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This report is a delayed acknowledgment of significant work completed by the Narragansett Archaeological Society of Rhode Island in 1939. Various circumstances in the past have prevented evaluation and publication of the relatively extensive evidence from the site. However, it now seems important that it be made known through descriptive analysis and illustrations. Excavation was carefully supervised and evidence was painstakingly recorded as to depth and horizontal position of artifacts. Unfortunately, over the years that have elapsed certain records have disappeared, so that stratigraphic depth of artifacts is known only in part. Nevertheless, a most valuable asset lies in the recovered artifacts, all of which were retained, and have become the property of the Society for study.

In the Wickerboxet State Forest, West Greenwich, Rhode Island occurs a ledge of granite called Rattlesnake Ledge. It has a somewhat triangular shaped upper shelf, which overhangs the main ledge by about 8 feet at its furthest point of projection. This ledge extends roughly on an east-west axis with a southerly exposure, which afforded adequate protection as a shelter for early man. When the site was first investigated and tested, no signs of previous excavation was discernible. Evidently, the shelter had escaped casual plundering by hunters and picnickers, and was ready to give up its buried secrets of early human occupation in comparatively undisturbed condition (Fig. 1).

After obtaining permission to excavate, the site was laid out in 5 foot grids, and work was started...
on the site's south-west perimeter and proceeded toward the overhang. The squares were appropriately staked and marked, and recovered artifacts were recorded on a master chart in squares where they were found. They have been indicated by dots in the layout illustration of this report (Fig. 2). Artifacts were numbered numerically, and when the excavation was completed, 420 artifacts had been recorded. They consisted of fractured and perfect projectile points, knives, a few scrapers, and other ill-defined worked stone. For over 95% of the artifacts, quartzite was used, while white quartz served for the balance, except for an ulu of slate, one small side-notched point of red jasper, and one or two points of felsite.

There was no shell refuse encountered, and no fragments of stone bowls or clay pots. While this diagnostic evidence from a negative point of view is unreliable in determining culture relationship, it does tend to suggest that activities of the site's occupants were such as to do without such material. Of far more importance is the positive evidence of the site as reflected by the recovered artifacts. Logical evaluation of these implements should shed some light on who used the shelter and to what culture period, or periods they belonged.

Within the area below the shelter's overhang the ground sloped slightly toward the south, but outside the overhang it fell away sharply for a distance of 25 feet, with a drop of about 4 feet. There was a light cover of about 2" of leaf humus over all, below which occurred yellow subsoil. Artifacts were found in this subsoil no deeper than 9", although most recoveries were made between 1 to 8" below the humus. Just in front of the overhang were the remains of an open hearth, which apparently was the only one used by the occupants. A careful selection has now been made of the most representative specimens from the recovered artifacts. Obviously, this eliminates all ill-defined whole or fractured artifacts. It consists of recognizable projectile point bases and perfect specimens, as well as a few other kinds of artifacts. These specimens, 284 in number, serve as the basis
for this report, and are enumerated below. A representative group of them has also been illustrated (Fig. 3).

**PROJECTILE POINTS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Stem</td>
<td>53</td>
</tr>
<tr>
<td>Small Triangular</td>
<td>103</td>
</tr>
<tr>
<td>Eared</td>
<td>51</td>
</tr>
<tr>
<td>Long Eared</td>
<td>4</td>
</tr>
<tr>
<td>Side-notched</td>
<td>9</td>
</tr>
<tr>
<td>Corner-removed #3</td>
<td>17</td>
</tr>
<tr>
<td>Corner-removed #5</td>
<td>3</td>
</tr>
<tr>
<td>Corner-removed #7</td>
<td>1</td>
</tr>
<tr>
<td>Corner-removed #8</td>
<td>1</td>
</tr>
<tr>
<td>Corner-removed #9</td>
<td>1</td>
</tr>
<tr>
<td>Long Notcher</td>
<td>9</td>
</tr>
<tr>
<td>Tapered Stem</td>
<td>2</td>
</tr>
<tr>
<td>Stemless Knife</td>
<td>20</td>
</tr>
<tr>
<td>Flake Scraper</td>
<td>5</td>
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<tr>
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<td>2</td>
</tr>
<tr>
<td>Stem Scraper</td>
<td>1</td>
</tr>
<tr>
<td>Notcher</td>
<td>9</td>
</tr>
<tr>
<td>Ulu</td>
<td>1</td>
</tr>
<tr>
<td>Shaft Scraper</td>
<td>1</td>
</tr>
</tbody>
</table>

(Based on classification system of the Mass. Archaeological Society).

**Other Artifacts**

<table>
<thead>
<tr>
<th>Type</th>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Flake Scraper</td>
<td>5</td>
</tr>
<tr>
<td>Stem Knife</td>
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<td>Notcher</td>
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<tr>
<td>Ulu</td>
<td>1</td>
</tr>
<tr>
<td>Shaft Scraper</td>
<td>1</td>
</tr>
</tbody>
</table>

Fortunately, recorded vertical positions of 32 projectile points have been preserved. This group includes the following types: Small Stem, Small Triangular, Eared, and Corner-removed #3. The significant observation to be made about these specimens is that they occur scattered at various depths up to 8” with no definite level associated with any particular type or types. Also, included in the group is one Corner-removed #5 (Fig. 3, #51) at a depth of about 9” below humus, representing the lowest level of occupation. Now, while these recordings are admittedly sparse for a total recovery of several hundred artifacts, they are sufficient, it would seem, to indicate a trend, which will be referred to later when certain deductions are made.

**CORRELATION**

In order to gain a better understanding of the Rattlesnake Rock Shelter evidence, it seems useful to treat it typologically, for the purpose of making comparisons with culture stratigraphy at another well recorded station. The site we have selected for this correlation is called Titicut. It lies on the north side of the Taunton River at a sharp bend in the stream, about six miles above Taunton in the town of Bridgewater, Massachusetts. This locale is in the uplands of the Narragansett Bay drainage, as also is the Rattlesnake Rock Shelter. The two sites should, therefore, be comparable in so far as culture traits are concerned.

The Titicut site covers a relatively large area well supplied with drinking water from springs and a brook, which empty into the river at that location. Evidence uncovered by controlled excavation over a period of four years, commencing in 1946, produced data sufficient to indicate active occupation of the site from post glacial times down to, and including the colonial period. The work was done by W. K. Moorehead Chapter of the Massachusetts Archaeological Society, and eventual tabulation of some of the evidence for purposes of study was made by the writer. As a result, we have learned much about the diagnostics of certain types of artifacts as related to three culture horizons, which were well defined at the site. For this report a brief description of these zones should suffice as a base for correlation.

The earliest and deepest culture zone lay in the yellow subsoil terminating on white wind-blown sand of post glacial times, before forestation had covered the area. By careful excavation the low-lying white sand level was found to have a hummocky character, evidently of dune formation with troughs and crests. These had been formed by strong winds, which doubtless blew with great force over the tundra of those ancient days. On this low level, which lay from 3 to 5 feet below humus, appeared Early Archaic projectile points, but no fluted points. This, together with a Carbon-14 measure of charcoal from an open hearth on this level with a maximum age of about 6,500 years ago, seems to indicate a transitional zone at the close of the Paleo and start of the Early Archaic period. Besides these projectile points, this low level is identified with eight unique stone hearths with small fire pits, suitable only for burning small sticks and grass, indicative of a bushy tundra environment. Actually, these hearths, probably were no more than sand hearths with reinforced stone walls. This Early Archaic zone extends up from the white sand level through the yellow subsoil to a point about 1” from the humus, at a line of demarcation called the junction. In this early zone appear Corner-removed #2,3,5,8,9, Bifurcated, and Long Eared Points. Much significance should be attached to the occurrence in this zone of fragments of 6 Ulus, as against none in the overlying two later horizons. The classic small knobbed Plummet also appears in this zone.

The horizon lying just above is the Late Archaic. Here were found the greatest number of artifacts. The zone seems to center at the junction, which at this site had not been disturbed by deep plowing. Therefore, it tends to be wavy and irregular with a maximum variance of about 2”. Typologically, the zone extends into the yellow subsoil about 1” and into the humus above about 1”, making a total spread of approximately 4” for the zone. The most diagnostic large implement traits from this zone are, Grooved Ax, and Stemless Knife, while stone bowl fragments and a fractured well-made small elbow pipe of steatite, now re-
stored and on display in the Bronson Museum, also were present. This evidence quite definitely places this zone in the Stone Bowl horizon. Therefore, its projectile point types can now be studied as having culture significance for this industrial age.

While there is no line of demarcation separating this zone from the earlier one, typologically, a change is distinguishable due to the above evidence and the appearance of different projectile point types. Eared Points in different styles now appear, along with Small Stem, Small Triangular, Side-notched #1, and Corner-removed #7, including wide bladed styles. These point types become diagnostic, therefore, of the Stone Bowl Age (Late Archaic).

Finally, the upper zone, which extends through the humus cover, contains some potsherds, which identify it as the Ceramic (Woodland) horizon. It contains overlapping projectile point types from the Stone Bowl zone indicating culture continuity, and in addition, Large Triangular and Corner-notched types, which become diagnostic of this period. Another important diagnostic of this zone is the Triangular Hoe blade, which does not occur in lower zones.

With this examination of Titicut's archaeological stratification, it is now possible to make comparisons, and find out where artifact traits from the Rattlesnake Rock Shelter fit in. First, its earliest projectile point types (Early Archaic), as reflected in the Titicut assemblage, are as illustrated (Fig. 3): Long Eared, Corner-removed #5, #8, and #9. As mentioned before, Corner-removed #5, exhibit 51, appears 9" deep on the lowest level. If this represents its undisturbed origin at the site, this type may be considered as one of the earliest at the shelter. But, at Titicut, with this type are associated Corner-removed #8, 9, and Long Eared points. Therefore, it seems logical that these traits, too, at the shelter belong to the Early Archaic. Of the knives, the Ulu, as at Titicut, quite definitely should be placed on the low level at the shelter, as a diagnostic of the Early Archaic.

Now, consider the rest of the artifact traits at the shelter as represented by the illustrations. In this assemblage are found Eared #1, #2, #3, and #4, Small Stem, Small Triangular, Side-notched, and Corner-removed #3 types, as well as the Stemless Knife trait, all found in the Stone Bowl (Late Archaic) zone at Titicut. Flake Knife and Notcher (woodworking) shelter traits, while not considered diagnostic, have been found at excavated camp sites associated with this same culture zone. However, they have also been identified at certain sites with Early Archaic times, when people were as much concerned with the hafting of implements as at a later date.

**CONCLUSION**

What, then, does the foregoing evidence seem to suggest? Here was a commodious rock shelter facing south and warmed by sunlight, with protection from cold north winds. From its heavy concentration of artifacts, it is evident that it attracted many groups of people on various occasions, probably, with only a few occupants being accommodated at any one time. Recovered artifacts, which were left behind, indicate that the shelter residents were hunters. Apparently, throughout the ages, sides of the ledge were used to support poles, which rested against them to form a well sheltered lean-to. Without a suitable exit for smoke, the only fire, which served for cooking and heat, was made against small rocks in front of and outside the lean-to. Such hut construction would presumably have rested rafter poles on the ground. Not being driven into the soil, they would have failed to have left post molds for archaeological discovery—no post molds were reported.

From correlation of artifact traits with those at Titicut, it seems certain that the shelter was first used as a hunting lodge sometime between 5,500 to 6,000 years ago by the Early Archaics, when a bushy tundra condition probably prevailed. They are thought to have been hunting caribou with spears, and so have been called Caribou Hunters. They left behind a fractured knife, called an Ulu, taken from the Eskimo name for knife, which has a similar shape. Because of this knife similarity, these people are presumed to have had Eskimo characteristics; may have had a common ancestral source in Asia with Eskimos who came to America at a much later date.

Between 2,000 to 5,000 years ago other hunters with a new tradition arrived and used the shelter in the same way as had its earlier occupants. However, these new comers were hunting smaller game, such as exists today. Forests had arrived, which tended to conceal the shelter, as against its exposed condition under earlier tundra surroundings. Where it had been used previously on only a few occasions, it now became frequented repeatedly for many years. Its new occupants had not only spears, but bows-and-arrows, as evidenced by the quantity of small stem and small triangular
Fig. 3. ARTIFACTS FROM RATTLESNAKE ROCK SHELTER. Projectile Points: 1-5, Side-notched; 6-24, Small Triangular; 25-29, Corner-removed #3; 30-34, Small Stem; 35, 47, Long Eared; 39-46, 48, 49, Eared; 50, 51 Corner-removed #5; 54, 53, Corner-removed #8, #9. Knives: 35, Flake; 36, Notcher (woodworking); 37, Stemless; 52, Ulu.
LOCUST SPRING SITE: ITS OCCUPATIONAL ACTIVITIES

WILLIAM S. FOWLER

PREFACE

During the year 1957 the Narragansett Archaeological Society of Rhode Island commenced excavation of a site located at the source of Sweet-Meadow Brook in Greenwood, Rhode Island. Shell refuse was noted at spots along the west bank of the brook, and test pits indicated the presence of chips and artifacts. Another feature that seemed to recommend the area for digging was a large spring, which furnished the brook with most of its water. It lay in a ravine with wooded banks rising on both sides, although the slope was more gradual on the west, the side that was excavated. This afforded a suitable camping place, and with spring water close by attracted occupants over an extended number of years. Many locust trees cover the area, some quite large, indicating an undisturbed growth for perhaps three-quarters of a century. This, together with soil conditions, described hereafter, indicates no plowing since the close of the nineteenth century, at a time before power machines had replaced horse drawn plows.

Grateful thanks are due the owner of the land, Mrs. Rosalind E. Wallace, for permission granted to excavate and retain all recovered artifacts in the interest of scientific investigation. Due to this generous cooperation, much information about the site’s occupants has been gleaned from artifacts they left behind. However, due to the site’s location, removed as it is from navigable water by about one-quarter of a mile, no large settlement of the area occurred. Instead, an irregular occupation by a few people at a time is indicated of no prolonged duration. Nevertheless, that the site had residents who stayed long enough at a time to enter into at least nine different activities is amply clear from the evidence. After all, the locale is only a short distance up stream from the larger Sweet-Meadow Brook site in Apponaug, where canoes could have been moored in its beaver pond, only a short pole up stream from Apponaug Cove in Narragansett Bay.

THE SITE

During five years of work, excavation at first uncovered a sizable shell midden on the brook’s west bank with evidence of occupation nearby. After excavating this area, it was decided to move up a gentle incline to more level ground, which extended as a kind of terrace about parallel with the brook and 20 feet above it. Here, the major part of the dig took place with recovery of most of the artifacts. All told, an area of 22,320 square feet was excavated (Fig. 4). As soil was scraped away, it was evident that erosion over the years by water or wind had been so slight as to be unimportant. This eliminated a troublesome factor in measuring depths and establishing culture levels.
As to disturbance from recent cultivation, contact artifacts that were recovered seem to suggest middle or late nineteenth century plowing, rather than that of a later date. There are among these remains, Davidson and McDougall-Glasgow kaolin pipe fragments, Bennington crockery, an 1854 silver quarter, an 1863 Indian head penny, some hand-wrought nails, spikes, latches, etc. These all appeared in the top 6 to 7" of loam below grass roots, which presumably represents extent of the plowed disturbance, except for low spots where the plow-share cut deeper.

Archaeological stratigraphy was confined to the loam and to the junction. The latter is an irregular line of demarcation between loam and subsoil, which tends to be wavy and irregular with a thickness of about 2". Although excavation was carried consistently into the sandy subsoil, no chips or artifacts were found in such a way as to prove deposition in it. About 12 to 15" below junction occurred white sand, which tended to be gravelly in texture, but without signs of occupation. A few undisturbed hearths and some refuse pits cut off by the plow 6 to 7" below grass roots supports the previous assertion that plowing stopped there, except where depressions caused lower plowing. Therefore, as depth of loam measured from 8 to 10", it was assumed that artifacts occurring 1 to 2" above junction, probably were not disturbed by the plow. This lower loam area and the junction represent stratigraphic sources of artifact types, referred to further along.

From a study of recovered artifacts and their sources, it seems obvious that the site reveals two culture periods: one at junction, the other above in the loam. However, it should be noted that at junction both culture periods are evident: end of the Stone Bowl era (Late Archaic) and beginning of the Ceramic Age (Woodland), although, as a rule their artifact remains were not found together. In other words, a level of cultural transition seems to exist at junction, in which the earlier culture is changing into a succeeding one, but without concentration at any one place. The suggestion seems to be that there was a slow transition, which extended over a span of years. Since there are no high elevations about the site from which excessive water-washed erosion could have come, accumulation of fill must have been slow, depending chiefly upon normal wind action. Consequently, artifacts of the Stone Bowl Age could have been deposited at junction level and have lain there for at least a hundred years without appreciable erosion cover to hide them. Therefore, artifacts of the following Ceramic era dropped on this same level at the end of the hundred year span, would, if undisturbed, appear today to be coeval with those of Stone Bowl times. However, a study of trait types and their probable functional uses has enabled a better understanding of this complex feature. This will become more apparent in the discussion of occupational activities.

Excavation of the site was performed after staking out the area to be dug in 6' grids, from a base line running more or less parallel with the brook. Each square was scraped with trowel or its equivalent, the work progressing by removal of succeeding 12 to 15" benches, the face of each being kept exposed for vertical measuring of artifacts. Only those artifacts that were well enough defined to permit identification were recorded. This included broken bases of points and knives, but not unidentifiable tips. Each artifact was located stratigraphically to the nearest inch with measurements made to junction and up to grass roots. Data was then transferred from field notes to a master chart for study, which produced a useful tool as a guide in the evaluation of evidence. Potsherds were not recorded separately, but in groups to which any specific recovery belonged.
OCCUPATIONAL EVIDENCE

STONE HEARTHs. Altogether, 20 hearths were recorded in situ, some with charcoal residue, others with none. Of these, 9 were imbedded 3 to 5" in subsoil with top of stones appearing at junction level. There were 10 more resting on this level, whose stones rose 1 to 2" above junction, with some partially destroyed by the plow. One hearth rested just above junction in the loam, undisturbed. Still others higher up in the loam had been completely demolished; their fire stones were scattered throughout the loam. Most of those in situ consisted of small fire-cracked stones arranged in an irregular mass of 1 to 2' in diameter. Associated with one hearth at junction was a small eared point. One of those hearths imbedded in subsoil near the brook had several large cobblestones arranged as if for support of a cooking vessel, possibly a stone bowl or ceramic pot, depending upon which culture period produced the hearth. The exact depth of hearths, whether imbedded in subsoil or resting at junction level, is not considered important as a culture period marker; the deeper ones might have been built in natural depressions to account for their lower depths. More important is associated evidence such as the eared point: a Stone Bowl culture determinant.

REFUSE PITS. As customarily found at all sites, many refuse pits were encountered, probably well over a hundred all told. Of these, 54 pits contained artifacts, and so become important features in evaluation of the evidence. Their sizes varied, some being extensive, while most were confined to deposits of 1 to 2' in diameter, extending to different depths, depending upon the amount of refuse involved. Shellfish remains formed the major part of most refuse, although a few pits had none. Some animal, but little fish bone material appeared. An important feature carefully noted was whether artifacts were associated with the presence or absence of shellfish refuse. For, it has been established at other sites that the Stone Bowl Makers ate no shellfish; that the advent of shellfish eating came at the beginning of the Ceramic Age, its shell evidence associated with Stage 1 pottery remains.

In evaluating pit artifacts, it should be observed that their culture association is directly related to age of the pit in which they appear. This is determined by the level of the pit's top, or the level of origin when the pit was formed—depth of any artifact in the pit is irrelevant. Therefore, level of origin of all pits containing artifacts, when not disturbed, was recorded. Pits containing shell refuse were identified as belonging to the Ceramic culture, while those without were considered a part of the Stone Bowl culture, unless proved otherwise by the evidence. Pits in the loam were usually disturbed by the plow with their level of origin destroyed. However, pits originating at junction were usually undisturbed, and could be relied upon as age determinants for their artifact contents. Observation of shellfish consumption at the site has dependable value, since shellfish were readily available to those people who ate them, with the site only a little more than a quarter of a mile up stream from Narragansett Bay, where shellfish were plentiful.

BURIAL. One human burial was exhumed. It contained the flexed remains of a female adult, but no grave goods. Remains of a few deer bones near the skull, doubtless indicates presence of a food offering. Two large oyster shells lay close by the grave shaft, and may have been used as spades for digging it. The burial's level of origin had been destroyed by the plow, so no age estimate can be attached to it. However, since the skeleton was in a fairly good state of preservation, it is safe to say that it is a contact burial of late Ceramic or protohistoric times.

OCCUPATIONAL ACTIVITIES

This site lies only four miles distant from Oaklawn steatite quarry, which has been extensively excavated over the years. Quantities of broken stone bowls and pipes in the process of construction have been recovered from its workings, besides stone tools used in their manufacture. It is not strange, therefore, that this industrial activity should be reflected in certain artifacts recovered from the Locust Spring site. Besides soapstone outcrops at the quarry a companion stone called chlorite is in evidence. This stone has a lower talc content than steatite, and is more uniform in structure with fewer impurities. Although somewhat harder in texture, it is readily workable because of its talc content, and was a favorite selection for the manufacture of stone pipes, whereas steatite was preferred for bowls. Hundreds of pipe-forms, usually in a fractured condition, have appeared in the workings at the quarry, while scant evidence if any has occurred at other stone bowl quarries of New England, seven of which have been excavated by the writer. Therefore, it has been held by many that pipe making at Oaklawn has a significance apart from other quarries. Recent recoveries there of side-notched #3 points has led to the speculation that at least the pipe workings represent a late occupation; this type of projectile...
point has been proven at camp sites to be transitional between Stone Bowl and Ceramic ages.

Therefore, it came as no surprise, when charcoal taken from an Oaklawn quarry pit in the midst of pipe making debris was recently dated by the University of Michigan in their radiocarbon experimental laboratory. Listed as specimen M-1095, it has a Carbon-14 date of 1,080 ± 150 years B.P. (before present). Allowing for recent contamination from live microorganisms seeping down by water action, it may be preferable to take the maximum age allowed of A.D. 731 as the date for this charcoal deposit. If this was left by pipe making artisans, as the evidence suggests, then no matter how many hundreds of years the quarry may have been in operation making stone bowls, of which there are extensive remains, as late as A.D. 731 stone pipes were being manufactured. How much earlier they were made at the quarry, as yet, is not known. Therefore, it now seems clear that pipe making came at the close, rather than at the beginning of stone bowl operations. Otherwise, similar extensive pipe making litter should be in evidence at other quarries, which is not the case.

Looked at through the eyes, not only of a scientist, but also of a practical investigator, implement traits appearing at any site take on new meaning, especially, when, as at this site, a varied list is encountered suggesting many different activities. At first a researcher may only classify and report what he finds, but as time goes on with more sites excavated, evidence appears in a new light. He is then able to make comparisons and logical deductions, which at first he found impossible. Probable early happenings now appear as truths that unfold before persistent investigation and experimentation. Likewise, the Locust Spring site seems to offer an opportunity to evaluate its artifacts prospectively, as they may be related to the various activities for which they were intended. Through such logical deduction a look is had into the activities of those with whom archaeology is concerned.

From its 1,191 recordings the site has produced an array of artifacts from which diagnostic specimens have been selected for illustration. They represent nine different activities to which they are thought to belong. These will be described together with their stratigraphic sources so far as they are available. This will tend to show why such implements have different distinctive shapes, and will serve to better acquaint us with the people who made them.

Certain artifacts cannot be identified as to their probable functional use. One of these is what appears to be a stone mortar, made from a 13” slab of sandstone, with a small pecked-out 1” depression. Other objects consist of smaller flat stones with shallow depressions. The latter may be paint cups, and the former a red ochre mortar. However,
no evidence of red ochre in bulk or powdered form appeared to support this assumption.

STONE BOWL INDUSTRY. Broken fragments of steatite (soapstone) bowls first appear at junction, where they seem to indicate the earliest arrivals at the site to be Stone Bowl industrialists of the Late Archaic. All told, 53 fragments were recovered, many appearing in the loam, doubtless there as a result of the continued use of bowls as heirlooms, or from some disturbance. One large fragment involving the lug end of a kettle is re-worked into an anvilstone. Another fragment contains actinolite crystals, a sure sign that it came from the Oaklawn quarry where actinolite is often found as a steatite impurity. Two fragments occurred in a large refuse pit originating at junction, and containing no shell, which should place it in Stone Bowl times, as at other Narragansett Bay sites. Stone cups were used in eating liquid foods of the day, as shown by handle end of a steatite cup (Fig. 5, #11). A stone plate made from a slab of granite slightly hollowed, with a worked handle appeared in a pit with shell at junction. It is presumed to be a Stone Bowl product carried over into Ceramic times, on account of the presence of shell. It measures 7⅜ x 10⅜" and is reminiscent of platters of granite recovered at a steatite quarry, and at Twin Rivers site in the Stone Bowl horizon.

More conclusive evidence at the site of the manufacture of stone bowls is had in the appearance of tools presumed to be stone bowl-making implements, since they closely resemble specimens recovered from steatite quarries. Some of them came from junction level, which also helps connect them with the industry. Their types consist of: End Pick, Hand Gouge, Abrading Scraper (at all quarries); Scraping Chisel (at Westfield quarry); Flake Scraper (at Oaklawn quarry) (Fig. 5). In the case of the last two, quartz crystal specimens #5,6, note close similarity between site and quarry recoveries, as illustrated. Trait identifications of a Scraping Chisel are an elongated shank, and a relatively straight edged, steeply beveled blade.

POTTERY INDUSTRY. Clear evidence of pottery making from earliest Ceramic times is evident from potsherds with traits typifying the first three of four stages of pottery development. Apparently, the site was discontinued before Stage 4 ceramics got under way.

Stage 1 sherds appeared at junction (17 recordings), except for two or three that were out of context in the loam, doubtless moved there by pit or plow disturbance. They have the following traits: cord-marked both sides; coarse mineral temper; straight neck with roughly formed rim; base not recovered, probably conoidal; coiling indicated. The occurrence of Stage 1 sherds at junction on the same level with Stone Bowl evidence may suggest that stone bowls were being replaced by clay pots; an industrial revolution had taken place. The fact that evidence of both industries appear on the same level does not necessarily mean a contemporaneous state. For, as explained previously, the Stone Bowl...
Makers could have occupied the site a hundred years before this industrial change occurred, and still have their remains appear on the same level with later day potsherds, for lack of fill.

Stage 2 sherds appeared 1 to 2” above junction in loam, presumably not disturbed (26 recordings), except for one or two near junction, doubtless as a result of some disturbance, and others scattered by the plow throughout the loam. Their traits are as follows: cord-marked outside, smooth or stick-wiped inside; simple dentate and corded-stick designs; shell, medium mineral, and vegetable tempers; straight to slightly constricted neck; flat rim, sometimes decorated; coiling indicated; conoidal base. Evidently, during the extended period of this stage humus collected sufficient to cause the site’s floor to rise and place later deposits within reach of the plow.

Stage 3 sherds were in two pits with shell, their level of origin destroyed by the plow (2 recordings). One of them involved 41 sherds representing all parts except the base of one pot. From these and previous restorations of Stage 3 pots from other sites with conoidal to semi-conoidal bases, it has been possible to make an illustrative restoration of this specimen. Traits of these Stage 3 sherds are: cord-marked outside with smooth neck, smooth inside; line and cross-hatch dentate designs; well formed decorated flat rim; constricted neck; in one case, straight collar, possibly laminated; fine mineral, and shell tempers; base not recovered, probably conoidal to semi-conoidal.

Several artifacts recovered from junction and loam are believed to be pottery tools; 9 Pitted Hammerstones (probably clay kneaders), and 3 worked stones (probably pottery markers); 2 are included with pottery illustrations (Fig. 6).

**AGRICULTURAL INDUSTRY.** Previous research has shown the Triangular Hoe to be the most authoritative evidence of agricultural activity, (see “Did Lafitau Draw What He Saw?”—Bulletin of the Massachusetts Archaeological Society; Vol. 21, #3 & 4). From the site come 13 Triangular Hoe blades, whose source was at junction with Stage 1 sherds (Fig. 7). Also, at Sweet-Meadow Brook site a quarter of a mile down stream, advent of this tool type was with Stage 1 pottery, with which it had a coeval beginning. Another recovery at the Locust Spring site seems to be further evidence of maize growing. It consists of a long 13½” sandstone pestle with parallel sides well worked; it appeared at junction. While shorter pestles with evenly worn, rounded ends, presumed to have been used in stone mortars for grinding nuts, have appeared in Stone Bowl horizons of the preceding age at Green Point and Wapanucket 6, this pestle is different. Besides its length, which seems to fit it best for a deep mortar unlike those of stone, it displays only light wear at the grinding end. That is, the flakes which were removed in shaping the end are still discernible with but an overall wear. This condition would more likely have resulted from use in a wooden log mortar of Ceramic times, than in the earlier stone mortar. Besides, a log mortar tends to be deep, requiring a long pestle (Fig. 8).
PIPE INDUSTRY. The earliest smoking pipes in New England were made of stone with stone stems a part of the whole, a fact that is quite clear from pipe remains at the Oaklawn steatite quarry. Evidence indicates that stone pipes were being made at the Locust Spring site with recovery there of a large pipe blank at junction; small platform pipe-form in disturbed upper loam; completely finished small platform pipe—slightly damaged by plow—in disturbed loam; and a small platform pipe semi-finished with drilled stem but with bowl missing, its reaming incomplete (Fig. 9). The latter was in a pit with shell, its level of origin at junction, evidently of Stage 1 pottery times. Also, numerous fragments of pipes in process of manufacture were scattered about through the loam, all of which suggests an active interest in this industry. Remembering that the site is only four miles distant from the Oaklawn quarry, it is no wonder that all of these recoveries were of chlorite, identical to outcrops of this stone at the quarry—one large pipe bowl fragment was of steatite.

While the first Stone Bowl occupants of the site may have introduced this industry, it is certain that it persisted through at least a part of the Ceramic Age, as is shown by the pit recovery. Both small pipes measure about $1\frac{3}{4}$" long (finished bowl is $\frac{3}{4}$" tall). Both have a $1\frac{1}{4}$" long stem perforation. In the case of the unfinished pipe, too little stock was allowed about the bowl, not enough to withstand the strain of reaming, which apparently tore the bowl off from the stem.

The stem perforation in both small pipes has similar proportions: a $3/16"$ diameter opening at end of stem which tapers gradually to $1/16"$ where it penetrates the bowl. Uniformity of drilling is marred in one or two places where off-center drilling was corrected. However, there are no deep circular drill marks to indicate use of a stone drill. Moreover, the writer has found the smallest stone drill with adequate length in the Bronson Museum too large for the perforation. Likewise, no recovered drill at the site is small enough for the job. Obviously, some other method must have been used. Some years ago the writer experimented with stone stem drilling, using a tapering $\frac{3}{8}$" stick drill and fine sand. With this equipment he succeeded in cutting a small hole by abrasion $2\frac{1}{4}$" long through a steatite pipe stem, about equal in size for the last $1\frac{1}{2}$" to that of the site’s pipes. In view of this experiment, it is safe to assume that early pipe stem drilling was often accomplished this way by abrasion. However, evidence elsewhere is available to demonstrate that stone drills were sometimes used for certain types of pipe stem drilling in which larger perforations appear.

When it comes to hollowing of the pipe bowl, another technique was used. Examination of the finished pipe specimen shows a $\frac{3}{8}$" diameter hole at the top of bowl, which tapers to a smaller rounded pit with a bowl depth of $\frac{3}{4}"$. At various places circular ribs are present, which indicate use of a stone reamer (broad bitted drill); its irregularly chipped edges have left their marks. Vertical marks of some sort of tool used to smooth the exterior, often found in finished pipes, are absent in this specimen.

As this evidence indicates, the Pipe Bowl Reamer was an important tool of this industry; 24 were recovered. These vary in size depending upon the pipe being manufactured, whether large or small. There is some uniformity in form with but one marked departure (Fig. 9, #11). This exception is a $4\frac{1}{4}$" long quartzite spall with a $\frac{3}{8}$" cutting bit at one end. Toward the other end is a sharp edge.
modified by fine chipping to provide a smooth finger grip. Reamers appear first at junction and continue into the loam.

Some time during Stage 1 or Stage 2 pottery times, ceramic pipes were successfully made, and gradually replaced stone pipes to a considerable extent. While no perfect specimen was uncovered, the stem end of a ceramic pipe was recovered from the loam (Fig. 9, #5).

**BONE IMPLEMENT INDUSTRY.** All told, 16 artifacts of bone were recovered. They appeared in the shell midden near the brook, and also in refuse pits both with and without shell throughout the site; their source was at junction. Since there were one or two pits without shell, the assumption is valid that the last of the Stone Bowl Makers made tools of bone, which continued to be made by their pottery-making descendants. Bone implement traits at the site consist of: Awl; Needle; Beaver Incisor; Pressure Flaker; and Arrow Point; selected specimens are illustrated (Fig. 10). Of these, the

arrow point is unusual. It has three prongs at its base rather than the customary two. This may be accredited either to bone variation, or the whim of its maker.

**WARFARE.** This category refers to an activity which produced no value that could be termed an asset for cultural advance. Instead, it tended to break down established cultural gains by inciting hatred, intrigue, deceit, torture, and a host of other degrading attributes. Obviously, like everything else, it had a beginning at some period of prehistory. However, it is difficult to detect through archaeological research, because its chief weapons, projectile points and clubs, also, were used for dispatching game. For this reason, other indices are required to provide more reliable guides. One of these is described by Champlain and other early commentators, as a stone prong fitted into the end of a wooden club, called by one of these writers a tomahawk. During excavations carried on over the past number of years, numerous examples of this so called War Club Prong have appeared, but always in upper, rather than in lower zones of occupation. As a matter of record, never have they occurred in the Stone Bowl horizon, but always in that of the following Ceramic era. At this site, the situation is no different with 5 War Club Prongs appearing in the disturbed upper loam (Fig. 11).

They may be distinguished from semi-finished points, in that the prong at one end of the stone is stubby, and worked into a point. The opposite end is often roughly chipped; is thick without definite shape. These prongs differ from points in that they tend to have enough bulk to withstand hard blows. They are always made of hard, tough material, like quartz, felsite, quartzite, and other igneous stones.

Another implement that seems connected with warfare, perhaps somewhat more remotely, is the Hatchet Club (Fig. 11, #4). As the name suggests, this implement has the shape of a hatchet, but lacks
a sharply ground cutting edge; hence is classed a club. Excavation at Twin Rivers hunting site revealed it to be a hunting club of Ceramic times. However, it might just as well have served as a war club of this culture period, and is considered here to have that dual function. One specimen was recovered at junction, where it probably belongs to Stage 1 pottery times of the Ceramic Age, as at other sites.

WOODWORKING INDUSTRY. From earliest times, attaching handles and shafts to implements has been a major woodworking activity. As time passed, certain wooden products were required, such as lodge supports, bows, dugout canoes, paddles, dishes, bowls, and in maize planting times, log mortars. Obviously, stone tools were employed, but according to Champlain and others fire played an important part. With it the wood was charred to assist in its removal when hollowing was involved.

In the process of hafting, four tool types have been identified through actual use in performing their several functions. Of the four, three are present at this site: Notcher; Shaft Scraper; and Shaft Abrader (Fig. 12). The remaining fourth, the Roughing Knife, is absent. All told, 40 of these tools occurred with their source at junction. Many were scattered throughout the loam, indicating probable hafting activity over the entire span of occupation.

Another important part of this industry was the manufacture of log dugouts for which other tools were required. Grooved axes in Stone Bowl times—present in steatite quarries—also, hatchets, gouges, and celts were doubtless employed, according to a report by Arthur Petzold of his discovery of a dugout workshop in Bulletin of the Massachusetts Archaeological Society, Vol. 22, #3 & 4. In addition, Champlain says that small stone scrapers like gun flints (possibly steepedge scrapers) were used to scrape out the charred interior of the log. At this site the following traits of those just mentioned are present: Grooved Ax (2); Hatchet (3); Celt (1); and Steepedge Scraper (85); with source at junction. The latter three are illustrated (Fig. 13). Furthermore, it seems probable that steepedge scrapers, if used in hollowing dugouts, might also have served
the same function in the manufacture of log mortars, dishes, bowls, etc.

**Fig. 14. WOODWORKING INDUSTRY. Drills.**

In woodworking, holes were sometimes required for which drills must have been used. For example, in hafting certain kinds of arrow and spear points, the pith at the point end of the shaft is thought to have been drilled out to a sufficient depth to allow insertion of the projectile point. This operation further required that a notch be sawed through the perforation with the notcher, to provide adequate room for the point. While drills were doubtless used in woodworking, they also served to perforate stone artifacts such as gorgets, pendants, cracked stone bowls and ceramic pots in effecting necessary repairs. Site Drills, 33 in number, first appeared at junction and extended throughout the disturbed loam; a representative group is illustrated (Fig. 14).

**SKIN CURING.** In the curing of hides for clothing, it is known from ethnological research that certain types of scrapers are used by western Indians in preparing skins for tanning. First a large scraper—called a slimer—is used to scrape clean the inside of the skin. The stone scraper that seems to best fit this category is what has been called—Oval Scraper—of which 7 were recovered with source at junction. They are made of coarse stone materials, such as granite, shale, pegmatite, and sandstone.

Another recent Indian reservation skin scraper from the West is one of steel in an elk horn handle that is hafted at about a right angle and used to remove hair. The counterpart in stone is thought to be an elongated Stem Scraper, of which 4 occurred with source at junction. Besides this type, smaller Stem Scrapers appeared, both asymmetrical and symmetrical, their source at junction; 76 in number. They are believed to have been hafted and used for smaller skins. Specimens of these several skin scrapers are illustrated (Fig. 15).

**PROJECTILE POINT — KNIFE INDUSTRIES.** Products of these industries have been man’s chief tools in his survival through the ages. Their identification follows the approved classification of the Massachusetts Archaeological Society, Bulletins, Vol. 23, #1 and #3-4. Discussion will deal first with projectile point types found at other sites thought to be the earliest, and follow with those that came later. All told, 498 points were recorded at the Locust Spring site.

Corner-removed #8,9. These types at many sites have appeared deep in the Early Archaic zone. However, at Wapanucket 6, a site at the beginning of the Late Archaic, they appeared in quantity, while one specimen was recovered at the Oaklawn steatite quarry of the same period. From this, it seems clear that these types overlap into the industrial Stone Bowl era. Hence, this may explain their presence at the Locust Spring site, where they appeared first at junction without shell association, representing close of the Late Archaic. Only 5 in number, they are but a small fraction of the total number of points of all types found (Fig. 16, #1-5).

Eared #1,2,3,4. At other sites, these types are associated with Stone Bowl times, while type #2 is transitional into Ceramic days. At this site, eared
points in general appeared first at junction, while one specimen of type #2 was undisturbed just above junction in the loam. Of 47 recovered specimens, a few are illustrated (Fig. 16, #6-10).

**Fig. 16. PROJECTILE POINT INDUSTRY.** 1-5, Corner-removed #8, 9; 6-10, Eared #1, 2, 3, 4; 11-13, Corner-removed #7; 14, 15, 17, Tapered Stem; 16, Diamond.

**Corner-removed #7.** This spear point has a broad blade with truncated stem, and at other sites has always appeared in the Stone Bowl zone. Therefore, it is not surprising at this site to find its source at junction with Late Archaic association. Of 12 recovered specimens, a few are illustrated (Fig. 16, #11-13).

**Tapered Stem and Diamond.** These types have been found at other sites to extend into Ceramic times. Likewise, their presence at this site in the loam follows this culture pattern. All told, 11 recoveries were made, of which a few are illustrated (Fig. 16, #14-17).

**Corner-removed #3.** This point must be over 1¾" long; it occurs in all culture zones. At this site its source was at junction. Of 14 recoveries, several are illustrated (Fig. 17, #1-4).

**Side-notched.** Several types of this kind of point with side-notching at base occurred from junction through disturbed loam; 31 were found, and a number are illustrated (Fig. 17, #5-10).

**Large Triangular.** This kind of point has appeared first at other sites with Stage 2 pottery remains, transitional between Stage 1 and Stage 2 times. At this site, its stratigraphic position is similar, except for two or three found at junction, probably due to plowing disturbance. The balance of 43 specimens occurred just above junction and throughout the loam; one was in a pit with a Stage 2 sherd and shell. In one square, there appeared a white quartz workshop, whose level was just above junction and undisturbed. This feature was a circular pit about 2' in diameter, containing quantities of quartz chips, large and small. Careful scrutiny
of chips as they were dug out produced two, which fitted together to form a large triangular point not quite finished; shown with others in illustration (Fig. 17, #11).

**Small Triangular.** This comparatively small point occurred in quantity with 297 recoveries, representing 60% of all points found. It was conspicuous at junction, and continued in increasing numbers throughout the loam. It is important to note that excepting for one or two specimens with convex sides (one is illustrated), all others have relatively straight or concave sides like types #5,6. This feature when compared with small triangular points at Wapanucket 6 (early phase of the Late Archaic) with predominantly convex sides of types #1,3,4, shows a marked divergence. This confirms research at other sites, which shows a change to straight or concave sides with the advent of ceramics. This observation, as much as any other piece of evidence, supports this paper's contention that the site exhibits but a brief occupation at junction of the Stone Bowl era. These small triangular points, mostly of white quartz, are believed to be for arrows; a number are illustrated (Fig. 18, #1-7).

Fig. 18. PROJECTILE POINT INDUSTRY. 1-7, Small Triangular; 8-11, Corner-notched; 12-17, Small Stem.

**Corner-Notched.** Of 9 recovered points in this category, 2 appeared at junction; probably belong in Stage 1 pottery times. This type of point at other sites has always occurred in the Ceramic zone, which seems to exclude it from Archaic association of the preceding age. The stone used for all 9 specimens is a quality of light grey felsite not often used for other kinds of points. It has a possible Pennsylvania source, where it is closely associated with this same type of point. For this reason, influence for this point type is thought by some to have been diffused from an outside culture center located in Pennsylvania. There it is found to be associated with close of the Late Archaic. Therefore, if the type was introduced from there, the time lag in transfer might well have projected it into New England's Ceramic Age. Selected examples from site recoveries are illustrated (Fig. 18, #8-11).

**Small Stem.** This point, of which there are 21 specimens from the site, must be less than 1½" long. It may have any shape base except eared to qualify. Undoubtedly, points like this were for arrows. Of those from this point, only 3 appeared at junction. Illustrations show several base variations (Fig. 18, #12-17).

In discussing knife types presumed to be those used for skinning, and for cutting meat, three types are presented representing those present at the site.

**Stemless Knife.** Of this kind of blade, 38 recoveries were made, of which 9 were at junction. They are characterized by an enlarged or irregularly tapering stem, not side-notched. Elsewhere, they are prominently associated with Stone Bowl remains, and are believed diagnostic of the Late Archaic as a source. Therefore, at this site many of those at junction may well indicate presence of the Stone Bowl occupation (Fig. 19, #1-2).

**Stem Knife.** This knife, of which 30 were recovered with 5 appearing at junction, has been thought to represent a modified refinement of the stemless knife. At other sites, as at this, it appears more frequently in Ceramic zones. This seems to indicate an overlapping from the preceding age. This blade has either some sort of side-notching at its base to form a stem for hafting, or simply has corners removed. Illustration shows several variations (Fig. 19, #3-5).

**Hand Knife.** There probably were several kinds of blades, which were held in the hand without hafted handles. Reference has already been made to the notcher and roughing knife (woodworking knives), for which hafting was out of the question because of their shapes. Then there were small flake knives made from thin flakes, with at least one serrated edge, which likewise could not have been hafted. Possibly, the leaf knife of the Early Archaic was held in the hand without handle, and there doubtless were other kinds of knives still
uncovered. An odd type from this site is illustrated (Fig. 19, #6). It is not the classic leaf knife just referred to, but rather seems to be a large blade of the stemless type. It might be classed as a large all-purpose hand knife, serviceable for heavy work, such as quartering a carcass. It is made from a quartzite spall with one edge serrated irregularly for coarse cutting. As it appeared in a refuse pit having shell, with its level at junction, it should belong, if not disturbed by plow, to the advent of ceramics with Stage 1 pottery.

Fig. 19. KNIFE INDUSTRY. 1, 2, Stemless; 3-5, Stem; 6, Hand Knife.

CONCLUSION

For a small settlement removed as it is from navigable water, the Locust Spring site has produced more outstanding evidence than might be expected. Recovered artifacts display skill and careful workmanship representing a high standard of accomplishment. The nine activities at the site, as described, seem to support the fact that here was a well established camping place, which was occupied over a fairly long span of years. To some extent, this may have been due to the excellent supply of fresh spring water within easy reach. But it also may be attributed to its close proximity to the camp at Sweet-Meadow Brook site about one-quarter of a mile down stream. This was a desirable feature, no doubt, since from this location there was water egress to Narragansett Bay. On the other hand, whatever were the advantages, evidently they were not sufficiently appealing to attract settlement during the more than two thousand years of the Stone Bowl Age. For, not until the latter days of this era did anyone care to occupy the site, and then only for a comparatively short period of time during infrequent intervals; diagnostic stone bowl industrial tools were in evidence at only a few places at junction, the lowest level of occupation. Workmen of this age left a few signs of their occupancy, not only in the form of stone bowl industrial implements, but also in that of fragments of broken steatite bowls. A less easily explained feature of this occupation and one that is somewhat perplexing is found in the presence of a few perfect Corner-removed #8 and 9 projectile points. As these types have appeared at the next lower level in Early Archaic times at other sites in high frequency, their presence at this site with Stone Bowl remains at the end of the Late Archaic poses a problem with no easy answer. Since no fractured points of these types were found, it might be argued that they were not types which were developed and used as a part of this later age. Instead, that the 5 recovered specimens were of manufacture of the preceding age and were dislodged by the later occupants when digging their many refuse pits, and so became mixed with their remains. Certainly, if these two kinds of points had been a part of the Stone Bowl projectile point equipment, broken specimens should have appeared, since fractured parts of all other types of points were everywhere in evidence. Nevertheless, confronted with the presence of corner-removed #8 and 9 points with one occurring in a refuse pit without shell at junction, the possibility must be admitted that they belonged to the last of the Stone Bowl Makers, who appear to have been the early occu-
pants of the site. If this theory is correct, then the presence of these points may indicate signs of a traditional influence handed down from Early Archaic times, thousands of years removed, but one which finally was becoming replaced by other more useful projectile point forms; the presence of so few of these points, only a fraction of the total recovery of 498 points of all types, seems to suggest no other conclusion.

Perhaps, one of the most enlightening pieces of information to be gleaned from the evidence is that platform and elbow stone pipes were being made during Stage 1 pottery times, and possibly during the first part of the following Stage 2 period. Evidently, workers continued to return to the nearby Oaklawn steatite quarry for chlorite and steatite stock from which to make pipes during the first part of the Ceramic Age, although manufacture of stone bowls, apparently, had stopped. Otherwise, there should be an abundance of broken stone bowls associated with ceramic potsherds at this site as well as at other Ceramic sites, which is not the case. And now the Carbon-14 date of A.D. 731 from the quarry is additional evidence in support of this hypothesis. The charcoal sample for this measure came from a concentration of crushed charcoal in the center of quarry workings about 4 to 5 feet deep, directly under which appeared a steatite platform pipe-form. This should indicate close affiliation of pipe making with this charcoal feature, especially since no stone bowl fragments were found in association with it. This seems to support a belief in the continuing manufacture of stone pipes after steatite quarries closed down and stopped production of stone bowls. While this date is limited to one time only, it does place stone pipe making as late as the period of Stage 1 ceramics. However, the date at which it had its beginning in New England is still unknown. Evidence at Sweet-Meadow Brook site indicates that the industry was well established toward the close of the Stone Bowl Age, and therefore must have been in existence for sometime before, but how much earlier is as yet a matter of conjecture.

As far as manufacturing skill is concerned, without evidence such as that of the site’s finished platform pipe, it would be difficult, if not impossible to imagine how primitive methods, limited as they were to simple wood and stone tools, could have produced such skillful diminutive results. The graceful even concave lines of the stem and the flaring bowl with wide end lips required not only skill, but a craftsman’s artistic eye to have produced such a pleasing shape. That the work of manufac-
By the time women had advanced to the making of Stage 2 pots, they had acquired knowledge of how to make straight and elbow pipes of clay. Evidence of a ceramic pipe at the site is to be found in the fractured ceramic pipe stem, as illustrated. It is probable that while clay pipes replaced stone ones to some extent, they never did entirely. Late stone pipes of Stage 2 and 3 pottery times, as evidenced at Sweet-Meadow Brook site and elsewhere, were often made without stone stems, and may be referred to as belonging to the bowl type. Their stems were hollow reeds inserted through a hole in the bowl.

With the advent of ceramics, shellfish were added to the diet. And sometime during the early days of Stage 1 pottery making, kernels of maize were brought into the New England area, probably, by the native women of Long Island. Thus, agriculture was introduced and became a relatively important activity. At the site numerous triangular hoe blades appeared and one long pestle. After his excavations at seven New England steatite quarries, the writer feels sure that agricultural tools, as developed in this northeastern area, were directly inspired by certain waste removal tools of the quarries. The Stone Bowl tradition must have been a potent force that influenced women agriculturists to devise cultivating tools modeled after those their mothers or grandmothers had used in the removal of tailings at the quarries. As a result, there appears the triangular hoe blade, inspired by the triangular tailing-breaker of western Massachusetts quarries; the corn-planter, shaped to resemble the spiked tailing-breaker of all other quarries; and the stem spade, an improvement of the hand spade of the quarries. As in the case of pottery, since women were the native planters in colonial days and helped the English cultivate their fields, so must they have been from the beginning of maize growing, to have made possible their acquired know-how of later times. At the site, presence of triangular hoe blades does not necessarily mean cultivation of maize at that spot, as cultivated plots might have lain elsewhere, probably not too far away. What seems more likely is that their presence indicates their use in digging some of the refuse pits found throughout the area.

These women-dominated industries of the Ceramic Age commenced a creative trend, which without interference might have advanced the cultural life of those days to much higher levels of accomplishment. However, warfare developed at about this time to protect tribal rights, probably at the close of the Stone Bowl Age, and robbed the culture of some of its creative benefits. Continued emphasis on retaliation through military action replaced any good intentions the industrial life of the age seemed to promise. It finally drove the culture lower and lower, until it sank into a state of moral decadence from which it never recovered. While evidence of warfare is limited at the site with the recovery of only a few war club prongs, its evil results are only too clear in the many early colonial eyewitness accounts of Indian atrocities.

This site represents to a large extent use by peoples during the era of Ceramics, with only meager evidence of a few of their predecessors, the Stone Bowl Makers, at junction. Absence of Stage 4 pottery remains, the last ceramic development of aesthetic shaped semi-globular pots with pressed-out castellated collars, indicates abandonment of the site before colonial times; no group of Narragansett Indians ever lived there. However, earlier cultural evidence over the first three stages of ceramic development has provided worthwhile remains, which, when studied in the light of other contemporaneous recoveries of the several periods involved, has furnished one more sounding board to help clarify this phase of man's survival in New England.

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