A REVIEW OF CAPE COD ARCHAEOLOGY
by
Ross Moffett
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ROSS MOFFETT

Although Indian artifacts in large numbers have been found on Cape Cod, information on the circumstance and chronological order attending the original distribution of these artifacts is somewhat limited and uneven. Little evidence is available from excavations on the upper or east-west part of the Cape, save for one report dealing with a series of relatively late shell heaps. The lower or north-south portion of the peninsula, however, is fairly adequately known. This paper is based, therefore, largely on data from the latter area, as gathered from published matter and from a considerable amount of unpublished material in my hands and in the large collection secured by the late Howard Torrey and now displayed in the Peabody Foundation, Andover, Mass. There is evidence in varying degrees of completeness from 23 excavated sites, of which eight have revealed two or more periods of occupation. From this information we have been able to build up what seems for lower Cape Cod, and probably also for the whole Cape, an essentially correct idea of the sequential stages of native culture, starting in pre-ceramic times and ending in the historic period.

Paleo-Indian and Early Archaic Periods

In so far as I know, Cape Cod is as yet without its fluted point. But a chipped artifact from the High Head section of Truro has the leaf shape and the edge grinding of certain points of notable antiquity reported from the plains region (Powell, 1957), from Ohio (Morgan, 1952, p. 83), from North Carolina (Coe, 1952, p. 304), and from other areas. On the local specimen (Plate 2, No. 1), which is of coarse textured, weathered felsite, the ground edges extend for about one-third of the distance from the base to the tip. Another object which may be in the same category came from an old soil layer at Corn Hill, Truro. The latter artifact (Plate 2, No. 2) is of extremely weathered felsite, is well made, and has a thin base. Owing to its somewhat eroded condition, it is hard to say whether intentional edge smoothing is present, although the lower side edges are appreciably duller than the upper ones. The above artifacts appear suggestive of Yuma-like forms chipped from the relatively inferior local materials. On the evidence of only two specimens, however, it is difficult to tell whether we have here a matter of mere coincidence, or have meager but important vestiges of a horizon between that of fluted points and the level commonly known in eastern Massachusetts as Early Archaic.

The Early Archaic, as characterized by the ground slate semi-lunar knife and by an early occurrence of certain kinds of stemmed points, appears to be absent from the Cape, or at least from the part to which most of present data refers. In this connection, though, it may be well to point out that, in the 5000 or more years since man first arrived in force in southeastern New England, some campsites on Cape Cod, earlier than any we know from excavations, may have been covered by the thick deposits of peat that have accumulated in the old tidal valleys, and that some other such locations may have been destroyed in the large sections of the Cape that have disappeared through marine erosion.

Late Archaic Period

The earliest habitation level so far definitely recognized from excavations on Cape Cod pertains to the latter part of the Archaic horizon and is known from materials found under certain pottery bearing shell heaps in Truro and in Wellfleet. Scattered surface finds indicate this stratum elsewhere in the Cape area. The Late Archaic occupation was sparse and apparently shellfish were not as important a food as they were later on. Traits which may be considered diagnostic, although they are not all present in every instance, are: gouges, plummetts, choppers, spear-thrower weights (oval bannertones, grooved stones, whale-tails, etc.), very small stemmed and triangular points, eared points, narrow side-notched points, pentagonal points or knives, and rude blades. Other artifacts occur but are of lesser diagnostic importance or are met with less frequently for their respective classes. Stemmed, or corner-removed, points are found, although they never predominate. A few steatite bows were in use, along with some hafted knives, drills, stemmed and flake scrapers, and a miscellaneous of other stone artifacts, including, rarely, grooved axes. Felsite implements usually have a gray patination. Plates 1 and 2 depict artifacts of the Late Archaic period.

1. Rude blade (Plate 1, Nos. 50-52, 56-58) is here used as the simplest and least misleading term for a percussion flaked, ovoid or triangularoid, often asymmetric blade of felsite or quartzite, which was made in large numbers at some Late Archaic sites on Cape Cod. It is the object variously called an expanded base knife, an asymmetric triangularoid knife, a felsite blade, a rude cache blade, etc. It is, at least on Cape Cod, perhaps not a finished implement, but a roughed out blank to be finished as needed.
At the Freeman-Paine site, in Wellfleet, one of the important locations of the Late Archaic in the Cape area, Torrey found early artifacts in sand of a deep reddish brown cast, this color being due to a natural concentration of iron-oxide in the low ground where the camp is situated. One hearth or lens of fine ash-like material was encountered. Of the traits listed above as diagnostic of the Late Archaic, all but the last four occurred with a high rate of frequency, considering the size of the excavated section and the respective kinds of artifacts involved. There were found, for instances, 10 gouges, 12 whale-tails, 3 oval bannerstones, 22 plummetts, 30 choppers, and over 100 very small points of which a majority are 26 mm. (1 in.) or less in length. The site yielded some 30 medium size stemmed points, which tend to be narrow and to have weak shoulders. In the collection are a few stemmed scrapers, knives, and other chipped objects, including a flaked semi-lunar blade. Seemingly unique to this site are a number of spool-shaped artifacts of pecked stone. But eared points, pentagonal points, and rude blades are absent or only poorly represented in the Freeman-Paine materials.1

In the High Head region of Truro, I found Late Archaic remains underlying shell heap middens at the Rich (Moffett, 1946), Holden (Moffett, 1951), Warren's Field, and Small's Swamp sites. At the first three of these the early materials were in yellow sand, which differed little if at all from the normal glacial sand of this area. No old surface on which the materials rested was discerned, which probably indicates that at the time the sand was loose and bare of vegetation. At the fourth site the Archaic artifacts were in brown sand, discolored either at the time of the early occupation, or later by leaching from the thick dark midden which accumulated over the site area. As respects their frequency there of gouges, plummetts, and whale-tails. The early materials from the Rose site, which probably represent a transient camp, seem at present aberrant for Cape Cod, or at least show only vague ties with other known Archaic locations in this area.

To tie together the evidence given above, I think there is an unmistakable linking of Freeman-Paine with the Archaic level at High Head. The Wellfleet site, however, may represent a rather early stage of the Late Archaic, since it seems to date from a time before eared points and rude blades arrived in force in this region. Lending support for the possible priority of Freeman-Paine is the high frequency there of gouges, plummetts, and whale-tails. The early materials from the Rose site, which probably represent a transient camp, seem at present aberrant for Cape Cod, or at least show only vague ties with other known Archaic locations in this area.

Early Woodland or First Ceramic Period

In the Cape Cod area, Early Woodland can be told from Middle Woodland only with difficulty,
Plate 1. Stone artifacts, Late Archaic Period.
From sites in Turo, Wellfleet and Eastham.
Points with ground edges. Miscellaneous stone artifacts, Late Archaic Period.

1, point with side edge-grinding; 2, eroded point, similar to No. 1; 3, eared point; 4, leaf shaped point; 5, elongate slightly stemmed point; 6,7, narrow side-notched points; 8, asymmetric trianguleid point; 9,14,17, plummets; 10, spool shaped object of pecked stone; 11-13, choppers; 15, steatite bowl sherd; 16, chipped semi-lunar knife; 18-20, plain-back gouges; 21, grooved axe.

1, high ground near Small’s Swamp, Truro. 2, old soil layer, top of Corn Hill, Truro. 3-8,15, Rose site. 9,10,14,16,20, Freeman-Paine site. 11-13,19, Holden site. 17,18, Rich site. 21, Warren’s Field site.

and at best the distinction is somewhat arbitrary. Of the sites dealt with in this paper, only Warren’s Field, in its upper zone, seems to qualify fairly definitely as Early Woodland, although a case might perhaps be made out for a short early pottery stage at the Small’s Swamp and the Pilgrim Spring sites. The potsherds from Warren’s Field are predominately of the exterior and interior cord-marked type called Vinette 1, or Stage 1, and the associated chipped points run to stemmed and side-notched forms, the stone work apparently differing in no respect from that of the succeeding period. From the meager amount of material above ground, the Early Woodland occupation must have been brief.
Middle Woodland or Second Ceramic Period

Middle Woodland, which accounts for the first intensive populating of the Cape region and for all or nearly all of the earlier shell heap and black midden accumulations found here is typologically marked by an association of grit-tempered stamped pottery (Stage 2) with stone points which are predominately of stemmed kinds. Debris of this manifestation overlies that of the Archaic at all but one of the sites so far mentioned, and it occurs also at the Cliff (Moffett, 1953), Hillside (Moffett, 1949), Railroad (Moffett, 1946), and Pilgrim Spring sites, in Truro. It is found at the Seth’s Swamp site in Wellfleet (Torrey, 1946). In addition this level is undoubtedly present at a great many shell heaps not covered by available information. It accounts also, I believe, for most of the hundreds of stemmed points in surface collections from the Cape.

The Cape pottery of Middle Woodland times, (Plate 3, Nos. 3-38; Plate 4, Nos. 3-5), which is usually accompanied by some carry-over of Vinette 1, is similar in many respects to the earlier types of the Point Peninsula series of New York (Ritchie and MacNeish, 1949). Unlike the latter, though, there is an absence of scored or channeled interiors in the local vessels of this period. The tempering material is crushed granite, or rarely broken quartz. Pots were formed by the coil method. Mouths are either slightly outflaring or contracted, with rims seldom being rigidly straight, as with many containers of the period to follow. Wall thicknesses average about 7-8 mm. As a rule interiors are smooth to lumpy, but interior cord-marking is sometimes found. Dentate stamping on the interior is rare. Lips may be either rounded or flattened, and they are often notched. Just below the lip the rim sometimes bears an applied collar, consisting of a flat or rounded fillet. Cord-marking on exteriors, other than on Vinette 1, occurs, but is uncommon. Some pots were left plain, but usually the outsides were decorated on the rim and for some distance down on the body. The tool used for this sometimes had a plain edge, but more often the edge was toothed or segmented, frequently being a scallop shell, a notched piece of wood or bone, or a stick wound with a single cord. In many cases the implement was used with a stepped motion, giving the zig-zag effect known as rocker stamping, or the tool was held in the wet clay and alternately punched and dragged, resulting in horizontal bands of closely spaced indentations. Some call this technique “push pull.” At other times the stamp was applied directly or without lateral movement, a technique often employed when the implement was the edge of a very small scallop shell. Incised and scratched lines are not very common. All in all, this pottery exhibits a great deal of variety in its ornamentation.

Stemmed points, so prevalent in this horizon, comprise nearly all forms of the class Corner removed, Nos. 1-9, (Fowler, 1953, Fig. 7). They tend to vary in shape from site to site, with narrow forms common at one location, broad stubby shapes at another, and so on. Certain side-notched points, such as the semi-lozenge shaped, seem to have appeared first in this period, although it is hard to distinguish some of the side-notched forms of this time from certain variations of the eared side-notched of the Archaic level. Triangular points when found are of early types—the large, broad-base late kind being virtually absent. Stone points of this period average larger than those of the preceding time, which seems to be due to the disappearance of most of the very tiny points of the earlier stratum. Felsite materials from the Middle Woodland period are not usually patinated. Stone artifacts of this horizon are shown in Plates 4 and 5.

Slate gorgets and small notched pendants were used in Middle Woodland times. Probably most of the grooved axes from the Cape refer to this horizon, notwithstanding a few being older. Gouges, plummets, bannerstones, and other implements distinctive of the Archaic are sometimes found in the earlier of the pottery bearing shell heaps, some doubtless still being made for use, and others perhaps “relics” picked up on or near the site. Artifacts of bone, antler, beaver incisor, and similar materials were employed.

Late Woodland 1 or Third Ceramic Period

Late Woodland 1 is the first of two stages into which I have divided Late Woodland. Whether this first stage should be considered Late Woodland at all may be a moot question. It undoubtedly came relatively late, however, and was roughly contemporaneous with manifestations elsewhere which are placed in an early Late Woodland or early Late Prehistoric compartment. In the Cape shell heaps this new pottery horizon follows the Middle Woodland abruptly and with a marked change in the typology of artifacts. We find now coarse shell-tempered vessels and broad, late type, triangular points.

Two main types of clay pots are characteristic of this period. One is cord (or sometimes fabric)
marked over the entire outside surface (Plate 6, Nos. 1, 2, 10), but there is otherwise no decoration if one excepts one sherd on which the cord marks themselves are arranged in a design of opposed diamond shapes. As a rule interiors are roughly channelled (Plate 6, No. 8), as a result of scraping with a stick or back of a scallop shell. In most cases walls are straight or slightly insloping, the rim being a continuation without change in direction of the body. Everted rims do occur. Wall thicknesses average about 1 cm. Lips are usually flat and slightly outplayed. The paste is friable and tends to split for many instances; some are reported as conoidal. However, thick bottoms of conoidal pots are rarely found, and it is assumed that pots were commonly conoidal. Some vessels were large, with one having a mouth diameter of 40 cm.

The other important type of Late Woodland 1 pottery has been called Late Prehistoric 1 by Bullen (1948, p. 38). With the exception of the splayed out ridge at the lip and the treatment of the exterior, this second type has the same features as the kind of pot described in the last paragraph. This second type has a smooth outside, broken only by designs of cord-wound-stick impressions. The ornamentation nearly always shows, around the outside of the rim, a series of horizontal lines which in turn is often crossed by one or more series of short lines running obliquely, perpendicularly, or in both of these directions (Plate 6, Nos. 4, 7). V-shaped arrangements may occur. In one instance cord-wound-stick lines are combined with incised lines. The wall of two specimens has a bulging appearance, owing to an encircling strip of clay some 4 cm. below the lip (Plate 6, No. 3). It may possibly be of significance that in the last cases the markings are more haphazard than is usual with the cord-wound-stick. Bottom shapes are again uncertain, but with at least two pots the lower section is rounded or broadly U-shaped (Plate 6, No. 3).

A few plain shell-tempered sherds also occur at most sites of this horizon (Plate 6, No. 5), as well as a specimen now and then which bears scallop shell marks (Plate 6, No. 6), in this case the shell being applied perpendicularly to the surface instead of by the rocking or dragging techniques usually employed with the same object in earlier pottery times.

Along with the large triangular points, are smaller points of the same form, as well as broad pentagonal, convex-base, and diamond shaped points, the latter three probably representing knives chipped back by repeated resharpening (Plate 6, Nos. 34, 35, 38). A few points with narrow side or corner notches are present, while stemmed forms are not entirely absent. Stone axes of the celt type were in use. The materials include implements of bone and antler.

Refuse of Late Woodland 1 is spread widely over the Cape. It overlies that of the earlier Woodland at the Rose, Cliff, Railroad, and Small’s Swamp sites in Truro, and at the Seth’s Swamp site in Wellfleet. It occurs also, as the only debris present, at the Ryder Beach (Moffett, 1953) and Cabral (Moffett, 1953) sites, in Truro; at the Indian Cove Spring (excavated by Torrey) and Griffin Island (Boissevain, 1948) sites, in Wellfleet; and at the Morris Island site (excavated by Torrey), in Chatham. Farther west we have it reported from Sites 1 and 2, on Sandy Neck, Barnstable (Bullen and Brooks, 1948). At Ryder Beach and at a few of the other locations only the cord-surfaced pottery seems to be present, which may indicate that such sites are somewhat older than sites which have this type and in addition the type marked with a cord-wound-stick.

Late Woodland 2 or Fourth Ceramic Period

We come now to the final expression of the material culture of the Cape Cod Indian before he became largely dependant on the artifacts of the white man. This period may have been relatively short, to judge by the rather small number of recovered implements. Although most of the material from this level appears to have been pre-historic, some of it was certainly associated with objects of European origin.
Plate 3. Grit-tempered pottery, Early and Middle Woodland Periods. From sites in Truro.
The main diagnostic of the Late Woodland 2 period is a relatively thin, fine shell tempered, usually cord-surfaced pottery with a constricted neck and globular body. The walls vary from 3 mm. to 7 mm. in thickness. Shards are rather hard and firm and show no evidence of coil construction. Interiors, which are speckled with fine shell, are often entirely smooth, but in many cases a close inspection discloses nearly smoothed out, parallel striations spaced about 1 mm. apart. These fine marks, which came from scraping or thinning the interior with a comb-like implement, are one criterion for recognizing this late period pottery. The stone tools accompanying Late Woodland 2 vessels are, with the possible exception of some very small celts or celt-like fleshers (Plate 7, Nos. 21-23), a continuation of the types of the preceding period.

In respect to its more variable features, Late Woodland 2 pottery is divisible into at least two types. One type, which is the Late Prehistoric 2 of Bullen (1948, p. 38), has an outwardly flaring rim, an exterior surface entirely cord-marked, and a decoration of broad incised lines (Plate 7, Nos. 1,3,4,6,7). The designs often comprise horizontal and V-shaped arrangements, but they include other lines in other combinations. Much of the incising was done with a three to five pronged tool, and in many instances large sections were wholly covered with lines made in this manner, a technique which may also be called combing or trailing (Plate 7, No. 2). In exceptional examples, this type of pottery is tempered with fine grit. One specimen shows, in lieu of incising, an encircling line made with the edge of the paddle used in marking the surface.

The other Late Woodland 2 pottery type, which I suspect may have tended, as time went on, to supersede the flaring rim vessel, has a channeled, outwardly convex collar, resembling Niantic-type pottery. The surface of the bodies in most cases were cord-marked, although necks were left smooth to receive decoration. The latter varied in motif, but in one example it consists of rectangles defined by bands of short gashes (Plate 7, Nos. 5,8, both from one pot). On other occasions the edge of a scallop shell was used to imprint the outside of the rim or collar.

Pottery of the first Late Woodland 2 type was present in late levels of the Railroad and Small's Swamp sites, in Truro. At the Muddy Creek site, in Harwich, all sherds found by Torrey are of this type. This site may have been proto-historic since it yielded a brass tobacco pipe of uncertain provenience. This pottery type was also present at Sites 6 and 10 on Sandy Neck, Barnstable (Bullen and Brooks, 1948). The second, or channeled collar type was found in the Smithville grave in Hyannis (Vidal, Slade and Hunt, 1950), and at Nauset Harbor, Eastham (Torrey collection). This type occurred near Nauset Harbor at the Hemingway site.

Excavated and reported by Johnson (1942), the Hemingway shell heap, yielding trade beads and a bone of a sheep, is the only excavated site on Cape Cod that we can confidently say was occupied in historic times. In the site material, now in the Peabody Museum, Harvard University, are two rim fragments with a strong outward convexity. One, which shows five encircling lines of impressions of a scallop shell, appears definitely to belong to a vessel with a channeled collar. The other Hemingway rim is probably from a similarly shaped pot, although the specimen is too small to give proof of this. The latter rim sherd is entirely covered on the outside with combed lines, identical, except for being more delicate, with those on some Muddy Creek pottery. Fine but unsmoothed combed lines appear on the interior of body sherds of a third Hemingway pot, the exterior of which was cord-marked.

To turn to sporadic finds of, for Cape Cod, more exotic pottery, a clay vessel, reported to have been associated with an iron hatchet, a brass kettle, and other objects of European origin, was unearthed in Barnstable in 1951. This pot has fine shell-temper and a thickened collar with high castellations (Bullen and Brooks, 1948). Similar Iroquoian-like collars occur on two other vessels from Barnstable. A pot found by Jesse Brewer near the Cape Cod canal is said to be of Onondaga origin. So far as I know there is no evidence of Iroquoian pottery influence having spread to the lower section of the
Plate 4. Chipped stone artifacts, Middle Woodland Period. All from the Pilgrim Spring site, Truro.
Cape. Indeed it seems likely that the above examples from the west part of the Cape were trade importations rather than products of local industry.

**Miscellaneous Stone Material**

Among common stone artifacts which occur at perhaps all levels on the Cape, although not yet mentioned, are: notched or grooved pebbles, unpipted pebble hammerstones, and portable grindstones with shallow basin-like working surfaces. Objects found only rarely on Cape Cod, and whose local associations are uncertain, include: platform pipes, effigy pipes, stone tubes, birdstones, arrow maker's stones, long cylindrical pestles, and grooved-back gouges.

The materials of stone implements on Cape Cod are in general like those used in other areas of southeastern New England. Quartz and felsite were the favorites for knives and projectile points. Quartzite was the third choice, with slate, flint and jasper far down on the list, the latter two being, of course, hard to acquire. Slate was, however, the chief material for hoes and choppers, and it was used also for ground stone items such as gorgets, whetstones, and bannister-rose. Diorite, diabase, and similar tough crystalline rocks were preferred for axes, gouges, and celts. Granite was employed for grooved pebble sinkers. With the exception of flint and jasper all of the above materials are plentiful in the local glacial sands and gravels.

**Comparison and Discussion**

With the late Archaic of Cape Cod we undoubtedly have an areal extension of a horizon which with considerable uniformity covered the mainland of eastern Massachusetts and neighboring sections. Thus we find that the local aspect equates with the late pre-ceramic level described for Foster's Cove and other sites in northeastern Massachusetts (Bullen, 1949, pp. 76, 77), except perhaps for a scarcity of eared points in the latter area. Again, we find that the Cape expression of this period is in line with that of the Stone Bowl occupation to the west of Cape Cod, as at Sweet-Meadow Brook, in Rhode Island (Fowler, 1956, Fig. 4, lower zone). There is, of course, a paucity of stone bowls in the Cape region, but this may be due to the long distance to outcrops of steatite. Another location west of Cape Cod which is markedly similar to components of the Cape Archaic is the Faulkner Spring site, in Norton (Robbins, 1944). At this last station we have a preponderance of very small points, as at Freeman-Paine; an occurrence of eared points, as at High Head; and strangely for the area, an absence of steatite bowls.

To venture farther afield, the Late Archaic of Cape Cod and nearby sections finds its place in the general scheme of the Archaic of the Northeast. This fact is signified by the local presence of gouges, plummets, bannister-rose, and possibly certain other traits. A connection in particular with a late phase of the Laurentian Aspect of New York is suggested by traits of more restricted distribution, such as rude blades, pentagonal points, and especially eared points. The last, which are objects of somewhat unique form, occur in Southeastern Massachusetts, New York (Ritchie, 1944, Plates 110, 111), and in northwestern Vermont (Bailey, 1939, Plate 5). They appear to be absent from New Jersey (Cross, 1941); and, as we have already seen, to thin out noticeably in northeastern Massachusetts. The known habitat of eared points seems to lie, therefore, in a wedge-shaped territory which widens northwestward from an apex in southeastern Massachusetts. Although further research may reveal such points over a wider area, as matters now stand we must at least entertain the idea that at this time there was some kind of contact along the axis of the above envisioned wedge. On the other hand, the Late Archaic of southeastern New England, in its use of large numbers of very small points, and in its notable employment of steatite where this material was handy, appears to have developed some features of rather local provenience.
Plate 5. Upper half: bone, antler, tooth and copper artifacts from all periods. Lower half: miscellaneous artifacts, Middle Woodland Period. All from sites in Truro.
Early Woodland material from Cape Cod, so far as known, is in general like the remains from such off-Cape, Vinette 1 pottery sites as the Hornblower shell heap, on Martha’s Vineyard (Byers and Johnson, 1944), the Sweet-Meadow Brook site (Fowler, 1956, Fig. 5, first pottery zone), and the several locations of the North Beach focus of the Windsor Aspect of coastal New York and Connecticut (Smith, 1950, p. 135). The Cape material shows a discrepancy from that of the earliest ceramic level in northeastern Massachusetts, owing to a virtual absence at this time of medium and large size stemmed points in the latter area (Bullen, 1949, pp. 76-77). More detailed comparisons involving this Early Woodland stratum on Cape Cod are perhaps not justified from available information.

The well established Middle Woodland horizon of Cape Cod doubtless reaches with little or no change onto the nearby mainland and onto the islands south of the Cape. Although pertinent information is hard to come by, the upper component of the Swan Hold site, in Carver (Fowler, 1952, Fig. 8), seems to bear out this correspondence for the contiguous mainland. At the same time the Squam Pond site, on Nantucket (Bullen and Brooks, 1947), indicates a like spread to the Islands.

When we go farther from Cape Cod we find discernible differences in the pottery of this period. Sherds exhibit elements of transition not found on the Cape. At the Clark’s Pond shell heap in northeastern Massachusetts (Bullen, 1949, pp. 116-118), vessels lack fillets and there is considerable shell temper in connection with rocker and other stamped pottery. In the comparable level in the Narraganset Bay region the ceramics are again without fillets, and shell again often replaces grit for tempering. Channeled interiors appear in the latter area at this time (Fowler, 1956, Fig. 7).

More striking, as opposed to Cape Cod, is the virtual lack during Middle Woodland times in northeastern Massachusetts and for an undetermined distance south thereof of stemmed points of all but the small type (Bullen, 1949, pp. 76-77). Triangular forms largely take the place of the missing medium and large stemmed points. In this fact we have, it will be seen, a continuation of the discrepancy between sections as noted in respect to the preceding cultural stratum.

The source of the Cape Cod Middle Woodland, with whatever overlap it may have in nearby off-Cape sections is problematical. In regard to this question the stone industry alone, with its emphasis on the stemmed form for projectile points, involves no difficulty. For it seems probable that in certain areas near Cape Cod medium and large stemmed points typical of the Early Archaic persisted in force on through the Late Archaic and on still further to become the leading form in certain areas in the succeeding pottery period. It is otherwise hard to account for the preponderance of stemmed points at the apparently Late Archaic site of Grassy Island, near the mouth of the Taunton River (Johnson and Raup, 1947, p. 29). The last mentioned artifacts, which are almost identical to stemmed points from some of the earlier pottery components on the Cape, occur with the same prominence at the Hornblower shell heap, which is perhaps only slightly later than Grassy Island. Stemmed points of comparable shapes make up the main class in chipped stone at the South Woodstock site, in Connecticut (Praus, 1945, p. 40), an inland pottery bearing station which is only 14 miles from the Massachusetts line. A long search is, therefore, not necessary to find a plausible cradle for the prevailing kinds of stone points we have on Cape Cod in Middle Woodland times.

It is a different matter when we turn to ceramics, for clay pottery was not invented in southeastern Massachusetts, nor had it perhaps a long history there before we encounter it in the Cape Cod section. At first glance it might appear possible to trace the Cape ceramics of Middle Woodland times along the Connecticut coast westward through the pottery of the Clearview focus of the Windsor Aspect to an origin farther back in the Point Peninsula pottery
Plate 6. Pottery and stone artifacts, Late Woodland 1 Period. From sites in Truro and Wellfleet.
of interior New York. But when this is tried obstacles are encountered. Clearview pottery, according to the analysis by Smith (1950, Table 4), is 71% shell tempered, 46% cord or fabric malleated, and only 21% dentate stamped. Scored interiors are the rule, and applied fillets are absent. It is hard to argue a derivation from such pottery for the entirely grit tempered, predominately dentate stamped unchanneled interior, often collared vessels of the Middle Woodland period on the Cape.

To turn to another direction, the features I have enumerated for Cape Cod ceramics of this period have their counterparts in the earlier stamped pottery of Maine.1 Although there is, archaeologically, no discernible bridge of connection between the latter area and Cape Cod on a Middle Woodland time level, it seems reasonable to conjecture that the grit tempered, rocker and dentate stamped pottery of eastern Massachusetts came from at least a northerly quarter, probably diffusing, as has been suggested by Ritchie (1951, p. 134), from eastern Canada into northern New England and south thereof. Possibly bearing on this question is the suggestion from radiocarbon dates that pottery may have appeared in Maine much earlier than in eastern Massachusetts. In theory, Point Peninsula-like ceramics moving down along coastal New England should have met the Windsor variation of New York Point Peninsula spreading eastward through Long Island and coastal Connecticut, with perhaps a zone of blending or overlapping somewhere in the region of Narraganset Bay. The Point Peninsula-like ceramics grafted on to a set of possibly more indigenous stone implements such as we have from Grassy Island would, I may point out, give an assemblage typical of Cape Cod in Middle Woodland times.

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The Cape version of Late Woodland 1 probably extends to the adjacent mainland, since as we have seen, it is present on Sandy Neck, only ten miles from the west end of the peninsula. The occurrence of this stratum on Nantucket is at least

1. From an oral opinion by Mr. Theodore Stoddard.

indicated by a coarse-shell tempered, straight sided, cord surfaced pot from that island in the Peabody Foundation, in Andover. In northeastern Massachusetts the comparable level is represented by the upper zones of the Foster’s Cove and the Hoffman sites, where the pottery is vegetable tempered, marked with a cord-wound-stick, and has channeled interiors (Bullen, 1948). From Rhode Island at this time level are reported vessels that seem closely to resemble those of the two main types of the late Woodland 1 of Cape Cod (Fowler, 1956, Fig. 7, No. 6; Fig. 8, No. 1). Still farther away, the familiar straight sides, cord surfaced vessel appears at the Indian River site in southwestern Connecticut (Rogers, 1943, Plate 3, Fig. 1). And the equally familiar cord-wound-stick decoration shows on many specimens from the New York City area displayed in the American Museum of Natural History. Similarly decorated pottery, I hasten to add, is very plentiful also at certain levels in Maine.

There was, in fact, at this time a great deal of pottery up and down the coast that could have been a source for the Late Woodland 1 vessels of Cape Cod. I am inclined to conjecture, however, that the Cape manifestation of this period came directly from the area immediately west of Cape Cod and more remotely from the coastal section bordering Long Island Sound. One thing that seems to bear out this idea is the apparent directional course of scored or channeled vessel interiors, which was, I think, from west to east. Channeled interiors are a feature of New York Point Peninsula ceramics taken up, it seems, by the people of the Windsor Aspect and passed on by the latter to the Indians of southeastern New England. This pottery feature reached the Rhode Island area in Middle Woodland times and Cape Cod and northeastern Massachusetts sometime later or at the start of the Late Woodland 1 period.

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Late Woodland 2 of the Cape Cod variety, being as we have seen abundantly present on Sandy Neck, almost certainly extends to the nearby main-

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PLATE 7

Pottery, stone, and brass artifacts, Late Woodland 2 Period. 1,3,4,-
6,9, fine shell-tempered, cord-surfaced pottery with flaring rim and incised decoration; 2, flaring rim covered with combed or trailed lines; 5, 8 rim and body sherds of cord-surfaced pot with channeled collar, smoothed neck and gashed decoration; 10,14,
triangular points; 15, tapering stem point; 16,17, side-notched points; 18, corner-notched point; 25, knife or spearpoint; 26, asym-
metric knife; 19,20, cells; 21-23, small celt-like artifacts (22 is of
ground chert); 24, hoe with pecked sides and blade polished from
use; 27, brass arrowpoint; 28, pendant; 29, brass tobacco pipe; 30,
combined whetstone and hammerstone.

1, 9, Railroad site. 2-6,10-23,26,28,30, Muddy Creek site. 24, un-
named site, top of Corn Hill. 25, Small's Swamp site. 27, Pilgrim
Spring site.
Plate 7. Pottery, stone and brass artifacts, Late Woodland 2 Period.
From sites in Truro, Eastham and Harwich.
land, although relevant information is lacking. On Nantucket it occurs at the Herrecater Swamp site (Bullen and Brooks, 1949, Fig. 18, A,B). In northeastern Massachusetts the stratum comparable to our Late Woodland 2 is marked by fine-shell and fine-grit tempered pottery which is somewhat like the cord malleated and incised vessels of the Cape (Bullen, 1949, Plate 15, Nos. 4,5).

SUMMARY

The accompanying Table 1 is intended to show more readily than does the text the stratigraphic relationships of components of 23 Indian sites on Cape Cod. The division of certain sites into two or more components is, with one exception, based on observed superposition of artifacts. The exception is the Railroad site, where the separation was made by sorting out material dug without recording depths of artifacts.

Table 2 aims to give the Cape Cod sequence a broader orientation than it might otherwise have, by lining it up with the longer established and doubtless better organized sequences for areas considerably west of Cape Cod. In Table 2, the first two columns are adapted from tables; respectively, by Ritchie (1951, p. 132) and by Smith (1950, Table 1).

The nature of the transition from one cultural level to another on Cape Cod requires some comment. Since we are dealing with a long narrow peninsula, it is obvious, I think, that movement into the area must have been, in a way, a progression along a line. I would surmise that there were many advances and retreats along this line before there was established the relatively well organized and settled Indian population found on Cape Cod by the early explorers and the Pilgrim fathers. At times the Cape may have been, at least in part, temporarily uninhabited. Knowledge of such a vacuum might have spread far up and down the coast, inspiring migration to the Cape from more populous areas. Possibly also there were instances when isolated, culturally lagging groups on Cape Cod were suddenly swamped by more alert outlanders. Granting the above, or something like it, we should perhaps not expect to encounter locally the evidence of gradual change and growth that is often met with elsewhere.

A seemingly abrupt break marks the transition from Late Archaic to the early and middle stages of Woodland. Grit-tempered pottery and shell middens appear on sandy campsites that had been without pottery. Numbers of medium and large size stemmed points show up where very small points and eared points had predominated. A still more striking nonconformity attends the change from Middle Woodland to Late Woodland 1. Instead of grit-tempered vessels of many types, we now have shell-tempered pots which for the most part are of only two kinds. In place of a varied collection of stemmed and side-notched points, we now have broad triangular forms turning up with monotonous regularity. On the other hand, the transition from Late Woodland 1 to Late Woodland 2 appears to have been gradual.

Agriculture probably appeared in the Cape area early in Woodland times. For corn pollen occurs deep in Small's Swamp, in a part of Truro in which the Indian occupation was chiefly Archaic and Middle Woodland. We may conjecture that by the start of Late Woodland 1, if not before, Cape Cod had the ancestors of the historic Nausets.

The archaeological area, if such it may be called, that includes Cape Cod may also take in some neighboring maritime regions. As may be seen on a map, all points on the south coast of Massachusetts, inclusive of the several islands, would have been readily accessible to one another by dug-out canoe, and doubtless there was at times a great deal of contact throughout this whole section. There seems to be reasons, as already introduced, to place Nantucket and Martha's Vineyard in the Cape Cod archaeological area, and I think it may possibly be found that this area with a Cape Cod bent extends also to the Elizabeth Islands, the westerly shore of Buzzards Bay, the New Bedford salt water region, and even west of New Bedford for some distance. Much of this, however, must remain without either proof or disproof until there are at hand published descriptions of more sites, in particular Archaic and early pottery sites on the east-west part of the Cape and in the coastal stretch between Cape Cod and Narraganset Bay.

ACKNOWLEDGEMENTS

In regard to the artifacts herein illustrated: Plate 7, Nos. 7,8 and all objects listed as from the Freeman-Paine, the Indian Cove Spring, and the Muddy Creek sites are by courtesy of the R. S. Peabody Foundation, Andover, Mass.; Plate 7, No. 27 and Plate 5, Nos. 39,58 are by courtesy of Harold M. Curtis, Stoughton, Mass.; Plate 5, No. 59 is by courtesy of Stephen Keighley, Wrentham, Mass.; and Plate 5, Nos. 30,31 are by courtesy of Edward H. Rogers, Devon, Connecticut. All other artifacts shown are from the collection of the writer.
A REVIEW OF CAPE COD ARCHAEOLOGY

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SMITH, CARLYSLE SHREEVE

TORREY, HOWARD

VIDAL, FREDERICOS S., CHARLES L. SLADE AND EDWARD E. HUNT, JR.
## TABLE 1.—Stratigraphic Relationships of Components of Twenty-Three Sites on Cape Cod.

<table>
<thead>
<tr>
<th>Late Archaic</th>
<th>Early Woodland</th>
<th>Middle Woodland</th>
<th>Late Woodland 1</th>
<th>Late Woodland 2</th>
<th>Site Locations</th>
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<td>Rich 1</td>
<td>Rich 2</td>
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<td>Truro</td>
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<td>Holden 1</td>
<td>Holden 2</td>
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</tr>
<tr>
<td>Small’s Swamp 1</td>
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<td>Small’s Swamp 3</td>
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<td>Warren’s Field 2</td>
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<td>Pilgrim Spring</td>
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<td>Cliff 1</td>
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<td>Railroad 1</td>
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<td>Railroad 3</td>
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<td>Rose 1</td>
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<td>Seth’s Swamp 2</td>
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<td>Indian Cove Sp.</td>
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<td>Griffin I.</td>
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<td>Hemingway</td>
<td>Eastham</td>
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<td>Muddy Cr.</td>
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<td>Chatham</td>
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<td>Sandy Nk. 2</td>
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<td>(sites 1 &amp; 2)</td>
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### TABLE 2.—Inferred Correlation of Cape Cod Sequence with those of New York and Connecticut.

<table>
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<tr>
<th>Historic</th>
<th>Central New York</th>
<th>Connecticut and Eastern Long Is.</th>
<th>Cape Cod Area</th>
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<tbody>
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<td>Late Woodland, Iroquoian Aspect</td>
<td>Shantok Aspect</td>
<td>Niantic Fs. Windsor Aspect</td>
<td>Late Woodland 2</td>
</tr>
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<td>Late Prehistoric Period</td>
<td>Late Woodland, Owasco Aspect</td>
<td>Sebonac Focus, Windsor Aspect</td>
<td>Late Woodland 1</td>
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<td>Late Prehistoric Period</td>
<td>Middle Woodland, Vine Valley Aspect</td>
<td>Clearview Focus, Windsor Aspect</td>
<td>Middle Woodland</td>
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<td>Preceramic Horizon</td>
<td>Late Archaic</td>
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<tr>
<td>Archaic Period</td>
<td>Archaic, Lamoka Focus</td>
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Funds are now at hand for the printing and distribution of the Bulletin Index covering Volumes 1-17 inclusive. The format will be similar to that of our regular Bulletins, and members entitled to our publications will receive the Index with the January, 1958 issue of the Bulletin.

In looking over this Index some of our newer members will undoubtedly wish to purchase back numbers of particular interest. Available copies will be mailed, upon application to our Secretary, at fifty cents each until the supply is exhausted. Due to a printing deadline we are unable at this time to append a list of the volume numbers still in supply, but we will endeavor to include the list in the next News Letter, which will reach members in advance of the Index.

With the passing of the summer season we are all interested in the activities of the various Chapters during this period. Written reports should be forwarded by the Chapter Secretaries to your Editor for publication in the forthcoming News Letter.

The January Bulletin will include a report on an important archaic site in the Cochato River Valley in Holbrook and South Braintree, Mass., as well as other material from the South Shore Chapter.

Would a 3 to 5 inch projectile point be suitable for use with the bow and arrow, or were the smaller so-called “bird points” more favored by the early tribes? Experiments by Oren Evans of the University of Oklahoma, as described in American Antiquity, bore out the fact that accuracy continued to increase as the weight of the points was increased until the high trajectory began to interfere.

A point weighing as much as 90 gm. shot quite accurately up to 50 feet or more. Accuracy also increased with the greater arrow velocity resulting from the use of heavier bows. A bow pull of 35 pounds and an arrow with a point heavy enough for the center of gravity to be 2/3 to 3/4 the length of the arrow from the nock gave good accuracy up to 120 feet.

The hunting arrows of the heavier woods and about ¾ inches in diameter were best suited for the heavier points. Mr. Evans used unfeathered arrows in the tests in the belief that the use of feathers was a later adaptation and unknown to primitive man.

Roland Robbins, specialist in colonial archaeology, and perhaps best known for his work in the reconstruction of the Saugus Iron Works, has been busy this season directing the excavation of the seventeenth century Dutch site at Philipsburg Manor, Westchester County, New York. The manor house on the site was formerly Philipse Castle, and is presently a Rockefeller-endowed shrine.

Some of the structures uncovered beside the Pocantico River were built in 1683, the foundations being at times fourteen feet below present land level. Also encountered at this former trading center were fragments of English pipes, German crocks, African pottery, South American table silver, iron hinges, shoes, sickles, gunflints, a 1690 spoon, plates, knives, sleigh bells and an early Dutch work sled of oak and iron.

Another novel research method has come to light in Italy through the inventive mind of an amateur, Carlo Lerici. It involves determination of the contents of Etruscan tombs even before the lifting of a spadeful of earth. Many of these tombs were robbed of their valuable contents many centuries ago, but some still retain priceless objects.

The first step by Lerici was to study aerial maps of the region which showed the location of tombs through numerous shadowy circles. He noted also that the presence of the tombs affected the fertility of the soil above them to some extent, and that sensitive photometers could establish the difference over surrounding areas.

Barring laborious excavation there still remained the problem of the determination of the presence or absence of grave goods, and this was solved in a very ingenious manner. First, metal stakes were driven into the ground about 12 feet apart and were joined by a weak electric current in order to measure the electrical resistance of the soil. The air space of a tomb raises the resistance, and the readings give its approximate dimensions. With a gasoline powered drill he then proceeded to bore a 3 inch hole through the topsoil and into the tomb itself. An aluminum tube with a camera attachment was then lowered and a synchronized electric flash disclosed the contents.

Seventy tombs have been investigated in this manner, and fourteen proved worthy of excavation. About 125 artifacts have been recovered, and Lerici will not be satisfied until nearly 350 more have been scrutinized.