

# THE ARCHAEOLOGY OF COASTAL NEW YORK

CARLYLE SHREEVE SMITH

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CARLYLE SHREEVE SMITH

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
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## PREFACE

IN ITS ORIGINAL FORM, the accompanying monograph was prepared under the direction of the Department of Anthropology of Columbia University in partial fulfillment of the requirements for the degree of Doctor of Philosophy and was defended before a committee representing the Faculty of Political Science. The bibliography ends with the date of defense, April 29, 1949; however, the organization of the data departs somewhat from that in the original manuscript.

The bulk of the specimens from which I have drawn the data was collected by Ralph S. Solecki, Martin C. Schreiner, and me between 1932 and 1947. During a part of this period the research was conducted as an activity of the Flushing Historical Society, Flushing, New York. The data were supplemented through the good offices of the Museum of the American Indian, Heye Foundation, and the Department of Anthropology, the American Museum of Natural History, where I was permitted to study additional material. When the analysis was completed sample collections of specimens were turned over to the Museum of Anthro-

pology at the University of Michigan, the Rochester Museum of Arts and Sciences, the Peabody Museum of Natural History at Yale University, and the American Museum of Natural History. The remaining specimens were retained by Solecki for further study.

I am especially indebted to Solecki and Schreiner, who not only made all their specimens and notes available to me, but also spent long hours with me in the field and laboratory during the early stages of the work. Additional assistance was furnished by Dr. Irving B. Rouse and Mr. Edward Rogers who supplied corroborative evidence from Connecticut. I am indebted to Dr. W. D. Strong, Dr. H. L. Shapiro, Dr. Julian Steward, Miss Gene Weltfish, and Miss Bella Weitzner for their many valuable suggestions as to the content and organization of the manuscript. Many others, professional anthropologists, collectors, and land owners, also deserve my thanks.

CARLYLE S. SMITH  
Museum of Natural History  
University of Kansas

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## INTRODUCTION

THE FOLLOWING ESSAY is concerned with the reconstruction of the prehistory of the coastal portion of New York State that extends southward between New Jersey and Connecticut and also encompasses Long Island. The analysis and interpretation of the archaeological data reveal a number of culture complexes which have definable spatial and temporal distributions within the area. These cultures are identifiable with certain tribes or other ethnic groups that occupied coastal New York within the period of recorded history.

The first extensive museum-sponsored field explorations in New York State were carried on in the coastal area in the first quarter of the present century. Skinner and Harrington, working for the American Museum of Natural History and the Museum of the American Indian, Heye Foundation, at different periods in their careers contributed a fund of published and unpublished data.<sup>1</sup> It has been necessary, however, to reexamine the original data because the published accounts follow the pattern of the period in which pottery, as a cultural determinant, was neglected and all the material from an entire region was treated as though it came from one site or from one time horizon.

The early workers were aware of the existence of a Preceramic horizon and a subsequent ceramic period which was divisible into two stages, the first called "Algonkian" and the second known rather vaguely as the time when there was "Iroquois influence." The whole sequence was known as "Coastal Algonkian."<sup>2</sup> Ritchie has established the character and sequence of several prehistoric culture complexes within New York State,<sup>3</sup> but lack of adequate published data precluded a thorough study of the remains on the coast. He recognizes a Coastal aspect consisting of two foci called "Early" and "Late," as well as a floating focus termed Orient. Cross has presented the data from New Jersey, but has established no time perspective there.<sup>4</sup> The Red Valley and Rosenkrans Ferry foci, as far as content is concerned, are added to the Coastal aspect and are de-

scribed as similar to the "Early" and "Late" foci, respectively. In New England theoretical reconstruction<sup>5</sup> preceded the careful analysis and interpretation of data from individual sites which are now in progress.

I began a survey of the archaeological resources of Long Island in 1932. Ralph Solecki and M. C. Schreiner initiated similar investigations at about the same time, but it was not until 1938 that we pooled our collections at the Flushing Historical Society in Flushing, New York. From then until 1941 the collections were studied and new sites were excavated. In 1940 I obtained additional information through a study of the collections at the American Museum of Natural History. A preliminary report on the results of the study of these two groups of collections embodied an attempt to establish certain ceramic traits as time markers.<sup>6</sup> In 1946 and 1947 additional research was carried on at the American Museum of Natural History, the Museum of the American Indian, Heye Foundation, and at Southold, Long Island, where the Long Island Chapter of the New York State Archaeological Association has collections. During the later stages of the research the results were communicated to Rouse who, in turn, contributed information on the archaeological situation in Connecticut.<sup>7</sup>

Two major time horizons are present. The earlier period is marked by the absence of pottery and the profusion of projectile points of chipped stone used for hunting. The later period is characterized by pottery and the practice of agriculture. During both periods shellfish formed an important part of the diet. The dearth of adequate information from the few sites attributable to the Preceramic horizon prevents an accurate and detailed classification of the cultural complexes present at that time. The later, or ceramic, horizon is represented by a large number of sites that are comparatively rich in pottery and other artifacts. The Wind-sor, East River, and Shantok aspects represent the ceramic period. Each aspect is divided into foci as subclassifications, according to the McKern system.<sup>8</sup> The use of the McKern classification does not imply that I have fol-

<sup>1</sup> Skinner, 1903a, 1903b, 1906, 1909a, 1909b, 1909c, 1912, 1913, 1915a, 1915b, 1917, 1919, 1920, 1925; Harrington, 1909a, 1909b, 1924; Parker, 1922.

<sup>2</sup> Skinner, 1917.

<sup>3</sup> Ritchie, 1938, 1944.

<sup>4</sup> Cross, 1941.

<sup>5</sup> Willoughby, 1935.

<sup>6</sup> Smith, 1944a.

<sup>7</sup> Smith, 1944b, 1947; Rouse, 1945, 1947.

<sup>8</sup> McKern, 1939.

lowed its methodology. Most of the foci are interpreted as developmental stages within each of the aspects and not as taxonomic units devoid of temporal significance. Time perspective was established by a study of the pottery before the classification was applied.

The following study is prefaced by a brief summary of the environmental and historical setting and includes a discussion of the distribution of the several tribal groups at the time of contact with western civilization in the seventeenth century. This is followed by a synthesis of ethnological and archaeological data. The presentation of the archaeological

data for each of the cultures is organized in terms of the direct historical approach in that an attempt is made to work from the known to the unknown. The stratigraphic evidence is analyzed at the end of the section describing the culture complexes. Finally, the interpretations and conclusions are presented. Tables, graphs, and a map supplement the descriptions and interpretations and eight plates illustrate typical specimens. The reader is referred to the Appendixes (pp. 158, 159, 188) for details on the terminology and taxonomy as well as for descriptions of the sites and the ceramic types.



## ENVIRONMENTAL AND HISTORICAL SETTING

COASTAL NEW YORK consists of Long Island, Manhattan Island, Staten Island, and the narrow mainland corridor that extends northward between New Jersey and Connecticut. The land areas border on the Atlantic Ocean, Long Island Sound, and the Hudson River and enclose the East River, Sheepshead Bay, Peconic Bay, and Great South Bay, in addition to numerous smaller bays and tidal streams. The archaeological complexes under consideration transcend the present political boundaries and extend eastward along the Connecticut littoral and westward into northern New Jersey. Most of the archaeological data here presented and interpreted are derived from sites located on Long Island and a portion of the mainland north of the East River.

Long Island is 118 miles long and has a maximum width of 20 miles. Its western end adjoins metropolitan New York, but more than seven-eighths of its length lies off the shores of Connecticut. The island is oriented with its long axis slightly north of a west-to-east line. In shape it has been compared to a large fish with its head pointing towards Staten Island and its forked tail towards Rhode Island.

Although the area is included in the physiographic province known as the Coastal Plain, Long Island has few geological deposits on or near the surface that are generally considered a part of this province. Most of the surface and underlying formations are of Pleistocene age and consist of moraines and outwash plains that resulted from continental glaciation. Two morainal ridges form the backbone of the island. At the eastern end, one moraine terminates at Orient Point and the other at Montauk Point. The two moraines are superimposed in the west, forming a line of hills along the northern side of the island. The southern side is a comparatively level outwash plain. Bedrock outcrops are limited to Manhattan Island and the mainland.<sup>1</sup>

The northern shore of Long Island is characterized by wave-cut cliffs and rolling wooded hills; the southern shore is low lying and features offshore bars behind which are lagoons bordered by salt marshes. The level interior of the island is distinguished by grassy plains and forests of scrub oak and pine. The encroach-

ment of metropolitan New York has now obliterated most of the archaeological sites on Manhattan Island, Staten Island, western Long Island, and the adjacent mainland. The central and eastern portions of Long Island have not yet been urbanized, so that many sites remain undisturbed. Permanent sites appear to be absent in the central part of the island, and it is postulated that the region served as a hunting area for the people who lived along the shore line. Nearly all of the permanent sites are situated on tidal streams and bays on the second rise of ground above the water.

Typical archaeological sites consist of thin deposits of refuse composed of marine shells mixed with stained earth, charcoal, animal bones, and artifacts. The refuse rarely exceeds 6 inches in thickness and usually covers less than an acre. Bowl-shaped pits filled with refuse are scattered over the sites. Most of the pits are approximately 3 feet in diameter and 4 feet deep. The sites are rarely marked by rectangular earthworks. On Long Island one rock-shelter is known; several are reported on Manhattan Island and in Westchester County.

The available data indicate a prevailingly dolichocephalic population,<sup>2</sup> typical of the Northeast as a whole. Howells<sup>3</sup> applies the term *Sylvid* to the entire group, exclusive of the invading brachycephals who probably did not reach the coast. The scarcity of burials in coastal sites makes it impossible to include significant data on the physical type.

All the groups inhabiting the coastal portion of New York State and the adjoining area spoke Algonkian languages. Michelson<sup>4</sup> groups the language of the Montauk and other peoples of eastern Long Island under the heading of *Massachuset* Type, relating them to the *Massachuset*, *Narraganset*, *Wampanoag*, and *Nauset* of southeastern New England. The western Long Islanders are placed in an uncertain category with the *Delaware*, *Wappinger*, *Mahican*, and *Pequot*. Speck,<sup>5</sup> on the other hand, suggests a close relationship between the *Mohegan-Pequot* and the *Montauk*, but prefers grouping the western Long Island peoples with the *Delaware*. Voegelin and Voegel-

<sup>2</sup> Hrdlička, 1916.

<sup>3</sup> Howells, 1946.

<sup>4</sup> Michelson, 1912, Pl. 103.

<sup>5</sup> Speck, 1928.

<sup>1</sup> Fuller, 1914.

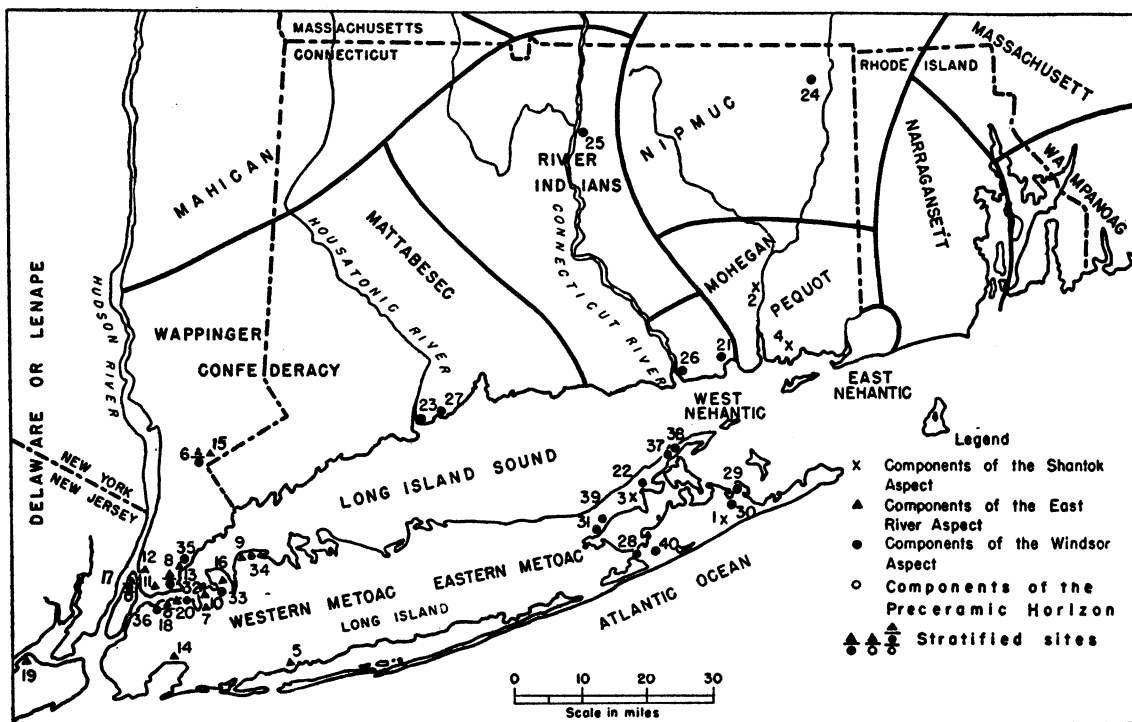


FIG. 1. Archaeological sites and tribal groups in the vicinity of Long Island Sound.

Sites 1-4, Shantok aspect; Sites 5, 7, 9-16, 20, East River aspect; Sites 21-40, Windsor aspect; Site 6, stratified, East River over Preceramic; Site 8, stratified, East River over Windsor; Site 17, stratified, East River over Windsor over Preceramic; Site 18, multi-component, probably stratified, East River over Preceramic.

1, Pantigo Site, East Hampton, N. Y.; 2, Fort Shantok, Montville, Conn.; 3, Fort Corchaug, Cutchogue, N. Y.; 4, Noank Site, Groton, Conn.; 5, Fort Massapeag, Massapequa, N. Y.; 6, Finch Rock House, Armonk, N. Y.; 7, Soundview Site, Great Neck, N. Y.; 8, Throgs Neck Site, Bronx, N. Y.; 9, Dosoris Pond Site, Glen Cove, N. Y.; 10, Baker Hill Site, Great Neck, N. Y.; 11, Clasons Point Site, Bronx, N. Y.; 12, Van Cortlandt Site, Bronx, N. Y.; 13, Pelham Knolls Site, Bronx, N. Y.; 14, Aqueduct Site, Aqueduct, N. Y.; 15, Helicker's Cave, Armonk, N. Y.; 16, Port Washington Site, Port Washington, N. Y.; 17, Dyckman Street Site, Manhattan Island, N. Y.; 18, Grantville Site, College Point, N. Y.; 19, Bowmans Brook Site, Staten Island, N. Y.; 20, Wilkins Site, Whitestone, N. Y.; 21, Niantic Site, East Lyme, Conn.; 22, Old Field Site, Southold, N. Y.; 23, Laurel Beach (Eagle Hill) Site, Milford, Conn.; 24, South Woodstock (Basto) Site, South Woodstock, Conn.; 25, South Windsor Site, South Windsor, Conn.; 26, Old Lyme (Black Hall) Site, Old Lyme, Conn.; 27, Indian River Site, Milford, Conn.; 28, Sebonac Site, Shinnecock Hills, N. Y.; 29, Squaw Cove Site, on Three Mile Harbor, N. Y.; 30, Soak Hides Site, on Three Mile Harbor, N. Y.; 31, Aquebogue Site, Aquebogue, N. Y.; 32, Clearview Site, Whitestone, N. Y.; 33, Manhasset Rock Site, Manhasset, N. Y.; 34, Matinecock Point Site, Locust Valley, N. Y.; 35, Pelham Boulder Site, Bronx, N. Y.; 36, North Beach Site, La Guardia Field, N. Y.; 37, Orient Site 1, Orient, N. Y.; 38, Orient Site 2, Orient, N. Y.; 39, Jamesport Hill Site, Jamesport, N. Y.; 40, Southampton Site, Shinnecock Hills, N. Y.

lin<sup>1</sup> also combine the Montauk with the Mohegan-Pequot, but they suggest no affiliation for the inhabitants of western Long Island.

Flannery<sup>2</sup> has demonstrated that the entire coastal area of eastern United States may be treated as a cultural unit with contrasting

subareas. She recognizes Northern New England, Virginia-Maryland, and Central as subareas characterized by the clustering of certain traits that were gleaned from ethnographic sources. The limited area under consideration here falls within her Central subarea which is further divided into Delaware, New York, and Southern New England. The establishment of

<sup>1</sup> Voegelin and Voegelin, 1941.

<sup>2</sup> Flannery, 1939.

the Central subarea is based on the fact that all three divisions "have about the same number of Northern Algonquian traits . . . ; the proportionate number of Southeastern traits is about the same for New York and Southern New England, although the Delaware exhibit somewhat more evidence of Southeastern influence, than do the other two."<sup>1</sup> She adds that the demarcation of the subareas is blurred by the overlapping of traits. The Central subarea appears to be a blend of the other two.

The following details on the distribution of the various peoples at the time of their first contact with the European colonists in the early portion of the seventeenth century are drawn from Hodge,<sup>2</sup> Bolton,<sup>3</sup> Speck,<sup>4</sup> Furman,<sup>5</sup> and from maps on file at the Peabody Museum of Natural History, Yale University.

The Delaware, or Lenape, occupied the valley of the Delaware River and extended eastward to the west bank of the Hudson River, including Staten Island in their territory. The Wappinger Confederacy held the region from Poughkeepsie south to Manhattan Island and eastward across the southern part of the mainland into Connecticut where they met the Mattabesec at the Housatonic River. The Wappinger Confederacy consisted of the Wappinger proper, Manhattan, Wecquaesgeek, Sintsink, Kitchawank, Tankiteke, Nochpeem, and Siwanoy. Adjacent to the Mattabesec in Connecticut were the River Indians and the Western Nehantic<sup>6</sup> who occupied a strip of coast running westward from the Connecticut River to Niantic Bay. The Mohegan-Pequot intervened between the Western and the Eastern Nehantic, and farther east were the Narraganset, the Wampanoag, and the Massachusetts in Rhode Island and southeastern Massachusetts. The Mohegan-Pequot were once a single group who appear to have been affiliated with the Mahican, a tribe holding the territory on the Hudson north of the Wappinger Confederacy. Just prior to European contact the

Mohegan-Pequot made their way to the coast of Connecticut, splitting the Nehantic into two groups. After contact with the European settlers the Mohegan allied themselves with the English, while the Pequot opposed the intruders. After the Pequot War of 1637 the Pequot were dispersed among several other tribes, some of them moving to Long Island.

Metoac is the collective term for the 13 ethnic groups that occupied Long Island. According to Tooker<sup>7</sup> the term "Meitowax" or "Metoac" means land of the ear shell or periwinkle and refers to the fact that the Island was the source of much of the wampum, or small cylindrical shell beads, so prized by the neighboring peoples, especially the Iroquois of upper New York. The western portion of Long Island was occupied by the Canarsee (including Nyack), Massapequa, Matinecoc, Nesaquake, Merric, and Rockaway. The eastern portion was inhabited by the Montauk, Shinnecock, Secatoag, Setauket, Manhasset, Corchaug, and Patchoag (also known as Poosepatuck, or Uncachaug). The Canarsee are said to have been the strongest group on the western end of Long Island, but there is little evidence for any political unity except among the eastern groups who acknowledged the leadership of the Montauk. In the historic period the western groups were closely affiliated with the Delaware, but were under the domination of the Iroquois who exacted tribute in the form of wampum. The eastern groups were subject at first to the Pequot and later to the Narraganset.

Most of the Indians occupying the land near the coast, particularly the area around New York City, suffered greatly as a result of contact with the European colonists and soon succumbed to the effects of new diseases, alcoholism, and the disruption of their economic life. Daniel Denton writing in 1670, had this to say in regard to the aboriginal population of Long Island:

To say something of the Indians, there is now but few upon the Island, and those few no ways hurtful but rather serviceable to the English, and it is to be admired, how strangely they have decreast by the Hand of God, since the English first settling of those parts; for since my time, where there were six towns, they are reduced to two small Villages, and it hath been generally observed, that where the English come to settle, a Divine Hand makes way for them,

<sup>7</sup> Tooker, 1911.

<sup>1</sup> Flannery, 1939, 195.

<sup>2</sup> Hodge, 1907.

<sup>3</sup> Bolton, 1920.

<sup>4</sup> Speck, 1928.

<sup>5</sup> Furman, 1845.

<sup>6</sup> The alternate spelling "Nehantic" is used instead of "Niantic" to avoid confusion with the Niantic focus of the Windsor aspect, named for a site at Niantic Point, Connecticut.

by removing or cutting off the Indians either by Wars one with the other, or by some raging mortal Disease.<sup>1</sup>

Denton goes on to observe their excessive use of alcohol and mentions the murders which they committed while under its influence. Their economy consisted of hunting, fishing, and horticulture. Denton first describes their houses as "movable tents" and later as having flat roofs. Their principal quarters were in the areas where they planted their corn, but they moved to fishing and hunting quarters as their needs and the seasons demanded. He describes their clothing as consisting of a piece of trade cloth which was thrown across their shoulders and a breechclout of similar material held by a belt. They wore headbands of snakeskin, wampum, or deer hair. Their bodies and hair were greased and their faces painted. They were governed by a sachem who sat in council surrounded by armed guards. The leader was greatly respected and was invested with the power to sentence people to death for incest or murder. Marriage took place when the suitor presented wampum to the woman of his choice. Premarital promiscuity was condoned and wife-lending was common, but adultery was punished. The people were generous in sharing food and other goods, the donor often retaining the smallest share.

Their principal religious ceremony was performed once or twice a year, usually "when their corn is ripe" but also "upon making war." The ceremony involved the collection of "money," presumably wampum, by a "priest" or "pawaw" who placed it in dishes on the roofs of the houses. He then invoked a supernatural being to come and receive it. The entire group would then shout and beat the ground and themselves with sticks. The spirit appeared "in the shape sometimes of a fowl, sometimes of a beast, and sometimes of a man."<sup>2</sup> Then the people were struck with awe and the leader inspected the wampum in the dishes. He then "returns to lay the spirit, who in the mean time is sometimes gone, and takes some of the company with him."<sup>3</sup> They also held dances at which they beat the ground with sticks and sang. At others they painted their faces and danced with war-like gestures. In one dance

they performed various tricks which included jumping into fires and biting off live coals from burning sticks.

In war they hid their women and children on a small island or in a swamp. The warriors then waited in ambush for the enemy. Scalps were taken, but further details are lacking. Illness was cured by the "pawaw" who sang and shouted over the patient and blew his breath on him. At death the body is described as being placed in the grave in a sitting position "with his Gun, money, and such goods as he hath with him."<sup>4</sup> The grave was fenced "with a hedge" and covered with mats. No grass was allowed to grow near it. The relatives painted their faces black and visited the grave once or twice a day until the paint was worn off. After that the grave was visited annually. A person's name died with him, and if it contained a "word which is used in speech, they likewise change that word, and invent some new one, which makes a great change and alteration in their language."<sup>5</sup>

Further data on the type of house used in the historic period are found in the journal of two Dutch travelers, Jaspas Dankers and Peter Sluyter, who visited coastal New York in 1679 and 1680. The two men visited a "plantation" of the Nyack, a branch of the Canarsee, situated at the southwestern end of Long Island, near the present site of Fort Hamilton. There they met an old woman who guided them to a house described as follows:

We went from thence to her habitation, where we found the whole troop together, consisting of seven or eight families, and twenty or twenty-two persons, I should think. Their house was low and long, about sixty feet long and fourteen or fifteen feet wide. The bottom was earth, the sides and roof were made of reed and the bark of chestnut trees; the posts, or columns, were limbs of trees stuck in the ground, and all fastened together. The top, or ridge of the roof was open about half a foot wide, from one end to the other, in order to let the smoke escape, in place of a chimney. On the sides, or walls, of the house, the roof was so low that you could hardly stand under it. The entrances, or doors, which were at both ends, were so small and low that they had to stoop down and squeeze themselves to get through them. The doors were made of reed or flat bark. In the whole building there was no lime, stone, iron or lead. They build their fire in the middle of the floor, according to the

<sup>1</sup> Furman, 1845, 6-7.

<sup>2</sup> Furman, 1845, 8.

<sup>3</sup> Furman, 1845, 8.

<sup>4</sup> Furman, 1845, 9.

<sup>5</sup> Furman, 1845, 10.

number of families which live in it, so that from one end to the other each of them boils its own pot, and eats when it likes, not only the families by themselves, but each Indian alone, according as he is hungry, at all hours, morning, noon and night. By each fire are the cooking utensils, consisting of a pot, a bowl, or calabash, and a spoon also made of a calabash. These are all that relate to cooking. They lie upon mats with their feet towards the fire, on each side of it. They do not sit much upon anything raised up, but, for the most part, sit on the ground or squat on their ankles. . . . All who live in one house are generally of one stock or descent, as father and mother with their offspring.<sup>1</sup>

Dankers and Sluyter observed the following artifacts in and about the house: pottery; bowls and spoons made of gourds; a small basket; a knife; a stone hoe with a sharp point; a gun with a "pouch for powder and lead"; soft leather moccasins; a dugout canoe, approximately 40 feet long, with "scoops" for paddling and hooks and lines for fishing; supplies of maize and beans. Maize was used to make a cake which was baked in ashes. The people were familiar with the jew's-harp and played upon it competently. They were observed to have had "dogs, fowls and hogs" as well as peach trees. Their chiefs were also "their medicine-men and surgeons as well as their teachers" and were observed to be engaged in the manufacture of moccasins.

Harrington obtained a model of the type of

house used by the Shinnecock of eastern Long Island which he illustrates and describes.<sup>2</sup> Essentially, it is a dome-shaped framework of bent saplings, round or oval in plan, and thatched with grass. It measured from 10 to 20 feet in diameter. He adds that a photograph of an original house is in the records of the town of Southampton. It is obvious from the data supplied by Denton, by Dankers and Sluyter, and by Harrington that more than one type of house was in use on Long Island. Unfortunately, the archaeological record contributes little to the elucidation of the problem. From both historic records and archaeological excavations it is known that during the seventeenth century many of the villages were situated near a stockade or fort. The reader is referred to the descriptions of the Forts Corchaug, Shantok, and Massapeag in Appendix B (p. 159).

The fleeting glimpse of the aboriginal inhabitants of Long Island supplied by the historic record indicates the presence of relatively small groups living in bark- or thatch-covered houses and engaged in an economy based on hunting, fishing, gathering, and horticulture. Data on other aspects of their culture are meager. Additional quotations from documentary sources that describe the culture of the historic peoples may be found in Ritchie's recent work.<sup>3</sup>

<sup>1</sup> Murphy, 1867, 124-127.

<sup>2</sup> Harrington, 1924, Fig. 16; 246, 249.

<sup>3</sup> Ritchie, 1944, 11-25.

## SYNTHESIS OF THE ETHNOLOGICAL AND ARCHAEOLOGICAL DATA

THE ARCHAEOLOGY OF COASTAL New York reflects certain cultural changes that occurred in the course of time in southwestern, southeastern, central, and northeastern North America. Wherever research has yielded evidence of a cultural horizon characterized by the practice of agriculture and the manufacture of pottery an underlying horizon marked by a hunting and gathering economy and the absence of pottery has also been revealed. The division into two economic periods is somewhat blurred because of the peripheral position of the area in relation to the main centers of cultural development and, probably, because an adequate supply of game and shellfish was always accessible. Throughout the archaeological record, hunting, gathering, and shellfish collecting appear to have been the constant and principal means of livelihood. In the course of time agriculture and pottery appear; by historic times, agricultural products had become an important secondary source of food. In the earliest sites the remains of fewer shellfish and the occurrence of numerous projectile points suggest that hunting was more important to the pre-pottery peoples. In the pottery-producing sites the remains of shellfish are abundant and projectile points are less numerous. It is suggested that it may have taken a considerable period of time before the hunters learned to exploit to the full the limitless supply of shellfish as a source of food. Maize and beans appear at approximately the same time as pottery, and apparently agriculture did not offer the inhabitants many advantages over the collection of shellfish.

Ritchie's division of time for central New York into four major periods<sup>1</sup> is applicable to the coast (Table 1). The Archaic period is characterized by a hunting and gathering economy supplemented by shellfish collecting. Artifacts of stone, especially chipped stone projectile points, are abundant, while bone and antler artifacts are absent or extremely rare.

The Intermediate period is characterized by the addition of agriculture, the probable decline of hunting and gathering, and the expansion of shellfish collecting as an important economic pursuit. Pottery is relatively com-

mon, but artifacts of chipped stone are not so abundant as in the preceding period. Bone and antler artifacts are present. The rich grave goods of the Orient focus suggest a preoccupation with the burial of the dead that is characteristic of the period in central New York. Windsor is the only culture present in coastal New York during this period.

The Late Prehistoric period is marked by the intensification of agriculture and the refinement and elaboration of the pottery. The collection of shellfish continued as a major economic activity supplemented by hunting and gathering. Artifacts of chipped stone are slightly less prevalent than in the preceding period and apparently are replaced by those made of bone and antler. Small round and, probably, dome-shaped houses make their appearance. Mortuary practices are simple, and grave goods are rare. In this period the Windsor culture is accompanied in the area, first, by the East River culture and, last, by the Shantok culture.

The Historic period is marked by the advent of European explorers and settlers and the consequent disintegration of the native culture complexes. The period is essentially a continuation of the Late Prehistoric, as far as the economy and the nature of the artifacts are concerned. Pottery continues in use for some time, but most of the other artifacts are replaced by those of European manufacture. Work in shell reaches its apogee in the manufacture of small tubular beads known as wampum. Many of the villages included a stockaded enclosure for use as a refuge in time of war. Three cultures, Windsor, East River, and Shantok, are present and are identifiable with Algonkian-speaking groups.

The cultures found in coastal New York are assignable to two archaeological patterns, Archaic and Woodland. The Archaic pattern includes the horizon marked by the absence of pottery and agriculture and is not divided further. The Woodland pattern encompasses all of the cultures that practised agriculture and made pottery. It is suggested, but not demonstrated, that the Woodland pattern in this area may be composed of two phases, Coastal and Northeastern. The Windsor aspect (culture)

<sup>1</sup> Ritchie, 1944.



# REVISED CHRONOLOGY FOR THE ARCHEOLOGY OF COASTAL NEW YORK

By CARLYLE S. SMITH

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SINCE THE PUBLICATION of "The Archaeology of Coastal New York" in 1950, radiocarbon dates from inland sites have indicated that my chronology in that paper was overly conservative. The chart shown herewith presents the same cultural sequence as Table 1 of the above report but expands the temporal scale.

The conclusions of the 1950 monograph have been unaffected by the C<sup>14</sup> data. Quoting from the paragraph most pertinent to the revised chart:

"Coastal New York and the immediately adjacent parts of the mainland of New Jersey and New England still offer opportunities for archaeological research. When time perspective is established in the neighboring states even greater significance will attach to the cultural succession revealed in coastal New York. Important fields for future research lie in the documentation of more of the historic sites so that the distributions of the three archaeological culture complexes,

Windsor, East River, and Shantok, may be correlated with all the known historic tribes. The exact nature of the relationship of the Orient focus to the Windsor aspect will remain obscure until village sites affiliated with the focus are discovered and excavated on eastern Long Island and in Connecticut. . . . The cultures of the Preceramic period need definition, a goal that can be achieved only through the discovery and excavation of more sites. The ultimate origins of all the culture complexes are still obscure because of the lack of adequate data from near-by areas. The sequence established on the coast has withstood the test of comparison with that established by Ritchie for central New York. The archaeology of the surrounding area remains to be analyzed in similar detail. The objective should be to extend the correlations of sequences northward, westward, and southward to meet those established, or yet to be established, elsewhere in North America."

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# SEQUENCE OF CULTURES IN THE COASTAL N.Y. AREA (REVISED 1955)

PERIOD	DATE	CENTRAL N.Y.	SOUTHEASTERN N.Y.	CONN. & EASTERN LONG ISLAND.	
HISTORIC	1700 1600	IROQUOIS ASPECT	EAST RIVER ASPECT <i>Massapeag Focus</i>  <i>Clasons Point Focus</i>	WINDSOR ASPECT <i>Niantic Focus</i>  <i>Sebonac Focus</i>	SHANTOK ASPECT
LATE PREHISTORIC PERIOD	700 A.D.				
INTERMEDIATE PERIOD	1,000 <sup>1</sup> B.C.	VINE VALLEY ASPECT	WINDSOR ASPECT <i>Clearview Focus</i>  <i>North Beach Focus</i>	<i>Clearview Focus</i>  <i>Orient Focus &amp; North-Beach-like Focus</i>	
	3,000 <sup>2</sup> B.C.			PRE CERAMIC HORIZON	
ARCHAIC PERIOD	3,500 <sup>3</sup> B.C.	LAURENTIAN ASPECT			
		<i>Lamoka Focus</i>			

<sup>1</sup> Oberlander #2 Component C<sup>14</sup> Date - 998 B.C. ± 170 } "A Current Synthesis Of New York Pre-  
<sup>2</sup> Frontenac ls. 2 " 2980 B.C. ± 260 } History"- Wm. A. Ritchie - Amer. Antiquity.,  
<sup>3</sup> Lamoka Lake 1 " 3433 B.C. ± 250 } Vol. 17, No. 2, October 1951



TABLE 1  
SEQUENCE OF CULTURES IN THE COASTAL AREA

		CENTRAL NEW YORK	SOUTHEASTERN NEW YORK	CONNECTICUT AND EASTERN LONG ISLAND			
HIS- TORIC	1700	IROQUOIS ASPECT	Massapeag focus  -----	Niantic focus	SHANTOK ASPECT		
LATE PREHISTORIC PERIOD	1600		EAST RIVER ASPECT	Clasons Point focus  -----		WINDSOR ASPECT (continued)  -----	
	1400				Castle Creek focus		Sebonac focus
	1100				Canan- daigua focus		
INTERMEDIATE PERIOD	700	VINE VALLEY ASPECT	WINDSOR ASPECT	Clearview focus  -----  Clearview focus			
				North Beach focus  Orient focus and North-Beach-like focus			
ARCHAIC PERIOD		LAURENTIAN ASPECT	PRECERAMIC HORIZON				
		Lamoka focus					

may belong to the Coastal phase, while the East River and Shantok aspects may be connected with the Northeastern phase as already established by Ritchie.<sup>1</sup> Each of the three main cultural divisions (aspects) are further subdivided into foci which, in most cases, are interpreted here as temporal levels within each of the aspects.

The Preceramic horizon is poorly defined because of the dearth of sites producing sufficient data for comparison. The projectile points resemble some of the varieties found in the Lamoka focus and in the Laurentian<sup>2</sup> and Windsor aspects; consequently it is postulated that the culture may have been derived from Laurentian and that it contributed to the development of Windsor. Spaulding<sup>3</sup> has postulated that the Laurentian aspect came in from Asia by way of Bering Strait. If this is proved, the archaeological record in coastal New York may be linked with that of the Old World. The pre-pottery culture in the area under study probably antedates 700 A.D.,<sup>4</sup> but there are no data to indicate its backward extent in time.

The Windsor aspect is identifiable as Nehantic in tribal affiliation in Connecticut, but other documentation is lacking. Probably other historic groups in Connecticut and on eastern Long Island will be identified with the Windsor culture when more work is done. Windsor underlies the East River and Shantok cultures in their respective territories and parallels them in time later on (Table 1). Originally the Windsor culture had a circum-Long Island Sound distribution, but in its later stages it became restricted to limited areas in Connecticut and eastern Long Island. Its earliest stage, the North Beach focus, is marked by the appearance of pottery of a variety identical with the oldest known pottery found in central New York and called Vinette 1.<sup>4</sup> The Windsor culture is known to have lasted into the seventeenth century. As Rouse<sup>5</sup> has pointed out, the survival of an old culture for so long a period

is not unique. Similar situations have been noted in Florida by Goggin,<sup>6</sup> and in Tennessee by Lewis and Kneberg.<sup>7</sup>

Documentation identifies the East River culture with the Massapequa subdivision of the western Metoac on Long Island in the middle of the seventeenth century. The distribution of sites containing objects of European origin also indicates that the Wappinger Confederacy and some groups of Delaware may have been responsible for a large part of the culture. It is estimated that this culture made its appearance around the mouth of the Hudson River about 1100 A.D. Its advent represents a cultural discontinuity, for the underlying culture is the Clearview focus, an early stage in the development of Windsor. The different character of the artifacts in the East River culture and the survival of the Windsor culture elsewhere militate against attributing the change to diffusion. It seems to represent an invasion by new groups of people with a different cultural tradition. The East River culture is limited to the western half of the area under study and is separated from the Shantok culture by the surviving Windsor culture.

In Connecticut the Shantok aspect is identifiable as Mohegan-Pequot on documentary and distributional grounds. On eastern Long Island it is documented as the culture of the Corchaug and the Montauk, both subdivisions of the eastern Metoac. The occurrence of one prehistoric site in Connecticut and the documentation of the others on both sides of Long Island Sound as mid-seventeenth to early eighteenth century suggest a date bracket of *ca.* 1600 to 1750 A.D. Shantok is limited to southeastern Connecticut and far eastern Long Island. The culture differs radically in content from Windsor but shares a few traits with East River.

The direct historic approach demonstrates that the three cultures were present in the seventeenth century. Windsor is identifiable with the Nehantic tribe and possibly with other groups in Connecticut. East River is identifiable with the western Metoac on Long Island, the Wappinger Confederacy on the mainland of New York, and possibly with some groups of Delaware on Staten Island and in northern New Jersey. Shantok is identifiable as Mohe-

<sup>1</sup> Ritchie, 1944.

<sup>2</sup> Spaulding, 1946.

<sup>3</sup> All dates assigned to the prehistoric cultures are acceptable estimates at the time this monograph goes to press. When dates based on the radioactive carbon method are assigned to archaeological horizons in near-by areas, considerable revision may be necessary in regard to dates on the coast.

<sup>4</sup> Ritchie, 1944, 1946.

<sup>5</sup> Rouse, 1947.

<sup>6</sup> Goggin, 1947.

<sup>7</sup> Lewis and Kneberg, 1947.



gan-Pequot in Connecticut and as Corchaug and Montauk on eastern Long Island. Interpreting the archaeological record in terms of the documented identity of the peoples responsible for the archaeological complexes we find that, following the introduction of pottery and agriculture, the entire area bordering Long Island Sound was occupied by the cultural ancestors of the Nehantic and other related groups, identified above with the Windsor culture.

In approximately 1100 A.D. groups of people who were ancestral to the western Metoac, Wappinger, and possibly some of the Delaware, identified above as East River, invaded the western half of the area and forced the carriers of the Windsor culture eastward. The Windsor culture survived in the eastern half of the area in relative isolation. In about 1600 the Mohegan-Pequot invaded Connecticut and split the Nehantic tribe into two parts, Eastern and Western Nehantic. Diffusion from the Shantok culture, carried by the Mohegan-Pequot, caused some of the eastern Metoac, notably the Corchaug and Montauk, to adopt a similar material culture. Undoubtedly, in 1637 or 1638 impetus was given to the adoption of the Shantok culture by the migration of a group of Pequot to eastern Long Island after the Pequot

War.<sup>1</sup> It is significant that the two sites, Fort Corchaug and Pantigo, attributable to the Shantok culture on eastern Long Island, are documented as having been occupied after the Pequot War. Soon after the arrival of the European colonists the native cultures disintegrated. Today a few remnants of Shinnecock and Patchoag live on eastern Long Island and some Mohegan-Pequot in Connecticut.

The archaeology of coastal New York supports Flannery's conclusions.<sup>2</sup> The area falls within her Central subarea which is characterized by a blend of Northern Algonkian, Iroquoian, and Southeastern traits. The changes that occurred through time appear to have resulted from diffusion and by the actual migration of new groups into the area. Most of the traits listed by Flannery are drawn from ethnological sources, and few of these survive in the archaeological record. It may be postulated, however, that the Northern Algonkian traits may have been preserved by the bearers of the Windsor culture which had its origin, in part, in the earlier Preceramic horizon, and that the bulk of the Iroquoian and Southeastern traits came in with the invaders who carried the East River and Shantok cultures.

<sup>1</sup> Speck, 1928.

<sup>2</sup> Flannery, 1939.

A STUDY OF THE ARCHAEOLOGICAL REMAINS  
SHANTOK ASPECT  
LATE PREHISTORIC AND HISTORIC, *CIRCA* 1600-1750 A.D.

THE SHANTOK ASPECT is found in southeastern Connecticut along the Thames River and on the northern and southern forks of eastern Long Island. The aspect is composed of three foci, each represented by one component: Pantigo, Fort Corchaug, and Fort Shantok, respectively. Other foci may be established when more work has been done in Connecticut.

Documentation limits the established foci of the Shantok aspect to the period ranging from about the middle of the seventeenth to about the middle of the eighteenth century. Rouse,<sup>1</sup> however, identifies the pottery from the prehistoric Noank site in Connecticut as Shantok. If the site is assignable to the Shantok aspect the time range will be extended back into the late prehistoric. The three foci represent as many tribal groups. The Pantigo focus is the burial complex of the Montauk who occupied the eastern end of the south fork of Long Island. The Fort Corchaug focus is the culture of the Corchaug who lived on the north fork of Long Island. The Fort Shantok focus represents the material culture of the Mohegan who, with the Pequot, occupied part of the Thames River area in Connecticut. The Pequot were probably also carriers of the Shantok culture, for Fort Shantok was erected at the time they separated from the Mohegan. The Shantok aspect represents the culture of the Algonkian-speaking Mohegan-Pequot, Corchaug, and Montauk from approximately 1600 to 1750.

At the time of the Pequot War, which terminated in 1637, the Mohegan chose to remain allies of the English, and the Pequot suffered a disastrous defeat. Remnants of the Pequot were dispersed among neighboring tribes, sometimes as slaves. Many found homes among the Mohegan, but some were sent to Long Island under the protection of the English where they disappear from recorded history. It is said that the Pequot were even refused the right to use their tribal name. Speck<sup>2</sup> has pointed out that the Mohegan-Pequot had frequent contacts with the Indians of Long Island and, according

to Hodge,<sup>3</sup> eastern Long Island was under the control of the Pequot, presumably before 1637.

The date of 1637 for the dispersal of the Pequot and the knowledge that they had been in contact with Long Island argue for the postulate that the Shantok pottery, if not the entire cultural complex, was introduced into eastern Long Island from Connecticut just prior to the middle of the seventeenth century. It is significant that the only known Shantok sites on Long Island are documented as having been occupied after this date. The occurrence of the Shantok ceramic tradition as a minority ware at the historic Fort Massapeag site on western Long Island substantiates the dating arrived at in Connecticut and on eastern Long Island.

Villages are associated with rectangular fortifications that served as places of refuge in time of war, but the principal habitation area appears to have been outside the walls. The sites are on the banks of streams in defensible positions. A deep pit within the walls at Fort Corchaug may have served as a well. The tidal waters of Downs Creek, on which Fort Corchaug is situated, are potable only at low tide, but near-by springs probably furnished an adequate supply of water. Data on the types of dwellings are lacking. Refuse-filled pits are rare at Fort Corchaug, where the refuse occurs in the fortification ditch and in a thin layer outside the eastern and southern walls. The mode of occurrence of the refuse at Fort Shantok is not reported. The burial complex is revealed at the Pantigo site where extended and flexed flesh burials appear in almost equal numbers.<sup>4</sup> Most of the burials were oriented to the east and were accompanied by clothing, ornaments, and utensils, mostly of European origin.

The Shantok aspect is characterized by the practice of agriculture, hunting, fishing, gathering, and shellfish collecting. At Fort Shantok, charred succotash bears witness to the cultivation of maize and beans. Both forts are marked by deposits of marine shells and mammal and fish bones. The occurrence of gun parts sug-

<sup>1</sup> Rouse, 1947.

<sup>2</sup> Speck, 1928.

<sup>3</sup> Hodge, 1907.

<sup>4</sup> Saville, 1920.

gests the use of firearms. The manufacture of wampum and pottery was an important industry.

The Shantok ceramic tradition<sup>1</sup> is well represented at Forts Corchaug and Shantok, but only two small vessels occur at the Pantigo site.<sup>2</sup> Many traits are shared with the pottery of the Iroquois. Shantok pottery is tempered with crushed shell and has a soapy texture, so that it contrasts markedly with the East River and Windsor ceramic traditions. Although shell temper occurs in the other traditions, the surfaces of the sherds usually have a sandy texture. The Shantok sherds are relatively compact but moderately coarse when viewed in cross-section. The structure is flaky. Some sherds have presumably fractured along coil lines, but most of them have broken irregularly, suggesting haphazard moulding. In color, the pottery ranges from buff to gray and occasionally black. The thickness averages 6 millimeters, but sherds as thin as 2 or 3 millimeters are present. The interior surface is smooth, but incompletely obliterated scraping marks are discernible. Many particles of shell, or holes where they have dissolved, are visible on the smooth exterior surface.

The bottoms of most of the vessels are rounded, but a few flattened bases occur. One restored vessel from Fort Corchaug (Pl. 8, Fig. 1) has a slightly conoidal profile at the bottom. Nearly all of the pots are globular, with rounded shoulders, constricted necks, and collars. The vessels at the Pantigo site are cylindrical. The collars are of two principal varieties which differ in interior profile. The base of both varieties is marked by an encircling line of triangular lobes projecting prominently from the vessel wall. The difference lies in the method of forming the lobes. At Fort Shantok most of the lobes are formed by pressing the clay outward, leaving a concavity behind each lobe on the interior of the pot. At Fort Corchaug and at Pantigo the lobes are made by applying additional clay from the outside. Occasionally the lobes are replaced by a ridge which appears more frequently near the lip above the line of lobes.

The lips are usually tapered, with a sloping surface on the inside of the mouth of the vessel. Rounded lips also occur. Four castellations or

rim-points commonly occur around the mouth, projecting outward and upward, distorting the mouth and giving it a rectangular or square form. The castellations are of two principal varieties. One is an integral part of the lip; the other is applied as a fillet and has the appearance of a caterpillar crawling over the lip. Some of the specimens from Fort Shantok bear nodes modeled in the form of human or animal heads.

The body area of Shantok vessels is invariably plain. Occasionally a line of rectangular punctates encircles the upper part of the shoulder area. The rim is decorated with a combination of incised, stamping, punctating, and modeling. The decorative lines are arranged diagonally, horizontally, or in combination forming a band or a series of isolated plats surrounding the vessel at the rim (Pl. 9, Figs. 1-8). Horizontal lines are more common on specimens from Fort Shantok than on those from Fort Corchaug. Stamping and incising with the edge of a clamshell are abundant at Fort Corchaug. Punctates are usually found on the bosses. Punctates or notches are often placed on the ridge below the lip and above the line of bosses. The castellations are often incised or stamped. The two vessels from the Pantigo site are plain, but have a line of applied bosses below the rim. One vessel has one rim-point. Two plain straight rims from Fort Corchaug (Pl. 9, Fig. 9) are the only known examples of entirely undecorated vessels.

The type Shantok incised (Pl. 9, Figs. 1-8) represents the bulk of the pottery from Forts Shantok and Corchaug and includes sherds stamped with the edge of a clamshell. The two vessels from Pantigo and the plain rims from Fort Corchaug are not assigned to types. The Shantok ceramic tradition is unique in the area under study. Further research may make it possible to establish stages of development within the tradition, but at present the data are inadequate.

It is difficult to characterize the Shantok aspect in terms of non-ceramic traits, because the artifacts are distributed unevenly among the three foci. The large collection from Fort Shantok contains the widest range of material and accounts for most of the artifacts listed here. Artifacts of chipped stone are rare, being limited to a few triangular or stemmed projectile points and some chips which apparently

<sup>1</sup> Rouse, 1945, 1947.

<sup>2</sup> Saville, 1920.

served as scrapers. Ground and polished stone is represented by fragments of smoking pipes, pendants, tablets, celts, and pestles. Rough stone artifacts consist of plain hammerstones, abrading stones, hoes (or choppers), paint stones, so-called pot lids, and an occasional quartz crystal. Worked bone is represented by ground and polished splinter awls, curved fishhooks, composite fishhooks of bone and wood, perforated needles, conical or cylindrically shaped projectile points, tubes, scrapers, and tool handles. Worked shell in the form of wampum in various stages of manufacture is abundant. Other shell artifacts include a conical pendant and a paint container.

Objects of European origin are present in the three foci. In this regard the Pantigo and Fort Shantok foci are richer than the Fort Corchaug focus. The trade material consists of objects of stone, bone, antler, wood, shell, iron, brass, copper, bronze, pewter, silver, glass, glazed crockery, and kaolin. The wide variety of objects is tabulated in the Trait Table, Shantok Aspect. Artifacts from Fort Corchaug are illustrated in Pl. 9, Figs. 1-36.

#### PANTIGO FOCUS

The Pantigo focus is formulated on the basis of the documentation of the Pantigo site as a cemetery used by the Montauk during the latter part of the seventeenth and the early half of the eighteenth centuries,<sup>1</sup> the identification of the pottery as Shantok in tradition, and the description of the burial complex. The documentation dates the occupation of the Pantigo site as later than the two fort sites and also attributes it to a different tribal group. While the pottery is of the Shantok tradition, it is distinctive in that the shape of the vessels is cylindrical rather than globular. The unique character of the focus in regard to the burial complex may be more apparent than real, because data on burials are lacking at Fort Corchaug and Fort Shantok. The burials at the Pantigo site are of two varieties, flexed and extended. The profusion of objects of European origin reflects the later time period. Thus far, the focus is limited to the south fork of Long Island.

#### FORT CORCHAUG FOCUS

The Fort Corchaug focus is established by

<sup>1</sup> Saville, 1920.

the documentation of the site of that name as a fortification in use during the middle of the seventeenth century by the Corchaug,<sup>2</sup> the characteristics of the pottery and other aboriginal artifacts, and the description of the structure. The documentation of Fort Corchaug fixes the occupation as immediately prior to the earliest use of the Pantigo site and attributes the manifestation to the Corchaug. The pottery is of the Shantok tradition and resembles that from Fort Shantok more than it does that from Pantigo. However, many sherds at Fort Corchaug bear clamshell impressions. The globular vessel with the collared rim formed by lobes is present, but the lobes are more often applied than bossed. Furthermore, the incised lines on the rims at Fort Corchaug are more frequently arranged diagonally than horizontally. Plain rims are also a distinguishing feature (Pl. 8, Fig. 1; Pl. 9, Figs. 1-9). Fort Corchaug is characterized by a weak development of work in bone and antler as compared with Fort Shantok. Objects of European origin are fewer in number at Fort Corchaug than at either of the other two manifestations, but bear a greater resemblance to those found at Fort Shantok than to those from Pantigo (Pl. 9, Figs. 10-36). The nature of the fortification may not be a valid distinguishing characteristic for the Fort Corchaug focus after systematic work is done at Fort Shantok. The smaller quantity of European trade goods at Fort Corchaug reflects the earlier period assigned to it when compared to the Pantigo focus. Thus far, the Fort Corchaug focus is limited to the north fork of Long Island.

#### FORT SHANTOK FOCUS

The Fort Shantok focus is conceptualized on the basis of documentation of Fort Shantok as a fortification in use prior to and following 1645 by the Mohegan,<sup>3</sup> and the characteristics of the pottery and other artifacts. The documentation attributes the site to approximately the same period as the Fort Corchaug focus but earlier than the Pantigo focus. The tribal group is also distinct. Because Rouse based his definition of the Shantok tradition on the pottery from the site, it is *per se* Shantok. The pottery is characterized by globular bodies and lobate

<sup>2</sup> Solecki, MS.

<sup>3</sup> Rouse, 1945, 1947.

collars covered with incised decoration (Shantok incised). None of the plain rims known from Fort Corchaug is found nor is the cylindrical vessel, which is characteristic of Pantigo, present. In contrast to the other foci, Fort Shantok is rich in bone implements. It is richer in objects of European origin than Fort Corchaug, but poorer than Pantigo in this regard. However, the European material is more like that found at Fort Corchaug than at Pantigo. The relative abundance of aboriginal artifacts may

indicate that the occupation began at an earlier period than at either of the other two sites, and the richness in European objects may serve as evidence that the occupation was more extensive than at Fort Corchaug. However, the presence of later varieties of European objects at Pantigo suggests that the Fort Shantok focus did not last into the eighteenth century. Rouse mentions the occurrence of Shantok pottery at the prehistoric Noank site, but other details are lacking.

TRAIT TABLE, SHANTOK ASPECT  
PANTIGO, FORT CORCHAUG, AND FORT SHANTOK FOCI

CATEGORY	TRAIT	PANTIGO	FORT CORCHAUG	FORT SHANTOK
GENERAL				
Nature of site	Cemetery on hill	x		
	Fortified enclosure		x	x
Structure	Rectangular		x	?
	Earth wall		x	?
	Ditch on each side		x	?
	Stockade		x	?
Associated features	Refuse deposits		x	x
	Refuse-filled pits		x	?
	Well or storage pit		x	?
	Stone hearths	6		
Form of burial	Flexed	21		
	Extended	17		
	Indeterminate	1		
	To east	30		
Orientation	To northeast	6		
	To southwest	3		
	Montauk, late 17th to early 18th century	x		
Documentation	Corchaug, middle 17th century		x	
	Mohegan, middle 17th century			x
ABORIGINAL MATERIAL				
Chipped stone				
Projectile points	Triangular	?	?	6
	Stemmed	?	?	6
	Fragmentary	?	?	2
Scrapers	Form uncertain	2		
	Retouched chip or flake		x	x
Polished stone				
Pipes	Cylindrical section of stem		1	
	Fragmentary			1
Pendants	Perforated pebble			2
Tablets	Polished fragment			1
	Incised concretion			1
	Incised fragment of slate			2
Celts	Small celt			1
Pestles	Cylindrical, fragmentary			5
Rough stone				
Hammerstones	Large plain cobble		1	?
	Small plain pebble		5	?

TRAIT TABLE, SHANTOK ASPECT—*Continued*

CATEGORY	TRAIT	PANTIGO	FORT CORCHAUG	FORT SHANTOK
Abrading stones	Flat pebble		19	15
Hoes or choppers	Form uncertain			2
Paint stones	Limonite or hematite pebbles	1	20	?
	Brown clay concretions		12	
	Graphite, fragments		4	3+
	Red pigment in clamshell	1		
	Red oxide stain	x		
Problematical	"Pot-lids"			2
	Quartz crystal		1	
Bone				
Awls	Ground and polished splinter		3	31
Fishhooks	Composite, bone and wood			7
Needles	Perforated ribs			42
Projectile points	Conical, hollow base		1	
	Cylindrical, hollow			1
Tubes	Long bones cut at ends		1	4
Scrapers	Form uncertain			2
	Deer mandible			3
Handles	Knife handles			3
Shell				
Beads	White wampum, finished		2	3
	White wampum, blanks		2	6
	Columellae dressed down		1000+	1000+
	Purple spot removed from clam		x	2
	Long tubular white beads	6		
Pendants	Conical, perforated	1		
Utensils	Clamshell for holding paint	1		
Pottery				
Vessels	Shantok incised		x	x
	Unclassified, Shantok tradition	x		
Pipes	Plain, fragments		2	3
Miscellaneous	Fragment of coil		1	
Vegetal				
Food	Maize, charred			x
	Beans, charred			x
	Succotash, charred			x
	Nuts, charred			x
Cordage	Twisted cord, mineralized		1	
EUROPEAN MATERIAL				
Stone				
Gun flints			2	5+
Button moulds				2
Hammerstone, English flint				1
Bone				
Combs				3
Knife handles		2		2
Antler				
Knife handle		1		
Wood				
Knife handle		1		
Cylindrical box		1		
Shell				
Perforated East Indian cowry		1		



TRAIT TABLE, SHANTOK ASPECT—*Continued*

CATEGORY	TRAIT	PANTIGO	FORT CORCHAUG	FORT SHANTOK
Metal				
Projectile points	Triangular, straight base, brass		1	
	Triangular, concave base, brass		1	
	Triangular, concave base, with perforation		1	1
	Triangular, concave base, iron		1	2
	Cylindrical, hollow, copper			4
Fishhooks	Curved copper hook			1
Beads	Cylindrical, copper	x		4
	Cylindrical, brass	x		
	Barrel shaped, copper	x		
Needles	Perforated iron			1
Awls	Iron awls		1	8
Knives	Iron blades, fragmentary			14
	Iron blades with handles	4		
	Fragment of sword (?) blade		1	
Jew's-harps	Iron jew's-harp		1	1
	Brass jew's-harp, marked "R"		1	
	Brass jew's-harp			2
Kettles	Iron kettles	4		
	Brass kettle, bark on rim	1		
	Copper kettle handle			1
Spoons	Cut from brass kettle	1		
	Brass, fragmentary	1	1	2
	Brass, silver plated, with plain, trefoil, and seal ends	6		
	Pewter, fragmentary	2		
Buttons	Disc shaped, pewter	x		
	Hemispherical, pewter	x		
	Hemispherical, brass	x		
Miscellaneous	Iron armor (?) plate, fragmentary		1	
	Iron ax head			1
	Iron hammer head			2
	Iron scissors			4
	Iron hoe			1
	Iron bullet mould			1
	Iron gun lock			1
	Iron hasp			1
	Iron hook			1
	Iron key			1
	Iron bolt		1	
	Iron nails		12	x
	Iron wedge		1	
	Brass bell			1
	Brass ferrule			1
	Brass wire			1
	Brass comb	1		
	Brass buckles	2		
	Brass thimbles, perforated	x		
	Brass box, cylindrical	1		
	Brass ring	1		
	Copper sheet, sharpened edge		3	
	Copper tinkler, iron pellet	1		
	Copper pennies, English, 1728	2		
	Bronze pipe, L-shaped			1
	Pewter dishes, fragmentary	2		

TRAIT TABLE, SHANTOK ASPECT—*Continued*

CATEGORY	TRAIT	PANTIGO	FORT CORCHAUG	FORT SHANTOK
	Silver religious token	1		
	Fragments of iron, copper, brass	?	x	x
Glass				
Vessels	Green "sack" bottles	3		
	Green bottle, fragments		6	x
	Clear bottle, fragments		1	x
	Amber glass pitcher, Venetian	1		
Beads	Cylindrical to spherical, many colors	x		x
Buttons	Hemispherical, iron eyelet		1	
	Spherical, iron eyelet	x		
Pottery				
Glazed ware	White, porringer, Delft	1		
	Black on yellow, pitcher, Staffordshire	1		
	Black on yellow, mug, Staffordshire	1		
	Black on yellow, base of vessel, Staffordshire	1		
	Blue on gray, sherds		1	x
	Brown, sherds		12	x
Kaolin pipes	Plain, obtuse elbow	5		
	"RT," obtuse elbow	1		
	Plain, obtuse elbow, disc-heel		x	x
	"EB," obtuse elbow, disc-heel		x	x
	Tudor Rose, obtuse elbow, disc-heel		x	x
	"IA," obtuse elbow, disc-heel			x
	Stems, stamped with <i>fleur-de-lis</i>		x	x
	Miscellaneous fragments		125 +	100 +
	Stem reworked into bead		1	1
MISCELLANEOUS				
Blankets		x		
Finely twined textile		x		
Medicine bag, "homespun," with human hair attached		1		
Charred rope				x
Bones of horse			x	x
Bones of cow				x
Bones of pig				x

## EAST RIVER ASPECT

LATE PREHISTORIC TO HISTORIC, *CIRCA* 1100-1700 A.D.

The East River aspect occurs about the mouth of the Hudson River, extending northward from Staten Island through Manhattan Island into the northeastern corner of New Jersey, and eastward through the mainland of southeastern New York State to western Long Island. The aspect consists of four foci: Massapeag, Clasons Point, Rosenkrans Ferry, and Bowmans Brook.

The documentation of the Massapeag focus as the culture of the Massapequa and the occurrence of European trade material in a few of the sites assigned to the earlier Clasons Point

focus indicate that the East River aspect represents the culture of the Algonkian-speaking peoples who inhabited the area in historic times. Specifically, the Wappinger, western Metoac, and some groups of Delaware appear to have carried the culture designated as the East River aspect.

Village sites are situated on or near tidal streams and bays. The type of dwelling is unknown from archaeological evidence, but documentary sources suggest the use of rectangular and possibly round houses consisting of pole frameworks covered with bark or skins.

All village sites are marked by accumulations of refuse in the form of marine shells, stained earth, broken bones, and artifacts. Bowl-shaped pits abound at most of the sites. Pits may have been dug for storage or cooking, but eventually all of them became receptacles for refuse. Occasionally a flexed burial with little or no grave goods is found in one of the pits.

The economy seems to have been based primarily on the collection of shellfish and secondarily on gardening and hunting. Evidence of fishing and of gathering hickory nuts is also present. Crude stone hoes were used for agriculture, the bow and arrow for hunting, and the net and hook for fishing. It is not known how the shellfish were gathered, but it is now possible to obtain them in fair quantities by hand digging or treading. Dugout canoes may have been used in deep water with wooden rakes employed over the side. Perhaps diving was practiced.

Pottery making is characteristic of the East River aspect, hundreds of sherds having been found at the larger sites. It suggests that of Owasco and Iroquois in many of its traits. The paste is compact and varies from fine to medium coarse in texture. Grit temper is generally more prevalent than shell temper. (Grit temper, as the term is used here, includes all granular aplastics of inorganic origin.) The particles are usually of quartz, but other minerals such as mica and feldspar are also present in some sherds. The aplastic often exhibits evidence of crushing or grinding before being added to the clay. Indeed many of the sites yield shallow mortars in which stone of heterogeneous composition could have been crushed for this purpose. Many of the sherds may have been tempered with beach sand or sand of glacial origin. Shell-tempered sherds contain particles of crushed scallop, clam, and oyster shells. Occasionally traces of grit are found in a shell-tempered sherd, but the shell particles usually predominate. No conclusive evidence of fiber temper is known. A few sherds with grit or shell as an aplastic also contain hollow moulds suggesting the inclusion of organic materials that disappeared when the clay was fired. The organic inclusions are regarded as the result of incomplete cleansing of the clay rather than as evidence of the cultural trait of fiber tempering.

The structure of the paste seems to reflect the tempering material used. The grit-tempered

sherds are usually granular, while the shell-tempered sherds are more often flaky. The sherds range from buff or orange to brown and sometimes black, but the majority are gray or brown. The fractures on many sherds suggest coiled construction. The surfaces are smooth and compact as though they had been worked over while wet. The thickness varies greatly but averages 6 millimeters. Sherds thicker than 6 millimeters are usually from the bottoms or rims of vessels, rarely from the walls.

Conical and rounded bottoms are present. The bodies may be straight walled or rounded. Shoulders are often absent but are sometimes pronounced when associated with collared rims. In general the shoulders are less prominent than those on Shantok pots but more marked than those on Windsor pots. Straight rims are of two varieties: the commonest is a vertical or insloping continuation of the vessel wall; less frequent is a vertical rim rising above a constriction. Flaring rims range from a barely perceptible outward curve to a marked flare. Collared rims are of two varieties. The common form, designated as a true collar, is formed by adding a band of clay to the outside of the rim above the constricted neck. The other form is known as an incipient or channeled collar in which there is no thickening and the interior profile duplicates the exterior profile, sometimes in S shape. The lips on all varieties of rims may be rounded or flattened, but the latter form is more prevalent on true collars. In over-all shape most of the vessels are elongate-globular. Straight and flaring rim vessels are usually more elongate, while those with collars tend to be more globular in form (Pl. 8, Figs. 8, 9).

Elaboration of the lip in the form of castellations and rim-points is limited to collared rims. The orifices of some collared vessels tend to be square, but circular openings are more numerous. Lobes are absent, but applied fillets are noted on a few sherds. In general appearance the East River vessels are more symmetrical than those of the Windsor style and do not attain the degree of complexity found in the Shantok tradition.

The interior surfaces of the vessels are smooth; the exteriors are usually roughened by the application of a cord-wrapped paddle (Pl. 10, Fig. 26). Plain exteriors predominate at a few sites (Pl. 10, Figs. 29, 30). The roughened surface has frequently been partially smoothed

so that it is necessary to inspect a sherd closely to detect cord marking (Pl. 10, Fig. 28). The surface finish usually terminates just below the rim, and the decoration is applied on a plain surface. On vessels with collared rims the entire neck is often plain, even though the body may be cord marked. Plain rims are rare, but cord-marked rims (East River cord marked) are present at nearly all sites (Pl. 10, Fig. 26).

Decorative designs are frequent on East River pottery and are limited to the rim, neck, and shoulder. Occasionally the lip and the interior of the rim (Pl. 12, Fig. 6) bear decoration. Designs are incised or stamped, and, rarely, punctated. Incised decoration (Pl. 8, Fig. 8; Pl. 10, Figs. 1-12) appears to have been done with a blunt instrument. Rather fine lines are observable on a minority of the sherds. The lines on sherds of Eastern incised are usually narrower than those on sherds of Bowmans Brook incised. Scallop shell and cord-wrapped stick stamping are about equal in popularity, but dentate stamping is less prevalent. Nearly all of the scallop shell stamped sherds (Pl. 10, Figs. 13-18) are assignable to the Clasons Point stamped type and exhibit fine crenellated lines formed by pressing the edge of a pecten shell into the clay. The cord-wrapped, stick-stamped sherds (Pl. 8, Fig. 9; Pl. 10, Figs. 22-24) are assignable to two types, Bowmans Brook stamped and Van Cortlandt stamped. It is probable that the impressions are actually those of the edge of a cord-wrapped paddle, because there is an almost complete correlation between rims stamped in this manner and cord-marked bodies. Dentate stamped sherds (Pl. 10, Figs. 19-21) are few in number and erratic in distribution. The impressions are rectanguloid and appear to have been made with a wheel-shaped piece of shell with a notched edge. Such an implement, which may also have served as a gorget, was found at the Baker Hill site (Pl. 11, Figs. 25-27). Punctated sherds are rare. When found the punctations are often combined with incised lines (Pl. 8, Fig. 8; Pl. 10, Figs. 1, 13; Pl. 12, Fig. 4). The depressions vary from rounded to angular and were apparently made by punching the clay with any readily available instrument. Modeling is exceedingly rare. The lower edges of collared rims are often decorated with deep notches (Pl. 10, Figs. 1-5), but bossed or applied lobes are unknown. One sherd with two elongate parallel fillets in verti-

cal position comes from the Clasons Point site.<sup>1</sup> Nodes, each bearing three punctates representing a face, are present at the Wilkins (Pl. 12, Fig. 4) and Bowmans Brook sites on sherds of Bowmans Brook incised.<sup>2</sup> A similar sherd appears in the collection from the Indian River site in Connecticut where the Windsor style predominates.<sup>3</sup>

Three groups of designs are recognized: 1, horizontal lines, usually stamped, cover the neck and rim (Pl. 10, Figs. 19-21, 23-24; Pl. 12, Figs. 2-3, 5, 7-8); 2, isolated design elements, ordinarily incised, occur on the shoulder, neck, and rim of the vessel (Pl. 10, Fig. 8); 3, a continuous band of connected plats formed by alternately diagonal, horizontal, and vertical lines of incising or stamping (Pl. 8, Fig. 8; Pl. 10, Figs. 1-7, 9-12, 14-18, 22; Pl. 12, Fig. 4). The horizontal lines are usually cord wrapped, stick stamped, forming a wide band extending from the lip to the upper portion of the shoulder. Dentate stamped lines are also known. Incised lines are arranged in more complex designs involving alternating bands oriented in different directions. It is difficult to identify isolated design elements because of the small size of most of the sherds and the rare occurrence of restorable vessels. A typical example consists of triangular plats filled with incised lines. Another form exhibits ladder-like motifs arranged vertically. Continuous bands of connected plats occur principally on collared rims but are also found on vertical rims. On collared rims these bands are usually incised, but many examples of stamped designs, mainly scallop shell stamped, occur. The designs consist of a central band of opposed diagonal and vertical lines bordered above and below by short vertical lines or continuous horizontal lines. Several vertical lines appear at a castellation or rim point or, instead, three punctates form a face within a triangle. So far as is known the face motif is found only on incised sherds (Pl. 10, Fig. 2; Pl. 12, Fig. 4).

To summarize and correlate the designs with types, the horizontal lines are typical of Bowmans Brook stamped (Pl. 10, Fig. 24; Pl. 12, Figs. 2, 3, 7-8) and a few of the Bowmans Brook incised sherds; the isolated design elements are typical of Bowmans Brook incised

<sup>1</sup> Skinner, 1919, Fig. 10d.

<sup>2</sup> Skinner, 1909a, Fig. 3a.

<sup>3</sup> Rogers, 1943, Pl. 5, Fig. 16.

(Pl. 10, Fig. 8); the continuous bands are associated with Eastern incised (Pl. 10, Figs. 1-6), Clasons Point stamped (Pl. 10, Figs. 14-18), Van Cortlandt stamped (Pl. 10, Fig. 22), and Bowmans Brook incised (Pl. 8, Fig. 8; Pl. 10, Figs. 9-12; Pl. 12, Fig. 4).

Pottery pipes are also present in sites assigned to the East River aspect. They range from straight conical tubes, plain or stamped, to elbow-shaped forms decorated with incised or stamped lines (Pl. 11, Figs. 27-30; Pl. 12, Figs. 23-25).

Most of the stone artifacts are made of quartz which is plentiful in the area in the form of water-worn pebbles. Other materials include chert, slate, shale, granite, sandstone, and argillite. The mixed content of the glacial deposits makes it difficult to determine whether any of the material used for the manufacture of artifacts was traded in from other areas. It is probable that the few argillite artifacts came from New Jersey.

Chipped stone projectile points are predominantly broad and triangular, with straight or concave base. Other varieties include narrow triangular, stemmed, side notched, and lanceolate (Pl. 11, Figs. 1-17; Pl. 12, Figs. 12-20). Knives are uncommon but are represented by trianguloid, lanceolate, and stemmed varieties (Pl. 11, Figs. 18-21; Pl. 12, Fig. 21). Scrapers are amorphous chips showing use-retouch. Drills are rare.

Ground and polished stone artifacts are rarely found. The grooved ax (Pl. 11, Fig. 50), the celt, and the rectangular pendant or gorget (Pl. 12, Fig. 22) exhaust the list. Rough stone tools are common at all sites. Typical implements in this category are plain or pitted hammerstones, anvil stones, abrading stones, sinew stones, pestles, shallow mortars, choppers (or hoes), picks, netsinkers, paint stones, and amorphous pieces of mica (Pl. 11, Figs. 51-53).

Objects of bone and antler are common. Bone awls range from rough splinters to ground and highly polished forms (Pl. 11, Figs. 34-36; Pl. 12, Figs. 29-34). Needles with one perforation at or near one end are present (Pl. 11, Figs. 37-38). Flakers (Pl. 11, Figs. 39-40; Pl. 12, Figs. 35-36) are usually made of antler tines or occasionally of bone. Other objects include antler wedges, tool sockets, conical projectile points, a dagger (?), turtle carapace dishes, cup-and-pin game pieces, worn beaver incisors,

curved fishhooks, and an implement which may have served as a marker for pottery (Pl. 11, Figs. 41-46; Pl. 12, Figs. 26-28, 37-38).

Shell artifacts are scarce considering the rich source of raw material available. A few of the sites produce tubular white wampum (Pl. 9, Fig. 43; Pl. 11, Figs. 31-33) or shells used as scrapers. In rare instances a gorget (Pl. 11, Fig. 25), cup, sinew dresser, or pendant is found.

European trade goods are found at a few sites. The material consists principally of amorphous fragments of metal, glass, and pottery. White kaolin pipes of English manufacture are common, together with an occasional jew's-harp, gunflint, or metal arrowpoint. These trade objects are limited to the Massapeag focus and to a few of the later components of the Clasons Point focus (Pl. 9, Figs. 45-51; Pl. 11, Figs. 47-49).

A study of the pottery and other artifacts reveals the presence of three subdivisions on western Long Island, Staten Island, Manhattan Island, and the mainland of southeastern New York. These subdivisions are termed the Massapeag, Clasons Point, and Bowmans Brook foci and represent temporal stages within the East River aspect. A fourth focus, Rosenkrans Ferry,<sup>1</sup> occurs in the northeastern corner of New Jersey and appears to be coeval with the Clasons Point focus.

#### MASSAPEAG FOCUS

The Massapeag focus is formulated on the basis of the documentation of Fort Massapeag<sup>2</sup> as a stronghold of the Massapequa branch of the western Metoac prior to 1654, but probably no earlier than 1640. The use of a rectangular fortification is also characteristic of the same time period elsewhere in the region. The Corchaug occupied a similar structure called Fort Corchaug; the Montauk, Shinnecock, and Manhasset had such forts at about the middle of the seventeenth century. The Mohegan were using Fort Shantok in 1645 in the same way. European contact material of similar form and origin prevails at Fort Massapeag, Fort Corchaug, and Fort Shantok. No data are available from the forts used by the Montauk, Shinnecock, and Manhasset. The pottery from Fort Massapeag is East River style but is associated with a few sherds of Shantok incised

<sup>1</sup> Cross, 1941.

<sup>2</sup> Wood, 1824.

(Pl. 9, Fig. 38), a type belonging to the Shantok tradition which prevails at Forts Corchaug and Shantok. Pottery of the same tradition also occurs at the later Pantigo site, a cemetery used by the Montauk around the close of the seventeenth century and the beginning of the eighteenth century. Massapeag pottery resembles that found in the Clasons Point focus. The types Eastern incised (Pl. 9, Figs. 37, 39) and Bowmans Brook incised are present in the small collection obtained by testing the site. The predominance of plain body sherds and shell tempering coincide with the steady growth in the popularity of these traits in the Clasons Point focus. The meager yield of pottery suggests that the industry was of little importance by the time the fort was occupied. Indeed the pottery itself appears to be degenerate when compared with that found in earlier sites. The stone industry is weakly developed. One narrow triangular projectile point with a concave base (Pl. 9, Fig. 41) serves as a link with the other foci of the East River aspect. Other stone artifacts such as a triangular drill, a few chips which may have served as scrapers, some abrading stones (Pl. 9, Fig. 44), and a few hammerstones do not differ from those found at other East River sites.

The wampum industry is well developed and seems to have been the principal activity of many of the occupants of Fort Massapeag (Pl. 9, Fig. 43). A similar emphasis is seen at Forts Shantok and Corchaug of the same period. Objects of European origin (Pl. 9, Figs. 45-51) are far more common than those of aboriginal manufacture. Particularly characteristic are the fragments of kaolin pipes bearing the heel marks "EB" or a Tudor Rose identical with those found at the other two forts. A brass jew's-harp bears the letter "R" as does one from Fort Corchaug.

The aboriginal material indicates that the Massapeag focus is related to the other foci included in the East River aspect and that the occupants of the fort had contact with the Shantok aspect. The documentation and the material of European origin indicate that the focus is contemporary with the Fort Corchaug and Fort Shantok foci of the Shantok aspect but earlier than the Pantigo focus of the same aspect. The mid-seventeenth century date for the Massapeag focus places it later in time than the Clasons Point focus, for none of the com-

ponents of the latter focus is documented, and only a few of them contain European contact material. At present the focus is represented by only one component on the south shore of western Long Island, so it is impossible to determine the original distribution of the complex, if other components ever existed.

#### CLASONS POINT FOCUS

The Clasons Point focus is based upon the analysis of the contents of 12 components, only seven of which contain a sufficient quantity of material to warrant detailed trait lists. It is also recognized in small collections from the surface of the area and from tests made in remnants of sites destroyed by the construction of roads and buildings. The focus is distributed over the western portion of Long Island, northern Staten Island, probably all of Manhattan Island, and the mainland area between the Hudson and Housatonic rivers, at least as far north as the Hudson Highlands. Thus far no components have been identified in Connecticut, but trade sherds become more frequent as the western boundary is approached. The Indian River site, which is Windsor in cultural affiliation and is situated near the east bank of the Housatonic River, produced several varieties of pottery found in the Clasons Point focus.<sup>1</sup>

Most of the components are village sites situated near tidal inlets on the second rise of ground above the water. Sites are marked by deposits of refuse containing marine shells mixed with stained soil; fire-cracked stones; charcoal; animal bones, split and broken for the marrow; potsherds; and other artifacts. Such deposits rarely cover as much as an acre and range in thickness from a few inches to approximately 1 foot. The area covered by the layer is interspersed with bowl-shaped pits ranging in size from shallow hollows 3 feet in diameter and 1 foot in depth to deep holes as large as 8 feet in diameter and 5 feet in depth. Three varieties of pits are present at most of the sites: 1, containing clean whole shells, a few stones, and no artifacts; 2, containing stained soil, broken and whole shells, cracked stones and bones, and a wide variety of artifacts; 3, pits containing alternate layers of refuse and soil burned red by the action of fire.

<sup>1</sup> Rogers, 1943; Rouse, 1947.



The first described may have served as fireless cooking pits in which oysters and clams and heated stones were placed and allowed to remain until the mollusks steamed open. The second type probably served as storage pits which were subsequently filled with refuse. The third variety may have been interchangeably hearths and refuse pits as the occasion arose.

Occasionally, probably in winter when it was difficult to excavate in undisturbed soil, a pit was used as a grave. At the Aqueduct site a flexed burial was found in a refuse-filled pit.<sup>1</sup> Around the edge was a circular pattern of post moulds, suggesting a fence or miniature dwelling. Flexed burials are also found in refuse-filled pits at other sites, but no records of post moulds are known. Dogs as well as humans were often interred in the pits. Secondary burial is suggested at two sites.

Two rock-shelters are included as components of the Clasons Point focus. The Finch Rock House and Helicker's Cave are both situated north of the tidewater area and contain refuse deposits devoid of marine shells. Fresh-water *Unio* shells occur, however. The use of rock-shelters is apparently determined by the locality, for over most of the area no natural shelters exist.

The ceramic content of the Clasons Point focus is characterized by the presence of the types Eastern incised, Clasons Point stamped, Van Cortlandt stamped, Bowmans Brook incised, Bowmans Brook stamped, and East River cord marked. At the later components the first two types are more prevalent. East River cord marked is present at all components. The other three types prevail at early components. The proportion of grit to shell temper is also of assistance in determining the relative of a component. Generally speaking, shell temper has a greater frequency than grit at the later components. Plain sherds abound at the later components and cord-marked sherds prevail at the earlier. Similarly incised sherds are more numerous at late components than at early components, where stamped sherds abound. Vessel shapes range from elongate to globular, with the latter predominating in the late components. Correspondingly, the collared rim is more abundant in the late sites, and the straight and flaring rims are more prevalent in the early. Early components produce more

conical bottoms than late components which are characterized by rounded bottoms (Pl. 8, Figs. 8-9). Pottery pipes are of the elbow variety with stamped or incised decoration (Pl. 11, Figs. 27-30).

The Clasons Point focus is characterized by a limited inventory of projectile points. Triangular forms predominate over those that are stemmed and notched. Knives are of trianguloid, stemmed, and lanceolate forms. Scrapers are little more than chips and flakes retouched by use along one or more edges. One trianguloid drill with concave edges is present in the collection from the Dosoris Pond site. The three-quarter-grooved ax and the celt are rare. Plain and pitted hammerstones occur at most of the components. Other rough stone artifacts include pitted anvil stones; sinew dressing stones; rectanguloid pestles; mortars with shallow, cup-shaped hollows; various forms of hoes, or choppers; a pointed implement identified as a pick; netsinkers with notches, or grooves; tools combining the features of the hammer, muller, and anvil; and stones abraded for use as sources of pigment. Amorphous fragments of mica appear at many sites (Pl. 11, Figs. 1-24, 50-53).

Artifacts of bone and antler are abundant at most of the sites. Awls appear in the form of rough splinters with or without additional grinding and polishing. In contrast to the crude notched form found in the early Windsor sites, one notched form is ground and polished. Some awls retain the articular end, especially those made from the ulnae of deer. A few are made from antler tines. Perforated needles are found at a few components. Most of the flakers are merely antler tines showing wear at the point. One antler cylinder, probably used as a flaker, is known. Flakers made from splinters of bone are rare. One wedge or chisel is made from an antler tine with a cavity in the proximal end. A tool socket is also present. Bone and antler projectile points with hollow bases are found at some of the sites. One long trianguloid dagger with a serrated edge appears. Dishes fashioned from the carapace of the box turtle are common. Tubular beads are rare. The cup-and-pin game is represented at the Clasons Point site by a few deer phalanges excavated at the proximal ends and perforated at the distal ends. A few sites yield beaver incisors worn as though used as chisels. One curved bone fishhook is known (Pl. 11, Figs. 34-46).

<sup>1</sup> Solecki, 1947.

Despite the large quantity of marine shells available, very few were used as a source of material for the manufacture of artifacts. Wampum made from the columellae of the *Busycon* shell is characteristic of some of the later components. No finished beads have been found, but blanks, discarded or lost prior to the drilling of the longitudinal perforation, are present. A shell gorget with a notched edge duplicating the dentate stamping on pottery was found at the Baker Hill site. Equally rare are shell cups, sinew dressers, scrapers, and perforated shells (Pl. 12, Figs. 25, 31-33). Objects of European origin (Pl. 11, Figs. 47-49) occur at a few of the sites.

Based on the presence or absence of certain traits, the components may be grouped into early and late divisions. The later components are marked by the prevalence of Eastern incised pottery in association with contact material and/or wampum. The early components are characterized by the predominance of a varied group of pottery types, especially Clasons Point stamped, Bowmans Brook stamped, and Bowmans Brook incised, and the absence of wampum and contact material. Disregarding time, the only differences between the western Long Island components and the mainland components are in the greater prominence of Bowmans Brook incised on Long Island and the absence of fabric marking on the mainland. Not enough is known of the content of the Manhattan and Staten Island components to make similar comparisons. The minor differences observed in the temporal and geographic groupings fall within the range of one focus.

The validity of the Clasons Point focus as a cultural unit is established by the distinctive character of the pottery and the occurrence of certain non-ceramic traits absent in the other foci of the East River aspect. The occurrence of objects of European origin at a few of the components indicates that the focus survived into the period of contact with the colonists, probably the first half of the seventeenth century. As yet none of the components is documented. Skinner<sup>1</sup> postulates that the Clasons Point site represents the village of Snakapins, occupied by the Siwanoy division of the Wappinger who later lived at the Throgs Neck Site and left objects of European origin and Clasons Point pottery in Throgs Neck III. Direct docu-

mentation is lacking, however. The Finch II component at the Finch Rock House contains contact material as well as Clasons Point pottery. The Soundview site has also yielded European material. The remaining sites lack evidence of contact with the European colonists and belong to the late Prehistoric period. The distribution of the Clasons Point focus includes the territories of the western Metoac groups on Long Island, the southern Wappinger groups on the mainland, and possibly some of the Delaware on northern Staten Island.

#### BOWMANS BROOK FOCUS

Bowmans Brook, the earliest focus of the East River aspect, is represented by three components: Bowmans Brook on Staten Island, and Wilkins and Grantville B, both on western Long Island. The published account of the Bowmans Brook site<sup>2</sup> is inadequate for the construction of a trait list. Grantville B is a component postulated as existing at the Grantville site above Grantville A which may represent a preceramic horizon. The Bowmans Brook focus is based primarily on the contents of the Wilkins site. No other components are known, but pottery types occurring in the Bowmans Brook focus appear in the Clasons Point, Rosenkrans Ferry, and Massapeag foci. Trade sherds are present at the Indian River site in Connecticut.<sup>3</sup> The absence of the focus on the mainland may be attributed to the lack of intensive work in that area.

The components of the Bowmans Brook focus are similar in location and physical composition to those of the Clasons Point focus. All are village sites characterized by deposits of refuse containing marine shells. Pits filled with refuse occur at the Bowmans Brook and Wilkins components, but data are lacking for the Grantville B component. Flexed and bundle burials are reported from the Bowmans Brook component.

The Bowmans Brook focus is characterized by the presence of the ceramic types: East River cord marked, Bowmans Brook stamped, and Bowmans Brook incised. At the Wilkins and Bowmans Brook components all three types are present, but only Bowmans Brook stamped appears in Grantville B. There is little evidence for time perspective such as has been demon-

<sup>1</sup> Skinner, 1919.

<sup>2</sup> Skinner, 1909a.

<sup>3</sup> Rogers, 1943; Rouse, 1947.

strated for the components within the Clasons Point focus. The sherds of Eastern incised found at the Bowmans Brook site after power shovels had excavated the area are regarded as part of a later component. Grit temper is characteristic of all components. Typical vessels are elongate in form with straight or flaring rims, rounded shoulders, and conical bottoms. The rims are usually covered with horizontal rows of cord-wrapped stick stamping. Many vessels are cord marked up to the lip. Very few sherds are incised. The face formed by three punctates placed on a raised node is found on the type Bowmans Brook incised at Wilkins and Bowmans Brook. A similar sherd from the Indian River site in Connecticut<sup>1</sup> is interpreted as trade pottery from the East River aspect (Pl. 12, Figs. 1-11). Smoking pipes are in the form of straight conical tubes, plain or stamped (Pl. 12, Figs. 23-25).

It is necessary to rely almost entirely on the Wilkins component for non-ceramic traits. The projectile points resemble those of the Clasons Point focus in that triangular forms predominate. A stemmed form is the only other one found. One trianguloid knife is present. Scrapers in the form of rough chips and flakes show use-retouch. One rectanguloid pendant or gorget of polished slate with a central perforation is present. Rough stone artifacts include the plain hammerstone, pitted anvil stone, rectanguloid pestle, tablet-shaped abrading stone, mortar with a cup-shaped hollow, trianguloid hoe or chopper, grooved netsinker, notched netsinker, and abraded paint stone (Pl. 12, Figs. 12-22).

The bone and antler industry is well represented by rough and polished splinter awls, ulna awls, fish spine awls, antler tine and bone splinter flakers, conical antler projectile points, turtle carapace dishes, worked beaver incisors, and cup-and-pin game pieces (Pl. 12, Figs. 26-38).

#### SERiation BASED ON CERTAIN CERAMIC TRAITS IN THE EAST RIVER ASPECT

In an earlier study<sup>2</sup> it was determined that it was possible to arrange the pottery-bearing sites of western Long Island in a seriation demonstrating a proportionate change in the popularity of certain ceramic traits, notably, sur-

face finish, decorative technique, and tempering material, through time. Further study has extended the application of the method to sites on the mainland. The establishment of ceramic styles or traditions has necessitated the consideration of the collections from the North Beach and Matinecock Point sites under the heading of the Windsor style to which the pottery belongs. The Grantville site is omitted from the seriation and treated separately, because it is believed to be a mixed site representing more than one occupation period. The pottery from Fort Massapeag is included not only because of the East River affiliation of the complex but because of historic documentation of the site. It is regrettable that the collection from Fort Massapeag is small. Six components are used in the seriation for western Long Island and three for the mainland (Tables 2 and 3, Fig. 2).

The study reveals the presence of three periods or stages within the East River style. They bear the same names as, and are comparable to, the foci established within the East River aspect. The latest stage, Massapeag, occurs only on western Long Island. The middle period, Clasons Point, is present on both the mainland and western Long Island. The earliest period, Bowmans Brook, is represented in the seriation by one site on western Long Island but is also known to occur on Staten Island. The Rosenkrans Ferry focus is limited to northeastern New Jersey, is not present in the area under consideration, and appears to be contemporary with Clasons Point.

An examination of Tables 2 and 3 and Fig. 2 demonstrates that grit temper is most prevalent in Bowmans Brook, and shell temper begins to replace it during Clasons Point times. Shell temper predominates in the Massapeag stage. Cord marking, preponderant in the Bowmans Brook stage, gives way to plain surfaces in the Clasons Point stage, and disappears in favor of plain surfaces in Massapeag. Fabric marking is absent on the mainland and appears in erratic proportions during the Clasons Point stage on Long Island. The great quantity of fabric marking at the Dosoris Pond site is probably caused by the proximity of the site to the area where the Windsor style prevails. Brushed surfaces are rare and limited to the Clasons Point stage.

Incised decoration is rare in the Bowmans

<sup>1</sup> Rogers, 1943, Pl. 5, Fig. 16.

<sup>2</sup> Smith, 1944a.

TABLE 2  
PERCENTAGES OF CERAMIC TRAITS IN EAST RIVER SITES ON WESTERN LONG ISLAND

	Massapeag Focus	Clasons Point Focus				Bowmans Brook Focus
	Fort Massapeag <sup>a</sup>	Dosoris Pond	Baker Hill	Aqueduct	Port Washington	Wilkins
Number of sherds	68	2265	1782	260	430	826
Temper						
Grit	8.9	46.0	80.0	93.0	82.0	99.9
Shell	91.1	54.0	20.0	7.0	18.0	.1
Finish and decoration						
Plain	76.5	45.1	46.8	29.2	23.9	6.9
Cord marked	—	12.2	34.8	51.9	57.2	76.6
Fabric marked	—	22.0	.4	2.3	2.3	—
Brushed	—	6.1	.6	.4	3.3	—
Incised	7.3	12.9	10.2	9.2	6.3	.4
Punctated	—	.1	.5	.8	.5	x
Scallop shell stamped	—	x	5.5	1.2	3.0	—
Cord-wrapped stick stamped	16.2	x	.2	4.6	1.3	14.8
Dentate stamped	—	x	1.0	.4	2.1	1.3
Subtotal stamped	(16.2)	(1.6)	(6.7)	(6.2)	(6.4)	(16.1)
Total per cent	100.0	100.0	100.0	100.0	99.9	100.0

\* Sites listed in chronological sequence, beginning with the earliest on the left.

TABLE 3  
PERCENTAGES OF CERAMIC TRAITS IN EAST RIVER SITES IN WESTCHESTER AND BRONX COUNTIES

	Clasons Point Focus		
	Finch II <sup>a</sup>	Helicker's Cave	Pelham Knolls
Number of sherds	455	105	1115
Temper			
Grit	73.0	79.0	99.7
Shell	27.0	21.0	0.3
Finish and decoration			
Plain	68.1	61.9	18.5
Cord marked	9.5	20.0	69.1
Brushed	—	7.4	0.7
Incised	19.6	4.8	2.3
Punctated	0.6	—	2.2
Scallop shell stamped	0.6	2.0	1.9
Cord-wrapped stick stamped	1.5	3.8	4.3
Dentate stamped	—	—	0.9
Subtotal stamped	(2.1)	(5.7)	(7.1)
Total per cent	99.9	99.9	99.9

\* Sites listed in chronological sequence, beginning with the earliest on the left.

Brook stage but increases steadily during Clasons Point times. The inadequate sample for the Massapeag stage shows a slight decrease in incised decoration. Punctated sherds are scarce or absent at all sites in all three periods. Stamped sherds are still present in the Massapeag stage, but the inadequate sample probably exaggerates their popularity. Nearly all

incipient collars, which appear in early sites of the Clasons Point stage, tend to become less popular towards its close and to be absent in the Massapeag stage. True collars do not appear until near the middle of the Clasons Point stage and gain steadily in popularity over all the other rim shapes through the Massapeag stage. Conical bottoms predominate in the

Seriation of Ceramic Traits in Coastal New York		Plain	Cord marked	Fabric marked	Brushed	Incised	Punctated	Scallop shell stamped	Cord-wrapped stick stamped	Dentate stamped	Sub-total of stamped	Shell temper	Grit temper
Western Long Island													
Massapeag Focus	Fort Massapeag	██████				■			■		■	██████	■
Clasons Point Focus	Dosoris Pond	██████	■	██	■	██	██	██	██	██	■	██████	██████
	Baker Hill	██████	██████	██	██	██	██	■	██	██	■	██	██████
	Aqueduct	██	██████	■	██	██	██	██	■	██	■	■	██████
	Port Washington	██	██████	■	■	■	██	■	██	██	■	██	██████
Bowmans Brook Focus	Wilkins	■	██████			██	██		██	██	██	██	██████
Mainland of New York													
Clasons Point Focus	Finch II	██████	■			██	██	■	■		■	██	██████
	Helicker's Cove	██████	██		■	■		■	■		■	██	██████
	Pelham Knolls	██	██████	██	■	■	■	■	■	██	■	██	██████

FIG. 2. Graph showing the relative percentages of ceramic traits in East River sites coastal New York. ☒ indicates less than 1.5 per cent.

are from one vessel. Cord-wrapped stick stamping is preponderant in the Bowmans Brook stage but during the Clasons Point stage is erratic in its distribution except in the mainland series where it definitely decreases. Scallop shell stamping occurs only in the Clasons Point stage. Dentate stamping is rare in Clasons Point and Bowmans Brook sites and is absent in the Massapeag stage.

The small number of rim and basal sherds found at the sites precludes the use of percentages, but certain trends are clear. Straight and flaring rims characterize the Bowmans Brook stage and tend to decrease in popularity during the Clasons Point period although still present in the Massapeag stage. Channeled or

Bowmans Brook stage and at early sites in the Clasons Point stage. Rounded bottoms are more numerous at the late Clasons Point sites. The inadequate sample of pottery from the Massapeag stage renders impossible the identification of basal forms. Generally speaking the earlier vessels tend to be elongate and the later vessels globular in shape.

The distribution of the pottery types substantiates the division of the East River tradition into three stages. Eastern incised is absent in the Bowmans Brook stage, absent or rare in early Clasons Point sites, common in later Clasons Point sites, and abundant in the Massapeag stage. Clasons Point stamped is common at all Long Island sites of the Clasons

Point stage and absent in the Finch II layer on the mainland. Van Cortlandt stamped appears only at a few early Clasons Point sites and is absent in the other stages. Bowmans Brook incised is recognized first in the Bowmans Brook stage, becomes common in early Clasons Point sites on Long Island, but is rare on the mainland. It is present but rare in the Massa-

peag stage. Bowmans Brook stamped is abundant in the Bowmans Brook stage and at early Clasons Point sites. It is absent in late Clasons Point sites and in the Massapeag stage. East River cord marked is common in the Bowmans Brook stage and appears frequently at Clasons Point sites but is absent in the Massapeag stage.

TRAIT TABLE, EAST RIVER ASPECT  
MASSAPEAG, CLASONS POINT, AND BOWMANS BROOK FOCI

		MASSAPEAG	CLASONS POINT							BOWMANS BROOK		
CATEGORY	TRAIT	FORT MASSAPEAG	FINCH II	DOSORIS POND	BAKER HILL	CLASONS POINT	AQUEDUCT	HELICKER'S CAVE	PELHAM KNOLLS	PORT WASHINGTON	WILKINS	
GENERAL												
Nature of site	Fortified enclosure	x										
	Rock-shelter		x					x				
Structure	Village near stream or bay		x	x	x	x	x		x	x	x	
	Rectangular	x										
	Earth wall	x										
	Ditch on outside	x										
	Stockade	?										
Associated features	Refuse heap, marine shells	x										
	Refuse layer, marine shells			x	x	x	x		x	x	x	
	Bowl-shaped pits			x	x	x	x		x	x	x	
Burials	Hearths		x									
	Flexed			?		x	x		x	x		
	Secondary			?						x		
	Associated fire bed									x		
	Small dog									x		
ABORIGINAL MATERIAL												
Chipped stone												
Projectile points	Narrow, stemmed		x	2	1			x	x		2	
	Broad, stemmed		x	3	2	x	1	x		1	2	
	Narrow, side notched		x	2	7	x			x	1		
	Broad, side notched		x		5			x				
	Lanceolate, straight base				2		1		x			
	Lanceolate, concave base			1	1							
	Triangular, narrow, straight base		x	2	2		2	x				
	Triangular, narrow, concave base	1	x	7	2	x	2	x	x	2	2	
	Triangular, broad, straight base			26	3		3		x	2	3	
	Triangular, broad, concave base		x	20	9	x	3		x	5	4	
	Trianguloid, narrow, concave base			1	1							
	Trianguloid, broad, straight base				1							
	Fishtail								?			
	Knives	Trianguloid			3						2	1
		Lanceolate									1	
		Broad blade, stemmed							x	x	1	
Broad blade (base missing)			x					x	x			

**TRAIT TABLE, EAST RIVER ASPECT—Continued**

[illegible]





TRAIT TABLE, EAST RIVER ASPECT—*Continued*

CATEGORY	TRAIT	MASSAPEAG		CLASONS POINT							BOWMANS BROOK	
		FORT MASSAPEAG	FINCH II	DOSORIS POND	BAKER HILL	CLASONS POINT	AQUEDUCT	HELICKER'S CAVE	PELHAM KNOLLS	PORT WASHINGTON	WILKINS	
Vessels ( <i>cont.</i> )	Clasons Point stamped			x	x	x	x	x	x	x		
	Van Cortlandt stamped				?	x			x			
	Bowmans Brook incised	x		x	x	x	x		x	x	x	
	Bowmans Brook stamped			?	x	x	x	x	x	x		x
	East River cord marked		x	x	x	x	x	x	x	x		x
	Unclassified incised		x		x		x					
	Unclassified stamped	x	x	x	x	x	x		x	x		
	Unclassified punctated			x	x	x	x		x	x		
	Unclassified brushed									x		
	Unclassified cord marked		x	x	x	x	x	x	x	x		x
	Unclassified plain	x	x	x	x	x	x	x	x	x		x
	Shantok tradition											
	Shantok incised	x										
	Plain body sherds	x										
	Windsor tradition											
	Niantic stamped				x							
	Windsor brushed			x								
	Windsor fabric marked			x								
	Windsor cord marked			x								
	Vinette interior cord marked											x
EUROPEAN TRADE GOODS												
Projectile points	Triangular, copper and brass	x	x									
Tubes	Tubes of sheet brass and copper	x										
Jew's-harps	Brass jew's-harp marked "R"	x										
Amorphous metal	Sheet brass and copper	x										
	Iron rust	x										
Glass	Fragment of green bottle	x										
	Fragments of clear glass	x										
White clay pipes	Plain, obtuse elbow, disc-heel	x										
	"EB," obtuse elbow, disc-heel	x										
	Tudor Rose, obtuse elbow, disc-heel	x										
	Miscellaneous fragments	x										
Glazed ware	Green glazed sherd	x										
Gunflints	European gunflint		x									

## WINDSOR ASPECT

INTERMEDIATE TO HISTORIC, *CIRCA* 700-1700 A.D.

The Windsor aspect is distributed from the mouth of the Hudson River eastward to eastern Long Island and southeastern Connecticut. In its earlier stages it encircled Long Island Sound, but later it was limited to parts of southern Connecticut and eastern Long Island. Five foci comprise the Windsor aspect: Niantic, Sebonac,

Clearview, North Beach, and Orient.

Rouse<sup>1</sup> has identified the Niantic focus with the historic Nehantic and possibly with additional groups other than the Mohegan-Pequot in Connecticut. His identification is based primarily upon the discovery of objects of Euro-

<sup>1</sup> Rouse, 1945, 1947.

pean origin in sites within the known range of the Nehantic in the seventeenth century. Thus far neither documented sites nor those containing objects of European origin are associated with the Windsor aspect on Long Island. The study of other collections, the excavation of additional sites, and research in local documentary sources may bring such data to light and serve to link the Windsor aspect with one or more historic groups on eastern Long Island other than the Montauk and Corchaug who, like the Mohegan-Pequot, are identifiable as Shantok in culture.

The village sites are usually found on the margins of bays and tidal streams. All the sites on Long Island are characterized by deposits of marine shell mixed with stained soil, broken animal bones, charcoal, and artifacts. In Connecticut, however, the South Woodstock, or Basto, site<sup>1</sup> is situated inland and devoid of marine shells. Some sites contain many bowl-shaped pits filled with refuse, while others lack pits. Post moulds arranged in circular patterns<sup>2</sup> suggest the dome-shaped house and oval area with a central fireplace described by Harrington.<sup>3</sup> The dead were usually buried in refuse pits within the village. Flexed primary burials with little or no grave goods are typical. The burial complex of the Orient focus<sup>4</sup> is exceptional because of the extensive evidence of cremation and the large quantities of grave goods. Bundle burial is rarely found.

Throughout the temporal and geographic range of the culture, the principal means of livelihood appears to have been the collection of shellfish, supplemented by fishing, hunting, gathering, and horticulture. The cultivation of maize appears fairly early and may have attained an importance equal to the collection of shellfish in the later stages of the culture. The bow and arrow was the most important weapon, but bannerstones, suggesting the use of the spearthrower, are found in some of the early sites. Fish were caught in nets and with a hook and line. Crude stone hoes were used for the cultivation of maize. The method of collecting shellfish is unknown, but it probably involved digging, treading, and raking, and possibly diving.

The Windsor ceramic tradition is well represented at all of the sites except those assigned to the Orient focus in which steatite vessels seem to have been preferred and pottery is rare.<sup>5</sup> Most of the data presented are from sites on Long Island and the adjacent mainland of New York. Supplementary information on the pottery is derived from the work of Irving Rouse.<sup>6</sup>

The paste is usually poorly consolidated and is generally inferior to that found in the East River and Shantok traditions. The texture is characteristically coarse and rarely fine. The tempering material consists of grit, shell, or fiber. On Long Island, shell temper is more prevalent; in Connecticut, grit temper has a greater frequency, though fiber temper is also recognized. The grit is coarse and was apparently made by crushing rocks of heterogeneous composition. The shell is usually unidentifiable, but instances in which shells of *Venus mercenaria*, *Ostrea virginica*, and *Pecten irradians* were crushed for use as temper have been observed. Even the shell-tempered sherds have a sandy texture, suggesting that clay may not have required the addition of an aplastic.

The paste structure correlates to a marked degree with the tempering material. In contrast to grit-tempered sherds, which are usually granular, shell-tempered sherds are ordinarily flaky. Many sherds have broken along coil lines, and cylindrical ropes of accidentally fired clay are known. In color the sherds range from yellow to black, but most of them have a reddish tinge. The surfaces are incompletely smoothed and are much more uneven than those found on pottery of the East River and Shantok traditions.

The bases are more often conical than rounded and the bodies more frequently elongate than globular. Most of the vessels have fairly straight walls; the shoulders are poorly developed or absent, except on collared or channeled vessels. Straight rims are characteristic. The common variety is a vertical or insloping continuation of the vessel wall. Flaring rims, a minority form, range from a barely perceptible flare to those that are markedly everted. Another minor form is the collared rim, which Rouse calls the channeled rim to distinguish it from the thickened collars on

<sup>1</sup> Praus, 1945.

<sup>2</sup> Praus, 1945; Rogers, 1943.

<sup>3</sup> Harrington, 1924, 246-249, Fig. 16.

<sup>4</sup> Ritchie, 1938, 1944.

<sup>5</sup> Ritchie, 1938, 1944.

<sup>6</sup> Rouse, 1945, 1947.

vessels of other traditions.<sup>1</sup> The channeled rim is an incipient collar formed by pushing out rather than by adding clay. The result is a collar with the same interior and exterior profile, often in S shape. The lips on all varieties of rims may be rounded or flattened. Vessels with straight or flaring rims tend to be elongate in shape, while those with channeled rims are more globular (Pl. 8, Figs. 2-7).

Elaboration of the lip in the form of castellations or rim-points is limited to some of the channeled rims (Pl. 8, Figs. 4, 5). They are not so pronounced as those found on vessels of the other two traditions, nor do they distort the mouth of the vessel to which they are applied. Bosses and applied ridges are absent. Ritchie describes knobs on vessels of the Orient focus.<sup>2</sup> The vessels of the Windsor tradition are the least symmetrical of the three styles. A comparison of Windsor vessels in terms of texture, shape, surface finish, and decoration with vessels of the East River and Shantok traditions results in a general impression of crudeness.

Most of the vessels have roughened interior and exterior surfaces. Many sherds bear brush marks on both sides (Pl. 13, Figs. 12-13, 17-18), while others are cord marked on both sides (Pl. 14, Figs. 1-2, 15-16). A few sherds, found only in the vicinity of Three Mile Harbor on eastern Long Island, exhibit fabric-marked interiors. Some sherds bear dentate stamping inside and outside (Pl. 13, Figs. 21-22); others have brushed and cord- or fabric-marked exteriors (Pl. 13, Figs. 2-3, 11). Still others are smooth inside and outside. Some are smooth inside and have cord-marked, fabric-marked, or net-marked exteriors. A rare variety is simple stamped. The surface finish varies somewhat with the shape of the vessel. Almost invariably, elongate vessels with pointed bottoms and straight or slightly flaring rims are roughened inside and outside. Globular vessels with rounded bottoms and collared rims are more often smooth inside and smooth or cord marked outside. On vessels with straight or flaring rims the surface finish extends to the lip, but on collared vessels it usually terminates above the shoulders, and the necks are smoothed. The decorative designs on the simpler vessels are applied around the rim, directly over the surface finish without preliminary smoothing. On

collared vessels the area to be decorated is smoothed in preparation for the ornamentation. Secondary smoothing is rarely evident on the bodies of vessels.

Decorative designs usually are limited to the lip and rim but may extend down to the body of the vessel when there is no constriction at the neck. The decorative techniques are stamping, brushing, punctating, and incising, in order of preference. Scallop shell stamping predominates in the later sites, but in the earlier sites dentate stamping prevails. Cord-wrapped stick stamping is rare. In Connecticut Rouse finds that many varieties of shells were used as stamping tools.<sup>3</sup> Brushed decoration resembles the brushed surface finish, but the former is more carefully applied. Punctates vary greatly in form, ranging from round through rectangular and triangular to irregular. Incising is rare and more often approximates dragging than true incising.

Scallop shell stamping appears on the types Niantic stamped (Pl. 8, Figs. 4-5) and Sebonac stamped (Pl. 13, Fig. 4). Dentate stamping is best represented by the type Matinecock Point stamped (Pl. 14, Figs. 7-10) but also appears on Clearview stamped sherds (Pl. 13, Figs. 21-22). Brushing is a decorative technique as well as surface finish on Windsor brushed (Pl. 8, Fig. 7; Pl. 13, Figs. 12-13, 17-18) and is a surface finish on other types. Incised sherds found in later sites are numerically inadequate to permit the establishment of types, but in the early sites the types North Beach incised and Matinecock Point incised are recognized (Pl. 14, Figs. 11-12).

The decorative designs are simple, consisting of horizontal, diagonal, or vertical lines arranged in a band situated in the area extending from the lip down to the shoulder. On collared and channeled rims the decoration is limited to the narrow vertical area above the neck. Three groups of designs are recognized: 1, horizontal lines, usually stamped, covering the rim; 2, isolated design elements, usually brushed, extending down to the shoulder; 3, a continuous band of connected plats, usually stamped but sometimes brushed, composed of alternating vertical, horizontal, and diagonal lines which are often limited to the rim. The designs are shown in Pls. 8, 13, and 14, but most of the individual sherds are too small to show the range and dis-

<sup>1</sup> Rouse, 1947.

<sup>2</sup> Ritchie, 1944.

<sup>3</sup> Rouse, 1945, 1947.

tribution of the motifs. The classification of the designs is based on the study of groups of sherds assignable to individual vessels and on the illustrations in the papers of Rouse,<sup>1</sup> of Rogers,<sup>2</sup> and of Harrington.<sup>3</sup> The horizontal bands correlate, principally, with the type Sebonac stamped but appear on other types and on unclassified sherds as well. The connected plats are usually limited to the type Niantic stamped but also occur on Windsor brushed. The isolated design elements are typical of Windsor brushed.

On eastern Long Island chipped stone artifacts are almost invariably made of quartz, but other materials are more prevalent in some of the sites in Connecticut and on western Long Island. Observations made during my long residence on Long Island indicate that the people living on eastern Long Island had little choice in the selection of material. Quartz pebbles abound over eastern Long Island but on western Long Island the pebbles are composed of divers materials. Rough and ground stone artifacts are made of quartz, steatite, claystone, slate, and rocks of heterogeneous composition.

Chipped stone projectile points occur in a wide variety of shapes ranging from narrow- and broad-bladed forms with stems or side notches to narrow- and broad-bladed triangular forms (Pl. 13, Figs. 14-15, 27-31; Pl. 14, Figs. 21-27). Generally speaking, the earlier sites produce relatively more stemmed and notched points than the later sites at which triangular points not modified for hafting are predominant. The reader is referred to the Trait Table, Windsor Aspect, in which the various shapes are tabulated. Knives are relatively scarce, appearing in trianguloid, lanceolate, ovate, narrow-bladed stemmed, and broad-bladed side-notched varieties (Pl. 14, Figs. 28-29). Scrapers are usually amorphous, being merely chips or flakes showing use-retouch (Pl. 14, Figs. 30, 31). The plano-convex endscraper is also present as are trianguloid forms and re-worked projectile points. Drills are rare. Four varieties are present: T-shaped base, rounded base, trianguloid, and narrow blade without basal expansion. Most of them are found at sites in Connecticut.<sup>4</sup>

<sup>1</sup> Rouse, 1945, 1947.

<sup>2</sup> Rogers, 1943.

<sup>3</sup> Harrington, 1924.

<sup>4</sup> Praus, 1942, 1945.

Ground and polished stone artifacts are rare on Long Island but more prevalent in Connecticut. Artifacts include grooved axes, notched axes, gouges, celts, adzes, rectanguloid and disc-shaped pendants or gorgets, steatite vessels, smoking pipes, and, rarely, perforated banner-stones.

Rough stone artifacts are numerous at all sites and consist of plain or pitted hammer-stones, abrading stones, pestles, shallow mortars, crude choppers or hoes, anvil stones, notched or grooved netsinkers, combination tools, paint stones, and amorphous fragments of sheet mica.

Artifacts of bone and antler are more prominent in the later sites. Bone awls (Pl. 13, Figs. 16, 32; Pl. 14, Figs. 33-34) form the most common group: rough splinter, ground and polished splinter, notched splinter, those with the articular end of the bone preserved, and a few made from the tail of the horseshoe crab. Other artifacts include simple bone or antler flakers, wedges, tool sockets, and harpoon heads of antler, perforated needles of bones, conical projectile points or cylindrical, flat, or rectanguloid forms of bone (Pl. 14, Figs. 35-36), turtle carapace dishes, beaver incisor tools, curved fishhooks, fish gorges, "daggers," tubes, and perforated canine teeth of the bear, otter, and dog.

Shell artifacts are rare. A single clamshell used as a pottery smoother is known. The association of wampum with the Niantic focus is uncertain. Metal is represented by a tubular bead probably made of native copper. Pottery pipes are rare. Fragments of tubular pipes with flaring rims on the bowls are known.

A comparative analysis of the traits found in the sites permits the establishment of a series of foci which represent temporal stages in the development of the Windsor aspect. The North Beach and Orient foci appear to be not only the earliest but contemporaneous, but the others form a sequence progressing upward in time: Clearview, Sebonac, and Niantic.

#### NIANTIC FOCUS

The Niantic focus is represented by a number of components in Connecticut and by at least one, Old Field B, on eastern Long Island.<sup>5</sup> None of these components has been published in detail, and only the material from the Old Field

<sup>5</sup> Smith, 1947; Rouse, 1947.

site was available to me for study. Objects of European origin are found in the Indian River and Niantic Point sites in Connecticut,<sup>1</sup> but on Long Island such evidence is lacking. The Indian River site,<sup>2</sup> one of the sites that Rouse, on the basis of its pottery, assigns to the Niantic stage, contains Niantic pottery and trade sherds of the East River and Shantok traditions as well as objects of European origin. It does not seem advisable to attempt to establish the nature of the non-ceramic traits on the basis of a site which is known to have a mixed ceramic content. The publication of the data from the Niantic Point site should furnish the necessary information.

As tentatively defined, the Niantic focus is characterized by village sites on bays and tidal streams marked by deposits of refuse composed, in the main, of marine shells. Refuse-filled pits abound and sometimes served as graves in which flexed burials occur.

The pottery (Pl. 8, Figs. 4-6) is more often shell tempered than grit tempered and thinner and finer than that which characterizes the other foci of the Windsor aspect. Rouse<sup>3</sup> finds some fiber temper in sherds of this complex. The vessels are globular, with rounded bottoms, constricted necks and collared or, more rarely, flaring rims. The collars, of the incipient or channeled variety, often bear rim-points or castellations. The interior surfaces are smooth; the exterior surfaces are often plain or cord marked and rarely brushed. On many sherds the cord marks encircle the vessel horizontally (Pl. 8, Fig. 4). The collared rims bear decorative designs composed of shell impressions (Niantic stamped). Incised and punctated sherds are rare.

The non-ceramic traits consist of quartz and chert triangular projectile points and a profusion of bone and antler artifacts. It is impossible further to characterize the focus at this writing. The reader is referred to the description of the Old Field site in Appendix B (p. 159).

#### SEBONAC FOCUS

The Sebonac focus is distributed over eastern Long Island and most of Connecticut. The data are derived from the published reports on the Sebonac, Old Lyme, and South Wood-

stock sites<sup>4</sup> and from a study of the unpublished collections from the Soak Hides and Squaw Cove sites. Except for sites situated far inland in Connecticut, most of the villages are found on bays and tidal streams. The greater number are marked by deposits of refuse in the form of marine shells, stained earth, broken animal bones, and artifacts. Refuse-filled pits are abundant at most of the sites. At the South Woodstock site<sup>5</sup> special pits called "Council Pits" were encountered. The features contained fire-broken artifacts and are believed to be evidence of the ceremonial destruction of property. Flexed burial in refuse or grave pits within or near the village is characteristic. A few secondary burials are known. Grave goods are rare though generally meager when found. A circular pattern of post moulds at the South Woodstock site<sup>6</sup> and an oval area with a fireplace at the center in the Sebonac site<sup>7</sup> suggest the presence of small, dome-shaped houses ranging from 10 to 20 feet in diameter. The Sebonac focus is placed chronologically between the Niantic and Clearview foci.

On Long Island the pottery is almost invariably shell tempered, but in Connecticut grit and fiber temper are also present. The vessels are elongate in shape with pointed (rarely rounded) bottoms, more or less straight walls, or insloping rims. Flaring rims are also found (Pl. 8, Figs. 2-3, 7). Collars appear to be absent. The sherds are thicker than those of the Niantic focus and are usually brushed on the interior surfaces. The exterior surfaces are brushed or fabric marked and, more rarely, cord marked or plain. Decoration usually extends from the lip to the shoulder area and consists of various combinations of stamping, brushing, and punctating. True incising is rare or totally absent. The types Windsor brushed, Windsor fabric marked, Windsor cord marked, and Sebonac stamped are typical.

The non-ceramic artifacts of the Sebonac focus are illustrated by Harrington in his report on the Sebonac site<sup>8</sup> and by Praus in his reports on the Old Lyme and South Woodstock sites.<sup>9</sup> The Sebonac focus is characterized by a wide

<sup>4</sup> Harrington, 1924; Praus, 1942, 1945.

<sup>5</sup> Praus, 1945, 9-10, 43.

<sup>6</sup> Praus, 1945.

<sup>7</sup> Harrington, 1924.

<sup>8</sup> Harrington, 1924, Figs. 3-5, 7-8, 10-11, 17-18, 22-29, 33.

<sup>9</sup> Praus, 1942, Pls. 3-4; 1945, Pls. 2-5.

<sup>1</sup> Rouse, 1947.

<sup>2</sup> Rogers, 1943.

<sup>3</sup> Rouse, 1947.

variety of projectile points of chipped stone. At some sites triangular points predominate over stemmed and notched forms, while at others the situation is reversed. With the passing of time, the trend is from stemmed and notched points to triangular points. Chipped stone knives are relatively scarce and are represented by trianguloid, lanceolate, broad-bladed stemmed, ovate, and broad-bladed, side-notched forms. Scrapers consist of chips and flakes showing use-retouch, plano-convex end-scrapers, trianguloid forms, and reworked projectile points. Drills appear in a number of forms: narrow blade with no basal expansion, trianguloid with convex edges, tapered blade with rounded and T-shaped butt.

Ground and polished stone artifacts include the fully grooved ax, notched ax, celt, plano-convex adze, rectanguloid pendants, disc-shaped pendants, steatite vessels, and steatite pipes. Such artifacts are more frequent in Connecticut than on Long Island.

Rough stone artifacts are represented by plain and pitted hammerstones, abrading stones, pestles, shallow mortars, anvil stones, netsinkers, paint stones, and crude choppers or hoes.

Artifacts of bone and antler are more widespread on Long Island than in Connecticut. Splinter awls and antler flakers are common. An antler harpoon with one barb and a central perforation is known from the Sebonac site. Other artifacts include perforated needles, conical or cylindrical projectile points, turtle carapace dishes, worked beaver incisors, curved fishhooks, fish gorges, and bone "daggers."

Miscellaneous artifacts include a tubular bead, presumably of native copper, a piece of twined textile, and a few tubular clay pipes with flaring mouthpieces decorated with stamped or incised designs.

#### CLEARVIEW FOCUS

The Clearview focus is distributed over western Long Island, adjacent Manhattan Island, and along the mainland north of Long Island Sound into Connecticut. It is as yet unidentified on eastern Long Island. The data are derived from a study of the collections from the Throgs Neck and Dyckman Street sites,<sup>1</sup> the Clearview and Manhasset Rock sites which the writer excavated, and a few components in

Connecticut.<sup>2</sup> Most of the sites are marked by deposits of refuse containing marine shells as the principal ingredient. Bowl-shaped pits are present but are not so numerous as on sites of the later Sebonac and Niantic foci. The form of burial is unknown. Clearview focus is placed chronologically between the Sebonac and North Beach foci.

The pottery is characterized by grit and shell temper in nearly equal proportions. The vessels are elongate with pointed bottoms, straight walls, and straight or slightly flaring rims. The sherds are thick and are usually roughened on both sides. Brushing (Pl. 13, Figs. 17-18) is a common means of altering the surface, but the most distinctive trait is interior and exterior dentate stamping (Pl. 13, Figs. 21-22). Fabric-marked (Pl. 13, Figs. 25-26) and plain sherds are also present. A few sherds bear grooves suggesting simple stamping (Pl. 13, Fig. 19). Fabric-marked sherds with smooth interior surfaces are also present (Pl. 13, Figs. 25-26). The types Windsor brushed, Clearview stamped, and Throgs Neck simple stamped represent most of the pottery (Pl. 13, Figs. 17-19, 21-22). At the Clearview site the pottery is associated with types belonging to the East River tradition: East River cord marked, and Bowmans Brook incised (Pl. 13, Figs. 20, 23-24). The type Vinette interior cord marked, usually associated with the earlier North Beach focus, is present at the Dyckman Street and Throgs Neck sites.

The non-ceramic traits are less well known because of the few sites found. The chipped stone projectile points are more often stemmed, side notched, or lozenge shaped than triangular (Pl. 13, Figs. 27-31). One knife is broad bladed and stemmed. Plano-convex endscrapers are present. Ground and polished stone artifacts are found in the form of axes with full or three-quarter grooves, celts, steatite vessel fragments, and at least one perforated bannerstone. Rough stone artifacts include plain and pitted hammerstones, abrading stones, choppers, anvil stones, netsinkers, paint stones, and amorphous fragments of mica. Bone and antler tools are relatively scarce. The three awl forms are rough splinter and ground splinter, and varieties retaining the articular surfaces of the bone at one end. One type of awl has side notches near the butt (Pl. 13, Fig. 32). Flakers are of two varieties: antler cylinder and bone splinter.

<sup>1</sup> Harrington, 1909b; Skinner, 1919, 1920.

<sup>2</sup> Rouse, 1947.

Other artifacts include tool sockets, perforated needles, and perforated animal teeth. A fragment of a pottery smoking pipe was found at the Clearview site.

#### NORTH BEACH FOCUS

The North Beach focus is best represented on western Long Island and the adjacent mainland by the North Beach, Matinecock Point, and Pelham Boulder sites. The occurrence of similar pottery on eastern Long Island and in southern Connecticut<sup>1</sup> suggests that the distribution was circum-Long Island Sound. The sites consist of deposits of marine shells mixed with stained earth, broken animal bones, and artifacts. Refuse-filled pits are rare in comparison with other foci of the Windsor aspect. Charred corn and beans occur at the Matinecock Point component, but the principal means of livelihood was apparently the collection of shellfish and deer hunting. A group of disarticulated human bones suggests secondary burial at Matinecock Point. These data are derived from a study of collections at the American Museum of Natural History and from additional details gathered by Ralph Solecki and made available to me. Rouse<sup>2</sup> furnishes information on the distribution of the pottery in Connecticut. The North Beach focus is the earliest ceramic culture in the area and is believed to be contemporary, in part, with the Orient focus.

The pottery is almost invariably grit tempered and thick in cross-section. Vessels are elongate with pointed bottoms, straight walls, and straight or slightly flaring rims. One vessel from the lower levels of the Throgs Neck site has a flat bottom (Pl. 14, Fig. 17). Interior and exterior cord marking is the predominant surface finish (Pl. 14, Figs. 1-3, 15). Some vessels bear fine brush marks inside and out, while others are plain (Pl. 14, Figs. 16, 18-19). Net marking is present, and a few sherds may be fabric marked, but the impressions on none are clear enough to be visible in a photograph. Very few of the rims are decorated. Some, presumably later components, include a number of dentate stamped rims (Pl. 14, Figs. 7-9), but few are found in others. Most of the decorated rims bear crudely incised lines or cord-wrapped stick stamping. One sherd is scallop shell

stamped (Pl. 14, Fig. 6). The types Vinette interior cord marked (Pl. 14, Figs. 1-2, 15), North Beach brushed (Pl. 14, Fig. 18), North Beach net marked, Matinecock Point stamped (Pl. 14, Figs. 7-9), Matinecock Point incised (Pl. 14, Fig. 11), and North Beach incised (Pl. 14, Fig. 12) account for most of the pottery in the focus.

Chipped stone projectile points are known in a number of forms: narrow and broad-bladed stemmed and side notched as well as lozenge, semi-lozenge, and fishtail. A few triangular points are also present (Pl. 14, Figs. 21-27). Knives include trianguloid, lanceolate, ovate, and broad-bladed stemmed forms (Pl. 14, Figs. 28-29). Scrapers are usually little more than chips showing use-retouch (Pl. 14, Figs. 30-31). One plano-convex endscraper has been reported. Drills are rare, only two specimens of trianguloid form being present. Among ground and polished stone artifacts are included the three-quarter grooved ax, probably the perforated bannerstone (Pl. 14, Fig. 32), and the steatite vessel with side lugs (Pl. 14, Fig. 20). Rough stone artifacts are represented by plain and pitted hammerstones, abrading stones, cylindrical pestles, anvil stones, crude choppers or hoes, netsinkers, paint stones, and amorphous fragments of mica. The bone and antler industry is weakly developed. Splinter awls are more often rough than ground and polished, while a few have side notches (Pl. 14, Figs. 33-34). Antler tine flakers, wedges, and tool sockets are present but rare. Bone and antler projectile points are represented by three specimens: one is conical; another is rectangular; the third is flat and trianguloid (Pl. 14, Figs. 35-36).

#### ORIENT FOCUS

The Orient focus is known from Ritchie's<sup>3</sup> publications based on the collections made by the Long Island Chapter of the New York State Archaeological Association on eastern Long Island. Supplementary data from Connecticut are derived from Rouse. At this writing the focus is known only from a few sites on eastern Long Island and in southern Connecticut. No village sites have been located. All the evidence is drawn from hilltop burial pits.

The sites are characterized by large pits containing heaps of cremated human bones and, rarely, unburned bundle burials. Associated

<sup>1</sup> Rouse, 1947.

<sup>2</sup> Rouse, 1947.

<sup>3</sup> Ritchie, 1938; 1944, 227-235.

with these human remains are hearths containing a few fire-marked stones and a considerable variety of artifacts. The sites contain no evidence of implement manufacture or food preparation and appear to have been entirely ceremonial in function.

Pottery is present at two of the sites on eastern Long Island. According to Ritchie the sherds are from "vessels of pointed-bottomed, straight-sided type, fabricated of hard, grit-tempered, reddish yellow to brown ware, and cord- or fabric-wrapped paddle-marked over the entire outer surface."<sup>1</sup> He also mentions a rim that has a knob situated an inch below the lip. Except for the rim with the knob the pottery suggests that found in the North Beach focus. Steatite vessels are also present.<sup>2</sup> Ranging in length from 6 to 17½ inches they are low-walled, flat-bottomed receptacles with oval to rectanguloid bowls. Many have lugs at both ends; nearly all have been ceremonially "killed" by having a hole punched in the bottom or by being broken entirely.

Other artifacts described by Ritchie<sup>3</sup> are projectile points of fishtail and narrow side-notched varieties, spearheads and knives of similar forms, drills, chipped celts, plano-convex adzes, grooved axes, paint stones, gorgets, cylindrical pestles, fragments of iron pyrites, and traces of red ochre.

Rouse<sup>4</sup> states that similar material occurs at the Laurel Beach (Eagle Hill) site and at Montowese near New Haven. Burned human bones are associated with "corner removed and side notched points, gorgets, celts, gouges, pestles, killed steatite pots, etc." No pottery has been found in association with the material. Ritchie<sup>5</sup> suggests that the Orient focus may have spread from Connecticut to Long Island. I suggest the possibility of an original circum-Long Island Sound distribution which would aid in accounting for the similarities which he sees in material from New Jersey. The similarities in the pottery, steatite vessels, and projectile points from the Orient and the North Beach foci lead me to postulate that the Orient focus represents the mortuary complex of the North Beach focus.

<sup>1</sup> Ritchie, 1944, 231.

<sup>2</sup> Ritchie, 1944, 227, Pl. 108.

<sup>3</sup> Ritchie, 1944, 227-232, Pl. 107.

<sup>4</sup> Rouse, letter, March 26, 1948.

<sup>5</sup> Ritchie, 1944, 232.

#### SERiation OF CERTAIN CERAMIC TRAITS IN THE WINDSOR ASPECT

Six sites, distributed from the mainland of southeastern New York over to the northern shore of Long Island and as far east as Three Mile Harbor on the South Fork, produced a sufficient quantity of pottery to permit statistical analysis similar to that already presented for sites assigned to the East River aspect. Because these sites are scattered from west to east for approximately 100 miles, spatial variation enters into the attempt to establish a time scale. Certain trends are evident, however. Three stages are revealed in a seriation of the six components; the earliest, North Beach, is followed by Clearview and Sebonac. Stratigraphic evidence at the Old Field site shows that a Niantic stage follows Sebonac, but no statistically valid sample was available. The Orient focus is believed to be contemporaneous with North Beach; however, no pottery was available for study.

An examination of Table 3 and Fig. 3 demonstrates that grit temper is prevalent in the North Beach stage and that shell temper predominates in the subsequent Clearview and Sebonac stages. The shift in popularity from grit to shell temper occurs in the Clearview stage, and by the end of the Sebonac stage hardly any grit is present. Similarly, the Orient pottery is described as being grit tempered,<sup>6</sup> and the Niantic component at the Old Field site is predominantly shell tempered. Statistical data are lacking for most of the components in Connecticut, but shell temper predominates over grit at the Indian River site<sup>7</sup> and in the upper level of the Jones Pond site in Rhode Island.<sup>8</sup>

Plain sherds have a greater frequency in the North Beach and Clearview stages than in the Sebonac and Niantic, but at no time are such sherds especially diagnostic. Cord marking, characteristic of the North Beach stage, is still important in Clearview but rare in the Sebonac stage. There is reason to suspect that it may be present in fairly large quantities in the Niantic stage, although statistics are lacking. Fabric marking is rare or absent in the North Beach stage but is common in the Clearview and Sebonac stages. It appears that cord marking may

<sup>6</sup> Ritchie, 1944.

<sup>7</sup> Rogers, 1943.

<sup>8</sup> Brown, 1939.



TABLE 4  
PERCENTAGES OF CERAMIC TRAITS IN WINDSOR SITES IN COASTAL NEW YORK

	Sebonac Focus		Clearview Focus	North Beach Focus		
	Soak Hides*	Sebonac	Clearview	Pelham Boulder	Matinecock Point	North Beach
Number of sherds	339	839	240	436	1951	424
Temper						
Grit	1.2	6.3	28.8	95.0	96.0	99.8
Shell	98.8	93.7	71.2	5.0	4.0	.2
Finish and decoration						
Plain	7.1	4.7	20.8	7.5	25.0	33.5
Cord marked	5.3	4.5	37.9	75.7	57.8	50.1
Fabric marked	21.8	5.3	8.7	—	1.7	3.3
Net marked	—	—	.4	—	—	5.2
Simple stamped	—	—	.4	—	—	—
Brushed	39.5	56.5	6.7	10.3	1.0	1.0
Stippled	—	3.5	—	1.1	—	—
Incised	6.8	5.6	4.2	1.4	4.6	4.7
Punctated	5.6	2.4	—	.7	.5	—
Scallop shell stamped	11.8	7.9	—	—	x	—
Cord-wrapped stick stamped	1.8	3.3	1.7	.5	x	1.7
Dentate stamped	.3	6.3	19.2	2.8	x	.5
Subtotal stamped	(13.9)	(17.5)	(20.9)	(3.3)	(9.4)	(2.2)
Total per cent	100.0	100.0	100.0	100.0	100.0	100.0

\* Sites are listed in chronological sequence, beginning with the earliest at the left.

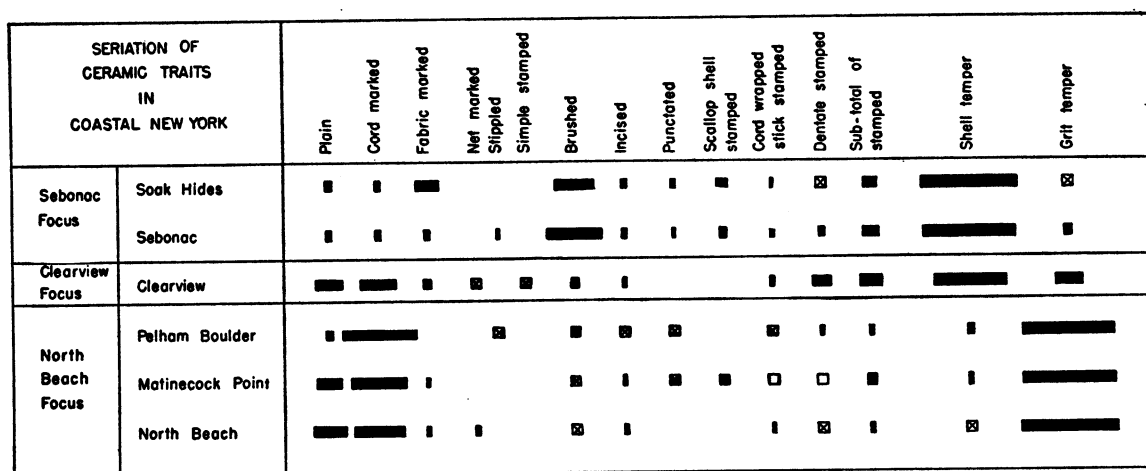


FIG 3 Graph showing the relative percentages of ceramic traits in Windsor sites in coastal New York. ⊠ indicates less than 1.5 per cent; □ indicates exact percentage unknown.

have replaced it in the Niantic stage. Net-marked sherds are restricted to two components, one in the North Beach stage and one in the Clearview stage. Simple stamped sherds are limited to the Clearview stage. Brushed surfaces increase at a fairly regular rate from 1 per cent to almost 40 per cent at the end of the seriation. Brushing is apparently less prevalent in the Niantic stage. Stippled surfaces appear in small quantities at two components, one in the North Beach stage and one in the Sebonac stage. The general trend seems to be from cord marked or plain surfaces to brushed or fabric-marked surfaces with a change to cord-marked and plain surfaces again in the Niantic stage.

The use of decorative techniques to embellish the rims of the vessels increases with the passage of time. Relatively few of the pots of the North Beach stage bear decoration, whereas a majority in the Niantic, Sebonac, and Clearview stages are decorated in some manner. True incising, relatively rare in all of the stages, is often difficult to distinguish from brushing when present. Stamped decoration increases from the early to the late stages and outnumbers incised decoration at all but the North Beach component. The North Beach stage is characterized by the prevalence of dentate stamping and the presence of cord-wrapped stick stamping. Scallop shell stamping appears on one sherd at the Matinecock Point component in the North Beach stage. Dentate stamping reaches its greatest popularity in the Clearview stage, decreases in the Sebonac stage, and is apparently rare in the Niantic stage. Scallop shell stamping is absent in the Clearview stage but comprises the bulk of the decorated sherds in the Sebonac and Niantic stages. Cord-wrapped stick stamping is more prevalent in the Sebonac stage than at any other time. The distribution of punctating is erratic, but it appears to be strongest in the Sebonac stage.

Certain trends in the temporal distribution of rim and basal shapes are obvious, but the small number of specimens precludes a percentage analysis. The North Beach stage is

characterized by straight rims and pointed bottoms. The Clearview stage exhibits a few more flaring rims than North Beach, but data on basal forms are scanty. Straight rims still predominate over flaring rims in the Sebonac stage, and a few rounded bottoms appear, together with the more popular pointed form. It is not known whether or not the few channeled or collared rims found on some of the Sebonac sites are intrusive from the later Niantic stage. In this stage collared rims and rounded bottoms prevail, but flaring and straight rims are present as are a few pointed bottoms. Niantic vessels are more globular than those of the earlier stages.

The distribution of the pottery types further substantiates the division of the Windsor style into at least four stages. The Orient focus pottery is omitted for lack of adequate data. Niantic stamped predominates in the Niantic stage, is rare or absent in the Sebonac stage, and is always absent in the Clearview and North Beach stages. Pending additional work, no other types are established for the Niantic stage. It should be added that Niantic pottery is generally thinner and finer than that of the other stages and is smooth on the interior. The following are typical of the Sebonac stage (some may have survived into the Niantic stage): Windsor brushed, Windsor fabric marked, Windsor cord marked, and Sebonac stamped. One sherd of Vinette interior cord marked was found at the Sebonac site, but it is regarded as evidence of an earlier occupation. The Clearview stage is marked by the presence of Clearview stamped, Throgs Neck simple stamped, Windsor brushed, Windsor fabric marked, and, rarely, Vinette interior cord marked and North Beach net marked. The North Beach stage is characterized by the following types: Vinette interior cord marked, North Beach net marked, North Beach brushed, Matinecock Point incised, Matinecock Point stamped, and North Beach incised. Unclassified sherds appear at all stages, but they approximate the named types in paste, temper, and vessel shape. The principal differences lie in the decorative techniques and designs.

TRAIT TABLE, WINDSOR ASPECT  
SEBONAC, CLEARVIEW, AND NORTH BEACH FOCI

		SEBONAC			CLEARVIEW		NORTH BEACH			
		SEBONAC	OLD LYME	SOUTH WOODSTOCK	CLEARVIEW	THROGS NECK	MATINECOCK POINT	PELHAM BOULDER	NORTH BEACH	
CATEGORY	TRAIT									
GENERAL										
Nature of site	Village near stream or bay	x	x	x	x	x	x	x	x	
Associated features	Refuse heap, marine shells	x	x		x	x	x	x	x	
	Refuse heap, no shells			x						
	Bowl-shaped pits	x		x	x	x	x	x	x	
	Shallow pits		x							
	Stone hearths		x	x		x				
Burials	Circular pattern of post moulds			x						
	Flexed	x	x	?		x				
	Secondary	x					?			
	Grave goods	x	x	?		?				
	Dog						x			
ABORIGINAL MATERIAL										
Chipped stone										
Projectile points	Narrow blade, stemmed	8	46	28	3	x	4	x		
	Broad blade, stemmed	9	6	91	1	x	4	x		
	Narrow blade, side notched		6	4	1	x	2			
	Broad blade, side notched	4	4	21		x	2			
	Broad blade, corner notched	6	1			x				
	Lozenge	1		7	1	x	6	x	2	
	Fishtail	5	3			x	1	x		
	Semi-lozenge						1		1	
	Lanceolate, straight base			2			7			
	Lanceolate, concave base	1		5			1			
	Pentagonal, narrow		2			x				
	Pentagonal, broad	2	1	2			1			
	Triangular, narrow, straight base	3		3						
	Triangular, narrow, concave base	8	2	18			2			
	Triangular, broad, straight base	12	4	1	1	x	3	x	2	
	Triangular, broad, concave base	35	4	2			8	x	3	
	Triangular, broad, convex base		1	2						
	Trianguloid, narrow, straight base	4		2						
	Trianguloid, narrow, concave base	1		12	1					
	Trianguloid, broad, concave base	1		3			2			
	Triangular, narrow, eared base						1			
	Ovate		6	1		x				
	Lanceolate, convex base	4								
	Knives	Bunt, semicircular blade, stemmed or notched			2		x			
		Trianguloid			x			2		
Lanceolate		x	x	x			5	x		
Broad blade, stemmed			x	x		x	2			

TRAIT TABLE, WINDSOR ASPECT—*Continued*

CATEGORY	TRAIT	SEBONAC			CLEARVIEW		NORTH BEACH		
		SEBONAC	OLD LYME	SOUTH WOODSTOCK	CLEARVIEW	THROGS NECK	MATINECOCK POINT	PELHAM BOULDER	NORTH BEACH
Chipped stone ( <i>cont.</i> )									
	Ovate		x	x			1	x	
	Broad blade, side notched			x					
Scrapers	Stemmed, reworked projectile point		x						
	Flakes with use-retouch	x	x	x			x	x	x
	Plano-convex endscraper	x	6	5	3			x	
	Trianguloid			3					
Drills	No basal expansion			x					
	Trianguloid, convex edges	5	3	x			2		
	Rounded butt		3	x					
	T-shaped base			x					
Polished stone									
Axes	Fully grooved			2		x			
	Three-quarter grooved					x	1		
	Notched ax (?)	1		3					
Gouges	Trapezoidal			1					
Celts	Trapezoidal	9				x			
Pendants	Rectanguloid, perforated		2	1		x	x		
	Disc shaped, central perforation, incised design	1							
	Disc shaped, edge perforated, plain surface	1							
Effigies	Face on small pebble	1							
Adzes	Rectangular, plano-convex		1						
Bannerstones	Perforated bannerstone					x			
	Fragment of wing (?)								1
Vessels	Steatite sherd with lug	1	1						1
	Steatite sherds		15	4		x			
Pipes, stone	Small bowl sherds of steatite	5							
	Small bowl sherd of red slate			1					
	Stem sherd					x			
Rough stone									
Hammerstones	Unpitted pebble	x	x	x	2	x	6	3	11
	Pitted pebble	1				x	5		
Abrading stones	Pebble	3	12	6		x			2
	Fragmentary tablet						1		
Pestles	Cylindrical			5					1
Mortars	Cup-shaped hollow in large cobble	1	x				x		
	Cup-shaped hollow in small pebble		1						
Choppers and/or hoes	Ovate	x		1			x	3	
	Rectanguloid		x	?		x	3		
	Bell shaped						1		
	Trianguloid		x	1					
Anvil stones	Pit on side of pebble or cobble		x	3	1		3		2
Netsinkers	Flat pebble, notched laterally	10	1	1		x		x	
	Pebble with encircling groove					x			
Combination tools	Hammer-muller-anvil combination								1
	Sinew stone, hammerstone					x			

TRAIT TABLE, WINDSOR ASPECT—*Continued*

CATEGORY	TRAIT	SEBONAC			CLEARVIEW		NORTH BEACH		
		SEBONAC	OLD LYME	SOUTH WOODSTOCK	CLEARVIEW	THROGS NECK	MATINECOCK POINT	PELHAM BOULDER	NORTH BEACH
Rough stone ( <i>cont.</i> )									
Paint stones	Worn limonite and hematite pebbles	x			2	x	21	x	1
	Limonite geodes	2					19		1
	Brown clay concretion						1		
	Graphite			8	1		2		
Mica	Amorphous fragments					x		x	
Bone and antler									
Awls	Rough splinter, polished tip	67	x		6	x	33	x	3
	Ground and polished splinter	2	x		2	x	4	x	
	Notched, ground and polished splinter				1	x	3		1
	Ground and polished, articular surface retained	4			1	x	1		
	Deer ulna, partly polished	2				x			1
	Spine of horseshoe crab	1				x			
Flakers	Antler tine, tip scarified		2						1
	Antler cylinder	1	1			x	x		
	Bone splinter, polished tip				1				
Wedges	Antler tine, wedge tip, cavity in base					x	1		
Tool sockets	Antler section, cavity in one end					x	1		
Harpoons	Antler, perforated, one barb	1							
Needles	Flat, thin, perforated, polished	x				x	x		
Projectile points	Antler tine, cavity in base	x				x	?		
	Bone, cylindrical, hollow	1							
	Bone, flat, thin, trianguloid, serrated edge								1
	Bone, rectanguloid, rounded butt								1
Dishes	Turtle carapace, ground and smoothed	x							
Beaver incisors	Worn beaver incisor tools (?)	x							
Fishhooks	Curved bone	1							
	Straight gorge for composite hook	1	2						
Dagger	Straight butt, perforated, incised		1						
Tubes	Cylindrical bone tubes						x		
Pendants	Perforated animal teeth					x			
Shell									
Scrapers	Clamshell pottery smoother	1							
Metal									
Beads	Tubular bead, native (?) copper	1							
Ceramics									
Pipes	Tubular, flaring mouth, stamped and incised		x						
	Amorphous, stem and bowl fragments, plain	x				?			
Vessels	Windsor tradition								
	Niantic stamped (intrusive ?)	x							
	Windsor brushed	x	x	x					
	Windsor fabric marked	x	x						
	Windsor cord marked	x	x						
	Sebonac stamped	x	x						

TRAIT TABLE, WINDSOR ASPECT—*Continued*

CATEGORY	TRAIT	SEBONAC			CLEARVIEW		NORTH BEACH		
		SEBONAC	OLD LYME	SOUTH WOODSTOCK	CLEARVIEW	THROGS NECK	MATINECOCK POINT	PELHAM BOULDER	NORTH BEACH
Ceramics ( <i>cont.</i> )	Clearview stamped				x	x			
	Throgs Neck simple stamped				x	x			
	Vinette interior cord marked					x	x	x	x
	North Beach net marked			?	x				x
	North Beach brushed						x	x	x
	Matinecock Point incised						x	x	
	Matinecock Point stamped						x	x	x
	North Beach incised								x
	Unclassified sherds	x	x	x	x	x	x	x	x
	East River tradition (trade sherds?)								
	Bowmans Brook incised				x				
	Bowmans Brook stamped				x				
	East River cord marked				x				
	Unclassified sherds		x		x				
	Shantok tradition (intrusive ?)								
	Shantok incised	x							
MISCELLANEOUS									
	Textiles								
	Food								
	Twined textile, charred	x							
	Maize, charred						x		
	Beans, charred						x		
	Plum (?) pit, charred						x		

## PRECERAMIC HORIZON

ARCHAIC PERIOD, PRIOR TO *CIRCA* 700 A.D.

The available evidence in a few of the sites in coastal New York suggests the existence of an archaeological complex characterized by the occurrence of a wide variety of projectile points and other artifacts of chipped stone, as well as a limited list of implements of ground and polished stone. Important lacunae are pottery, bone artifacts, and evidence of the practice of horticulture. The data suggest hunting, gathering, and shellfish collection as the basis for the food economy. The culture appears to be related to the Old Stone culture of Labrador, as defined by Strong,<sup>1</sup> and to Laurentian and Lamoka.<sup>2</sup> The sites on record have pro-

duced so few data that adequate definition and classification of the culture are impossible at this writing. I venture no farther than to assign the horizon taxonomically to the Archaic pattern that underlies the Woodland pattern and belongs to the Archaic period, in terms of time.

In the coastal area the components assignable to the Preceramic horizon are limited to Manhattan Island, western Long Island, and the mainland of southeastern New York. The horizon is found stratigraphically below the pottery-using cultures at the Finch Rock House<sup>3</sup> and at the Dyckman Street site.<sup>4</sup> Sur-

<sup>1</sup> Strong, 1930.<sup>2</sup> Ritchie, 1944.<sup>3</sup> Harrington, 1909a; Skinner, 1917.<sup>4</sup> Skinner, 1920.

face collections from three Long Island sites reflect similar cultural relationships. The Grantville site contains one horizontally separated component (Component C), identifiable as belonging to the Clasons Point focus, while the collection from the remainder of the site, not excavated stratigraphically, may be sorted into two other components: Component B, assignable to the Bowmans Brook focus, and Component A, assignable to the Preceramic horizon. The horizon is not reported in Connecticut and on eastern Long Island. In New Jersey, Cross<sup>1</sup> refutes earlier interpretations and denies the presence of identifiable pre-pottery sites. Such sites are present in upper New York State, however, and are assigned to the Lamoka and Frontenac foci and to the Laurentian aspect, respectively.<sup>2</sup> Non-pottery, if not pre-pottery, sites are also reported from New England, north and east of Connecticut, examples being the Grassy Island site in Massachusetts<sup>3</sup> and the numerous Red Paint culture graves in Maine.<sup>4</sup>

At the Finch Rock House, the upper layer (Finch II), a component of the Clasons Point focus of the East River aspect, is separated from the lower bottom layer (Finch I) by a deposit of sterile sand. Finch I is characterized by stemmed, side-notched, and triangular projectile points of chipped stone, fragments of larger chipped blades, a plano-convex end-scraper, a triangular chopper, a grooved ax, some plain hammerstones, an abrading stone, and an antler flaker. At the Dyckman Street site, the top layer (Dyckman III) is assignable to the East River aspect, the middle layer (Dyckman II) to the Windsor aspect. The bottom layer (Dyckman I) contains no pottery and is characterized by the presence of one narrow, side-notched projectile point, one broad-stemmed projectile point, and one lozenge-shaped projectile point. In addition, two hammerstones, one pitted and one plain, are recorded.

Additional data are available in unpublished surface collections, in the possession of Ralph Solecki, from Corona Creek, Maspeth, and Syosset on western Long Island. All three collections are characterized by side-notched, stemmed, and lozenge projectile points. Very

few triangular points are present, and no pottery is reported. The Maspeth site produced a fragmentary semilunar knife made of dark gray slate. The interpretation of these data must await analysis and publication by Solecki.

The Grantville site, situated on western Long Island, contains three components, as noted above. Component A is devoid of pottery and is represented by the greatest quantity of material from the site. Projectile points of chipped stone are numerous and appear in a wide variety of forms (Pl. 15, Figs. 1-30). More than three quarters of the projectile points are stemmed and side-notched forms; the rest range from corner-notched through lozenge, semi-lozenge, fishtail, lanceolate, pentagonal, triangular, triangular with eared base, and trianguloid forms. Stemmed and side-notched spearpoints (Pl. 15, Figs. 31-32) are present. Scrapers of stemmed, plano-convex, crescent, disc, and elongate forms are represented (Pl. 15, Figs. 33-37). Bannerstones of notched and perforated forms are found (Pl. 15, Figs. 38-41). Other artifacts include a fragment of the blade of a plano-convex adze, a plummet-like object, a three-quarter grooved ax, longitudinally notched netsinkers, and cylindrical pestles (Pl. 15, Figs. 42-46). Most of the triangular points, the grooved ax, and the cylindrical pestles may possibly belong to Component B, but the remainder of the artifacts form a distinct complex. The collection from the Grantville site is now in the Rochester Museum of Arts and Sciences and is available for comparative studies when more data on the Preceramic horizon are unearthed.

In summary, there is evidence for the presence of a Preceramic horizon which underlies the ceramic cultures on the coast. The culture is characterized by the predominance of chipped stone projectile points occurring in a wide variety of forms such as stemmed, side notched, corner notched, fishtail, lozenge, lanceolate, pentagonal, and trianguloid, to name a few. Polished stone implements are scarce, but notched and perforated varieties of bannerstones are typical. The rough stone artifacts closely approximate those of the later cultures. Pottery, bone artifacts, and traces of agriculture are absent. The culture is related to Laurentian and Lamoka and is assigned to the Archaic pattern.

<sup>1</sup> Cross, 1941.

<sup>2</sup> Ritchie, 1944.

<sup>3</sup> Johnson and Raup, 1947.

<sup>4</sup> Moorehead, 1922.

## STRATIGRAPHY

Nine multi-component sites are of assistance in determining the chronological positions of the culture complexes (Table 5). The East River and Windsor aspects are well represented stratigraphically in the form of several foci. The Preceramic horizon appears as a stratigraphic unit at two sites and is factored out as a probable stratum in another.

The stratigraphic data from the western part of the area is summarized in the first four columns in Table 5. The East River aspect is stratigraphically later than the Windsor aspect

by intrusive pits, is a component of the Clasons Point focus. Inadequate data on the excavations make it impossible to separate the lower levels culturally with any degree of accuracy, but it is certain that traits of both the North Beach and Clearview foci are present in Throgs Neck I and II. Three components are present at the Grantville site. Component C is separated horizontally from the rest of the site and represents the Clasons Point focus. Components A and B are identifiable in a mixed collection from an area which was not excavated strati-

TABLE 5  
MULTI-COMPONENT SITES IN THE COASTAL AREA

Cultural Identification of Each Component	Western Long Island and Southeastern New York				Eastern Long Island and Connecticut				
	Finch Rock House	Dyckman Street	Throgs Neck	Grantville	Old Field	Laurel Beach (Eagle Hill)	South Woodstock (Basto)	South Windsor	Old Lyme (Black Hall)
	Clasons Point focus	Clasons Point focus	Clasons Point focus	Clasons Point focus	Niantic focus	Niantic focus	Niantic focus	Niantic focus	Niantic focus
				Bowmans Brook focus	Sebonac focus	Sebonac focus	Sebonac focus	Sebonac focus	Sebonac focus
		Clearview focus and North Beach focus	Clearview focus and North Beach focus			Clearview focus			
						North Beach focus	North Beach focus		
	Preceramic horizon	Preceramic horizon		Preceramic horizon					

which, in turn, overlies the Preceramic horizon.

At the Finch Rock House two cultural horizons are separated by a sterile zone. The upper level, Finch II, is a component of the Clasons Point focus, East River aspect, while the lower level, Finch I, is a component of the Preceramic horizon. Three separate layers are identifiable at the Dyckman Street site. Dyckman III represents the Clasons Point focus; Dyckman II contains mixed material attributable to the Clearview and North Beach foci of the Windsor aspect; Dyckman I is preceramic. At the Throgs Neck site three levels are present. Throgs Neck III, represented largely

graphically. Component B is identifiable as Bowmans Brook focus, East River aspect. Component A appears to be preceramic. The identification was made by selecting the traits which occur at single-component sites representing the East River aspect. When this was done there remained a collection of stone artifacts resembling those found in the Preceramic horizon.

The stratigraphy of the eastern part of the area is summarized in the last five columns of Table 5. All the multi-component sites are attributable to the Windsor aspect and demonstrate the stratigraphic relationships of the foci, with the possible exception of Orient. The



Shantok, East River, and preceramic complexes are not represented stratigraphically. The first is found in the form of single-component sites, but the latter two are absent in the area.

Most of the sites on eastern Long Island are components of the Sebonac focus. At the Old Field site two components are identifiable. Component B is represented by intrusive pits containing artifacts attributable to the Niantic focus of the Windsor aspect. The pits representing Component B intrude into pits and a layer of refuse called Component A which is identifiable as Sebonac focus. The Clearview focus has not been isolated on eastern Long Island, but fewer collections have been studied there, and it is probable that it will be found when more work is done. The North Beach focus has not been found as a complex, but sherds attributable to it occur in surface collections and as minority wares in Sebonac sites. For example, one sherd of Vinette interior cord marked is present in the collection from the Sebonac site and *may be* one of the sherds that Harrington<sup>1</sup> found in association with stemmed projectile points below refuse belonging to the Sebonac focus. The Orient focus is not represented stratigraphically, but the pottery is more closely related to that of the North Beach focus than to any of the other complexes, thus suggesting contemporaneity for the two.

Rouse<sup>2</sup> supplies data on multi-component sites in Connecticut by using my preliminary outline<sup>3</sup> as a guide for the identification of the components. At the Laurel Beach, or Eagle Hill, site he finds components of all the foci of the Windsor aspect. The stratigraphic relationship of the component of the Orient focus is not clear, however. Listing the components from early to late, he finds North Beach, Clearview, Sebonac, and Niantic. The sequence at the South Woodstock, or Basto, site is North Beach followed by Sebonac and Niantic,

with Clearview missing. At both the South Windsor site and the Old Lyme, or Black Hall, site he finds Niantic pottery over Sebonac pottery. He also notes that Shantok and East River trade sherds are found in Niantic sites but that only East River trade sherds are found in Sebonac sites. Data from Long Island support this. I find Shantok trade sherds in the Massapeag focus, the latest division of East River. The Clasons Point focus yields Niantic and Sebonac trade sherds. East River sherds of the Bowmans Brook variety are present at the Clearview site in association with Windsor sherds of the Clearview variety. This suggests an overlap in time for the earliest manifestation of the East River aspect, the Bowmans Brook focus, and the latest western manifestation of the Windsor aspect, the Clearview focus. The possibility of a secondary occupation by people using Bowmans Brook pottery cannot be eliminated, because the site was disturbed by construction work prior to my excavations.

In support of the stratigraphic record we have the occurrence of European trade material in the Shantok aspect, in the Massapeag and Clasons Point foci of the East River aspect, and in the Niantic focus of the Windsor aspect. Documentation shows that the Massapeag focus and the Shantok aspect are definitely post contact. Furthermore, the seriation of certain ceramic traits within the East River and Windsor aspects reflects the conclusions drawn from the stratigraphy.

In summary, the Preceramic horizon underlies all of the other cultures in the western part of the area, but has not been found in the eastern part. The North Beach and Clearview foci of the Windsor aspect occur between the Preceramic horizon and the East River aspect in the west. In the east the East River aspect is absent and the Windsor aspect extends, in the form of the Sebonac focus, from the time of the introduction of pottery in the North Beach focus to the advent of the European colonists in the Niantic focus. The Shantok aspect appears to be contemporaneous with the Massapeag focus of East River and with the Niantic focus of Windsor.

<sup>1</sup> Harrington, 1924, 245.

<sup>2</sup> Rouse, 1947.

<sup>3</sup> Smith, 1947.

## INTERPRETATIONS

IN THE PRECEDING SECTIONS I have described the geographic area, outlined the distribution of the tribal groups in the historic period, and presented some documentary data on the nature of the culture of the people who inhabited Long Island. Supplementary data on historic sites will be found in Appendix B (p. 159). I have also presented the archaeological data, organized by aspect and focus, according to the system set forth by McKern.<sup>1</sup> I have worked backward through time from the historic into the prehistoric, using the direct historical approach to the problem. Now I propose to summarize and to interpret the data on areal, temporal, taxonomic, and documentary grounds, making comparisons with data from outside the area of coastal New York.

Within the area centering around coastal New York and extending from northeastern New Jersey eastward, on both sides of Long Island Sound, to Martha's Vineyard, Massachusetts, four culture complexes are present: the Preceramic horizon and the Windsor, East River, and Shantok aspects. The distribution of the four complexes divides the area into eastern and western subareas: the Shantok and Windsor aspects in the east and the East River and Windsor aspects and the Preceramic horizon in the west. Further investigation will probably extend the distribution of the Preceramic horizon to the east.

It has been demonstrated stratigraphically that in the west the Windsor aspect underlies the East River aspect and is superimposed on the Preceramic horizon. In the east the Shantok aspect is contemporaneous with the latest stage of the Windsor aspect, both of them surviving into the historic period. Originally the Windsor aspect encircled Long Island Sound. Later the East River aspect intruded in the west and the Shantok aspect in the east, thus limiting the distribution of the Windsor aspect to isolated portions of the eastern subarea. All three aspects are present in the early seventeenth century; the Preceramic horizon probably antedates 700 A.D. throughout the area.

Coastal New York is peripheral to the main centers of cultural development in North America, yet certain cultural changes that occurred in the course of time over most of the

eastern portion of the continent are reflected in the archaeological record. Wherever agriculture was practised and pottery was made in the historic period, archaeological research has projected the record backward into the prehistoric past and has eventually reached an underlying cultural horizon devoid of pottery and traces of agriculture and characterized by hunting and gathering as the basic economic pursuit.

The same trend is present in coastal New York. Denton<sup>2</sup> states that the Indians of Long Island raised maize but also engaged in fishing and hunting. Dankers and Sluyter<sup>3</sup> support Denton and go into greater detail on the subject. Archaeologically the evidence for hunting, gathering, fishing, and agriculture is overshadowed by the abundant evidence of shellfish collecting at most of the sites. In the Preceramic horizon, however, there was obviously a greater emphasis on hunting. For example, excavation at the Grantville site produced very few shells and an abundance of chipped stone projectile points and implements for working hides as compared with later sites in which shells are abundant and chipped stone implements comparatively scarce. The shellfish gathering seems to have been the most important pursuit from about the time pottery was introduced until the termination of the archaeological record. The cultivation of maize was introduced at approximately the same time as pottery and, judging from the relative scarcity of hunting implements in late prehistoric and historic sites, it was only second in importance to the collection of shellfish. Incomplete data from the earlier periods and the peripheral position of the cultures on the coast throughout time both militate against complete agreement between the coast and the interior.

In his study of the archaeology of New York State, Ritchie<sup>4</sup> recognizes four major time levels which he designates as Archaic, Intermediate, Late Prehistoric, and Historic. All four periods are identifiable on the coast, but not all the specific criteria assembled by Ritchie are applicable there. The data from the Archaic period are meager on the coast. There is no

<sup>1</sup> McKern, 1939.

<sup>2</sup> Furman, 1845.

<sup>3</sup> Murphy, 1867.

<sup>4</sup> Ritchie, 1944, 319-320.

evidence of the mound building that characterizes the Intermediate period in the interior. The Late Prehistoric period conforms best of all with Ritchie's criteria. He presents few data on the Historic period.

The Archaic period on the coast agrees with Ritchie's chief criteria which are "the absence of horticultural traces, ceramics, and the smoking pipe."<sup>1</sup> Additional parallels are present in the abundance of a wide variety of chipped stone projectile points, the occurrence of bannerstones, and the absence of copper ornaments and shell artifacts. However, bone and copper tools which are present in the interior are absent on the coast. In the interior, pottery appears towards the close of the period, but I assign the earliest pottery-producing sites on the coast to the Intermediate period. Ritchie finds that the "problematical" polished stone objects, with the exception of the bannerstone, are absent. At the Grantville site on the coast, one crude plummet is accompanied by bannerstones. For the coast, data on burials are completely lacking, so that it is impossible to make comparisons with inland mortuary practices. On the coast the period is best characterized by the absence of horticulture, pottery, smoking pipes, bone tools, copper ornaments and tools, shell artifacts, and "problematical" forms other than the bannerstone and the plummet. Positive traits are an economy centering in hunting, fishing, gathering, and the collection of shellfish; the presence of a wide variety of chipped stone artifacts, and the occurrence of the bannerstone and plummet. One antler flaker is known. The classification of the culture complexes has not proceeded beyond the designation "Preceramic horizon." The culture resembles Laurentian and Lamoka.

The Intermediate period is not so easily correlated with the same time level in the interior. The data agree with Ritchie's criteria of fewer chipped stone artifacts, a limited variety of bone tools, the presence of Woodland pottery in varieties suggesting Adena and Hopewell, the practice of horticulture, and, to some degree, the presence of an elaborate mortuary complex, although mounds are absent. Contrary to the criteria established for the interior, the coast lacks the polished stone "problematical" objects, except for an occasional bannerstone and a simple pendant. No copper tools or orna-

ments are known from the sites studied. Pipes are unknown except at the Clearview site which contains an admixture of later East River pottery. The Orient focus which is characterized by cremated bones in large pits associated with a wide variety of chipped, ground, and polished stone artifacts is the only culture at all comparable in terms of richness of the mortuary complex.

The pottery of the period is of simple Woodland varieties, typified by the elongate jar with a pointed bottom, little or no shoulder, and a straight rim which rises vertically or slopes inward. A few rims flare slightly. Most vessels are roughened on both the interior and exterior surfaces by cord marking, brushing, or dentate stamping. Relatively few rims are decorated. Dentate stamping, cord-wrapped stick stamping, and crude incising are present. Grit temper is typical, although shell temper appears towards the close of the period. The term Windsor style is assigned to this pottery.

Significant additions to the inventory for this period on the coast are rectanguloid and bowl-shaped steatite vessels with lug handles and the bone awl with side-notched base. The culture was apparently derived from the underlying Preceramic horizon with pottery making, bone artifact manufacture, and mortuary practices coming from the interior. It is important to note that most of Ritchie's data are derived from burial sites, while mine stem largely from habitation sites. Furthermore, many Archaic period traits survive into the Intermediate period on the coast. The Intermediate period is represented by the earlier foci of the Windsor aspect, the North Beach, Orient, and Clearview foci.

The Late Prehistoric period is easily correlated with the same period in the interior. The variety and relative prevalence of chipped stone artifacts are more limited than in the preceding period. The broad triangular, concave or straight based, projectile point is especially characteristic. Polished stone artifacts are rare. Disc-shaped pendants and rectanguloid gorgets are the only "problematical" objects present. Artifacts of bone and antler appear in a wider variety of forms. Occasionally a tubular bead of rolled sheet copper is found. Elbow-shaped and straight conical pipes of clay or polished stone are present.

Woodland pottery occurs in three styles:

<sup>1</sup> Ritchie, 1944, 321.

Windsor, East River, and Shantok. The East River style suggests the pottery of the Owasco and Iroquois aspects, while the Shantok style is reminiscent only of the Iroquois. Although the Windsor style is a survival of the pottery tradition that typified the Intermediate period, it exhibits the effects of diffusion from the interior in that it incorporates some of the characteristics of Owasco and Iroquois pottery. Especially significant in this period is the globular vessel with collared rim, rounded bottom, and pronounced shoulders. The body may be cord marked or plain. The rim is covered with incised or stamped lines. Shell temper is more prevalent than previously, but grit temper often predominates.

Mortuary practices are simple, usually consisting of flexed burials accompanied by few, if any, grave goods. The meager data available imply the use of round or oval houses with dome-shaped roofs. Horticulture is more important than in the preceding period. Although wampum appears towards the close of the period, it is not characteristic of the period as a whole.

The period marks the intrusion of the East River and Shantok aspects into the coastal area where the Windsor aspect survives. The East River aspect is represented by the Bownans Brook, Rosenkrans Ferry, and Clasons Point foci. However, a few of the later components of the Clasons Point focus belong to the subsequent period. The Shantok aspect is represented by one component, the Noank site, in Connecticut. The Windsor aspect survives in the form of the Sebonac focus and the earlier components of the Niantic focus.

Ritchie does not establish any criteria for the Historic period because his study is limited to the culture complexes that preceded the Iroquois aspect, a culture which appears in the Late Prehistoric and continues into the Historic period. The data on the coast indicate that the cultures of the Historic period are direct outgrowths of those found in the preceding period. All the traits listed for the Late Prehistoric continue in diminishing ratios, making way for the addition of artifacts of European manufacture.

Specific differences are the prevalence of wampum, the larger quantities of pottery suggesting that of the Iroquois aspect, the use of rectanguloid fortifications, the presence of long

rectangular and round houses, and the addition of numerous objects of European origin, especially long slender smoking pipes of white kaolin.

The East River, Shantok, and Windsor aspects survive into the seventeenth century. The East River aspect occurs as the very latest component of the Clasons Point focus and as the Massapeag focus. The Shantok aspect occurs as the Fort Shantok, Fort Corchaug, and Pantigo foci. The Windsor aspect in the form of the Niantic focus has a restricted distribution. On documentary and distributional grounds, these culture complexes are identifiable with Algonkian-speaking peoples.

The archaeological cultures have been discussed in terms of their distribution in time and space. I shall now consider their basic relationships, trace the development of each within the area, and demonstrate their relations to cultures in adjacent areas. Two patterns are present on the coast: Archaic and Woodland. The Archaic pattern, represented by the Pre-ceramic horizon, is not divided further. The traits summarized above for the Archaic period also serve to differentiate the pattern. I am in general agreement with Sears<sup>1</sup> who suggests that the Archaic pattern might be called "Pre- or Non-Pottery Woodland" because it differs from the Woodland pattern, principally, in the absence of pottery and agriculture but closely resembles it in most of the other traits. The meager data available from coastal sites suggest basic relationships with the Old Stone Culture as described by Strong<sup>2</sup> and with Laurentian and Lamoka analyzed by Ritchie.<sup>3</sup> The tide-water sites have less in common with the Lamoka focus, of undetermined aspect, than with the Brewerton focus of the Laurentian aspect. No phases or other subdivisions are established for the Archaic pattern on the coast.

The Woodland pattern includes all the pottery-using cultures found on the coast and persists throughout the Intermediate, Late Prehistoric, and Historic periods. The pattern has been established by the Woodland Conference which convened in 1941<sup>4</sup> on the basis of a detailed study of the traits found in eastern North America. A majority of the traits is shared by the manifestations in the tidewater

<sup>1</sup> Sears, 1948.

<sup>2</sup> Strong, 1930.

<sup>3</sup> Ritchie, 1938, 1944.

<sup>4</sup> Anonymous, 1943.

area. Generally speaking, the Woodland pattern is differentiated from the Archaic pattern by the presence of agriculture and pottery, although hunting, gathering, fishing, and the collection of shellfish continued to be important.

Under the Woodland pattern the Owasco aspect is assigned to the Northeastern phase,<sup>1</sup> but none of the other aspects segregated under this pattern is assigned to a phase. I suggest that the East River and Shantok aspects belong with the Owasco aspect under the Northeastern phase. The Windsor aspect is certainly a part of the Woodland pattern, but I would not classify it in the Northeastern phase. Perhaps a "Coastal" phase which might comprise the Windsor aspect and other cultural manifestations in New Jersey and New England about which so little is known would be in order here. Ritchie<sup>2</sup> classifies the Schermerhorn and Van Orden sites in the Hudson Valley and the upper level of the Lamoka site in central New York under his Coastal aspect. Perhaps these components will be classifiable under new taxonomic headings within the Coastal phase when the data are published in full. Many of the traits appear to be similar to, but not identical with, those found in the Windsor aspect. At this writing it seems best to proceed with the relationships of the more concrete taxonomic concepts, the aspects and foci.

The Windsor aspect has the widest geographic and temporal distribution. It occurs throughout the area under study, extending eastward from the Hudson River on both sides of Long Island Sound, probably as far as Martha's Vineyard in Massachusetts. It appears at the beginning of the Intermediate period and continues through the Late Prehistoric into the Historic period. In terms of estimated dates this would be from about 700 to 1700 A.D. The East River aspect is more restricted in its geographic and temporal distribution. It is limited to the western half of the area, extending eastward from the Hudson River on both sides of Long Island Sound to the Nissequogue River on Long Island and probably to the Housatonic River in Connecticut. It is first recognized at the beginning of the Late Prehistoric period and extends into the Historic period, or from about 1100 to 1700 A.D., according to our approximate

dates. Of the three, the Shantok aspect has the most limited geographic and temporal distribution. It is confined to the part of the eastern half of the area not occupied by the latest stage of the Windsor aspect (Niantic focus). The Shantok aspect is found along the Thames River in southeastern Connecticut and on the eastern end of Long Island in New York. It appears at the very close of the Late Prehistoric period and extends into the Historic period, or from about 1600 to 1750 A.D.

The Windsor aspect consists of the North Beach, Orient, Clearview, Sebonac, and Niantic foci, which, except for the Orient focus, are interpreted as developmental stages. The Orient focus is considered contemporaneous with North Beach. The most widespread distribution occurs during the Intermediate period in which the North Beach, Orient, and Clearview foci occur. The North Beach focus, with respect to similarity in pottery, extends from the Hudson River to Martha's Vineyard. The Clearview focus extends from the Hudson River into Connecticut, but has not been found on eastern Long Island. The Orient focus is limited to eastern Long Island and southern Connecticut. In the Late Prehistoric period the Sebonac focus is confined to Connecticut and eastern Long Island. In the Late Prehistoric and Historic periods the Niantic focus has a more restricted distribution within the area where the Sebonac focus formerly held sway.

The earliest occurrence of agriculture in the coastal area is in the North Beach focus, the charred remains of maize and beans having been found at the Matinecock Point component by Harrington.<sup>3</sup> No data on house types are available. The three components from which the bulk of the data were obtained, Matinecock Point, North Beach, and Pelham Boulder, contain relatively few of the bowl-shaped pits so characteristic of other cultural manifestations in the area. This suggests two possible interpretations: either the inhabitants did not store food in subterranean caches or they had little food of the sort that could be stored in such a way. Perhaps the greater reliance upon the cultivation of maize and beans in the later foci increased the use of pits for storage purposes.

The North Beach focus has its closest parallels in the content of the upper levels of the Robinson and Oberlander components of the

<sup>1</sup> Ritchie, 1944.

<sup>2</sup> Ritchie, 1944, 106-112.

<sup>3</sup> Parker, 1922.

Brewerton focus of the Laurentian aspect and in the lower level of the Vinette component of the Point Peninsula focus of the Vine Valley aspect, all situated in central New York.<sup>1</sup> Similarity to the artifacts found at the Hornblower site in Massachusetts by Byers and Johnson<sup>2</sup> is also noted. The North Beach focus shares pottery, which is cord marked or brushed on both the interior and exterior surfaces, with the sites in central New York and in Massachusetts. Furthermore, there is a similarity in the prevalence of stemmed and side-notched projectile points as opposed to triangular forms with concave or straight bases. More remote relationships for the pottery of both the North Beach and Orient foci are found in the pottery of the Adena aspect,<sup>3</sup> especially in the type Fayette thick.<sup>4</sup> The simple form of vessel is shared with both of the foci in question: the interior cord marking with North Beach, and the knobs on the rim with Orient. Ritchie has called the interior cord-marked pottery Vinette 1, while I have not only expanded his definition<sup>5</sup> by including the traits of shell temper and flattened bottoms but have designated it as Vinette interior cord marked. Griffin<sup>6</sup> finds that interior cord-marked pottery is typical of early ceramic horizons throughout northeastern United States from Nebraska<sup>7</sup> to Massachusetts.<sup>8</sup> He adds that it appears in the earliest Woodland sites and extends into the Hopewellian period. Recognizing its broad cultural and geographic distribution he has designated the ware as Woodland cord marked. The interior cord-marked pottery is valuable in determining the temporal position of a site, but it is of little assistance in establishing cultural ties at the level of the focus and aspect.

The Orient focus is known only from burial sites on eastern Long Island<sup>9</sup> and in Connecticut.<sup>10</sup> I interpret the focus as the burial complex of the people responsible for the North Beach focus. This is based upon certain traits common to the North Beach and Orient foci, viz., simple

pottery vessels with elongate bodies, tempered with grit and covered with cord marking; steatite vessels with lug handles; stemmed and side-notched projectile points, including the variety known as the fishtail. The richness of the grave goods suggests a temporal relationship, at least, with the mortuary practices prevailing in the Adena, Hopewell, and Vine Valley cultures. Ritchie<sup>11</sup> has pointed out that there may be some relationship with the finds made by Hawkes and Linton<sup>12</sup> south of Trenton, New Jersey, and with the Red Paint culture of Maine.<sup>13</sup> Intensive work on eastern Long Island may disclose village sites which are more closely related to the Orient focus than those classified as North Beach focus on western Long Island. North Beach pottery is found in collections from both Connecticut and eastern Long Island. In view of the uniformity of the cultures of Connecticut and eastern Long Island throughout the Intermediate period, I cannot subscribe to Ritchie's suggestion that the focus represents burial expeditions from the mainland. Actually, the Orient focus may have had a circum-Long Island Sound distribution.

The Clearview focus succeeds the North Beach focus, and probably the Orient, in time. Although the Clearview focus is distributed, at least ceramically, from Manhattan Island through western Long Island and the mainland of New York into Connecticut, few sites are attributable to it. It has not been found as yet on eastern Long Island. Apparently the focus was of brief duration and represents a transition from North Beach into Sebonac. None of the sites has produced sufficient data to permit detailed comparisons with other foci within the Windsor aspect. The pottery shares the same simple vessel forms with the North Beach focus, although the flattened bottom seems to be absent. Shell temper is more prevalent than previously, and dentate stamping on both the interior and exterior of the vessels is present. Interior cord marking is absent or extremely rare; interior and exterior brushing is common. Very few pits are present in the sites, and there are no data on the house type. In the western part of the area the focus may be partially contemporaneous with North Beach and may have lasted long enough to come in contact

<sup>1</sup> Ritchie, 1944.

<sup>2</sup> Byers and Johnson, 1940.

<sup>3</sup> Webb and Snow, 1945.

<sup>4</sup> Griffin, 1943.

<sup>5</sup> Ritchie, 1944.

<sup>6</sup> MS.

<sup>7</sup> Hill and Kivett, 1941.

<sup>8</sup> Byers and Johnson, 1940.

<sup>9</sup> Ritchie, 1938, 1944.

<sup>10</sup> Rouse, personal communication, March 26, 1948.

<sup>11</sup> Ritchie, 1944.

<sup>12</sup> Hawkes and Linton, 1916.

<sup>13</sup> Moorehead, 1922.

with the East River aspect. In Connecticut<sup>1</sup> Clearview pottery is later than North Beach and earlier than Sebonac on stratigraphic grounds. At the Clearview site on western Long Island the focus may be associated with pottery attributable to the East River aspect, probably the Bowmans Brook focus.

The closest parallel outside the boundaries of the coastal area is between the ceramic type Clearview stamped and Ritchie's Vinette 2.<sup>2</sup> Both share simple vessel forms and dentate stamping which often occurs on the interior and exterior of the vessels. The type Windsor brushed also suggests Vinette 2, but the relationship is less marked. Vinette 2 occurs in the upper levels of the Robinson and Oberlander components of the Brewerton focus of the Laurentian aspect and in the upper level, above Vinette 1, in the Vinette component of the Point Peninsula focus of the Vine Valley aspect in central New York. The stratigraphic occurrence of Vinette 2 over Vinette 1 in central New York is substantiated on the coast where Clearview stamped occurs over Vinette interior cord marked. The meager data on other artifacts in the Clearview focus make it impossible to draw valid conclusions, but it is significant that triangular points are rare in the Clearview focus as well as in the cultures of central New York which produce similar pottery. The data indicate that the Clearview focus is a direct outgrowth of the North Beach focus and that it lasted only a short time. At the end of the brief career of the Clearview focus on western Long Island, the East River aspect usurped the territory, limiting the Windsor aspect to the eastern half of the tidewater area. In the eastern part of the area the Sebonac focus probably developed out of the Clearview focus.

The Sebonac focus follows the Clearview focus in time and covers eastern Long Island and most of Connecticut. It is more localized than the North Beach and Clearview foci and exhibits few ties with cultures outside the tidewater area. More data are available on the Sebonac focus because of the detailed reports on the Sebonac site by Harrington,<sup>3</sup> and on the South Woodstock and Old Lyme sites by Praus.<sup>4</sup> Supplementary data, principally on the

pottery, come from the work of Rouse<sup>5</sup> and from my analysis of unpublished collections at the Museum of the American Indian, Heye Foundation. Although actual remains of maize and beans are not reported, there is little reason to doubt that agriculture was practised. The sites usually contain numerous refuse-filled storage pits, and the late position of the focus suggests that horticulture was practised as it was in earlier and later times. The house type is the round or oval hut, probably covered with thatch.

At the Sebonac site a few cord-wrapped stick-stamped sherds also have deep punctates which raise bosses on the interior surface, suggesting the ceramic type Wickham Punctate which Ritchie,<sup>6</sup> on the basis of his excavations at the Wickham site at Brewerton in central New York, assigns to the Point Peninsula focus of the Vine Valley aspect. The sherds from the Sebonac site are by no means identical with Wickham Punctate and may represent a survival of an old variety of pottery in the relative isolation of far eastern Long Island. Windsor brushed also suggests the type Vinette 2, but is not identical with it. In general, however, the Sebonac focus has few traits in common with contemporaneous cultures. As Rouse<sup>7</sup> has pointed out, the establishment of the East River aspect around the mouth of the Hudson and an Owasco-like culture in western Massachusetts led to the isolation of the Sebonac focus.

The Niantic focus, which follows the Sebonac focus in chronological sequence, is limited to parts of Connecticut and eastern Long Island. Full interpretation of the complex must await the publication of the data from the collections in the possession of Edward Rogers and the Peabody Museum of Natural History at Yale University. At this writing the focus is known from the intrusive pits at the Old Field site on eastern Long Island, the Indian River site,<sup>8</sup> and several components mentioned by Rouse<sup>9</sup> and classified solely on the basis of pottery. Neither the Old Field site nor the Indian River site is suitable for the proper definition of the focus, because at the former it is impossible

<sup>1</sup> Rouse, 1947.

<sup>2</sup> Ritchie, 1944.

<sup>3</sup> Harrington, 1924.

<sup>4</sup> Praus, 1942, 1945.

<sup>5</sup> Rouse, 1945, 1947.

<sup>6</sup> Ritchie, 1946.

<sup>7</sup> Rouse, 1947.

<sup>8</sup> Rogers, 1943.

<sup>9</sup> Rouse, 1947.

to separate the Niantic traits from the Sebonac traits, while at the latter the large quantities of East River and Shantok pottery suggest extensive trade or, possibly, cultural blending.

A circular post-mould pattern, suggesting a small, dome-shaped house, is present at the Indian River site,<sup>1</sup> and refuse-filled pits abound at all components. In a few of the sites in Connecticut,<sup>2</sup> trade material of European origin places part of the focus within the seventeenth century. Other sites are prehistoric. The pottery is essentially a development out of the Sebonac focus, but the principal change is attributable to diffusion from the Northeastern phase. Especially characteristic of the focus are vessels with globular bodies, rounded bottoms, constricted necks and incipient, or channeled, collars which bear stamped or, rarely, incised designs. Shell temper is more prevalent than grit, and the bodies are often plain or cord marked, although the earlier technique of brushing probably continues. The globular-bodied vessels with the collared rim suggest borrowing from the East River, Shantok, Owasco, and Iroquois aspects. Trade pottery from all four aspects is present at components in Connecticut, according to Rouse.<sup>3</sup> On Long Island the influence of the Clasons Point focus of the East River aspect appears to have been strong. The meager data on non-ceramic traits suggest the prevalence of triangular points of chipped stone and well-made awls and needles of polished bone. Stratigraphy in Connecticut and on eastern Long Island demonstrates that the Niantic focus is later than the Sebonac focus.

The origin of the Windsor aspect is probably linked with that of the underlying Preceramic horizon with which the North Beach focus shares some non-ceramic traits, such as stemmed and side-notched projectile points and the bannerstone. Ceramically, the Windsor aspect seems to have received diffused traits from contemporary cultures to the west and north such as the Brewerton focus, the Point Peninsula focus, the Adena aspect, the Hopewellian phase, the Castle Creek focus, and the Iroquois aspect. On the coast it was influenced by the East River and Shantok aspects. An origin towards the south is suggested in the brushed-surface finish which is characteristic of the

Chesapeake-Potomac pottery illustrated by Holmes.<sup>4</sup> Fabric-marked pottery and the grooved ax also suggest southern affinities.

The East River aspect is composed of the Bowmans Brook, Clasons Point, and Massapeag foci which are interpreted as developmental stages. In northeastern New Jersey the Rosenkrans Ferry focus is contemporaneous with the Clasons Point focus.<sup>5</sup> The East River aspect has a more limited distribution than the Windsor aspect and occurs only in the western half of the tidewater area. The Bowmans Brook focus, restricted to the Late Prehistoric period, occurs on western Long Island and northern Staten Island. Further research may extend its distribution to the mainland of New York State. The earlier components of the Clasons Point focus belong to the Late Prehistoric period, the later components to the Historic period. The focus is distributed over western Long Island, probably over Staten Island, and extends across Manhattan Island into Westchester County on the mainland. It probably reached the Housatonic River in Connecticut where large amounts of East River pottery occur as trade pieces at the Indian River site.<sup>6</sup> The Massapeag focus is limited to a single component on western Long Island, occupied in the first half of the seventeenth century.

The sequence of three foci within the East River aspect has its closest parallel in central New York where the Owasco aspect is followed by the Iroquois aspect.<sup>7</sup> In the occurrence of certain ceramic traits, the Bowmans Brook focus suggests the Canandaigua focus, the earliest stage within the Owasco aspect. The earlier components of the Clasons Point focus have certain ceramic traits which resemble some in the Castle Creek focus, the closing stage within the Owasco aspect. The later components of the Clasons Point focus and the single component representing the Massapeag focus share additional ceramic traits with both the Castle Creek focus and the Iroquois aspect. The East River, Owasco, and Iroquois aspects also have other traits in common which have less significance as time markers within the complexes.

In the Bowmans Brook focus the ceramic type Bowmans Brook stamped exhibits the

<sup>1</sup> Rogers, 1943.

<sup>2</sup> Rouse, 1947.

<sup>3</sup> Rouse, 1947.

<sup>4</sup> Holmes, 1903, Pl. 139.

<sup>5</sup> Cross, 1941.

<sup>6</sup> Rouse, 1947.

<sup>7</sup> Ritchie, 1938, 1944.



same traits as some of the vessels and sherds illustrated by Ritchie,<sup>1</sup> elongate shape with flaring rim, cord-marked surface finish, cord-wrapped stick-stamped decoration, and grit temper. The principal differences lie in the relative simplicity of the decorative designs found on the Bowmans Brook sherds as compared with the complex designs found on the Canandaigua specimens. The type Bowmans Brook incised is suggested by an elongate vessel with pointed bottom, constricted neck, and straight rim illustrated by Ritchie.<sup>2</sup>

The Clasons Point focus, especially its earlier components, contains pottery suggesting that found in the Castle Creek focus. Typical of both foci are vessels with elongate-globular bodies, collared rims, cord-marked surface finish, and stamped-rim decoration. The type Van Cortlandt stamped, which bears cord-wrapped stick-stamping, is closest to the pottery of the Castle Creek focus, although the designs on the former are less complex. Clasons Point stamped, which is stamped with scallop shells, may be more remotely related. The vessels in Ritchie's Pls. 13, 16, and 21<sup>3</sup> bear the closest resemblances to those found in the Clasons Point focus. The later components of the Clasons Point focus contain the types named above, in addition to the type Eastern incised which also predominates in the meager collection from the Massapeag focus.

Eastern incised is a tentative category which includes all the vessels designated as "Iroquois" in earlier works. Undoubtedly, when the pottery of the Iroquois aspect is classified according to types it will be possible to subdivide Eastern incised.<sup>4</sup> It resembles Mohawk-Onondaga pottery more than any other<sup>5</sup> in that it has the same globular body, constricted neck, well-developed collar, plain surface finish, and incised decoration. Most of the sherds found on the coast appear to be local products rather than trade pieces; however, further study may reveal actual trade pieces. The occurrence of Eastern incised in the later components of the Clasons Point focus and in the Massapeag focus and the predominance of Castle Creek-like

forms in the earlier components of the Clasons Point focus reflect the changes observed in central New York in the shift from Owasco to Iroquois.<sup>6</sup> The evidence from the coast indicates that pottery such as Eastern incised is a late Pan-Woodland type and that it is of value in determining the temporal positions of cultures. Like Vinette interior cord marked, an early Pan-Woodland type, it contributes little in the determination of taxonomic ties at the level of the aspect and focus.

Other common traits in the East River, Owasco, and Iroquois aspects are the prevalence of triangular projectile points with straight or concave bases, a well-developed bone industry, and, with a few exceptions, a simple burial pattern. Fortified sites also appear in all three cultures.

The carriers of the East River aspect appear to have moved into coastal New York from New Jersey. Rouse,<sup>7</sup> basing his conclusions on discussions with MacNeish and Wittoft, points out that the East River ceramic tradition is closely related to the pottery from the Overpeck site and Abbott's Farm. It is hoped that with the publication of the data from the two sites a more meaningful interpretation of the archaeology of New Jersey will emerge. The establishment of time perspective there would clarify the situation in coastal New York.

The Shantok aspect includes the Fort Shantok, Fort Corchaug, and Pantigo foci which overlap in their temporal distributions but occur in separate localities. The Shantok aspect has the shortest temporal duration and the most limited spatial distribution of the three pottery-using cultures present on the coast. It is restricted to the region around the Thames River in Connecticut and to the far eastern end of Long Island. All the components from which data are available are historic. Rouse<sup>8</sup> reports Shantok pottery from the prehistoric Noank site in Connecticut, but additional data are lacking. It is postulated that the culture appeared on the coast about 1600 and that it lasted until about 1750.

The temporal position of the Shantok aspect is based upon documentation as well as the occurrence of Shantok pottery in the latest

<sup>1</sup> Ritchie, 1944, Pls. 9, 11, and 24.

<sup>2</sup> Ritchie, 1944, Pl. 8.

<sup>3</sup> Ritchie, 1944.

<sup>4</sup> A study of Iroquois pottery by Richard S. MacNeish is awaiting publication.

<sup>5</sup> Skinner, 1921.

<sup>6</sup> Ritchie, 1938, 1944.

<sup>7</sup> Rouse, 1947.

<sup>8</sup> Rouse, 1945, 1947.

foci of the East River and Windsor aspects. The Fort Shantok site contains European trade goods and is documented as having been occupied prior to and later than 1645. Fort Corchaug is known to have been occupied in 1640 and to have been abandoned prior to 1662. It also contains trade goods assignable to this period. The Pantigo site is dated as late seventeenth century to early eighteenth century on the basis of indirect documentation and the occurrence of trade goods typical of the period. The Fort Shantok focus represents the culture of the Mohegan-Pequot. The Fort Corchaug focus is assignable to the Corchaug, a branch of eastern Metoac. The Pantigo focus is ascribed to the Montauk who also formed part of the eastern Metoac.

The Shantok aspect resembles the Iroquois aspect in certain ceramic traits, the presence of fortified enclosures, and the limited use of stone for tools. The globular body, rounded bottom, constricted neck, pronounced collar, castellations, and incised designs of the pottery of the Shantok tradition are significant traits of the pottery of the Iroquois tradition. The lobes that characterize Shantok pottery are of two varieties: one was formed by pushing the clay out from the inside of the vessel; the other by adding clay on the outside. The arrangement of the lobes in a band encircling the vessel at the base of the collar suggests the series of smaller projections found on Iroquois pots. On the latter, in contrast with the Shantok technique, the effect was produced by notching and the actual removal of clay. Large protuberances resembling those found on Shantok pots appear on certain vessels from the Washington Borough site, a seventeenth century Susquehannock village, in Pennsylvania.<sup>1</sup> Further resemblances are to be found in the vessel forms and in the use of shell as a tempering material. Other vessels from Washington Borough differ from those of the Shantok tradition. At this writing the similarities between the two varieties of pottery can be explained only as convergence. Rouse<sup>2</sup> postulates that Shantok pottery may have developed in the archaeologically unknown portion of the upper Housatonic Valley in western Massachusetts. Perhaps a common origin for the ceramic traits of the Shantok aspect and the

Washington Borough site will be found when all the ramifications of Iroquois archaeology have been studied.

The presence of rectangular fortifications in Iroquois sites in central New York and similar features on the coast suggests the diffusion of the trait to the coast. However, the probability of stimulus or actual assistance from White settlers should be considered. It is known, for example, that the English helped the Mohegan in the building of Fort Shantok.<sup>3</sup>

Artifacts other than pottery vessels and sherds are rare in the Shantok aspect; probably because the availability of European tools had already discouraged the production of the traditional implements. Most of the objects of aboriginal manufacture stem from one component, the site of Fort Shantok, where large quantities of trade materials were also uncovered. Fort Corchaug has produced relatively few artifacts other than potsherds and European trade articles. The Pantigo site yielded hardly any objects of aboriginal manufacture but a profusion of trade goods. At Fort Shantok artifacts of chipped stone are rare. Polished stone artifacts are present. The bone industry is well represented. Rough stone tools are common at both Fort Shantok and Fort Corchaug. The debris resulting from the manufacture of wampum is also abundant at both of these forts. Until more work is done on other sites in the northeast dating from historic times the relationships of the Shantok aspect will remain obscure.

The documentation of components assignable to the Shantok, East River, and Windsor aspects reveals significant correlations between the known distributions of historic peoples and archaeological cultures. Because the Preceramic horizon disappeared with the advent of the Windsor aspect it cannot enter into the problem of tribal identification. It is possible to identify the three major archaeological cultures with certain linguistic, as well as tribal and confederated, groups, but the lack of adequate anthropometric data at all time levels precludes correlation along physical lines. The archaeological record projects the cultures of the identifiable historic groups backward into the prehistoric past where they eventually dissolve in the riddle of Woodland culture origins.

<sup>1</sup> Cadzow, 1936, Pls. 61, 63.

<sup>2</sup> Rouse, 1947.

<sup>3</sup> Peale, 1941, 56.

The Shantok aspect correlates with the Mohegan-Pequot in Connecticut and with the Corchaug and Montauk on eastern Long Island by documentation, thus confirming Speck's contention<sup>1</sup> that the eastern Long Islanders were closely affiliated with the Mohegan-Pequot. This also supports the linguistic grouping of Montauk with Mohegan-Pequot as suggested by Speck,<sup>2</sup> and by Voegelin and Voegelin.<sup>3</sup> By documentation the East River aspect correlates with the Massapequa on western Long Island and on the basis of known distribution with

other western Metoac together with the Wappinger Confederacy and at least some of the Delaware. This supports both Speck's grouping of the western Long Islanders with the Delaware and Skinner's contention that the inhabitants of Manhattan Island were an offshoot of the Unami Delaware.<sup>4</sup> The Windsor aspect correlates in Connecticut with the Nehantic and groups other than the Mohegan-Pequot,<sup>5</sup> but on eastern Long Island correlation with historic groups remains to be demonstrated.

<sup>1</sup> Speck, 1928.

<sup>2</sup> Speck, 1928.

<sup>3</sup> Voegelin and Voegelin, 1941.

<sup>4</sup> Skinner, 1920.

<sup>5</sup> Rouse, 1945, 1947.

## CONCLUSIONS

ARCHAEOLOGY REVEALS the presence of an underlying Preceramic horizon in the western half of the area during the Archaic period, but it has not been found to the east. At this writing the lithic complex cannot be defined as clearly as the later ceramic cultures. The diffusion of pottery making to the coast probably produced the Windsor aspect in its earliest form, the North Beach focus.

In the Intermediate period the Windsor aspect was distributed over the entire area east of the Hudson surrounding Long Island Sound. At the beginning of the Late Prehistoric period, the carriers of the East River culture invaded the western half of the area, and the people responsible for the Windsor culture were relegated to the eastern half. At the beginning of the Historic period the bearers of the Shantok culture invaded eastern Connecticut and spread its influence to eastern Long Island, thus restricting the Windsor aspect to parts of central and coastal Connecticut. Translating this in terms of historic peoples, the ancestors of the Nehantic and probably of other Connecticut and eastern Long Island groups, identified above with the Windsor aspect, once inhabited the entire shore line of Long Island Sound westward to the Hudson and eastward to Martha's Vineyard and eastern Long Island. After several centuries of occupancy the western part of the area was usurped by people ancestral to the Wappinger Confederacy, the western Mentoac and the Delaware, identified above with the East River aspect. The remnants of the people who were the carriers of the Windsor culture became isolated on eastern Long Island and in Connecticut where their mode of life changed under the influence of the intruders. Finally, another invading group, the Mohegan-Pequot, identified above with the Shantok aspect, came in from the northwest and reached the coast in Connecticut where they split the Nehantic into two groups. Cultural traits of the new invaders spread to eastern Long Island where the culture of the Corchaug and Montauk may have changed from Windsor to Shantok. In early historic times the distribution of the three major archaeological cultures, Windsor, East River, and Shantok, coincided with that of tribal groups who met the early settlers.

It is unfortunate that hardly any of the traits

listed by Flannery<sup>1</sup> in her study of the coastal culture are of such a nature that they would be preserved in the archaeological record. Drawing upon ethnographic sources she finds that coastal New York falls within a Central sub-area where Northern Algonkian, Iroquois, and Southeastern traits overlap. Her conclusions are significant, however, in the light of archaeology.

The age-area concept seems to be applicable to the problem. The Archaic period suggests the culture of the Northern Algonkian in that agriculture and pottery are absent and hunting is emphasized. The Intermediate period is transitional into the Late Prehistoric and Historic periods which are marked by an intensification of agriculture and the use of pottery, both characteristic of Iroquoian and Southeastern cultures.

The Northern Algonkian traits could have survived through the medium of the Windsor culture which had its roots largely in the Preceramic horizon. The Iroquoian and Southeastern traits could have been introduced through the invasion of the area by the peoples carrying the East River and Shantok cultures which share more traits with cultures outside coastal New York.

Coastal New York and the immediately adjacent parts of the mainland of New Jersey and New England still offer opportunities for archaeological research. When time perspective is established in the neighboring states even greater significance will attach to the cultural succession revealed in coastal New York. Important fields for future research lie in the documentation of more of the historic sites so that the distributions of the three archaeological culture complexes, Windsor, East River, and Shantok, may be correlated with all the known historic tribes. The exact nature of the relationship of the Orient focus to the Windsor aspect will remain obscure until village sites affiliated with the focus are discovered and excavated on eastern Long Island and in Connecticut. The probability is high that such villages will be components of the North Beach focus as defined farther west. The cultures of the Preceramic period need definition, a goal that can be

<sup>1</sup> Flannery, 1939.

achieved only through the discovery and excavation of more sites. The ultimate origins of all the culture complexes are still obscure because of the lack of adequate data from near-by areas. The sequence established on the coast has withstood the test of comparison with that established by Ritchie<sup>1</sup> for central New York. The archaeology of the surrounding area remains to be analyzed in similar detail. The objective should be to extend the correlations of sequences northward, westward, and southward to meet those established, or yet to be established, elsewhere in North America.

The analysis and interpretations of the data reveal the major outlines of the prehistory of coastal New York and the adjacent state of Connecticut. Three cultures, on the historic

time level, are identifiable with known Algonkian-speaking groups and are traced backward in time. The Shantok culture has the shortest span and appears full-blown upon the coast just prior to the settlement by Europeans in the seventeenth century. The East River culture appeared in much the same way at an earlier time, probably about 1100 A.D. The Windsor culture originally occupied the entire area, but it was restricted to the eastern half of the area by the advent of the East River culture in the west. Later, it was further confined by the movement of and influence of the Shantok culture from the north or northwest. The underlying cultural horizon, which lacks pottery and agriculture, remains obscure but has relationships with the Laurentian culture which may have entered North America from Asia by way of Bering Strait.

<sup>1</sup> Ritchie, 1944.

## APPENDIX A. TAXONOMY

I INCLUDE BELOW an exposition of the taxonomic relationships of the archaeological complexes present in the area. This should be compared with Table 1 in which the temporal and spatial relationships of the foci and aspects are shown. In most cases the foci of a given aspect are interpreted as developmental stages which represent dynamic segments of culture in the process of change. In the Clasons Point focus it has been possible to determine that certain components are later than others on the basis of the presence or absence of specific traits. Exceptions to the interpretation of the foci as developmental stages are to be found in the foci of the Shantok aspect which overlap in time and represent regional variants. Similarly the Rosenkrans Ferry focus of the East River aspect is a regional variant contemporary with the Clasons Point focus of the same aspect. The Orient focus is interpreted as the burial complex of the people whose village remains are classified as North Beach focus. However, until further proof of this is forthcoming it seems expedient to treat the Orient and North Beach foci as separate cultural entities that are contemporary.

### I. Woodland Pattern

#### A. Northeastern

##### 1. Shantok Aspect

- a. Pantigo Focus  
(Component: Pantigo)
- b. Fort Shantok Focus  
(Component: Fort Shantok)
- c. Fort Corchaug Focus  
(Component: Fort Corchaug)
- d. ——— Focus  
(Component: Noank)

##### 2. East River Aspect

- a. Massapeag Focus  
(Component: Fort Massapeag)

##### b. Rosenkrans Ferry Focus

(Components: see Cross, 1941)

##### c. Clasons Point Focus

(Components: Finch II, Soundview, Throgs Neck III, Dosoris Pond, Baker Hill, Clasons Point, Van Cortlandt, Pelham Knolls, Aqueduct, Helicker's Cave, Port Washington, Dyckman III, Grantville C)

##### d. Bowmans Brook Focus

(Components: Bowmans Brook, Wilkins, Grantville B)

### B. Coastal Phase

#### 1. Windsor Aspect

##### a. Niantic Focus

(Components: Niantic, Old Field B, Laurel Beach IV, South Woodstock C, South Windsor II, Old Lyme B, Indian River)

##### b. Sebonac Focus

(Components: Sebonac, Squaw Cove, Soak Hides, Aquebogue, Old Field A, Laurel Beach III, South Woodstock B, South Windsor I, Old Lyme A)

##### c. Clearview Focus

(Components: Throgs Neck II, Clearview, Manhasset Rock, Dyckman II-B, Laurel Beach II)

##### d. North Beach Focus

(Components: Matinecock Point, Pelham Boulder, North Beach, Throgs Neck I, Dyckman II-A, Laurel Beach I, South Woodstock A)

##### e. Orient Focus

(Components: Orient, Site 1; Orient, Site 2; Jamesport Hill, Southampton, Laurel Beach I [?])

### II. Archaic Pattern

#### A. ——— Phase

##### 1. ——— Aspect

##### a. ——— Focus

(Components: Finch I, Dyckman I, Grantville A)

## APPENDIX B. DESCRIPTIONS OF THE ARCHAEOLOGICAL SITES

THE DETAILED DESCRIPTIONS of the archaeological sites are presented in the same numerical order as they appear on the map (Fig. 1). It should be noted that the stratified sites (6, 8, 17, and 18) are grouped under the cultural affiliation of the latest components; in each

case, the East River aspect. Sites assigned to the Windsor aspect and comprising a number of components representing foci within this aspect are also grouped according to the cultural affiliation of the latest component.

### SHANTOK ASPECT

#### PANTIGO SITE

##### Figure 1, Site 1

The Pantigo site is a cemetery situated on the Amagansett road approximately 2 miles east of East Hampton on Pantigo Hill. During 1917 and 1918 the site was excavated by Foster H. Saville for the Museum of the American Indian, Heye Foundation, and a detailed report embodying its documentation as well as an analysis of the contents of the graves was published shortly thereafter. Saville demonstrates that the site "was in use, in all probability, from the latter part of the seventeenth century to the early part, if not the middle, of the eighteenth century."<sup>1</sup> The dating is based upon the laws forbidding the Montauk to enter East Hampton during the smallpox epidemic which began in 1660. This necessitated the establishment of a new cemetery because they had been using one within the village limits. Furthermore, a glass bottle found at the site bears the name of Wobetom, a Montauk chief, who died shortly after 1683. Finally, the excavations yielded two coins bearing the date 1728.

The site yielded flexed and extended burials in nearly equal proportions. Most of the burials were oriented with the head to the east, while a few were oriented to the northeast or southwest. Many of the individuals were wrapped either in textiles of European origin or in skins or bark. Accompanying artifacts were predominantly of European origin and are described and illustrated by Saville. His research has demonstrated that the objects seem to belong to the general period postulated for the occupation of the site on other grounds.

Two complete vessels and one sherd of aboriginal pottery were found. The vessels are

shown in Fig. 1 of Saville's report and are described by him as follows:

The larger vessel is of coarse, light-brown ware, cylindrical, with a flat base. Below the rim is a row of nodes, while at one side, directly on the rim, is a knob-like handle. The only ornamentation, in addition to the nodes, is a punctate one on top and at the end of each of the nodes, and also over the handle. The embellishment seems to indicate that it was applied with the end of a reed or a small bone.

The other earthenware vessel is a small, cylindrical jar, also of coarse light-brown ware, with a flattish base and a row of nodes beneath the rim. As a part of the rim is missing, it cannot be determined whether a projection had originally been provided for use as a handle, as in the case of the larger jar. Although different in form, both specimens seem to be of the ordinary quality of earthenware found on Eastern Algonkian sites.

The potsherd referred to is small, and of plain, coarse brown ware.<sup>2</sup>

Saville is vague in his descriptions of the chipped stone artifacts found at the site. He records two scrapers and six arrowpoints. The shell artifacts include a conical pendant, a piece of perforated East Indian cowry, six tubular beads, and a clamshell containing red paint. Pigment was also found in the form of a hematite paint stone and traces of red oxide in several graves. The specimens are tabulated in the Trait Table, Shantok Aspect.

The inventory of aboriginal material is admittedly meager, but the pottery vessels offer some significant clues to the cultural affiliations of the Montauk at the time the cemetery was in use. The presence of the nodes or applied lobes, the raised rim point, the punctations, the flat bottoms, and the plain surface finish are attributes of the Shantok tradition. An inspection of the vessels through the glass of the display case in the Museum of the American Indian, Heye

<sup>1</sup> Saville, 1920, 74.

<sup>2</sup> Saville, 1920, 87, 88.

Foundation, indicates that the color and texture of the vessels are within the range of the Shantok tradition, but no trace of shell tempering is visible. In one of the vessels a small quartz pebble is included in the paste.

#### FORT SHANTOK

##### Figure 1, Site 2

Fort Shantok is an aboriginal fortification situated on the west bank of the Thames River near Norwich in southeastern Connecticut. The site has not been subjected to systematic excavation, and the details of the structure are not known. Under the leadership of Uncas, the fort was erected by the Mohegan after their separation from the Pequot. It is known to have been in use in 1645, but the actual dates of its erection and abandonment are unknown.<sup>1</sup> Peale states that the English helped the Mohegan in fortifying the site.

Rouse<sup>2</sup> uses a collection of pottery from Fort Shantok as a basis for defining the Shantok style. In terms of types I find Shantok incised to be the only variety represented. The lobes around the rims of vessels from Fort Shantok are predominantly of the bossed rather than of the applied form. The reverse is true at Fort Corchaug. Similarly, the incised lines on rims from Fort Shantok are more often oriented horizontally than diagonally as compared to the rims from Fort Corchaug. Clamshell impressions apparently do not occur, and no plain rims are described. The pottery from the two sites is similar in other characteristics.

Mr. Edward H. Rogers kindly furnished me with a list of the material which he found in his excavations at the fort. The actual specimens were not made available for me to study, but the inventory is included in the Trait Table, Shantok Aspect. It is worthy of note that Fort Shantok is richer in artifacts than Fort Corchaug, thus making comparisons between the two sites difficult.

#### FORT CORCHAUG SITE

##### Figure 1, Site 3

Fort Corchaug is a rectangular earthwork situated on the west bank of Downs Creek at Fort Neck near the village of Cutchogue, Long

Island. According to Tooker<sup>3</sup> and the records of the town of Southold,<sup>4</sup> the fort was still standing when the town was settled in 1640. An entry in the records states, "The Corchaug Indians had here a fort at the time of the settlement of the Town, erected for a refuge and place of security for their women and children in case of invasion and assault by neighboring tribes with whom they were often at war." A deed dated February 16, 1662,<sup>5</sup> refers to the sale of land "lyinge north of the Fourte Neck bounds from the Cartwaye to the spring neare over against wheare the fort did stand." Historic documentation shows that the fort was built prior to 1640 and was abandoned before 1662. Tooker<sup>6</sup> derives the name Corchaug from "Kehchauke, 'the greatest or principal place.'" The word now survives in the form of Cutchogue, the name of the neighboring village.

The site is on a level terrace cut by a small ravine leading eastward to Downs Creek. The surface has not been plowed and is now covered with a dense growth of small oak trees and low bushes growing in sandy soil. During the winter it is possible to trace the outline of the fortification by carefully observing the irregularities in the ground. The walls of the fort consist of a low mound of earth bordered on each side by shallow ditches. The enclosure is rectangular, with bulges at the northwest and northeast corners. It measures approximately 210 feet from north to south and 160 feet from east to west. A pit, approximately 15 feet in diameter and 3 or 4 feet deep, at the northeast corner, is believed to be a well, a storage pit, or sweat-lodge. The diameter of the wall, including the interior and exterior ditches, averages about 20 feet. The mound is rarely more than 6 inches high; the ditches are imperceptible in places but usually range in depth from 3 to 6 inches.

On April 15, 1936, Solecki began a series of excavations which he continued intermittently until 1948. He prepared a detailed report<sup>7</sup> on the construction of the fort and an analysis of the artifacts and generously made his field notes and collection, assembled prior to 1940, available to me for this preliminary study. By digging narrow trenches across the walls of the

<sup>1</sup> Peale, 1941, 52-60, 172-175; Speck, 1928, 258; Rouse, 1945.

<sup>2</sup> Rouse, 1945, 1947.

<sup>3</sup> Tooker, 1911.

<sup>4</sup> Case, 1882.

<sup>5</sup> Case, 1882.

<sup>6</sup> Tooker, 1911.

<sup>7</sup> Solecki, MS.



enclosure at strategic points, Solecki determined that there had been a double stockade on the south and east walls. The west and north walls each supported a single line of posts. Narrow trenches filled with dark soil provide the evidence for the lines of posts. Details concerning the corners of the fort are being worked out from plans based on more recent excavations. The concentration of refuse along the south and east walls and the scarcity of material within the enclosure substantiate the references to the use of the structure as a refuge. The people must have lived just outside the walls and probably threw their refuse against the stockade.

The collection includes one restored vessel (Pl. 8, Fig. 1) and 1086 sherds that are assignable to two different ceramic traditions, Shantok and Windsor. The restored vessel and 1076 of the sherds, all shell tempered, belong to the Shantok tradition as defined by Rouse.<sup>1</sup> Of these, 224 sherds and the restored vessel are assignable to the type Shantok incised which is characterized by combinations of incised lines and punctated impressions. In many instances the lines appear to have been stamped as well as incised with the edge of a clamshell. The remaining Shantok sherds are plain. Two are straight rims from plain vessels (Pl. 9, Figs. 1-9). The restored vessel is typical of Shantok incised. It is 15 inches high, 12½ inches in diameter at the mouth, 11 inches at the neck, and 13 inches at the widest part of the body. Its walls averaged one quarter of an inch in thickness. The body is globular, and the base is slightly conoidal. The constricted neck supports a collared rim which projects outward and is ornamented with triangular lobes, applied on the outside, bearing wedge-shaped punctates. The rim is thickened at the lip which borders a squared mouth. On the lip are four castellations, or rim-points, each bearing an incised line.

Ten sherds assigned to the Windsor tradition were probably on the site before the fort was built. One is identifiable as a variant of Vinette interior cord marked. The others appear to be of the type Windsor cord marked, but their small size precludes final judgment. Six of the Windsor sherds are grit tempered; three contain particles of grit and shell; one has shell only as an aplastic.

An accidentally fired fragment of shell-tempered clay, which may represent part of a coil, and two cylindrical fragments of a clay pipe-stem (Pl. 9, Figs. 19, 21) complete the roster of clay objects.

A listing of the chipped stone projectile points must await the analysis of the collection by Solecki. At the time the material was turned over to me there was some doubt as to whether or not a group of triangular and stemmed points was actually associated with the Shantok pottery. A few chips may have served as scrapers. Most of the hammerstones found at the site are small battered pebbles (Pl. 9, Fig. 14). One large hammerstone of the unpitted variety is present. Flat abrading stones (Pl. 9, Fig. 15) are common, as are fragments of limonite and brown clay stone. The only object of ground stone is a fragment from the stem of a pipe made from soft brown clay stone (Pl. 9, Fig. 20). The bone industry is weakly developed and is represented by three splinter awls, one conical projectile point, and one bone tube (Pl. 9, Figs. 16-18). The site is rich in evidence of the manufacture of wampum. Broken *Busycon* shells form the bulk of the refuse, and over 1000 columellae dressed down as blanks are present. Two blanks detached from the columella, but not drilled, and two completely finished beads (Pl. 9, Figs. 10-12) are present. Clamshells with the purple spot removed offer evidence for the manufacture of "black" wampum.

Objects of European origin are common at the site and are assignable to three categories: 1, artifacts of aboriginal design and workmanship fashioned from materials of European origin; 2, artifacts of European design, workmanship, and material; and 3, amorphous fragments of material of European origin representing broken or reworked artifacts. The first category is represented by triangular projectile points of brass and iron with indented or, more rarely, straight bases (Pl. 9, Figs. 33-36). One brass point is perforated above the indented base and has a fragment of twisted cord left in the hole. The second category consists of iron objects such as awls, a jew's-harp, part of the blade of a sword or large knife, a wedge, fragmentary nails, and a carriage bolt. Brass objects include a jew's-harp, stamped with the letter "R," and the handle of a spoon (Pl. 9, Figs. 27-32). Glass bottles are represented by frag-

<sup>1</sup> Rouse, 1945, 1947.

ments of green and colorless glass. Glazed crockery of two varieties, one brown and one blue-on-gray (Pl. 9, Fig. 26), is present. Fragments of kaolin pipes are abundant throughout the site (Pl. 9, Figs. 22-24). The bowls are barrel shaped and often bear a Tudor Rose or the initials EB on the heel. Most of the stems are plain, but a few have groups of *fleurs-de-lis* in low relief. One crudely chipped gunflint is also present (Pl. 9, Fig. 25).

The recent work by Solecki will undoubtedly add to the inventory of aboriginal and European materials as well as clarify the details of the construction of the fort. The area around

the fort likewise offers an opportunity to obtain stratigraphy in that pottery of the Windsor style appears on the surface of several plowed fields.

#### NOANK SITE

##### Figure 1, Site 4

No details on the Noank site have been published. According to Rouse<sup>1</sup> it is situated in the vicinity of Noank and Groton, Connecticut, and contains pottery of Shantok tradition but is devoid of European trade material. In all probability it represents a period earlier than the other components in the Shantok aspect.

### EAST RIVER ASPECT

#### FORT MASSAPEAG

##### Figure 1, Site 5

Fort Massapeag is a rectangular earthwork situated at the southern extremity of Fort Neck near the village of Massapequa on the south shore near the western end of Long Island. Fort Neck is a narrow finger of dry ground surrounded on three sides by salt marshes. At present a dense growth of brush covers the area occupied by the fort, and it is difficult to see more than 10 feet in any direction. The site has received at least passing reference in nearly every summary of the history of Long Island.

According to Silas Wood,<sup>2</sup> the war in Europe between the British and the Dutch, in the period from 1652 to 1654, influenced the relations of the colonists with the Indians on Long Island. At this time the Dutch controlled the western end of the island, while the British controlled the eastern end. The British recognized the chief of the Montauk as the leader of the Indians, while the Dutch sought the friendship of the Massapequa to insure their protection against the British and the Montauk when hostilities began. There appears to be no contemporary documentation for the legendary attack on Fort Massapeag by one Captain Underhill, but Wood and other historians agree that the enclosure was used by the Massapequa at that time, *ca.* 1654. It is also stated that a secondary palisade was situated south of the

earthworks, but recent encroachment by the adjacent bay has obliterated it.

Two contemporary writers have mislocated the fort. Parker<sup>3</sup> confused the modern village of Oyster Bay with the original extent of the township of the same name and locates the fort on the north shore instead of the south shore of Long Island. Bolton<sup>4</sup> confused Fort Corchaug with Fort Massapeag.

At present the fortification is plainly visible beneath the heavy cover of brush and trailing vines. The earthwork is square in outline except for the northwest corner which has a rounded bastion. The enclosure is formed by an outer encircling ditch and a low mound of earth on the inside. The entire structure measures approximately 100 feet in diameter and is oriented with the walls running in the cardinal directions. Entrances may have been situated at the northeast and southeast corners, since the ditch cannot be traced in these areas. A deposit of refuse lies along the south wall just beyond the ditch. It is approximately 57 feet long and 30 feet wide. The area covered by the refuse has been considerably disturbed by the activity of amateur excavators. A test trench was dug at the east end by the field party of the Flushing Historical Society in 1938. The excavation revealed a layer of marine shells (mostly *Venus mercenaria*, *Busycon carica*, and *B. caniculata*) approximately 4 inches thick and overlain by 1 foot of humus. The layer was

<sup>1</sup> Rouse, 1945, 1947.

<sup>2</sup> Wood, 1824.

<sup>3</sup> Parker, 1922.

<sup>4</sup> Bolton, 1920.

probably thicker at the center of the deposit. The possibility of recent land subsidence or rise in sea level is suggested by the fact that water usually enters any excavation carried deeper than about 2 feet.

The test trench, several test pits, and a survey of the old excavations yielded a collection of 68 badly leached sherds. Over 90 per cent of them are shell tempered and the remainder grit tempered (Table 2, Fig. 2). Fifty-two plain sherds, five incised, and 11 cord-wrapped stick-stamped sherds constitute the collection. The plain body sherds are nearly all shell tempered and are identifiable as Shantok in tradition. One small rim sherd is Shantok incised (Pl. 9, Fig. 38). Most of the other incised sherds are Eastern incised (Pl. 9, Figs. 37, 39). One is identifiable as Bowmans Brook incised. The cord-wrapped stick-stamped sherds (Pl. 9, Fig. 40) cannot be classified as to type and are from a single straight-walled vessel. When compared with pottery from other sites on western Long Island the specimens from Fort Massapeag appear as degenerate survivals of the East River tradition. The sherds of the Shantok tradition are attributed to trade with the people of eastern Long Island.

A narrow triangular projectile point and a triangular drill are the only chipped stone artifacts found (Pl. 9, Figs. 41-42). A few chips may have served as scrapers. Rough stone artifacts include abrading stones and plain hammerstones. One awl made of fishbone is present. The principal industry at Fort Massapeag must have been the manufacture of wampum, for several hundred columellae from the shells of the *Busycon* are present. Some are dressed down and have bead-blanks ready for cutting and perforation at the ends (Pl. 9, Fig. 43). In addition, a few clamshells with the purple spot removed offer evidence for the manufacture of the so-called black wampum. The method of manufacture of wampum found at Fort Massapeag and at other Long Island sites has been treated at some length by Burggraf.<sup>1</sup>

Abundant evidence of trade with Europeans is present. Specimens include a triangular projectile point of sheet copper or brass, tubes of the same material, a brass jew's-harp marked with the letter "R," fragments of green bottle glass, a few pieces of clear glass, some green

glazed pottery, and numerous fragments of seventeenth century kaolin pipes of English manufacture bearing the heel marks "EB" or the Tudor Rose (Pl. 9, Figs. 44-51). The specimens from the site are tabulated in the Trait Table, East River Aspect.

No evidence of occupation was found within the enclosure. Collectors have found large quantities of pottery and other material about 1000 yards northeast of the fort, but the specimens are not available for study. It is suggested that the fort served as a refuge rather than as a permanent site.

### FINCH ROCK HOUSE

#### Figure 1, Site 6

The Finch Rock House was excavated by Harrington for the American Museum of Natural History in 1900. Harrington<sup>2</sup> has described the excavations and the contents of the shelter, and Skinner<sup>3</sup> has illustrated some of the specimens excavated. The site is situated on the mainland about 2½ miles northeast of Armonk in Westchester County near the border of southwestern Connecticut. It consists of a sheltered area formed by an overhanging ledge of rock with a fallen slab in front. Refuse was found within the shelter and on the sloping ground outside.

Within the shelter two occupation zones were separated by a layer of sterile sand. For the sake of clarity the upper pottery-bearing layer will be called Finch II, and the lower layer which contained no pottery will be called Finch I. Finch II is classified as a component of the Clasons Point focus of the East River aspect, while the scarcity of specimens in Finch I makes it impossible to do more than assign it to a much earlier period lacking pottery.

Finch II produced 455 sherds, of which 73 per cent are tempered with micaceous grit. The remainder are tempered with particles of freshwater shell (*Unio*). Of the 18 rim sherds 11 are collared, seven are flaring, and one is straight. No basal sherds were found, but from a study of the body sherds and comparison with sherds from other sites it is assumed that the bottoms were probably rounded.

A comparative study of the surface finishes and decorative techniques (Table 2, Fig. 2)

<sup>2</sup> Harrington, 1909a.

<sup>3</sup> Skinner, 1917.

<sup>1</sup> Burggraf, 1938.

indicates that most of the body sherds are plain. The only other surface finish present is cord marking. Nearly all the decorated sherds are incised. Scallop shell stamped, cord-wrapped stick-stamped, and punctated sherds make up less than 3 per cent.

The only pottery tradition represented is the East River. The type Eastern incised (Pl. 10, Fig. 1), which includes one sherd with a face formed by three punctate impressions, is abundant. East River cord marked is present in small quantities. The remainder of the sherds defies classification, but they are few in number and are not markedly divergent from the rest of the pottery. One of the unclassified sherds combines the techniques of stamping, punctating, and incising from the neck to the lip on a flaring rim. The decorative techniques suggest the types Clasons Point stamped, Eastern incised, and Bowmans Brook incised. The last type is also suggested by the shape of the rim (Pl. 10, Fig. 13).

Other artifacts in the Finch II horizon include three fragmentary plain-surfaced stems and bowls of pottery pipes. Artifacts of chipped stone include several triangular projectile points and a few that have stems or side notches. One broad blade with the base missing probably served as a knife. Many chips and flakes with retouched edges were probably used as scrapers. Rough stone artifacts are represented by unpitted hammerstones, a grooved abrading stone, a large mortar, and a few trianguloid choppers or hoes. The only bone artifacts are a few splinter awls. One worn fragment of shell may have served as a sinew dresser. The edge has several grooves of the type associated with similar artifacts of stone. Contact with Europeans is represented by a few sheet metal arrowpoints in the form of equilateral triangles cut from sheets of copper or brass (Pl. 11, Fig. 47), a gun-flint, and a few bones attributed to domesticated sheep. See the Trait Table, East River Aspect.

The contents of the Finch I horizon consist of some projectile points, mostly stemmed or side notched; a few are triangular. Other artifacts include a few fragments from large blades, a plano-convex endscraper, a trianguloid chopper, a grooved ax, plain hammerstones, an abrading stone, and one antler flaker. Part of a notched bannerstone was found at the site but not in association with either of the physical levels.

#### SOUNDVIEW SITE

##### Figure 1, Site 7

The Soundview site is situated approximately 2 miles southwest of the Baker Hill site on the west side of a golf course near the south end of Little Neck Bay at Great Neck, Long Island. Three refuse-filled pits were found in an eroded bank facing the bay and were excavated between 1933 and 1938. Because the site continued under the golf course it was impossible to obtain an adequate sample of the material. I am indebted to Messrs. Roland Afzelius and Carlyle Rogers of Great Neck who donated their collection for study.

Only 75 sherds were found. Eight per cent are shell tempered and the remainder grit tempered. All the shell-tempered specimens are plain body sherds. Plain surfaces (Pl. 10, Fig. 30) prevail (46.6 per cent), and cord marking is common (33.3 per cent). Of the decorated sherds 5.3 per cent are stamped with a cord-wrapped stick; 1.3 per cent with a dentate stamp; and 1.3 per cent with a scallop shell. In addition, 9.3 per cent are incised, and 2.8 per cent are punctated. Nearly all the incised sherds are attributable to Bowmans Brook incised (Pl. 10, Fig. 11). One resembles Eastern incised but is broken in such a way as to preclude identification as a collared rim (Pl. 10, Fig. 6). Furthermore, the sherd bears cord-wrapped stick impressions inside the lip. One sherd of Clasons Point stamped is present. The cord-wrapped stick-stamped sherds are too small to identify as either Bowmans Brook stamped or Van Cortlandt stamped. The pottery evidently belongs to the East River style, but the sample is too small for comparative purposes.

One long quartz projectile point suggests the fishtail form, but the stem does not flare. One splinter awl and two antler tine flakers are present. A limonite geode found in association with a small pestle which fits the concavity (Pl. 11, Figs. 23-24) is probably a set of tools for grinding red paint. A white clay pipestem (Pl. 11, Fig. 48) bearing diamond-shaped escutcheons containing impressed *fleurs-de-lis* was found 30 inches down in the top of one of the pits. The overlying soil also produced a sherd of European crockery with a reddish brown glaze on the surface (Pl. 11, Fig. 49). It is regrettable that the pottery sample is not larger, because the association of contact material would then

have greater significance in demonstrating the chronological positions of the types.

#### THROGS NECK SITE

##### Figure 1, Site 8

The Throgs Neck site is situated on the southwestern side of Weir Creek Point which forms part of the peninsula of Throgs Neck in Bronx County. The promontory marks the western end of Long Island Sound and the eastern end of the East River. The site first received attention from Harrington who excavated a portion of a large shell-heap about 5 feet thick for the American Museum of Natural History in 1900.<sup>1</sup> In 1918 Skinner carried on extensive excavations for the Museum of the American Indian, Heye Foundation, there.<sup>2</sup> In the portion excavated by Harrington three physical layers were observed, but Skinner was unable to find them in the area he investigated. The Throgs Neck site was one of the first in eastern United States to be excavated in an attempt to obtain stratigraphic evidence. The techniques of excavation and recording were crude, and the summaries of the results omit important data on the provenience of the artifacts, especially pottery.

Harrington recognized the physical strata but, with few exceptions, catalogued the pottery simply by trench number. The depths of the positions of the projectile points and a few other artifacts were determined by measuring from the surface. Because the strata differed in thickness in each trench and because no profiles are extant, these data on depth must be used with caution. Skinner separated the deep deposit into three arbitrary divisions, lower, middle, and upper, and identified certain pits as late or early. In summarizing his data he often omits vertical provenience or is alternately cursory and detailed in his analysis. For example, the pottery from the lower and middle layers and the early pits is dismissed as being "all Algonkian of archaic type, and so badly disintegrated, when possessed of any character or markings, as to be *without interest* for the purpose of illustration."<sup>3</sup> Some of the pottery from the later pits is, however, described and well illustrated.<sup>4</sup>

<sup>1</sup> Harrington, 1909b.

<sup>2</sup> Skinner, 1919.

<sup>3</sup> Skinner, 1919, 67. *Italics mine.*

<sup>4</sup> Skinner, 1919, 68-70; Pl. 7a-b; Figs. 2-3.

The Harrington collection was catalogued at the American Museum of Natural History with proveniences as noted, but the collection made by Skinner for the Museum of the American Indian, Heye Foundation, was reduced by discarding large quantities of sherds, and the vertical provenience record was omitted in the catalogue. Using the published accounts and the classification of pottery from other sites as a guide, I have attempted to reconstruct the probable stratigraphy at the site, for which purpose Harrington's pottery collection was of greater value than Skinner's.

A collection of 226 sherds at the American Museum is assignable to two styles. Ten other sherds are indeterminate. The Windsor style is represented by 163 sherds, of which 76 are shell tempered and the remainder grit tempered. Seventy-six sherds are of Vinette interior cord marked. Forty-three of the latter are from one shell-tempered flat-bottomed vessel (Pl. 14, Fig. 17), with an elongate body, found at a depth of 20 inches. At a depth of 30 inches, under a large flat stone, Harrington found a lump of shell-tempered clay which must have been accidentally fired. The paste is similar to that of the flat-bottomed vessel. Of 24 sherds of the type Clearview stamped, five are shell tempered and one shows clearly the impressions of a large dentate stamp which was rocked across the interior of the vessel in a zigzag fashion. Twenty sherds are of the type Windsor brushed, all shell tempered. Windsor fabric marked is represented by one shell-tempered sherd and Throgs Neck simple stamped by two grit-tempered sherds. The latter type is more abundant in Skinner's collection. Thirty-two plain sherds have paste characteristics attributable to the Windsor style; of these seven are shell tempered. Eight grit-tempered and cord-marked sherds also may belong to the Windsor style. With the exception of the Vinette interior cord-marked sherds and the unused pottery clay no vertical provenience is given for pottery of the Windsor style. However, the pottery is of the simple variety which Skinner found in the lower and middle portions of the shell-heap.

The East River style is present in the form of 63 sherds, of which nine are shell tempered and the remainder grit tempered. Thirteen sherds are of the type Eastern incised; nine are shell tempered. All the Eastern incised sherds

are catalogued as having been excavated from the top layer or from depths ranging from 8 to 16 inches. This is corroborated by Skinner's description of the pottery from the top layer and the later pits.<sup>1</sup> One grit-tempered sherd is of the type Van Cortlandt stamped. Clasons Point stamped is represented by seven grit-tempered sherds. Twelve grit-tempered sherds are identifiable as Bowmans Brook stamped, a type present in one of Skinner's later pits according to a catalogued specimen at the Museum of the American Indian, Heye Foundation. Two grit-tempered sherds are Bowmans Brook incised. Fourteen grit-tempered cord-marked sherds are evidently from the bodies of the East River vessels represented by the types listed above. Similarly, another 14 plain body sherds, one of which is shell tempered, may have had a similar provenience.

While few of the East River style sherds are catalogued as to vertical occurrence, it is evident from Skinner's published descriptions that they came from the upper layer and from the later pits. The shallowest recorded provenience for a Windsor sherd is 20 inches, and the deepest recorded provenience for an East River sherd is 16 inches. It is justifiable to state that the stratigraphic evidence at hand shows that the East River style is later than the Windsor style.

It is impossible to segregate the non-ceramic specimens completely as to cultural affiliation and vertical provenience. Harrington did not record the depth of each find, and Skinner is often vague as to which layer an artifact or group of artifacts belongs. It is necessary to combine the lower and middle layers and refer to them as Throgs Neck I and II. Similarly the top or upper layer is combined with the later pits and called Throgs Neck III.

Skinner's published account summarizes the non-ceramic content of the site, and a study of the plates and figures makes it possible to apply the same classificatory terms that are used throughout the present analysis.<sup>2</sup>

Projectile points are of stemmed, side-notched, corner-notched, lozenge, fishtail, pentagonal, ovate, and triangular forms. Skinner found that the lozenge-shaped points belong to Throgs Neck I and II and that they are absent in Throgs Neck III. Triangular points

are common in Throgs Neck III and rare in Throgs Neck I and II. Fishtail points seem to have been found at all levels, but not in large numbers. No data are given for the other forms. Knives are of the broad-bladed, stemmed form. The remaining lithic traits associated with Throgs Neck I and II are the fully grooved ax, the three-quarter grooved ax, the celt, the perforated bannerstone, perforated pendant, sherds from steatite vessels, the plain hammerstone, the pitted hammerstone, amorphous abrading stones, the rectanguloid chopper or hoe, the notched netsinker, the grooved netsinker (or club head), the paint stone, and amorphous fragments of mica. Varieties of bone awls are present, including the rough splinter, ground splinter, notched splinter, splinter with articular end retained, deer ulna, and spine of the horseshoe crab. Flakers are of the antler tine and antler cylinder varieties. Other antler objects include wedges, tool sockets, and conical projectile points. Animal tooth pendants may also belong to the lower layers.

Throgs Neck III is distinguished by the predominance of triangular projectile points, bone work of a better grade, shell artifacts in the form of a bead and a shell cup, and a few European trade objects, including a triangular projectile point of brass, kaolin pipestems, pieces of glazed crockery, lead bullets, a blue glass bead, gun flints, and bottle glass.

As stated earlier, the provenience is not always clear, and the above lists should be taken as approximate inventories of the horizons. The best evidence for cultural superposition is to be found in the pottery. The data indicate that the Clasons Point focus of the East River aspect (Throgs Neck III) overlies the North Beach and Clearview foci of the Windsor aspect (Throgs Neck I and II). Lack of stratigraphic data makes it impossible to determine whether or not the presence of the type Vinette interior cord marked indicates distinct occupation prior to the Clearview focus which could be attributed to the North Beach focus of the Windsor aspect. If this could be demonstrated the sequence would be: Throgs Neck I, North Beach focus; Throgs Neck II, Clearview focus; Throgs Neck III, Clasons Point focus. It is clear, however, that at this site the Windsor aspect is earlier than the East River aspect. In the Trait Table, Windsor Aspect, the contents of Throgs Neck I and II are included in the Clearview focus.

<sup>1</sup> Skinner, 1919, 69-70; Fig. 3.

<sup>2</sup> Skinner, 1919, Pls. 3-7; Figs. 1-3.

## DOSORIS POND SITE

## Figure 1, Site 9

The Dosoris Pond site was excavated by Harrington for the American Museum of Natural History in 1901. Parker,<sup>1</sup> a member of the expedition, has published a brief description of the site and its contents. At the time of excavation the site was within the estate of James Price, situated on a small tidal cove near Glen Cove, Long Island. A short description of the pottery, based in part on an analysis by N. C. Nelson, has been published.<sup>2</sup>

Nelson sorted the original collection of 3021 sherds into two groups: 756 were indeterminate; he classified 2265 according to surface finish and decorative technique (Table 2, Fig. 2). A sample of 250 representative sherds was retained, and the rest were discarded. Fifty-four per cent of the sherds are shell tempered. A study of the sample collection indicates that some of the sherds classed as textile or fabric marked are, in my opinion, cord marked. Nelson also used slightly different criteria in separating the sherds exhibiting stamped decoration, so it has been necessary to tabulate merely the total number of stamped sherds.

Most of the body sherds are plain. Cord- and fabric-marked sherds appear in almost equal quantities, and the remainder are brushed. Most of the decorated sherds are incised. Very few are stamped, but the three techniques of scallop shell, cord-wrapped stick, and dentate are present. Few are punctated. One sherd bears a punctate face bordered by incised and scallop shell stamped lines.

The present sample indicates the presence of the following types belonging to the East River tradition: East River cord marked, Eastern incised, Bowmans Brook incised, Clasons Point stamped, and a large quantity of plain sherds with East River paste, probably belonging to vessels that had incised rims. The following types belonging to the Windsor tradition are present in small quantities: Windsor cord marked, Windsor fabric marked, and Windsor brushed. In addition to the sherds from vessels, a fragment of a pottery smoking pipe bears dentate stamped impressions.

The list of non-pottery traits indicates that triangular projectile points outnumber those

with stems and side notches. One lanceolate point was also found. Other chipped stone artifacts include trianguloid knives, retouched chips and flakes used as scrapers, and a trianguloid drill. Rough stone artifacts are represented by plain and pitted hammerstones, pitted anvil stones, flat abrading stones, sinew stones, mortars, choppers or hoes varying from trianguloid through ovate to rectangular in shape, and notched netsinkers. Other objects are fragments of limonite, hematite, and graphite, used as sources for paint, and an amorphous fragment of sheet mica. Objects of bone and antler consist of awls, primarily of the rough splinter type, along with some that were ground and polished; perforated needles; flakers; conical projectile points; a worked beaver incisor; turtle carapace dishes; and a grooved tool, which reproduces the surface finish found on Windsor brushed when applied to soft clay. Worked shell occurs in the form of perforated specimens probably used as pendants, but more commonly as scrapers. Harrington found cut *Busycon* columellae and bead blanks associated with some quartz chips that may have served as wampum-making tools. The specimens are tabulated in the Trait Table, East River Aspect.

## BAKER HILL SITE

## Figure 1, Site 10

The Baker Hill site is situated in the center of the peninsula of Great Neck, Long Island, near the head of a now intermittent stream. It was first brought to my attention in 1934 by two collectors, Thomas Woroniecki and Daniel O'Kane, who later donated their collections to me for study. Subsequent excavation of remaining portions of the site by the field party of the Flushing Historical Society in 1938 yielded additional material. Most of the humus had been removed from the site, and a road had been cut through it. A stone wall of colonial origin ran across one part of the site, and it was possible to find undisturbed material adjacent to and beneath it. Several stone mortars had been incorporated in the wall. To the east of the site another wall yielded a water-worn glacial cobble with a face pecked and ground into the surface.<sup>3</sup> Most of the artifacts were found in a layer of broken shells and stained earth averaging 3 inches in thickness

<sup>1</sup> Parker, 1922.

<sup>2</sup> Smith, 1944a.

<sup>3</sup> Smith, 1946.

and covered with about 1 foot of plow-torn soil. The bottoms of several pits filled with broken shell were found in the area where the soil had been removed down to the underlying glacial till. None of these pits yielded artifacts. Near the stone wall a few small pits yielded objects of pottery, stone, shell, and antler.

In a previous publication,<sup>1</sup> I presented a brief analysis of the pottery and described a shell gorget used as a pottery stamp (Pl. 11, Figs. 25-26). The site yielded some 2800 sherds which are divided into two groups on the basis of temper; 80 per cent are grit tempered and the remainder shell tempered. Complete analysis is possible on 1782 sherds (Table 2, Fig. 2). A comparative study of the surface finishes and decorative techniques reveals that most of the body sherds are plain. Cord-marked sherds are common, but brushed and fabric-marked sherds are rare. Incising is the dominant decorative technique, and stamping is secondary. Punctated sherds are rare. Most of the stamped sherds bear the impressions of a scallop shell. Some are dentate stamped and very few are marked with a cord-wrapped stick. Most of the rims are collared. Several are flaring and a few are straight. Some basal sherds are rounded, but have an added thickened point. Similar sherds were found by Skinner<sup>2</sup> at the Clasons Point site.

Most of the sherds belong to the East River tradition, but a few seem to have Windsor affiliations. Eastern incised is represented by most of the rims (Pl. 10, Figs. 2-4). Clasons Point stamped is the next in popularity (Pl. 10, Fig. 14). Bowmans Brook incised is present in small quantities (Pl. 10, Figs. 9, 10). Unclassified incised sherds are present (Pl. 10, Fig. 7). The cord-wrapped stick-stamped sherds are so small and so few in number that it is impossible to determine whether they belong to the Bowmans Brook stamped or Van Cortlandt stamped types. A few of the scallop shell stamped sherds are of the Windsor tradition and are attributable to the type Niantic stamped. Most of the plain sherds (Pl. 10, Fig. 29) belong to the bodies of the Eastern incised vessels. A few cord-marked rims are attributed to East River cord marked. The dentate stamped (Pl. 10, Fig. 19) and the punctated sherds cannot be classified as to type

but appear to belong to the East River style. In addition to pottery vessels some fragmentary clay smoking pipes are present. One is part of the bowl of an obtuse-angled elbow pipe. The bowl is globular, with a flaring rim. The neck area is covered with lines of dentate stamping. Another, of similar shape, bears incised lines encircling the rim. Six amorphous stem and bowl fragments are also present (Pl. 11, Figs. 27-30).

The projectile points (Pl. 11, Figs. 1, 3, 5, 11-15) are divided equally between triangular and other forms. Side-notched points prevail among those with a base modified for hafting. Other chipped stone artifacts include retouched chips and flakes. One three-quarter grooved ax was found (Pl. 11, Fig. 50). Rough stone artifacts are as follows: plain and pitted hammerstones, pitted anvil stones, abrading stones, a sinew stone, mortars, and a stone showing evidence of use as a hammer, muller, and anvil.

Artifacts of bone and antler are rare. Four awls, three of the splinter type and one made from an antler tine, were found. One fragment of bone is perforated (Pl. 11, Fig. 44). An antler tine flaker and a worn beaver incisor are also present. The shell gorget with a central perforation and notched edge has been mentioned above. Evidence of the manufacture of wampum (Pl. 11, Figs. 31-33) appears in the form of 50 rough *Busycon* columellae varying from  $\frac{3}{4}$  of an inch to  $2\frac{1}{4}$  inches in length. Two bead blanks detached from the columellae are also present. A list of the specimens appears in the Trait Table, East River Aspect.

#### CLASONS POINT SITE

##### Figure 1, Site 11

The Clasons Point site is situated in the Borough of the Bronx on the north side of the East River near the mouth of the Bronx River and across from College Point, Long Island. In 1918, Skinner excavated the site for the Museum of the American Indian, Heye Foundation.<sup>3</sup> It is one of the few in southeastern New York that has been subjected to serious study and is the type site for the Clasons Point focus of the East River aspect.

Skinner called the site "Snakapins" because he believed it to be the remains of the village of that name occupied by the Siwanoy group of the Wappinger Confederacy at the time of

<sup>1</sup> Smith, 1944a.

<sup>2</sup> Skinner, 1919, Pl. 12, lower right.

<sup>3</sup> Skinner, 1919.



contact with the Dutch in the early seventeenth century. The documentation is indirect; it seems advisable, at this writing, to use the geographic term to designate the site. In view of its late position in the sequence established in this study it is highly probable that the site was occupied by the Siwanoy.

At the time of excavation the site consisted of some 66 pits filled with marine shells and other refuse scattered over a level area above a marshy cove. Seven pits contained the skeletal remains of adult males in flexed positions. Two had associated grave goods: one a stemmed projectile point of dark chert and the other a bone awl and a bone batten or dagger. Large quantities of pottery and other artifacts were found in the other pits which seem to have been dug for the disposal of refuse.

Skinner first sorted the pottery into groups of sherds which seemed to belong to individual vessels. He then divided the vessels into four categories. Of the 55 clearly definable groups of sherds representing distinct vessels he classified 12 as Algonkian, 37 as sub-Iroquois, three as Iroquois, and three as indeterminate. By studying the illustrations in his report<sup>1</sup> and by examining a sample collection at the Museum of the American Indian, Heye Foundation, I find that the pottery is assignable to the East River style.

Skinner's Algonkian group of vessels represents the types Bowmans Brook stamped, Bowmans Brook incised, and East River cord marked. His sub-Iroquois group is composed of the types Clasons Point stamped and Van Cortlandt stamped. A few collared rims with dentate stamped impressions are not classifiable. The Iroquois category, with the exception of a sherd which he calls "western Iroquois," is of the type Eastern incised. An examination of the sample collection shows the predominance of grit temper over shell temper.

The non-pottery traits are described fully by Skinner and are included in the Trait Table, East River Aspect.

#### VAN CORTLANDT SITE

##### Figure 1, Site 12

The Van Cortlandt site was situated on the old Van Cortlandt estate in the southwestern portion of the Bronx prior to destruction by

grading operations in 1890. J. B. James salvaged much of the cultural material from the site and summarized the work in a newspaper article which Skinner quotes in full.<sup>2</sup> Briefly, the site consisted of a series of bowl-shaped pits filled with marine shells and other refuse. Several flexed burials were also found. Bolton<sup>3</sup> identifies the site as the village called Mosholu or Keskeskick which was occupied by a branch of the Wappinger at the time of settlement by the Dutch in the seventeenth century. No mention is made of European trade goods in the collection from the site.

Skinner has illustrated<sup>4</sup> a series of collared rims identifiable as Van Cortlandt stamped, Eastern incised, and Clasons Point stamped. A study of a sample collection of 185 sherds at the American Museum of Natural History reveals the same types plus a few of Bowmans Brook stamped, some body sherds exhibiting plain, cord-marked, fabric-marked, brushed, and stippled surfaces, and 38 collared rims, 14 flaring rims, and five straight rims. Eighty-one per cent of the sample is grit tempered, and the remainder are shell tempered. All the sherds are assignable to the East River style. The brushed and stippled sherds are not of the varieties associated with the Windsor style. The paste is similar to that found in the rest of the pottery, and the interior surfaces are smooth.

It is impossible to compile a detailed trait list from the published accounts. Triangular and stemmed projectile points are accompanied by rough hoes or choppers. A rich bone and antler industry is characterized by bone awls of the polished splinter type, conical projectile points, antler tine flakers, turtle carapace cups or dishes, and perforated deer bones for use in the cup-and-pin game.

#### PELHAM KNOLLS SITE

##### Figure 1, Site 13

The Pelham Knolls site was excavated by Harrington for the American Museum of Natural History in 1899. He describes it as consisting of a series of refuse-filled pits covering two small hills in the vicinity of Jack's Rock in Pelham Bay Park on Long Island Sound near the East River.<sup>5</sup> The excavations

<sup>2</sup> Skinner, 1920, 140-146.

<sup>3</sup> Bolton, 1922, 93.

<sup>4</sup> Skinner, 1909b, Figs. 16-17.

<sup>5</sup> Harrington, 1909b, 175.

<sup>1</sup> Skinner, 1919, Pls. 12-13; Figs. 9-14.

yielded three flexed burials and the artifacts described below.

In the pits and the thin layer of shells mixed with stained soil 1115 sherds were found (Table 3, Fig. 2). Most of the pottery is grit tempered, only 0.3 per cent containing shell as an aplastic. Of the 63 rim sherds, 53 have incipient collars, seven have flaring rims, and five have straight rims. Basal sherds indicate the prevalence of the pointed bottom. All vessels appear to have had elongate globular bodies with more or less constricted necks.

Cord marking predominates over plain as a surface finish and less than 1 per cent show brush marks. Stamping is the prevalent decorative technique; cord-wrapped stick stamping predominates over scallop shell and dentate stamping. Incised and punctated sherds are rare and occur in equally small numbers.

The only ceramic style present is in the East River tradition. The types Bowmans Brook stamped, Van Cortlandt stamped, Clasons Point stamped, and Bowmans Brook incised account for most of the pottery. A single sherd is attributable to Eastern incised. A few rims are of East River cord marked, but most of the body sherds belong with vessels of the types named above (Pl. 10, Figs. 5, 17, 21-22, 27).

Chipped stone projectile points are predominantly of the triangular type, and those with stems or side notches are present in small quantities (Pl. 11, Figs. 6, 16). Other chipped stone artifacts include knives of trianguloid, lanceolate, and stemmed forms with a broad blade (Pl. 11, Fig. 20). Retouched chips and flakes are present. Rough stone artifacts are represented by plain and pitted hammerstones, abrading stones, rectanguloid pestles, many ovate choppers or hoes, notched netsinkers, paint stones of limonite and hematite, and a small piece of sheet mica. Bone artifacts consist of several splinter awls, a perforated needle (Pl. 11, Figs. 36-37), and turtle carapace dishes. See the Trait Table, East River Aspect, for a tabulation of the artifacts.

#### AQUEDUCT SITE

##### Figure 1, Site 14

The Aqueduct site is situated near the head of Hawtree Creek which flows into Jamaica Bay on the south shore of Long Island. The site was investigated by the field party of the

Flushing Historical Society just prior to its being buried beneath the Belt Parkway. The excavations in April, 1939, revealed a thin deposit of shells and other refuse lying below the plow line and several bowl-shaped pits filled with refuse. One pit contained a burial which has been described in detail by Solecki.<sup>1</sup> The burial pit was surrounded by a line of post moulds, suggesting a fence or dome-shaped shelter. In the pit a senile female lay on her left side, in a flexed position, with the head to the east facing south. East of the adult skeleton were the fragmentary remains of an infant. The skull of the adult is dolichocranic and appears similar to others found in the region.

Of the collection of 260 sherds, 93 per cent are grit tempered and 7 per cent shell tempered. A preliminary analysis appears in my earlier study.<sup>2</sup> A comparison of the surface finishes and decorative techniques (Table 2, Fig. 2) shows that cord marking predominates over plain and that fabric marking is rare. Incising is slightly more prevalent than stamping, and punctating is rare. The stamped sherds are usually marked with a cord-wrapped stick but sometimes bear scallop shell stamping and impressions that may have been made with a dentate stamp. One rounded bottom is present, and the rim sherds indicate vessels with straight, flaring, and incipiently collared rims.

All the pottery belongs to the East River tradition. Most of the decorated sherds belong to the type Bowmans Brook incised. The types Eastern incised, Clasons Point stamped (Pl. 10, Fig. 16), and Bowmans Brook stamped are present in relatively small quantities. The sherds from one vessel are not classifiable as to type (Pl. 10, Fig. 25). The rim, an incipient collar, has several points along the lip. The collar and body are cord marked; the neck is plain. The paste, temper, shape, and surface finish are typical of East River ceramics, but the cord marking on the collar is unique. A few rims indicate the presence of East River cord marked, but most of the cord-marked body sherds must belong with the decorated rims classified above.

Nearly all of the projectile points are of the triangular type (Pl. 11, Figs. 4, 7-8, 10, 17, 19). Other stone artifacts are as follows: retouched chips and flakes, plain hammerstones, one

<sup>1</sup> Solecki, 1947.

<sup>2</sup> Smith, 1944a.

grooved abrading stone, notched netsinkers, and one limonite paint stone. Artifacts of bone and antler are more numerous and include rough splinter awls, ground and polished splinter awls (Pl. 11, Fig. 35), flakers of antler and bone, an antler wedge, an antler tool handle, a conical antler projectile point, two turtle carapace dishes, and a worked beaver incisor (Pl. 11, Figs. 39, 41-43, 45-46). Shell artifacts include a scraper and two *Busycon* columellae with blanks for the manufacture of wampum remaining at the ends. The artifacts are tabulated in the Trait Table, East River Aspect.

#### HELICKER'S CAVE

##### Figure 1, Site 15

Helicker's Cave was excavated in 1900 by Harrington for the American Museum of Natural History. A brief description of the cave and its contents has been published.<sup>1</sup> The site is 1 mile south of Armonk in Westchester County, not far from the Finch Rock House. Within the cave a thin layer of refuse produced material attributable to two occupations: one by Whites during the eighteenth century and another by Indians bearing the culture of the Clasons Point focus. The eighteenth century material consisted of glazed crockery and white clay pipestems of varieties found on campsites of the British and Continental Armies in the American Revolution.

The principal evidence for the aboriginal occupation consists of 105 potsherds, 79 per cent of which are tempered with micaceous grit. At one time the remainder were shell tempered, but the particles have been leached out. The limited quantity and the small size of the sherds make it impossible to reconstruct the shapes of the pots. Rim sherds include two incipient collars, one fully collared, three flaring rims, and two straight rims.

The dominant surface finish is plain (Table 3, Fig. 2). Many sherds are cord marked, and a few are brushed. Most of the decorated sherds are stamped; cord-wrapped stick-stamping predominates over scallop shell stamping. The remaining sherds are incised.

The East River tradition is the only ceramic style present. Eastern incised is present in small quantities, together with a few sherds of Clasons Point stamped (Pl. 10, Fig. 15) and

Bowmans Brook stamped. It is difficult to determine how prevalent East River cord marked may have been because the body sherds may belong to other East River types. Very few rims attributable to East River cord marked are present.

Stone artifacts include triangular, stemmed, and side-notched projectile points; a knife with a broad blade and a stemmed base (Pl. 11, Fig. 21); retouched chips and flakes; hammerstones; trianguloid choppers, or hoes; and paint stones of limonite and hematite. The only bone artifacts are two splinter awls. A scraper made from a piece of shell is also present. See the Trait Table, East River Aspect, for tabulation of the artifacts.

#### PORT WASHINGTON SITE

##### Figure 1, Site 16

The Port Washington site consists of two shell-heaps situated on both sides of a small tidal cove on the east shore of Manhasset Bay, approximately 1 mile north of Port Washington, Long Island. The site is now largely obliterated by excavations for sand and gravel and by the removal of humus for use on gardens. At the turn of the century, Harrington<sup>2</sup> carried on extensive excavations there for the American Museum of Natural History. Later, Orchard<sup>3</sup> excavated a remnant of the site for the Museum of the American Indian, Heye Foundation. In 1932 and 1933, I excavated the part of the site lying south of the cove, and Solecki tested an area near the scene of Harrington's investigations. The analysis is based primarily on my own work. The trait list includes burials found by Harrington and Orchard.

My excavations were limited to the investigation of 10 refuse-filled pits and the burial of a small dog. A preliminary report on the pottery has been published.<sup>4</sup> The potsherds number 430; 82 per cent are grit tempered and 18 per cent are shell tempered. A comparison of the surface finishes and decorative techniques (Table 1, Fig. 2) shows that cord marking is the prevalent surface treatment. Plain sherds are common but brushed (Pl. 10, Fig. 28), and fabric-marked sherds are rare. Incised sherds equal stamped sherds in percentage. The tech-

<sup>1</sup> Harrington, 1909a, 176-177.

<sup>2</sup> Orchard, 1928.

<sup>3</sup> Smith, 1944a.

<sup>4</sup> Harrington, 1909a, 132-134.

nique of stamping includes scallop shell, cord-wrapped stick, and dentate. Punctated sherds are rare. Nelson's notes on Harrington's collection of 1559 sherds shows almost identical proportions.<sup>1</sup> Straight and flaring rims are present in large numbers, and collared rims are represented by those of the incipient variety.

The pottery is typical of the East River tradition. Bowmans Brook incised is very common (Pl. 10, Figs. 8, 12) and is best represented by a restored vessel (Pl. 8, Fig. 8) found by Solecki. Clasons Point stamped (Pl. 10, Fig. 18) also appears in relatively large quantities. Bowmans Brook stamped and Van Cortlandt stamped (Pl. 10, Figs. 23-24) account for most of the other sherds. Dentate stamped sherds (Pl. 10, Fig. 20) are unclassified. It is probable that most of the plain sherds belong to Bowmans Brook incised vessels and that most of the other body sherds belong to other types. East River cord marked (Pl. 10, Fig. 26) is identifiable in the form of rim sherds. It should be added that Harrington found a clay pipe bearing a human face on the bowl.

A study of the chipped stone artifacts reveals that nearly all of the projectile points are triangular (Pl. 11, Fig. 2). Knives are represented by trianguloid, lanceolate, and broad-bladed stemmed forms (Pl. 11, Fig. 18). Retouched chips and flakes probably served as scrapers. Rough stone artifacts include plain hammerstones, abrading stones, mortars, choppers or hoes of roughly trianguloid shape, picks, notched netsinkers, and paint stones of limonite (Pl. 11, Figs. 22, 51-53). Bone and antler implements include splinter awls, awls with the articular surface retained at the butt end, perforated needles, flakers of bone and antler (Pl. 11, Figs. 34, 38, 40), and turtle carapace dishes. Harrington found a necklace of *Olivella* shell beads on one burial. See the Trait Table, East River Aspect, for a tabulation of the artifacts.

#### DYCKMAN STREET SITE

##### Figure 1, Site 17

In 1919 Skinner excavated a shell-heap on Manhattan Island at the foot of Dyckman Street near Tubby Hook on the Hudson River. The heap consisted of a circular mound of shells and discolored soil measuring 15 feet

in diameter and over 5 feet in thickness. An extension of the deposit dipped into a hollow between two outcrops of bed rock. Skinner<sup>2</sup> describes the physical strata and cultural succession in the circular heap and illustrates some of the non-ceramic material. It was necessary for me to examine the pottery at the Museum of the American Indian, Heye Foundation, in order to classify the contents of the site. The following analysis is derived from Skinner's published account supplemented by a reclassification of the specimens based on a study of the illustrations of the non-ceramic material, and an examination of the sherds. For the purpose of clarity I have designated the strata-bearing cultural material as Dyckman I, II, and III.

Dyckman I consisted of the basal portion of the shell-heap composed of 28 inches of stained soil, containing scattered shells, topped by 4 inches of dark soil, apparently devoid of shells. No pottery was found. Skinner records one pitted hammerstone, one plain hammerstone, one lozenge-shaped projectile point, one narrow-bladed side-notched projectile point, and one broad-bladed stemmed projectile point. Bones of deer, elk, turtles, fish, and birds are also listed. The collection is not catalogued according to provenience within the site; consequently it was impossible to identify additional projectile points referred to in the text.

Dyckman II was separated from Dyckman I by a layer of oyster shells containing fragments of antler and bone but devoid of associated artifacts. The overlying artifact-bearing layer is described as containing wood ashes and stained earth, but no thickness is given for it. The collection includes some 28 sherds, seven of them shell tempered and the remainder grit tempered. The surface finishes and decorative techniques of the pottery are as follows: cord marked, nine sherds; plain, two sherds; brushed, two sherds; incised, one sherd; fingernail punctated, four sherds; cord wrapped stick stamped, one sherd; dentate stamped, nine sherds.

The Windsor tradition is the only ceramic style represented. Five of the cord-marked sherds are assignable to Vinette interior cord marked, three of the sherds being shell tempered. The two brushed sherds are similar to the type Windsor brushed but are grit tem-

<sup>1</sup> Notes on file at the American Museum of Natural History.

<sup>2</sup> Skinner, 1920, 129-136.

pered. The nine dentate stamped sherds are of the type Clearview stamped; four of them are shell tempered. The remainder of the collection is Windsor in paste but cannot be classified as to types. Among the unclassified sherds is a cord-marked rim slightly flaring in profile, with a rounded lip which bears a series of notches. The pottery is characteristic of the Clearview and North Beach foci.

Other artifacts from Dyckman II are as follows: one celt-like gorget perforated at one corner two broad-bladed stemmed and two side-notched projectile points, two lanceolate straight based, one narrow trianguloid with concave base, one narrow triangular with concave base, and one suggesting a rounded pentagon with a straight base. Broken animal bones were found but not identified.

Dyckman III consisted of a layer of humus approximately 6 inches thick. In it Skinner found one collared rim bearing incised lines classifiable as Eastern incised. The extension of the shell-heap into an adjacent hollow showed no physical stratigraphy. Skinner states that three "sub-Iroquois" sherds were found almost at the surface. I find two sherds in the collection that match this identification. One is a collared rim bearing cord marking, and the other is an example of Eastern incised. These are assigned to Dyckman III. The remainder of the material suggests Dyckman II, but some specimens may belong to Dyckman I.

In addition to the pottery described above, the hollow contained a mixture of ashes, fire-cracked stones, bits of charcoal, animal bones, stained earth, notched and plain splinter bone awls, the base of a perforated bone implement, a bone flaker or punch, a plummet-like object of antler, phalangeal bones of the deer with the proximal ends excavated, a grooved stone, and some lozenge-shaped projectile points.

In conclusion, the site shows evidence of a pre-pottery occupation, devoid of a sufficient number of traits to permit classification, followed by an occupation assigned to the Clearview and North Beach foci of the Windsor aspect, and, finally, a suggestion of an occupation during the period covered by the Clasons Point focus of the East River aspect. A similar sequence is in evidence at the Throgs Neck site (Fig. 1, Site 8). Indeed, Skinner<sup>1</sup> states that the horizon that I have called Dyckman II "seems

contemporary with the bottom layers of the great shellheap at Throgs Neck, . . ." Elsewhere in this study the horizon overlying the lower layers at Throgs Neck has been identified as the Clasons Point focus.

#### GRANTVILLE SITE

##### Figure 1, Site 18

The Grantville site, situated on a narrow promontory at the southwestern corner of College Point, Long Island, is bounded on the west by Flushing Bay and on the east by a salt marsh. The majority of the specimens were collected during the 1930's by M. C. Schreiner. Supplementary excavations were carried on by Solecki, and all the material was eventually turned over to me for study. Most of the specimens were found on the top of the peninsula within 1 foot of the surface. Solecki located a refuse-filled pit at the water's edge, approximately 50 feet south of the main deposit. No pits were noted in Schreiner's excavations, and refuse in the form of marine shells was scarce. In my earlier study of the pottery-producing sites in the region, I was struck by the richness of this site and assumed that I was dealing with one cultural tradition; therefore, the term "Grantville" was chosen for the early ceramic period.<sup>2</sup> After analyzing material from additional sites and correlating non-ceramic traits with ceramic traits I find that the collection made by Schreiner is assignable to two cultural units, the one non-ceramic and the other the Bowmans Brook focus of the East River aspect. Solecki's collection from the near-by refuse pit reveals an occupation by the Clasons Point focus of the East River aspect as well. The term "Grantville period" is no longer of any significance.

Because of the lack of adequate comparative data from other non-ceramic sites, it is difficult to divide the Schreiner collection into artifacts definitely assignable to a non-ceramic culture and to the Bowmans Brook focus. When the pottery and triangular projectile points are disregarded, the remaining traits are, to a large extent, unique. It is assumed that three components are represented: Component A is non-ceramic; Component B is ceramic and is assignable to the Bowmans Brook focus. Solecki's collection from the pit may be

<sup>1</sup> Skinner, 1920, 132.

<sup>2</sup> Smith, 1944a.

designated as Component C, assignable to the Clasons Point focus.

Component C is represented by a collection of 90 sherds, the major part of which is grit tempered and the remainder shell tempered. Surface finishes and decorative techniques are as follows: plain, 64 sherds; cord marked, three sherds; incised, seven sherds; scallop shell stamped, one sherd; indeterminate, 15 sherds. All the sherds are assignable to types or unclassified categories occurring in the East River tradition. Seven collared rims are of the type Eastern incised, and one collared rim is of the type Clasons Point stamped. The three cord-marked sherds are part of a vessel represented by the Clasons Point stamped rim, and the 64 plain body sherds evidently belong with the seven Eastern incised rims. The indeterminate sherds are East River in paste, but are either too small or too poorly preserved to be classified as to type. Two narrow-bladed stemmed points and one narrow triangular point with a concave base complete the inventory of the material. Despite the meagerness of the cultural representation, it is evident from a comparison with data from other sites that the Clasons Point focus of the East River aspect is the only cultural manifestation represented in the pit.

Component B is represented by 1028 sherds, all found within a limited area on the top of the promontory, and a number of stone artifacts included in the collection from the entire area. All the sherds are grit tempered and belong to at least five distinct vessels. The rim sherds of one vessel are missing, but the remainder have flaring rims with flattened lips covered with cord-wrapped stick impressions (Pl. 12, Fig. 7). All the body sherds are cord marked. Bowmans Brook stamped is the only ceramic type present. Because no extensive collection from a non-ceramic site is available for study and because the Bowmans Brook focus is incompletely known, it is impossible to determine whether all of the artifacts resembling those found on components of the Bowmans Brook focus may be assigned to a component of that focus at the Grantville site. Probably the majority, if not all, of the triangular projectile points belong, however, to Component B. Many of the other traits are of a non-specific nature. The absence of artifacts of bone and antler, which are so common at the Wilkins component of the Bowmans Brook focus, is

noteworthy and may indicate that the occupation marked by Component B was of brief duration. In the Trait Table, Grantville Site, traits of the East River aspect, as a whole, are used in the determination of the contents of Component B.

Component A is represented by large numbers of stone implements. Virtually every form of projectile point ever found in the coastal portion of New York State is present (Pl. 15, Figs. 1-30, 33). Over three-quarters of the 300 or more projectile points are stemmed or side notched, and the remainder range from corner-notched through lozenge, fishtail, semi-lozenge, lanceolate, pentagonal, triangular with eared base, and trianguloid forms. Points over 2½ inches long are classed as spearpoints (Pl. 15, Fig. 31) and are present in stemmed and in side-notched forms. Other large broad points with slightly convex blades are classed as knives (Pl. 15, Fig. 32). Additional chipped stone artifacts are plano-convex endscrapers, ovoid scrapers, crescentic sidescrapers (Pl. 15, Figs. 34-36), retouched chips, and a graver. Ground and polished stone artifacts include part of the working edge of a plano-convex adze (Pl. 15, Fig. 42), a fully grooved ax with a flattened under surface (Pl. 15, Fig. 44), and several bannerstones (Pl. 15, Figs. 38-41). Four of the bannerstones are of the perforated variety with wings. The over-all shapes range from rectanguloid to trapezoidal. The central perforation is cylindrical. All are fragmentary, and two have conical perforations in the wings, probably indicating repairs. Three of them are of steatite; the fourth appears to have been burned and is not identifiable as to original material. One of the steatite specimens has been reworked and used alternately as an abrading stone and sinew stone (Pl. 15, Fig. 40). Two other bannerstones are of the notched type and are crudely fashioned of sandstone and shale (Pl. 15, Fig. 41). An additional fragment of a wing is not identifiable as to original form. Another stone object may owe its form to natural causes, but it is plummet-like and may have had the same function as the finely made objects found elsewhere (Pl. 15, Fig. 43).

Rough stone artifacts consist of crude choppers or hoes (Pl. 15, Fig. 37), plain and pitted hammerstones, anvil stones, abrading stones, cylindrical pestles (Pl. 15, Fig. 46), a pick, netsinkers with longitudinal notches (Pl. 15,

Fig. 45), paint stones in the form of limonite pebbles and geodes, and fragments of mica.

To summarize, three components are present at the Grantville site. Component A is non-ceramic, but it is difficult to establish the traits as definitely pre-pottery. Component B is of the Bowmans Brook focus and is represented by pottery and projectile points. Component C is of the Clasons Point focus identifiable in the form of pottery and projectile points

found in a pit separated from the rest of the site. The excavation and analysis of a well-defined preceramic site should clarify the nature of Component A at the Grantville site. For this reason the collection has been turned over to the Rochester Museum of Arts and Sciences for future study. The Trait Table covers Components A and B. Component C is omitted because very few specimens pertain to it.

TRAIT TABLE, GRANTVILLE SITE  
COMPONENTS A AND B

CATEGORY	TRAIT	B	A	TOTALS
Chipped stone				
Projectile points	Narrow blade, stemmed	x	x	100
	Broad blade, stemmed	x	x	84
	Narrow blade, side notched	x	x	34
	Broad blade, side notched	x	x	50
	Broad blade, side notched, thin		x	3
	Narrow blade, corner notched		x	1
	Broad blade, corner notched		x	2
	Lozenge, narrow		x	3
	Lozenge, broad		x	3
	Fishtail	?	x	8
	Semi-lozenge		x	3
	Lanceolate, concave base	x		1
	Pentagonal, narrow		x	3
	Pentagonal, broad		x	1
	Triangular, narrow, straight base	x		2
	Triangular, narrow, concave base	x		7
	Triangular, narrow, eared base		x	2
	Triangular, broad, straight base	x		5
	Triangular, broad, concave base	x		7
	Trianguloid, narrow, straight base		x	3
	Trianguloid, narrow, concave base	x		2
	Trianguloid, narrow, convex base		x	1
	Trianguloid, broad, straight base	x		3
	Trianguloid, broad, concave base		x	3
	Bunt (stemmed, blunt point)		x	5
Spearpoints	Narrow blade, stemmed		x	2
	Broad blade, stemmed		x	12
	Narrow blade, side notched		x	1
	Broad blade, side notched		x	4
Knives	Trianguloid	x		1
	Lanceolate	x	x	14
	Broad blade, stemmed	?	?	4
	Broad blade, base missing	?	?	7
	Ovate		x	1
Scrapers	Plano-convex		x	4
	Retouched chips and flakes	x	x	x
Gravers	Core with sharp point		x	1
Polished stone				
Adzes	Plano-convex, fragmentary		x	1
Axes	Fully grooved, flattened lower edge	?	?	1

TRAIT TABLE, GRANTVILLE SITE—*Continued*

CATEGORY	TRAIT	B	A	TOTALS
Bannerstones	Perforated, winged, fragmentary		x	4
	Notched, winged		x	2
	Fragment of wing		x	1
Plummets	Crude (natural?)		x	1
Rough stone				
Hammerstones	Unpitted pebble	x	x	2
	Pitted pebble	?	?	1
	Spearpoint with battered tip		x	1
Anvil stones	Pebble with pit on one side	x	x	3
Abrading stones	Flat pebble showing wear	?	?	1
Sinew stones	Bannerstone fragment, grooved on edge		x	1
Pestles	Cylindrical	?	?	3
Choppers and/or hoes	Ovate	x		1
	Ovate, flat base	?	?	1
	Ovate, flat base, side notched	?	?	2
	Rectanguloid	x		1
	Bell shaped		x	2
Picks	Pointed core with worn end	?	?	1
Netsinkers	Flat pebble, notched laterally	x		1
	Flat pebble, notched longitudinally		x	17
Paint stones	Pebbles of limonite and hematite	x	x	3
	Geode cups containing natural pigment	?	?	1
Mica	Amorphous fragments	?	?	3
Pottery				
Vessels	Bowmans Brook stamped	x		x

## BOWMANS BROOK SITE

## Figure 1, Site 19

The Bowmans Brook site was destroyed in the process of the erection of a steel plant near Mariners Harbor on Staten Island between 1903 and 1907. Skinner was able to collect specimens from some of the "fifty to one hundred pits" exposed during the construction work. A map, a brief description of the site, and a summary of the contents have been published.<sup>1</sup> Flexed and bundle burials were encountered but are not fully described.

Skinner describes the pottery as predominantly of the "Algonkin" type and illustrates sherds belonging to the types Bowmans Brook stamped and Bowmans Brook incised.<sup>2</sup> He adds that some of the pottery is characterized by collared rims with incised designs, attributes of the type Eastern incised. He includes a Bowmans Brook incised sherd bearing punctate faces on nodes surrounded by incised lines in his "Iroquoian" category.

The study of a sample collection of 605

<sup>1</sup> Skinner, 1909a, 6-8.

<sup>2</sup> Skinner, 1909a, 54-58, Fig. 3a, e-h, j.

sherds from the Bowmans Brook site at the American Museum of Natural History shows that the predominating surface finish is cord marking. Plain sherds are common, and fabric-marked sherds are rare. The prevailing decorative technique is incising; stamping is second in prominence. Most of the stamped sherds are of the cord-wrapped stick-impressed variety, and a few illustrate the techniques of scallop shell and dentate stamping. No true collars are present. Two rims have a thickened band, but there is no constriction at the neck. All the sherds are grit tempered. It is noteworthy that sherds of Eastern incised are absent, all the incised sherds falling within the range of Bowmans Brook incised. The other type present is Bowmans Brook stamped. I strongly suspect that the sherds of Eastern incised found during the destruction of the site are attributable to a later occupation.

Skinner lists arrowpoints, grooved axes, bone awls, an antler pin with a carved head, antler cylinders, and turtle carapace dishes. He remarks that bone and antler artifacts are abundant. Presumably many rough stone artifacts not recorded by Skinner were also found at the



site. His brief descriptions and incomplete inventory render it impossible to include the Bowmans Brook site in the Trait Table, East River Aspect, Bowmans Brook focus.

#### WILKINS SITE

##### Figure 1, Site 20

The Wilkins site is situated near the head of a small tidal cove on Fourteenth Avenue, Whitestone, Long Island, within view of the Bronx-Whitestone Bridge over the East River. The site was excavated by the field party of the Flushing Historical Society in 1939 and 1940. A preliminary report on the pottery is included in my earlier study.<sup>1</sup>

The top soil and much of the subsoil had been removed to obtain fill for construction work. Pits filled with marine shells and other refuse were exposed by the action of power shovels; most of them appeared as discolored areas on the surface of the exposed subsoil. The 18 pits excavated varied greatly in size. It was often impossible to determine the original size of the pit or whether or not it had been decreased by the action of the power shovel in removing the upper portion. Some were no more than 2 feet in diameter and a few inches deep, while others were 12 feet in diameter and 5 feet deep. All the pits tended to be bowl shaped and to be composed of alternating layers of nearly whole shells and stained soil containing scattered fragments of shells. The soil near the center of some pits was burned to a red or orange color.<sup>2</sup> All the artifacts described and listed were found in the pits. Specimens of unknown provenience found on the new surface are disregarded.

The pits yielded 826 sherds; one is shell tempered and the remainder are grit tempered. Most of the vessels are of the flaring rim variety with constricted neck, rounded shoulder, and elongate body terminating in a blunt point. Some have straight rims which rise from constricted necks. A comparison of the surface finishes and decorative techniques (Table 2, Fig. 2) reveals that cord marking is the prevailing surface finish; plain surfaces are in the minority. Nearly all of the decorated sherds are

impressed with a cord-wrapped stick. Incising, punctating, and dentate stamping are rare.

The East River ceramic tradition characterizes the site and is represented by Bowmans Brook stamped (Pl. 12, Figs. 2, 3, 5-6, 8), East River cord marked (Pl. 12, Figs. 1, 11), and Bowmans Brook incised (Pl. 12, Fig. 4) in the order of frequency. It is worthy of note that the illustrated example of Bowmans Brook incised bears a conventionalized face formed by three punctates on a raised node surrounded by incised lines. A similar sherd was found by Skinner<sup>3</sup> at the Bowmans Brook site (Fig. 1, Site 19) on Staten Island and another by Rogers<sup>4</sup> at the Indian River site (Fig. 1, Site 27) in Connecticut. In my earlier analysis<sup>5</sup> I concluded that the sherd was intrusive at the Wilkins site, but its temporal position in the present sequence renders that possibility unlikely. Two sherds of Vinette interior cord marked are the only representatives of the Windsor style found at the site. Their significance is conjectural. I suspect that they may have been left on the site by an earlier occupation and that their occurrence within the pits is fortuitous. One stamped and one incised sherd (Pl. 12, Figs. 9-10) are unclassified.

Four fragmentary pottery pipes were found (Pl. 12, Figs. 23-25). Three are from pipes in the form of straight conical tubes. Another stem fragment is ground at each end for use as a bead. It has triangular projections on each side bearing dentate stamping. The paste is identical with that found in the pottery vessels.

Most of the chipped stone projectile points are triangular, and the remainder are stemmed (Pl. 12, Figs. 12-20). Trianguloid (Pl. 12, Fig. 21), lanceolate, and stemmed knives are present. Scrapers are in the form of amorphous chips and flakes with retouched edges. One ground and polished rectanguloid pendant or gorget of slate, broken at the central perforation, was found (Pl. 12, Fig. 22). Rough stone artifacts include plain hammerstones, pitted anvil stones, abrading stones, a rectanguloid pestle, several mortar stones, a roughly trianguloid hoe or chopper, a grooved netsinker, and several notched netsinkers. Artifacts of bone and antler are abundant. There are four varieties of bone awls: rough splinter, ground

<sup>1</sup> Smith, 1944a.

<sup>2</sup> James A. Ford and Herbert Pretzatz report in letters of May 1 and May 24, 1950, the discovery of the flexed remains of an adult female and child at the Wilkins site in a refuse-filled pit containing Bowmans Brook pottery.

<sup>3</sup> Skinner, 1909a, Fig. 3c.

<sup>4</sup> Rogers, 1943, Pl. 5, Fig. 16.

<sup>5</sup> Smith, 1944a.

and polished splinter, deer ulna partly polished, polished raccoon *os penis*, and one made from a sharp fish bone (Pl. 12, Figs. 29-34). Flakers of antler tines and bone are present (Pl. 12, Figs. 35-36). One conical antler projectile

point occurs (Pl. 12, Fig. 37). Other bone artifacts include turtle carapace dishes (Pl. 12, Fig. 38), deer phalanges perforated for use in the cup-and-pin game (Pl. 12, Figs. 26-27), and a worked beaver incisor (Pl. 12, Fig. 28).

## WINDSOR ASPECT

### NIANTIC SITE

#### Figure 1, Site 21

The Niantic site has not been published on in detail. Rouse refers to it in discussing the pottery of Connecticut.<sup>1</sup> Russell<sup>2</sup> has described several burials found at the site. A detailed report is being prepared by Edward Rogers for publication in the Bulletin of the Archaeological Society of Connecticut. The pottery is typical of the Niantic focus of the Windsor aspect. One pottery vessel from the site is illustrated by Ritchie.<sup>3</sup> Speck<sup>4</sup> states that the principal village of the Western Nehantic was at Black Point and that another site is situated where the Niantic River joins Long Island Sound.

### OLD FIELD SITE

#### Figure 1, Site 22

The Old Field site is situated on the north fork of Long Island between Budds Pond and Saugust Creek at the spot where Mill Creek empties into Peconic Bay. I am indebted to the late N. E. Booth, member of the Long Island Chapter of the New York State Archaeological Association, who granted me permission to draw upon his unpublished manuscript concerning the site and to make observations of my own on the collection.<sup>5</sup>

Booth began work on the site in 1899 and continued excavations between 1919 and 1938. He found that the main deposit consisted of a shell-heap approximately 600 feet long and 100 feet wide, varying in thickness from 6 to 18 inches. Wave action had removed an undetermined amount of material from the southern side of the heap. He found that local records and legends indicate that the settlers who arrived in Southold in 1640 recognized the spot as the site of a recent Indian village because

there were no trees on it. It was selected as an area ideal for cultivation and was known henceforth as "Old Field." Some 300 years of plowing failed to disturb the base of the heap and the refuse-filled pits extending beneath it. By using a probing rod and by sinking test pits Booth was able to locate and excavate 161 refuse-filled pits. Three pits contained stone hearths; six contained clean whole shells; six more contained flexed burials or scattered human bones. The remainder contained shells, other refuse, and artifacts. Nearly all of the pits extended downward into the underlying sand, and many were intrusive into one another.

Booth sorted the pottery into groups of sherds representing individual vessels and estimates that 333 vessels are represented. Over 16 pots were later restored. Two varieties of wares were observed. The first is identical with the predominating variety in the Sebonac focus and the second with that found by Rouse<sup>6</sup> in the Niantic focus. Both wares, Sebonac and Niantic, are part of the Windsor tradition. Using Booth's computations, there are 299 Sebonac vessels and 34 Niantic vessels.

The Sebonac vessels are represented by the types Windsor brushed, Windsor fabric marked, Windsor cord marked, and Sebonac stamped (Pl. 8, Figs. 2-3, 7). In some cases whole pots display combinations of all four types, but their validity is established by other pots which are true to type. The Niantic vessels are represented by the type Niantic stamped (Pl. 8, Fig. 5), including cord-marked body sherds belonging to vessels of the same type. A transitional pot combining the features of both Niantic and Sebonac vessels is illustrated in Pl. 8, Fig. 6.

Pottery pipes are fragmentary and cannot be divided into clearly defined cultural groups, but it is apparent that simple and complex forms are present. The simple pipes are straight, conical, and undecorated. The complex pipes

<sup>1</sup> Rouse, 1945, 1947.

<sup>2</sup> Russell, 1947.

<sup>3</sup> Ritchie, 1944, Pl. 48, Fig. 3.

<sup>4</sup> Speck, 1909, 206-207.

<sup>5</sup> Booth, MS.

<sup>6</sup> Rouse, 1947.

have a slight bend and often bear incised or stamped decoration.

The remaining artifacts cannot be classified into culturally significant groups. Booth recognized the following varieties in the 995 projectile points: triangular, 346; straight stem, shouldered, 262; side notched, 275; leaf shaped, 88; barbed, two; unclassified amorphous, 22. In addition there are 94 blanks. Rough stone artifacts include 101 notched netsinkers, 18 grooved netsinkers, or "club heads," 21 pitted stones, 11 mortars, 166 hammerstones and mullers, 10 cylindrical pestles, and 265 paint stones of limonite and graphite. Ground stone artifacts include some 117 celts, a few rectangular pendants, and one in the form of a small celt. One fragment of a steatite vessel was found. Artifacts of bone and antler are represented by 10 needles of highly polished bone (some with two perforations about one half inch apart), conical projectile points (often with a single barb), cylindrical projectile points with one or two barbs, an antler chisel, three antler cylinders, four small flakers, and many splinter awls, some highly polished.

Of the 161 pits found by Booth, 11 contained only Niantic pottery; in five the Niantic pottery was associated with Sebonac pottery. The remaining pits contained Sebonac pottery, or none at all. Of the 10 perforated needles found at the site, four were in association with Niantic pottery in three pits. Booth found no other significant associations, but he observed that with two or three exceptions all the pits containing Niantic pottery were intrusive into those containing Sebonac pottery.

On the basis of the recognition of the two wares and the correlation of Niantic with intrusive pits, it is postulated that two components are present at the Old Field site. Component A is assigned to the Sebonac focus and Component B to the Niantic focus, both of the Windsor aspect. One restored vessel with a surface finish of Windsor brushed, decorated with scallop shell stamping suggestive of Sebonac stamped, a channeled collar of the incipient variety, and a pointed bottom is indicative of a transition from Sebonac into Niantic ware (Pl. 8, Fig. 6). The vessel may be taken as evidence for the evolution of the Sebonac into Niantic ware, or it may represent contact on the same time level between groups using the two wares. In view of the basic

similarities between the two wares, I favor the development of Niantic directly out of Sebonac with influences from the region of the Hudson River and western Long Island contributing the collared rim and decorative designs. The technique of decoration is merely a refinement of the scallop shell stamping already in use. The change probably did not occur at the Old Field site. On the contrary, the intrusive pits containing Niantic pottery seem to represent a later occupation at an old site.

#### LAUREL BEACH (EAGLE HILL) SITE

##### Figure 1, Site 23

The Laurel Beach, or Eagle Hill, site is situated at Laurel Beach, Milford, Connecticut. Several short notes on the site have been published, but the most comprehensive treatment is entitled "Final work at the Eagle Hill site, 1937-43" by C. C. Coffin.<sup>1</sup> Rouse<sup>2</sup> has gone further than Coffin in interpreting the data, however; he finds that the pottery from the site indicates successive occupations representing each of the developmental stages within the Windsor aspect. Laurel Beach I represents the North Beach focus and probably the Orient focus. Laurel Beach II, III, and IV correlate, respectively, with the Clearview, Sebonac, and Niantic foci.

#### SOUTH WOODSTOCK (BASTO) SITE

##### Figure 1, Site 24

The South Woodstock, or Basto, site is situated near South Woodstock in the northeast corner of Connecticut. The component representing the Sebonac focus has been reported upon in detail by Praus.<sup>3</sup> Rouse,<sup>4</sup> using additional data from other parts of the site, has identified three components. Component A is assigned to the North Beach focus, Component B to the Sebonac focus, and Component C to the Niantic focus, all of the Windsor aspect. The data from Praus<sup>5</sup> are included in the Trait Table, Windsor Aspect. I have reclassified the projectile points on the basis of the published descriptions and illustrations.

<sup>1</sup> Coffin, 1946.

<sup>2</sup> Rouse, 1947.

<sup>3</sup> Praus, 1945.

<sup>4</sup> Rouse, 1947.

<sup>5</sup> Praus, 1945.

## SOUTH WINDSOR SITE

## Figure 1, Site 25

The South Windsor site is situated near South Windsor on the Connecticut River in north central Connecticut. No detailed report has been published, but the site is referred to by Willoughby,<sup>1</sup> and the pottery has been studied by Rouse.<sup>2</sup> Two components are recognized with certainty: Component A representing the Sebonac focus and Component B the Niantic focus.

## OLD LYME (BLACK HALL) SITE

## Figure 1, Site 26

The Old Lyme, or Black Hall, site is situated on the Black Hall River near Old Lyme, Connecticut. It was excavated by Yale University in 1939 and 1940.<sup>3</sup> The Yale excavations were limited to Component A, representing the Sebonac focus. Rouse,<sup>4</sup> utilizing additional material from another part of the site dug by Norris L. Bull, establishes the presence of Component B, representing the Niantic focus. The data from Praus<sup>5</sup> are included in the Trait Table, Windsor Aspect. The projectile points are reclassified according to my terminology.

## INDIAN RIVER SITE

## Figure 1, Site 27

The Indian River site is situated on the east bank of Indian River near Milford, Connecticut. The site was excavated by Edward H. Rogers with the assistance of other non-professionals, and a detailed report has been published.<sup>6</sup> Rouse<sup>7</sup> has classified the pottery found at the site and attributes it to the Niantic focus. He also identifies large numbers of sherds as East River and Shantok in tradition. The data are useful in establishing the contemporaneity of the closing stages of the East River and Windsor cultures with the Shantok culture. Furthermore, the site is one of the westernmost of the components of the Niantic focus and may well be situated at, or near, the boundary line between the Windsor and East River aspects.

<sup>1</sup> Willoughby, 1935, 199-200.

<sup>2</sup> Rouse, 1945, 1947.

<sup>3</sup> Praus, 1942.

<sup>4</sup> Rouse, 1947.

<sup>5</sup> Praus, 1942.

<sup>6</sup> Rogers, 1943.

<sup>7</sup> Rouse, 1947.

## SEBONAC SITE

## Figure 1, Site 28

The Sebonac site is situated on the western bank of Sebonac Creek which flows northward out of Shinnecock Hills on eastern Long Island. Harrington, with the assistance of Parker and Skinner, excavated the site for the American Museum of Natural History in 1902, but the results were not published until more than 20 years later.<sup>8</sup> At the time of excavation the site consisted of six shell-heaps distributed in a north to south line along Sebonac Creek. Refuse-filled pits were common, and a few graves containing flexed burials were found. One burial was associated with a turtle carapace bowl.

In order to clarify the nature of the ceramic traits found at the site and to determine whether Harrington was justified in identifying the site as an old village of the Shinnecock people who still live near by, I studied the collection at the American Museum of Natural History. The following analysis is based on my own observations which supplement those of Harrington.

The pottery collection consists of one complete vessel and 839 sherds assignable to two traditions and a residue of indeterminate specimens (Table 4, Fig. 3). Three shell-tempered sherds are classified as Shantok in tradition and belong to the type Shantok incised. One is part of a collared rim bearing applied pyramidal lobes. The other two are from the shoulder of a vessel and bear elongate punctates typical of Shantok incised. The Windsor style<sup>9</sup> is represented by 616 sherds which are classifiable as three wares: Niantic, Sebonac, and North Beach. Four shell-tempered sherds are of the type Niantic stamped. The Sebonac ware is in the majority, consisting of 611 shell-tempered sherds and one whole vessel assignable to the several types enumerated: Windsor brushed, 475 sherds; Windsor fabric marked, 44 sherds; Windsor cord marked, 30 sherds; Sebonac stamped, 62 sherds and one complete vessel stamped on the rim and brushed on the body.<sup>10</sup> The North Beach ware is represented by one grit-tempered sherd of the type Vinette interior cord marked.

The large number of unclassified sherds

<sup>8</sup> Harrington, 1924.

<sup>9</sup> Harrington, 1924, Figs. 31-32.

<sup>10</sup> Harrington, 1924, Fig. 12.

(220) represents groups of sherds that combine similar characteristics of paste, surface finish, and decoration of unknown significance. Too few collections from sites on eastern Long Island and in Connecticut have been available for study. Sherds with paste characteristics of the Windsor style predominate; others suggest the East River style but are not attributable to known types. Most of the Windsor sherds in the unclassified category are probably assignable to Sebonac ware. A few thick, grit-tempered sherds may belong to North Beach ware. The surface finishes and decorative techniques found on the unclassified sherds are: cord marked, seven sherds; plain, 39 sherds; stippled, 29 sherds; incised, 40 sherds; notched lip, six sherds; punctated, 18 sherds; cord wrapped stick stamped, 28 sherds; dentate stamped, 53 sherds. It is interesting to note that 22 of the dentate-stamped sherds resemble Ritchie's type called Wickham punctate<sup>1</sup> in that deep punctations are combined with lines of stamping. Harrington<sup>2</sup> illustrates four sherds of this variety in Fig. 31a, d, g, h. The 220 unclassified sherds contain a larger amount of grit temper; in 22 sherds grit is the aplastic. Sherds classified as Sebonac, Niantic, and Shantok are tempered with shell. The one identifiable North Beach sherd is grit tempered.

At this writing no attempt can be made to determine the cultural affiliation of the non-ceramic artifacts. Sherds attributable to complexes other than the Sebonac focus of the Windsor aspect are few in number, so it is reasonable to postulate a similar affiliation for the majority of the other objects. Descriptions of the specimens will be found in the Trait Table, Windsor Aspect, and in Harrington's publication.

Near the surface of the site, Harrington<sup>3</sup> found evidence of contact with Europeans in the form of a gunflint, a brass kettle handle, and part of a kaolin pipe. In view of the historic association of the Shantok style with objects of European origin at Pantigo, Fort Corchaug, and Fort Shantok, I postulate a late occupation of the Sebonac site by a people using pottery of the Shantok style represented here by three sherds. Perhaps the four Niantic stamped sherds and some of the indeterminate

sherds also belong to an unidentified late horizon. Until a documented village of the Shinnecock has been excavated I hesitate to correlate the major occupation (Sebonac focus) with that group. Harrington<sup>4</sup> and Skinner<sup>5</sup> report finding projectile points and crude pottery on the underlying yellow sand in one part of the site. The material was not identifiable in terms of provenience in the catalogue, but the single sherd of Vinette interior cord marked may represent an early occupation.

#### SQUAW COVE SITE

##### Figure 1, Site 29

The Squaw Cove site is now buried beneath over 10 feet of modern earth fill on the east side of Three Mile Harbor to the northeast of the Soak Hides site. There is, however, a small collection of pottery at the Museum of the American Indian, Heye Foundation, collected by Foster Saville. Beyond the location of the site and the pottery described below I have been unable to obtain additional data.

The collection contains 82 sherds of the Windsor tradition, as well as an unclassified category. The Windsor tradition is represented by 36 sherds divisible into two wares, Sebonac and North Beach. The Sebonac ware (Pl. 13, Figs. 1-2, 6) consists of: Windsor brushed 20 sherds; Windsor fabric marked, six sherds; Sebonac stamped, six sherds; and Windsor cord marked, two sherds. All the Sebonac sherds are shell tempered. The North Beach ware is represented by two large assemblies of grit-tempered sherds attributable to one large straight-sided vessel of Vinette interior cord marked. The 46 unclassified sherds include 28 that are grit tempered. The following surface finishes and decorative techniques are represented: cord marked, 20 sherds; plain, 10 sherds; cord wrapped stick stamped, 11 sherds; fabric marked, one sherd; and incised, one sherd. In terms of paste, most of the sherds are attributable to the Windsor style, but cannot be included in any of the established types.

It is possible that the association of Vinette interior cord marked with the Sebonac series indicates a survival of the type into a later period. Another possibility is that the North Beach pottery belongs to an earlier occupation.

<sup>1</sup> Ritchie, 1946, 13-14, Pl. 8.

<sup>2</sup> Harrington, 1924.

<sup>3</sup> Harrington, 1924, Fig. 15.

<sup>4</sup> Harrington, 1924.

<sup>5</sup> Skinner, 1915a.

It is worthy of note that Ritchie<sup>1</sup> states that interior fabric- or cord-marked sherds have been found on sites around Three Mile Harbor, leading to the assumption that early sites attributable to a culture resembling North Beach may be present there.

#### SOAK HIDES SITE

##### Figure 1, Site 30

The Soak Hides site is a shell-heap situated on the west bank of Tan Bark Creek at the southern end of Three Mile Harbor near East Hampton, at the eastern end of Long Island. The site consists of a level terrace covered with refuse to a depth of 2 feet. Considerable digging has been carried on at the site by persons unknown. The only collection available for study was one excavated by Foster Saville and stored at the Museum of the American Indian, Heye Foundation. The site name and that of the near-by stream suggest occupation within the historic period, but documentation is not available. During the spring of 1946 I studied the pottery but had no opportunity to examine the non-ceramic material. In 1947 I visited the site and found that large parts of it remain undisturbed. In some places the refuse is 2 feet thick.

The collection contains 339 sherds assignable to two traditions and an indeterminate category (Table 4, Fig. 3). The East River tradition is represented by one Eastern incised sherd, a grit-tempered collared rim bearing horizontal incised lines crossed by a double-line chevron with the point down. The Windsor tradition is represented by 266 shell-tempered sherds (Pl. 13, Figs. 3-5, 7-12) assignable to the following types: Niantic stamped, two sherds; Windsor brushed, 134 sherds; Windsor fabric marked, 74 sherds; Sebonac stamped, 38 sherds; and Windsor cord marked, 18 sherds. The Niantic stamped sherds are of Niantic ware and the other types of Sebonac ware. A total of 73 sherds are unclassified or indeterminate. Three are grit tempered and the remainder shell tempered. Surface finishes and decorative techniques present are: plain, 24 sherds; punctated, 19; notched lip, 15; incised, seven; cord wrapped stick stamped, six; and dentate stamped, one. Many of the sherds have the past characteristics of the Windsor tradition but cannot be

classified with known types. It is probable that the plain sherds belong to Niantic ware.

The collection suggests the survival of the Sebonac focus until contact with the Niantic focus was established, or until the culture began to change into that of the Niantic focus. The one Eastern incised sherd is regarded as evidence of trade with people to the west. This site deserves additional excavation.

#### AQUEBOGUE SITE

##### Figure 1, Site 31

The Aquebogue site, situated near Aquebogue, Long Island, was excavated by Charles F. Goddard of the Long Island Chapter of the New York State Archaeological Association. I made additional tests to obtain samples for study: one area in the main part of the site near Goddard's excavation, another in a near-by railroad cut where a refuse-filled pit was exposed. Two pottery vessels from the site are illustrated by Ritchie.<sup>2</sup> The first vessel is unusual in that it has a rounded bottom and straight sides. The second is typical of Sebonac stamped. Specimens collected from the pit exposed by the railroad cut are illustrated in Pl. 13, Figs. 13-16. The potsherd is an example of Windsor brushed. The projectile points are of the triangular form typical of the area. The bone awl is of the simple polished splinter variety. It is concluded that the site is a component of the Sebonac focus of the Windsor aspect.

#### CLEARVIEW SITE

##### Figure 1, Site 32

The Clearview site was discovered by the field party of the Flushing Historical Society in 1939 when it was exposed by grading operations leading to the construction of the Belt Parkway. Prior to its destruction the site consisted of a thin layer of shells and other refuse, and several bowl-shaped pits. It was situated on high ground sloping northeastward towards Little Bay on the East River near Fort Totten, Long Island. Specimens were collected from the newly exposed surface, from disturbed pits, and from a limited area of undisturbed midden.

Pottery is represented by 240 sherds assignable to two styles or traditions and a residuum of unclassified plain sherds (Table 4, Fig. 3). The East River style is represented by 91

<sup>1</sup> Ritchie, 1946, 16, footnote 6.

<sup>2</sup> Ritchie, 1944, Pl. 48, Figs. 6-7.

sherds of East River cord marked mainly derived from one flaring rim vessel (Pl. 13, Fig. 20), 10 sherds of Bowmans Brook incised (Pl. 13, Figs. 23-24), and four sherds of Bowmans Brook stamped. Many of the plain body sherds have paste characteristics indicating an East River affiliation. Omitting the doubtful plain sherds, only two of the 105 East River style sherds are shell tempered. The Windsor style is represented by 57 sherds of Clearview stamped (Pl. 13, Figs. 21-22); 21 sherds of Windsor fabric marked (Pl. 13, Figs. 25-26); 16 sherds of Windsor brushed (Pl. 13, Figs. 17-18); one sherd of North Beach net marked; and one sherd of Throgs Neck simple stamped (Pl. 13, Fig. 19). Some of the unclassified plain sherds have Windsor characteristics. Omitting the plain sherds, 50 of the 96 Windsor sherds are shell tempered. The 39 small and poorly preserved plain sherds are about equally divided between shell and grit as aplastics. It is improbable that this dichotomy correlates with the two styles represented by the sherds with altered surfaces, because shell temper is present in both styles, although it is more prevalent in the Windsor style.

The disturbed nature of the site precluded the identification of physical strata attributable to two occupations. The other artifacts are largely non-specific as far as cultural identification is concerned. A fragment of a clay smoking pipe may belong with the East River pottery. One lozenge-shaped projectile point (Pl. 13, Fig. 29), three plano-convex endscrapers, and one notched bone awl (Pl. 13, Fig. 32) are typical of the Windsor aspect. The remaining artifacts are to be found in both the Windsor and East River aspects: stemmed, side-notched, triangular, and trianguloid projectile points (Pl. 13, Figs. 27-28, 30-31); plain hammerstones; a pitted anvil stone; two limonite paint stones; a fragment of graphite; eight splinter awls, some showing grinding; one awl with the articular end retained; and one bone flaker.

The meager evidence available suggests that the major occupation of this site was by a people using Windsor pottery, but it is uncertain whether the East River pottery represents another occupation by a different cultural group or the trading of East River vessels to a Windsor village on the same time level. The pottery identified as Windsor is similar to that found in the lower layers of the Throgs Neck

site (Fig. 1, Site 8) and the middle layer of the Dyckman Street site (Fig. 1, Site 17).

#### MANHASSET ROCK SITE

##### Figure 1, Site 33

The Manhasset Rock site is a rock-shelter formed by a large glacial erratic on the estate of Colonel John Hay Whitney at Manhasset, Long Island, a few miles south of the Port Washington site. I excavated the site in April, 1946, for the American Museum of Natural History and filed a detailed report there.<sup>1</sup> Along the southeast side, the boulder has an overhang that forms a sheltered area measuring approximately 30 feet long and 12 feet wide. Previous excavation by an unknown person had removed or disturbed the soil over most of the sheltered area. Refuse in the form of stained earth containing bits of marine shell, fire-cracked stones, chips, fragments of bone, and artifacts of stone, bone, and pottery was confined to a layer which sloped westward beneath the boulder to a depth of 45 inches and horizontally to a distance of approximately 6 feet from the junction of the rock with the surface of the ground.

Nine potsherds ranging in size from  $\frac{1}{2}$  to 1 inch in diameter were found. All are body sherds; their small size precludes any reconstruction of the vessel forms involved. Five of the sherds are grit tempered and four are shell tempered. Two bear dentate stamped impressions; five are cord marked; two have plain surfaces. Three of the cord-marked sherds and one of the plain sherds have brushed interior surfaces. One cord-marked sherd bears similar cord impressions on the interior surface. The remaining sherds have plain interiors. Five of the sherds are assignable to established types. Three are of the type Windsor cord marked; one is Windsor brushed; and one is Vinette interior cord marked. The dentate stamped sherds suggest Clearview stamped, but none is stamped on the interior.

A study of the vertical distribution of the sherds shows that one dentate stamped sherd and one Windsor cord-marked sherd are from disturbed areas in the site. The remaining sherds are distributed from 6 inches to 42 inches in depth. Grit-tempered sherds range in depth from 6 inches to 33 inches, while shell-tempered sherds range from 18 inches to 42

<sup>1</sup> Smith, MS.

inches. Plain sherds range from 6 inches to 21 inches; cord marked from 27 inches to 42 inches. The one dentate stamped sherd appears in the 18- to 21-inch layer. Four out of five sherds below the depth of 18 inches have altered interior surfaces. Neither of the two above the line is so treated. The sherds found from 18 inches to 39 inches deep are classified as Windsor brushed, Windsor cord marked, and Vinette interior cord marked. One sherd from the 6- to 9-inch level is plain and unclassified. One sherd from the 18- to 21-inch level is dentate stamped and unclassified. The other unclassified sherd, a cord-marked piece, was found at the greatest depth, at a level of 39 to 42 inches. There is a tendency for shell temper, cord marking, and roughened interior surfaces to occur at a greater depth than grit temper, plain surfaces, dentate stamping, and smooth interior surfaces. The sherds from the greater depths resemble those found on sites assigned to the Windsor aspect; those found closer to the surface are more like those from sites assigned to the East River aspect. The roughened interiors make assignment of sherds to the Windsor tradition easy, but the other sherds cannot be classified as of the East River tradition with any degree of certainty.

Nineteen projectile points are classifiable as follows: narrow, stemmed, three; narrow, side notched, four; broad, corner notched, one; fragmentary, lozenge-like, five; fishtail, three; narrow pentagonal, two; narrow, trianguloid, straight base (crude), one. No attempt is made to classify eight fragmentary blades which would bring the total number of projectile points to 27. Two of the classified projectile points were found in the disturbed portion of the site. The remaining 17 projectile points were found at depths ranging from 6 to 33 inches. When the deposit is divided into three arbitrary levels 9 inches thick, some significant distributions become apparent.

	INCHES 6-15	INCHES 15-24	INCHES 24-33
Fishtail	1		2
Lozenge-like		3	2
Pentagonal, narrow		1	1
Broad, corner notched		1	
Trianguloid, narrow		1	
Narrow, side notched	1	2	
Narrow, stemmed	2		

The fishtail points have an intermittent distribution, being absent at the middle of the deposit. The lozenge-like and pentagonal points are limited to the middle and lower levels. Corner-notched and trianguloid points are limited to the middle level. Side-notched points range from the middle to the upper levels. Stemmed points are confined to the upper level.

Other chipped stone artifacts include three fragmentary knife blades, distributed from the top to the bottom of the deposit, two rough blanks, a flake with a retouched edge, and a crude chopper or hoe. Four plain hammerstones and a few pieces of limonite and hematite complete the inventory of stone objects. Three crudely made bone awls of the splinter type were found from the middle to the bottom of the refuse. A bone flaker came from the general digging.

In general the vertical distribution of the artifacts confirms the stratigraphy found by Skinner<sup>1</sup> at Throgs Neck and Dyckman Street (Fig. 1, Sites 8, 17). Throgs Neck I and II yielded pottery of the Windsor tradition, while Throgs Neck III yielded pottery of the East River tradition. Dyckman I is preceramic; Dyckman II contains Windsor pottery; Dyckman III shows evidence of the East River tradition. At Manhasset Rock not enough pottery was found to permit the presentation of comparable data. It is significant, however, that most of the sherds classifiable as Windsor tradition occur at greater depths than those that suggest the East River aspect. The projectile points from Throgs Neck correlate fairly well in form and vertical distribution with those found at Manhasset Rock. Fishtail points are distributed from the top to the bottom in both sites, although they are absent in the middle layer at Manhasset Rock. Lozenge-shaped points range from the bottom to the middle in both sites. Triangular points are limited to the upper level at Throgs Neck. The single trianguloid point from the Manhasset Rock site is from the middle level. Skinner does not state how the other projectile points are distributed at Throgs Neck. Bone awls are crude in the lower levels at the latter site. At Manhasset Rock comparable specimens appear in the middle and lower levels. It is impossible to compare the Dyckman Street site in the

<sup>1</sup> Skinner, 1919, 1920.



same detail; however, it is significant that the Preceramic horizon (Dyckman I) is characterized by lozenge-shaped points.

The Manhasset Rock site has a majority of traits in common with the Clearview site which is also related to Throgs Neck I and II and to Dyckman II. Similar pottery of the Windsor style and projectile points of stemmed, side-notched, lozenge, and triangular forms are present. In conclusion, the major occupation of the Manhasset Rock site is assigned, tentatively, to the Clearview focus of the Windsor aspect.

#### MATINECOCK POINT SITE

##### Figure 1, Site 34

In 1901 Harrington excavated the Matinecock Point site for the American Museum of Natural History. It is described by Parker.<sup>1</sup> The site lies on a rise of ground above Peter Creek and a smaller unnamed stream near Locust Valley, Long Island. At the time of excavation it consisted of a shell-heap several hundred feet in diameter and from 1 to 2 feet thick. It contained bowl-shaped pits filled with refuse. Maize, beans, and a plum pit were found in charred condition within one of the pits. The burial of a dog and an isolated fragment of a human skull were observed. A preliminary report on the pottery is included in my earlier study.<sup>2</sup>

Nelson<sup>3</sup> analyzed the original collection of 3611 sherds, finding 1660 that were indeterminate and 1951 that were classifiable as to surface finish and decorative technique (Table 4, Fig. 3). Cord marking predominates over plain as a surface finish, while sherds with fabric-marked and brushed surfaces are rare. Most of the decorated sherds bear stamped designs, but many are incised. Punctated sherds are exceedingly rare. A study of the remaining sample of 305 sherds indicates the presence of 88 dentate-stamped, three scallop shell stamped, and one cord-wrapped stick-stamped sherds. Grit temper is found in 96 per cent and shell temper in the remainder.

The Windsor tradition is the only ceramic style present. Most of the sherds belong to the types Vinette interior cord marked, North

Beach brushed (Pl. 14, Fig. 18), Matinecock Point stamped (Pl. 14, Figs. 7-9), and Matinecock Point incised (Pl. 14, Fig. 11). The few scallop shell stamped sherds (Pl. 4, Fig. 6) are not classified but may represent the beginning of the manufacture of the type Sebonac stamped. Nearly all of the rim sherds are straight; the remainder are flaring. Pointed bottoms are present, and the vessels are elongate in form.

A wide variety of projectile points, ranging from triangular through pentagonal, lanceolate, lozenge, semi-lozenge, and fishtail to various stemmed and side-notched forms occur at the site. Lanceolate and ovate knives and amorphous chips and flakes with retouched edges are also present. Trianguloid drills with convex or incurvate blades are found. Ground stone forms include a three-quarter grooved ax and a rectanguloid pendant or gorget with one perforation. Rough stone implements consist of plain and pitted hammerstones, abrading stones, mortar stones, rough choppers or hoes, pitted anvil stones, and pieces of limonite, hematite, graphite, and mica. Bone and antler artifacts are represented by splinter and notched awls (Pl. 13, Fig. 34), a cylindrical antler flaker, an antler wedge, an antler tool socket or handle, a perforated needle, one doubtful projectile point of antler, and a few bone tubes which may have served as beads. See the Trait Table, Windsor Aspect, for a tabulation of the specimens.

#### PELHAM BOULDER SITE

##### Figure 1, Site 35

The Pelham Boulder site is situated in Pelham Bay Park, Bronx, New York, not far from the Pelham Knolls site. Harrington describes the site as follows:

"The street car line from Bartow to City Island passes two large glacial boulders on a knoll just south of the road. Beyond this knoll, running down to the salt meadow, lies another shell heap only partly explored. Here were found stone and bone implements, part of a pot, and the usual material."<sup>4</sup> The investigations were carried on in 1899 for the American Museum of Natural History.

The collection contains 436 sherds, of which 5 per cent are shell tempered and the remainder

<sup>1</sup> Parker, 1922.

<sup>2</sup> Smith, 1944a.

<sup>3</sup> Notes on file at the American Museum of Natural History.

<sup>4</sup>Harrington, 1909b, 175.

grit tempered. Twelve straight rims, two slightly flaring rims, and one collared rim are present. Two basal sherds indicate pointed bottoms. The single collared rim is regarded as intrusive because it resembles the pottery of the Castle Creek focus of the Owasco aspect and is completely out of context as far as the rest of the pottery is concerned. Furthermore, the site was not excavated stratigraphically, and no provenience is recorded other than the number of the trench in which the material was found. The sherd, of the incipient collar variety, bears alternating lines of vertical and horizontal cord-wrapped stick stamping on the rim and four diagonally incised lines on the neck.

A comparison of the surface finishes and decorative techniques (Table 4, Fig. 3) shows the prevalence of cord marking. Next in popularity, followed by plain and stippled, is the brushed surface. Most of the decorated sherds are dentate stamped. A few are incised and even fewer are punctated. Over half of the sherds are cord marked inside and some are brushed inside. It is apparent that the pottery belongs to the Windsor tradition. Vinette interior cord marked (Pl. 14, Figs. 2-3, 5, 15), North Beach brushed (Pl. 14, Fig. 19), Matinecock Point stamped (Pl. 14, Fig. 10), and Matinecock Point incised account for most of the sherds. It is worthy of note that a few of the interior cord-marked sherds are shell tempered. The stippled sherds (Pl. 14, Fig. 14) are not classified.

The non-ceramic inventory is meager. Nine projectile points represent the forms: lozenge, fishtail, trianguloid, and stemmed (Pl. 14, Figs. 23-24, 27-28). Knives occur in lanceolate and ovate forms (Pl. 14, Fig. 29). One end-scraper of the plano-convex form is present. Retouched chips and flakes may also have served as scrapers. Rough stone artifacts include hammerstones, ovate choppers or hoes, notched netsinkers, limonite paint stones, and amorphous fragments of mica. Worked bone is present in the form of splinter awls (Pl. 14, Fig. 33) and one rectangular piece with a sharp point which may have served as a projectile point (Pl. 14, Fig. 35). A tabulation of the specimens will be found in the Trait Table, Windsor Aspect.

#### NORTH BEACH SITE

##### Figure 1, Site 36

The North Beach site was destroyed by grading operations concurrent with the construction of La Guardia Airport. It was situated near Flushing Bay at Ocean Avenue, a few hundred feet from the hangars of the small airport that preceded the present one. Solecki excavated a refuse deposit intermittently from 1936 to 1938, and a preliminary report on the pottery appears in my earlier study.<sup>1</sup> Since the preliminary study was made, the collection has been subjected to a second and more intensive analysis which results in slightly different percentages. I regard the second analysis, made after studying the pottery from other components of the North Beach focus, more objective than the first. In the second analysis I considered only exterior markings. This results in a larger percentage of plain, and a smaller percentage of cord-marked, sherds (Table 4, Fig. 3).

In the collection of some 424 sherds, 10 rims are straight, and six flare slightly. Pointed bottoms are present. Many sherds reveal incomplete welding along the coil lines. Cord marking, the prevailing surface finish, is followed by plain in predominance. A few sherds are net marked; others are brushed. Fourteen sherds may have been marked with a fabric-wrapped paddle, but the impressions are not clear. A small number of sherds are incised, and still fewer are marked with cord-wrapped sticks and dentate stamps.

All the sherds belong to the Windsor style and are grit tempered. The one shell-tempered sherd mentioned in the earlier analysis has been identified as East River in tradition and is without doubt intrusive. Most of the sherds belong to the type Vinette interior cord marked (Pl. 14, Figs. 1, 13). The remainder is classified as North Beach brushed (Pl. 14, Fig. 16), North Beach incised (Pl. 14, Fig. 12), Matinecock Point stamped, and North Beach net marked. No sherds of the latter type were clearly marked, and none could be reproduced photographically. Unclassified cord-marked sherds are also present (Pl. 14, Fig. 4).

Projectile points of chipped stone consist of lozenge, semi-lozenge, and triangular forms (Pl. 14, Figs. 21-22, 25-26). Ovoid and plano-

<sup>1</sup> Smith, 1944a.

convex scrapers occur (Pl. 14, Figs. 30-31), as do chips and flakes showing retouching on the edges. A fragment of ground stone may be identified as the wing of a bannerstone (Pl. 14, Fig. 32). A sherd from a steatite vessel with a horizontal lug occurs (Pl. 14, Fig. 20). Plain hammerstones, abrading stones, pitted anvil stones, and a tool combining the features of a hammerstone, muller, and anvil stone appear. Amorphous pieces of limonite and hematite are present. Artifacts of bone and antler include rough splinter awls, one awl with side notches, one made from a deer ulna, an antler tine flaker, and a flat trianguloid object

(Pl. 14, Fig. 36) which may have served as a projectile point. See the Trait Table, Windsor Aspect, for a tabulation of the specimens.

ORIENT SITES 1 AND 2, JAMESPORT HILL SITE,  
AND SOUTHAMPTON SITE

Figure 1, Sites 37-40

The Orient focus is not analyzed in the present study because it has been presented in some detail by Ritchie.<sup>1</sup> I have included the Orient focus, as represented by the above components, in the Windsor aspect.

<sup>1</sup> Ritchie, 1938, 1944.

## APPENDIX C. CLASSIFICATION OF THE ARTIFACTS

IN CLASSIFYING THE ARTIFACTS made of stone, bone, and shell I have followed rather closely the system employed by Ritchie.<sup>1</sup> Most of my modifications are dictated by the observable differences in the nature of the artifacts. In some cases a need for a more general, and in others a more exact, nomenclature has caused me to deviate from his terminology. When the analysis was made there was no opportunity to have the animal bones identified. As a result, the bone implements, particularly the awls, are listed under more generalized captions than those employed by Ritchie. On the other hand, I observe a difference within the category of triangular projectile points which Ritchie does not recognize in his classification. I have retained the term "triangular" for those points with straight edges on the blade and have used the term "trianguloid" to denote similar points with convex or excurvate edges.

The reader is referred to the works of Skinner, Harrington, and Praus for detailed descriptions of artifacts from many of the sites treated here. In my terminology I have used as many standard terms as the data permit.

Most of the chipped stone artifacts are made of quartz which occurs in large quantities throughout the area, on beaches and in stream beds, in the form of water-worn pebbles. Artifacts of chert are found in most sites; the use of this material seems to have been more popular on the mainland and on western Long Island than on eastern Long Island, where quartz was more popular. The stones in the glacial till are of such variety that it would appear to be a hopeless task to try to differentiate between chert which could have been obtained locally and that which could have been obtained by trade from more remote regions.

Objects of ground stone are so rare in the locality studied that very little data of any significance can be gleaned from their composition. The shells used as artifacts are readily identifiable as representing species still present in the region.

The pottery from each site was sorted according to the surface finish and decorative technique. The resulting categories were then separated into subdivisions on the basis of the

tempering material. Notes on the rim, body, and bottom shapes were also made.

Seven surface finishes and six decorative techniques are present on the pottery of coastal New York:

### SURFACE FINISHES

(These cover the bodies of the vessels.)

1. Plain: A surface devoid of alteration other than smoothing or wiping
2. Cord marked: A surface covered with closely spaced negative impressions of twisted cord, evidently caused by malleating the clay with a cord-wrapped paddle
3. Fabric marked: A surface marked by impressions of a plain plaited, or possibly twined, textile wrapped around a paddle
4. Net marked: A surface finish showing the negative impressions of a fine mesh net probably wrapped around a paddle. The knot at each intersection of the cords is visible under magnification
5. Brushed: A surface covered by parallel groups of dragged lines probably accomplished by drawing a toothed implement or a frayed stick across the clay. (See Brushed, no. 2 under Decorative Techniques, below)
6. Stippled: A surface pitted with small depressions of fairly uniform size and distribution. They are apparently not attributable to the leaching action of water
7. Simple stamped: A surface covered with parallel groups of wide, shallow, vertically arranged lines which may owe their characteristics to the use of a ribbed, grooved, or thong-wrapped paddle

### DECORATIVE TECHNIQUES

(These cover the rims and sometimes the shoulders.)

1. Incised: A surface exhibiting lines that have been cut into the clay with a sharp instrument
2. Brushed: A surface covered with carefully executed lines resembling the surface finish of the same name, but forming definite designs
3. Punctated: A surface bearing depressions made by punching the clay with a piece of wood, bone, stone, or shell
4. Cord-wrapped stick-stamped: A surface bearing the impression of a cylinder wrapped with a spiral of twisted cord or, possibly, the edge of a cord-wrapped paddle
5. Scallop shell stamped: A surface covered with the impressions of the edge of a scallop shell (*Pecten irradians*)
6. Dentate stamped: A surface bearing the impressions of a notched or toothed instrument

<sup>1</sup> Ritchie, 1944.

The tempering material consists of grit and shell. Grit and granular tempering are synonymous; both refer to the inclusion of any mineral aplastic in the paste. The source of the tempering material is sand, gravel, or larger stones of heterogeneous composition which were crushed for the purpose. Shell tempering consists of particles of marine or fresh-water shells added to the paste. At the Finch Rock House (Fig. 1, Site 6) in Westchester County, New York, fresh-water shells were used, but marine shells were used throughout the rest of the tidewater area. Occasionally the particles of grit and shell are mixed, and in rare instances the hollow moulds of disintegrated vegetal material may be observed. When particles of shell are present the temper is classed as shell regardless of the quantity of grit present.

Vessels fall into three broad categories: globular, elongate-globular, and elongate. The bottoms are classified as rounded, pointed (conoidal), and flattened. Shoulders are described as rounded or absent. The rims are divided into straight, flaring, and collared. Straight rims are of two principal varieties: those rising vertically above a construction and rims that are vertical or insloping continuations of the profile of the vessel wall. When dealing with small sherds it is impossible to make the finer distinctions. Flaring rims curve outward from a constricted neck area. Collared rims are of two principal varieties: incipient, or chan-

neled, collars rise vertically above an outward flaring neck area and are weakly developed as compared to true collars. True collars have a pronounced change in direction from the flare of the neck to the vertical plane and are generally thicker in cross-section. On all rim types the lips are described as rounded, flattened, or tapered.

After the primary sorting into the above categories the types, stages (wares), and styles (traditions) were established. In establishing the types there is usually a residue of unclassified sherds which are either too small, too poorly preserved, or too aberrant to permit assignment to a type. A type is a conceptualization based on the repeated occurrence of sherds having a majority of traits in common. Some types grade into others, and in a few instances it has been necessary to make arbitrary separations. The stage is a group of types having a majority of traits in common. The style is a more generalized concept comparable to a recognizable tradition in painting or sculpture.

The type, of primary importance as a time marker, has a fairly limited temporal and geographic range. The stage covers a longer time period and has a greater geographic range. The style has little or no temporal significance and has the widest geographic distribution. In the following descriptions, the types are grouped by styles, Shantok, East River, and Windsor.

## SHANTOK CERAMIC TRADITION

### SHANTOK INCISED

Plate 8, Figure 1; Plate 9, Figures 1-8, 38

**PASTE:** Moderately compact paste tempered with shell. Grit-tempered sherds are extremely rare. The texture is coarse, but the finished surfaces have a smooth soapy feel. On some sherds the construction seems to be coiled, but the majority break irregularly and suggest a more haphazard technique. The structure is flaky. The thickness is usually about 1/4 inch, but some very thin sherds measure as little as 1/16 inch. The color ranges from the predominant buff to gray and black.

**SURFACE FINISH:** The interior surfaces appear to have been scraped smooth. The exterior surfaces are much smoother than the interior and bear no traces of the implement used. The bodies of the vessels are invariably plain.

**DECORATION:** Except for the occasional occurrence of a line of rectangular punctates encircling the vessel at the shoulder, the decoration, limited to the collared portion of the rim, takes the form of incised or stamped lines placed diagonally or horizontally around the collar. The stamped lines are often nearly indistinguishable from incised lines. Apparently the edge of a clamshell was used for both techniques. In addition bossed and applied lobes, pyramidal in shape, encircle the vessels at the lower margin of the collar. Four castellations often adorn the rim (Pl. 8, Fig. 1). Rim-points and lobes are usually decorated with triangular punctates or very short incised lines. The inner surface of the lip usually bears short incised or stamped lines.

**FORM:** Large globular-bodied vessels with bottoms ranging from slightly conoidal through

rounded to slightly flattened are the forms reconstructable from the evidence at hand. The necks are constricted above rounded shoulders. The collar rises upward and outward above the neck. The profile of the collar is exaggerated by the presence of the lobes. On pottery from Connecticut lobes are made by pushing the clay outward from the inside. On specimens from Long Island the lobes are applied to the outside. The tapered or rounded lips slope inward. Rim points are of two general types: one is apparently an integral part of the lip, the other is applied as a fillet and resembles a caterpillar crawling over the lip. The mouths of vessels with rim-points are distorted and have squared openings. The mouth becomes round below the rim.

**USUAL RANGE OF TYPE:** Southern Connecticut and eastern Long Island.

**CHRONOLOGICAL POSITION OF TYPE:** Limited to the Fort Shantok and Fort Corchaug foci of the Shantok aspect; documented as existing in the middle of the seventeenth century in Connecticut and on eastern Long Island. An earlier undocumented site, lacking European trade goods, is also known in Connecticut. Trade sherds are present in the Massapeag focus of the East River aspect and in the Niantic focus of the Windsor aspect.

**RELATIONSHIPS OF TYPE:** The type is closely related to the pottery of the Iroquois. The pottery of the Pantigo focus of the Shantok aspect on eastern Long Island is probably derived from Shantok incised.

## EAST RIVER CERAMIC TRADITION

### EASTERN INCISED

#### Plate 10, Figures 1-5

**PASTE:** Compact paste with grit or shell temper. Medium texture. Granular to flaky structure. Sherds break irregularly, but some specimens show evidence of coiled construction. Color ranges from dark brown to buff, with darker shades predominating. Thickness averages  $1/4$  inch.

**SURFACE FINISH:** Smooth inside and outside. Neck usually plain. Body more often plain than cord marked.

**DECORATION:** Incised lines arranged in parallel groups form a design consisting of various combinations of diagonals, verticals, and horizontals placed in opposition to each other. The design forms a band around the rim on the collared portion. The lower margin is usually notched. A conventionalized face formed by three punctates is sometimes present at intervals around the rim.

**FORM:** Collared rims are usually pronounced and rarely weak or incipient. The collar rises vertically above a constricted neck and terminates in a flattened lip. Two to four rim-points or castellations frequently appear. The mouths of vessels having rim-points are likely to be square, while those lacking rim-points are round. The body is globular, with rounded

shoulders. The bottom, usually rounded, is occasionally slightly pointed.

**USUAL RANGE OF TYPE:** Tidewater New York, northern New Jersey, the Hudson Valley, central New York, and southern New England. The type is rare in Connecticut, southern New Jersey, and eastern Long Island. Definition of the type is based on collections from western Long Island and the adjacent mainland.

**CHRONOLOGICAL POSITION:** Typical of the Clasons Point and Massapeag foci of the East River aspect. It is rare in early components and predominates in late components of the Clasons Point focus. The type is present in the Rosenkrans Ferry focus of the East River aspect in northern New Jersey and in the Niantic focus of the Windsor aspect in southern New England. It is typical of eastern Iroquois and Mahican sites.

**RELATIONSHIPS OF TYPE:** Closely related to, and probably derived from, the pottery tradition of the eastern Iroquois; apparently a late Pan-Woodland type. The designs are similar to those found on the types Clasons Point stamped, Van Cortlandt stamped, and Niantic stamped. The vessel shapes suggest those of Castle Creek, eastern Iroquois, and Shantok.

**REMARKS:** Further work in the Northeast will probably make it necessary to divide Eastern incised into a number of types.

## CLASONS POINT STAMPED

Plate 10, Figures 14-18

**PASTE:** Moderately compact paste with grit or shell temper. Medium texture. Granular to flaky structure. Evidence of coiled construction usually present, although many sherds break irregularly. Color ranges from dark brown to buff, with darker shades predominating. The thickness averages about 1/4 inch.

**SURFACE FINISH:** Smooth inside and on rim and neck area outside. The body is more often cord marked than plain.

**DECORATION:** Parallel lines of scallop shell stamping arranged in diagonal, vertical, and horizontal combinations form a band around the rim. The stamping is in the form of fine crenellated lines, the impression of the edge of a scallop shell held perpendicular to the surface. In rare instances the lines indicate that the shell was held at an angle, because a negative impression of the outside of the shell is visible on one side.

**FORM:** The rim is collared, but it is not so pronounced as that found on the type Eastern incised. The collars may be thickened or formed by pushing out the clay from the inside. The lip may be flattened or rounded. The neck is moderately constricted. The body is elongate-globular with rounded shoulders and a semi-conoidal bottom.

**USUAL RANGE OF TYPE:** Western Long Island and the adjacent mainland. The type occurs in the form of trade pieces in southern New England and eastern Long Island and appears to be absent in New Jersey.

**CHRONOLOGICAL POSITION OF TYPE:** Typical of the Clasons Point focus of the East River aspect, particularly its middle components. It is rare in the early and late components and absent in the Massapeag focus which follows the Clasons Point in time. Trade pieces are found in the Sebonac and Niantic foci of the Windsor aspect.

**RELATIONSHIPS OF TYPE:** The technique is almost identical with that found on Sebonac stamped and Niantic stamped which occur in the Sebonac and Niantic foci of the Windsor aspect. The designs approximate in detail those found on the type Eastern incised. Similarly, there appears to be a generic relationship to the stamped rims found in the Castle Creek focus of the Owasco aspect.

## VAN CORTLANDT STAMPED

Plate 10, Figures 22-23

**PASTE:** Same as Clasons Point stamped.

**SURFACE FINISH:** Same as Clasons Point stamped.

**DECORATION:** Parallel lines of cord wrapped stick stamping or the impressions of the edge of a cord-wrapped paddle arranged in diagonal, vertical, and horizontal combinations form a band around the rim. The designs are similar to those found on the types Eastern incised and Clasons Point stamped and on vessels of the Castle Creek focus of the Owasco aspect.

**FORM:** Same as Clasons Point stamped.

**USUAL RANGE OF TYPE:** Western Long Island, the adjacent mainland, and northern New Jersey.

**CHRONOLOGICAL POSITION OF TYPE:** Typical of the early components of the Clasons Point focus of the East River aspect. The type is not so common as the related Clasons Point stamped.

**RELATIONSHIPS OF TYPE:** The technique of decoration suggests a development from Bowmans Brook stamped. There is a generic relationship to the pottery of the Castle Creek focus. Similar designs and identical paste characteristics indicate a close relationship with Clasons Point stamped.

## BOWMANS BROOK STAMPED

Plate 10, Figure 24; Plate 12, Figures 2, 3, 5-8

**PASTE:** Compact paste with grit temper. Moderately coarse texture. Coiled construction. Color ranges from orange through brown to black, with the lighter shades predominant. Thickness averages approximately 1/4 inch.

**SURFACE FINISH:** Smooth on the inside and on rim and neck area outside. The body is invariably cord marked in the manner of East River cord marked.

**DECORATION:** Parallel horizontal lines of stamping achieved by impressing a cord-wrapped stick or the edge of a cord wrapped paddle into the clay. The lines encircle the rim and neck areas. On the inner surface of the rim just below the lip the stamping is applied vertically or diagonally. Similar impressions frequently appear on the lip as well. In rare instances some horizontal impressions are applied to the shoulder over the cord marking.

**FORM:** The rim is flaring and not thickened. The neck is constricted above a rounded shoulder area. The body is elongate and terminates in a pointed bottom. Usually the lip is flattened, but it may be rounded if the cord-wrapped stick impressions are not applied to it.

**USUAL RANGE OF TYPE:** Western Long Island, the adjacent mainland, Staten Island, and New Jersey.

**CHRONOLOGICAL POSITION OF TYPE:** The type makes its appearance in the Bowmans Brook focus of the East River aspect and dies out during the Clasons Point focus. It is present in small quantities in the Rosenkrans Ferry focus. It appears to be contemporary with the Canandaigua focus of the Owasco aspect because somewhat similar sherds are present in the Canandaigua component.

**RELATIONSHIPS OF TYPE:** The technique of decoration, the designs, and the vessel shapes suggest a generic relationship to the pottery of the Owasco aspect. The presence of similar stamping on the type Van Cortlandt stamped suggests that Bowmans Brook stamped is ancestral to it.

#### BOWMANS BROOK INCISED

Plate 8, Figure 8; Plate 10, Figures 8-12;  
Plate 12, Figure 4

**PASTE:** Moderately compact paste with grit or, more rarely, shell temper. Medium to moderately coarse texture. Granular to flaky structure. Coiled construction. Color ranges from buff or orange through brown, with medium dark shades predominating. The thickness averages more than 1/4 inch.

**SURFACE FINISH:** Smooth inside and outside. Few vessels exhibit cord-marked bodies.

**DECORATION:** Broad lines of incising more crudely executed than on sherds of Eastern incised. Intricate, but carelessly arranged, triangular and rectangular plats running around the rim and well down on the shoulder. The herring-bone motif is common. In rare instances there are four or more appliquéd nodes each bearing a conventionalized face formed by three punctates.

**FORM:** The rim is predominantly straight or insloping. A rim of this form is merely an extension of the contour of the vessel wall. Another variety has a straight rim which rises vertically

from a constriction above a rounded shoulder. The bottoms are invariably pointed. The body is elongate, and its shape suggests a hornet's nest or an egg (Pl. 8, Fig. 8).

**USUAL RANGE OF TYPE:** Western Long Island, Staten Island, and New Jersey. The type is present, but rare, in the Bronx, Westchester, and southern New England.

**CHRONOLOGICAL POSITION OF THE TYPE:** Typical of the early components of the Clasons Point focus. It appears first in the Bowmans Brook focus and dies out towards the end of the Clasons Point focus.

**RELATIONSHIPS OF TYPE:** The true relationships of the type are unknown. Similar vessels appear to be common in New Jersey. The designs are different from those found on eastern Iroquois vessels. An origin at some point in New Jersey, or farther south, is postulated.

#### EAST RIVER CORD MARKED

Plate 10, Figures 26-27; Plate 12, Figures 1, 11;  
Plate 13, Figure 20

**PASTE:** Compact paste with grit or shell temper. Medium to moderately coarse texture. Color ranges from buff and orange through brown to black, with brownish shades predominating. Granular to flaky in structure. Coiled construction. Thickness varies from approximately 1/4 inch to 5/16 inch.

**SURFACE FINISH:** Smooth inside. The exterior is roughened by the application of a cord-wrapped paddle and then smoothed over, partly obliterating the impressions. The cord impressions may run vertically or diagonally, but are rarely applied horizontally. Only in rare instances do the cords form a criss-cross pattern. The cord marking extends from the bottom to the lip.

**DECORATION:** None.

**FORM:** Three vessel shapes are associated with the type: 1, straight or slightly insloping rim, which is a continuation of the vessel wall, elongate body, and pointed bottom; 2, straight rim rising vertically from a constricted area above a rounded shoulder, elongate body with pointed bottom; 3, flaring rim rising from a constricted area above a rounded shoulder, elongate or elongate-globular body with pointed or, rarely, rounded bottom. The lips may be flattened or rounded.



**USUAL RANGE OF TYPE:** Western Long Island, the adjacent mainland, Staten Island, and New Jersey.

**CHRONOLOGICAL POSITION OF TYPE:** The type is fairly common on all sites of the East River aspect but is more prevalent in the Bowmans Brook focus. A few trade sherds are

found in the Sebonac focus of the Windsor aspect.

**RELATIONSHIPS OF TYPE:** The type is related to the widespread cord-marked pottery found over most of eastern North America. It may have had its origin in the type Vinette interior cord marked.

## WINDSOR CERAMIC TRADITION

### NIANTIC STAMPED

Plate 8, Figures 4-5

**PASTE:** The paste is usually laminated but well consolidated. The texture is medium. The construction may be coiled, but conclusive evidence is not available. The temper is almost invariably shell. The structure is flaky. The thickness varies from 1/4 inch to 5/16 inch. The color is usually reddish.

**SURFACE FINISH:** Plain inside. The exterior surface is often cord marked. The impressions of the cords are usually oriented horizontally, at least at the shoulder area, so that they encircle the vessel. On some vessels vertical cord marks are superimposed on the horizontal lines. Other vessels have plain exterior surfaces.

**DECORATION:** The technique is scallop shell stamping. The lines are arranged in a continuous band around the rim and rarely occur on any other part of the vessel. The designs consist of various combinations of opposed diagonal lines, bordered above and below by horizontal lines.

**FORM:** The rim is the channeled, or incipient, collar which usually does not vary in thickness. The lip may be flat or rounded. The neck is constricted, the shoulders are rounded, the body is globular, and the base is rounded. The vessels are more symmetrical than those assigned to other types within the Windsor tradition.

**USUAL RANGE OF TYPE:** Connecticut and eastern Long Island. The type is found in the form of trade pottery on western Long Island in the Clasons Point focus.

**CHRONOLOGICAL POSITION OF TYPE:** Typical of the Niantic focus of the Windsor aspect.

**RELATIONSHIPS OF TYPE:** The designs resemble those found on Clasons Point stamped, Eastern incised, and Van Cortlandt stamped. The technique probably was derived from the earlier Sebonac stamped.

### WINDSOR BRUSHED

Plate 8, Figures 3, 6-7; Plate 13, Figures 1, 12-13, 17-18

**PASTE:** The paste is usually laminated and poorly consolidated. The texture is coarse. The construction is coiled. The temper is invariably shell on Long Island but is frequently grit in southern New England. The structure of the paste is flaky. The thickness varies from 1/4 inch to 5/16 inch. The color is usually reddish.

**SURFACE FINISH:** Brushed inside and outside. On the interior surface (Pl. 13, Figs. 12, 18) the brush marks are approximately 1/16 inch to 1/8 inch wide and vary from 1/64 inch to 1/16 inch in depth. Most of the marks are arranged horizontally, with some crossing at an angle. On the exterior of the vessel the brush marks are applied haphazardly from below the rim to the bottom. The marks are often more carefully applied on the rim, forming a decorative motif. The surface finish was probably achieved in many instances by dragging a scallop shell over the clay, but on some sherds the finish could have been accomplished by wiping or brushing with a frayed stick or a fiber brush.

**DECORATION:** Trailed or brushed lines in parallel groups as if made with a toothed or ridged implement such as a scallop shell (Pl. 8, Fig. 7; Pl. 13, Fig. 1). The lines resemble the brush marks found on the interior and exterior surfaces of the body. The designs are in the form of crossed diagonals or carelessly arranged vertical strokes.

**FORM:** The rim is usually vertical or slightly insloping. A few of the necks are constricted. The flaring rim is also present. The lip is more often flattened than rounded but may be irregular and crudely finished. The shoulders are not pronounced. The bottoms are pointed.

**USUAL RANGE OF TYPE:** Eastern Long Island and southern New England. The type is rarely

found on western Long Island. It appears to be totally absent elsewhere.

**CHRONOLOGICAL POSITION OF TYPE:** It is typical of the Windsor aspect, appearing first in the Clearview focus, reaching its greatest popularity in the Sebonac focus, and dying out in the Niantic focus.

**RELATIONSHIPS OF TYPE:** The type is closely related to, and probably derived from, North Beach brushed and the interior grooved pottery from the Vinette component of the Point Peninsula focus.<sup>1</sup> The pottery also resembles that of the Chesapeake-Potomac Group from Popes Creek, Maryland.<sup>2</sup>

#### SEBONAC STAMPED

Plate 13, Figure 4; Harrington, 1924, Figures 12, 13b

**PASTE:** Same as Windsor brushed.

**SURFACE FINISH:** Usually Windsor brushed on interior and exterior surfaces below the rim.<sup>3</sup> Some vessels are of the type Windsor fabric marked (Pl. 13, Fig. 4) below the rim on the outside. In rare instances the body is cord marked. All vessels have brushed interiors.

**DECORATION:** Carelessly applied short parallel lines of scallop shell stamping. Most of the impressions indicate that the shell was held at an angle, because the negative impression of the back of the shell is noticeable at one side of the deep impression. In many cases the shell was dragged in between the stamped impressions, creating the same effect as the brush marks on Windsor brushed.

**FORM:** Same as Windsor brushed.

**USUAL RANGE OF TYPE:** Eastern Long Island and southern New England. Very few sherds suggest the type on western Long Island. It appears to be totally absent elsewhere.

**CHRONOLOGICAL POSITION OF TYPE:** The type appears in great popularity in the Sebonac focus and may be limited to this manifestation. It is not known for certain whether or not the type continued into the Niantic focus.

**RELATIONSHIPS OF TYPE:** The type is probably the one from which the decorative technique on Clasons Point stamped was derived by diffusion from eastern Long Island and southern Connecticut. It is generically related to the mass of stamped pottery found in eastern

North America and may have had its origin in dentate stamping.

#### WINDSOR FABRIC MARKED

Plate 13, Figures 2-3, 25-26

**PASTE:** Same as Windsor brushed.

**SURFACE FINISH:** Brushed interior. The exterior of the vessel is covered with the impressions of a paddle wrapped with a plain plaited or a twined textile. The impressions resemble those of a cord-wrapped stick but are closely and uniformly placed.

**DECORATION:** There is usually no decoration, and the fabric marking covers the lip as well.

**FORM:** Identical with Windsor brushed, except that no flaring rims have been observed. The lip is almost invariably flattened by the application of the fabric-wrapped paddle.

**USUAL RANGE OF TYPE:** Connecticut and eastern Long Island; rare on western Long Island. It is unknown elsewhere.

**CHRONOLOGICAL POSITION OF TYPE:** It appears first in the Clearview focus and reaches its climax in the Sebonac focus. A few sherds of the type in components of the Clasons Point focus may be attributed to trade or diffusion.

**RELATIONSHIPS OF TYPE:** The type is probably related to the fabric-marked pottery found in many parts of eastern North America.

#### WINDSOR CORD MARKED

Plate 8, Figure 2; Plate 13, Figures 10-11

**PASTE:** Same as Windsor brushed.

**SURFACE FINISH:** Brushed interior. The exterior of the vessel is covered with the impressions of a cord-wrapped paddle. There appears to be no uniform orientation to lines, and little subsequent smoothing is observable.

**DECORATION:** There is usually no decoration. Occasionally the lips are notched.

**FORM:** Similar to Windsor brushed, but flaring rims are more prevalent. The lip may be rounded or flattened.

**USUAL RANGE OF TYPE:** Connecticut and eastern Long Island. It occurs rarely as trade pottery on western Long Island.

**CHRONOLOGICAL POSITION OF TYPE:** It is typical of the Sebonac focus and may occur in the Niantic focus in small numbers. Trade sherds indicate that it is contemporary with the Clasons Point focus of the East River aspect.

<sup>1</sup> Ritchie, 1944.

<sup>2</sup> Holmes, 1903, Pl. 139.

<sup>3</sup> Harrington, 1924, Fig. 12.

**RELATIONSHIPS OF TYPE:** It is probably related to the pottery from the Vinette site in central New York<sup>1</sup> and to the mass of cord-marked pottery in North America.

#### CLEARVIEW STAMPED

Plate 13, Figures 21-22

**PASTE:** The paste is laminated and poorly consolidated. The texture is coarse. Coiled construction. Shell temper predominates over grit temper. The structure is flaky. The thickness varies from 1/4 inch to 5/16 inch. The color is usually reddish but sometimes grades into brown.

**SURFACE FINISH:** The prepared surface is smooth but lumpy and irregular in places. Parallel lines of crude dentate stamping cover most of the interior and exterior surfaces. The stamped impressions are usually rectangular but may be oval. On a few large sherds it is possible to observe that the dentate stamping was applied with a rocking motion resulting in a zigzag pattern. Most of the dentate impressions are about 1/8 inch in diameter.

**DECORATION:** No decorative motifs other than the above surface finish have been observed. Rim sherds are not present in the collections.

**FORM:** No data on rim or lip shape. The sherds seem to be derived from large, pointed-bottomed vessels with straight or only slightly rounded sides and shoulders.

**USUAL RANGE OF TYPE:** Western Long Island, the adjacent mainland, southern Connecticut, and Manhattan Island.

**CHRONOLOGICAL POSITION OF TYPE:** Limited to the Clearview focus of the Windsor aspect.

**RELATIONSHIPS OF TYPE:** The type is probably derived from Ritchie's Vinette Type 2. It is generically related to the mass of stamped pottery in eastern North America.

#### VINETTE INTERIOR CORD MARKED

Plate 14, Figures 1-3, 5, 13, 15, 17

**PASTE:** Moderately compact paste. Coarse in texture. Coiled construction. The temper is usually a coarse grit, but a few shell-tempered sherds have been found in tidewater sites. The structure is granular. The thickness varies but averages close to 5/16 inch. The color ranges

from buff through red to brown and black.

**SURFACE FINISH:** The interior surface bears horizontal lines of cord marking from lip to bottom. Occasionally impressions resembling those of a cord-wrapped stick are superimposed haphazardly. Most of the sherds bear vertical or criss-cross cord impressions on the exterior. Plain exteriors are present, but in the absence of restored vessels and large sherds it is uncertain whether these represent plain surfaced vessels or plain areas on cord-marked vessels. The finding of many sherds on which the cord marking is all but obliterated is indicative of the presence of plain areas on otherwise cord-marked pots. A few sherds, fabric marked on the interior, are found on eastern Long Island, but none have been found to the west. Ritchie finds what he terms "probable" fabric marking on the interior of some sherds from the Vinette site.<sup>2</sup>

**DECORATION:** Usually absent. A few sherds bear traces of dentate stamping at the Matinecock Point site.

**FORM:** Straight-sided, pointed-bottomed vessels with elongate bodies. One flat-bottomed vessel is known (Pl. 14, Fig. 17). Occasionally there is a barely perceptible flare at the rim. The lip may be either rounded or flattened.

**USUAL RANGE OF TYPE:** Western Long Island and the adjacent mainland, Laurentian and Point Peninsula sites in upper New York State and, rarely, on eastern Long Island. Similar sherds are reported in Connecticut and on Martha's Vineyard, Massachusetts.

**CHRONOLOGICAL POSITION OF TYPE:** Typical of the North Beach focus of the Windsor aspect on western Long Island and the adjacent mainland as well as the Brewerton focus of the Laurentian aspect and the Point Peninsula focus of the Vine Valley aspect.<sup>3</sup> It appears to be one of the oldest definable pottery types in the Northeast and is probably an old Pan-Woodland type.

**RELATIONSHIPS OF TYPE:** Most of the attributes of the type are identical with Ritchie's Vinette Type 1.

**REMARKS:** I have not used Ritchie's designation because of the inclusion of additional traits which appear to be limited to the coast: flat bottom, shell temper, and plain exterior surface. Further work on coastal pottery may

<sup>1</sup> Ritchie, 1944.

<sup>2</sup> Ritchie, 1944.

<sup>3</sup> Ritchie 1944.

necessitate the establishment of more than one type of interior cord-marked pottery.

#### NORTH BEACH BRUSHED

Plate 14, Figures 16, 18-19

**PASTE:** Moderately compact paste. Medium coarse in texture. Coiled construction. On one vessel each coil shows the indentations of an implement used to compact it before the next coil was added. The temper varies from fine sand to coarse grit. The structure is granular. The thickness is approximately  $3/8$  inch. The color ranges from buff to reddish, with very few dark specimens present.

**SURFACE FINISH:** The interior and exterior surfaces bear faint brush marks applied haphazardly over the entire vessel. The marks vary in width, but most of them range from  $1/64$  inch to  $1/32$  inch in diameter.

**DECORATION:** No rim sherds have been found. None of the body sherds bears decoration.

**FORM:** Straight-sided, pointed-bottomed vessels.

**USUAL RANGE OF TYPE:** Western Long Island and the adjacent mainland. Similar sherds appear in collections from northern Manhattan Island.

**CHRONOLOGICAL POSITION OF TYPE:** The North Beach focus of the Windsor aspect. It appears to be one of the oldest definable pottery types in the region.

**RELATIONSHIPS OF TYPE:** The type is similar in surface finish to Ritchie's Vinette Type 2.<sup>1</sup> It appears to be ancestral to the type Windsor brushed which replaces it in the Clearview focus.

#### MATINECOCK POINT STAMPED

Plate 14, Figures 7-10

**PASTE:** Moderately compact paste. Coarse in texture. Coiled construction. The tempering material is a coarse grit. One shell-tempered sherd is known. The structure is granular. The thickness varies from  $1/4$  inch to  $3/8$  inch. The color is usually brownish. A few reddish and black sherds are found.

**SURFACE FINISH:** The interior is usually smooth, but a few sherds with interior cord marking are known. The exterior is plain where the design is placed, but may be cord marked below over the entire body.

<sup>1</sup> Ritchie, 1944.

**DECORATION:** The decorative technique is dentate stamping which was achieved by impressing a toothed instrument in the clay. The impressions vary from square to rectangular, are usually from about  $1/16$  inch to  $1/8$  inch in diameter, and are arranged in horizontal and diagonal rows around the rim. The characteristic design is one of triangular plats suspended from a continuous horizontal line.

**FORM:** Typical vessels have straight rims, elongate bodies, and pointed bottoms. A few have flaring rims. The lip is usually flattened.

**USUAL RANGE OF TYPE:** Western Long Island, Manhattan Island, and the adjacent mainland.

**CHRONOLOGICAL POSITION OF TYPE:** Typical of the North Beach focus, especially the Matinecock Point site.

**RELATIONSHIPS OF TYPE:** The type appears to be related to Ritchie's Vinette Type 2 in decoration.<sup>2</sup> It may be ancestral to Clearview stamped. A generic relationship to the mass of dentate stamped pottery in eastern North America is apparent.

#### NORTH BEACH NET MARKED

##### TENTATIVE TYPE

**PASTE:** Similar to Vinette interior cord marked.

**SURFACE FINISH:** The interior is smooth. The exterior surface bears the impressions of a finely woven net. The knot at the intersection of the crossed cords is discernible under magnification. No suitable photographs of the small weathered specimens could be made.

**DECORATION:** Probably none.

**FORM:** Uncertain, but probably similar to Vinette interior cord marked.

**USUAL RANGE OF TYPE:** Manhattan Island and western Long Island.

**CHRONOLOGICAL POSITION OF TYPE:** Limited to the North Beach and Clearview foci of the Windsor aspect.

**RELATIONSHIPS OF TYPE:** Unknown.

#### MATINECOCK POINT INCISED

##### (TENTATIVE TYPE)

Plate 14, Figure 11

**PASTE:** Similar to Matinecock Point stamped.

**SURFACE FINISH:** Usually plain. Known only from small, straight rim sherds.

**DECORATION:** Curvilinear lines of crude

<sup>2</sup> Ritchie, 1944.

incising accomplished by stabbing and dragging a blunt instrument in the clay. Concentric polygons are typical.

FORM: Unknown except for presence of straight rims.

USUAL RANGE OF TYPE: Manhattan Island and western Long Island.

CHRONOLOGICAL POSITION OF TYPE: The North Beach focus of the Windsor aspect.

RELATIONSHIPS OF TYPE: Probably related to Matinecock Point stamped.

NORTH BEACH INCISED  
(TENTATIVE TYPE)

Plate 14, Figure 12

PASTE: Similar to Vinette interior cord marked.

SURFACE FINISH: Usually plain. Known only from small near-rim sherds.

DECORATION: Crudely incised lines which cross at right angles, producing a cross-hatched pattern.

FORM: Unknown.

USUAL RANGE OF TYPE: Western Long Island.

CHRONOLOGICAL POSITION OF TYPE: The North Beach focus of the Windsor aspect.

RELATIONSHIPS OF TYPE: One sherd with a similar design is illustrated in Pl. 115 of Volk's paper on his work in and around Trenton, New Jersey.<sup>1</sup>

<sup>1</sup> Volk, 1911.

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## PLATES

PLATE 8

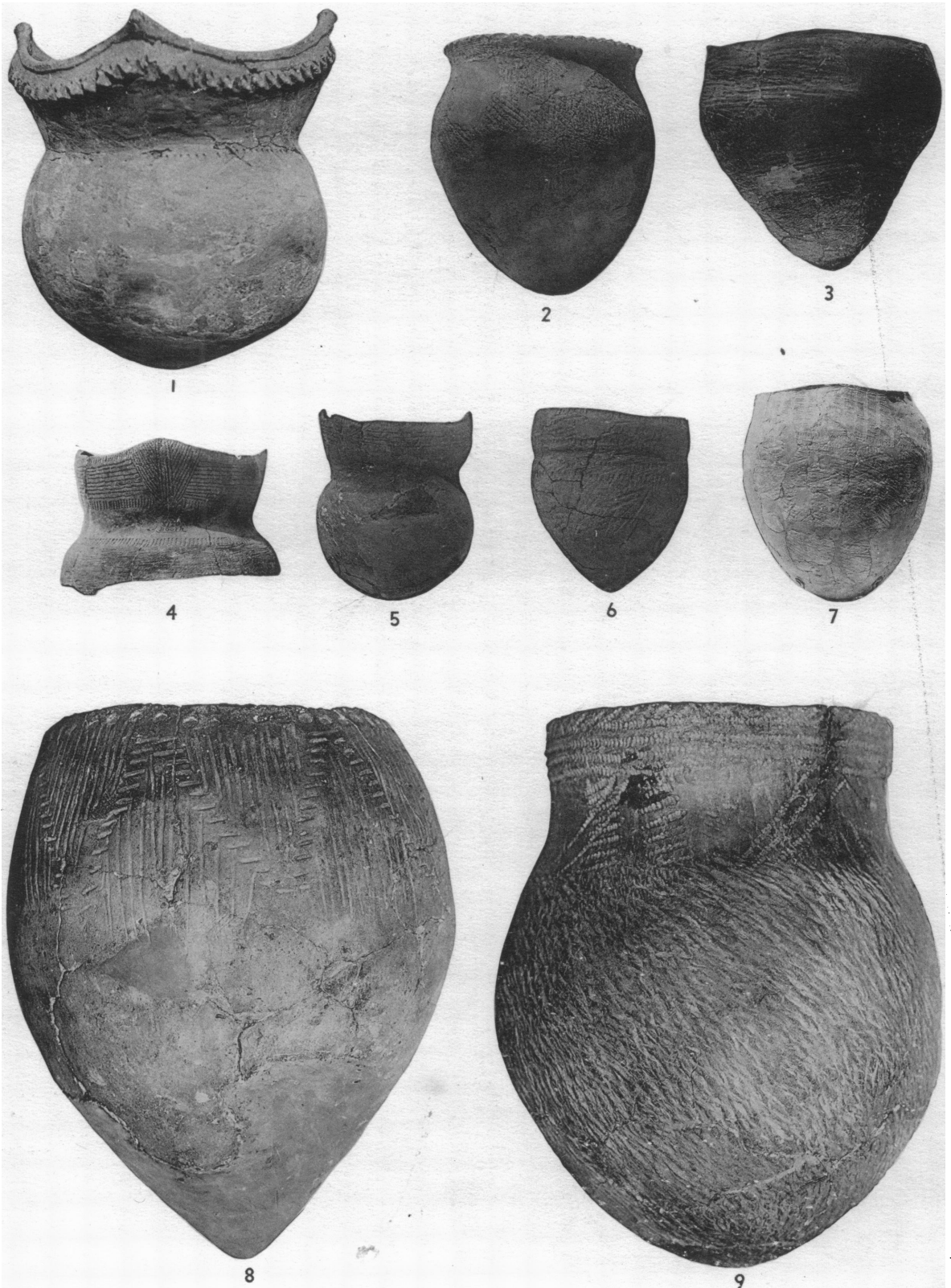
GROUP OF POTTERY VESSELS REPRESENTING THE SHANTOK,  
WINDSOR, AND EAST RIVER CERAMIC TRADITIONS

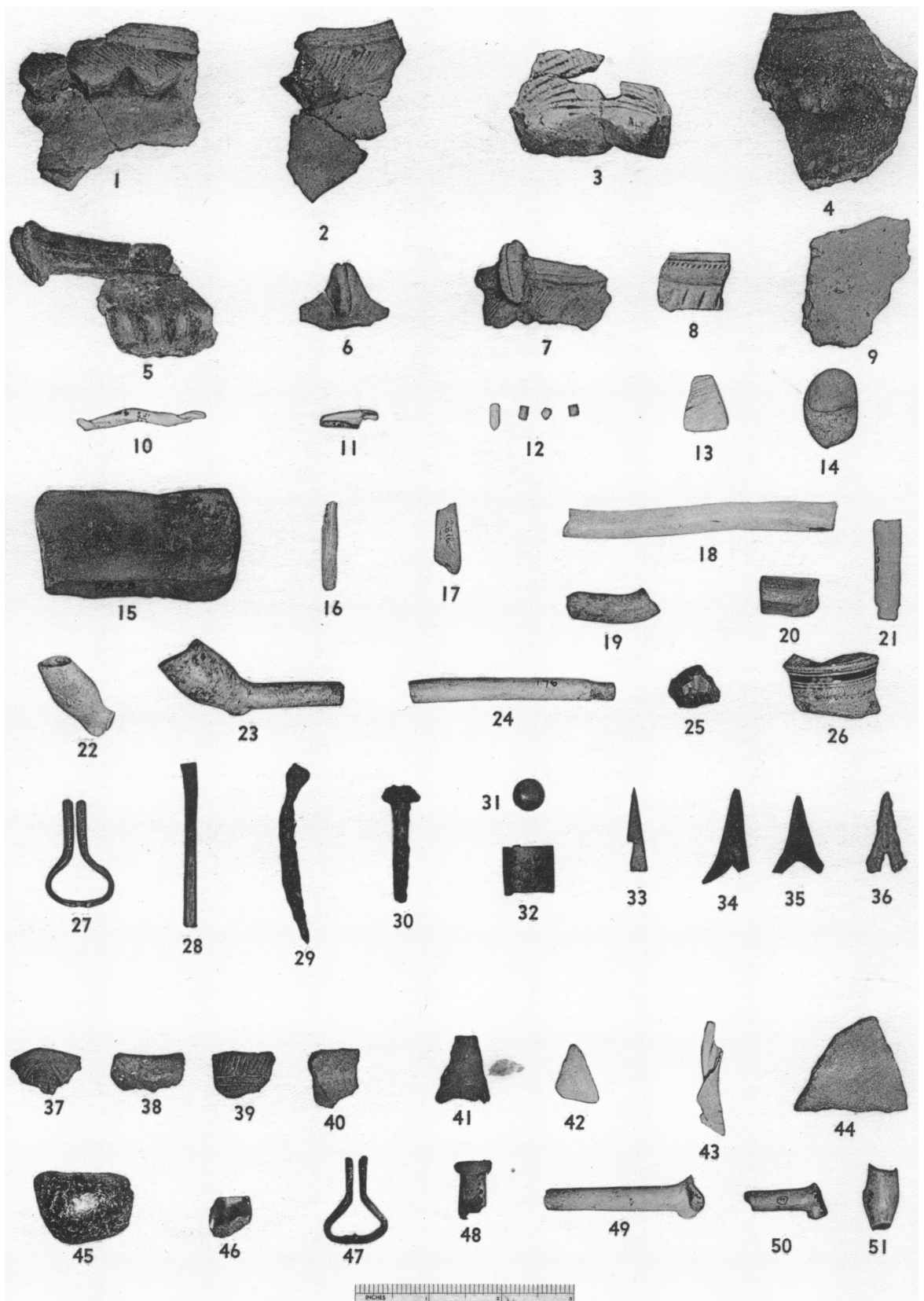
1, Shantok tradition; 2-7, Windsor tradition; 8, 9, East River tradition.  
1, Shantok incised; 2, Windsor cord marked; 3, 7, Windsor brushed; 4, 5, Niantic stamped;  
6, vessel showing transition from Sebonac into Niantic ware; 8, Bowmans Brook incised; 9,  
Van Cortlandt stamped.

1, Fort Corchaug component, Fort Corchaug focus, Shantok aspect; 2, 3, 5-7, Components  
A and B, Old Field site, Sebonac and Niantic foci, Windsor aspect; 4, Tiffany site, situated  
on Three Mile Harbor near the Soak Hides site, probably a component of the Niantic focus,  
Windsor aspect; 8, Port Washington component, Clasons Point focus, East River aspect; 9,  
Graham Court site, a refuse-filled pit situated north of the Grantville site, probably a com-  
ponent of the Clasons Point focus, East River aspect.

2-7, From the collection of N. E. Booth, Long Island Chapter, New York State Archaeo-  
logical Association, Southold, New York.

1-6, Scale *ca.* 1:4; 7, scale *ca.* 1:10; 8, scale *ca.* 1:3; 9, scale *ca.* 3:8.





**PLATE 9**  
**SPECIMENS FROM TWO HISTORIC SITES ON LONG**  
**ISLAND, NEW YORK**

1-36, Fort Corchaug component, Fort Corchaug focus, Shantok aspect.

1-8, Shantok incised pottery; 9, plain rim sherd; 10-12, specimens representing the stages in the manufacture of wampum; 13, piece of worked clamshell; 14, small hammerstone, probably used in the manufacture of wampum; 15, abrading stone, probably used in the manufacture of wampum; 16, 17, fragments of bone awls; 18, polished bone tube; 19, 21, fragmentary stems of clay smoking pipes; 20, fragmentary stem of a polished stone smoking pipe; 22-24, fragments of English smoking pipes of kaolin; 25, gunflint; 26, sherd of blue on gray glazed ware; 27, brass jew's-harp stamped with the letter "R"; 28, part of the handle of a brass spoon; 29, iron nail; 30, iron bolt; 31, glass button; 32, rolled piece of sheet brass; 33-36, projectile points of brass and iron.

37-51, Fort Massapeag component, Massapeag focus, East River aspect.

37, 39, Eastern incised sherds; 38, Shantok incised sherd; 40, cord-wrapped stick-stamped sherd; 41, drill; 42, triangular projectile point; 43, piece of shell representing a stage in the manufacture of wampum; 44, abrading stone, probably used in the manufacture of wampum; 45, fragment of a green glass bottle; 46, sherd of green glazed ware; 47, brass jew's-harp stamped with the letter "R"; 48, brass ferrule, or tube; 49-51, fragments of English smoking pipes of kaolin.

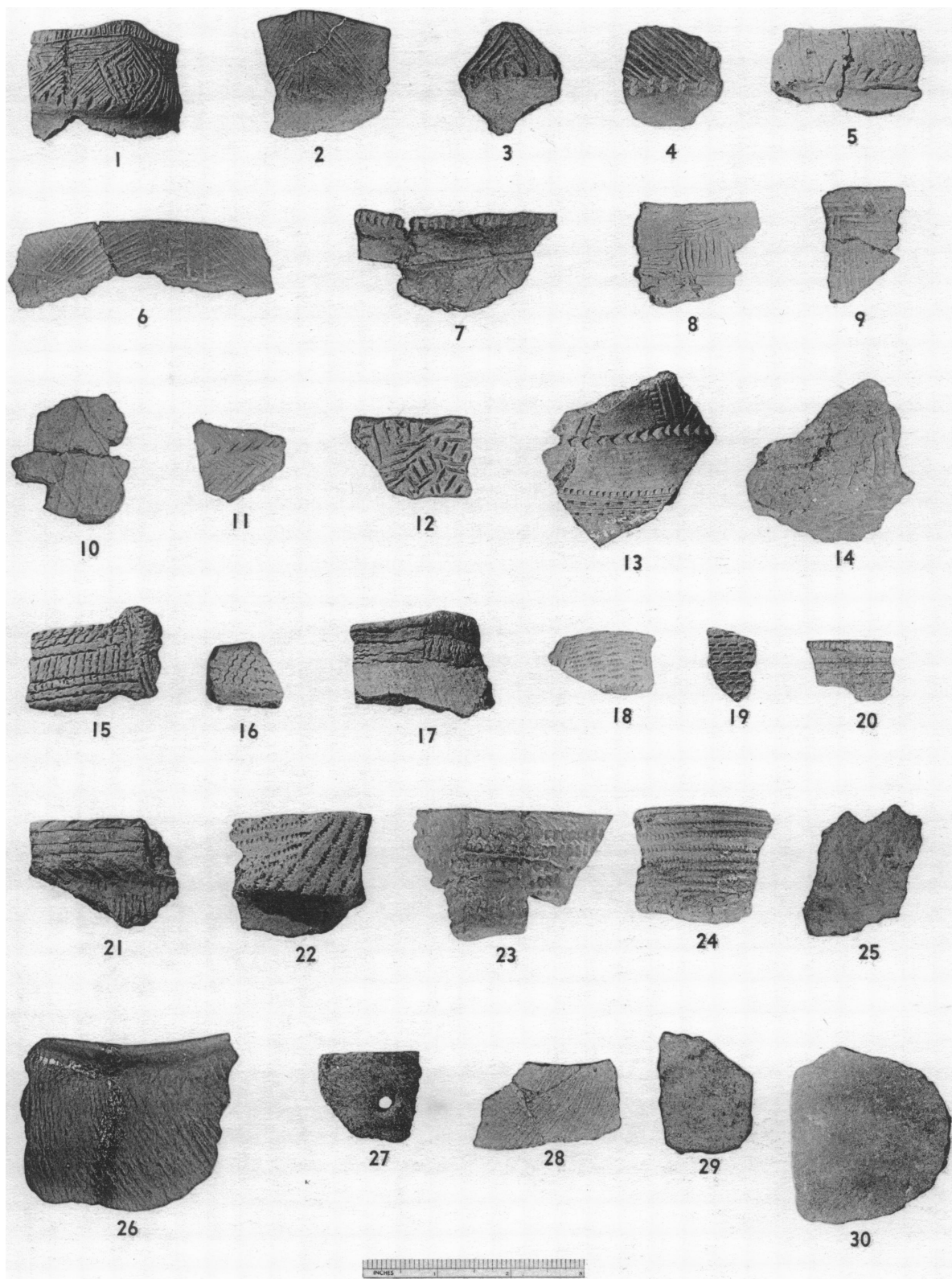
## PLATE 10

### POTTERY OF THE CLASONS POINT FOCUS, EAST RIVER ASPECT

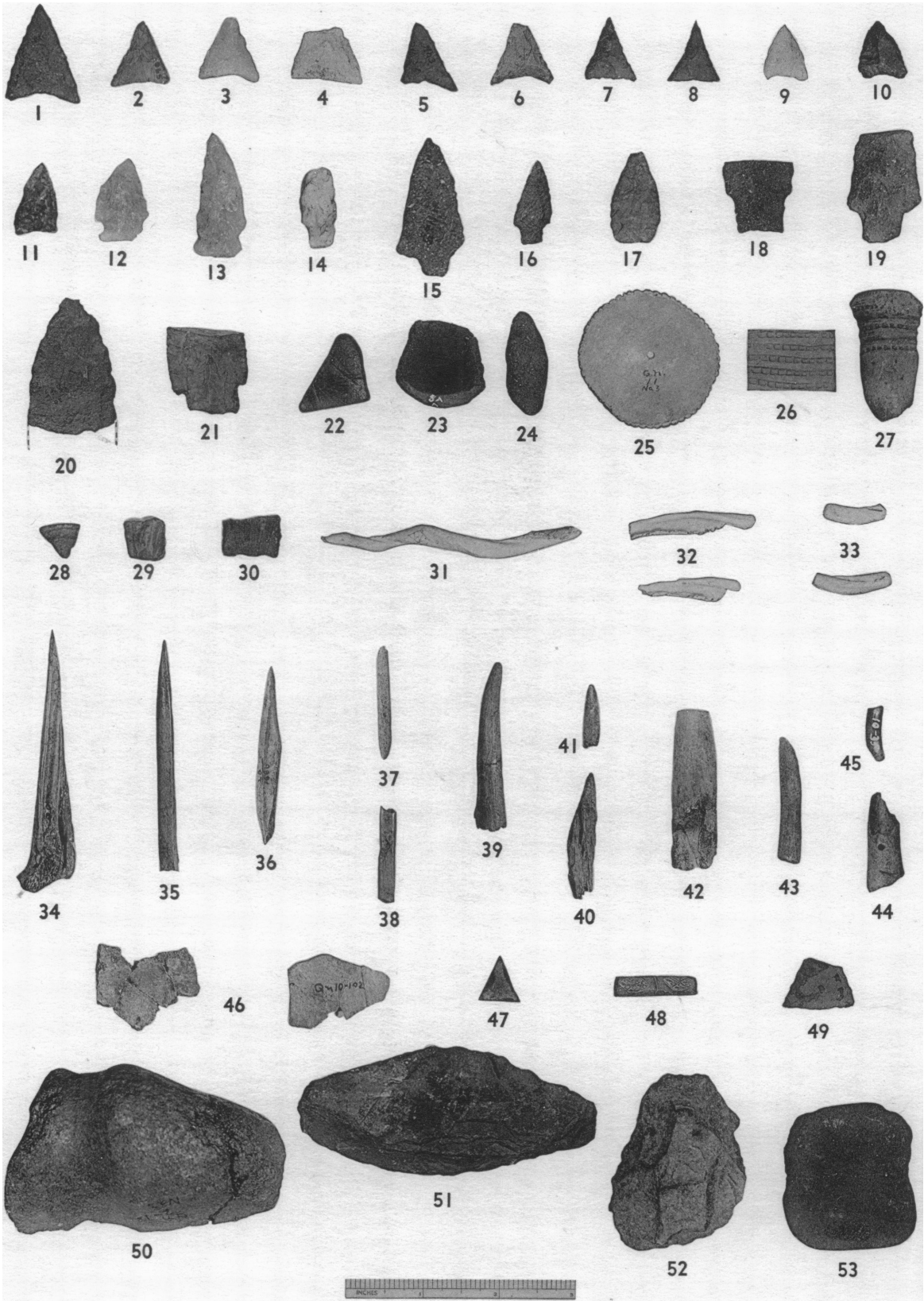
1-6, Eastern incised; 7, unclassified incised; 8-12, Bowmans Brook incised; 13, unclassified incised, punctated, and scallop shell stamped; 14-18, Clasons Point stamped; 19-21, unclassified dentate stamped; 22, 23, Van Cortlandt stamped; 24, Bowmans Brook stamped; 25, unclassified cord marked; 26, 27, East River cord marked; 28, unclassified brushed; 29, 30, unclassified plain.

1, 13, Finch II component, Finch Rock House; 2-4, 7, 9, 10, 14, 19, 29, Baker Hill site; 5, 17, 21, 22, 27, Pelham Knolls site; 6, 11, 30, Soundview site; 8, 12, 18, 20, 23, 24, 26, 28, Port Washington site; 15, Helicker's Cave; 16, 25, Aqueduct site.

5. 20-1648	17. 20-4995
13. 20-2935	17. 20-1822
15. 20-2847	22. 20-1648
	27. 20-1802









## PLATE 11

### ARTIFACTS OF STONE, BONE, ANTLER, SHELL, AND POTTERY OF THE CLASONS POINT FOCUS, EAST RIVER ASPECT

1-9, Broad and narrow, triangular projectile points with straight and concave bases; 10, 11, broad and narrow, trianguloid forms with concave bases; 12, 13, broad and narrow, side-notched forms; 14-16, 18, 19, broad and narrow, stemmed forms; 17, lanceolate form, straight base; 20, 21, fragments of knives; 22, paint stone; 23, 24, geode, used as a source of paint, and pestle for grinding it; 25, 26, 27, shell gorget, or pottery stamp, laboratory impressions of gorget, and clay pipe bowl bearing dentate stamping; 28-30, fragments of pottery smoking pipes; 31-33, pieces of shell, representing stages in the manufacture of wampum; 34-36, bone awls; 37, 38, bone needles; 39, 40, flakers of antler and bone; 41, conical antler projectile point; 42, antler tool handle; 43, antler wedge; 44, perforated fragment of bone; 45, beaver incisor; 46, fragments of turtle shell dishes; 47, projectile point of copper or brass; 48, fragment of English pipestem of kaolin, marked with *fleurs-de-lis* stamp; 49, sherd of brown glazed ware; 50, fragment of a grooved ax; 51, pick; 52, chopper; 53, netsinker.

1, 3, 5, 11-15, 25-33, 44, 50, Baker Hill Site; 2, 9, 18, 22, 34, 38, 41, 51-53, Port Washington site; 4, 7, 8, 10, 17, 19, 35, 39, 41-43, 45, 46, Aqueduct site; 6, 16, 20, 21, 36, 37, Pelham Knolls site; 23, 24, 48, 49, Soundview site; 47, Finch II.

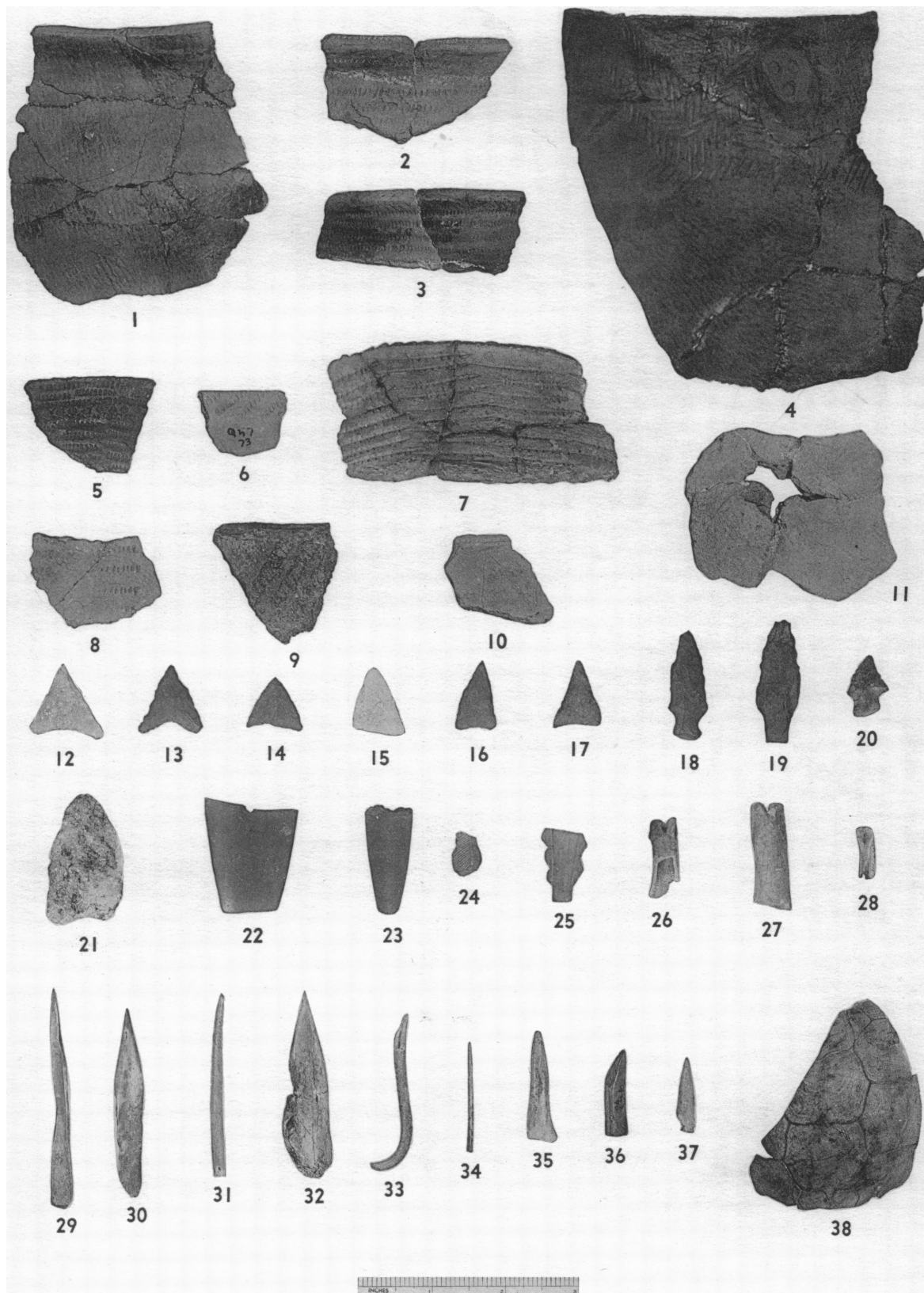
6. 20-1797	36. 20-1666
16. 20-1741	37. 20-1616
20. 20-1845	47. 20-5194
21. 20-2842	

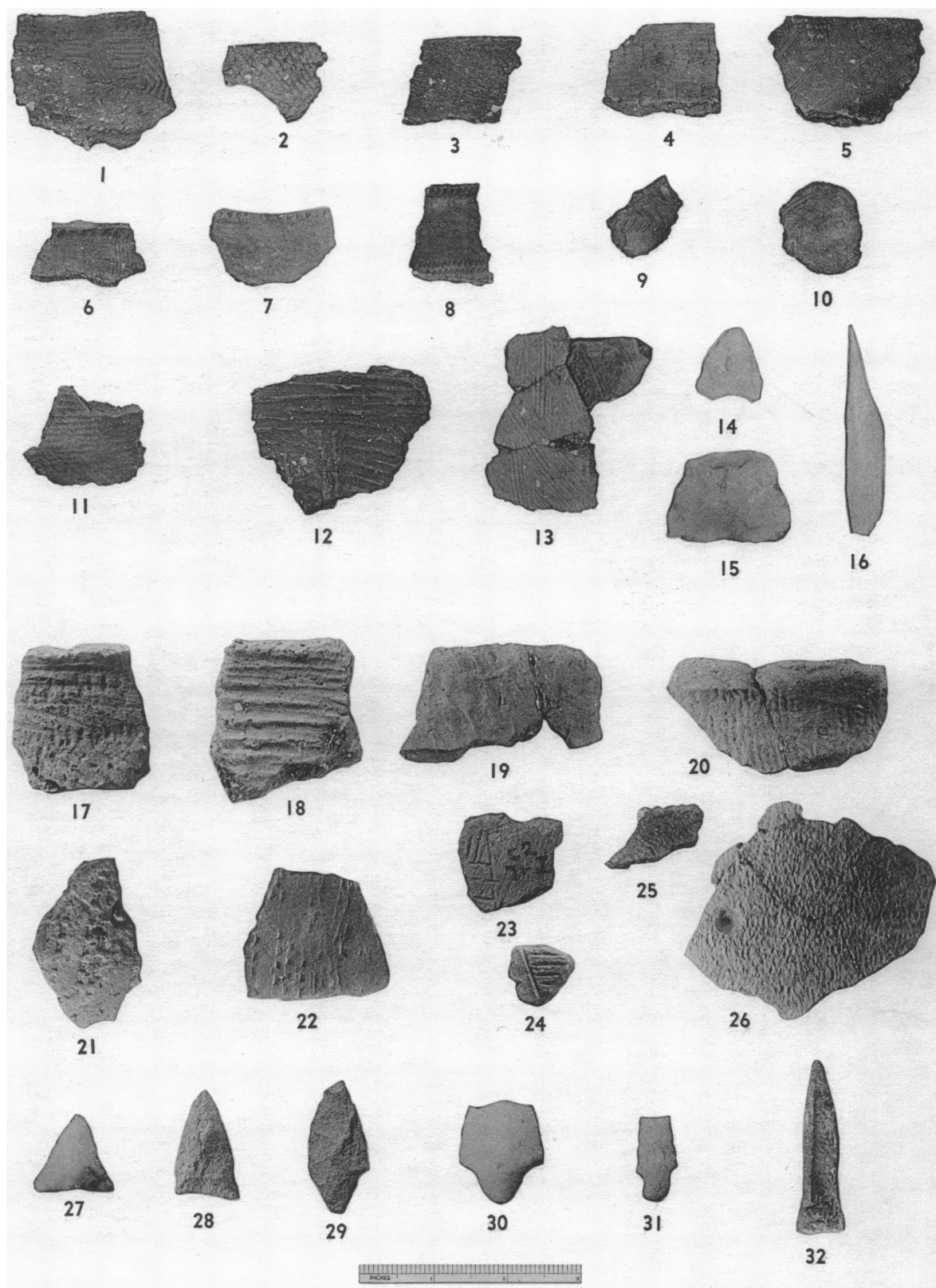
**PLATE 12**

**ARTIFACTS OF POTTERY, STONE, BONE, AND ANTLER OF THE  
BOWMANS BROOK FOCUS, EAST RIVER ASPECT**

1, 11, East River cord-marked pottery; 2, 3, 5-8, Bowmans Brook stamped; 4, Bowmans Brook incised, bearing face formed by three punctates; 9, unclassified cord wrapped stick stamped; 10, unclassified sherd bearing faint incised lines; 12-17, broad and narrow, triangular projectile points with straight and concave bases; 18, narrow, side-notched form; 19, 20, narrow and broad, stemmed forms; 21, trianguloid knife; 22, fragment of a polished stone gorget; 23-25, fragments of pottery smoking pipes; 26, 27, worked deer phalanges, used in the cup-and-pin game; 28, beaver incisor; 29-34, bone awls; 35, 36, flakers of antler and bone; 37, conical antler projectile point; 38, fragment of a turtle shell dish.

1-6, 8-38, Wilkins site; 7, Component B, Grantville site.





### PLATE 13

#### ARTIFACTS OF POTTERY, STONE, AND BONE OF THE SEBONAC AND CLEARVIEW FOCI, WINDSOR ASPECT

1-16, Sebonac focus.

1, 5, 6, 12, 13, Windsor brushed pottery; 2, 3, Windsor fabric marked; 4, Sebonac stamped on sherd which is otherwise Windsor fabric marked; 7, plain rim with notched lip, unclassified; 8, unclassified punctated; 9, unclassified incised; 10, 11, Windsor cord marked; 14, 15, chipped stone projectile points, broad triangular form with straight and concave bases; 16, bone awl.

17-32, Clearview focus.

17, 18, Windsor brushed pottery; 19, Throgs Neck simple stamped; 20, East River cord marked, trade sherd (?); 21, 22, Clearview stamped; 23, 24, Bowmans Brook incised, trade sherds (?); 25, 26, Windsor fabric marked; 27, 28, chipped stone projectile points, broad and narrow triangular forms with straight and concave bases; 29, lozenge form; 30, 31, broad and narrow, stemmed forms; 32, notched bone awl.

1, 2, 6, Squaw Cove site; 3-5, 7-12, Soak Hides site; 13-16, Aquebogue site; 17-32, Clearview site.

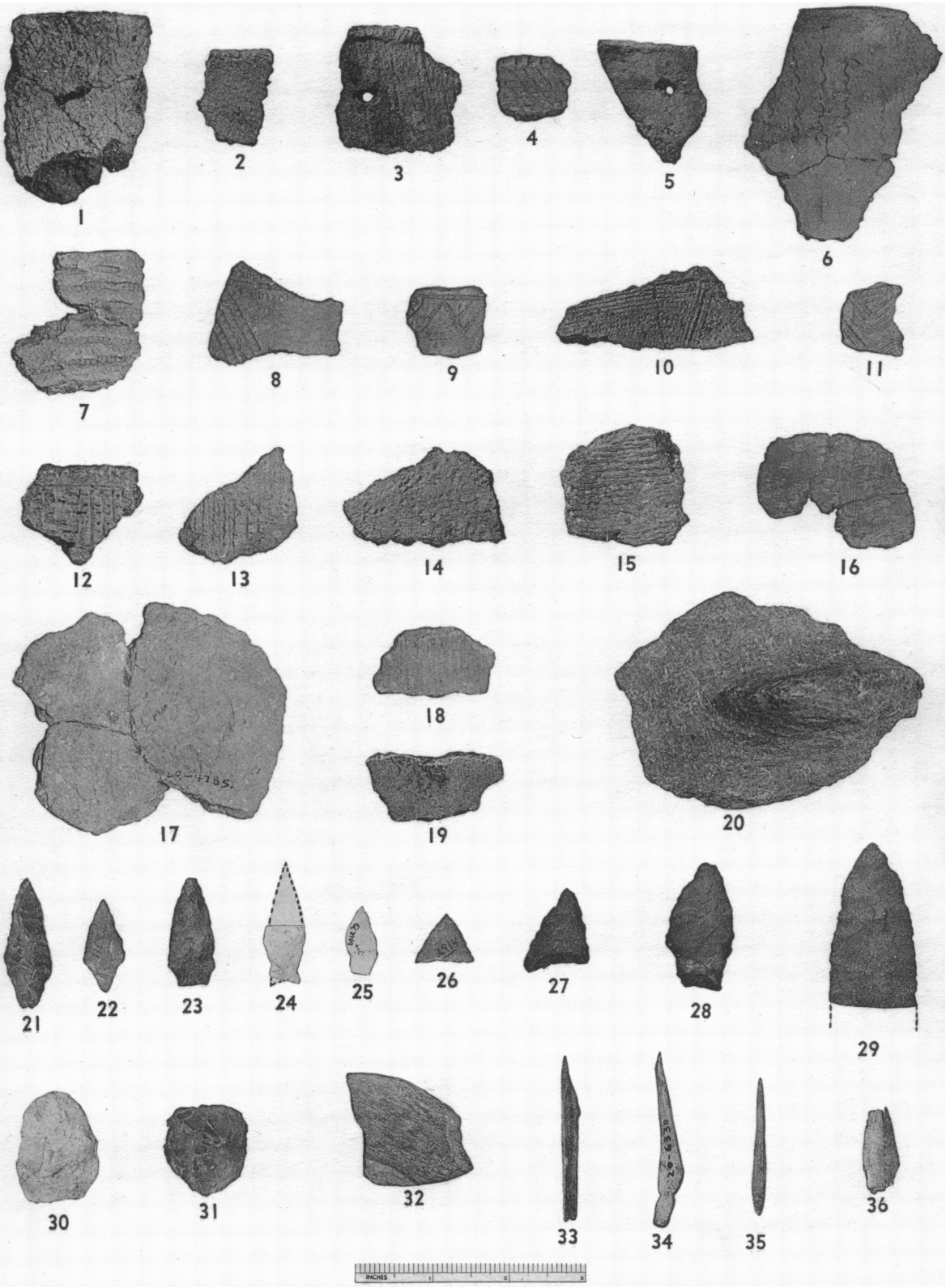
1-16, From the collections of the Museum of the American Indian, Heye Foundation, New York, N. Y.

**PLATE 14**  
**ARTIFACTS OF POTTERY, STONE, AND BONE OF THE NORTH  
 BEACH FOCUS, WINDSOR ASPECT**

1-3, 5, 13, 15, 17, Vinette interior cord-marked pottery; 4, unclassified cord-marked sherd with notched lip; 6, unclassified scallop shell stamped; 7-10, Matinecock Point stamped; 11, Matinecock Point incised; 12, North Beach incised; 14, unclassified stippled; 16, 18, 19, North Beach brushed; 20, sherd from steatite vessel with horizontal lug; 21-23, chipped stone projectile points of lozenge form, one with broken stem; 24, fishtail form; 25, narrow, stemmed form; 26, 27, broad triangular forms with straight and concave bases; 28, broad-stemmed form, knife (?); 29, fragment of a knife; 30, ovoid scraper; 31, plano-convex scraper; 32, fragment of the wing of a bannerstone (?); 33, bone awl; 34, notched bone awl; 35, 36, bone projectile points (?).

1, 4, 12, 13, 16, 20-22, 25, 26, 30-32, 36, North Beach site; 2, 3, 5, 10, 14, 15, 19, 23, 24, 27-29, 33, 35, Pelham Boulder site; 6-9, 11, 18, 34, Matinecock Point site; 17, Throgs Neck I component, Throgs Neck site.

2. 20-1917	11. 20-6246	24. 20-1913
3. 20-1886b	14. 20-1886a	27. 20-1847
5. 20-1898a	15. 20-1898	28. 20-1894
6. 20-6312	17. 20-4785	29. 20-1889
7. 20-6272	18. 20-6347	33. 20-1847
8. 20-6345b	19. 20-1886c	34. 20-6330
9. 20-6345a	23. 20-1864	35. 20-1910
10. 20-1881		





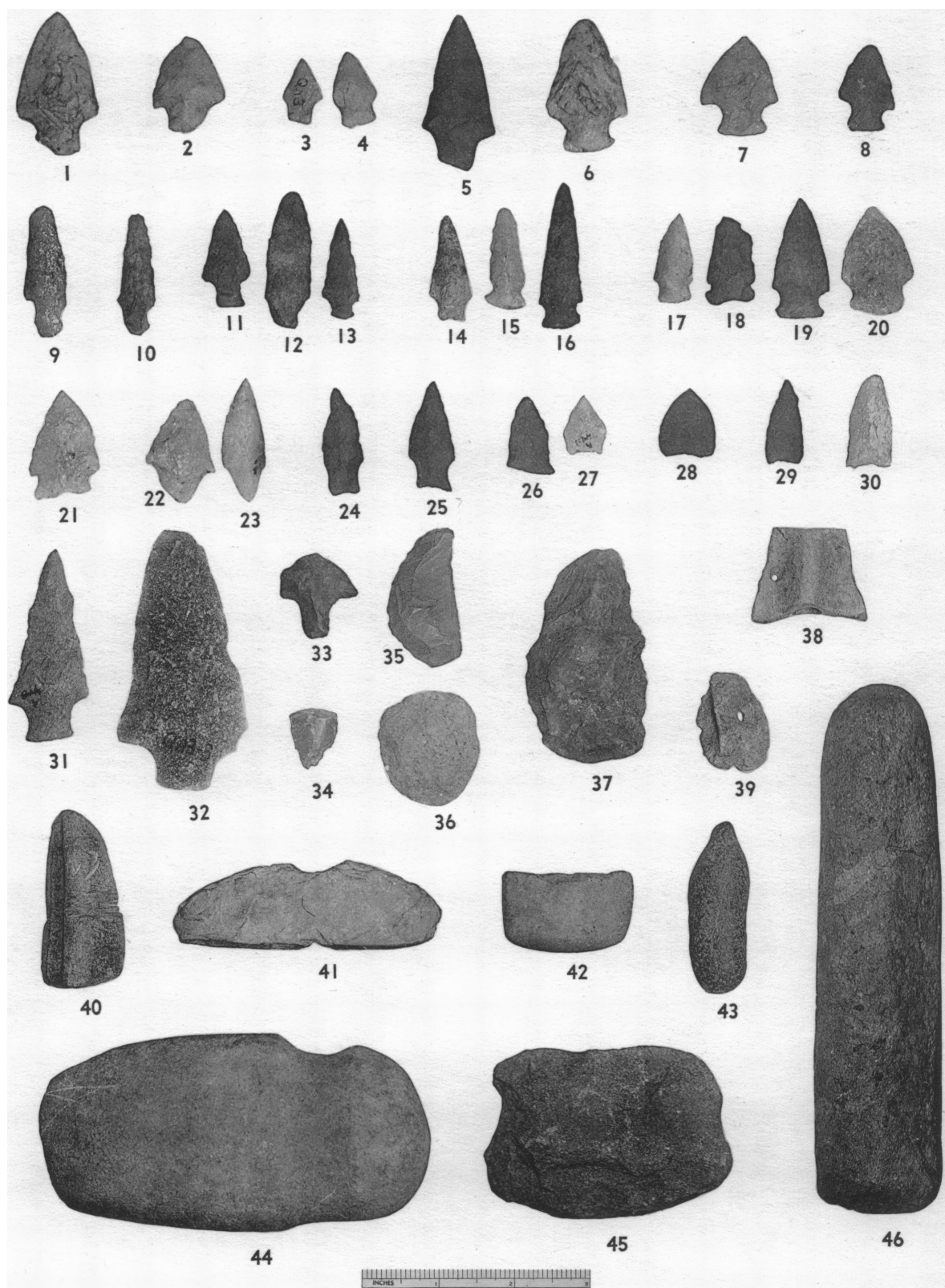




PLATE 15

ARTIFACTS OF STONE, ATTRIBUTED TO THE PRECERAMIC HORIZON AT THE GRANTVILLE SITE

1-5, Chipped stone projectile points of broad and narrow, stemmed forms; 6-20, broad and narrow, side-notched forms; 21, broad, corner-notched form; 22, broad and narrow, lozenge forms; 24, 25, fishtail and semi-lozenge forms; 26, narrow trianguloid form with eared base; 27, pentagonal form; 28-30, broad and narrow, trianguloid forms with concave base; 31, stemmed spearpoint; 32, stemmed knife, or spearpoint; 33, bunt, or stemmed scraper; 34, plano-convex scraper; 35, crescentic knife, or sidescraper; 36, ovoid scraper; 37, chopper; 38-40, fragments of winged and perforated bannerstones; 41, notched bannerstone; 42, fragment of the blade of an adze; 43, plummet (?); 44, grooved ax; 45, netsinker; 46, pestle.



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