Bulletin of the Massachusetts Archaeological Society, Vol. 14, No. 2

Massachusetts Archaeological Society

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PUBLISHED BY THE
MASSACHUSETTS ARCHAEOLOGICAL SOCIETY, INC.

Maurice Robbins, Editor, 23 Steere Street, Attleboro, Mass.
William S. Fowler, Secretary, Bronson Museum, 8 No. Main Street, Attleboro
One of the more important of several shell heaps exposed in sandy cliffs on the east side of Cape Cod Bay is the Ryder Beach site (M 42-1), in the extreme southwestern corner of South Truro, Massachusetts. Owing to a cutting back of the shore line and a movement of wind blown sand, it is difficult to envisage this site as to its original situation, but as nearly as can be determined, the Indian debris was laid down in a gentle hollow well up on a hillside sloping southeasterly to a small marsh, the latter very likely having once served as a canoe landing. From this marsh there was perhaps a water route to the south, through a complex of marshes to Wellfleet Harbor (Fig. 30). Probably also there was in Indian times an access from the small marsh to the bay shore proper, through a channel between the Truro mainland and Bound Brook Island, this opening now blocked with dune sand.

As seen in the face of the cliff, the profile of the site consists of two separated lines of dark material, which for purposes of identification will be designated as the north and south middens. To remark on the least important deposit first, the south midden, which lies near a summer cottage poetically labeled BEDSYDE MANOR, is a thin (3-4") lens of black earth and shell of meager content. It is some ten feet above beach level and covered with about four feet of dune sand. It is possible, of course, that this stratum is the remaining border of a once important shell heap.

Most of the information regarding the site was obtained from the fairly large north midden, 35 yards from the other midden, and near a second cottage, this one nameless. Viewed from some distance in front of the cliff, the eroded edge of the north midden is a sagging blackish lens, with the central and lowest point elevated 20 feet above beach level. Below this deposit, yellow glacial sand slopes at an angle of slightly less than 40 degrees with horizontal, while above the Indian debris, dune sand has collected to a maximum thickness of eight feet. Being capped with bushes, the face of this wind blown sand inclines at a steep angle which sometimes approaches perpendicular. Owing to the continual erosion, objects from the shell heap, and sometimes even split-off portions of the shell heap itself, are constantly sliding down the bank.¹

To continue further with the north midden, it may be said that as of 1948, when the profile was cleaned off and examined, it consisted of two strata. (1) An upper layer, 105 feet long, was of dark sand, grading from blackish gray at the top to blackish brown towards the bottom, and having throughout some 50 feet in its central part, a thickness of from eight to eleven inches. Thinly interspersed in this stratum, were broken rocks, bone fragments, and small grains of charcoal. (2) A lower stratum was of black earth and shells. It began as a thin line 15 feet from the south end of the dark sand, gradually increased in thickness to an average of about six inches, and ended abruptly 45 feet short of the north extremity of the site. Most of the artifacts seem to have been in this deposit, which doubtless represented a time of fairly intense occupation.

¹ It is difficult to say how far back the cliff here has worn back since Indian times. That there has been a considerable erosion of the shore and a rise of the strand line is attested by the fact that peat and tree stumps are to be seen in place near the site of the beach at low tide. At the present time it is apparent that BEDSYDE MANOR is a doomed castle. After several years observation of the locale, I would estimate the rate of shore erosion here at from one-half to one foot a year. According to this, a strip of from 200 to 400 feet of ground has disappeared since the site could very well have been occupied, which would place the location closer to the marsh than to the ancient shore line.

From time to time, pits of the more ordinary sort have come to light in the eroding profile of the north midden. One exposed in 1948, at about the exact center of the site, had sloping sides, a width of six feet, and a depth of 16 inches as measured from the bottom of the black earth stratum which extended across the pit. A seven inch lens of solid shells occupied the upper part of this depression, and a nine inch thickness of grayish sand filled the lower portion. No hearth or fire-bed was discovered in the examination of 1948, although two years later reddish burned sand was seen in one place underlying the black earth layer.
BURIALS

Late in November of 1947 I found the skeletons of an Indian and a dog, in proximity, at the north midden. This discovery was made a few days after an unusually violent storm had cut heavily into the cliff, leaving the shell heap projecting as a narrow ledge, the profile of the midden and about one foot of the underlying sand having been sheared off to give this ledge a perpendicular face of approximately two feet. The storm had eroded directly into a pit, exposing and partly destroying the human remains.

The data salvaged from the undisturbed earth are as follows: The pit was 17 feet north of the exact center of the midden and at a point where only the dark sand layer was present, the stratum here having a thickness of 11 inches. Dipping 15 inches below the normal bottom line of the midden, the pit had a lower fill of light gray sand flecked with grains of charcoal, and an upper fill of blackish brown sand. No difference or demarcation between the latter and the regular dark sand of the midden was visible. All of the human bones found en situ were in the upper or dark fill. The skull was to the north, the face to the sky, with its long axis north and south. There had been some settling of the head towards the shoulders, doubling the neck vertebrae up within the jaws. The left shoulder was to the left of the skull, indicating a horizontal placement for the upper part of the body, in keeping with the face-up position of the head. The left arm was drawn down and flexed, with the hand brought up to the face. Apparently the right shoulder and arm had had a corresponding arrangement, although on this side only fragments of the hand and forearm were still in place. Remaining in the ground were some pieces of leg bones, signifying that the lower-leg bones had been brought up to the femurs, the latter being turned to the left and probably making an angle of about 90 degrees with the backbone which had fallen out of the profile of the pit.

To comment further on the human bones, it is to be said that the skull, which was found in good condition, is of medium proportions, the cephalic index being close to 77. According to opinion more expert than my own, the individual was at least 50 years old. Some of the teeth were lost during life, while others show effects of disease. Of the long bones, only the left humerus and the left radius are complete enough to furnish overall measurements, which are 12\% and 10 inches, respectively.
Owing to the distinct difference between the upper and the lower fill of the pit, a question arises as to whether both burials were made at the same time. Without being able to supply a definite answer, I am inclined to conjecture that we may have here a case in which a pit of known location was re-excavated to receive the human burial.

**ARTIFACTS**

All classifiable artifacts found at the site to this date are listed below. Triangular points, pipes, and a bone awl were depicted in connection with my brief mention of the site in an earlier number of this bulletin (Vol. 7, No. 2, Fig. 5, Nos. 76-83). Specimens of types not shown there are illustrated in the accompanying figure.

**STONE**

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Length (mm)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORTH MIDDEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large Triangular Point</td>
<td>27</td>
<td>35-60</td>
<td>Mostly thick and crude.</td>
</tr>
<tr>
<td>Truncated (Narrow Pentagonal)</td>
<td>1</td>
<td>50</td>
<td>Fig. 31, No. 5. Felsite.</td>
</tr>
<tr>
<td>Truncated (Broad Pentagonal)</td>
<td>1</td>
<td>45</td>
<td>Fig. 31, No. 4. Felsite.</td>
</tr>
<tr>
<td>Asymmetrical Knife</td>
<td>1</td>
<td>60</td>
<td>Fig. 31, No. 7. Quartz.</td>
</tr>
<tr>
<td>Lanceolate Knife</td>
<td>1</td>
<td>100</td>
<td>Fig. 31, No. 2. Quartzite.</td>
</tr>
</tbody>
</table>

*In sand below shell heap.*

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Length (mm)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOUTH MIDDEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large Triangular Point</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elongate Point</td>
<td>1</td>
<td></td>
<td>Fig. 31, No. 3. Felsite.</td>
</tr>
<tr>
<td>Truncated Point</td>
<td>2</td>
<td></td>
<td>Fig. 31, Nos. 6, 8. Felsite.</td>
</tr>
<tr>
<td>Truncated Point (Very large)</td>
<td>1</td>
<td>100</td>
<td>Fig. 31, No. 9. Thick, but with retouched edges.</td>
</tr>
<tr>
<td>Celt</td>
<td>1</td>
<td></td>
<td>Fig. 31, No. 11. Well made and polished.</td>
</tr>
</tbody>
</table>

**BONE**

North Midden

Bone artifacts consist of three awls, one of rough splinter type, and two of deer ulna type.

**POTTERY**

North Midden

The pottery found in connection with the burial pit comprises most of the rim sherds of a vessel having the following specifications: a mouth diameter of 26 cm.; a straight side and rim; a flattened and outsplayed lip; a smooth interior; and a reddish, cord surfaced, undecorated exterior (Fig. 31, No. 1). Wall thicknesses range from 6mm. near the lip to 1cm. well down on the body. The temper is coarse shell, and the paste soft and friable. Unfortunately, the shape of the bottom can not be determined.
Other pottery from this section of the site consists of small sherds belonging to some eight vessels, of which three are represented with rim fragments. Aside from variation in size and in wall thickness, all of this pottery appears to be of the type above described. However, as seems the case with this kind of pottery, the interiors are sometimes plain and sometimes channeled. Probably all of this ware was formed by coiling, although definite coil breaks show on only one specimen. In regard to this, it is to be noted that one piece of baked coil was found.

Clay tempered with shell also occurred at this midden in the way of a small fragment of a tobacco pipe.

South Midden

Only two pottery specimens were found in this section of the site. Both are body sherds, shell tempered and with smooth exteriors and interiors. One sherd shows a series of fine parallel striations.

DISTRIBUTION OF ARTIFACTS

Little in the way of excavation is possible at this site, and a considerable number of the recovered artifacts were found loose on the bank. From time to time, however, small tests were driven a foot or so into the north midden, and these were doubtless adequate to determine the typological stratigraphy, which obviously involves no complex problem. At the north midden nearly all the specimens found in place were in the black earth and shell layer. One triangular point and a few potsherds, the only artifacts taken directly from the brown sand, indicate the same typology for the upper stratum. The object listed as a lanceolate knife was discovered two inches down in yellow sand below black earth and shell, and it may be a chance specimen dating from an early period. However this may be, there were no chippings or broken rock in the underlying sand to further indicate an early occupation.

It will be remembered that the only two sherds that are not cord surfaced came from the south midden. Along with this it is to be said that three of the seven points from this midden exhibit a feature not found at the larger section of the site, namely, an expansion from the base to about midway of the implement. Accordingly, there is a suggestion of some slight chronological difference as regards the two parts of the site.

CONCLUSIONS

To judge by the prevailing type of pottery the Ryder Beach occupation, at least as concerns the north midden, pertains to Late Intermediate ceramic times. Cord surfaced, straight sided, undecorated, shell tempered vessels, such as we have here, appear to constitute the most-wide-spread of relatively late, ceramic types on Cape Cod, which may argue a priority for this type respecting the shell tempered series. That the Ryder Beach sort of manifestation extended throughout the whole of Cape Cod is indicated by the report of seemingly identical pottery and triangular points from Site 1 on Sandy Neck (Bullen, Ripley P. and Edward Brooks. 1948. “Shell Heaps on Sandy Neck, Barnstable, Massachusetts”. Bull. M. A. S., Vol. 10, No. 1). Tentatively, I would divide the Late Intermediate pottery period for Cape Cod into two phases. The first or earliest has pottery wholly or predominately of the type found at the present site and is exemplified by Ryder Beach site and Sandy Neck 1 site. The second has not only the Ryder Beach type of pot, but also straight sided, coarse shell tempered pottery decorated with horizontal and diagonal cord-wound stick indentations, and this last phase of Late Intermediate ceramic times is the one present in the upper level of the Seth’s Swamp site, in Wellfleet (Torrey, Howard. 1946. “Evidences of Typological Stratigraphy at Seth’s Swamp Site”. Bull. M.A.S., Vol. 7, No. 3); at the unpublished Indian Cove Spring site, another Wellfleet site excavated by the late Howard Torrey; and in the upper level of the Rose site, in Truro (Moffett, Ross. 1951. “The Rose Site.” American Antiquity, Vol. 17, No. 2). This chronological distinction, however, is at present based on site to site comparisons, rather than on clear evidence of superposition.

Ross Moffett,

Provincetown, Mass.

May 30, 1952
The stone illustrated in Fig. 32 was found in a wall on a field adjoining 210 South Street in West Bridgewater, Mass., by the two daughters of Arthur Alvin, Lee, aged 12 and Virginia, aged 10 years. Photographs of this stone were submitted to Mr. Frederick Johnson of the R. S. Peabody Foundation at Phillips Academy, Andover, Mass., for examination. Mr. Johnson replied as follows:

"Such records as have come in to us indicate in a vague sort of way that people, distributed pretty much over all of the region, cut these curious figures in rocks. Some of them are transportable, such as yours, others are in ledges. In some cases it is possible to guess that the work was done after European conquest, but for the most part there is no way in which to identify them. Some of the carvings seem to represent some idea which is unknown to us. They may even be markers of some kind, i.e., something to record some event, a famous spot in a trail or something of the sort. This again is pure guessing of course. The attempt to decipher these markings can lead people into all sorts of pitfalls. The most famous is the tendency to suspect Norse or Irish Monks. As a rule, the large majority of these assumptions turn out to be false, and the person making them finds himself in a rather embarrassing position."

Your editor's guess is that this carved stone may possibly be a surveyor's mark of some sort as many "squares, rectangles, triangles, and circles, chiseled into ye rock near the old red oak" are to be found in the ancient land records and deeds of New England.
While I dislike serial debates in print, William S. Fowler, in the April 1952 BULLETIN, raised several questions concerning my recent article "Culture Growth and Change in Eastern Massachusetts" which I feel I must answer in order to straighten out the record. As such arguments are usually enjoyed by spectators, I presume the readers of the BULLETIN expect a rebuttal.

Before taking up these points in detail, I wish to point out that the chart accompanying my article on "Culture Growth and Change in Eastern Massachusetts", as explicitly stated, was used for illustrative purposes, gave "my ideas regarding certain changes in the material culture of the Indians of eastern Massachusetts", and made "No attempt...to include all artifacts or to formalize archaeological periods". I hope other readers did not entirely miss the point of the article, which was an attempt to shed light on cultural processes.

I deplore the implication that I purposely omitted any references to Fowler's reports on the Ragged Mountain and Potter Pond sites (one is located in Connecticut and the other in Rhode Island) which were published in the BULLETIN. I do not understand his stricture about references as the article says "This chart has been prepared entirely from published sources, many of which will be found in the BULLETIN OF THE MASSACHUSETTS ARCHAEOLOGICAL SOCIETY. Other references are included in the bibliography." A substitution of "most" for "many" would have been better but it seems to me to be clear that only those references not to be found in the BULLETIN were in the list following the article.

Included in these implied references was a report on part of the Winslow site in Marshfield (Bullen, "Some Notes on the Winslow Site," Vol. XIII, No. 1, pp. 10-11, of the BULLETIN). To save readers the necessity of looking it up I will quote pertinent sentences to show why I felt justified in extending the bar graph for steatite bowls upwards through an early ceramic period.

Part of the Winslow site, sealed by a colonial dump, consisted of a thin shell deposit resting on an old humic zone which in turn rested on subsoil. "In the shell deposit and in the old humic zone were stone chips, seven broad-based triangular arrow points, one small point with corner notches and another with side notches, one mineral-tempered and a fair number of shell-tempered sherds, four steatite sherds (one drilled), and two fragments of broken celts. Of four pits which led down from this zone, two contained shell-tempered sherds..."

"As the association between steatite and clay sherds may be surprising, it is of interest to note that one steatite sherd was at the junction of the Colonial dump and the top of the shell deposit, one was in the deposit of shells, and two were at the junction between the old humus and the subsoil..."

"The upper few centimeters of the subsoil produced... (projectile points) one sherd decorated with imprints of a cord-wound stick, two plain mineral-tempered sherds, two steatite sherds, and a celt."

Note that steatite vessel fragments were associated, apparently, with clay sherds in both the upper part of the subsoil and in the overlying deposit of shells. This is reasonably good evidence for assuming the use of steatite vessels continued into the ceramic period in eastern, or at least southeastern, Massachusetts but more follows.

Torrey found "an occasional fragment of steatite pot" in the upper zone at the Seth's Swamp site on Cape Cod in association with triangular arrow points and shell-tempered pottery (Howard Torrey, "Evidences of Typological Stratigraphy at Seth's Swamp Site, Wellfleet, Massachusetts," Vol. VII, No. 3, pp. 50-53, of the BULLETIN. Torrey does not mention steatite sherds for the lower zone which contained mineral-tempered pottery.

It should be noted that at both the Winslow and Seth's Swamp site steatite sherds were associated with shell-tempered clay pottery while both sites had a lower zone producing mineral-tempered clay pottery. In other words the use of steatite vessels at these two sites appears to have overlapped not only into an early ceramic period (mineral-tempered) but into a later or intermediate ceramic period (shell-tempered).

Of course, Fowler can claim such steatite fragments to be heirloom pieces but how can anyone prove that?

Fowler writes that "... coastal peoples had varying degrees of contact with western cultures and were influenced accordingly, nevertheless, they were masters of their own economic and social growth, and should be considered as developing local culture structures. Furthermore, it was they who built up the steatite industry; and they who should receive recognition for this industrial accomplishment."
What is meant and what is implied by the last two sentences? By coastal I assume Fowler means southeastern, or at least southern, New England. If I understand these remarks correctly, and they agree with other of his writings (all of which I have read, I believe), Fowler feels that steatite vessels are a unique contribution of the Indians of southern New England for how else can “it was they who built up the steatite bowl industry” be interpreted? This implies, or so it seems to me, that Indians of southern New England discovered, invented, or developed the manufacture of stone bowls and that from there the “trait” spread to the rest of the Atlantic “coastal” regions. Local pride is a great thing but this is pushing things a bit far. Honestly, I don’t think Fowler quite means this but it certainly is the impression one gains from his writings.

As is well known, steatite (and similar rock) is found inland along the Atlantic coast from Massachusetts, (at least I have made no geological check), to Georgia and Alabama (and possibly in Kentucky and Tennessee). The soapstone quarries of Virginia are famous in archaeological literature. Steatite vessel fragments are found throughout this geographical range and as far south as Palm Beach, Florida.

In Virginia at the Marcey Creek site, steatite fragments are stratigraphically below clay pottery which was tempered with crushed steatite and shaped like steatite vessels. (Carl Manson, “Marcey Creek Site”, American Antiquity, Vol. XIII, No. 3, pp. 223-227). In the Tennessee River valley “Steatite and sandstone sherds were found in the lower pottery-bearing levels of the Pickwick middens and well down into the pre-pottery levels” (C. W. Webb, “Evidences of Pre-Pottery Cultures in Louisiana”, American Antiquity, Vol. XIII, No. 3, pp. 227-232). At Poverty Point in Louisiana, apparently a pre-ceramic site, steatite sherds are found with incised decoration such as occurs on fiber-tempered clay pottery of the southeastern United States. Here a cache of 2500 steatite and sandstone fragments were found in 1945 (Webb, ibid.).

At two sites in Florida (V. M. Ferguson, “Chronology at South Indian Field, Florida”, Yale University Publications in Anthropology, No. 45, p. 43, 1951; J. W. Griffin, The Cotten Site, mss. Florida Park Service) fragments of steatite vessels have been found in the upper, but not in the lower, zones of thick deposits containing fiber-tempered clay pottery. Again, some of them bore decoration such as was also found on fiber-tempered sherds. Some fiber-tempered vessels also have shapes like those of steatite containers. While fiber-tempered vessels preceed those made of steatite in Florida, apparently, such may not be the case in Georgia or other places.

Until more complete Carbon-14 or other dates are available, we cannot tell much about the direction of influences or point of origin. However, with the extreme range indicated above, it is hard to believe the steatite bowl industry started in southern New England—in what might be considered one end of its geographical range.

Pending more information it is of possible interest to note that steatite was worked and made into artifacts a long time before vessels were made of that material, or so it would appear. I mentioned earlier that at two fiber-tempered sites in Florida, steatite sherds were found only in upper zones. In December of last year the Florida Park Service in cooperation with the Florida Geological Survey excavated in a tremendous freshwater shellheap at Bluffton on the St. Johns River. Fiber-tempered pottery was found only in the upper four feet while six and a half feet deeper (ten and a half feet total depth) a bannerstone made of steatite was uncovered. Smoking pipes made of steatite are known for relatively late ceramic periods. Steatite bowl manufacture is only one phase of the use of steatite by Indians.

Also, although it has no bearing on this discussion, readers may be interested to note that in California steatite sherds and complete vessels (frying pans) were used in historic times and have been found associated with historic clay pottery and glass beads at a one period site, probably post-1830 (Franklin Fenenga, “The Archaeology of the Slick Rock Village, Tulare County, California”, American Antiquity, Vol. XVII, No. 4, pp. 339-347).

I am not surprised Fowler questions the date of 200 B.C. which I suggested for the time of introduction of clay pottery into eastern Massachusetts and suggests 800 B.C. as perhaps better. This point hinges entirely upon one’s interpretation of the Carbon-14 date of 2498 plus or minus 170 years ago (about 1000 B.C.) for sample No. 192 (J. R. Arnold and W. F. Libby, “Radiocarbon Dates”, University of Chicago, Institute for Nuclear Studies, 1950). This date came from carbon found in the pit of Burial 6 at the Oberlander No. 2 site in central New York State. The cemetery, of which this
The grave was a part, is presumed to be that of Indians who lived at the Vinette site, 1000 feet distant. This assumption is undoubtedly correct but the Vinette site was stratified and the question is with which period at the site should this particular grave be correlated?

The grave contained human and dog bones, a copper fragment, a celt, a gorget, a birdstone, scrapers, side-notched points, cache blades, bone tools, and a steatite sherd but no clay pottery (W. A. Ritchie, The Pre-Iroquoian Occupations of New York State, Rochester Museum Memoir No. 1, 1944, p. 156). Ritchie presents a profile of the Vinette site which shows, as does his text, a preceramic component (Stratum 3) below pottery zones. The top of this lowest zone produced "in one small area a gorget fragment, 4 thin cache blades, several thin side-notched points, 4 steatite vessel fragments, and 2 sherds of Vinette Type 1 pottery (Ritchie, ibid, p. 163, f.n.2). The similarity of artifacts from Burial 6 at Oberlander and from the small area at the base (or near the base) of the Vinette site is remarkable.

As Ritchie does not seem to have found steatite sherds higher up in the Vinette profile, nor clay pottery below the top of Stratum 3, I assumed, perhaps erroneously, the above list to refer to a transitional period between a late Archaic with steatite vessels and the first introduction of Vinette Type 1 pottery. Grave 6 from Oberlander No. 2 might be later or earlier. As it contained steatite but no clay sherds I equated it with a preceramic period. Hence, by deducting a couple of hundred years, I got circa 1000 B.C. for the introduction of steatite bowl manufacture into eastern Massachusetts.

This seemed to me to be a reasonable procedure but I may well have been too conservative. Fowler objects to my use of Ritchie's upper New York State nomenclature. I specially wrote, "For ceramic period correlations, suggested on the left of the chart, I have followed Ritchie." The first definition of "correlation" given in Funk and Wagnalls' College Standard Dictionary, 1946 edition, is "Mutual or reciprocal relation." Also, let us remember I was writing about eastern Massachusetts. Coastal New England would include Maine and Connecticut.

As far as I can see nothing significant originated in eastern Massachusetts in Indian times. Certain traits appear in somewhat different combinations than elsewhere, it is true, but the general progression is surprisingly similar to that found in much of the rest of eastern United States. The area was continually bombarded by influences from the north, the west, and the southwest. Some influences passed entirely through it, some never reached it, many were adopted and became part of the local culture, some were used in a modified form, a few were tried and rejected. I can see no proper understanding of the archaeology of eastern Massachusetts except as a peripheral area, more or less of a cul-de-sac, whose material culture was continually modified by outside influences.

I also agree with Fowler that the nomenclature for pottery stages is not ideal. It is necessary, however, in such matters to consistently follow what one has done before, unless a new opus is being written, so as not to confuse the studious reader. I disagree, nevertheless, with his strictures about "Vinette Type I". I do not see why a pottery type should have a different name depending on which side of a state line it is found. If there are consistent differences in temper, paste, decoration, or shape so that a mixed collection can be consistently sorted into the same two piles, by all means use two names. Otherwise let us not make the picture more confusing with more terms.

There is one more point I feel I should mention. Fowler objects to my use of Ritchie's upper New York State nomenclature. I specially wrote, "For ceramic period correlations, suggested on the left of the chart, I have followed Ritchie." The first definition of "correlation" given in Funk and Wagnalls' College Standard Dictionary, 1946 edition, is "Mutual or reciprocal relation." Also, let us remember I was writing about eastern Massachusetts. Coastal New England would include Maine and Connecticut.

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Gainesville, Florida
July 1, 1952
Throughout the vast area of New England and eastern Canada where the white birch (*Betula alba var. papyrifera*) lifts its shining branches through the dark forests, upon the hillsides, and along the rivers, the Indians used its bark for their houses, canoes, and utensils. The canoe birch was one of the most important plants in their economy and was also one of the mediums whereon they expressed themselves artistically. Each tribe had somewhat distinctive types of bark containers and boxes, decorated with their favorite designs. The bark used for containers (called “winter bark” by the Indians) was gathered after the first heavy freeze of autumn when it was difficult to peel from the tree but was more durable and tough than summer peeled bark. The inside of the bark became the outside of the container and this was the surface decorated. The etching was done by scraping away the dark surface with a sharp instrument leaving the designs in a lighter color. These boxes are now rare. They are uncommon in museums and only infrequently turn up in antique stores and old houses in New England and eastern Canada, although formerly quantities of them were thrown away by dealers and in house cleanings.

Boxes that were made by the Passamaquoddy and Penobscot Indians of Maine and by their close relatives in New Brunswick are particularly characterized by the well known double curve designs which have been described and figured many times. A smaller number are decorated with figures of trees, animals, and human beings, and these are more common among the Passamaquoddy group than among the Penobscot. Naturalistic designs, in general, seem to be later in time than the double curve and other geometrical figures and yet Gookin wrote in 1674, of bark vessels, “... many of them, very neat and artificial, with the portraits of birds, beasts, fishes, and flowers, upon them in colours.” And of all the naturalistic decorations, that depicting the human figure seems to be the latest of all and it is to be noted that in the above quotation Gookin does not mention human beings.

In 1947 Dr. and Mrs. Isaac Kingsbury of Hartford, Connecticut, gave the Robert Abbe Museum, Bar Harbor, Maine, their collection of winter-bark boxes obtained from the Passamaquoddy region. They came mostly from East Machias, Pembroke and Perry and were acquired by the Kingsburys over the years while at their summer home in Perry. But some of the most important ones were the remains of the collection made by Dr. Sheehan of Dennysville who died about 1892. With the exception of a few of the finest specimens, most of the series is on deposit at the Peabody Museum of Salem. Among these boxes is one with a singular design that may be the earliest representation (I know of none earlier) of a human figure on birch bark for this region.

The box in question is circular in shape, about four inches in diameter and the same height and sewn with split spruce root. It was found by Mr. Keith Kilby of Dennysville in a locked pine desk on the old Hatevil Leighton place, Leighton Point, Cobscook Bay, Maine. The desk had not been opened for many years but when pried open, was found to contain besides the box an antique gold brooch containing human hair. Around the sides, the box is decorated with alternating wigwams and lozenges, the lozenges being filled with the common cross hatching suggestive of snowshoe webbing, so frequently used for filler in geometrical designs by all the northeastern Indians. In front of the wigwams is what might be interpreted as a tree. But the cover of the box is decorated with a dancing figure which Dr. Kingsbury calls a “dancing squaw.” It appears to be a human figure without much doubt and has considerable liveliness about it. The hands, showing five digits, are outstretched and in one hand is what appears to be a bark rattle box similar to one in the Peabody Museum of Salem made in the old style by Sylvester Gabriel who remembered them being used at Peter Dana’s Point. One foot is advanced in front of the other and movement is indicated by lines which apparently represent the skirt swirling out behind.
There are in collections several birch bark boxes and containers made by the famous Passamaquoddy Chief, Tomah Joseph, informant for Charles G. Leland. Joseph's outstanding work was notably influenced by white art and was exceedingly clever. As Dr. Kingsbury has remarked his was a "one man show." Tomah Joseph utilized human figures and animals extensively in decorating his bark work. Many of his lively little scenes show men in canoes, hunting, or cooking over a camp fire. But so far as we can ascertain there is no other bark work from the Passamaquoddy or Penobscot Indians showing a human figure antedating Joseph's work. This box, then, which is "primitive" in appearance, apparently dates from some time in the first half of the nineteenth century or before and seems to be the earliest known record of anthropomorphic decoration on perishable material among the Maine Indians. As such, it is an important piece and we add this record of it to the literature without waiting until such time as I have completed extensive studies of the entire birch bark decoration problem in Maine and the Maritime Provinces.

FOOTNOTES

1 I am greatly indebted to Dr. Isaac W. Kingsbury of Hartford, Connecticut and Perry, Maine, for many helpful suggestions in writing this article. He has been most kind and generous in drawing on his vast knowledge of this subject which has been a hobby of his for many years.

2 Frank G. Speck, Penobscot Man (Philadelphia, 1940), p. 163 says: "The birch-bark etchings are made by heating bark that has been peeled in winter time and wetting it until quite soft, when it can be readily etched down to the lighter under-layer with a knife-point." But according to Dr. Kingsbury, Sylvester Gabriel of Pleasant Point Reservation, made a box of winter bark and did not soak it before scraping. This box is now in the Peabody Museum of Salem.


5 According to Mr. Kilby, Hatevil Leighton came to Dennysville from Campobello in 1786.
Fort Hill is situated on the southeastern bank of the Taunton River in the town of North Middleboro. At the beginning of the seventeenth century, it was known to have been populated by Indians. Downstream approximately 400 yards the Indian fish weir was located, the remains today plainly visible at periods of low water. Below the fish weir, the Indian trails crossed the river at a point where today Pratt’s Bridge spans the old fording place.

The areas about Fort Hill have been prolific in producing pre-historic stone implements as private collections bear out.

Fort Hill derives its name from the early settlers who rightly called it so, as atop this elevation an Indian fort once stood. Reference is made to the stronghold in an early land deed dated 1668. Josias Chickataubut, living at a place called Mattakeeset (near the present town of Pembroke) deeded to two Indians, one Pomponoho alias Peter, and Thomas Hunter, “All the lands of all sorts that are and lie on the northeasterly side of the river unto a place where the line between Middleboro land and Titicut land doth cross the path that leadeth from the said Titicut to Middleboro Mill.” This deed mentioned the eastern boundary as “On a line from the old fort on the hill now standing above the Titicut weir to a point where the said line crossed the Indian path where it joins the Rhode Island path.”

From Thomas Weston’s History of Middleboro we learn of an affair between the Titicut Indians and their enemy attackers from the following account:

“The Nemasket Indians and the neighboring tribes built this Fort for their own protection. They had two doors to the Fort, one next to the river and one on the opposite side. One day they were surprised by a formidable force of Narragansett Indians with whom they were at war at the time. Unfortunately, there were only eight men in the Fort. The others were hunting and fishing. What, therefore, now to do they could not tell, but something must be done, and that immediately.

“Therefore, every Indian bound on his blanket and arrows and took his bows and rushed out of the back door through the bushes and down the bank to the river. Then by the river, in the opposite direction from their enemies, a small distance, then ascended the bank in sight of their enemy, then rushing in through the Fort and down the bank again, then up the bank and through the Fort as before. This round of deception they continued until the enemy, being surprised that the Fort consisted of so formidable a number, left the ground precipitately and retired, fearing an attack from the vast number in the Fort.”

Below this story, printed in the History book, a reference is made, “From a memorandum in the Bennett family”.

On Saturday, March 22, the newly formed Cohannet Chapter held its first regular meeting at the Bronson Museum. The evening program called for a discussion of various possible Indian sites in the Taunton-Bridgewater area where the group might hold its first field activities. Several sites were mentioned as possibilities, but Fort Hill was selected. The exact location of the Indian Fort had never been discovered though many had searched the hill in vain. It was felt by all that since no Indian forts had been systematically excavated in southern New England, we could contribute something unusual and interesting to Archaeology in the form of a report.

The Archaeological Society of Connecticut published a report in their bulletin for June, 1950, Bulletin No. 24, covering excavations at Fort Corchaug, Long Island, by Ralph Solecki, a member of that Society. Other known fort locations mentioned in Mr. Solecki’s report include Manhansett Fort at Fort Pond on Long Island, Fresh Pond Fort at Hither Hills, Long Island, and Fort Shantok near Montville, Connecticut. Unfortunately, the spread of modern civilization has overrun most of these sites and excavations can never be carried on at these places. I quote one phrase from the Introduction of Mr. Solecki’s report. “Considerable stress was placed on the nature of the Cutchogue Fortifications because a search through Archaeological papers on the northeast coast shows a lack of good fort descriptions.”

We were fortunate in receiving a clue to the location of the fort from Mrs. William Caswell, wife of the storekeeper in No. Middleboro, who related her story to Bill Taylor. Mrs. Caswell is the daughter of Arad Dunham, a Civil War veteran. Mr. Dunham was interested in local Indian history and knew the Indian trails from the 'Nip' to Assawompsett. Mrs. Caswell heard her father say that the fort stood on the hill above Sentinel or Table Rock at the river.
On March 30th a test trench was dug, 2 feet wide, starting at the river bank and working in a southeasterly direction at the highest level on the hill. This trench yielded many chips and a few projectile points and encouraged further work. The top soil consisted chiefly of black leaf mold 3" to 6" thick mixed with wind-blown sand. Small plant roots intertwined with larger tree roots to hamper the digging. It was evident that much erosion had taken place, accounting for the thin layer of humus. This topsoil was underlayed with coarse sands which extended down 18" or more where the gravels appeared. No evidence of plowing was found upon examination of the underlying subsoils. Artifacts were probably in the uppermost level due to frost action only.

At the end of a 10' trench, a dark streak appeared at the junction of the loam and subsoil. This streak measured 6" to 8" in width. In making a vertical cut beside this disturbance it was found to extend 16" into the sandy subsoil and had the appearance of a series of large post molds close together.

Several people were placed at 12' to 15' intervals along the river bank from this trench and more test trenches were started. We hoped to locate a large palisaded fort but only the first trench upstream and the first two trenches in a downstream direction from the starting point confirmed our discovery of the fort location. Test trenches to the south of these produced negative results although we were spread out on an 80' front.

At this point several members, feeling the cold biting winds, took refuge behind the hill where members assisted the Director in staking out an area in the pine grove. This area produced numerous chips and angular fragments of burned rock. One complete hearth was uncovered undisturbed in the subsoil but few finished artifacts were reported.

In order to uncover further the fort outline, we started at the trench where the disturbance was first noted and stripped off the loam, working in an upstream direction. This shallow trench, about 2' wide, exposed additional large post molds close together. Stakes were driven into the post molds to mark their location for future reference. The northeast corner of the fort was located shortly afterward and the outline changed its direction and continued to show until it became obliterated by a land depression caused by the removal of sand and gravel for fill many years ago.

Work on the fort outline in a southerly direction was delayed due to fallen trees. Mr. Roberts, the owner, was cutting off the hardwood trees at this time. As soon as the trees were removed by the owner, work on the fort outline was resumed by Mr. Fowler who carefully uncovered more of the outline toward the south. The southwest corner was located but for a short time we were unable to explain a three foot skip in the line. This skip proved to be an entrance to the fort and double post molds on each side of the skip suggested additional supports for a doorway.

By this time we had located three sides of the fort. The south line, like the parallel line to the north, disappeared before a gravel depression. Suspecting that this fort line may have taken a sharp right angle turn toward the south, loam in this direction was removed but nothing unusual was discovered to confirm our suspicions.

Several people were placed at 20' intervals east of the fort to run test trenches westward toward the river for the purpose of attempting to locate the eastern boundary of the fort. We had little success along this line but one member located a large pit disturbance 8' deep in the bottom of which an early European clay pipe was found. This pit is still being excavated to determine its size and shape. Twenty-two post molds were recorded while digging test trenches in the area adjoining the fort site to the south. One hearth was uncovered. These post molds, plotted on a chart, appear to outline a portion of a long house.

At the center support of Pratt's Bridge, a transit was set up to sight the end of the northernmost stone wall atop Fort Hill south of the Fort site. It was reported that the fort site was at an elevation of 35' above the river and 1200' distant from Pratt's Bridge.

Our base line was projected at a right angle to the north stone wall and roughly parallel to the east bank of the Taunton River. Stakes were driven along the base line at 75' intervals until we reached a point opposite the fort. From this base line other lines were projected at right angles. This projecting of the base line towards the fort was necessary because of vegetation which interfered with sighting through the transit at the top of the hill from the stone wall along a direct line to the fort. A temporary line was established east of the fort and parallel to the original. Stakes were driven along this line at 10' intervals and were numbered 1 to 8.
These stakes were employed in locating post molds and other features while running test trenches in the area south of the fort. While the work of searching for the fourth side of the fort was being carried on, a grid system of 10' squares was laid out to incorporate the area containing the fort. Stakes were designated starting with FA-l near the northeast corner of the fort and ran south or downstream to FE-l a distance of 40' parallel with the base line.

Having staked the fort site, all top soil was removed from within the fort by scraping. This required patience on the part of the people who worked at this time as all loam was deposited beyond the fort outlines in order to expose the entire sub-surface.

During the month of July the soil at Fort Hill became quite dry for lack of rain and it was deemed neither safe nor practical to attempt to explore the subsoil within the fort. Consequently, on July 20th field operations at Fort Hill were postponed. The pine woods nearby presented a serious fire hazard and the powdery condition of the soil made digging difficult as post molds were almost impossible to identify. The chapter continued its field work at Wappanucket in Lakeville, our second project for 1952.

On Sunday, September 21st the Chapter resumed its work at Fort Hill. The entire area at Fort Hill was scraped clean, the soil having been saturated with moisture from recent rains. Several post molds were clearly outlined in the sandy surface, some of them measuring 5½” in diameter. Within the fort and at the southwest corner we exposed a house floor rectangular in shape measuring 9’ by 19’. This floor consisted of a hard-packed, charcoal bearing earth. While excavating the house floor, a refuse pit was examined near its north end. This pit has yielded deer bones, shells of the clam, oyster and quahog; two carbonized kernels of corn and one carbonized bean. In addition, one small tubular blue glass bead, a badly corroded steel knife blade and a fragment of a glass mirror were found in the pit refuse.

Color photographs of the fort site have been taken as well as over all measurements along the four sides and all features discovered have been duly recorded.

The fort, rectangular in shape, measures 41’6” x 35’ deep with the longer side lying along the river. It was possible to take these measurements only after a portion of the missing side had been uncovered. This side had been all but completely obscured by the removal of gravel by others. A single post mold remained near the corner opposite to the one most recently found and confirmed our belief that this was the east line of the fort. Beyond this line, a few feet east, a refuse pit has been exposed. Approximately 1400 sq. ft. of land has been excavated to date and 150 artifacts have been recorded. One hundred chipped stone artifacts recovered are here used as a basis for a cross section of the material recovered. 5% of all chipped artifacts recovered are of flint or argyrite, 25% are of felsite, 70% are of white quartz. 70% of all material recovered was reported as found in the loam, 6% at the junction, 6% in the subsoil while the remaining 18% of the material was found in the house floor within the fort. Small, narrow stem points appeared as frequently as small triangular points. Following is a list of chipped implements recovered:

1 small corner removed flint point
23 small narrow stem points
27 small triangular points
4 small broad based points
2 large narrow stem medium points
3 large knives, corner removed
1 small snubnosed scraper
3 small side scrapers
5 small end scrapers
3 large side scrapers
3 medium broad based knives
1 large knife base, side notched
2 small oval scrapers
2 small rejected point blanks
1 small white quartz hammer stone
1 large projectile point, base missing
1 large leaf-shaped knife
1 quartz leaf shaped drill
1 broad rounded base perforator
1 diamond shaped base perforator
½ spool type atlatl weight
1 sandstone paint pot
1 quartz crystal notched for wear
1 fragment red hematite with ground surface

Contact Material

3 fragments of a glass mirror
3 musket balls
10 clay pipe stem fragments of European origin
6 clay pipe bowl fragments
1 small tubular glass bead
1 copper point
2 pieces of flat rolled copper
1 clay pipe with portion of stem missing
1 fragment of clay trade pottery
1 steel knife blade
A REPORT ON THE FOLLINS POND INVESTIGATION

By Benjamin L. Smith
Chairman Research Council

INTRODUCTION

The exact location of Lief Ericsson's Vinland has never been found—never, that is, to the satisfaction of those who require tangible proof of its existence. In the last 100 years nearly 50 individual theories have been advanced, each of which has claimed to have finally interpreted the old Norse sagas correctly, and to have located the area in which Lief the Lucky built his winter house in the year 1003 A.D.

The Sagas were originally verbal records of Viking history. They were memorized by story tellers with an exactness and accuracy which today is a lost art, but for hundreds of years they were passed on, virtually unchanged, from generation to generation, and woe betide the story teller who tried to change a word, or even an inflection.

The stories of the discovery of Vinland were passed down with the others for 300 years, and were finally written down in two versions: the first, the Hauksbok; and later, the Flateyjarbok. Both versions are believed to have been written by Irish Monks who visited Iceland, and who presumably heard the stories 300 years after the discoveries took place. The two versions differ considerably. Some authorities believe the older Hauksbok to be more accurate. It, however, lacks many details supplied by the Flateyjarbok. The two versions tell essentially the same story.

The difficulty of interpreting these old records, which have come down through 300 years by word of mouth, thence passed into medieval writing in the 14th century, and then into fifty or more modern languages, is a tremendous task. It is not strange that modern scholars attempting to project themselves backward through modern, to archaic languages, and thus into conditions of life and custom 1000 years ago, should arrive at different interpretations of sagas. It is strange that not one of these scholars has been able to come up with tangible evidence to prove his theories. Vinland remains as thoroughly lost today as it did 900 years ago.

It was, therefore, with great interest that the American public read in the Saturday Evening Post for June 12, 1951, an article entitled, "The Secret of the Vanished Explorer" by Morton M. Hunt, which expounded in great detail the latest theory on the subject, worked out, after profound study, by Mr. Frederick J. Pohl, a retired teacher of Brooklyn, New York.

Mr. Pohl's ideas were developed with a thoroughness and an attention to detail, which appear to be lacking in many of the earlier versions. He projected himself into the dim mists of 1000 years ago, and in imagination sailed again in the tiny Norse vessels over the same courses, and with the same sailing directions which the Norse sailing masters had used and passed down in the sagas. Because to him the Flateyjarbok seemed more complete, he used that version, and through a series of brilliant and ingenious deductions, which are very difficult to refute, he decided the site of Lief's winter camp must be on Follins Pond at the headwaters of the Bass River on the south shore of Cape Cod.

He next visited the area, and with his wife he combed the entire area looking for tangible proof of his theories. After some early discouragement, Mr. Pohl found, in a group of boulders along the shore of Mill Pond, Follins Pond, and the Bass River, a series of drilled holes which were of such a character and location that to his mind they could have served to moor Viking ships in the well-known Viking manner. Pohl rested on his laurels. He had proved his theory to his own satisfaction, and it was now up to the science of archaeology to prove the theory beyond all question of doubt.

THE CHALLENGE

The excitement which greeted the publication of the Pohl theory seemed to grow in intensity as the months rolled by. It was inevitable that those interested in the subject should be divided into three camps: the believers, the skeptics, and those who admitted the man had something but who required proof before taking a stand.

Letters started to fly in all directions. Every meeting of the Massachusetts Archaeological Society engendered a serious pro and con discussion, and soon our Editor, and most active member, Maurice Robbins, was snowed under with correspondence, which, as it grew in volume, simply emphasized the tremendous cleavage of opinion, without proving a thing.

In desperation, the overworked Mr. Robbins handed the entire file on the matter to the chairman of the Research Council, and with a sigh of relief went back to his duties. The chairman read over the file, and realized that here was "a natural". True, it was an undertaking completely out of our field due to its size and scope. The Society has never had the funds for an extended operation of
A REPORT ON THE FOLLINS POND INVESTIGATION

THE PLAN

The Research Council Chairman wrote to Mr. Pohl outlining what the Society had in mind. The Publicity Committee, headed by Mr. Kenneth Ayres issued a cautious statement to the papers that the investigation would take place at some time in the future. Although the date had been set for the week-end of May 10 and 11, it was not released at this time, for the Society wished to avoid a rush of curiosity seekers and pot hunters to the area. Many interested persons wrote asking for more details, and eventually several were invited to join the expedition. They did so with entirely satisfactory results.

Mr. Pohl visited the Chairman at his home and spent several hours going over maps of the terrain under suspicion. Mr. Ross Moffett of Provincetown explored the area, and sent in an excellent preliminary report on the problem. From the foregoing, it was determined that there were five highly suspect areas extending the full length of Follins Pond—a distance of just under a mile. Certain parts of this area were eliminated due to house construction, lawns, roads, etc. Other areas were rather obviously not suited to a winter habitation site, but the extent of the remaining suspect areas was staggering.

A call went out to the Chapter Chairmen on April 29, announcing the appointment of six men who were to be in charge of separate groups, or teams. They were as follows:

Theodore Stoddard—Wayland, Mass.
Roland Robbins—Concord, Mass.
Ross Moffett—Provincetown, Mass.
J. Burleigh Moulton—Attleboro, Mass.
Maurice Robbins—Attleboro, Mass.
Benjamin L. Smith—Concord, Mass.

Approximately 50 people took part in the dig over the two days: some working Saturday, some Sunday, but the majority worked both days. They came from all over the State, and three guests came from Philadelphia—Mr. Maurice Webb, Mr. Donn Haglund, and Mr. Donald Keller.

The team leaders made their own selections from the volunteers, and guests were assigned to groups by the Chairman, who had by then become the Director.

A final bulletin announcing the time and place of the meeting was sent out. Notices to the papers were prepared and mailed. The Cape Cod Chamber of Commerce, which played an important part in the whole affair, was asked to secure digging permits for all areas, and to furnish police protection for the expedition, as much to protect the property owners from outside interference, as to help and assist the expedition. The Director owes much to the Chamber of Commerce, and to Mr. Norman Cook, its Executive Secretary, for assistance—financial and otherwise.

THE FIRST DAY'S OPERATION—MAY 10, 1952

A final bulletin to the members of the expedition was sent out on May 5 giving full instructions and admonitions, and in response, at 9:00 A.M. on Saturday, May 10, a group of approximately 40 members of the Society met on the causeway where North Dennis Road crosses the Mill Pond outlet, just west of Follins Pond. Perhaps an hour was lost while assignments to groups were made, and photographers from the several papers took photographs.

The plan of attack on the area required some revision, and three separate groups were formed. One—the largest—was assigned to work the “Gully” under the direction of Maurice Robbins and J. Burleigh Moulton. Mr. Pohl believed the area was certain to prove of interest, and he chose to accompany this unit. The second group, headed by Roland Robbins, took over Area I, marked “Kaiser” on our area map. They promptly ran into trouble. The third group, led by Theodore Stoddard, also attacked Area I, but further to the east.

It appeared that the Chamber of Commerce had not obtained individual permission from its several owners to dig on their properties, but had depended on a blanket permission from Mr. Herbert J. Kaiser, the original owner of the area. Therefore, the caretaker of Mr. Carroll’s property (marked “Kaiser” on our map) requested us to
Mr. Robbins’ party then joined that of Mr. Stoddard on the high table land in Area I, and laid out a long baseline from which a grid pattern was developed. Test pits were dug on a regular plan over the whole area. The first pit dug was the only one of some 200 pits which produced any evidence whatever of early occupation. This one led to a very fine, shallow, saucer-shaped Indian fireplace paved with fist-sized cobble stones, and filled with charcoal and oyster shells. No artifacts except chips were found, although the pit was thoroughly investigated the following day.

The groups in the Gully removed the sod and laid out a series of transverse trenches, and shortly ran into evidence of such a nature, that it seems advisable to surrender the pen to Maurice Robbins, who was in charge of the work.

EXCAVATIONS IN THE “GULLEY” AREA AT FOLLINS POND

The Gulley at Follins Pond is a rather long, narrow indentation in an otherwise quite precipitate bluff-like shore line along the south side of the Pond. The beach at this point is approximately fifty feet wide but the sand with which it is covered seems to have been brought in and deposited over a layer of dark earth and peat which may be found at any point beneath about six inches of sand. The gulley itself is about seventy feet in length by twenty-five feet in width at its midpoint. The land about it rises abruptly on the south and east to a height of about thirty-five feet, but on the west the rise is somewhat less abrupt. The floor of the gulley at about midpoint is about three feet above mean high water.

Prior to excavation the surface of the land in the gulley was examined and, except for a small area, the surface was undisturbed. The entire area was covered with a growth of grasses with some small brush, nine rather large stones could be seen on the surface which seemed to have been deposited so as to form two parallel lines of six and three stones respectively. The disturbed area later proved to be a recent pit containing the rusted remains of a small stove, several cooking utensils, about a peck of “brickets” and several machine-made nails. This deposit appears to be very recent.

Three trenches, B-C-D, were laid out; these were subsequently enlarged and interconnected. Control reference was based upon a Stake A, which is located with reference to the corner of the wharf and driven deeply so as to remain in place for future use. All levels and measurements were taken from this station. In trench B there was fourteen inches of rather coarse loam resting on peat approximtely twenty-two inches thick, which in turn laid on what appeared to be clay or very fine wet sand. Leaching from the peat had discolored the clay or sand to a depth of about one foot. The peat bed seemed to be of fairly constant depth all across the profile, but the thickness of the overburden increased on either side of the center line to create the gully or trough-like surface. At about sixty feet from Stake A, along the median line of the gulley, the peat was but a few inches in thickness.

The appearance of the profiles suggests that this area once supported a growth of red cedar and that later this forest growth was succeeded by swampy plants growing under very wet conditions, possibly caused by water flowing from springs in the northern slope, or from flooding at high water periods from the pond itself. The presence of a cedar log at the point indicated and some 58” below the present surface bears out this hypothesis.

Stake 1 was found in Trench D after a few moments of excavation. This stake was about five inches in diameter and two feet in length. It appears to be the remains of a red cedar post, the lower end of which had been sharpened for driving. Its lower point rested on the sand or clay beneath the peat and the entire length of the post was embedded in the peat. Subsequently, ten additional posts were found. Five large posts were found to make a sort of center line. Three of these center posts rested upon large flat stones and two of them were further reinforced by stones set upright about them. All of these center posts seem to have been set in excavated holes with the exception of 11, which is pointed as if intended to be driven. It is worthy of note that the tops were to all practical purposes, level (this fact was checked by transit-level readings taken from Stake A). The line of center supports was continued from Stake 2 by two large stones which maintained the level of the tops of the stakes. The group of stones shown in the plan at the northern end of the excavated area were three and nine-tenths feet above this level.

Six smaller posts, all of which were pointed and probably driven into position, seemed to indicate the approximate outline of a boat or ship. The distances between these outer posts were as follows: 1 to 3—16½”; 4 to 5—13½”; 8 to 9—6½”. Beyond the center section no outer posts were
found. The total length from center post 10 to the final level stone at the northern end of the gulley was 58', and from Post 10 to the group of stones shown just south of Stake B was 70'. If we suppose that this is indeed the remains of a cradle or support for a beached boat of some sort, the length of the craft is suggested to have been about seventy feet, the rise of the bow nearly four feet, and the width something over sixteen feet.

At two points, a spike, a machine-made nail, and an iron adz blade were found. The machine-made nail was at a depth of twenty-seven inches and was about eighteen inches from and at the same level as the iron stove, etc., found in the recent pit. This nail was in no way associated with any of the stakes found, and it would seem likely that it was associated with the buried stove. The spike or iron pin also mentioned was found near Stake 11, but was not driven into it or sufficiently close to suggest that it was ever in direct association with it. It was so badly rusted that one could not determine whether it was a handmade nail or simply an iron pin of some sort. The adz blade found just north of Stake 11 was at a depth of seven inches from the surface in loam. It appears to be quite similar to Colonial tools of this sort. (I have recently been shown several similar tools of known age, and although none were identical with the one found here, they were very similar to it.) A small chip has been removed from this tool and submitted to the laboratory at the General Plate Company in Attleboro for spectographic analysis. The results of this test will be announced as soon as they are available.

I am informed that a C-14 test would be feasible to determine the approximate age of the wooden stakes. However, the possibility of obtaining such a test is quite remote at the present moment. The geochronometric laboratories are overburdened with much more important work, and hesitate to agree to make the desired check on these stakes. However, the stakes removed have been kept immersed in water at the Museum so that they may be available should a check become possible.

The foregoing report covers two days of intensive effort by about 20 workers, and at the end of the first day elation ran very high for the intrusive material had not then been found. The photographers were active, and the reporters anxious for statements. The Publicity Committee released an official statement of progress, but were very careful to qualify their observations, and to clearly state that what we had found appeared to be a ship's cradle just as we had hoped, but as yet we had no proof of its age. The papers broke the story in their Sunday morning editions, and are to be congratulated on the excellent job they did. Their tone was enthusiastic but cautious.

Saturday evening a highly excited group of men—the Director, the six group leaders, Dr. Howe, Mr. Pohl, Mr. Maurice Webb, and Mr. Donn Haglund—met at Lincoln Lodge at Harwichport and discussed the problem from every possible angle. Evidence for and against Mr. Pohl's theory was thrashed out in an intensely interesting and informative manner. It is doubtful if any who attended that discussion will ever forget it. However, it was agreed that proof of the theory could only be arrived at by excavation, and therefore, it was with great anticipation that we began.

THE SECOND DAY'S OPERATIONS
MAY 11, 1952

Light showers during the night, and a glowing sky, together with a promise of further showers, caused a slight drop in the number of workers available.

Work in Area I was almost finished by noon, with no further evidence forthcoming.

A group under the direction of Ross Moffett investigated the so-called "graves" on the knoll southwest of the "skerry". Mr. Pohl pointed out the areas that he had previously investigated with Frederick Johnson, and a "grave" adjacent to the others was selected for complete excavation. The "graves" were identified by groups of small stones in patches some three feet in diameter lying on the gravelly surface. Complete excavation disclosed a small discolored basket-shaped area around 16 inches below the surface, and about 18 inches in diameter. It contained no bones or artifacts whatever, and was definitely not a grave. It resembled a small Indian refuse pit of the kind familiar to all New England Archaeologists. A series of test pits over the whole top of the knoll failed to disclose any sign of graves or artifacts of any sort.

Dr. Henry F. Howe and Mr. Haglund kindly agreed to map the location of all of the so-called "mooring holes" on the south shore of Follins Pond, and on the upper reaches of the Bass River. They
spent the entire morning at the job, and their report is found in Appendix B. We are all indebted to them for this excellent piece of reconnaissance.

Work in the Gully progressed as Mr. Robbins's report has indicated. Mr. Roland Robbins, whose work on buried timbers and posts at the Saugus Iron Works project eminently fitted him to express an opinion, visited the Gully and stated that he could not assign to the excavated posts anywhere near the age, necessary to put them back to Viking days. He is convinced that they would have entirely rotted away hundreds of years ago had they been put in place by the Vikings.

The finding of a machine made spike, and a Colonial shaped iron adz seemed to bear out his contention. The writer, however, is not so sure about the posts, for since they were driven into perpetually wet soil and peat, they may have been kept, by capillary action, in a constantly soaked condition. How long they would be preserved under such circumstances, is an open question. Carbon-14 tests may provide the answer at some later date, if arrangements can be made with one of the laboratories doing such work.

During the morning the Director carefully examined Areas V and VI, and came to the conclusion that they were not as promising as Areas II and III, which were also given a cursory examination. House construction was going on in Area III, but no indications of underground occupational layers could be found.

During the afternoon Mr. Everett W. Hinckley, field man of the Cape Cod Chamber of Commerce, and Mr. Lovequist, who controls the Follins Pond area for Mr. Kaiser, visited the digs at the request of the Director. We were given a belated okay on the work we had done in all areas. We received, on the whole, a very fine reception from the numerous property owners, and except for one or two locations, principally in Area VI (the property of F. C. Lyon), and Area I (the Carroll house), we were able to dig anywhere within reason.

One of the principal props of Mr. Pohl's theory after his painstaking interpretations of the sagas was the finding of drilled rocks along the shorelines of Mill Pond, Follins Pond, and the Bass River. The original article in the Saturday Evening Post listed the locations of three mooring holes strategically located, and his finding of them is dramatically described. However, in this case there is an embarrassment of riches, for the survey of Mr. Haglund and Dr. Howe located and examined carefully one hole in the Mill Pond skerry, one in the Follins Pond skerry, plus seven others on the shore near the outlet, and one on Bass River. There are many others in rocks back from the shore—how many we did not count. There is even one in a boulder in Mr. Lyon's front yard well back from the shore.

What is the explanation for these holes? A native resident told the Director that when the Bass River Breakwater was built (it is close to one-half a mile long), every movable boulder and large rock in the area was carried by team, sledge, drag, and scow down to the site. Rocks on both sides of the Bass River were floated down and built into the structure. When they ran out of small rocks, they drilled and blasted big ones. They were still drilling the less accessible ones at the time the work came to a halt. Several holes in the closely packed group of six in Area V slope toward the water, and a rope over a pin in them would have slid off under its own weight. One of these rocks has two holes in it 30 inches apart. For the most part the holes seem to have been located at the exact spot one would choose were one to split the rocks by blasting or with wedges.

Mooring holes were used by the Vikings to moor their craft in the deep rocky fiords of Scandinavia, but what possible need for them would there be in a shallow pond where our expedition could not find over five feet of water at any point, although we readily grant there may have been more or less in the year 1003. Also, what need would there be for mooring holes when trees grew to the waters edge and ships could have been anchored at the stern, and tied by the bow line to a tree? Mr. Pohl's theory reads well, but these mooring holes do not add weight to it in the writer's opinion.

The ship way itself gave us all a very decided thrill. Its size was about right; its location was perfect, but there were difficulties.

A Cape historian (who, incidentally, is not sympathetic to Mr. Pohl's theories) wrote as follows:

"Had Mr. Pohl checked with the old natives of Yarmouth and Dennis, and had he searched old written records as I have done, he would have found out that the Gully in which the excavations took place a few weeks ago was used as a place to pull out fishing boats for repairs many years ago
when Follins Pond was full of oysters, scallops, and at a time when there were fish weirs in the Pond."

The finding of an iron shipmaker’s adz of a well known Colonial type seems to settle the matter of this “ship way” rather completely.

Much weight was originally given to the fact that the “mooring holes” were triangular in shape, which was supposed to be characteristically Viking. One elderly resident described to the Director a type of drill widely used in the area in the 19th century which consisted of a straight edged chisel with a gap in the center of the blade. The hole was started in the form of a triangle and as it deepened, the shank of the drill rested in each of the apexes in turn. The drill left a center cove which continually broke away as the hole deepened. The result was a triangular hole of the type we found.

Of the ten holes listed by the survey—

A was circular ? dia 11" deep
B was roughly triangular 1" in dia probably 3" deep originally
C was triangular 1 1/2" in dia 6" deep

In same rock. D was diamond shaped 2" in dia 2" deep
E was circular 1" in dia 5" deep

F was triangular ? dia 8" deep
G was circular ? dia 11" deep
H was reasonably circular 1" in dia 5" deep
I was triangular 2" in dia 2" deep
J was triangular 1 1/2" in dia 7" deep

CONCLUSIONS

This investigation was made by the Massachusetts Archaeological Society in an effort to prove the accuracy of Mr. Pohl’s theory, and to try to locate positive underground evidence of Viking occupation. In this we failed. The area is large, and in the time at our disposal we found it impossible to do more than investigate the most suspicious areas. This we did rather thoroughly. We found unmistakable evidence of Indian occupation. We found a buried ship’s cradle of certain age, but our best reading of the evidence assigns it to Colonial times. We examined the so-called “graves” and found one of them not to be a grave. We examined the three “mooring holes”, and added seven more to the list. In our opinion, they were holes drilled for blasting rocks for the Bass River Breakwater. There are many more back in the hills which can by no stretch of the imagination be Viking. We found “mooring holes” to be entirely unnecessary for the water is shallow and quiet, and ships could have been easily anchored and tied to trees on the shore to give complete safety. We have neither proved nor disproved Mr. Pohl’s theories. He may be entirely correct, but nothing in our two days of intensive investigation of the area indicates that the Viking settlement of Vinland was located on Follins Pond.

Space forbids the listing of the roster of participants but the Director wishes to compliment and thank the 40 people who took part in the investigation and who conducted themselves in a most splendid manner. It was a pleasure to work with such a group.

Respectfully submitted,

Benjamin L. Smith,
Director Research Council.