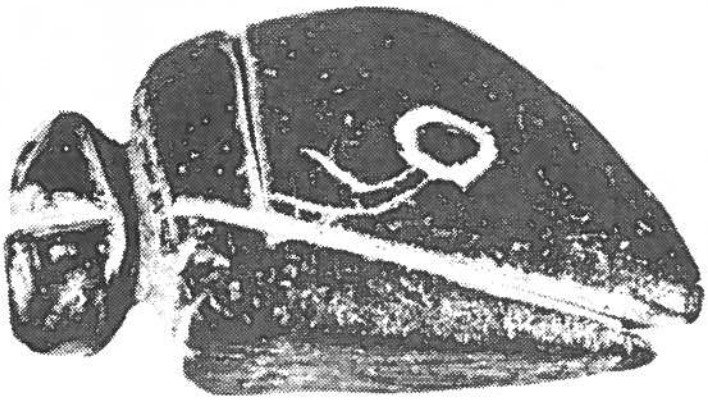


Fig. 2.



ONE INCH

POTTERY EXPERIMENTS. Preliminary report by O. H. Peets

THE POT SHOWN HERE was coiled and fired by James Parsons as part of what was hoped would be a series of experiments to see if a relation could be found between the colors of Indian pottery and the firing method or type of kiln used.

In order to reduce the variables it was decided to use only one clay, a natural product called Gordon Buff from the color it fires in conventional kilns. Potters know, of course, that dark grey and black tones indicate a "reducing" atmosphere or one in which only a limited amount of air enters the kiln. Such an atmosphere is not easily produced in primitive kilns but this pot is so nearly black that members are surprised on picking it up to find that their hands remain as clean as before. there is no smoke in this color and it does not rub off, so it may be that Parsons, though guided by a picture of a present day Indian woman making pottery, has made a kiln that allows more atmospheric control than Indian kilns were able to give. More experiments will be needed however to decide this point.

This photograph was purposely made to show where a layer of the rim was blown off in the firing. Such defects are sometimes found in rim sherds and we have generally assumed that they were caused by a blow after the pot was broken, but it is much more likely that this defect was produced in the firing as were most coil breaks.

The two somewhat oval light areas shown where this layer was blown off are the light grey of the core of the pot which, in this photograph is shown as lighter than it really is. We know from hundreds of sherds that cores are usually darker than inner and outer surfaces. This is because these usually get more oxygen from the air and an oxidizing atmosphere gives lighter tones.

THREE INCHES

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