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BULLETIN OF THE
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OAK ISLAND SITE: THE ARCHAIC DEFINED

DONALD G. SCOOTHORNE

In times past, while canoeing up and down the lower part of North River on hunting and trapping expeditions, the writer was attracted to a certain prominent bluff at a curve in the stream. Situated about ten miles from the ocean, the spot seemed desirable as a place to lunch and rest, as it was a scenic lookout with an unobstructed view for a mile or more up and down stream. An active spring at its base was an added attraction, which made stopovers here most rewarding. Besides such advantages the ground was observed to be free of frost even during the coldest weather, perhaps due to its sandy condition and sunny exposure.

Through the years, life on the bluff, because of good fishing, seems to have been closely connected with Oak Island, where no trace of aboriginal occupation exists. This small island lies only a hundred yards down stream, and between here and the bluff in the narrows of the river there is still excellent fishing, which probably has not changed much from that of earlier days. Historic records in the town of Pembroke tell about the seining of shad, salmon, sturgeon, and alewives in this section of the river, which suggests that similar good fishing conditions doubtless existed in aboriginal times.

Besides this, the river was used in colonial days for floating ships down to the sea from several shipbuilding works. One of the larger boat yards was located only about a half mile up stream from the bluff, which may explain the presence of many large and small boulders situated along the river shores that have holes drilled in them. Either pegs were driven into the holes to support seining nets, as thought by some, or possibly iron spikes with rings attached were wedged into the holes. These may then have been used to accommodate ropes passed through the rings and employed to warp large ships around bends in the river.

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Chart 1. The Site.
In search for an archaeological site in 1962, the writer recalled his earlier experiences at the North River bluff near Oak Island, which at once suggested it as a good location for an excavation. Test pits proved favorable, and the writer commenced to excavate the site. Unfortunately, it was located adjacent to Route 3 expressway, which became a hindrance to continuous operation due to public interference. However, work was carried on at intervals with what seems to be unusual success until 1965. By then, a rest area had been constructed up to the site's edge, which made continuation of the excavation next to impossible.

THE SITE

Oak Island site is located on an abrupt bluff that juts up about 12 feet from North River at a bend in the stream only a hundred yards distant from Oak Island, a well-known landmark in the area. It lies on the northwest side of the river in the township of Norwell, Massachusetts. Three large trees, one oak and two white pine, are the only tree growths on the plot, which has a sandy floor that rises gradually from the front of the bluff. Perhaps, because of the comparatively small space confined within this high point of land, it was found undesirable for cultivation and was never plowed. A thin 3” humus cover of top soil showed no signs of ever having been mixed with the underlying sandy soil by plow action. Furthermore, no plow share marks appeared to indicate interference with archaeological stratigraphy from this kind of disturbance. A layout of the dig defines the excavated area and other significant natural features at the site (Chart 1).

METHODS OF EXCAVATION

The site was laid out in 5 foot grids from a base line running along the upper edge of a wood road at the front of the bluff. Work of excavating was carefully done by the writer, a sawed-off short-handled hoe being used to scrape with. This troweling was confined to 12” benches worked across each square being excavated, which exposed a stratigraphic profile of the different soil layers. As an artifact was uncovered, an outline drawing of it was made on a record card. Its stratigraphic location was recorded by measurements to the nearest inch made to the top soil and to the bottom of the layer in which it occurred — this layer also was recorded. Beside this, thicknesses of the several soil layers, or horizons were recorded as work progressed.

At this point it should be noted that during the course of excavating no refuse pits were encountered, which disposed of one kind of disturbance frequently found on most sites. Stone hearths, of which there were many, together with certain burial features to be described in detail further along were the major causes of man-made disturbances. However, displacements of artifacts as a result of such causes seem unimportant, since they were confined within respective soil horizons. The only real disturbance to confuse occupational stratigraphy resulted from the natural cause of water erosion. This occurred in the upper part of the last occupational level, to be referred to again in its proper context. Beside the stone hearths found in fact, many loose firestones encountered in the course of the dig indicated other demolished hearths. Also, there occurred quantities of chips, attesting to prolonged periods of occupation.

Somewhat more than 2,100 square feet were dug by the writer, not including many test pits made within the area. Altogether, 577 artifacts were recorded both perfect and fractured, but all recognizable as to types. Ill-defined fragmented artifacts, of which there were many, were not recorded. An unusual number of significant occupational features for such a comparatively small excavated area were uncovered, including 17 stone hearths in situ constructed variously and at different levels, one crematory, 2 associated secondary burials, a plummet workshop, a pattern of post molds in groups of two in a semicircle cut off by the roadway, suggestive of the outline of a relatively large lodge or wigwam, and a well-defined Adena ceremonial burial (Chart 2).

SOIL STRATIGRAPHY

The site was found to have five well-defined layers of soil. The upper layer, designated — Top Soil — consisted of 3” of accumulated humus, representing a rather sparse deposit of decayed vegetation. It contained no artifacts or other occupational evidence.

Underlying this layer was a stratum of light brown-stained sand, designated — Sandy Soil. At the wood road where excavating began it measured about 12” in thickness, but at the upper end of the site it had increased to 36”. This indicated slope was probably caused by water erosion over the years. It was very noticeable in the upper part of this horizon, probably due to a period of excessive rainfall that produced a heavy wash. As evidence of this, there would occur areas of clear sandy soil and a few feet further along would appear gravel lenses of fine pebbles. Apparently, during the last years of this soil accumulation there was a prolonged wet season with subsequent surface erosion. At that time rivulets here and there may have formed small gul-
leys, which allowed later artifact deposits to be dropped down and mixed with those of an earlier age. Quantities of artifacts were recovered throughout this Sandy Soil horizon, and their culture affiliations will be defined in a following section dealing with culture zones of occupation.

Directly beneath this horizon was a sterile layer of silt. This had a more or less uniform thickness throughout the site of between 12 to 13". Composed of a fine silty substance, it probably had a wind-blown origin, since it was devoid of all pebbles even of very small sizes. It contained no artifacts or other evidence of camp litter, and represents a time — perhaps of extended duration — when conditions evi-
dently were unfavorable for occupation. Fortunately, excavation was carried deep enough to penetrate this sterile stratum, and to explore what lay below.

Underlying it occurred a fourth soil layer, designated — Yellow Sand. With a thickness of about 24", which varied but little, this horizon of pure yellow sand yielded artifacts and small stone hearths in situ, representing an earlier age than that of the Sandy Soil horizon.

The fifth and last soil layer yielded artifacts, and appeared directly below the Yellow Sand horizon; is designated — White Sand. It consisted of clear White sand, which extended to an undetermined depth. Artifacts appeared in only the first 6" of this deepest layer. Also, distinctive small stone hearths in situ were present; convincing evidence of man's use of the site at a very early age. A profile drawing from north to south illustrates the five separate soil horizons just described (Chart 3). All artifacts and other features of occupation are outlined in a following section dealing with evidence as found in the different zones of occupation.

CULTURE ZONES OF OCCUPATION

The earliest evidence of man's presence at Oak Island site appeared in the top 6" of the White Sand horizon. Here occurred 3 unique small stone hearths and very early types of projectile points. This low level is designated — Zone 1, Early Phase of the Early Archaic.

Overlying this zone in the Yellow Sand horizon appeared more small stone hearths and significant artifact evidence of the Early Archaic, and is designated — Zone 2, Early Archaic.

The next occupational level lay in the Sandy Soil horizon, completely separated from Zone 2 by the layer of sterile silt. Here appeared large stone hearths with a different construction from the earlier small hearths found below. In this soil horizon occurred an extensive assortment of totally different artifact traits. They appeared at various levels, some being found near the hearths. But that which seems most significant was the total absence among them of Early Archaic traits like those appearing in Zone 2 below the layer of silt. With exception of the water-eroded upper few inches of this Sandy Soil horizon, it is designated — Zone 3, Late Archaic.

The top area of this horizon had been disturbed by water erosion to a considerable extent, as previously mentioned. This had caused later culture deposits to become mixed with those of the Late Archaic. For example, artifacts of the Ceramic (Woodland) Age, although relatively few in number were found in this upper disturbed level mixed with artifacts of the preceding Late Archaic. And to make culture separation more confused, a few interesting articles of the colonial contact period also appeared in this upper disturbed area. As a result, it is necessary to resort to typology in order to separate these culture traits from each other. From this it may be seen that only the long span of the Archaic is clearly stratified in well-defined soil horizons, which exhibit three Archaic zones of occupation.

ZONE 1 OCCUPATIONAL EVIDENCE
(Early Phase of the Early Archaic)

The earliest occupants of the site left significant remains in Zone 1. Although relatively limited in number, they exhibit marked dissimilarities to succeeding artifact traits, which tends to support their independent status. Description and identification of most artifacts referred to in this report are to be found in
Three small stone hearths lay at this low level, their tops appearing at top of the White Sand horizon. They had only about a 12" outside diameter and a 3" depth. In each case, a semicircular crescent-shaped arrangement of stones, mostly cobbles, was present, within which appeared a small fire pit about 5 or 6" in diameter. Only a little more than half a circumference was outlined by stones with one side left open — probably for feeding the fire. Nothing but a few minute lumps and flecks of charcoal remained to suggest that fuel consisted of twigs doubtless no larger than a half inch in cross section.

Artifacts were found nearby the hearths and consist of 3 Corner-removed#2, and 1 Parallel Stem projectile points; all showed slight grinding of stem sides. The Parallel Stem point — a new type — is similar to those reported at the Flat River site, Society Bulletin, Vol. 29, No. 2, except that it is made of felsite, not quartzite. Like them, it resembles the Alabama Dalton point type, considered as transitional between the Paleo and Early Archaic culture periods. Found with the points were a Graver and Flake scraper, both of flint (Fig. 1).

ZONE 2 OCCUPATIONAL EVIDENCE
(Early Archaic)

Present in Zone 2 were 7 small stone hearths, somewhat similar in shape to the White Sand hearths just described, only they were a little larger in size. They had an outside diameter of about 14", and were 3 to 6" in depth, each with a small fire pit of 7 to 8" in diameter. Stones were mostly cobbles and were laid in a circular formation. An opening was left in one side for feeding the fire, but not as wide as that found in Zone 1 hearths. Here again, only bits of charcoal remained, suggestive of sticks gathered from probable tundra surroundings.

Artifact recoveries from this zone in the Yellow Sand horizon include: 18 Corner-removed#8,9, 10 Corner-removed#5, and 2 Bifurcated projectile points; 4 Classic plummets; 1 Channeled gouge; 14 Leaf knives; 2 Expanded drills; and 6 Oval scrapers — representative specimens are illustrated (Fig. 2).

Feature 1 (Plummet Workshop). A most unusual discovery was made in this zone. It consisted of a cache of 4 objects, of which two are semifinished plummets — one with knob broken off. The remaining two artifacts are Chunky picks with points worn down. The apparent symmetry of both products seems to indicate that they were intended to become Classic plummets. They are made from a relatively soft stone — probably sandstone — while the picks are of felsite, one with an edge still sharp enough to have been used in continuing the process of pecking (Fig. 3). Similar tools have frequently turned up at other times and places, and have left the writer wondering about their use. Now, with the finding of this cache, further speculation seems unnecessary.
Fig. 2. ARTIFACT RECOVERIES, Zone 2, Early Archaic, Oak Island. 1-8, 12, Corner-removed #8, 9-11, Corner-removed #9, 13, 14, Bifurcated, 15-20, Corner-removed #5 Projectile Points; 21, Oval Scraper; 22, Classic Plummet; 23, 24, Leaf Knife; 25, Shaft Scraper; 26, Expanded Drill; 27, Channeled Gouge.
Implement types occurring in Zone 3 — not including those from the 2 secondary burials — to be referred to separately — consist of the following: Small Triangular#4,6, Small Stem, Corner-removed #3,7, Side-notched#5,6, Tapered Stem, Eared#2,3,4, projectile points; Graver; T-Base, Plain, and Cross drills; Stem and Stemless knives; Stem scraper; Clumsy plummet; Chunky pick; and Perforated weight — representative specimens are illustrated (Fig. 4).

As a few Small Triangular and many Small Stem points appeared near the top of the zone, they are believed to represent an overlapping into the Ceramic culture period. Artifacts from this last culture age had become mixed with those of the Late Archaic found near the surface just under the Top Soil, the result of excessive water erosion, as previously explained. Many of the perfect Small Stem specimens have been illustrated separately to show the great variation in shapes throughout the collection. For example, some are plain, others side-notched, and one appears bifurcated, while a few are so tiny they seem useless as projectiles (Fig. 5).

Feature 2 (Post Mold Remains). In the first few squares near the wood road a number of post molds were recognized, their tops appearing in the top few inches of Zone 3 — presumed to belong to the closing days of the Late Archaic. They were in groups of two and formed a half circle measuring about 25 feet in diameter. An attempt was made to uncover other post molds on the river side of the wood road — which had intruded a probable circular pattern — but to no avail due to considerable erosion toward the bluff's edge. However, those post molds that appeared seemed to suggest the outline of half a wigwam of fairly large proportions.

Feature 3 (Fresh Water Clam Shell Deposit). Around hearth#6 there appeared a quantity of fresh water clam shells. They were badly deteriorated, and when handled, quickly disintegrated. This feature occurred near the top of Zone 3 with a Corner-removed#7 point being found among the shells; is believed to belong to the latter part of the Late Archaic. Apparently by then, fresh water clams, which are readily available in this region, were being used as a staple food.

Feature 4 (Crematory). A well defined charcoal-blackened pit, presumed to be the remains of a crematory, was discovered with its top appearing several inches down in Zone 3. It was rectangular in shape and measured about 4 by 8 feet with a discolored fill of about a foot in depth. This consisted of charcoal-stained sand interspersed with lumps of charcoal and occasional masses of solid charcoal. Mixed in the fill were bits of calcined bone gathered into lumps in some places. Occasional thin pieces, identified as probable cranial remains, together with the rest are believed to be human. The pit was completely lined with slabs of shale, common to this area.
Fig. 4. ARTIFACT RECOVERIES, Zone 3, Late Archaic, Oak Island. 1-6, 12-17, Small Triangular 4, 7-11, Small Triangular 6, 18-20, Corner-removed 2, 21-27, Tapered Stem, 28, Long Eared, 29-32, Eared 2, 34, Side-notched 5, 35, 36, Side-notched 6, Projectile Points: 37, 39, Stemless, 38, Stem Knives; 40, Graver; 41, 42, Cross, 43, T-Base, 44, Plain Drills; 45, 46, Stem Scraper; 47, Clumsy Plummet; 48, Chunky Pick; 49, Perforated Weight.
that its central area contained a patch of red powdered ochre. Distributed through the pit appeared an assemblage of 67 artifacts. Many seem burned from fire exposure, while the balance appear undamaged. They include, 2 Full Grooved axes; a Grooved gouge; 1 short Plain gouge; 1 Whaletail pendant; a Wing atlatl weight; 1 Clumsy plummet; 8 Stem and Stemless knives, all but two roughly shaped; 1 Stem scraper; 2 Corner-removed#7, 1 Tapered Stem, 4 Eared#1 spear points; and the balance made up of ill-defined roughly worked blades — a representative assortment is illustrated (Figs. 7, 8).

**Feature 7 (Burial#3).** Separated somewhat from the first two burials in Zone 3 appeared a third charcoal-blackened pit somewhat rectangular in shape. It measured about 12 by 42” with a 15” depth of fill. It contained no red ochre but was filled with charcoal-discolored sand, through which ran streaks of gray ash — there were no calcined bone fragments present. Its artifact contents suggest Adena affiliation. It was paved with large shale slabs that averaged about a foot square in size. They lined the sides and bottom of the pit; apparently were carefully arranged as they tended to overlap each other.

The grave goods from this pit — a presumed burial — consist of well-known Adena artifacts: 1 Birdstone of green, fine-grained sandstone expertly drilled obliquely through each basal end; 1 Boatstone not drilled but carefully hollowed out of a relatively small block of light colored exotic stone; and a large leaf-shaped blade made of flint of foreign origin — possibly Ohio (Fig. 9). A similar blade is illustrated in *Mounds For The Dead*, by D. W. Dragoo, p. 284 — also, like blades are reported from the Adena Cresap mound of the Ohio Valley.

**CERAMIC OCCUPATIONAL EVIDENCE**

As previously pointed out, at top of the Sandy Soil horizon a limited deposition of Ceramic Age artifacts had become mixed with Late Archaic deposits due to excessive water erosion, and can be separated only by resorting to typology. Although only 3 potsherds occurred at this upper level, they seem sufficient to identify the period. One of them is worth mentioning because of its large size and worked edges. Coming as it seems from the body of a large pot — smooth both sides and with mineral temper — evidently it had been hand worked to resemble a spoon; may have been hafted and used as such.

Another recovery from just under the Top Soil horizon was a unique Platform stone pipe. It appears sophisticated in its shape and design treatment. There-
fore it is believed to have been made toward the close of the Ceramic era. Its stem is drilled with a taper from just under a 3/16" hole at the stem end to a small opening into the bowl; evidently not the work of a metal drill. The pipe is made of dark gray, fine grained argillite. On its base is deeply incised a large sized triangular point with shaft indicated, while around its collared rim is incised a chevron.
design. These design motifs, similar to those found on some late clay pots of the area, seem to have been influenced by the artistry of the age. Such design elaboration is sometimes found on late stone pipes, usually of the Bowl type without stem.

Besides such of the Small Triangular and Small Stem points, already reported as may have been deposits of this last culture period, additional Ceramic artifact traits found in the upper disturbed level of the Sandy Soil horizon include the following: Corner-notched, Large Triangular, Side-notched#5,7, and Small Triangular#6 projectile points; Pendant; Flake drill (small size); and Paint mortar — these Ceramic recoveries are illustrated (Fig. 10).

CONTACT OCCUPATIONAL EVIDENCE
As previously noted, just under the Top Soil horizon and mixed with Ceramic and Late Archaic deposits several colonial contact remains were uncovered. Doubtless some were lost by early fishermen seining the river, or by later day shipbuilders from the nearby boatyard, who may have rested at times on the bluff. One recovery of a red kaolin pipe has a fluted pattern on its bowl. It seems probable that its source is Williamsburg, Virginia, where pipes of this kind are known to have been made between 1840 and 1900 (Society Bulletin, Vol. 27, No. 1).
Fig. 8. FEATURE 6 (BURIAL #2), Chipped Blades, Oak Island. 1-4, Roughly Worked Blade; 5-9, Stem Knife; 10-12, III-defined Knife; 13,16, Eared #1, 14,15, Eared #3, 17,19, Corner-removed #7, 18, Leaf Spear Points.
Another find was the handle of a colonial spoon, probably of pewter. Colonial gun flints occurred in generous supply. Beside several stray specimens, which appeared in this disturbed upper level, a cache of 11 gun flints made of black flint was uncovered. They were of various sizes both large and small.

CONCLUSION

In reviewing the evidence, it seems to this writer that for much of the time during the life of the site, it was probably used as a hunting and fishing station because of its strategic location. The surprising absence of Steepedge scrapers with only 3 Stem and 4 Shaft scrapers appearing among such a relatively large recovery of artifacts is conspicuous, as compared with the quantities of such scrapers found at larger sites. The reason may be that for the most part this site seems to have been used as a convenient resting place during procurement of game and fish; the curing of hides, meat, and fish being done at nearby village sites.

Whatever conclusions are reached, it seems apparent from the quantity of charcoal in some of the hearths and the great number and variety of artifacts recovered that this was a much frequented place. Evidently, it was a popular stopover between the present Pembroke area and village sites at Rocky Reaches, where evidence of their presence abounds.

When the cremation burial complex is considered, the reason for its presence on the Bluff might be explained in this way. Here was an elevated piece of land, such as often was selected for cremation ceremonies, which was convenient to water travel. As deaths occurred in the big basin country, it would have been natural to utilize this favorite site as a place for the drying and preparing of bodies for cremation. Later, this would have been followed by cremation ceremonies and the redeposit of burnt remains with grave goods in secondary burials.

For the Adena burial, circumstances surrounding it in relation to selection of the bluff for its deposit are highly speculative. Just how Adena migrants integrated, if at all, with the natives of this region can only be surmised. However, their water route of entry into the North River country from the south could have cut cross country from Narragansett Bay. Travel would have been possible up the Taunton River and tributaries to Monponsett Lake, and with only a short portage from there into Big Sandy or Oldham Pond; thence down North River to Oak Island site.

Today, fishing at this spot is excellent off the sandy beach where dugouts once were moored. Here
in the river narrows white perch are in abundance, and in a short time you may fill your basket with a catch of this choice fish.

Realizing the importance of a more complete interpretation of the evidence as compared with other recoveries in the Northeast, the writer has asked the Editor to append his views in a separate conclusion.

Pembroke, Mass.
July 27, 1967

APPENDIX

Editor's Notes: Evidence from the Oak Island site is so outstanding in several respects as to deserve further comments. Perhaps the most unusual natural feature is the 12 to 13” layer of sterile silt that separated Zone 2 of the Early Archaic from Zone 3 of the Late Archaic. This is the first time, so far as is known, that stratigraphy of the Archaic in the Northeast has been so precisely separated into two culture periods representing an Early and a Late occupation. The importance of this manifestation may be better appreciated, when consideration is given to the present concept held by some that the Archaic was but one occupation with presumed racial continuity. Apparently, such a belief is based on a total disregard for the change of implement traits that has been observed at many sites from a low to a higher level, on the assumption that such a change cannot be relied upon for lack of a sterile layer of separation. Now, the appearance of such a layer dividing the Archaic should present an opportunity for a new culture evaluation. The fact that at the Oak Island site implement types of Zone 2 do not repeat in Zone 3 seems to support the hypothesis, often made in the past by the writer, that traits of the latter represent deposits of a new tradition replacing those of an earlier one, rather than evolutionary survivals of racially connected epochs.

Another apparent reality that is well displayed at the site is the presence of an Early Phase of the Early Archaic lying apart from it in the low White Sand horizon of Zone 1. Here appeared 3 Corner-

Fig. 10. ARTIFACT RECOVERIES, Ceramic Age, Oak Island. 1,2,Small Triangular/6, 4,Side-notched/7, 5,8,Side-notched/5, 6,7,Large Triangular, 9-12, Corner-notched Projectile Points; 3,Flake Drill; 13,Pendant; 14,Paint Mortar; 15,Potsherd Spoon; 16,Platform Stone Pipe.
removed#2 points; a type that has a broad-based parallel-sided stem slightly indented by retouching. Because this point was found on the White Sand level at Titicut and deep in yellow subsoil at the Heard Pond site, speculation has placed it as an early trait. Now there can be no longer much doubt about its culture position, as representing perhaps a transitional period between the Paleo and Early Archaic ages. Supporting this postulation, also in Zone 1, appeared a new type of point for the Northeast — first reported at Flat River site — which has been named, Parallel Stem. With the same parallel-sided base as a Corner-removed#2, but with smaller proportions and a steeple-shaped point, this type resembles the Dalton point of Alabama, which has a Paleo-Early Archaic transitional position in the Southeast. Five of these points were recovered at the Flat River site and reported in Society Bulletin, Vol. 29, No. 2. Now, with Oak Island’s well-defined specimen appearing in the White Sand horizon below Early Archaic remains, another probable diagnostic of the Early Phase of the Early Archaic seems well established. While there is no radiocarbon date to support this postulation, stratigraphic evidence at Oak Island is most convincing. Furthermore, the small stone hearths of Zones 1 and 2 are similar to those on the White Sand at Titicut, where a radiocarbon measure of charcoal from an open hearth at this low level yielded a probable date of about 6,500 years ago — Society Bulletin, Vol. 24, No. 3 and 4, p. 39. After considering these facts, there seems little reason to doubt that the Northeast had an Early Archaic occupation with a separate Early Phase that followed the Paleo fluted-point-using era.

On a small plot such as the Oak Island site a great accumulation of evidence during the thousands of years of its use is not only possible but probable, with each new feature uncovered representing but a single relatively short or long period in its life. Thus, at one time it might have been used as a permanent camp, while at another a transient hunting or fishing station, and then again only as a workshop. Also, as the evidence indicates, there would have been a period when it was utilized as a sacred elevation for cremation and burial ceremonies of the dead; a time when no one lived at the site. Even a group of Aden migrants favored it at one time as a preferred location for one of their burials — probably a cremation, a number of which occurred at Brookfield and were reported in Society Bulletin, Vol. 27, No. 1.

As for typological features, certain implement traits appearing in the Early Archaic Zone seem worthy of mention. Perhaps the most important one is the Channeled gouge. This distinctive tool has been associated with the Early Archaic at only two other excavated sites: Swan Hold and Twin Rivers. At the latter, although it appeared with the Early Phase of that age, it was thought to be a trait of it, when sometime later two specimens were recovered on this culture’s low level at Swan Hold in Carver, Massachusetts. Since this type of gouge has never before been reported appearing on a higher level at any known site, it has been held to represent an Early Archaic diagnostic. It was first identified as a unique type, when it was recovered — at a time before stratigraphy was fully appreciated by some — along with other kinds of gouges at the Heard Pond site; was not recorded as to depth. In recent years its Early Archaic significance has been accepted by most, and now Oak Island evidence would seem to remove further speculation as to the culture provenance of this gouge.

Another trait from Zone 2 about which much has been written is the Classic plummet. It is symmetrical in shape with a medium to small knob at one end and is presumed to have been used as a line sinker in catching fish. Over the past few years this weight has been reported being uncovered at a number of sites in the Early Archaic zone, associated with Corner-removed#8 points. Also, at Oak Island as well as at several of these other sites weights of the Clumsy plummet type have been found to lie above this zone along side of Late Archaic points of the following era. This other type is an asymmetrical plummet; is presumed to be an imperfect adaptation of the original earlier weight by a new race of migrants. The stratigraphic sequence of these two plummet types is now confirmed convincingly at Oak Island, which appears to present something more than a hypothesis.

And again, three much talked about projectile point types — Corner-removed#8 and 9, and Bifurcated — found at certain sites appearing first at low levels with other Early Archaic remains, now occur again at Oak Island in Zone 2 of this early culture period. Not only is this an impressive confirmation of former recoveries, but it seems to be even more, since these Zone 2 point types do not recur at upper levels as at most sites, where they are presumed to have been disturbed and out of context. Rather, at Oak Island they appear in Zone 2 only, where they seem to be well-established diagnostics of the Early Archaic. Further, it should be noted that Oak Island’s Bifurcated specimens have sharp barbs, a characteristic observed on this type of point when found in the low Early Archaic zone of occupation, which
suggests its probable use as a harpoon point attached to a bone harpoon holder.

Feature 2 — Post Mold Remains — appearing in Zone 3 of the Late Archaic seem worthy of comment. Evidently, a comparatively large wigwam is indicated by the exposed pattern of post molds of some 25 feet in diameter. But what is of special interest here is the appearance of pairs of post molds spaced a few feet apart, rather than just one at each interval, as is usually the case. When such a pattern of single post molds has occurred at other sites, the diameter of the abode is much smaller: about 10 to 15 feet. Therefore, it would appear that Oak Island’s 25 foot wigwam, because of its larger size, required a somewhat different construction in order to accommodate its longer and heavier rafters.

In an effort to better understand the probable nature of this larger lodge, it is of interest to note discovery of seven similar remains at Wapanucket 6, reported in An Archaic Village In Middleboro, Massachusetts. At this site on Assowampsett Lake complete circular lodge patterns of post molds in pairs at more or less regularly spaced intervals appeared, indicating abodes of 32 to 45 feet in diameter with one — a presumed ceremonial lodge — of about 62 feet in diameter. An associated charcoal sample yielded a radiocarbon date of about 4,300 years ago, which places this architectural complex in the early part of the Late Archaic era. Egress to the structures was not through a doorway but between the lodge walls, constructed so as to offset each other by about 2 feet where they met, thus forming an entrance at one side of the lodge. It seems probable that if the pattern of the Oak Island feature had been preserved in its entirety, it might have revealed such an entrance. Even without it, the presence of post molds in pairs, indicating a large structure of 25 feet in diameter and appearing in Zone 3 of the Late Archaic, suggests a similar Archaic abode to those at Wapanucket 6. If this is so, then wigwams of the Late Archaic appear to have been relatively large structures, when compared with the known smaller abodes of early colonial days. And further, that the pairs of post molds suggest a more sophisticated building with a circular wall of perhaps 3 foot uprights, which supported rafters extending obliquely up and meeting for support at the top center of a conical roof.

An interpretation of the small stone hearths of Zone 1 becomes an important part of this report. They are by no means an isolated feature peculiar to Oak Island site alone. Instead, they amply confirm the presence of this occupational evidence, which has appeared at several other sites as well, where excavations have uncovered evidence of the presence of man at low-lying late Pleistocene levels. Here on strata of various kinds left behind by the northerly retreat of the ice cap have appeared similar small stone hearths, in sizes varying up to about 15” in diameter.

At the Titicut site in Bridgewater, where they were first observed, there were 8 in all resting on white sand, which occurred at various depths of from 3 to 5 feet. Here it was established that extensive sand dunes once existed at the White Sand level; their undulations were easily traced by careful troweling. The deepest hearth, 5 feet down, was resting in a dune trough, while the highest at a depth of 3 feet was on a crest — now on display in a diorama in the Bronson Museum. Much charcoal appeared in some of the hearths, but in none appeared evidence of fuel larger than that of sticks. Since an opening was left in the side of each hearth, apparently for feeding the fire, it seems clear that fuel of log proportions was not involved. Therefore, an obvious deduction seems tenable that a tundra condition existed, in which the countryside produced a bushy growth in place of forests. This condition must have covered a very large area, doubtless encompassing the Northeast, since early man foraged over extensive terrain, and it was inevitable that his hearths should reflect the condition of his environment.

At the Swan Hold site in Carver somewhat similar small stone hearths were uncovered lying on white sand at a low level. Some contained charcoal, while others did not, exhibiting the same conditions as found at Titicut and presumed to represent similar tundra surroundings.

In Rhode Island at the Twin Rivers site 3 more small cobble stone hearths like those at Oak Island were encountered. However, at this site, they were resting on a gravel kame, which had been dropped from the melting ice as it slowly withdrew from this region. Embedded in one of the hearths appeared a small Channeled gouge. Also, a Parallel Stem point with a fluted base was discovered at this low level, which is now seen to represent the Early Phase of the Early Archaic at Oak Island. Therefore, it now appears probable that the Channeled gouge may have had its beginning in the early stages of the Early Archaic and remained in use throughout this culture period — it was a recovery from Zone 2 at Oak Island.

Finally, consider the 7 small stone hearths of Zone 2, which resemble those of Zone 1 except that the opening in one side is smaller. These unique
hearth indicate continuation of a tundra terrain into Early Archaic times, but they do not necessarily mean that it lasted throughout the entire age. Since they are so similar to Zone 1 hearths of the Early Phase, it is probable they are not too far removed from them — perhaps 500 or more years. By then the tundra may have been giving away to an evergreen growth pushing up from the south. And with this change of environment, fuel would have increased in size with a corresponding alteration in hearth construction.

While no exact duplicates of Zone 2 hearths have appeared at other excavated sites with Early Archaic remains, 3 small stone-encircled hearths were reported at Twin Rivers in Rhode Island lying above the 3 earlier hearths on the gravel kame. Two of them were relatively small with a 12" outside diameter, but with no side opening. The third had about a 25" frost-spread outside diameter with a fire pit measuring 9 x 15". This was underlaid by a 3" thick hearthstone. At one end the stones were parted somewhat as though for an opening. Among them were a few cobbles, while other stones appeared to be fire-cracked with flat facets. These hearths — at least the largest one — probably came later than the Zone 2 hearths at Oak Island toward the close of the age.

Over the past quarter century nine excavated sites in Massachusetts and Rhode Island have yielded evidence of an Early Archaic occupation, lying below that of the well-known Late Archaic stone bowl industrial age. Members of the Massachusetts and Rhode Island Archaeological Societies carried out the work in approved methods of excavating and recording, resulting in recovery of a total of 239 diagnostic implements from the lowest occupational levels of the sites. Recoveries are recorded in Chart 4, representing normal deposition of artifacts in each case, as far as can be judged, but do not include hundreds of ordinary implements common to all cultures, as not being diagnostic. Names of the various sites and Society Bulletin issues in which they are reported follows: Swan Hold, Carver, Mass. — Vol. 13,#2, and Vol. 25,#2; Nunkatusset, West Bridgewater, Mass. — Vol. 13,#1; Seaver Farm, Bridgewater, Mass. — Vol. 23,#3 and 4; Mill River, Mendon, Mass. — Vol. 24,#2; Washakumaug, Framingham, Mass. — Vol. 25,#2; Boats, Dighton, Mass. — Vol. 26,#3 and 4; Oak Island, Norwell, Mass. — current issue; Twin Rivers, Lincoln, R. I. — Vol. 14,#1; and Flat River, Washington, R. I. — Vol. 29,#2.

Having said this much, it seems desirable to look more carefully at the accumulated evidence and see what can be deduced from it, in support of a differentiation between an Early and a Late Archaic culture. The time is at hand, it would appear, for such an evaluation, since some archaeologists have voiced their opinion recently that an Early Archaic does not exist in the Northeast as a culture component, apart from that of the Late Archaic; that there should be only one Archaic culture period. Usually, the argument they air is that since no radiocarbon date has been obtained for an Early occupation preceding the well documented Late Archaic, it cannot be proved — at least by this fact-finding procedure — that Archaic man occupied this area before some time between 4,500 to 5,500 years ago (Ritchie’s radiocarbon dates). That is, between this millennium and about 9,000 years ago, radiocarbon dated, when the Fluted point-using Paleo occupation at Bull Brook, Ipswich, Mass., took place, about 4,000 years is unaccounted for. Therefore, it is held that until a reliable organic sample, associated with a deep deposit of Archaic artifacts is radiocarbon measured with a date in a millennium preceding about 5,000 years ago, man’s existence in this area during the 4,000 year hiatus is irrelevant and questionable. In New York State, Ritchie expresses this view in his recent book “The Archaeology of New York State.” He presents his Lamoka culture, containing some
projectiles equivalent to Small Stem points, radiocarbon dated between about 4,500 and 5,500 years ago, to represent the earliest evidence of man in the Northeast, following that of the Paleo-American occupation of a much earlier date. In this way, he rejects the existence of a separate and distinctive Early Archaic culture, and considers but one Archaic occupation. This embraces his various Archaic culture components such as Lamoka, Laurentian and its Frontenac Island phase.

Just how one goes about justifying this rationalization as conforming to good logic is difficult to see, especially when evidence from perfectly sound typological stratigraphy — at least at the nine sites being studied — seems to present a totally different picture. It appears to this writer unorthodox and neglectful to disregard the serious and careful work of diggers, who spent thousands of hours making recoveries from these sites. These data contain convincing evidence by stratigraphic evaluation of the existence of an Early Archaic deposition below that of the radiocarbon dated Late Archaic. Stratigraphy has always been an accepted precept of archaeological study, and why it should now be discarded for lack of a suitable radiocarbon date is hard to understand. Granted, a Carbon-14 date is useful when obtainable; however, its nonexistence should not invalidate a reasonable evaluation, using stratigraphy and such other good archaeological methods of research as may seem expedient. For instance, there are those who claim no stratigraphy exists to provide a sound evaluation of trait differentiation because at no site yet reported, except Oak Island, as related in this Bulletin issue, has there occurred sterile layers of soil between presumed occupational levels. While this situation is probably so, it should not prevent observance of implement type changes that take place throughout the depth of most sites. Even though nature has not accommodated excavators by flooding or blowing a layer of silt over each occupational deposit at the end of each period of settlement, significant implement traits abound at various levels with changing types to indicate corresponding culture changes. And if such manifestations had been disregarded over the past number of years for the absence of sterile soil separating layers, very little would be known today about the aboriginal Northeast.

With these thoughts in mind, let us consider more in detail the diagnostic implement types as recovered from the lowest zones of occupation at the nine sites referred to in this paper. First, it may be well to enumerate them as illustrated (Fig. 11) — implement traits such as pounding stones, scrapers, and rubbing stones are common to all culture periods, and therefore are omitted from this study. As noted from Chart#4 and the illustrations, projectile point types are confined to Corner-removed#5, 8 and 9, Parallel Stem, and Bifurcated. Knives are represented by the ground slate Ulu, and the chipped Leaf type. The line sinker is typified by the Classic plummet, while the Channeled gouge stands out as the most unique kind of wood-cutting tool. The Oval atlatl weight is present — formerly called a Bannerstone. A new perforator appears at the Flat River site only:

<table>
<thead>
<tr>
<th>Diagnostics</th>
<th>Swan Hold</th>
<th>Nuncatusset</th>
<th>Dover Farm</th>
<th>Mill River</th>
<th>Washakumaug</th>
<th>Boats</th>
<th>Oak Island</th>
<th>Tivin Rivers</th>
<th>Flat River</th>
<th>Tot.</th>
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<tbody>
<tr>
<td>Corner-removed#5 Point</td>
<td>2</td>
<td>1</td>
<td>29</td>
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<td>8</td>
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<td></td>
<td>51</td>
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<tr>
<td>Corner-removed #8 Points</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>55</td>
<td>3</td>
<td>4</td>
<td>18</td>
<td>3</td>
<td>9</td>
<td>105</td>
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<tr>
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<td>1</td>
<td>2</td>
<td></td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
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<tr>
<td>Parallel Stem Point</td>
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<td></td>
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<td>1</td>
<td>5</td>
<td></td>
<td></td>
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<td>7</td>
</tr>
<tr>
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<td>1</td>
<td></td>
<td>3</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
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<tr>
<td>Leaf Knife</td>
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<td>6</td>
<td>5</td>
<td>2</td>
<td>14</td>
<td>3</td>
<td>6</td>
<td></td>
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<td>Classic Plummet</td>
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<td>1</td>
<td></td>
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<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Channeled Gouge</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>4</td>
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<tr>
<td>Oval Atlatl Weight</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Corner-removed#6 Drill</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
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<td>91</td>
<td>7</td>
<td>18</td>
<td>50</td>
<td>16</td>
<td>23</td>
<td>239</td>
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</tbody>
</table>

Chart 4. FREQUENCY OF EARLY ARCHAIC DIAGNOSTIC TRAITS, at nine sites in Massachusetts and Rhode Island.
Corner-removed#8 Drill. Its style seems inspired by the projectile point of the same name, which exceeds point types at most lower levels. The Parallel Stem point and Corner-removed#8 drill are new discoveries, and therefore do not appear in the Society's Stone Implement Classification, Bulletin Vol. 25, No. 1.

At Mill River site a relatively high percentage of Corner-removed#5, 8 and 9 points appeared in the lower zone, while Corner-removed#5 with some#9 were present to a greater or lesser extent at all nine sites. Of all these, Corner-removed#8 seems to have been preferred, as its high frequency indicates. The less numerous Bifurcated point, present at five of the
sites, has relatively sharp barbs in most instances. At Titicut — not included in the chart — the writer recovered 2 of these points at low levels. While both had sharp barbs, the one found in yellow sand just above the White Sand horizon had a needle-sharp barb with deep serrations extending away from it on one side only — the opposite barb had never been formed, probably for lack of sufficient stock. Because of such barbs, this kind of projectile is believed to have been used as a harpoon point attached to a bone holder, indicating the early hunting of seal and other water mammals. Such a harpoon holder was recovered with a Corner-removed type point in its socket, deep in subsoil at the Wapanucket site; is now on display at the Bronson Museum.

The remaining projectile point type, Parallel Stem, appeared at Flat River, Twin Rivers and Oak Island sites. Its chief characteristics are: a relatively long parallel stem with retouched sides that are usually ground slightly; a thinned base, often suggestive of fluting, with basal points slightly protruding at times like ears; and a steeple-shaped pointed end. These are similar traits to those of the Alabama Dalton point — radiocarbon dated between Paleo and Early Archaic times — and, because of the point’s presence at all three sites in the lowest zone, is thought to indicate the Early Phase of the Early Archaic. At Twin Rivers the point in question, recovered at the lowest level, now appears to be one of this Parallel Stem type (Fig. 11,#12). It is slightly fluted on both faces, perhaps fortuitously when thinning of base took place. Because of this find and those at the other two sites, the Parallel Stem type seems to indicate the merging of Paleo with the Early Archaic culture.

Another important low-lying implement trait at Flat River — not illustrated — is the Chopping tool. It appears as a probable new Early Archaic manifestation in New England.

When consideration is given to the Ulu, reference is made to the ground slate kind only. The chipped Ulu may be contemporaneous as another style of that knife, or it may be a semi-finished blade before grinding had reduced it to smooth, thin proportions. A most significant recovery was made at Titicut of a knife that appears to be the forerunner, or source of the Ulu (see Society Bull. Vol. 25, 3 & 4, p. 59). This blade is pecked all over, and has the general shape of an Ulu. But instead of having its entire surface on both faces ground smooth, only its cutting edge is ground to a sharp bevel. For hafting, both ends are notched as if to accommodate the wrapping around of thongs for a handle. This knife was recovered at Titicut from the fire pit of a stone hearth in the White Sand horizon, considered to be the earliest zone at that site. Such an implement has never been excavated from a higher zone at any site known to the writer. While broken fragments of the ground late Ulu have appeared in upper zones, apparently out of context as a result of disturbances of some kind, a perfect specimen and large fragmented sections have occurred in the lowest zone at four sites of this study. This should establish the source for this kind of knife with the earliest occupation at these locations.

The most popular knife at seven of the sites was the Leaf type. This is a chipped blade, relatively broad and carefully worked with one pointed end, and appears in medium to large sizes. Although apparently coeval with the Ulu, its presence at some sites at which the Ulu is absent is difficult to explain. One guess is that the Ulu may have been used exclusively by the women, who perhaps did not frequent early hunting sites, such as Flat River and Oak Island, where the Ulu was absent.

When it comes to examination of the Classic plummet, a well made symmetrical line sinker appears with a relatively small knob at the top. It is superbly shaped, as though its makers thought well of it, as part of their accepted fishing tackle. At five sites, all beside water courses, this implement appeared in the lowest zone, and not above. However, in the overlying Late Archaic zone of five of these sites occurred that which appears to be a modification, classified as a Clumsy plummet. It is usually ill-shaped, clumsy in appearance, and has an enlarged knob poorly formed. In fact, it seems to have been made without traditional pride of ownership to inspire conformity to the original classic shape, as though it were an adoption for convenience only. This appears as an instance in which an early implement of the lower zone was adopted because it was found to be useful, and was continued as a trait of a new culture, replacing an old but in a modified imperfect shape.

With reference to the Channeled gouge, recovery of it at three of the sites at lowest levels seems proof enough of its relationship to this low zone of the Early Archaic. It has never appeared in upper zones at any site known to the writer. The wide channel pecked out on both sides and back of its stem to receive hafting thongs sets it apart from the Grooved gouge with its narrower grooved pecking of later times.

The Oval atlatl weight is somewhat illusive as an early recovery, perhaps because of poor luck in
excavational work. However, it has appeared at two of the charted sites in the lowest zone, and not above, which suggests affiliation with the earlier age. Until further evidence at site excavations proves otherwise, this writer sees no reason to doubt its Early Archaic relationship.

Interestingly, the new Corner-removed#8 drill at Flat River from its earliest level seems to present a well-defined perforator style, different in basal shape from all others. Its tapered more or less pointed base, like the Corner-removed#8 point, gives evidence of relationship to this point type, as well as its proven early culture position. Also, slightly ground shoulders relate a similar condition found on some Corner-removed#8 points.

Finally, at Oak Island there existed a 12" sterile layer of silty sand overlying the Early Archaic occupation, separating it from the Late Archaic horizon just above. However, that which is most significant is that no implement traits of the Early Archaic appeared above this sterile layer. This apparently had been blown in as fine silty sand over a comparatively short space of time at close of the Early Archaic occupation, and serves as a definite dividing line between remains of the two cultures. Fortunately, at this one site true stratigraphy exists, which accomplishes more than pages of argument in furnishing proof of separation between two distinctly different Archaic culture deposits. As noted in Chart 4, the low level at this site contained most of the diagnostic traits attributed to the Early Archaic, and was devoid of later implement traits.

**DISCUSSION**

Evidence such as that from the nine sites presented for study in this paper, should be convincing testimony, it would seem, to support a belief in an Early Archaic culture period in New England, as apart from the Late Archaic that followed. Frequencies of the eleven diagnostic implement traits found at bottom levels of the sites do not recur as undisturbed depositions at upper levels, and but one — the Classic plummet — continues in modified form. In connection with this, it is well to remember that the lowest level at which a trait appears without signs of being intrusive should represent its source. The abrupt discontinuation of implement traits and replacement by different ones in the overlying Late Archaic horizon suggests an occupation by a new people with a diverse tradition. Apparently, they found the Classic plummet useful for fishing as a line sinker. But for lack of the Early Archaics' skill engendered from long years of practice making the plummet, they produced nothing better than a poor imitation in clumsy form. Evidently, all the remaining Early Archaic traits were abandoned in later times. Instead, they were replaced by new forms that performed similar duties.

For example, Small Triangular#3 and 4, Small Stem, Side-notched#1 and 5, Eared, and Corner-removed#1 and 7 projectile point types replace earlier ones. Chipped Stem and Stemless knives appear in place of the Ulu and Leaf blades. The Grooved gouge and Grooved ax supplant the Channeled gouge, and the Bow-tie, Wing, and Whaletail atlatl weights supersede the Oval atlatl weight; apparently are not modifications of the earlier traits. Such a stratigraphic implement change is clearly revealed from reports of the nine sites of this paper, and should be carefully considered before an opinion is formed about the Archaic. For, in order to support the theory held by some that racial continuity exists between the Early and Late Archaic eras, continued use of implements of the Early Archaic in identical or modified forms by the Late Archaics would have to be demonstrated by excavated evidence, which is not the case, except for modification of the Classic plummet, and possibly the Plain gouge and Bifurcated point, not yet well clarified.

When it comes to a radiocarbon date claimed by most to be missing from Early Archaic evidence of the Northeast, one Carbon-14 measure of a charcoal sample exists, which seems to dispute this claim. In Society Bulletin, Vol. 24, #3&4, p. 39, and in that of the Titicut site report, Vol. 25, #3&4, p. 60, reference is made to two charcoal samples taken by Frederick Johnson from an open hearth. This lay in the same white sand horizon where 8 relatively small stone hearths appeared, each with small fire pits for the burning of stick fuel. At this low level appeared most of the projectile point types like those already referred to as belonging to the Early Archaic. The two charcoal samples yielded radiocarbon dates that were far apart: 4,139 ± 260, and 5,750 ± 720 years ago. It seems to this writer a dangerous procedure to average these two dates that are 1,611 years apart, as is recommended in the Titicut site report. Rather, it would seem more logical to assume that the younger is in error as a result of excessive recent contamination. Certainly, common-sense reasoning should reject any belief that two samples of charcoal taken from the same hearth could be 1,611 years apart in their initial deposition. Therefore, it appears more sensible to place faith in the older of the two dates as being less contaminated, and consequently more reliable. With this thought in mind, it seems reasonable to use the extreme error correction allowed for
it of 720 years to offset any possible recent contamination, which most always is present to some extent in all samples. Adding this to the date gives a projected age of about 6,500 years ago in round numbers.

Now, referring back to Ritchie’s 4,500 to 5,500 year date as the earliest he has for his Lamoka, it seems evident that the Titicut White Sand horizon date, as herein projected, should represent an earlier age, probably sometime during the Early Archaic. Furthermore, Ritchie’s Laurentian seems all inclusive, as containing both Early and Late Archaic implement traits, appearing together as though found side by side. This writer believes there has been failure here to differentiate between the two stratigraphically separated cultures, either for lack of sufficient excavations, or a disregard for the stratigraphic positions of Archaic traits. Whatever the reasons, it appears from evidence revealed in this report that the Ulu and Classic plummet, both shown by Ritchie as implements of the Laurentian, probably should be affiliated with another culture component having an Early Archaic affinity.

Evidence from the nine site reports of this paper clearly suggests the existence after Paleo times of an Early Archaic in the Northeast. Apparently this culture was devoid of mortuary ceremonials with or without the use of red powdered ochre. At least, all excavated cremation pits or associated burials, so far reported, have been found to belong to the Late Archaic, either as a result of the artifact types found in them or from radiocarbon dating of associated charcoal deposits. The Early Archaic occupation at its close is seen to be replaced by another one made up of people with a new tradition and new implement traits, known as the Late Archaic. Obviously, if this change took place, then either the Early Archaics met a cataclysmic extermination, which is unlikely, or made a gradual exit to the north. The latter hypothesis seems to conform more to the natural environmental changes that were taking place. A short review of them may be helpful in trying to understand their relation to the probable resultant culture exodus.

The following reasoning derives from the known existence in the New England area of caribou during the post glacier era — their bone remains have been recovered in numerous places. Today, herds of the same caribou exist on the Quebec-Labrador Peninsula, where they feed upon tundra lichen and are hunted by the Caribou Indians. Now, it is probable that at some early date they lived here in this New England area surrounded by the same tundra conditions, at a time when glacial ice covered the Canadian north. Toward the close of the Ice Age when the great mass of ice slowly melted and uncovered New England, tundra gradually moved steadily northward, followed by the caribou, who depended upon it for their food. Subsequently, the Early Archaic hunters, needing caribou for their survival, probably pursued them as they gradually moved out of this area and from regions on both sides of the Hudson as well.

Having accepted this chain of events as a probable premise to the hypothesis that man made an exodus from Early Archaic camp sites of the Northeast, it is difficult to understand how anyone can envision the Late Archaic occupation as anything more than a culture replacement. Certainly, stratigraphic evidence as presented fails to support a significant overlapping of implement traits between the two ages, to provide apparent proof of racial continuity. Whether or not radiocarbon dating of the Early Archaic exists, it must be concluded that two separate Archaic culture periods, Early and Late, are well defined as apart from each other by typological stratigraphy, as well as by the sterile layer of silt separating Early from Late at Oak Island. These factors should be recognized, it would seem, as a means of determining the events of change that took place in Archaic times.

Bronson Museum, April 19, 1967
Eel River valley shows evidence of an aboriginal thickly populated area in Plymouth township. On both sides of the river, east and west, I have found artifacts in all locations that have been plowed up during the past sixty years. So I feel that it would be best to call attention only to shell sites and burials (Chart 5).

The first shell site (#1), after leaving the mouth of Eel River, was on the Ruth Hathaway land near the ocean cliff. This was a small shell site, but I know of one good pot, and quite a few artifacts that were excavated from it.

The next shell site (#2) was a large one, also on the East side of the river. It extended from Dr. Wild’s back yard over to the by-pass, from north to south, and from Charles Strickland’s to the Old Hotel Pilgrim Garage, west to east. This shell was in several large deposits varying from 2 inches thick to 4 feet in one of the gullies.

The highest point in this large group of shell deposits had no shell for this was a burial place, from which I helped remove two burials; one a twin. I had heard of two other skeletons that were destroyed, not counting the “Red Paint” burial that I found. This contained a piece of leg bone, and over 30 artifacts, including a platform soapstone pipe, and ten teeth.

There are 3 shell sites (#3,4,5) on the east edge of the Golf Course, one was near the highway, and one at Maple Swamp; this was a large one. There was one heavy deposit of artifacts, (site#6). This was near the spring on the Joe Boutin lot.

Coming back to the river, there was a large shell site (#7) in the old Jim Howard Finney garden. This was all dug out, and used by the Golf Course group — a lot of good artifacts and both soapstone and clay pottery was found on this site.

Across the river on the Langford land, directly opposite from the Jim H. Finney site, is a small shell site (#8). This has never been dug.

The next site (#9) was on the east side of the river on the Crib Browne estate. This was the most prolific site I have ever seen around Plymouth. William W. Whiting and I dug in this site for at least seven years, and each got several hundred artifacts here. I wrote several papers on this site that were published in the Massachusetts Archaeological Society Bulletin.

Almost directly across were 3 shell sites (#10,11, 12), two on the Ben Hodges land near the abandoned cranberry bog, and one at the foot of Fisherman’s Hill. These three have been dug out.

Coming back to the East side of the river, there was extra fine surface hunting from the Browne site (#13) east to the Bill Doten Farm at the foot of the Pine Hills, and from there to the springs at the edge of the old John Hadaway swamp. On the top of the ridge between the two Withington houses, there was wonderful surface hunting.

Back to the West side of Eel River, the next deposit of shell (#14) was on the west end of the
Bubbins land. The shell was not too thick here — from 2 to 4 inches. One time when Eben Morton first plowed there, I found 54 whole arrow points and a 5 lb. Full Grooved axe. It was the best surface hunt ever.

The next shell site (#15) was on what is now Bill Brewster's land, directly under the present by-pass. The last shell deposit (site#16) in the Eel River Valley was destroyed by bulldozer to get material to flood the Whipple's Cold Bottom Pond.

There still might be other shell sites under wood covered areas, or some under flooded places. However, I believe I have covered about all that have been found. Eel River runs a northerly course, and all the sites described are in an area two miles long and one mile wide.

Plymouth, Mass.
July 21, 1967

THE SMITH BROOK SITE

RICHARD Q. BOURN, JR.

The largest known cache of blades found in New England was recovered in a spring at Glastonbury, Connecticut. The site had been discovered by the writer's father late in December of 1954, at which time he found 2 blades. The first was found in grass roots at the edge of Smith Brook. The second was discovered approximately 100 feet down stream from the first on the opposite side of the brook, frozen in a small sand bar. This second blade had a slight twist to it that probably allowed it to travel further downstream.

Smith Brook is about a mile and a half south of Glastonbury center. A spring is located in that part of the brook between Main Street and Route 17. North of the spring is a housing development, where a number of aboriginal artifacts have been found. To the south, overlooking the spring, is a large hill. The bedrock of the area, visible at the brook's bottom, consists of yellow siltstone. During flash floods caused by storms the brook has overflowed its banks, thereby eroding away the sand and depositing it in the delta area of the brook, of which the spring is a part. It was after one of these flash floods, when the 2 blades were recovered. The brook had receded to its normal level leaving sand deposits here and there, when the first cache blade was discovered in grass roots.

The next weekend my father excavated the brook's bank and came up with 21 more cache blades. The rest of that winter and spring, using various methods to erode and excavate the banks of the brook, he found 66 more blades. The next winter's excavation (1955-1956) was spent in locating the origin of the cache from which the blades apparently had come. During 1956 it was decided to bail the outer rim of the spring, 110 feet up stream from the sand bar on which the second blade had been found. After a day's bailing, 35 additional blades were recovered from the sand.

A small gear-type water pump with a garden hose next was used. However, it soon became clogged with leaves. Therefore a centrifugal-type water pump had to be used, and it cleared out the spring in less than five minutes. The first day it was employed, 195 blades were found. At the bottom of the spring, from which the blades were coming, lay a large rock. Since no blades have been found up stream above this rock, it is possible that all originally may have been placed under it.

A total of 188 blades were found without the use of the water pump. When the pump was used, an additional 313 blades were found. Of the total number of 499 blades, 10 were damaged, the remainder being perfect specimens. These blades found in the brook quite obviously had been washed out of the spring by flood waters. It might be of interest at this point to note that the base of the spring consisted of red clay and hard-packed sand. The spring itself was filled with silt and mud. Photographs of the cache and representative blades are shown (Fig. 12).
DESCRIPTION AND CULTURAL AGE
OF THE CACHE BLADES

The blades are triangular in shape with straight or slightly convex bases. Their lengths range from 1 1/16 to 3", averaging about 2 3/16" long. The width of their bases varies from 3/8 to 1 3/16", the average being 1" wide. The blades are very thin, varying from 3/16 to 3/32 in thickness; are finely flaked, but with marginal retouching very rare. All 499 blades are made of the same gray chert, which appears to be Onondaga flint from New York State.

A peculiar characteristic common to about 230 of the blades was a certain discoloration noted on their surfaces. They appeared to be stained with either a redish or black tint, some with both. The red stain seems to be oxide of iron, transferred to the blades doubtless from stones having iron content. The black stain probably was caused by a coating of humates formed by decaying organic matter that had accumulated in the spring over the years. Apparently, the blades had been shaped by pressure flaking, the point of percussion being visible on 3 blades at their tip or point extremity.

The cache may have been manufactured by a group of aborigines belonging to the Early Woodland, Meadowood Phase (Ritchie, 1965, p. 179). This phase is radiocarbon dated between 841 B.C. ± 68 to 630 B.C. ± 100 (Ritchie, 1965, p. 180). According to Ritchie, cache blades identical in size, shape and material to those recovered at the Smith Brook site have been found at the Indian River sites in Jefferson County, New York. The New York blades were used as burial offerings — "therefore the cache blades found at the Indian River sites are referred to as mortuary blades," (Ritchie, 1955, p. 42). However, the Smith Brook blades did not appear to be part of a burial offering, since no other artifacts or mortuary remains were found with them. Therefore, the writer believes that they were hidden, or simply stored under the stone in the spring for future use — perhaps as mortuary blades. (Typologically and culturally, these cache blades appear to belong to New England’s Late Archaic industrial age of stone bowl-making — Ed.)

Old Saybrook, Conn.
December 1966

REFERENCES

Ritchie, William S.
The following paper is based upon a series of notes found among the papers of the late Howard Torrey and sent to the Bronson Museum, together with the Manuscript of a paper entitled "The Indian Rocks of Cape Cod." This last was published by the Massachusetts Archaeological Society agreeable to a clause in the will of Mr. Torrey, and paid for by the executors of Mr. Torrey's estate as he directed. It seems quite evident that Mr. Torrey intended to write another paper from the notes he had assembled. Accordingly, this paper has been written in much shorter form than Mr. Torrey originally intended. We hope that we have presented the evidence much as Mr. Torrey would have done. The accompanying photographs are also by Mr. Torrey and were included with the notes.

It was November of 1620 and the Mayflower lay safe at anchor in the "good Harbor" of Cape Cod. The weather was threatening and the Pilgrims were becoming anxious. It was high time that they should find a place for their new world home before the winter storms came. The small boat that they had brought with them in sections was being reassembled but unaccustomed fingers made of it a long job. Sixteen of the more adventurous of their number decided to set out on foot. Sixteen, heavily encumbered with half armour, armed with cumbersome matchlocks, and commanded by their military chief, Myles Standish, were landed in one of the Mayflower's small boats at what is now Provincetown. Crossing the narrow peninsula they proceeded along the outer shore of the Cape. They had not gone too far when, "they espied five or six people with a dog coming toward them, who were savages, but they fled from them and ran up into the woods." The English endeavored to follow as they wished to speak with them if possible. Lumbering along under their heavy load of clothing and arms they were no match for the Indians and soon lost sight of them in the underbrush. "So, night coming on" they decided to camp where they were. The following morning they again took up the trail but got themselves so entangled in the dense undergrowth that they were forced to give up the attempt. Finding a path upon which they could travel with less difficulty they were led across the Cape and finally arrived on the Bay shore. Here they came upon evidence of human occupation, "a good quantity of clear ground where the Indians had formerly set corn and some of their graves". A little further on they found more corn stubble, "where corn had been set the same year; also they found where a house had been, where some planks and a great kettle were remaining and heaps of sand newly paddled with their hands. Which, digging up, found in them divers fair Indian baskets filled with corn and some ears, fair and good, of divers colors, which seemed to them a good sight, having never seen any such before." Bradford places this discovery as near the place of a supposed river that they had noted from shipboard and which they were seeking. "... they found it to open itself like two arms with a high cliff of sand at the entrance." This was, of course, the present Pamet river, a flat creek that nearly bisects the cape in the town of Truro (Chart 6).

Having determined that the river was salt and that the harbour at its entrance was good only for small boats and, "their time being expired", they made their way along the Bay shore to the Mayflower, bearing with them the "fruits of the land" to show to their companions.

A BRASS KETTLE RECOVERY AT CORN HILL, CAPE COD

MAURICE ROBBINS

About a week later, their boat being now ready for use, a second exploring expedition was organized. In the meantime the weather was rapidly becoming less favorable, as they had feared it would. Snow had fallen and a thin mantle of white blanketed the earth. A group of about thirty, including some of the sailors as well as Pilgrims, and commanded this time by Master Jones of the Mayflower, sailed off at dawn and headed across the bay toward the mouth of the Pamet. They landed a portion of their company at the foot of what is now known as "Tom's Hill," where the shallop paralleled their course by water, they endeavored to see if the river would become fresh and if a suitable place for their settlement could be found on its banks. However, again being
A BRASS KETTLE RECOVERY AT CORN HILL, CAPE COD

heavily encumbered they became tired of traveling through this rough country and turned back short of "the head of the river", they retraced their steps to the hill on the Bay shore. They then decided to explore a bit along the lesser stream (Little Pamet). Here they saw "two canoes, one on the one side, the other on the other side". This was evidently a ferrying place on the Indian trail. One of the canoes they said, "carried . . . [them] over seven or eight at once".

Having gotten themselves dry shod over the river they came upon more clear ground and, near another hill, evidences of a former Indian village. More heaps of sand reminded them of those that had yielded the goodly store of corn found on their previous expedition. Selecting one, "much bigger and longer", than the rest, that was covered with boards, they proceeded to dig it up. Buried therein, under mats, they found dishes, a bow, and another, "board about three quarters [of a yard] long, finely carved and painted, with three tines or broaches on the top like a crown." Also there were, "two bundles, the one bigger, the other less". The larger contained, "a great quantity of fine and perfect red powder, and in it the bones and skull of a man. The skull had fine yellow hair on it, and some of the flesh unconsumed. There was bound up with it a knife, a packneedle, and two or three old iron things. It was bound up in a sailor's canvass cassock [a long outer garment] and a pair of cloth breeches. The red powder was [they thought] a kind of embalment, and yielded a strong but no offensive smell; it was as fine as any flour." The smaller bundle, the wrapping of which they failed to describe, contained, "the bones and head of a little child," also, "in red powder and adorned with strings and bracelets of fine white beads. There was also a little bow about three quarters [of a yard] long, and some other odd knacks." They took "sundrie of the prettiest things . . . . and covered the corpse up again."

"There was a variety of opinions amongst [the Pilgrims] . . . . about the embalmed person." Some thought it was "an Indian Lord or king." Others said, "the Indians have all black hair, and never was seen with brown or yellow hair." Some thought it was a "Christian of some special note which had died amongst them . . . . others thought they had killed him. . . ." No mention was made of the child's hair so presumably there was none, for it's color would surely have been a factor in their controversy, if it were present.

Not far away, in some round, mat-covered "houses", which had been lately dwelt in, "were wooden bowls, trays, and dishes, earthen pots, hand baskets," of various sorts, "also an English Pail or bucket, which wanted a bail, but had two iron ears," and, "sundry other . . . household stuff." "Some of the best things they took away." They, "also dugged in a place a little further off and found a bottle of oil." At another spot in the village they saw, "four or five old planks laid together, where a house had been," and there they appropriated to their use, "a great kettle, which had been some ship's kettle and brought out of Europe."

The things of much greater concern to them, however, were found stored under other heaps of sand, and consisted of, "a bag of beans" and several baskets containing, "about ten bushels" of Indian corn. They could not carry off all of their booty, so, "took all the ears and put a good deal of the loose corn in the kettle" for two men to bring away on a staff. Later these products of Indian labor proved to be veritable treasures, in fact Bradford tells us, "And sure it was God's good providence that we found this corn, for else we know not how we should have done . . . ." Having noted the fields of, "new stubble", the Pilgrims named the place Cornhill, which name it retains to this day.

Leaving Bradford for the moment, let us turn to the "Declarations of Phinehas Pratt" written in 1622 and reprinted in 1854 and see what he has to contribute. Pratt tells us that during the winter of 1622-23 an Indian named Pexsouth, whom he calls "an Indian penesis or sachem" came to the English settlement of Wesaguscasit (Weymouth) and told him among other things that there was a French ship "broken by storm" that was cast away on Cape Cod some years ago. The crew or most of it got ashore and saved most of their goods, which they hid in a hole in the ground. The surviving Frenchmen were eventually killed or captured by the Indians. "We made them our servants, gave them such meat as our dogs eat" were the approximate words of Pexsouth. One of them, he continued "had a Book he would often read in". The Indians asked him what his book told him and he replied that there would be a people, like the French, come into this country and drive you all away." He added that, "we now think you are they". He added other details also saying that these Frenchmen lived but a little while but long enough to disclose under pressure where they had buried the goods saved from the wreck. Also he said that one of the Frenchmen lived longer than the rest as he "had a good master who gave him a wife by whom he had a son who was then alive." Dermer telling of his experiences in June of 1620 says that, "Here at Numastaquet [Middleboro, Mass.] I redeemed a Frenchman, and afterward another at Mast-
chusit, [Massachusetts], who three years since [1616] escaped shipwreck at the Northeast of Cape Cod.”

Bradford also had this story from a letter given to him by a friend and alleged to have been written by Dermer. He says, “about three years before a French ship was cast away at Cape Cod, but the men got ashore and saved their lives and much of their victuals and other goods. But, after the Indians heard of it, they gathered together from these parts and never left watching and doggong them till they got advantage and killed them all but three or four which they kept, and sent from one sachem to another to make sport with them, and used them worse than slaves, of which the aforesaid Dermer redeemed two . . . .”

If we are to properly assess the background against the drama, which these fragmentary tales partially unfold we should take a close look at the physical attributes of the area in which they took place. Corn Hill, the name given to the area so long ago by the Pilgrims still appears on the North Truro Quadrangle of the U.S.G.S. map. It is applied to a prominence faced on the west by a rather high Cliff, on the Bay side of the Cape in the town of Truro. It extends some five-eighths of a mile northerly from the salt meadows bordering the Little Pamet river, to a dry glacial outwash valley - cut by meltwater running from a small ice front - known as Great Hollow. On the east the southern half of Corn Hill is flanked by an arm of salt meadows, but the northern half merges with the land further east. The surface of the hill is gently rolling but the northern portion is deeply indented at one spot by a glacial kettle hole, a steep sided depression in the glacial drift marking the former location of a partly buried ice block. In wet seasons this kettle hole retains water and becomes a tiny fresh water pond (Fig. 13). However, the surrounding contours indicate that it is being filled slowly by slope wash. The base of the slope is already covered to a depth of four or more feet above the original surface. The depression was once of sufficient depth to have held a much larger body of water. Another source of potable water was to be had in former springs at the edge of the Little Pamet. Adjacent to the kettle hole are several level spots that show signs of having been cultivated.

The south side of the hill is much too steep for agriculture or for the erection of wigwams, although practically all of the surface bears evidence of Indian occupation. The westerly portion is in part covered with wind-blown sand, the occupation level beneath being clearly marked at intervals along the cliff by a dark streak of charcoal-bearing sandy loam, protected remnants of an old forest floor. Within recent years a number of Indian stone artifacts and many chips have been found here. On the sunny slopes of the natural shelter, around the kettle hole, however, there is a concentration of evidence of occupation, shells of molluscs from the adjacent flats; bones of various mammals and fish; wood ashes and charcoal from countless cooking fires; and, thickly intermixed with all this debris are artifacts and chips from their manufacture. In other words, the sod and slope wash that now cover this slope conceals a sizable shell heap or kitchen midden deposit. The heaviest of this deposit is on the area protected from the cold northwest winds. Howard Jones of the Massachusetts Archaeological Society has, in his collection, a number of kernals of charred corn which were uncovered near the base of the deepest portion of the midden. They lay in a closely packed portion, as if discarded while still attached to the cobb.

This sheltered portion of the area has been given a number of names by individuals who have searched the heap for Indian materials. Ross Moffett has called it, “The Railroad Site”; it has been referred to as “The Perry Site” because of ownership; to others it is “The Great Hollow Shell Heap”, in spite of the fact that
Great Hollow, according to the Geological Survey map, is the valley on the north, one of a series of westerly declining, glacial outwash valleys which cut the lower Cape. The shell heap is very definitely in the kettle hole, which in turn is in the very heart of the Corn Hill site, so it would seem that the name given to it by the late Warren King Moorehead, "The Corn Hill Shell Heap" is the most accurate.

About a thousand feet north-west of the shell deposit and adjacent to the base of the hill, there is a comparatively short descent to the beach at the dune-blocked end of Great Hollow. Here the darker layer in the bank is thicker than along the face of Corn Hill, and, in addition to charcoal and scattered implements, the layer contains shells and other refuse. Here the layer is normally obscured by slides, however, it is occasionally subjected to erosion and a freshly cut bank is exposed. As this dark layer is traced it appears to follow the old transverse contour of the valley. It dips like a syncline under from five to fifteen feet of overlying sand, and the lowest section, a stretch of some fifty feet, consists of peat about three inches in thickness and is considerably below the present beach level. On rare occasions, when a considerable amount of beach sand has been blown away, the peat lies exposed as a broad but broken bed stretching outward on the denuded beach in a line with the present valley. The outermost portion is so eroded as to expose a mass of interlaced roots, dotted with sizable tree stumps. Nearer the bank the remains of rushes are to be seen. Here is probably the ancient lower end of the valley which was probably dune-blocked as it is today. It evidently contained a small stretch of swamp, with perhaps a central pond bordered by cat-tails, like the Village Pond in a similar location in North Truro today. Both the Corn Hill shell heap and the Great Hollow heap appear to have been within the Indian village of Pamet. The heaps are clearly shown on a map by Chase (1885) and are said by him to mark the site of ancient Indian settlements. It seems most probable that the graves and the stores of Indian corn found by the Pilgrims on that bleak November day of 1620 were within this village.

Connecting the two heaps is a little hillside valley. This valley, like another on the opposite side of the hill leading up from the head of the northerly branch of the Little Pamet, provided easy grades to the rim of the kettle hole and served as access trails. The canoe ferry mentioned in Bradford's tale served as a link between the hill trail and the river trail to the beach.

It is difficult to visualize the area as it was in 1620. In particular the Pamet Valley with its great meadow. Now the tide water is excluded from the upper half by a highway dike and the houses of Truro dot the sides. Houses and an access road occupy the southerly end of Corn Hill and there has been a general loss of forest cover. Then too, a graded railroad right-of-way runs the entire length. In ancient times, however, Corn Hill, with its natural shelter, fresh water pond and springs, and its ready accessibility both from the Bay and the Ocean shores, made it an attractive aboriginal site. We cannot know for certain whether or not the village of Pamet was occupied by Indians in 1616-17. From our knowledge of the semi-sedentary habits of these people it seems possible that it was not. This is strengthened by the historical events the legends above chronicle.

If we can be permitted to attempt a reconstruction, here may be the story of an ancient catastrophe. One stormy day in 1616 or 1617 a French ship was beating its way along the outer shore of Cape Cod. These are dangerous waters, and doubly so in that day when there were no charts, lighthouses, or other aids to navigation. In some manner, which was not explained, the little ship became disabled in such a manner that its crew lost control over the movements of the ship. Caught on a lee shore, without sea room, the vessel, buffeted by tremendous waves and probably blown by a northeast gale, struck on the outer bar; one more victim of the mighty Atlantic, ashore in this graveyard of many ships before and after. Probably she lost her spars and upper works when she struck, and thus lightened, the next great wave picked her up bodily and flung her over the bar and into the quieter waters next to the beach. Somehow she held together and somehow her crew, "got safe ashore" as both Bradford and Dermer tell us.

Ships of that day were small and of light draft. A typical merchantman had a hull approximately ninety-six by twenty-six feet, and drew about twelve feet of water. Like craft of comparable size today this one would have been piled up on the beach without too much hull damage. A ship, once on the beach, if not immediately broken up in the surf, is accessible at low tide after the storm has abated. This must have been the case in this instance, as we are told that the Frenchmen saved most of their "victuals and other goods".

Exhausted by their ordeal and by the immense labor of unloading the stranded vessel the survivors were faced by another set of problems. Here they were stranded on an unknown shore, probably peopled by savages. No matter which way they looked
the wide beach terminated in high and unscaleable cliffs of sand, even though one were empty handed. They must find a way to escape from this exposed position before the savages discovered them and they must take with them at least some of the food and drink upon which their lives depended. Probably they plodded along the beach in both directions for many a weary mile, seeking some break in the sand cliffs through which they might gain a footing on the upland. Newly cut by the winds of the recent storm the cliffs stretched on and on. At last, after much searching, the dejected band clothed in their canvas cassocks and cloth breeches, discovered a welcome gap in the barrier and entering this natural gateway found themselves on the headwaters of a meandering, meadow-bordered stream flowing toward the west. Moreover, along the adjacent high ground ran a narrow trail, obviously worn by human feet. This could mean enemies, but it also provided a way inland where one could hide if necessary. Returning to the site of their shipwreck they quickly buried the larger portion of their goods and carefully smoothed over the sand. The wind would soon complete the job, and the site must have been marked in some way, so that they could find it again.

Carrying with them sufficient to meet their immediate needs and probably well armed against the unknown dangers of this strange land, they returned to the gap in the cliff and worked their way along the little river to the Bay-side of the Cape. Among them was a man with yellow hair, and another who carried beneath his arm a book—probably a priest as the literate sailor was in that day almost unknown. This was the route which Standish and his Pilgrim soldiers were to follow some three years later. It is nearly four miles across the Cape at this point.

At last they came upon what seemed to them to be the haven they sought. A sizable hill from the top of which a watch for a European vessel might be kept. At its foot were fresh springs, and before it a shallow harbor full of shellfish. According to Mourt, "these sheltered waters were compassed about to the very sea with oaks, pines, juniper, sassafras, and other sweet wood . . . ." Here they would build a strong fort and watch tower to which they could eventually bring the rest of their goods now buried on the outer shore. The nearby Indian village must have been unoccupied at the moment as Bradford, in his story, says, "when the Indians heard of it . . . ." an indication of some delay which would not be the case if Indians were living nearby.

However, the Frenchmen had little choice. They could not travel far, burdened with their goods and food. Where, in which direction should they go? One place was as good as another as far as safety from Indians was concerned. At least they had here fresh water, a high lookout, and the prospect of natural food if their own became exhausted.

The immediate need was a fort of some kind which, with their superior weapons, they might be able to maintain against attack. Where would this fort have been built? Certainly not at the foot of the hill where its occupants would be exposed from an enemy on the higher elevation. The fort must have been near the summit of the hill. So hopefully they went to work, felling trees and building a sort of fort or palisade, the fort that the Pilgrims were to discover and recognize as having been built "by Christians".

The rest of Bradford's sentence. . . . "they never left doggong them till they got advantage and killed them all but three or four . . . ." tells the story. For days they were watched by unseen eyes from the forest about them. If one strayed from the rest, or exposed himself unduly, he was the victim of a silent arrow. No time to stop, the fort must be built high enough to stop this deadly rain of arrows. No rest at night for fear of a sudden rush in the darkness. No time; and indeed no one dared to return to regain the goods buried in the sand. One by one the little band were killed until the remaining three or four could no longer hold out and were taken by the Indians. Among them the man with the yellow hair and the owner of the Book. According to Pesxouth one of the Frenchmen "had a good master, who gave him a wife and by her he had a little sone who still livs [1621-22] ." If our deductions are correct this man could not have been the priest who was continually reading his Book but may well have been the man with the yellow hair. This characteristic may indeed have been the incentive for keeping this man alive and for giving him a wife. Yellow hair was so unheard of among the Indians that he may have been considered as something quite special, and perhaps favored by the gods, not to speak of the Indian to whom he was married. If this were he, then he died shortly before 1621 and was ceremonially buried complete with red paint and other grave offerings by his Indian captors. Possibly there were more than one child born of this mixed marriage, and the child included in the burial was it, unless Pesxouth was mistaken when he said the child still lived in 1622.

It is also possible that somewhere on Tom Hill, probably near its summit, there still exists remnants of the "fort or palisade, that the Pilgrims saw on their journey to Pamet in 1621 and thought was built by
A BRASS KETTLE RECOVERY AT CORN HILL, CAPE COD

It might be interesting to look for it. Another interesting bit of information given to us by Bradford is that which concerns the "board about three quarters long, finely carved and painted, with three tines or broaches on the top like a crown". I would call your attention to an Indian-made brass spoon found within a small clay pot in an Indian grave at Wapanucket 1. On the handle of this spoon there appears the three tines or broaches at the top something like a crown. Perhaps this design element has some specific meaning and it might be worth while to know if there are other instances in which it was used (Fig. 14).

In August of 1864 two lads, William P. Rich and his cousin, were exploring the top of the cliff on the Bay side of Corn Hill. Somewhere on the face of the bank which had been newly cut by erosion they noted a very black streak two or three feet below the surface. A little digging soon exposed a human skeleton, which they assumed was that of an Indian. With the skeleton was a "stone hatchet" and a small, heavily patinated container of brass. The stone hatchet and the tiny copper or brass kettle together with a number of human teeth are now in the collection of Richard H. Wakefield of Seattle, Wash. In the notes of Mr. Howard Torrey, who examined the artifacts, the stone hatchet is called a clet, so I presume that it is a grooveless ax. The brass vessel is indeed a tiny one, weighing only 1 ½ ounces. It was made from a single piece of metal by hammering. The bottom is concentrically indented by the hammering process. The "kettle" itself is 2 ⅜" in diameter and 1 25/32" in height (Fig. 15). At the upper edge, the metal was turned over and around a ring of iron wire to form a stiff edge about 3/32" in diameter. On opposite sides, just below the rim are pairs of small, ragged holes, spaced approximately ½" apart. Around each pair on the exterior surface of the vessel there is a slight semicircular impression about ⅛" wide and ⅛" in height.

These impressions and holes obviously indicate the position of riveted-on tabs, into which the ends of a missing handle or bale were once inserted. The diminutive size of this vessel makes the term "kettle" seem incongruous. In the collections of the National Museum in Washington there is a similar small brass vessel, 5" in diameter and 3" deep, which comes from a site in the Susquehanna Valley of Pennsylvania. W. M. Beauchamp illustrates two of these small brass "kettles", about an inch larger than the Corn Hill specimen, said to have been found at Honeoye Falls, New York. Beauchamp says that for trade purposes kettles were often made in graded sizes, nested, and that travellers preferred those which were small and light. The Corn Hill specimen may be the smallest, or one of the smallest, in such a nest.

In 1915, a somewhat similar grave was discovered at this site. It was excavated by the late Dr. Warren King Moorehead of the Robert S. Peabody Foundation at Andover, assisted by W. W. Taylor and Fred A. Luce. In the notes of Howard Torrey the statement is made that no account of this work has ever been published. This grave was at a spot some eighty feet above sea level on the north end of Corn Hill,
adjacent to the west side of the railroad cut. It was, in fact, partially exposed on the face of the cut. A small portion of the grave had been disturbed by erosion. At eighteen inches below the surface a two inch layer of "narrow board-like" sticks were encountered. These were about two feet in length, an inch in thickness and from two to five inches in width. They appeared to have been roughly split from a log of white pine. They lay parallel to one another, covering an area approximately two by three feet. The upper surfaces of the wood were slightly charred.

Under the boards or sticks a substance called ash appeared and below this was the skeleton of what Moorehead believed was an Indian. The skeleton was completely imbedded in red hematite, a consolidated hematite powder, according to Torrey's notes. No grave goods were found. The entire content of this grave, including the hematite and wood, was removed "en masse" and according to the notes, is now at the museum of the Haverhill Historical Society.

Bronson Museum
December 12, 1966

From the Secretary: By recommendation of the Trustees, Bulletin, Vol. 29, #2 has not been mailed to 1967 members, who have not as yet paid their 1968 dues — which is to say, if you have not received this Bulletin issue, probably it is because you have failed to renew your membership. So, if you know of a Society member in your Chapter or elsewhere, who wonders why he has not received a Bulletin since last October, ask him to check to make sure he has paid his dues. Of course mistakes can be made in mailing, so if you find you have paid and have received your 1968 membership card, write the Secretary, so that the reason for the delay may be discovered and taken care of.

Also, notify the Secretary if you have changed your address giving full mailing instructions, for Bulletins as third class mail will not be forwarded by the post office from an old address. Undelivered Bulletins will be returned to us, but subject to our paying the postage due, which is costly since the advance in postal rates. So, please keep the Secretary informed of any change in your address.

The fact that the Massachusetts Archaeological Society is now the largest state archaeological Society east of the Mississippi is reflected not only in the number of paid-up members, but in the activity of Society members in research, and in the worth of published reports in the Society's quarterly Bulletin. The Society's growth over the 28 years, since its organization, has taken place with no advance in dues. This record has been made due to a steady yearly membership increase above the loss of members who failed to renew their memberships.

Anyone interested in archaeological research, especially in New England, is invited to apply for membership in the Society by writing the Secretary.

In Memoriam: We regret to announce the death of Dr. J. Alden Mason on November 7, 1967, Devon, Pa., after a long illness at the age of 82. A well-known archaeologist, for many years associated with the University Museum of Philadelphia, he will be long remembered as an enthusiastic participant in Central American as well as North American research.

The death of H. Geiger Omwake on December 31, 1967, in Washington, D. C., at the age of 60, is also a loss that will be felt by many. He was an authority on kaolin pipes and was a prolific writer on this subject.