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BRONSON MUSEUM
Tel. 222-5470

This, the Society Museum, is located on the 5th Floor of the Attleboro Trust Co. building, at 8 North Main Street, Attleboro, Massachusetts. Museum Hours are from 9:30 a.m. to 4:00 p.m daily, Monday through Friday. Although this schedule is usually adhered to, it is wise to call the Museum before coming if you come from some distance. The Museum is also open by appointment at other times. Call the Museum Director, Maurice Robbins.

The Museum has extensive exhibits of stone implements, obtained for the most part from the Massachusetts area. They are arranged in culture periods identified in the Northeast, and cover a time extension of some 10,000 years.
IN MEMORIAM

GUY MELLGREN

In September 1978, Guy Mellgren, past president of the Massachusetts Archaeological Society, died quietly. The Society lost a valued member. The members of the Society extend their sympathy to his wife, Ruth, and to his children.

Guy, for many years an officer of the Society, became its president in 1969. He became an active member of the South Shore Chapter when the chapter was in its infancy. During the winter months, from 1966 to 1971, he was a prime force in excavating the Ponkapoag site. He excavated the Atlantic Ledges site at Nantasket, and collaborated in the preparation of the report which has become a standard reference in Northeastern Archaic studies. He was best known for his excavation of the Goddard site in Brooklyn, Maine. Most of his sizeable collection of artifacts from this site has been donated to the Maine State Museum. A coin found on this site by Guy, long thought to be a 12th century English coin, recently generated new interest. Experts now are almost certain it is a Norse penny struck in the 1070's. After his retirement, Guy moved from Hingham to Centerville, Massachusetts, where he continued his archaeological interests digging with the Cape Cod Chapter.

Guy was a person who did many things and did them all well. As a photographer he won many awards. The history of his excavations was carefully recorded not only by his notes but by his superb photography. Guy was an accomplished lecturer and in the field of archaeology gave unstintingly of his time to further interest in this area. As a conservationist he gave back to the world more than he took from it.

To quote his wife, Ruth Mellgren: "Guy wanted to be remembered by his contribution to mankind that he left behind. He has done just this in his Indian culture excavation with detailed records and in his excellent photography in archaeological subjects and in nature, and in his beautifying the landscape with wild and cultivated material. He'll live on in our hearts in the pleasure and knowledge he's given to others and the love and devotion to his family and friends."

His family scattered his ashes at the Goddard site, a place that gave him much joy and wonder.

Josephine Laugelli: Cohasset, Massachusetts

BIBLIOGRAPHY OF GUY MELLGREN


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Douglas Swain Byers, archaeologist and Director Emeritus of the Robert S. Peabody Foundation for Archaeology at Phillips Academy, Andover, Massachusetts, died in his sleep in Blue Hill, Maine, on Friday, October 27, 1978. The field of Archaeology has lost one of its pioneers, and, as well, many have lost a friend who will be long remembered.

Doug came to the Foundation in 1933 and was its director from 1938 to 1968. However, not only did he administer this institution—always under trying conditions—but, more important, he helped make it a world-famous archaeological center, and he provided a host of unsung services to the field, such as a series of conferences for the American Anthropological Association, the Society for American Archaeology, the Tehuacan Expedition, the Archaic conference, the Debert conference, Massachusetts Archaeological Society meetings, etc. As well, he sponsored other scientists' researches, such as the Tehuacan, Maritime Provinces, and Quebec surveys, the Debert and Yukon expeditions, and many more. Also, he was involved in founding the Massachusetts Archaeological Society and its Bulletin (of which he was the first editor), and he served on endless anthropological and archaeological committees. As the editor of American Antiquity (1939-1946) he helped it develop from an amateur effort into a professional journal. He was advisor to hundreds interested in archaeology, as well as a trainer of young students. These he did, as well as many, many other things, but except for being President of the Society of American Archaeology (1946-7) and a Fellow of the American Academy of Arts and Sciences, little formal recognition occurred.

Not only was Doug a friendly person giving much of himself to others, but he was also a topnotch scientist in his own right. He initiated the research on the famous Debert site in Nova Scotia, among our oldest (10,000-11,000) sites in the Northeast. He carefully dug a whole series of stratified sites in Maine, Connecticut, and Massachusetts, and made major contributions to knowledge concerning the eastern Archaic--3000 to 7000 year--old Indian cultures. What is more, he dug under the auspices of the Peabody Museum of Harvard at the Sitio Conte site in Panama under Henry E. Roberts' direction in 1931, in the Southwest in 1933 with Alfred V. Kidder, II and with me in Tehuacan, Mexico, and conducted social anthropological research with Oliver LaFarge in Guatemala in 1930, and on the Navaho reservation in 1926-7. Further, he helped start the initial archaeological survey of Massachusetts as well as that for New England. In addition to this, he assisted in the field and in analysis many, many others, including myself, on a multitude of problems. He was generous to a fault with his time and always was of help with professional as well as personal problems.

Needless to say, Doug published the results of his efforts and the results were always interesting and well-written. The scientific results were, to quote one of his colleagues, "good, solid stuff, the sort you might expect of a New England gentleman." Obviously, this, in part, could be said because of his background. He was born January 15, 1903, in Newton Center, Massachusetts, and was graduated from St. George's School. He received a B.A. degree in 1925 and an M.A. degree in 1928, both from Harvard. He married Dorothy Hayes of Andover in 1929. He was an assistant dean at Harvard from 1929-1931, after a brief stint in the banking world when he decided to make archaeology his life's work. He was Assistant to the Director of Harvard's Peabody Museum from 1931 to 1933. Thanks to the effort of A.V. Kidder, the father of American Archaeology, he came to Andover in 1933 and was a fine member of the community. There he brought up his children--his son, William, and his two daughters Corinne Dethrow and Marjorie Billings. He also leaves a host of grandchildren, all of whom he loved and helped nurture. He was a loving father and an even warmer grandfather. His influence will be long felt not only by those who knew and loved him, but also by
all in the field of archaeology who owe him a vote of thanks for all he did for all of us. Thank you Doug, we will remember you!

A memorial service was held at Christ Church in Andover on Saturday, November 4, 1978, at 10:30 A.M.

Richard S. MacNeish, Ph.D
Director, R.S. Peabody
Foundation for Archaeology

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Manuscripts:

The Bull Brook Site.
The Nevin Shellheap.
TWO LATE WOODLAND SITES ON LONG ISLAND SOUND

Richard Michael Gramly and Gretchen Gwynne

In the course of excavating test-holes on a large site of the Archaic Stage on the shore of Mt. Sinai Harbor, Suffolk County, Long Island (Fig. 1) in July, 1916, the writers encountered in a restricted area abundant Late Woodland artifacts together with features. Additional excavation at this component yielded hearths and charcoal, and a radiocarbon date of 1250 A.D. was obtained. Since this determination was remarkably close in age to a dated sample (1275 A.D.) from another site located a few kilometers to the west (Fig. 1 and Fig. 2, Englebright site), we decided to report the sites together; further, they are allied culturally.

A skeletal framework for coastal southern New England and New York culture history was set forth thirty years ago by Smith (1941, 1950) and Rouse (1947). Since that time there have been many small-scale excavations of Woodland sites in the region, but the record of publication has not been remarkable. Salwen's work at Muskeeta Cove (1968) and Shantok Cove (1972) has provided insights into the nature of evidence at specific localities as well as matters of dating, but the general level of understanding of coastal Late Woodland cultures has advanced little beyond that set forth in Ritchie's 1965 summary (pp. 265-271). The new data furnished here alter the picture very little, if at all; however, information on settlement pattern to be set forth may prove useful in formulating predictive models of land-use along the shores of Long Island Sound.

GEOGRAPHICAL SETTING, CLIMATE, FAUNA, AND FLORA

The Englebright and Pipestave Hollow sites are situated on the northern shore of Long Island, approximately 70 kilometers (44 miles) east of New York City. This area of Long
Island is underlain by the Harbor Hills moraine of Wisconsin age. Soils are generally loose and sandy, and they can be cultivated with ease. Drainage is excellent, but in times of drought this is a disadvantage as too much moisture may be lost to sustain the crops. In most years, however, rainfall is adequate for cultivation, and in the immediate vicinity of the archaeological sites the water table lies relatively close to the surface.

The climate of the north shore of Long Island is marine, and mild winters and humid summers are normal. Although Long Island Sound has been known to freeze over completely for a brief period in severe winters, open water can usually be found a mile or two offshore. By January, however, protected harbors are iced in.

Long Island lies well within the Central Hardwood Forest zone (Lull 1968), and the richer soils on the northern shore once supported stands of elm, wild cherry, walnut, oak,
hickory, sassafras, and white pine. On the sandy, deficient soils of the interior can be found pitch pine and the lesser oaks, such as blackjack. In the modern day a small population of undersized white-tailed deer persists in wooded areas along with smaller mammals (raccoon, rabbit, oppossum) and reptiles. The most valued animal resources on Long Island, now and perhaps in the past, however, are migratory wildfowl, fish, and shellfish. As local conditions permit, great numbers of soft clam, hard clam, oysters, and scallops can be collected in a short time. Lesser amounts of crab, whelk, and smaller marine gastropods can also be taken.

Both the Englebright site and that part of the Pipestave Hollow site with Late Woodland remains are situated near the tidal heads of small streams that empty into bays well-known for their abundance of shellfish, especially soft and hard clams. The stream that borders the Englebright site (Fig.2) and flows into Conscience Bay was dammed in the Colonial period to provide water power for a mill. The stream that skirts the Pipestave Hollow site, on the other hand, is much smaller, although it too was once dammed. Deforestation and rapid silting, however, have choked the stream, and all flow today is subsurface except during storms and prolonged periods of rain. Both sites are located on well-drained, gently rising ground, which has been cultivated continuously since the first quarter of the 18th century, if not earlier. These former fields are now completely partitioned into house-lots.

HISTORY OF THE INVESTIGATIONS

ENGLERIGHT SITE. The west side of Mill Pond, Setauket, has long been known for its aboriginal remains, and it has been previously called the Hostek Nursery site or the Upper Mill Pond site. It is also listed as site No. 186 in the files of the Nassau County Museum, but as no ceramics were attributed to this locality (Rutsch et al. 1977: 17-18), there is some doubt if No. 186 is, in fact, the Englebright site. Scatters of stemmed projectile points (Late Archaic?) have been reported on a property adjacent to the site, and it seems highly likely that site No. 186 is referable to these remains and not to the Late Woodland occupation on the Englebright property, where ceramics are abundant.

In 1975 during construction for a garage to the rear of his residence (Fig.3) Steven Englebright encountered a rich deposit of aboriginal artifacts and shellfish valves thoroughly mixed with domestic refuse of the 19th century. (The assemblage of historic artifacts is being studied by S. Dorage, SUNY, Stony Brook, and the results will be reported elsewhere.) Excavation by Prof. Englebright revealed a portion of Feature I, and harboring a hope that important evidence might be salvaged, he invited E. Johannemann and G. Gwynne, graduate students with the Department of Anthropology, SUNY, Stony Brook, to carry on with the investigation. Enough artifacts were obtained from Feature I to demonstrate that the site was Late Woodland in age and that preservation of faunal remains was excellent. In July, 1976, a party of students from SUNY SB directed by the authors carried out limited trenching resulting in the discovery of an additional feature (Fea. II) and a posthole. A sample of charred hickory nuts unearthed in Feature I in July was submitted to Geochron of Cambridge, Massachusetts, for dating and the result 1275 A.D. (675 ±125 B.P. GX-4734) was obtained (Half-life 5570 yrs., no C12/C13 correction).

In June, 1977, Prof. Englebright opened a foundation trench for the footings of the garage, and in the trench walls additional refuse-filled pits and another posthole were observed. The entire contents of the richest of these features (Fea. VI) was sieved, and the artifacts gained in this operation and from the 1976 excavations are the basis of this report.

PIPESTAVE HOLLOW SITE. This large (1 hectare, 2.5 acres) site has yielded artifacts of Late Archaic through Late Woodland age, but the principal archaeological manifestation there is the Squibnocket Complex, which has been dated by charcoal, shell, and bone samples from this site to the latter half of the 3rd millennium B.C. (Gramly 1977).
The southernmost sector of the site, on property belonging to the Popolizio family of Miller Place, New York, however, contains abundant traces of Woodland occupations in addition to the usual Late Archaic materials. Trenching was carried out on the Popolizio property in 1976 and 1977 with the assistance of students from SUNYSB and friends, and these efforts were rewarded by the discovery of a dwelling site and associated hearths and storage/refuse pit. A total of 48 square meters (ca. 3577 square feet) was excavated, mapped, and backfilled.

PATTERNING OF THE SITES

ENGLEBRIGHT SITE. The limits of the Late Woodland refuse along Lake Street and the west shore of Mill Pond have not been established. Approximately 50 m (165 feet) south of the Englebright residence features packed with scallop shell were observed in an old excavation. If these features are Late Woodland in age, then one estimate of the extent
of the Englebright site is 50m x 25m (165 x 83 feet). Late Woodland refuse and features exist underneath the Englebright residence as recent renovations to the structure have revealed. To the rear of the garage site is gently rising ground with loose, sandy soil, and it is a virtual certainty that additional pits and postholes await discovery there. How close to the modern edge of Mill Pond the site extended is presently unknown; some materials may have been lost as a result of erosion since the damming of the stream.

Our trenching near the garage revealed the simple situation of a 30-40 cm (average 14 inches) thick plow zone, dark brown in color and rich in artifacts and food debris, resting upon clean yellow sand. Features were observable at the plow zone-subsoil interface, and they were easily traced downward through the sand.

Feature I, which was nearly 2m (6.5 feet) in diameter, was cross sectioned (Fig. 4) and then excavated by stratigraphic units (lenses). Artifacts were recovered with the aid of a 5 mm mesh sieve. The pit contracted slightly towards the bottom, which was flat, and its considerable depth (1.5 m; ca 5 feet) suggests that it was used for food storage. Since it was possible to fit sherds from several lenses together in the reconstruction of a ceramic vessel, it is evident that the pit was filled quickly with refuse once its usefulness as a storage pit had come to an end.

Feature II was only 30 cm (ca. 12 inches) deep with a flat bottom and gently tapering sides. Feature VI was also shallow (40 cm: 16 inches), and since neither feature exhibited traces of fire-setting, it is reasonable to assume that they were originally storage pits. Features III-V were intermediate in depth between Feature I, on the one hand, and Feature II, on the other.

Two postholes were noted. In profile they presented the classic appearance of a bluntly pointed pole, 10-15 cm (4-6 inches) in diameter, that had moulder away to a soft brownish soil.

Excavation for a septic tank in the rear of the Englebright residence unearthed a small pit that had been packed with bottles, ceramic vessels, paint cans, and other debris from an episode of house-cleaning sometime in the first half of the 19th century.

According to Prof. Englebright, trenching underneath the rear wing of his residence exposed a cobble-covered (or lined?) pit containing the flexed body of a dog. The cultural associations of this discovery are uncertain, but it may be ascribable to the Late Woodland occupation.

PIPESTAVE HOLLOW SITE. The portion of the site with Late Woodland remains has been under continuous cultivation by the Hopkins family of Miller Place since the 18th century; accordingly, there is a well-developed plow zone 30 cm (12 inches) deep in the excavated area. Underneath the plow zone and resting upon a yellowish, sandy subsoil is a 5-15 cm (2-6 inches) thickness of dark brown midden, rich in artifacts and shell fragments. Eight hearths and a large refuse (storage?) pit originated in this midden remnant. All features are securely dated to the Late Woodland period by their principal artifact content, although a small number of Late Archaic objects had been introduced anciently into Feature 9.

Feature 9 lies on the periphery of a group of 29 postholes, which apparently marks a dwelling site. Along the greater axis of the dwelling are three pairs of bowl-shaped hearths, each hearth 40-60 cm (16-24 inches) in diameter and 20-30 cm (8-12 inches) deep. Fire-cracked rock, charred bone and nutshells, burned shell, and scorched artifacts filled the hearths. The significance of the occurrence of hearths in pairs escapes the writers, but single circular, basin-shaped hearths are commonly encountered on Woodland sites (e.g., the Weinman site; Funk 1976:10). Another set of hearths was recorded immediately to the south of the structure, and it seems that another dwelling might be traced there. The lack of intact ground midden in this area suggests, however, that
plowing may have obliterated many postholes.

FAUNAL AND FLORAL REMAINS

ENGLEBRIGHT SITE. Although Features I and VI yielded abundant faunal remains, the total from the excavations as a whole is so small as to make statistical comparisons between Englebright and other Late Woodland components meaningless. Present were the following groups/species in order of abundance: deer, turtle, unidentified fish, sturgeon, squirrel, chipmunk, dog (?), skunk, and brant goose (Branta bernicula). Soft clam absolutely dominated the shellfish tally, comprising 75%-90% of the count of individuals in every excavation unit. Scallop, oyster, and hard clam were of secondary importance, and there were rare examples of whelk, slipper shells, moon snails, and mussels. Marine crabs were also taken and eaten, as their scorched fragments of carapace indicate. From the lenses of fill in Feature I several score grams of charred hickory nuts were collected and used for radiocarbon dating.

In the modern day the sheltered waters of Conscience Bay support large populations of soft and hard clams, and there is every reason to believe that a similar situation existed 700 years ago.

PIPESTAVE HOLLOW SITE. Only the contents of the basin-shaped hearths will be dealt with here as there is some uncertainly about the temporal associations of the faunal remains in the plow zone, remnant ground midden, and Feature 9.

Soft clam was far and away the most abundant shellfish species with secondary amounts of hard clam, scallop, and oyster. As in the case of the Englebright site, whelk, moon snails, and other species were rare. For Features 1, 2, 6, and 7 complete counts of shellfish were made, and it is interesting to examine the tallies of individuals as the feature fills may represent single cooking episodes or "meals".

<table>
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<tr>
<th>SPECIES</th>
<th>COUNT OF INDIVIDUALS</th>
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<tr>
<td></td>
<td>Fea. 1</td>
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<tr>
<td>1. Soft clam</td>
<td>312</td>
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<tr>
<td>2. Hard clam</td>
<td>10</td>
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<tr>
<td>3. Oyster</td>
<td>1</td>
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<tr>
<td>4. Scallop</td>
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</tbody>
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These figures indicate that shellfish gathering was directed only towards soft clam. The small percentage of other species is fortuitous; indeed, clammers seeking soft clams in Mt. Sinai Harbor today normally encounter a few oysters and hard clams, which they add to their catches. Scallops, however, are absent from the harbor these days.

Vertebrates present in the fill of the hearths were, in order of abundance: deer, turtle, unidentified fish.

Charred hickory nuts were unearthed in Features 2, 5 and 6. A few grams of nuts from Feature 6 were submitted to Geochron of Cambridge, Massachusetts for dating, and the result was 1250 A.D. (700±115 B.P. GX-4894, C¹³ corrected).

The presence of turtle remains indicates that the hearths were used for the last time in the late spring through early fall. Deer, fish, and shellfish could be taken at any season of the year, although ice on the harbor would present complications, but not insurmountable ones, for clammers. As hickory nuts store indefinitely, they are hardly good indicators of the season of occupation.
ARTIFACTS

INGLEBRIGHT SITE. Ceramics and flaked stone are the best represented artifact classes at this site, and several partially restorable vessels were recovered from the features. Figure 6 illustrates a series of quartz projectile points, typical for the site as a whole. Only major flaking scars are shown. The projectile points are skillfully flaked and tolerably thin, considering the difficulties that were presented by the raw material. Quartz is locally available as cobbles on many of the beaches of Long Island's north shore. The only projectile point from the Englebright site that cannot be ascribed to the Late Woodland is shown in Figure 8i. This specimen is at home in the Late Archaic Squibnocket Complex.

The next most abundant tool variety is the scraper, a series of which is shown in Figure 7. Very little standardization of shape is evident. As might be expected, quartz was the most commonly employed raw material, although tough, indurated meta-sediments, as Figure 7h, were also used.

Small numbers of bifacially flaked (Fig. 8a) and unifacial (Figs. 8b and c) perforators are present in the assemblage. Bifacial "knives" were rare, and only a single specimen (Fig. 8d) was complete enough for illustration. Three or four examples of a tool variety that has often passed unrecognized in flaked stone tool assemblages of the Americas, namely, the pièce esquilée ("splintered object"), were identified in the Englebright assemblage. Two of these, which ostensibly were used as chisels or wedges, are shown by Figures 8e and f. Utilized flakes and flake-blades (e.g. Fig. 8h) were uncommon, but this lack may be merely a factor of the toughness of quartz, which is able to withstand considerable abuse without suffering a degree of edge damage that can be perceived by the classifier with the naked eye under normal lighting conditions. Finally, attention should be drawn to a quartz flake displaying serration along an edge (Fig. 8g). The function of this tool perhaps was sawing or cutting of strong, elastic materials. A single projectile point fragment also was serrated.

The ceramics from Englebright present a narrow range of forms, methods of surface treatment, and compositions of the fabric; however, there is enough variability in design motifs to indicate that a craftsman's personal touch was appreciated and that potting was expected to satisfy more than mundane, utilitarian ends.

Figure 5. Mt. Sinai Harbor, Suffolk County. The Popolizio property is indicated by the circled triangle. The plan view of the 1976-77 excavations shows the features (numbered) and the pattern of postholes taken to be the vestiges of an oval dwelling.
Vessels from Englebright are bag-shaped with gently rounded bottoms and uniform wall thickness except for a slight thickening at the base. Crushed shell was preferred to grit as tempering material as the ratio of shell-tempered to grit-tempered vessels (6:3) reveals. Vessel exteriors were almost always cord roughened or fabric impressed; interiors were smoothed, somewhat carelessly, with an implement that left striations (stick-wiped?). Usually the striations run horizontally, but near the lip the direction of tool movement was often vertical. These gross attributes indicate that the Englebright assemblage is at home with other assemblages of the "Windsor tradition" of coastal New England and New York.

Figure 6. Quartz projectile points from the Englebright site.
A significant number of the Englebright vessels (4 of 9) lack ornamentation or only show simple milled lips as Figure 9b. The remainder have their necks covered with a zone of horizontal, vertical, or oblique incisions (Fig. 14). In some cases a combination of incisions is used to create an overall triangular effect, a preference for which is common to Late Woodland cultures of the Northeast. On some pots the incised zone is delimited by punctations (Fig. 10), a treatment which recalls the ceramic type "Shantok Cove Incised" reported by Salwen and Ottensen (1972).

A single pipe fragment (Fig. 11f) was unearthed from Feature VI. The pipe was modeled of very clean clay and was fired to an even orange color. It bears as decoration an applied strip of clay marked with fine incisions.

Bone points or "awls" were common at Englebright. Although it is possible that some of these implements (Fig. 12) were used in the manufacture of clothing and basketry, others may have functioned as the elements of leisters for fish-spearing. Figure 12e illustrates a fragment of a carefully thinned container (?) apparently fashioned from a turtle carapace. The only other example of worked bone and antler is Figure 12f, which is an antler spike that reveals the method whereby spikes were cut away from the main shaft. Incisions were made as deep as the spongy core whereupon the spike was snapped free.

PIPESTAVE HOLLOW SITE. The artifact assemblage that can be confidently associated with the Late Woodland features and posthole pattern is small and fragmentary. Feature 2 yielded a triangular chert projectile point as shown by Figure 13d, and numerous fragments of quartz triangles were secured from the "floor" of the dwelling. Only four Late Woodland ceramic vessels are isolable from the features, and three of these are shown in Figure 13a-c. Two vessels are grit-tempered and the other two, shell-tempered. The illustrated sherds are unornamented except for impressions on the lip, but an unillustrated rimsherd from Feature 9 bears zoned incising, which is reminiscent of the specimen shown in Figure 9a from the Englebright site. Three bone points were unearthed in the plow zone above the hearths of the structure, and two additional examples were discovered in the fill of Feature 6.

![Figure 7. Scrapers from the Englebright site. a-g, quartz; h, indurated meta-sediment.](image-url)
The range and types of artifacts from Englebright and Pipestave Hollow are similar, and the apparent differences are most likely a result of small sample sizes rather than cultural or functional differences. Additional excavation at Pipestave Hollow would certainly swell the artifact total, but close attention must be paid to the context of the finds as there is a broad range of cultural materials on the Popolizio property.

GENERAL CONSIDERATIONS

Although it has been established on both archaeological grounds and ethnographic evidence that many Late Woodland horticulturalists of the Northeast (e.g., the Iroquois) who inhabited the interior moved their villages periodically as the soil and wood supplies were exhausted, the pattern of residence for prehistoric populations on coastal Long Island is imperfectly known. In the vicinity of the Englebright site (Fig. 2) other Late Woodland occupations have been recognized, and it is possible that these sites and Englebright were successively occupied after the manner of inland groups. Just as likely however, in light of the rich supply of marine foods to be had in Conscience Bay and Setauket Harbor is the alternative situation that all these sites were occupied simultaneously by related groups. Systematic archaeological research that might test these alternative hypotheses is entirely wanting.

Figure 8. Englebright site. a-c, perforators; d, bifacial "knife"; e and f, pièces esquillées; g, serrated and projectile point with serrated edges; h, utilized flake-blade; i, projectile point of the Squibnocket Complex. Item h is Pennsylvania jasper; all others are quartz.
Given the close correspondence in age between Englebright and Pipestave Hollow and the general similarity of the artifact assemblages, it is conceivable that related groups inhabited both sites, or perhaps the same group occupied both stations successively.

As scanty as the faunal and floral data are, year-round occupation of the Englebright site, at least, is suggested. Antlered bucks can be taken in the fall or winter, sturgeon in the late spring or summer, brant in the fall or spring; while hickory nuts...
are available in the early fall before small animals take their toll. The food storage pits at both sites imply either permanent or recurring residency. On the face of it, the above evidence belies the conclusions of some prehistorians concerned with the archaeology of coastal New York, that prehistoric habitation on Long Island was seasonal and that coastal areas were untenanted in the cold season (Ceci 1977:83). Some workers have also maintained that food-production was unknown even in the late prehistoric period on Long Island. Such notions, which would be important if correct, remain to be proven. Although it is true that some areas of Long Island are not suited to primitive methods of horticulture, the moist soils of the lower-lying regions along the bays on the north shore cannot be lumped together with higher sandy soils needing frequent irrigation for crop success. The evidence for food-production, admittedly, is often slight and easily overlooked (compare Ritchie’s recovery of a single corn kernel from the Late Woodland component at the Hornblower II site on Martha’s Vineyard), but the lack of preserved cultigens recovered in excavations of small size hardly justifies the extreme view that no food-production existed in the late prehistoric period on Long Island.

The Setalcott Indians were the last aboriginal inhabitants of the lands that encompassed the Englebright site. The sachems Massetewse and Sunk Squaw (Gass 1971:6) relinquished title to Mt. Sinai Harbor to white settlers in 1664, one year before the Setalcotts gave up their birthright. Whether or not these historical groups and personages were heirs to the "Windsor tradition" known to archaeologists is yet another question that can be asked of the archaeological record in coastal New York, and only spadework will resolve it.

Stony Brook, New York
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Figure 10. Shell-tempered sherds from the Englebright site. Sherds c-e belong to a single vessel.
The writers acknowledge the valued cooperation of Prof. and Mrs. S. Englebright and the Popolozio family. Ms Mary Fitzherbert was extremely generous of her time in the preparation of the artwork. A grant-in-aid from Sigma Xi (The Scientific Research Society) defrayed the costs of radiocarbon dating.

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Figure 11. Sherds from the Englebright site. Sherd b is grit-tempered; all others are shell-tempered.
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Figure 12. Bone and antler artifacts from the Englebright site (See text).
Figure 13. Late Woodland artifacts from the Popolizio property, Pipestave Hollow site, Mt. Sinai Harbor, Suffolk County. a, shell-tempered rimsherd; b and c, grit-tempered; d, chert projectile point; e, pair of bone points from Feature 6; f-h, bone points from plowed zone above hearth features.

Figure 14. Grit-tempered vessel from Feature VI, Englebright site.
THE COLLECTOR'S CONTRIBUTION TO ARCHAEOLOGICAL SURVEYS IN NEW ENGLAND

Joan M. Gero and Dolores Root

Archaeological surveys have recently become very attractive means of recovering prehistoric information. Compared to excavations, they offer a maximum return on information for the amount of time and energy invested. However, traditional survey strategies, designed for open, undeveloped environments, are neither cost-efficient nor effective in New England. The surface visibility typical of the Southwestern United States, where there is little natural deposition, or of intensely farmed regions with large expanses of exposed surface, does not exist in New England. For New England surveys, poor visibility, as a result of erosional processes and dense vegetation, is the most obvious limitation on adopting survey methods developed elsewhere.

In addition to these limitations, however, the utility of imported survey methods is further reduced because of the tendency for prehistoric sites in New England to be small and scattered throughout a variety of environmental contexts. Given the usual shoe-string budgets and short life-expectancies for most archaeological projects, it becomes difficult to reconstruct prehistoric land-use practices. Frequently, survey costs rise because of the archaeologists' need to develop familiarity with the project area: its history of land-use, ecological diversity, ownership, local landmarks, etc.

Aware of these problems and that local artifact collectors often control much of the information that archaeologists seek, we suggest that systematic contacts with local artifact-collector informants can be a cost-efficient strategy for locating sites and understanding prehistoric activities in an area. We undertook a study in an attempt to document two particular aspects of using collector-provided information (Gero and Root 1978). First, we wanted to learn how efficient, in terms of time, energy and money, it was to survey collectors; second, we wanted to know the kinds of information that are most readily available from collectors and also what kinds of information we could not gain from these sources.

To obtain this information, we delineated a study area of approximately ten square miles in the middle Connecticut River Valley and attempted to contact the known collectors who would be familiar with sites and artifacts from this area. The efficiency of contacting and interviewing collectors was assessed by the ease with which we could "plug into" the network of information exchanges among collectors. Starting with the Norwottuck Chapter of the Massachusetts Archaeological Society and following from their generous cooperation, we were quickly able to reach more than twenty active artifact-collectors. By asking each of the individuals contacted the names of other collectors (s)he knew, we could verify the inclusiveness of the collector-network. Unlike areas of the mid-west, where huge farm tracts are generally controlled by a single, or a small number of collectors, the small farms of New England make it possible for many collectors to control a region simultaneously. Thus, we were able to conclude that the time investment for locating and contacting informants was indeed low enough to be very advantageous for the archaeologist!

Although it first appeared that collectors seemed to know vastly different kinds of information about site locations and artifact distributions, we were finally able to recognize a pattern among collectors that enabled us to group kinds of information available from collectors. Basically, we discovered three sorts of expertise that correlated with three levels of artifact-collecting intensity.

(1) Some individuals that we contacted have collected artifacts from a wide range of localities and properties, some of which were contiguous and some dispersed. These collectors were widely known, had large collections, and were particularly informative about the distribution of larger sites in the study area. They were also familiar with areas where they felt certain no artifacts would be recovered.
(2) Another group of collectors had become interested in collecting because they have noted finds on their own properties. They were familiar with smaller, delimited areas which they had walked year after year. These informants were especially helpful in providing information on smaller sites and on more occasional finds.

(3) Finally, we thought to contact random houses within our study area to see if isolated finds could be located outside the well-defined "sites" and outside the network of collectors. This would be a check on the completeness of the information gathered from collectors and was intended to confirm our expectations of the kinds of environments where prehistoric people had left evidence and where they had not. We were unable to complete this aspect of the research design, but recommend it to others as an essential part of such a study.

By following this procedure, we learned a great deal about the location and distribution of sites of different sizes and periods. This knowledge was then to become the basis of planning for subsequent survey procedures, but we had saved miles of walking, years of initial surveying, and had recovered some information that would otherwise have been lost forever. We also were permitted to see a large range of artifact collections, some of which consisted only of whole tools, and some of which included flakes, chips and broken tools. From collections of whole tools, we were impressed by the opportunity of learning the following information:

(1) Diagnostic tools (tools that were only made within limited areas and for limited periods of time, and which therefore can be used as markers for these places and times) can be used to reconstruct the sequences of cultures which used specific landscapes throughout prehistoric time.

(2) Some raw materials of which tools are made can be traced back to their quarry-sites from which the minerals were mined, and we could therefore reconstruct prehistoric trade routes or travel distances covered to acquire resources.

(3) The range of tool forms, and the microscopic evidence of tool use on these tool edges, can give the archaeologist some idea of how prehistoric people subsisted in the different environments from which the tools were recovered. Correlations of specific tool types with the range of environments where they are found would be particularly interesting.

However, even more information was available to us when we encountered collections in which flakes as well as tools had been kept separate for each site collected. In these instances, in addition to the above-mentioned information, we could potentially begin to reconstruct activities of human groups, such as tool-manufacturing, and could estimate important variables such as relative population sizes and length of site occupation. We could further begin to compare the size of human groups that existed in different kinds of environments.

The results of our study, then, made us feel optimistic about both the efficiency and the importance of collector-provided information. Realistically, however, we also recognize that for this approach to work, both the archaeologists and the collectors will have to modify old habits. All too often, archaeologists have dismissed amateurs as unprofessional; now, it will be important for the professional to recognize the invaluable information available from collectors and to treat the amateur with due respect. Collectors, on the other hand, must be willing to believe that the archaeologist does not want or plan to compete for artifacts, but rather that it is information which is being sought, and that this must be a shared, common goal between amateur and professional. Collectors should seek professional guidance in recovering artifacts which are not on the surface, and should learn to collect complete samples (including flakes, chips and irregularly-shaped tools), keeping sites separate from one another. If these measures
The Upper Housatonic drainage falls on the eastern margin of the Taconic Mountain Section of the Northeast. To the east and south lies the New England Upland Province and to the west the Hudson Lowland section (Fenneman 1938). The implications of this physiographic situation are considerable when one is attempting to reconstruct past ecological patterns which dominated the region during the last 12,000 years and which influenced human exploitation of the region. The flood plain of the Housatonic River within this research area is approximately 1,100 feet above sea level, while the encompassing hills and mountains rise to some 2000 feet. These uplands, which are ecologically distinct from the valley, act as a natural barrier to the spread of lowland faunal and floral species. One would expect, therefore, that most shifts in vegetation patterns resulted from a slow plant migration from the south.

Although research has been limited, pollen studies in the Northeast provide us with the best, though general, clues to shifts in climate and in forest composition. Pollen profiles from Red Maple Swamp (Betham and Niering 1961), Rogers Lake in southern Connecticut (Davis 1969a), three swamps in the vicinity of Harvard Forest, Petersham, Massachusetts (Davis 1958), and unpublished work by D.R. Whitehead (n.d.) at Berry Pond in the Berkshires comprise the available data for vegetative reconstruction.

Low pollen accumulation rates in the oldest sediments at Rogers Lake reflect the presence of a tundra environment between roughly 14,300 B.P. and 12,140 B.P., with a transition from a predominantly herb to a spruce zone from 12,150 B.P. to 11,700 B.P. Following this period of sparse vegetation, an open park-like woodland characterized by spruce, oak, hornbeam, ash, fir, larch, birch and alder was well established by 10,200 B.P. Davis (1969b:320) suggests that such a pollen assemblage is similar to modern samples collected north of the boreal forest at latitude 54°N in Quebec.

At approximately 9000 B.P. a sudden sharp increase for white pine, hemlock, oak, poplar, elm, ash, sweet gale and ferns marks the establishment of a true forest environment. This has traditionally been referred to as the "pine zone" in pollen diagrams, since pine comprises more than 50% of the pollen recovered. Pollen deposition rate diagrams also indicate a sharp rise for pine. It should be noted, however, that poplar, oak, birch, alder, hornbeam, hemlock and ferns also reach a maximum.
By 7900 B.P. both percentages and absolute accumulation rates for red, jack, pitch and white pine had dropped sharply. From this point in the pollen diagrams to the present, a temperate oak forest is indicated. The zones have been termed oak-hemlock (C-1:7900-5000 B.P.), oak-hickory (C-2:5000-2000 B.P.), and oak-chestnut (C-3:2000 B.P.-present).

The trends which have just been outlined appear to apply to the general forest development within the Hudson Valley, to the lower Housatonic and Connecticut River Valleys, and to the coastal lowlands in southern New England. Chronologically, however, the shifts in forest types in the Upper Housatonic were retarded, perhaps by as much as 500 years. Such an inference of delayed intrusion finds support in vegetation reconstructions for the middle Connecticut Valley related to Paleoindian exploitation (Curran and Dincauze 1977:339-341, 346). Consequently, the constraints which such limitations placed on human populations attempting to exploit the natural resources of the region must be considered.

A recent paper (Dincauze and Mulholland 1977) suggests that due to the biotic limitations, human exploitation in the upper Housatonic drainage would have been extremely restricted prior to 6000 B.P. The authors comment:

The ecotone at the northern edge of the deciduous forests would have limited faunal exploitation and dispersal. Instability of populations, both floral and faunal, is to be expected at the edges of their ranges, especially the northern edge (a zone which encompasses this study area). Similarly for the Archaic foragers moving north-eastward, the oak-forest ecotone was probably the northern limit of their most favorable habitat. The 20% oak isopoll had passed the area of the present Massachusetts-Connecticut border before 9,000 B.P.; it had reached southeastern New Hampshire and extended up the Maine coast by 8,000 B.P. South of that line, Archaic foragers should have been able to make a living. They could even have penetrated beyond it seasonally, or with special adaptations.

Therefore, we would expect that densities of Early Archaic sites and artifacts, at whatever level they are observed, will be highest in Connecticut, Rhode Island, southeastern Massachusetts, and Long Island. Middle Archaic sites should occur in respectable numbers north to southern New Hampshire and Vermont, and up the Maine coast to the Penobscot basin. Within those time-transgressive boundaries, there were no severe resource limitations that we can recognize (Dincauze and Mulholland 1977:450).

Figure graphically represents the above interpretation. (Figure 15 on page 24).

By 7,000 B.P. the environment was probably stabilizing, yet the dispersal of human populations beyond the limits of the deciduous forest was probably accomplished by changes in adaptive patterns (Dincauze and Mulholland 1977:453). It is expected that population growth in the New England lowlands would have resulted in just such adaptive changes in the exploitation patterns being pursued, at least seasonally. Furthermore, I suggest that the Berkshire uplands, and particularly the upper Housatonic Valley, became, by about 6500 B.P., a significant part of the annual exploitation range for populations which primarily utilized the Connecticut, lower Housatonic and Hudson Valleys.

Our archaeological reconnaissance assessment tends to confirm this interpretation. Two major surface collections with excellent provenience data, and the site files at the University of Massachusetts, provide the basic information. The Late Archaic cultural sequence in the area studied begins with components which Ritchie (1969) has defined as falling within the Laurentian Tradition. In terms of a typological sequence for projectile points, Otter Creek, Vosburg and Brewerton types are characteristic. What one finds in the available collections is that Early and Middle Archaic materials are clearly lacking, while Otter Creek, Vosburg and Brewerton points have been recovered in limited numbers. From this period (ca. 6500 B.P.), Indian bands actively utilized
the region—a fact supported by the existence of points representative of the entire Late Archaic and Woodland sequence within the immediate environs of Pittsfield, Massachusetts. Points termed Poplar Island (?), Sylvan Stemmed and Side-notched, Normanskill, Squibnocket or Beekman Triangles, Snook Kill, Perkiomen, Genesee, Susquehanna Broad, Orient, Rossville, Meadow-wood, Adena, Fox Creek, Greene, Jack's Reef, Levanna and Madison have all been recovered (Ritchie 1971).

Figure 15. 20% oak isopolls at 8000 B.P. and 6000 B.P. which relate to the project survey area. Projected natural conditions from work by Dincauze and Mulholland (1977:541-453). An isopoll is a line enclosing areas where pollen diagrams show a given percentage of pollen for a particular species. In this case, the lines mark the northern limits of the percentages at the specified times.
Until a truly regional archaeological perspective can be developed, it is perhaps too early to generate settlement pattern models for the upper Housatonic drainage. I say this from the belief that this portion of the watershed did not see significant year-round habitation until a very late period in the history of Indian populations, perhaps not until the seventeenth or eighteenth centuries when competition in the lowlands became intense. The Lenox-Pittsfield-Lanesboro area did offer, however, a valuable resource base during the late spring, summer, and fall. Pontoosuc and Onota Lakes, as well as Richmond and other ponds which drain into the Housatonic, supported a number of fish species, migrating fowl and reptiles. Background research clearly indicates that site density around these water bodies was high from the Late Archaic period to the time of white contact. At least ten "occupation zones" around Onota Lake, seven large "occupation zones" on Pontoosuc Lake, and less intensely occupied loci on the ponds have been identified. Such sites may have operated as base camps from which more extensive resources could be exploited.

Locational information indicates, that other exploitation strategies besides fishing were being followed; on the basis of correlations between immediate environmental characteristics and site situation. Within the study area, four sites have been recorded which lie immediately adjacent to one of the branches of the Housatonic River, while seven (perhaps nine) are situated in the uplands away from the major flood plains and lakes. In these latter instances, hunting and gathering may have dominated exploitation tactics. At present, however, there appears to be no good means for reconstructing the specific resources which were utilized. The project area can clearly be differentiated into uplands, dominated by thin soils and a heavy coniferous flora, and the lowlands, characterized by soils developed from water-borne sediments which support a mixed vegetation. Within the valley, however, there is such a mosaic of interlocking micro-environments which could be reached from any site that it will take considerable excavation to provide answers to questions focusing on resource selectivity. Whether alternative sites were characteristically chosen on a seasonal basis is also undetermined. What we are faced with, therefore, is the need to identify a broad range of sites and site exploitation territories from which differential plant and animal species could be taken during the last 6500 years.

Not only are site data important for assessing prehistoric utilization of the local environment, but they may ultimately provide information pertaining to regionally significant social, political and economic patterns. At this point, based on our artifact inventory, it would appear that the major cultural ties of peoples exploiting the upper Housatonic drainage were with the New York area to the west. The presence of a number of Normanskill and Sylvan Side-notched points, and the dominance of Hudson Valley chert as the major raw material for tool manufacture suggests such an hypothesis. The minor incidence of Squibnocket Triangular points, which are not typically encountered in New York sites, leads one to infer, however, that contacts with southern and eastern New England were also felt (Funk 1976). The possibility that the Berkshire uplands comprised a major border zone between cultural life styles which were centered in the Connecticut and Hudson Valleys makes archaeological research in this area of prime importance.

Bernardston, Massachusetts
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