

1951 Vol. III No. 4 Vol III No 4

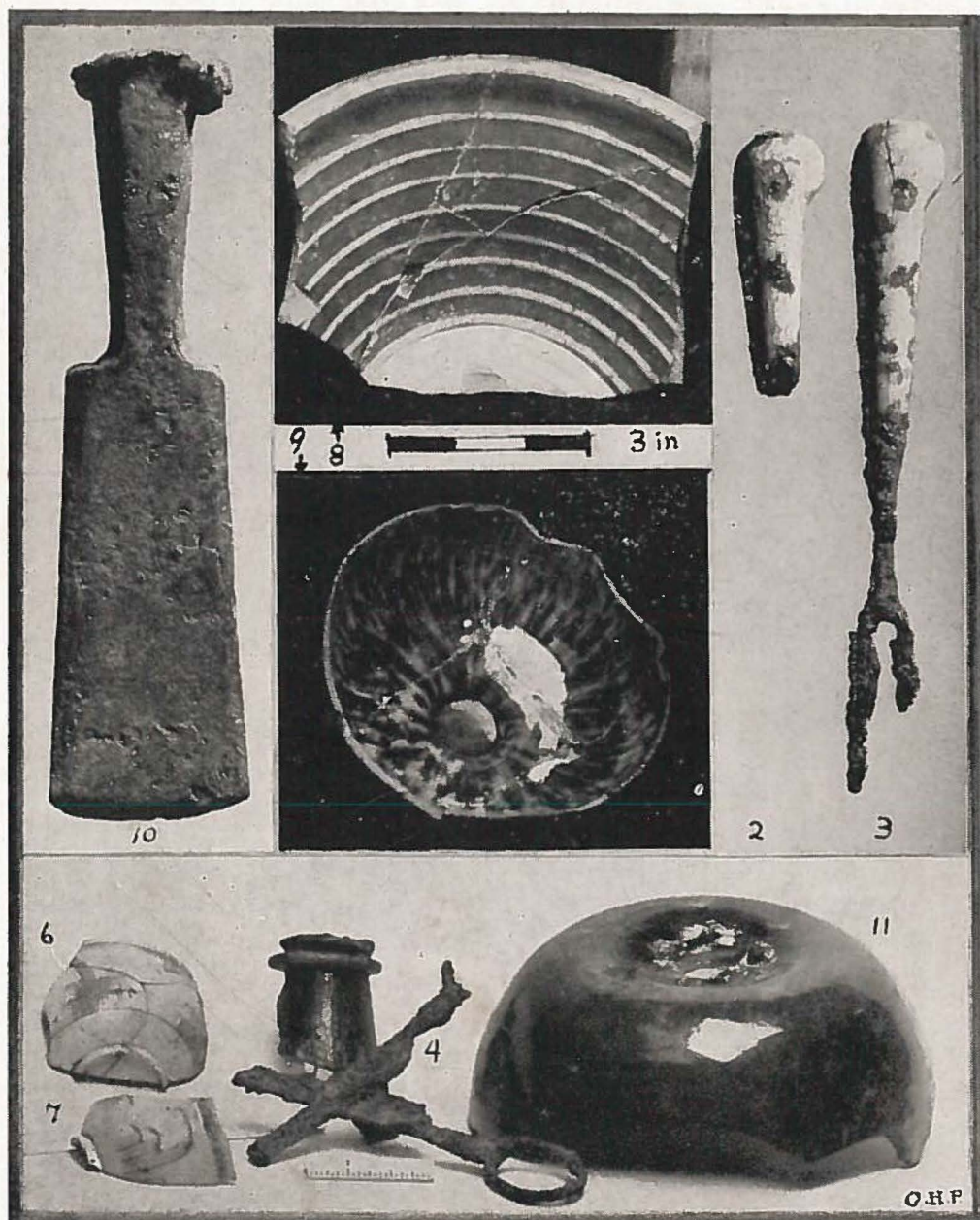
Delaware Archaeological Board

# THE ARCHEOLOG

## NEWS LETTER OF THE SUSSEX ARCHAEOLOGICAL ASSOCIATION

O. H. PEETS, EDITOR

LEWES, DELAWARE





OUR COVER reproduces several of the objects from the old house site in Pilottown, Lewes, which were sent to the Smithsonian Institution for examination. The following report from Mr. C. M. Watkins, Associate Curator of the Division of Ethnology, supports the assumption of an early date for the remains of this building. At present this date is fixed only for the final destruction of the house and the clearing of the premises; we have still to determine when the house was built and who was its first owner. Other objects still to be found may help decide this point, but it is more probable that the answer will be given by a study of the disturbance of the soil. In this also we shall need all the expert advice we can get.

#### EXAMINATION AND REPORT

1. Fragment of pewter charger. The whole specimen probably measured 15 $\frac{1}{2}$ " in diameter. No makers' marks are visible, which is not to be expected where so little of the bottom remains. There is no way of telling whether this is American or English. The rim is typical of pewter plates made in England between 1700 and 1750 (see Cotterell, H.H., Old Pewter and Its Makers, London, 1929, Plate LIII a), and in America throughout the 18th century. The odds are in favor of this being English, however.
- 2 and 3. Two tined fork with pistol-grip bone handle, and broken matching handle. This form usually dates from the middle portion of the 18th century, and occurred at least until the period of the Revolution.
4. Iron candlesnuffers. These are probably English, since they are too elaborate for a local blacksmith's work. The remnants of turned design at the points where the handles join the shafts is indicative of more finished workmanship. So also are the continuous ovals of the handles, differing from the usual loop or rat-tail. These could be dated approximately as of the mid-18th century.
5. Part of porcelain figure of monkey. This is modern, probably Japanese.
- 6 and 7. Three fragments joined together to form part of "scratch-blue" salt-glazed stoneware tea cup and one fragment from another cup. These were made in Staffordshire, England, probably between 1740 and 1760.
8. 5 fragments of slip-decorated redware pudding dish. Slip applied in horizontal bands. Clear lead glaze on inside. Unglazed outside. Tooled rim. Ht. 3 $\frac{1}{2}$ "; Diameter: about 11".

This is quite sure to be native American pottery. Until a complete study is made of the ceramics of the Delaware River area it will not be possible to ascribe these fragments. They may



have been made in Delaware or traded down the river from Philadelphia. The decorative technique is bold and handsome, and differs from the rural Pennsylvania type of slip ware. The shape is common to pudding dishes made in the 18th century elsewhere in America. It would not be possible to date this within the limits of a century or longer.

9. Redware bowl. Small foot. Clear lead glaze. Outside is speckled with manganese. Inside is covered with light slip over which there are streaks of manganese. This is an interesting example of 18th century American pottery. Its form shows a provincial interpretation of a Chinese shape, while the mottled slip inside suggests that the potter was trying to imitate the tortoise shell ware of Whieldon. Ht. 3"; Diameter: 6 3/8".
10. Forming chisel (Firmer) or Paring chisel. According to Mercer's "Ancient Carpenter's Tools", this type is "the first chisel used by the carpenter, to roughly side-cut a piece of wood along a line marked with the carpenter's scribe or pencil." The presence of the shouldered tang indicates an early style of forming chisel. A Dutch chisel of the 16th century, illustrated by Mercer, has a similar shoulder, as does another made in Pennsylvania between 1320 and 1860. Length - 7-3/4"; width - 2 1/4".
11. Pale olive-green blown bottle base. This has the typical shape of the earliest English wine-bottle form (about 1630-1650).
12. Neck of bottle. This may be a portion of the bottle from which the above came. It corresponds with the mouth and the taper of the necks of such bottles.
13. Shoulder of bottle. This again has the contour one would expect from the same bottle.
14. Three smaller bottle fragments. Not diagnostic.

Conclusion: The horizons on this material extend from about 1630 to about 1775 in their extremes. Narrowing it down, we find the scratch-blue salt-glazed fragments falling into the 1750-1760 period of manufacture. If we accept the influence of Whieldon ware, both in form and in glaze, on the redware bowl, we may suppose this also to date from about the same period. The pistol-grip handles in combination with two-tined forks probably do not go back much earlier than 1730 or so, nor again much later than 1775. Except for the monkey figure, which is an intrusion, the bottle fragments, which are 17th century, and the chisel, which may be either 17th or 18th century or later, everything else is quite likely to be from the 18th century. Since there are no evidences of the later wares one would expect to find towards the end of the 18th century, we are inclined to believe that the site was not active long after the introduction of the saltglaze cups, about 1740, which were the "newest thing" in mid-century ceramics. As a house site, it was probably in existence for some time, but had not remained long after 1750, if we judge from this material alone.



## THE OLD HOUSE SITE AND THE BURNING OF LEWES IN 1673

If we are to get a satisfactory story from the excavation of the Old House Site, all possible meaning must be drawn from both archaeological and historical clues, but they react on each other in such a way as to alter meanings as we try to read them. Some of this alteration is fortunately in the direction of clearer focus.

Under a section of the brick footing of the old house was found a rubble of charcoal, wood ashes, broken brick, and pieces of mortar--the latter less hard and seemingly older than that which covered the footing. This we took to be nearly conclusive proof that an earlier house had been burned at this place, and brought irresistibly to mind Mr. Leon deValinger's talk to us of the winter before on the sworn dispositions of early settlers who, in 1683, had supplied William Penn with an account of the destruction of their houses and barns by a band of forty horsemen sent for this purpose from Maryland by Charles Calvert, son of Lord Baltimore. We know beyond question that the old house was on the land of Hermanus Wiltbanck, one of the deponents, and we have found objects there of as early a date as the time of his living but as yet we have no proof that the house was his and the older house could well have been burned without the accompaniment of a Troop of Horse with drawn swords.

Not only do we locate Wiltbanck on his own ground, but even the most fantastic part of these sworn statements, the near miracle of a barn that refused to burn, can be attached to a piece of Pilottown real estate. The affidavit in which this story is found was signed by a group including Wiltbanck, who seems able to write, and John Kiphaven (his mark K), Alexander Moulston, Harmon Cornelison, Anthony Inlose and Elizabeth Roades ("the widdow of John Roades, Sr., that was Murthered") signing with the marks K, M, H, n and E. In this group account it is said that Capt. Howell, whose orders caused him "Greife", was intreated by some women "to spare one house for their Releife in distrasse." He answered that he must observe his orders; but said that if God would save them one they should have it but not Else." . . . A Thatch Barne standing in the middle or betweene A Boorded Barne of Alexander Moulston that had about Two hundred Bushell of wheate unthrashed in it A dwelling house and severall out houses standing betweene the said Thatch Barne ware sett on fire. "In spite of the flames from the houses and barns around it the thatched barn did not burn though it caught fire three times. So Capt. Howell "did not dare to meddle any more with it."

We know that Alexander Moulston's land was northwest from where we are working and it is possible that these houses and barns were grouped, not near Lewes Creek but on the richest part of the land as was our old house. There should be traces left of such a group of buildings.



## HOW ARROWHEADS WERE MADE

(In reply to my request the Smithsonian sent me, several years ago, a copy of a compilation made for others who, like myself, wished to know what the record contained under this heading. A partial bibliography was included but I have not printed it because it would be difficult for us to get many of the items listed. Most of them are short articles in volumes not current though to be found in some large libraries.

We may hope that this valuable collection of early reports will be expanded later to include accounts of the work of modern craftsmen-investigators some of whom are mentioned in the bibliography. O.H.P.)

In "Handbook of Aboriginal American Antiquities," Bureau of American Ethnology, Bull. 60, pt. 1, Washington, 1919 (now out of print), W. H. Holmes discusses the two principal techniques used by American Indians in making arrowheads: Percussion and Pressuro. The first employs a stone hammer as the active agent; pressure flaking may follow the hammer work, using a bone punch to press off smaller chips.

Holmes quotes from eye-witness descriptions, including the following:

About 1850 Caleb Lyon wrote from California:

"The Shasta Indian seated himself on the floor, and placing the stone anvil upon his knee, . . . with one blow of his agate chisel he separated the obsidian pebble into two parts, then . . . he split off a slab a fourth of an inch in thickness. Holding the piece against the anvil with the thumb and finger of his left hand, he commenced a series of continuous blows, every one of which chipped off fragments of the brittle substance. It gradually assumed the required shape. After finishing the base of the arrowhead (the whole being only a little over an inch in length), he began striking gentler blows, every one of which I expected would break it into pieces. Yet such was . . . his skill and dexterity, that in little over an hour he produced a perfect obsidian arrowhead."

J. F. Snyder in 1850 watched a Pah-Ute hunter replace a broken arrowhead: Selecting a quartz pebble and holding it on a boulder serving as an anvil, "with a small trap pebble as a hammer, he gently tapped the stone, first on one edge, then on the other, striking off a tiny chip at each stroke until he soon had it reduced approximately to the dimensions he required. . . . Now spreading the broad tail flap of his quiver in the palm of his left hand . . . he placed upon it the quartz splinter he had blocked out, and held it firmly in place with the two smaller fingers of the hand clasped over it. With the point of his horn punch he then, by firm and careful pressure, broke from the edges flake after flake from the point . . . to its base. Stopping a moment to inspect the stone, he would reverse it and repeat the cautious pressing on the other edge. . . . he soon chipped out the indented, lateral notches, defining the shank of the arrow-head, which was now finished as completely, and perfectly proportioned, as any I ever saw. . . ."



"The whole process, from his selection of the stone . . . . to the last tuck of the sinew strand in adjusting the finished implement to its shaft did not exceed twenty-five minutes of time."

Major J. W. Powell, first to explore the Grand Canyon of the Colorado and first director of the Bureau of American Ethnology, in 1869 watched a Shoshoni Indian in northeastern Utah making arrowheads "from masses of moss-agate . . . . by breaking the masses with rude stone hammers, and selecting favorably shaped fragments to be further fashioned by the use of little stone hammers. A fragment held in one hand, projected by a piece of untanned elk skin, was wrought with a hammer held in the other hand. Having somewhat improved the original fragment in this manner, a workman would proceed to . . . the final shape by using a deerhorn tool from 8 to 12 inches in length. . . . its diameter was about five-eighths of an inch. Holding the specimen in one hand, with the implement in the other, he would work the little stone into the desired shape by sudden pressure on its edge with the horn tool and in this manner breaking off small flakes. The arrowheads thus made were small, slender, and symmetric, while the stone knives were given keen but somewhat serrated edges."

T. R. Poole, who accompanied Lewis and Clark on their memorable exploratory trip to the Pacific in 1803-6, saw "squaws chipping flakes into small arrow points, holding the flake in their left hand, grasped between a piece of bent leather, and chipping off small flakes by pressure, using a small pointed bone in the right hand for that purpose."

Although these flaking practices were fairly general among Indian tribes, differences in material often led to variations in method even by the same people. Fine-grained rocks suitable for pressure flaking - chalcedony, jasper, flint, chert, etc. - were not everywhere available. Throughout the East, arrowhead makers usually had to be content with argillite, novaculite, quartz and quartzite - tough rocks fractured only by percussion.

George Catlin in "last Rambles amongst the Indians of the Rocky Mountains", N. Y., 1867, p.188, says the Apache of southern Arizona keep arrowhead manufacturing a secret, practiced only by certain experts. ". . . boulders of flint are . . . broken with a sort of sledgehammer made of a rounded pebble . . . set in a twisted withe, . . . forming a handle. The flint . . . is broken into a hundred pieces, and such flakes selected as, from the angles of their fracture and thickness, will answer as the basis of an arrowhead; . . . . The master workman, seated on the ground, lays one of these flakes on the palm of his left hand, holding it firmly down with two or more fingers of the same hand, and with his right hand, between the thumb and two forefingers, places his (bone) chisel (or punch) on the point that is to be broken off; and a co-operator (a striker) sitting in front of him, with a mallet of very hard wood, strikes the chisel on the upper end, flaking the flint off the under side, . . . . The flint is then turned and chipped in the same manner from the opposite side; and so turned and chipped until the required shape and dimensions are obtained, all the fractures being made on the palm of the hand."



Indirect percussion was also employed by Ishi, perhaps the last Yaki Indian of California, whose flint-working technique is described by Nels C. Nelson in The Holmes Anniversary Volume, pp.397-402, Washington, 1916:

"Given a nodule of flint or a lump of obsidian, Ishi, . . . . . employs three distinct processes, for each of which special tools ordinarily are required, 1) . . . . . breaking up of the obsidian mass to obtain suitable thin and straight flakes; 2) . . . chipping the selected flake to the size and shape . . . desired; 3) . . . . . notching of the base of the point to facilitate its attachment to the arrowshaft.

"For the first process, . . . . . an ordinary hard, water-worn boulder may do, . . if only small flakes are wanted, . . . . . But if a large spearpoint or knife-blade is . . desired, an intermediate tool is needed. This is . . . . . a short, stout, blunt-pointed piece of stone or wood serving as a sort of punch . . . . . A direct blow with a hammerstone might be fatal to the obsidian core . . . . . while an indirect blow, delivered through this punch, . . . . . has some chance of success in removing the superfluous portions without shattering the whole piece to bits. A hammerstone then, or a hammerstone together with a punch, are the tools required for the preliminary rough work, . . .

"For the secondary flaking or, . . . . . chipping, a tool . . . . .  
. . . . . half-way between an awl and a chisel. . . . .

"Another necessary item was a piece of leather or hide with which to protect the hand holding the obsidian during the chipping and notching processes.

". . . . .

". . . . . The chipping tool, grasped firmly with the right hand, is placed on the upper side of the flake, very close to the edge, and by a quick, downward pressure a chip is removed from the under-side of the flake. . . . .

". . . . . The pressure exerted, . . . . . comes mostly from a wrist action; but if greater weight is needed the leverage is thrown back to the elbow and shoulder. . . . .  
Ishi works rapidly, reversing the flake often or not as conditions require. He begins chipping at the point . . . . . and gradually works toward the farther end, . . . . . can finish an arrow-point of average size in half an hour, . . . . ."

Between 1880 and 1910, members of the Smithsonian staff - Holmes, Gill, McGuire and Cushing - experimented with all known Indian methods of working stone. Cushing could chip out a small obsidian arrowhead "in less than 2 minutes" and in one test finished 7 knife and arrow blades from quartzite in "exactly 38 minutes" (The Amer. Anthropologist, vol.8, p.319, October 1895). Indians sometimes used fire to shatter masses of stone into workable spalls but they know it is impossible to shape one of those flakes by touching its heated edge with a wet straw. There is no mystery to arrowhead manufacture; it is not a lost art.



## ARROWHEADS AND THE CRAFTSMAN

Some of those who attended our last meeting at which we had a guest of honor one of the founders of the Archaeological Society of Delaware (we learned of the sudden death of Ralph Boers after the draft of this article was written) may have difficulty in reconciling the evidence of the foregoing compilation--known in substance to him--with his suggestion that we undertake as a major project the determining of how arrowheads are made. This seeming paradox may be explained perhaps by differences in the standards of the historian and the craftsman. The historian is satisfied if the area of uncertainty is so reduced as to be relatively unimportant, but the craftsman-investigator wants to do these things and to be able to show others how they are done. He recognizes and discounts difference in skill but he is critical of explanations which cannot be checked after his fashion. It is a fact that there is no one more critical of our knowledge of arrowheads than the man who has made a few dozen passable ones.

Let us take the first item in this list to test it for these differences in standard. Reading of this Shasta Indian we feel that we are seeing the operation as Calob Lyons saw it and understanding it as he understood it. Then with this text well in mind we set about making an arrowhead. We start with a chisel--an intermediate tool if the word has any meaning. Is it hafted? Probably not, so we look for an elongated hard stone that can be given the look of a chisel with a little chipping. A mallet is required but a heavy pebble with a flat face will do. We are pleased to find that with this rude chisel and mallet pebbles can be broken with some regularity and we take a promising half face and split it into quarters but to hold it on edge so as to split off the  $\frac{1}{4}$  inch spall or blank is very difficult, for the chisel must be held strongly with the same hand so, with the stone mallet in the other, we may hit the chisel a smart blow. After many patient attempts I did not reach a solution that announced itself as good handicraft and decided to consult the original text, when I could, so as to see if there were any hint as to how the trick was done. But let us suppose we have struck off this perfect spall so that we can proceed. The flake is held "against the anvil stone with the thumb and first finger." But is it held flatwise or upright, or flatwise against a vertical face of the stone? It is struck light blows. With the chisel or with some other tool? If held flat on the anvil, the chisel could be rocked against the edge. And if held flat against a vertical side of the anvil, the chisel could still be used to good advantage, but if held upright on the upper face of the anvil, the chisel would be exchanged for a small pebble. When held upright, chips fly off the edge, that is against the anvil as well as from the edge being struck. This is sometimes an advantage but must be considered. Regular contours are not easily made in this position.

The real puzzle in this first item is found however in the fact that although obsidian is more easily worked with the horn flaker than is any other substance, this Shasta Indian makes an obsidian arrowhead by percussion alone.

In the East, the report notes, the stones used are generally of a kind workable only by percussion. This should lead us to beware of the tendency to call any straight piece of deer bone or antler a flaking



tool. The very fine serrations along the edge of an arrowhead are much more easily made with a sharp stone than with a dull piece of antler. It is one of the surprises of arrow making to find that a light tap at right angles to a thin edge will produce the so-called secondary flaking. A stone drill of the same stone as the arrowhead could be used for this without any danger to the drill. I suspect that some of the chisel "burins" of the Cape Donbigh flint complex were used to produce the diagonal flaking of the Donbigh points. The use of stone for flaking tools would seem to merit more study. Unusually long colts (average 12 inches) of greenstone have been found in some parts of the South. It has been noted that they are worn only on the small end. They would have been efficient flakers when held with the wide end under the arm as Ishii held his flaker according to Dr. Saxton Pope.

It is remarkable that in this list there is no mention of the pitted hammerstone. We have all been shown many times how such stones are held with thumb and first finger in the pits, but I have seen bipitted stones too large to be grasped in the hand and others with deep cuts instead of pits, and some concavely ground on two sides have a pit in the center of each concavity. It is surprising how many of those stones, which are relatively soft, show no wear at all. In working some green chert from the ridge near the Catskill River in New York I put more wear in one of these pitted hammerstones in five minutes than it had when I picked it up. An unpitted stone found on the ridge showed little effect after very hard usage. I have been told however that soft stones are useful in making stone axes. It is nearly impossible with these spherical stones to see the exact point one wishes to hit. Mr. Hutchinson has an elongated stone with slight indentations which may be for thumb and two fingers. The end is narrow enough to allow one to see the point being struck and it is easy to keep the center of mass of the stone in line with the blow, an advantage the spherical stone does not have.

Are there any eye-witness reports on the use by the Indians of pitted hammerstones? If not, we shall have to turn to the craftsman-investigator for the answer.

O.H.P.

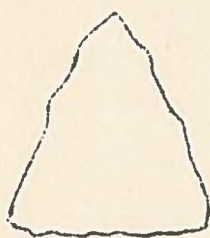
#### SHORT COMMENT

A short article on the use of a grooved stone in straightening arrow shafts will be of special interest to collectors who have such items. When heated they seem to work very well with certain reeds. Mr. Weslager speaks somewhere of a reed used by our Indians. We must get some to try. These and the atlatl.

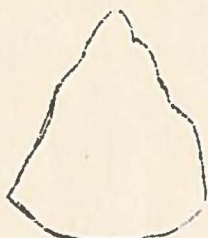
"American Antiquity" which last month had such a useful number on radiocarbon dating, has for October articles also of great interest. The Archaeology of the Old Stone Mill in Newport, Rhode Island, by William S. Godfrey, Jr., has the solution of a problem that intrigued our parents or grandparents, and it gives us a good lesson on the manner of combining archaeological with historical investigation.



Generally accepted names for some types of arrow and spear points.



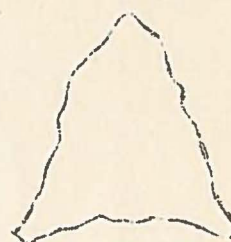
Triangular  
straight base



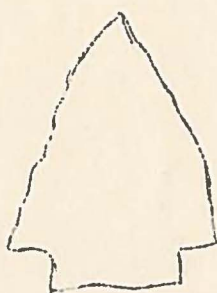
Triangular  
convex base



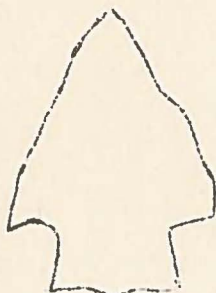
Triangular  
concave base



Triangular  
eared base



Broad, (short)  
stemmed



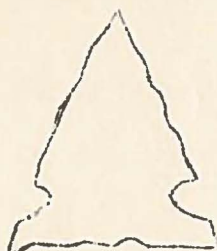
Broad, (long)  
stemmed



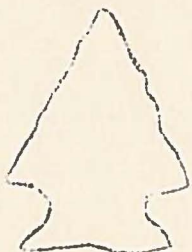
Lozene



Elongate



Eared side-  
notched



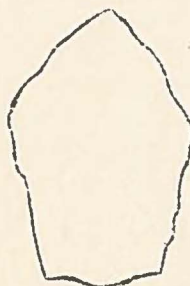
Broad side-  
notched



Side notched



Corner notched



Pentagonal



Pentagonal  
fluted



Folsom type



Lanceolate  
fluted



## RALPH E. BEERS

It is with deep regret that we announce to our members the sudden death on November 8 of Ralph E. Beers, a pioneer enthusiast of archeology in Delaware and our guest at the October meeting of the Association. Apparently enjoying good health, Ralph suffered a heart attack and died a few minutes after making a fire in the fire place of the Rehoboth cottage in which he and Mrs. Beers had been spending their vacation.

Almost all his life Ralph was interested in collecting the artifacts of the Indians. In earlier years he travelled extensively and wherever he went he gathered information and collected evidence. For a while he made his home in New Jersey and was instrumental in arousing interest in the study of the prehistoric natives of that State. After his business brought him to Delaware and he had established his home on the banks of the Broad Creek near Bethel, he continued to pursue his interest in archeology. Every farmer for miles and miles up and down the Nanticoke River and the Broad Creek knew and welcomed Ralph and every likely field along the other streams of Kent and Sussex Counties yielded archeological treasures to this patient searcher.

It was at Ralph's home almost twenty years ago that a small group of enthusiasts met and organized the Archaeological Society of Delaware. Ralph was elected the first Editor of the Society's Bulletin and served in that capacity for many years. When business compelled him to leave Delaware and establish his home at Wilkes-Barre, Ralph left behind him a host of good friends.

His interest in Delaware and in Delaware archeology never faded and he returned as often as possible to visit old friends and do a little surface hunting. Death has indeed taken from us one of the finest men and one of the most enthusiastic amateur archeologists our State has ever known.

## SHORT COMMENT

In reply to a recent request for advice on selecting and preparing samples for radiocarbon dating, it may be useful to say a word as to the technique itself. Living matter contains carbons, one of which (No. 14) begins to lose its radio activity as soon as the matter dies or, in a few cases, becomes entirely dormant. This rate has been determined and a chronology with a relatively large margin of error has been based on it. It follows that recently living substances such as roots or leafmold are dangerous contamination while sterile sand is not. Metal foil and a glass container would seem to be adequate care and, of course, it is essential to have a very careful story of the excavation to give consequence to the dating.

A large buck deer has been seen on the Russell site. There is no mental connection between this and the above mentioned feral weapons.



