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ON THE IDENTITY OF THE RECHGAWAWANCK

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The record of the European encounter with Native America is alive with thousands of aboriginal group names whose affiliations and identities are unknown or uncertain. Most of these names have disappeared into oblivion, following one or two brief ambiguous citations. Their identification has traditionally been a favorite ethnohistorical exercise. Lengthy and often speculative synonymies have frequently been employed in the continuing attempt to link hitherto unaffiliated names with those of known groups. The results of much of this research have appeared in Hodge's *Handbook of American Indians North of Mexico* (1907-1910), in Swanton's *The Indian Tribes of North America* (1952), and in Sturtevant's multi-volume update of the *Handbook* (1978-present). The authoritative reputation of these volumes has created the impression that the names included within them have been definitively identified. A substantial number of these identifications have, however, been little more than provisional. The actual relationships linking these names to known groups have remained unclear and unproven. Several factors have accounted for this situation. Many names have clearly lacked the supporting documentation necessary for a definitive identification. Other names have appeared within hopelessly equivocal contexts, making a clear identification impossible. Still others have been misidentified because scholars have uncritically accepted previous findings. The traditional identification of the Rechgawawanck as another name for the Manhattan Indians is an interesting case-in-point of this latter problem. An examination of the development of this linkage can illuminate the methodological difficulties encountered when well respected early secondary sources are confused with primary documents.

A secure identification of the Rechgawawanck group has long eluded scholars interested in the Delawarean peoples of the lower Hudson River Valley. The earliest studies (Yates and Moulton 1824-1826, R. Bolton 1848, Brodhead 1853-1871) simply ignored the fact that the Rechgawawanck existed. They were first mentioned in Edward Manning Rutenber's *History of the Indian Tribes of Hudson's River* (1892). Rutenber identified the "Rechgawawanc" as one of the Southern New England Algonquian-speaking Wappinger chieftaincies located throughout southeastern New York east of the Hudson River and western Connecticut. He further identified the "Rechgawawancs" as the Manhattan Indians (1872:77-78).

Rutenber established his case for the linkage of these two names by noting that "the Rechgawawanc . . . chieftaincy has been generally known by the generic name of Manhattans, and is so designated by Brodhead and other historians (p. 77). This statement hides a good part of the truth. It implies that Brodhead and others anticipated Rutenber's linkage of Rechgawawanck and Manhattan. It has, however, already been noted that Brodhead and his contemporaries ignored the existence of the Rechgawawanck in their identification of the Manhattan Indians. Rutenber furthered his case by stating that their principal village was located in the modern city of Yonkers on the mainland just north of Manhattan Island. He noted that Henry Hudson was attacked by the inhabitants of this village during his voyage to the area in 1609. This kind of identification is tautological. Rutenber first posited that a group inhabited an area. He then associated specific features and/or events in the area with the group. He then presented these events and features as evidence to substantiate the identification of the group at the suggested location.

Rutenber went on to write that the Rechgawawancs inhabited Manhattan Island and the neighboring mainland. He also stated that they were probably named after Rechgawac, one of their chiefs during the early historic period. He further noted that they were mentioned as the Reckewackes in 1643 (p. 78). It has since been established that the latter name was another spelling for the Rockaway group of western Long Island (Grumet 1980).

Rutenber's *History* was nevertheless immediately accepted as the definitive work on the subject. His findings were promptly incorporated with few revisions into the studies of his contemporaries and immediate successors (Tooker 1901, Beauchamp 1907, Skinner 1915, R. P. Bolton 1920). So thoroughly was Rutenber's

FRONT COVER: Bird Effigy-Conway Site.

equation of Rechgawawanck with Manhattan accepted that James Mooney completely adopted his description and cited him as a primary source in his article on the Manhattan in Hodge's *Handbook* (1907-1910(1):800). Mooney further elevated Rутtenber's Wappinger chieftaincies into a Wappinger Confederacy stretching from the Connecticut River west to the Hudson River south of the Highlands. Recent research (Goddard 1971) has since disconfirmed the existence of a Wappinger confederation. Mooney further compounded Rутtenber's misidentification of Reckewackes by adding Rechkawick and Rechkawycck as synonyms for Rechgawawanck. These last two names have since been shown to be alternative spellings for the Marechkawieck and Rockaway groups respectively (Grumet 1981).

Rутtenber's equation quietly persisted throughout the succeeding decades with only minor adjustments. John R. Swanton located the "Rechgawawanc" as the former residents "on the upper part of Manhattan Island and the adjacent mainland of N.Y. west of the Bronx" (1952:49). He differed from Rутtenber in assigning the Rechgawawanck a Unami Delaware rather than a Southern New England Algonquian socio-linguistic identity. Ives Goddard, whose *Delaware* article in the *Northeast* volume of the new *Handbook* is the latest authoritative statement on Delawaran ethnohistory, has partially perpetuated the Rутtenber equation. He has not followed Rутtenber in identifying the Rechgawawanc as the Manhattan. Goddard has identified Manhattan as another term for the Munsee dialect of the Delaware language, as the name of the island, and as a general term for the various Munsee Delaware-speaking groups of the lower Hudson River Valley (1978:236).

Goddard has, however, retained Rутtenber's location for the Rechgawawanck by writing that the "Rechgawawanks" inhabited Yonkers, the Bronx, and Manhattan. He did not fully accept Rутtenber's location and wrote that "the relationship between the Wiechquaeskecks and Rechgawawanks on the Hudson and the Indians to the east along the shore of Long Island Sound is unclear" (1978:214). He did not, however, further investigate the relationships between these groups.

An examination of the primary documentation reveals three direct references to a Rechgawawanck group. These appear in 1642 (de Vries, in Jameson 1909:215), April 22, 1643 (NYHM(4):192), and August 30, 1645 (NYHM(4):279-280). The references coincide with the last three years of the Governor Kieft War between the lower Hudson River Delawarans and the Dutch (1640-1645). The strong similarities in the spellings of Rechgawawanck during the war contrasts with the more widely varying spellings of the name in later years. The similarity of these orthographies may be attributed to Dutch common usage of the term at that time. The following review of these records will clearly demonstrate that the Rechgawawanck were not the Manhattan, but rather the Haverstraw, a Delawaran group formerly resident along the western banks of the Haverstraw Bay reach of the Hudson River below the Highlands. The final reference to the Rechgawawanck contains the most information concerning their identity and affiliations. This document, the August 30, 1645 peace treaty ending the Governor Kieft War was signed by the following sachems (NYHM (4):279-280):

Oratany, chief of Ackinckeshacky; Sesekemu and Willem chiefs of Tappaens and Rechgawawanck...
Mayauwetinnemin, for those of Marechkawieck, Nayeck and their neighbors; as also Aepjen personally,
speaking for the Wappinx, Wiquaeskeckx, Sintsings, and Kichtawanghs.

The order of appearance of the signatories to this document is noteworthy. Oratam signed for his own people. Mayauwetinnemin (later known as Tackapousha) represented the western Long Island Delawarans. The Mahican sachem Aepjen spoke for all of the Delawaran groups of the eastern bank of the Hudson River. His representation of the Wappinger (Wappinx), Wiechquaeskeck (Wiguaeskeckx), Sintsinck (Sintsings), and Kichtawancs (Kichtawanghs) indicates that some accommodation had been reached between the upriver Mahican and their downstream neighbors of the eastern bank of the Hudson River below the Highlands.

This leaves the Tappan (Tappaen) and the Rechgawawanck. Both were represented by the sachems Sesekemu and Willem. The latter chief was unequivocally identified as "Willem of Tappen" in the July 19, 1649 peace agreement with the unreconciled faction of the Wiechquaeskeck and their Raritan allies (NYCD (13):25). The close relationship between the Tappan, Hackensack, and Haverstraw has been documented in Grumet (1979). It will presently be shown that Sesekemu was, among other things, the Haverstraw sachem Sessikout. Data concerning the other two references to the Rechgawawanck group will first be presented.

The Dutch soldier of fortune and patroon David Petersz de Vries made the first of the three known references to the Rechgawawanck in 1642. De Vries had established patroonships on Staten Island and at Vriesendael, situated below Haverstraw near Tappan, New York. Writing years after the event described, de Vries recalled a time of mounting tensions between the Dutch and the Delawaran people. Several murders, thefts, and other provocations had outraged both sides. De Vries remembered (1909:215)

I was not long home, when there came some chiefs from Ackinsack, and from Reckawanek, which was close by me, and informed me that one of their Indians, who was drunk, had shot a Dutchman dead

Vriesendael was located to the northwest of Hackensack, New Jersey (de Vries' Ackinsack) and directly south of Haverstraw. Manhattan was some thirty miles to the south of de Vries' settlement. He noted that Reckawanek was close by him. While it cannot be known what De Vries meant by "close by," Haverstraw was considerably closer to Vriesendael than either Manhattan Island or its immediate environs.

The Rechgawawanek were next mentioned as parties to the April 22, 1643 armistice between the Dutch and "the savages living at Achkinkes hacky ... (and) Tappaen, Rechgawawanc, Kichtawanc, and Sintsinck" (NYHM (4):192). This treaty directly followed the Dutch massacre of 120 persons in two Delawaran camps during the night of February 25-26, 1643 (de Vrie, in Murphy 1857:115-116). These camps sheltered the predominantly Hackensack and Wiechquaeskeck refugees from a Mahican war party that swept through their villages several days earlier. The Dutch seized upon this opportunity to avenge the murders committed by the Delawarans during the preceding years.

The Hackensack sachem Oratam (listed as Oratamin in the April 22, 1643 document) represented those portions of the above listed groups who desired peace. The two latter mentioned groups, the Kichtawanc and the Sintsinck, lived above the Wiechquaeskeck on the eastern side of the Haverstraw Bay and Tappan Zee reaches of the Hudson River. Oratam thus represented the Delawaran groups who resided along the shores of these wide placid bays. The other known inhabitants of these bays, the Wiechquaeskecks and the Haverstraw, were not mentioned in the April 22, 1643 document. The Wiechquaeskecks had sustained the most serious losses during the Dutch attack, and were not peaceably inclined at that time. The Haverstraw have traditionally remained unaccounted for throughout these proceedings. The Rechgawawanek would probably have been included among the Wiechquaeskeck had they been Manhattan Indians. They would have thus shared the same fate as the Wiechquaeskeck refugees. It is therefore doubtful that the Rechgawawanek would have been peaceably disposed at that time. The Delawarans of the west bank of the Hudson River on the other hand, had not suffered as severely as their Wiechquaeskeck relatives. Larger numbers of them would have favored neutrality until the outcome of the war was decided. A Haverstraw identity for the Rechgawawanek would thus best account for both groups at that time.

The Haverstraw have been identified in the primary documentation as the Haverstroo, Remahenonck, "Rumachenanck alias Haverstroo," Reweghnoncks, and "Rewechnongh or Haverstraw" (see below). These affiliations have been recognized with some variation by Swanton (1952:53) and Goddard (1978:237) among others. The similarity between Reweghnonck and Rechgawawanek, however, has gone unnoticed by these scholars. The Haverstraw made their first appearance under that name when they appeared in the above mentioned July 19, 1649 treaty as the Remahenonck (NYHM (4):608). They were represented at these proceedings by the Hackensack sachem Pennekeck. It is important to note that the Haverstraw made their first appearance in the documentation directly after the final archival reference to the Rechgawawanek. van der Donck located the Haverstraw to the west of Newark Bay in his 1656 map (O'Donnell 1968). The numerous references to the presence of identifiable Haverstraw people in the Newark Bay area tantalizingly suggests that some or all of the Haverstraw group lived among their Hackensack and Tappan brethren at various times between the 1650s and 1670s. It may just as easily be assumed, however, that van der Donck dislocated the Haverstraw on his map and that those Haverstraw noted in the documentation may have been merely visiting the Newark Bay region.

The Haverstraw were next mentioned as the Haverstroo under the leadership of the sachem Keghtackcean in the July 10, 1657 sale of Staten Island (NYCD (14):393-394). They were subsequently brought to documentary prominence during the Esopus Wars between 1659 and 1664. The Esopus, Wappinger, Minnisink, and their Delawaran allies of the Hudson Highlands fought against the Dutch during these wars. The Haverstraw people were caught between the combatants, and pursued a torturous and often hazardous course of neutrality throughout the conflict (see Grumet 1979).

Corruspin was the most visible Haverstraw sachem of this period. He was not their most important sachem, however, and his secondary role was clearly identified in the March 6, 1660 reference to him as the brother and representative of the "chief of Rumachenanck alias Haverstroo" (NYCD (13):148). Corruspin also appeared as a Haverstraw sachem in documents dated May 18, 1660 (NYCD (13):167), June 3, 1660 (NYCD (13): 171), November 15, 1663 (NYCD (13):183), and April 13, 1671 (as "Croppun sakima of Haverstroo" in Liber F-2:370).

This brings us to the primary Haverstraw sachem and the problem of the identification of the Rechgawawanck sachem Sesechemu. A man named Sessikout was identified as the sachem of Haverstroo and the brother of an Esopus leader in a document dated March 15, 1664 (NYCD (13):363-364). He may have made his first appearance as Saccis, "sachem of Tappaan" in the July 10, 1657 sale of Staten Island (NYCD (14):393-394). If Saccis was Sessikout, then he signed the January 30, 1658 sale of the Bayonne Peninsula as Saghkaw (Liber 1:34) and the May 19, 1671 conveyance of the Palisades to the south of Haverstraw, New York as Saghtow (Liber 1:115-116). He was far more recognizable as Sessikout when he appeared as the signatory Seskiguoy in the June 8, 1677 sale of land to the west of the Palisades (Liber 1:254(85-253)86). Next listed as Sakaghkemeck, "Sachem of Averstraw" in the July 13, 1683 conveyance of land directly south of the Hudson Highlands and the Catskill Mountains as Sackewagzein, "Sachem of Heardstroo" (Liber N: folio 86-88:23). These documents strongly support the assertion that Sessikout was the most important Haverstraw sachem of the period. They themselves do not, however, establish that Sesechemu was Sessikout.

The most likely candidate for that role is a man name Seyseychkimus. He first appeared as Heyseys, one of two Marechkwikingh (Marechkawieck) sachems in the July 16, 1637 sale of two islands in the Hell Gate between Queens, Manhattan, and the Bronx (Book GG:28-29). The Marechkawieck inhabited the downtown Brooklyn area. He was next mentioned as Sassian in a document dated September 11, 1642 (NYHM(3):325- 326). He subsequently sold his remaining land holdings in Brooklyn as the chief Seysey on September 10, 1645 (Book GG:60) and as Sasham on November 1, 1650 (MacLeod 1941). He evidently moved to the mainland to the east of the Hudson River sometime before 1649. On July 14th of that year he appeared as Seyseychkimus, a chief who witnessed the sale of land identified as *Wiequaes Keck* on the east bank of the Hudson River between the Byram and Mianus Rivers along Long Island Sound (Book GG:323-324). Five days later, on July 19, 1649, he participated as Seysegeckkimus in the treaty that ended hostilities between the Dutch and unreconciled elements of the Wiechquaeskeck and Raritan groups who did not sign the August 30, 1645 treaty ending the Governor Kieft War (NYHM(4):607-609). Although not listed as such, it can be inferred that he represented the Remahenonck at these proceedings, as both he and the latter group were the only individuals or groups not assigned leaders or corporate identities in the document. He subsequently signed a deed to land in northwestern Connecticut as Sasskum on February 15, 1651 (Bolton 1848(1):392) and was mentioned as Sasse in an incomplete manuscript dated March 25, 1652 (NYCM(5):32). The collective weight of this documentation supports the identification of this man as a Marechkawieck chief from Brooklyn who moved to the mainland east of the Hudson River following the sale of his land holdings on Long Island. These data would thus place both Sesechemu and Seyseychkimus in Westchester and Fairfield Counties. They would also support the possible location of the Remahenonck in the same area. Together by themselves they would seem to validate Ruttenger's assertion that the Rechgawawanck lived along the east banks of the Hudson River. Data contained within the May 15, 1664 treaty ending the Esopus Wars seriously challenges this assertion.

Two leaders of different groups with very similar names are listed among the participants (NYCD(13):375-377). The first, t'See-Sagh-Gauw, appears as chief of the Wappinghs. The Wappinghs were another group located on the eastern shores of the Hudson River. This identification further supports the association of Seyseychkimus with Sesechemu in the locale posited by Ruttenger. The second leader, Ses-Segh-Hout, is listed as "chief of Rewechnongh or Haverstraw." It is thus unclear whether these are two individuals or a single person. Sadly, the leaders of the Wappingh or the Haverstraw contingents did not sign the treaty document. Both positions can thus be supported on the strength of this documentation. I suggest that t'Sees-Sagh-Gauw and Ses'Segh-Hout were one and the same. Very few Native American leaders concurrently possessed the same names. When they did, their different identities were duly noted by the European chroniclers who, at that time, took relations with the still powerful native groups very seriously. I further suggest that he was referred to as a leader of the Marechkawieck when he was involved in events in Brooklyn, identified as a Wappingh when he had business to the east of the Hudson River, and classified as a Haverstraw when he participated in events on the west bank of the River. This assertion is supported by the fact that several sachems and their followers periodically moved from one shore of the Hudson River to the other throughout the colonial period. The sachem Taporonick participated in land sales in southwestern Connecticut and southeastern New York during the closing decade of the 17th century and the first decades of the 18th (Bolton 1848 and Ruttenger and Clark 1881). Half a century later Nimham and the Pompton Indians of northern New Jersey were identified as Wappinghs or Opings (Grumet 1979). Nimham pursued a celebrated litigation for his lands on the east bank of the Hudson River during the 1660s as a chief of the latter group (Handlin and Mark 1964). Thus Sesechemu/Sessikout/ Seyseychkimus may be an earlier adherent to an historically mobile residence pattern in an area that was hard hit by European invasion during the latter half of the 17th century.

The combined weight of the preceding documentation cannot alone validate the suggestion that Rechgawawanck was another name of the Haverstraw rather than the Manhattan Indians. The identity and history of the Manhattan group must now be examined in order to factor out the possibility that they were the Rechgawawanck.

The Manhattan first appeared in their accepted location on Manhattan Island and the adjacent mainland in the 1610 Velasco map (Stokes 1915-1928(2):cpl. 22a). They further appeared in documents dated 1624 (van Wassenaer, in Jameson 1909:68), 1625 (Stokes 1915-1928(4):39 and de Laet, in Jameson 1909:45), 1628 (van Wassenaer, in Jameson 1909:88 and de Rasieres, in Jameson 1909:103), and 1630 (Stokes 1915-1928(2):cpl. 40). No further mention of Manhattan Indians was made in the primary documentation following the latter citation.

This does not mean that Native people also ceased to be mentioned on Manhattan Island or the adjacent mainland. Bolton listed at least seven Native sales of land in the west Bronx and extreme southwestern Westchester county finalized between August 3, 1639 (1849(2):575) and February 7, 1685 (1848(2):463). While each of these conveyances listed numbers of Native signatories, none were identified by their group affiliations; many of these individuals were identifiable from other documents as Wiechquaeskecks. The affiliations of the majority of these people have, however, remained enigmatic.

Ruttenber noted that Rechgawac was a party to the August 3, 1639 deed to the Keskeskick tract in the southwest Bronx adjacent to Manhattan Island. He further noted that many local Delawaran groups were named after their leaders. To Ruttenber's mind the otherwise unaffiliated Rechgawawanck could therefore have been none other than Rechgawac's people. Added evidence was found in the place name Rechawanes. This was the Native name for a stream and a neck of land in the Harlem section in northern Manhattan directly across the Harlem River from Rechgawac's Keskeskick tract (Book GG: 308). Rechawanes was thus identified as the site of Rechgawac's settlement and the seat of the Rechgawawanck group. The philologist Hamill Kenny has, however, noted that a large number of these and other Algonquian names can be traced to the words *lekau*, "sand" or *lechauwaak*, "fork, branch" (1967:96). Both sand and forked rivers occur in abundance throughout the lower Hudson River Valley. Rechgawac, Rechawanes, as well as the unrelated Rockaway, Lehigh, and Rechgawawanck can be traced to either etymology. The combination of the fact of the disappearance of a recognizable Manhattan group by 1630 and the tenuous nature of the above mentioned evidence rather compellingly factors out the possibility that the Rechgawawancks were the Manhattan Indians.

This review has pointed out the complexities inherent in even the most seemingly direct identification of an aboriginal group name. This presentation has also demonstrated that an awareness of this problem, coupled with a diligent search of the primary documentation, can yield significant results. The documentation for many Native groups in North America is of a much higher quality than previously believed. The careful use of these high quality data can significantly increase the explanatory potential of ethnohistoric models. The thoughtful separation of primary from secondary sources can further promote the analytic ability of ethnohistoric information. Micro-ethnohistoric research of this type promises ultimately to provide the data base necessary to address the major problems of Native American culture history.

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THE CONWAY SITE ON THE WAY TO ONONDAGA

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Beauchamp Chapter
Beauchamp Chapter

The Conway Site (Syr 12-2), of late Chance/early Caroga time was discovered in the fall of 1978 on Lake Oneida by the junior author. Eight miles north of Syracuse at Beech Ridge, the site is situated on a narrow ESE elongated glacial moraine. The hill is nearly a mile long and surrounded on all sides by a marsh. The occupied area is at the lake side of the moraine, approximately 200 yds. from the water. If the site were accessible by land, it could be reached from McKinley Ridge to the west and/or Forest Beach to the north-both roughly 1/2 mi. distant. If the Lake were higher (which would make the area an island), canoes could be pulled up from Lower South Bay or Short Point Bay. Human dam-building, land fill and road construction have altered the area greatly. Our opinion (based on old land records and the nature of artifacts found) is that the area was a narrow peninsula that projected into a shallow margin of Lake Oneida.

Permission to excavate was kindly given by Vern Conway and later by Mr. and Mrs. John Mura who presently own the property. Excavated primarily by the junior author, we express appreciation for additional help to Dr. James Bradley, Butch Kasubick and Gladys Weinman for trowel and conviviality assistance. We also thank Dr. Robert Kasubick for graciously supplying the artifact photographs and Dr. Robert E. Funk for his opinions and typing of photographed pottery.

This site was the first excavation of a sizable Chance/Caroga phase fishing site that we know of, and the first that we have excavated in central New York. We relied heavily on the work and insight of professional and amateur archeologists who have studied in this area. Turning to previous work, we found Onondaga Iroquois Prehistory: a Study in Settlement Archeology by James A. Tuck (1971) to be a great help. This and works of Ritchie, Funk (Ritchie and Funk, 1973), Lenig (Lenig, 1965), and Pratt (Pratt, 1976) were found to support Tuck's theory that Onondaga material, cultural, and settlement patterns developed within the Syracuse area. Through study of pottery attributes, lithic use and habitations, he has shown an in situ evolution from approximately 1250 AD to Historic times. The strongest evidence for this change, from Oak Hill through Chance to Garoga phases, has come from attribute analysis of pottery and their measurable changes, disappearances and appearances.

We also received valuable assistance from a knowledgeable amateur, Albert LaFrance of the Beauchamp Chapter NYSAA. At first, working independently of Tuck's techniques, La France had devised "Onondaga Chance Phase Ceramic Trends--an Attribute Approach" (La France, nd). This resulted from a study of nearly 40,000 sherds from 18 Late Woodland to Historic sites in the Onondaga region. Not only did this work closely resemble Tuck's methods and findings, but it has proved valuable in continued research on new excavations and in further validating and "filling-in" of the evidence for in situ evolution. La France is presently establishing an "Iroquois Ceramic Workbook" (La France, nd) which will provide a clear method of isolating attributes and placing sherd counts in percentile relationship with the total. Using attribute categories of profile, neck, body, shoulder motif, and methods of application, this method can be used (and was, with the Conway ceramics) to place ceramics in time as related to type materials.

Our excavations were on the lake-facing (north, north-eastward) slope of the moraine. Two loci, separated by 25 ft. of artifact-poor earth, were isolated. The first, beginning some 65 ft. from the present marsh, included thirty 5 x 5 ft. squares. The second, 40 ft. from the marsh, included forty eight 5 x 5 ft. squares. Total was 78 squares of 1950 square feet. Both occupations were circular in shape (as tested by artifact frequency) about 12-15 ft. above the marsh surface. Either each was the locus of a separate visit or each was the center of a single, spatially distinct occupation. No postmolds were discovered to suggest housing. Pottery similarities of both areas were sufficient to assign both to the same time period, whether or not they were a single visit.

Although the ridge had never been thoroughly cultivated, some potato planting and tree stump removal had disturbed portions of the surface. Stratum I was 6-8 in. thick, a brown, sandy loam. Stratum II, 6 to 12 in. thick, was generally of a red/brown sandy texture. Stratum III was a fine, tan sand of moraine drift. PH readings varied somewhat, but were all acidic enough to account for the total absence of bone and wood.

CERAMICS

Body Sherds

A total of 2,975 sherds were excavated, 1984 of which were body sherds. Of these last, 71 pieces were "check-stamped." At 4% of the total, Conway body sherds match the percentage of "check-stamped" to plain at the Burke Site (est. 1480 AD, Tuck, 1971). Seventy-five percent of all body sherds ranged between 50-70 mm in thickness. All were well-tempered, with fine to medium lithic grit.

Collar Heights

Castellations showed on 12% of the rims, 6 are rounded, 15 pointed. The castellation to rim percentage matched that of the Cemetery Site (est. 1500 AD, Tuck, 1971) and Carley II Site (est. 1460 AD, LaFrance and LaFrance, 1976).

Rim Profile

Of the 71 pieces large enough to judge profile shape, 50% are classed as Chance round (Carley II 43%); 36% Chance straight ... (Cemetery 39%); 14% bi-concave (Burke 14% dated 1480 AD \pm 80, Tuck, 1971).

Lip Feature

Of the 172 pieces, 2% were out sloping (Cemetery 2%); 14% thickened lip (no site comparison); 13% thickened interior (no site comparison); 14% marked interior lips (Cemetery 14%); 5% marked lip top (Burke 24%, Cemetery 20%); 40% marked exterior lip (Burke 34%); 25% in sloping lip (Carley II 16%, Burke 20%); 77% flat lip (Carley II 50%, Burke 64%, Cemetery 90%).

Although in some instances, percentages are not as close as others, we believe that, overall, the attribute analysis strongly indicates that the Conway Site was occupied within the time period of late Chance/early Garoga phase settlements.

POTTERY TYPES AND DECORATION MOTIFS

Partly from the author's lack of "hands-on" contact with Central New York vessels (Ritchie and MacNeish, 1949 and Ritchie, 1952) and from insufficient quality and quantity of some published photographs and descriptions of these to make accurate comparison, we are reluctant to apply names to the approximately 20 vessels represented. However, it does appear that most pots fall within Wagoner Incised, Otstungo Incised, Ripley Triangular and Otstungo Notched types (personal identification of photos by Robert E. Funk).

There is no evidence of cord decoration or dentations on any sherds. With the exception of 2 carefully incised pots, others show crude to medium care of incision. The "push-pull" style of incising is clearly evident on 2 pots. Width of incision is generally moderate to broad, in one case it seems to have been done quite rudely with a fingertip. One collar base exhibits notches where a nail from one finger was pressed over each imprint from a nail of the other hand. The incisions along the collar of this same pot seem to have been impressed at 5 mm intervals by a finely "fibred"(?) stamp.

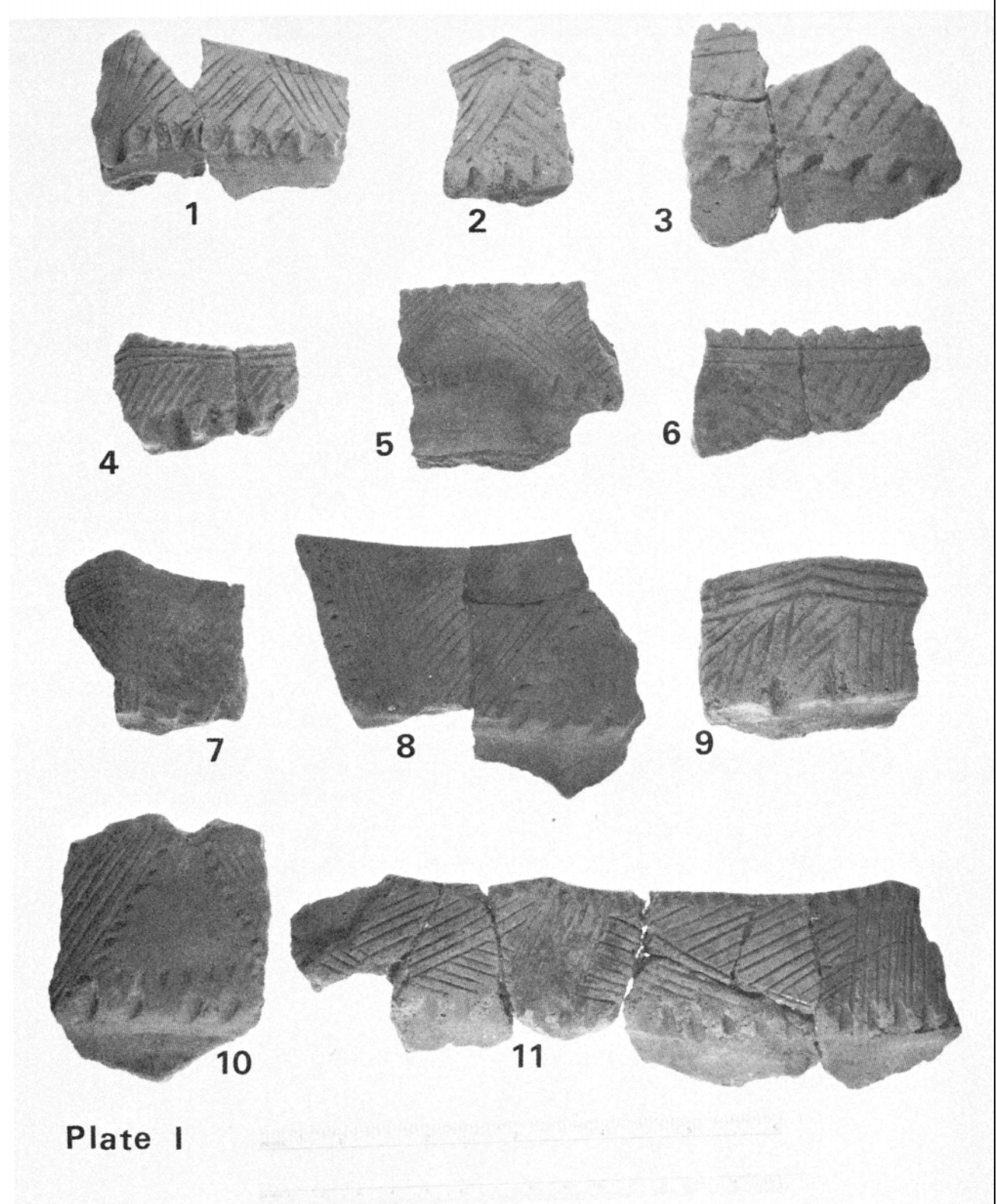


Plate 1. 1, 5, 8, 10, 11 Wagoner Incised; 2, 4, 7, 9 Otstungo Incised; 3, 6, untyped punctated-incised.

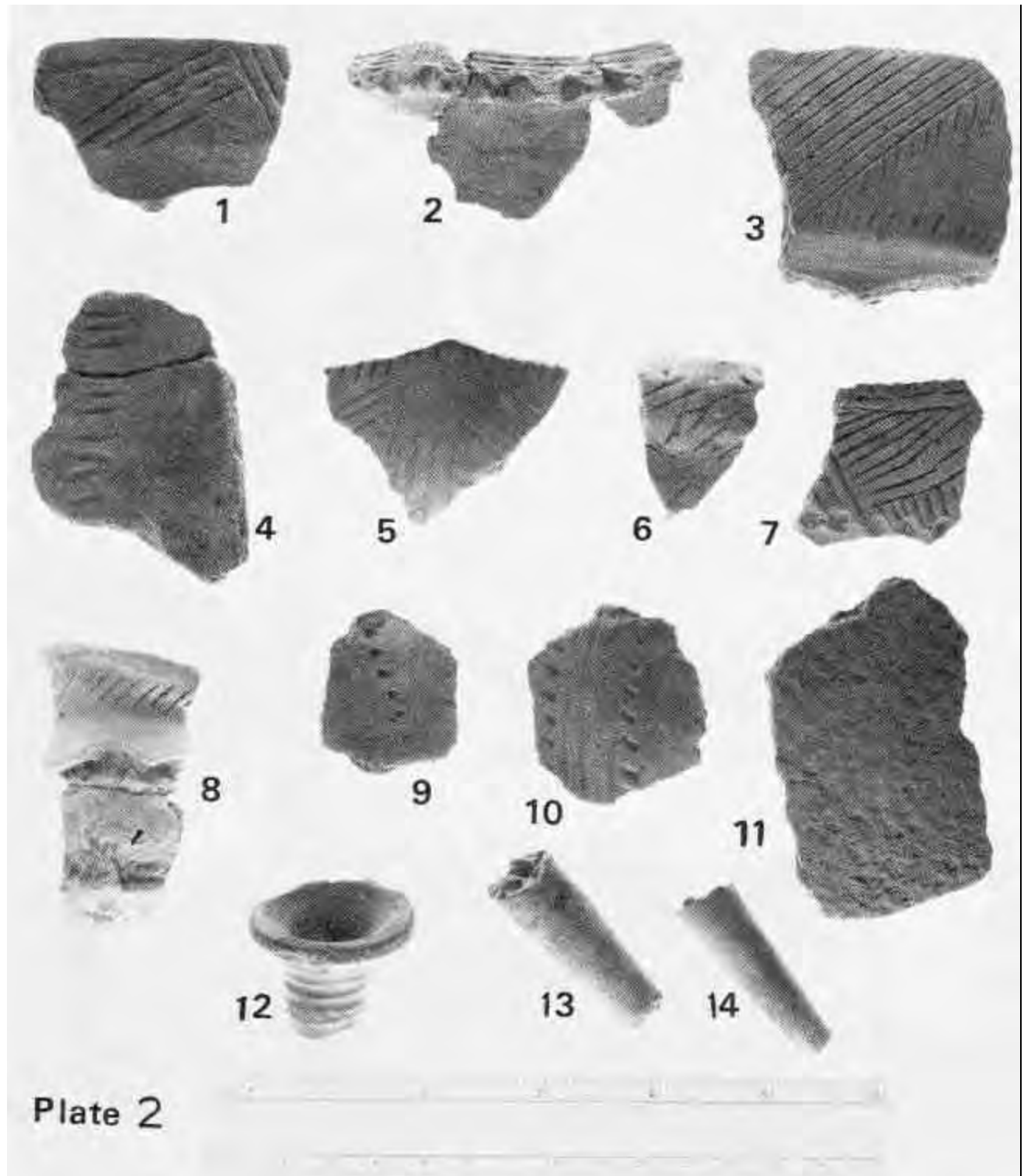


Plate 2. 1, Ripley Triangular; 2, Otsungo Notched; 3, Wagoner Incised, 4, Otsungo Incised; marked body sherds; 6, 8, toy pots; 12, ring bowl type; 13, 14 pipe stems.

Notching at the base of most collars is generally rough to moderate with fingernail imprint, although several show a gentle touch. A second pot is similar to that described above, where fingernail imprints are overlapped in the same notch.

Of the sherds retaining a collar base, 138 were notched, 8 were unnotched. This higher percentage (92%) of notching shows a strong tendency toward early Garoga. Rims were exteriorly notched in 108 sherds (15 of which were also interiorly notched), while 48 were unnotched (although collar incised lines were carried to the lip in 20 examples). Where encircling lines were evident at collar tops, 19 had 2 parallel lines, 14 had 3 parallel lines. Of the possibly Otstungo Notched pots, one had single oblique lines cutting across the flattened rim, while the second had 5 encircling incised lines. The other collar-less, lipped pot had its flattened, everted rim criss-crossed with incisions at oblique angles to form a diamond pattern. Two pots (1 with a high collar) evidenced a blank triangular block that was nicked along the interior of the oblique lines of its sides and along the base at the notched collar. The single collarless and lipless pot had a flattened rim encircled by a single incision.

Shoulder decorations appeared on sherds from 3 pots. One had an encircling of 5 parallel incised lines. The second and third had a single row of lightly pressed punctations spaced at 4 mm and 6 mm respectively.

In general, the lack of cord impressions, evidence of some "push-pull" application, usually crude to moderately careful incising, notched collar bases, occurrence of everted rims, and non-equilateral triangular patterns seem to place these pots in the late Chance/early Garoga phases. Our attempt to type the pots according to established models concurs.

Toy Pots

A trait of this age is toy pots. We recovered rims of 3 of these. The first is 71 mm from top to bottom with a slightly thickened, everted rim. Flattened along the rim, it has a rounded lip underlined by short oblique incisions. The second pot has a rounded, out-sloping collar (almost hemispherical in outline) with a pinched and smoothed rim. The collar is incised with oblique lines meeting at acute angles. These first two pots are well-made and fired. The third is crude, has an out-sloping collar and pinched rim with thin notches across its rim top. Crude fingernail notching shows at the collar base.

Pipes

The single pipe bowl is a classic trumpet variety such as pictured from the Burke Site (Tuck, 1971, p. 130, fig. 8). Flared outward to 37 mm, the lip is vertically notched; the bowl is encircled by 3 smooth ridges underlain by a fourth, which is obliquely notched. Four pipe ends and 4 elbow fragments complete the pipe inventory. An enigmatic clay artifact is a hemispherical columnar piece measuring 14 mm at its radius (where it was broken). Seven mm of its "top" is preserved. The unbroken side and top sections are carefully smoothed.

Effigy

The final ceramic piece is a beautiful effigy of a bird head, seemingly a gull (Front Cover). It is 54 mm long from beak tip to base of skull, where it is broken. The eyes are carefully punctated to 3 mm in depth. The nostrils, upper and lower beak union are carefully incised. The underside of the beak is realistically roughened to represent the skin of a gull's under beak. We are not sure to what the effigy was applied. Possibly, as in most instances, it was attached to a pipe bowl, facing the smoker.

LITHICS-FLINT

Points

Sixty-two artifacts of flint were found. Of these, only 3 were points: a Snyders, a Brewerton Corner Notched (Ritchie, 1971) and an untyped, broad point with an unfinished, square-based stem. Seventy four mm long 29 mm wide at the down-sloped shoulders, 8 mm thick, this point is laterally chipped, leaving serrated edges. (Pl. 3, #6). Although it is common to find projectile points of earlier cultures on late Woodland sites, along with typical Woodland trianguloid styles, it is curious that there were no triangular points at Conway. Perhaps these "foreign" points were from much earlier visits. Also, since this was a fishing site (?), late Woodland points are absent because they were not needed. Only the untyped point of Normanskill chert was not of the indigenous Western Onondaga flint.

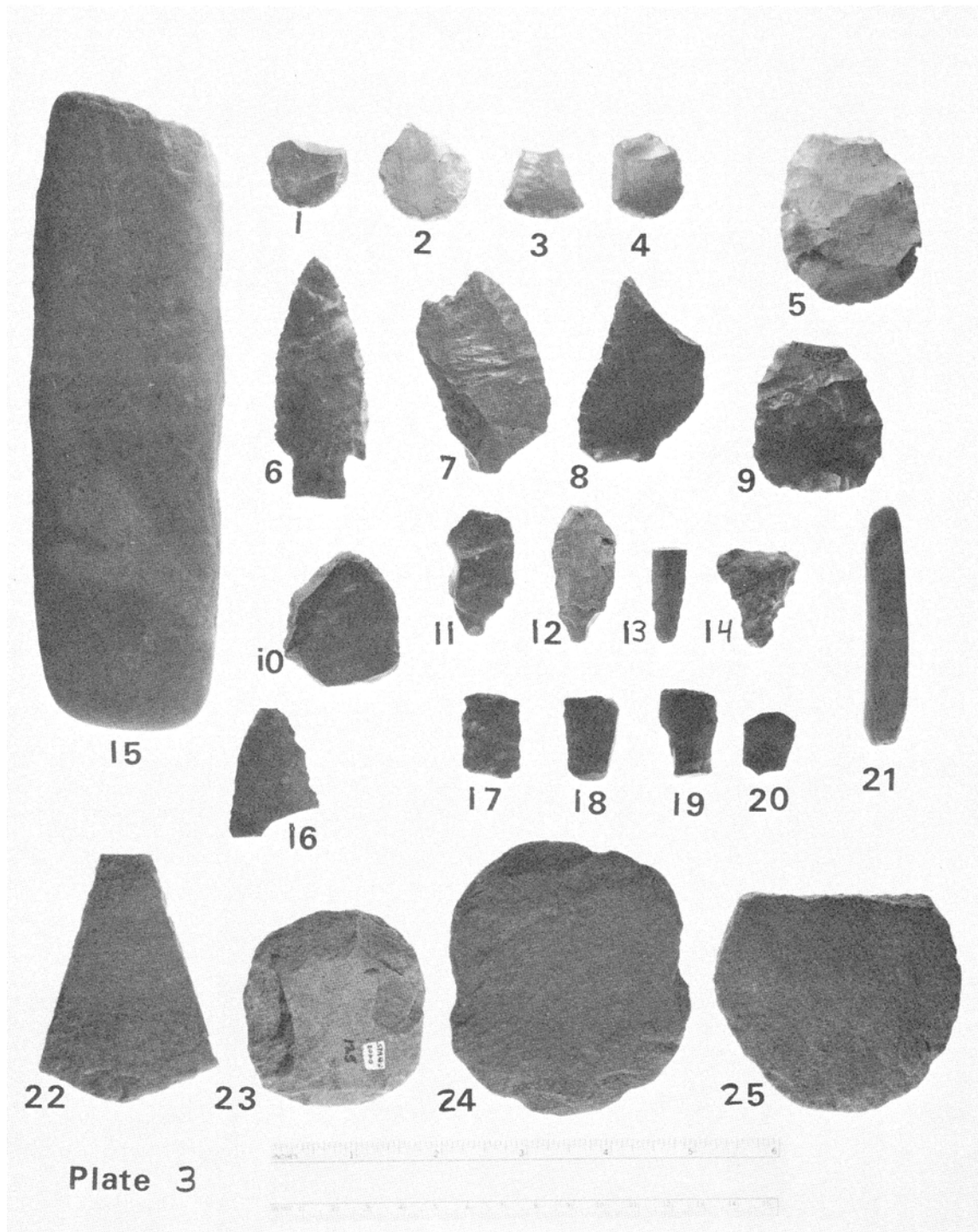


Plate 3. 1, 2, 3, 4, endscrapers; 5, 9, ovate knives; 6, serrated untyped point; 7, 8, 16, retouched flake knives; 10, side-scraper; 11, 12, 13, 14, drills; 15, pestle; 21, whetstone; chopper-whetstone; 24, netsinker; 25, chopper-like tool.

Bifaces

Thirteen pieces were bifacially chipped into knife-like tools. Of these only 2 are complete, exhibiting blunt-ended oval shapes of medium craftsmanship. Two tips of other bifaces are thin and carefully fashioned.

Scrapers

Three of the 6 scrapers were of small, thin thumbnail type (25 mm wide, 20-25 mm long, 4 mm thick); the fourth rectanguloid (40 mm wide, 38 mm long, 4 mm thick); the fifth is a minutely worked rectangular end of a ridged elongated spall (7 mm wide, 39 mm long, 3 mm thick); the sixth is trianguloid (25 mm wide, 20 mm long, 4 mm thick).

Drills

The first was perhaps discarded before finishing (43 mm long, 10 mm wide, 5 mm thick); the second was a tip only, well-chipped (29 mm long, 6 mm wide, 5 mm thick); the last was crudely chipped into a convex-sided triangle with bulbous tips (31 mm long, 25 mm wide, 4 mm thick).

Cutting, Scraping Tools

Divided by size into 3 groups, these unusual tools are poorly prepared flakes that show little form, but usually exhibit secondary chipping for modification, flaking from utilization and wear along an edge. Bifacial chipping on 3 pieces seems accountable to function; the pieces probably were used after being rejected from or broken from some other tool. Although the 3 groups intergrade somewhat in size (and perhaps broken examples placed in the smaller categories actually belong with the large category), the groups are arbitrarily set at large, medium, and small. All but 1 small quartz flake are of western Onondaga flint. Eleven of the 38 examples retain rind of the flint pebble from which they were struck. Eight pieces, ranging from 37-72 mm long, 26-40 mm wide, 4-9 mm thick are classified large. Two examples are finely chipped on both sides of an edge creating good quality flake knives. Eleven samples, 28-38 mm long, 28-33 mm wide, 4-9 mm thick are classified medium. One example is water-smoothed and shows a possible short drill tip. Cutting/scraping edges are slightly worn, occasionally retouched. Twenty two examples, rectanguloid with definite cutting edges are classified small. Although most are modified through use, several seem to have been purposely shaped, length 18-24 mm, width 14-28 mm, thickness 3-5 mm. The use of these is problematic. Since Conway was most likely a fishing site, these tools probably had something to do with preparing fish for drying and/or cooking. From our present-day experience, scalers would seem to warrant larger tools than these. Bone tools may have served this function. Possibly they were utilized in filleting fish to hang over smoking/drying racks. Since they are not mentioned, as far as we know, from other site reports, we suspect this tool type is unique to fishing stations of this phase.

Netsinkers

Thirty four netsinkers of shale, sandstone and quartzite were found in shapes that ranged from rectangular to ovoid to circular in outline. All showed notching to varying depths on 2 sides.

Chipped Discs

Eight chipped discs were found in shapes and lithic material similar to the netsinker. All were bifacially chipped around the entire circumference. Although their use has never been defined, Ritchie (1971) suggested they may have been hoe-like agriculture tools. This would seem out of place at a fishing camp like the Conway. Their function is undefined.

Chopper-like Tools

Two artifacts of sandstone are chopper-like in outline. One is 132 mm long, 77 mm wide at its chipped "blade," 55 mm at its unmodified "hafting." Fourteen mm thick, the bi-facially chipped arc of its end shows no use. The second is 71 mm long, 53 mm wide at its "blade," 15 mm at its unmodified "hafting." The bifacially chipped arc of its end (9 mm thick) is unworn. Both faces of this second piece show crosswise scratches and wear from use as a whetstone, possibly to sharpen fishing hooks or harpoons.

Miscellaneous Tools

- A rectangloid muller 108 mm, 55 mm wide, 20-36 mm thick, worn on 1 side of sandstone.
- A large, notched netsinker 154 mm long, 75 mm wide, 38 mm thick of graywacke.
- A broken rectangloid pestle 95 mm long at break, 76 mm wide, 34 mm thick of graywacke.
- One large, fine-grained shale hammerstone with battering on both ends.

FEATURES

Five roasting features were excavated, 2 from the smaller locus, 3 from the larger. These were circular to oval in outline and basin-shaped in cross-section. All were underlain by 1-3 in. of charcoal and fire blackened earth. The soil at the edges of the features was reddened from heat. Each was composed of a bed of fire-cracked rocks ranging in number from 40 to over 200. They were encountered below a black, organic-rich soil 4 to 8 ft. thick from the surface. The rocks extended from 14 in. to 18 in. deep. They measured approximately 9 ft. x 4 ft. and 5 ft. x 5 ft. at the small locus and 8 ft. x 4 1/2 ft., 3 1/2 ft. x 2 ft., and 6 ft. x 4 ft. in the larger locus. The first features were 65 in. apart while the 3 in the larger excavated area formed a triangle, each being separated from 65 in. to 80 in. Pottery and flint were found in all features. An unidentified fish bone and 3 fragments of fresh water clam were located in feature #3. Charcoal from feature #2 in the smaller locus was collected and submitted for carbon-14 dating. The results were disappointing 1100 A.D. \pm 150 years. This would be a middle Owasco date, about 350 years earlier than we suspect from the pottery attributes.

POSTMOLDS

Unlike village sites of extended habitation, Conway evidenced no postmolds that might be related to houses. However, 7 well-defined postmolds were mapped along the edge of Feature #3. These were 4 in-6 in. in diameter, sharpened to a blunt point and showed to 12 in. and 14 in. below datum. Placed in two rows, 4 of these were side by side (separated by 4 in.-5 in.) along the southern midsection of the feature's perimeter. Set back by 9 in., these were paralleled by 3 postmolds placed 4 in. behind the first row, alternating in a zig-zag pattern. We know of no similar postmold pattern as related to a feature. However, judging from the supposed purpose of the site as a fishing camp, the number of roasting features and presence of a single fish bone and few clam shell fragments, we strongly suspect these supports somehow were associated with preparing fish, waterfowl, and/or clams that could be harvested from Oneida Lake.

CONCLUSION

In conclusion, we are disappointed by the carbon-14 date, but are very confident of the validity of the percentile comparison technique in relating the ceramics of one site to another. We are pleased to have isolated a rarely reported fishing location and hope its excavation will help in uncovering the emergence of the Onondaga people.

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RECONSTRUCTING ENVIRONMENTAL SETTINGS MT. SINAI HARBOR AND THE OALDMAN'S HARBOR SITE

Kathryn Browning-Hoffman

Metropolitan Chapter

INTRODUCTION

Environment includes many things, from the weather and temperature to the geological, floral and faunal resources of an area. A multi-faceted term, it has a multi-faceted effect as it interacts with culture. The choice of location for a village shows the effect of environment as its prehistoric inhabitants sought to maximize available micro-environments with their diversified resources, while obtaining fresh water and a sheltered locale. So too, artifact assemblages are shaped by their makers' environment both in the material of which they were made and the functions to which they were put as seasonally determined. Two sites separated by only a few miles but used at different times of the year often show differences far greater than two sites in the same niche but used a thousand or more years apart.

Because of the profound and varied effects that environment has on a particular assemblage of remains and the settlement pattern referred to as a site it is important to have a clear understanding of the environment contemporary with the occupation of the site. The importance of relating the site to its paleo-environments is frequently underestimated when the modern environment of the site would also be conducive to its habitation.

Background-Mt. Sinai Harbor

The Oaldman's Harbor site is located on the southeast side of Mt. Sinai Harbor. Mt. Sinai Harbor, known as Oaldman's Harbor on maps of previous centuries, is located on the north shore of Long Island and is the last of the open harbors as one travels from New York City to Orient Pt. Despite some house construction and marina use it retains much of its pristine nature. White herons are frequently seen wading its waters and shell middens from prehistoric Indian occupations covering a span of over 4000 years of time ring the harbor. The modern harbor is kept open by dredging, for it is filling in with sediment washed down from deforested slopes and sand brought in through the break in the sand bar which extends across the harbor mouth. Large peat islands fill the interior of the harbor and sand and mud flats provide excellent soft clam fishing. Several small streams drain into the bay, the most important being Crystal Brook on the southwest side and Pipestave Hollow Brook on the southeast side. In addition, there are numerous springs at or just below the high tide line. Figure 1 shows the present day harbor as taken from the 1967 7-minute quadrangle map, Pt. Jefferson, N.Y., published by the U.S. Geological Survey. Several prehistoric Indian site locations have been added.

The past century has seen little change in the harbor beyond the growth of marsh areas and the effects of periodic dredging. Compare the 1955 map (Fig. 2-enlarged from the 1955 7-minute quadrangle Port Jefferson)

with that of 1967 to see the effect of the latter. However, there are several clues to indicate that the harbor of recent history is not the same as the harbor that provided the physical environment for the Indians. Two of these clues were obtained through archaeological investigation and one is geological in nature.

Published site reports on the Pipestave Hollow Site (Gramly 1977, Gramly and Gwynn 1979) as well as study of the midden on the Oaldman's Harbor site show a noticeable percentage of scallop in the shellfish refuse of pits and midden, increasing with increasing age. Scallops are indicative of deep water and are not currently found in the harbor. Oysters occur in greater numbers than at present although they are found in the modern harbor. Oysters flourish in brackish water with an influx of fresh water. Soft clam and hard clam are common in the middens and, currently, in the modern mud and sand flats. A second indication of change is the location of two of the components. An Orient component of the Oaldman's Harbor Site was located on the edge of an eroding cliff-face. The major portion no longer exists. A Late Archaic component of Crystal Brook Hollow II (CBH II) extended out into the harbor below the current high tide level. A bark lined storage pit was found there, indicating a rise in sea level subsequent to its placement. Finally, the current opening of the harbor is on the west side, yet the process of along-shore transport whereby sand is swept along the coast to build beaches and form sand spits acts from west to east on the north shore.

An investigation of local histories revealed that the harbor opening had formerly been on the east side (Thompson 1962). A hurricane in the mid-1830s had closed off the harbor, and in the process of dredging to reopen a channel the decision was made to reopen it on the west side. Periodic dredging since then has been required to keep the channel open since it had been placed in violation of natural principles. The sand and muck from the dredgings was piled into islands in the middle of the harbor which subsequently became colonized by *Spartina alterniflora*, a marsh grass (Redfield 1972). A map dating from the 18th century shows the harbor clear of marsh areas or islands in the harbor, the sandspit opening on the eastern side, and the harbor deep enough for a two-masted ship to sail into.

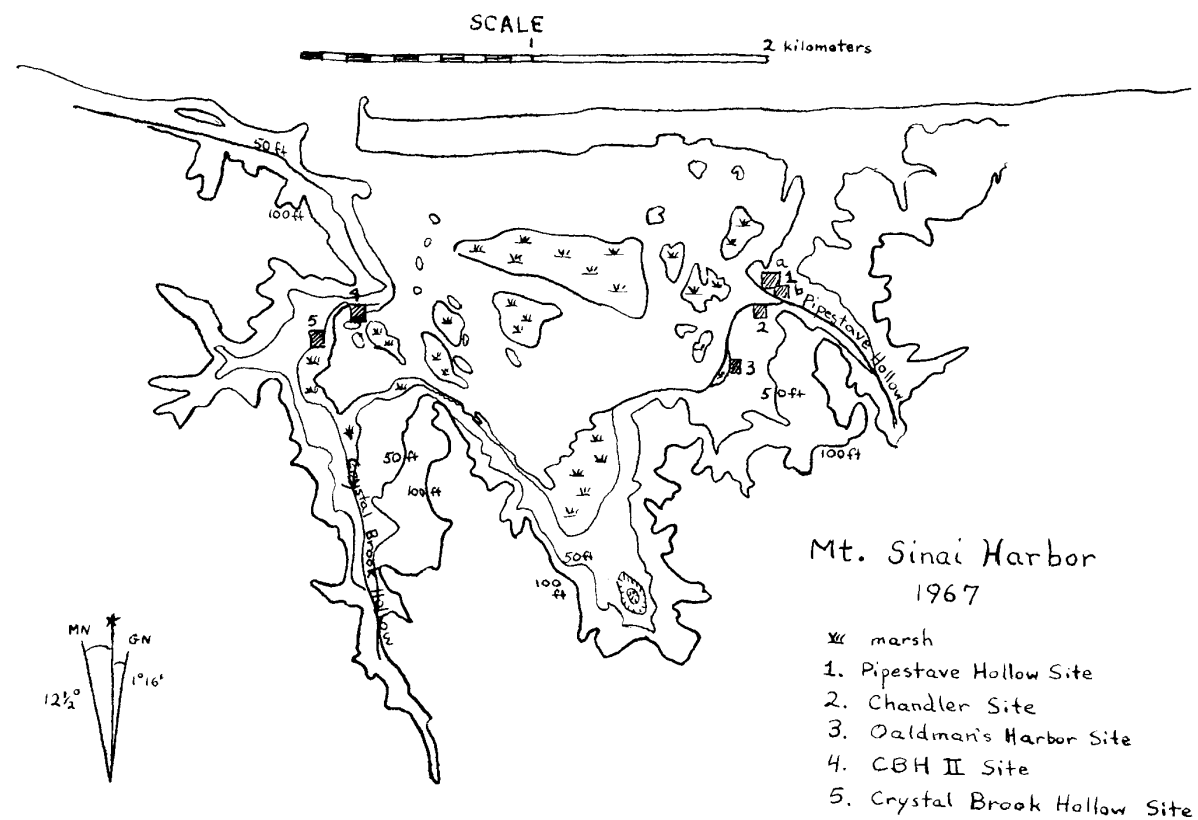


Figure 1.

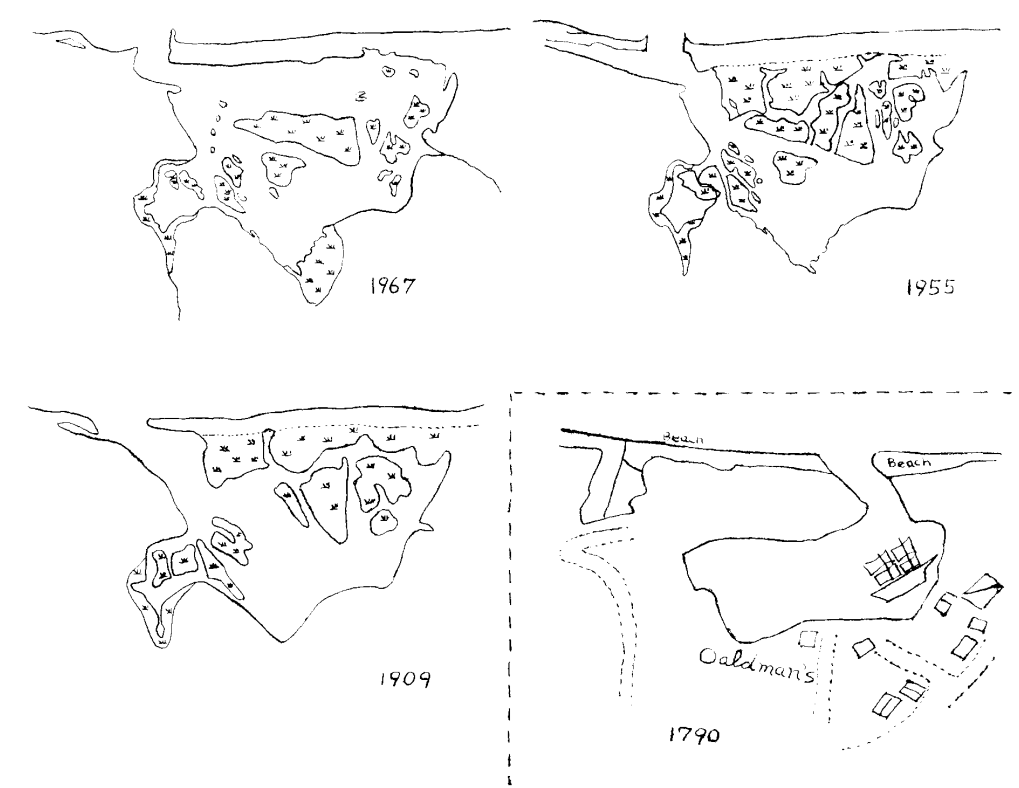


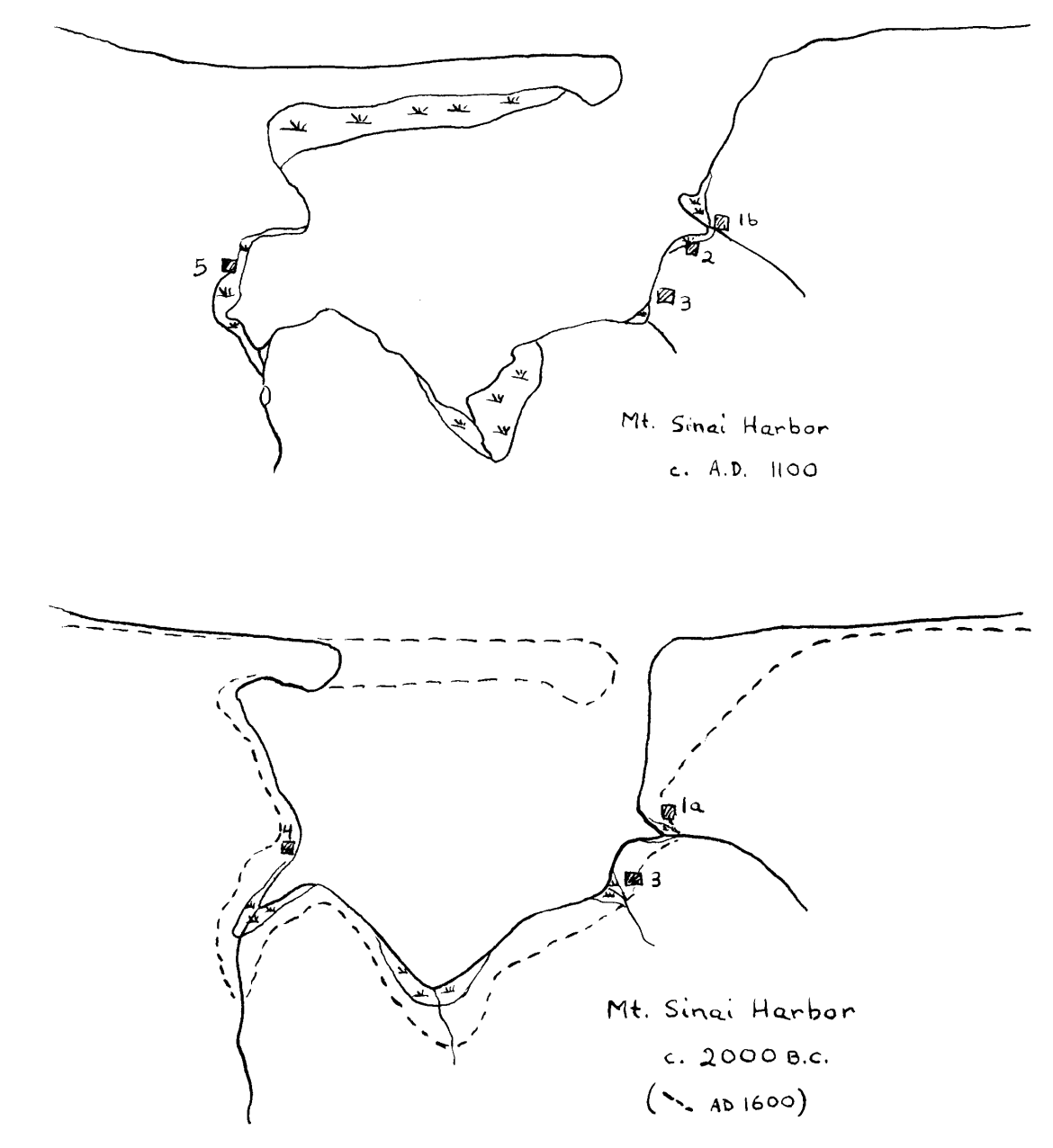
Figure 2.

Reconstructing The Prehistoric Harbor

Using information on the composition of the shell middens, the location of the sites and the processes by which salt marshes are built and filled in (Redfield 1965), an attempt can be made to reconstruct the harbor as it existed during aboriginal times (Wyatt 1977, McIntire 1971). Another factor, the rise in sea level which has occurred since glacial times must also be taken into account (Salwen 1962) particularly as it affects marsh growth (Redfield 1972).

Two processes are at work in the history of an estuary, the rise in sea level that has been a factor since the retreat of the Wisconsin Glacier, and the processes of marsh formation. *Spartina alterniflora*, the marsh grass which is the primary barren ground marsh colonizer, can tolerate greater exposure to salt water than most other plants; nonetheless, it cannot stand to be completely submerged, that is, it will not grow on a harbor bottom. The flooding of upland areas by the rise in sea level, combined with sediment washed into the harbor by erosion of the coastal cliffs and brought down by streams provides areas suitable for colonization. The building out of a sand spit by the process of along shore transport forms a protective barrier for the harbor. Prior to the formation of this barrier, the sands within the harbor would be moved about too much to be a suitable substrate for *S. alterniflora*.

Thus we can draw up hypothesized maps for the harbor at Mt. Sinai of Late Woodland and Late Archaic times. The harbor as reconstructed for 1100 AD is deeper and more open than at present but otherwise is recognizable, with the additional change of the side of the opening for the sand spit. Those sites with Woodland components are indicated. Areas of marsh occur at the mouths of streams and on the sheltered side of the sand spit. Thus the habitats of soft and hard clam, oyster and scallop are all present. Sites are located at the point where the streams flow into the bay. These streams undoubtedly carried greater amounts of water than presently, when their flow was not diverted into seepage ponds and homes.



For the map of 2000 BC, we lower the sea level, unbuild the sand spit, and undo the effects of erosion on the various cliffs of and around the harbor. I have superimposed a sketch of the more recent harbor to make the changes more noticeable. Again, contemporaneous site occupations are indicated. The harbor is deep and open with little marsh. Areas of sand and mud flats are limited and located primarily adjacent to where streams empty into the bay. Thus the two major species of shellfish available are scallop and oyster; soft and hard clams are rare. (Thomas et al 1975).

With this perspective, we can proceed to examine the available floral and faunal resources.

Estimating Environmental Potential

The theory of catchment basin analysis (Higgs and Vita-Finzi 1972) looks at the area and its resources in relation to a site much in the manner of the relationship between a stream and its watershed. The area of potential use for hunter-gatherer cultural stage is taken as the area encompassed by a radius of a 2-hour walk. This is based on the 10 km limit of the hunting range observed for the !Kung Bushmen. A circle of 10 km radius with Mt. Sinai as its center extends into the middle of the island, encompassing large areas of upland that would have existed in forests and meadows, as hunting areas. The harbors of Port Jefferson and Conscience Bay lie within this circle within reach by canoe travel as well as overland. A 10 km radius or a 2 hour trip by canoe would not reach Connecticut at this point but would bring a large area of the Sound into exploitable range.

The males might easily take a two-hour walk to reach a favored hunting spot but it is likely that the gathering done by the women would be closer to the village. Another study of environmental potential took a 1.78 mi radius to obtain a circle of 10 square miles (Munson et al 1971) and I shall do likewise. This represents a radius of 27 minutes or a circumference of 2 1/2 hours. At Mt. Sinai, much of this area is over open water and a full circumference cannot be completed by walking, which should indicate to us the potential importance of canoe travel.

The area around the Oaldman's Harbor site, and also the others shown around the harbor, includes more than eight micro-environments, each with its own floral and faunal resources and optimum time for harvest. They include the sand dunes of the sand spit, the intertidal and high marsh areas, the salt resistant plants and shrubs of the sandy soils on the lee side of the sand spit, the waterlogged soils surrounding springs and the banks of streams, the edge of the upland forest as it extended toward the beach and the cliffs, and the three niches of the uplands meadows, burned-over forests, and climax forests. I have included developing forest under burned-over forest although it is a later stage and could be kept separate. If aquatic resources are included, one may add near-shore estuary, stream, and Sound micro-environments.

Yarnell (1964) examines the relationships between cultures and plant life in the Upper Great Lakes Region, but much of his work is applicable here.

Dunes themselves provide very little in the way of either floral or faunal resources but the plants and shrubs that live on the sheltered side of the sand spit in the stabilized soils offer a number of different foods. Walking over the area, one will find beach pea, sumac, and rose bushes which offer peas, berries and rose hips respectively, available in the late summer, and small trees such as juneberry, hackberry and cherry. At the edge of the forest are raspberries, blackberries, sumac and grapes. The berries of the trees and bushes ripen in mid-summer. Grapes become ripe in the early fall. Nut trees are present in these forests that overlook the bay, as well as in the more inland areas. The various oaks are the most prevalent trees but hickories grow in stands of half a dozen or more. These trees drop their nuts in response to cooling temperatures which differ slightly from area to area, causing different stands to be harvestable during succeeding weeks. Though the onset of cold weather may vary from year to year, hickories are generally available at the end of August-beginning of September. Walnuts fall slightly later. In areas recovering from a burn over, a possible common and intentional occurrence, (Cooper 1961) blue berries and huckleberries cover the ground. These berries ripen in midsummer. Climax forest contained, in addition to the various oak species, chestnut, hickory, tulip tree, and an undergrowth of shade-loving plants many of which were medicinal. (Thompson 1962, Bayles 1962, J.E.S. 1632) The two most important habitats for floral resources were probably the stream banks and the meadow forest edge. Elderberry, groundnut, and a host of plants with edible tubers and greens were available in the marshy ground around springs and on stream banks. Here grew the cattail which provided, in appropriate seasons, tubers, greens, pollen, catkins, and finally leaves for mats and fluff for diapers. Bulrushes for interior mats also grew at streamside. In addition to the berry bushes previously mentioned, meadows contained strawberries, Jerusalem artichoke, milkweed, pigweed and, for thread, Indian hemp. Each habitat also had its attendant complement of fauna. By streams lived raccoons, beaver, muskrat, turtles and, in them, freshwater fish. Meadows and open forest were home to deer, turkey, grouse, heath hen and rabbits. Squirrels, of course, preferred areas of the forest with nut trees. Beaver and muskrat not only provided meat and fur but their stores of tubers were raided in the fall and winter for use by the Indians. The marsh areas provided fish of many varieties and marsh birds, as well as shellfish. Migrating birds such as ducks and geese often preferred ponds and lakes.

The preceding list of the various micro-environments and resources is by no means exhaustive. However, it gives us a place from which to begin in examining the particular resources used by the inhabitants of the

Oaldman's Harbor site. In addition to food resources, it must be mentioned that the coast, with its eroding cliffs of glacial moraines is an excellent source of raw material for the manufacture of projectile points and other stone tools.

Archaeological Evidence

By using archaeologically recovered remains to determine the season, the known environmental resources of the season can then be used in turn to predict food resources and industries for which evidence has been overlooked. Food remains on the Oaldman's Harbor site are of shellfish, fish, land animals, and charred hickory nut shells. Several seeds were found but as they were not charred and as over flying birds were commonly observed to deposit seeds in the squares via their droppings, they will not be included in the following discussion.

The deer remains were primarily of shattered long bones from which the marrow had been extracted, several of which had been flaked or broken into usable shapes. Parts of two skulls of deer partially burned were found in the midden. The antlers had been broken out of the skull, indicating summer or fall occupancy. Wild turkey and other unidentified bird bones were found, as were several pieces of at least two turtle shells made into dishes. A large number of the bones recovered were of various species of fish. Many have been identified as sea robins (*Prionotus evolans* and *P. carolinus*). Sea robins are available from June to September with a peak in July-Aug. A ray (*Raja spp.*) was recovered; it too is available inshore during the summer. Several bones were identified as cunner (*Autogolabrus adspersus*). This fish lives among eel grass and in deep salt creeks, preferring water 15 to 20 ft. deep. Other fish remains are as yet unidentified. In addition to the scallop, oyster, and soft and hard clam before mentioned and discussed, careful troweling of the midden and pits revealed large amounts of ribbed mussel. Its fragility and structure make it one of the most easily decayed and therefore unrecovered of the shellfish. Several common species of snail were found, probably gathered along with the other shellfish and not sought in and of themselves.

All indications are that the Woodland occupation of the Oaldman's Harbor site, to which the midden and pits belong, is a summer-early fall habitation. This would enable the inhabitants to make use of the fish resources of the bay and, in addition, to gather the various berries and nuts as they ripened. An occasional deer or turkey would fill out the larder. I am inclined to believe that the nut season marked the end of the season's habitation, with inhabitants moving inland, the better to exploit the resources of the forest and ponds, such as migratory waterfowl, nuts, and tubers.

As mentioned earlier, the coast provides large amounts of quartz cobbles and rocks of other materials in the glacial detritus. A natural industry for a coast site, therefore, would be the manufacture of stone tools. Indeed, there were many cobbles in various stages of manufacture as well as two chipping features and much debitage, primarily quartz, present on the site. A second likely industry was that of the making of twine and nets. Indian hemp, the most commonly used plant for fiber, grows in open areas at the edges of forests and also in sandy soils by beaches. Its fiber is most useful in the late summer, being then at its strongest and longest. Several netsinkers were recovered from the site, providing additional evidence of the use of nets, if not their manufacture. Although no fibers or imprints were recovered, it is possible that some of the many quartz choppers on the site were used to cut the plants and aid in extracting the fibers. Now that the hypothesis has been made, the artifacts can be reexamined by means of lithic microanalysis for any additional light they might shed on this possibility through their wear patterns. Pottery-making also would seem to be indicated for this site, if the interpretation of a feature containing unbaked clay, temper and unused but broken fired sherds is correct.

Proposing hypotheses of industries that had the potential of taking place given the season and environment is one of the greatest uses that this type of study can have. The expectation of finding seeds, for example, will cause the archaeologist to use techniques, such as flotation, and greater care for recovery. Similarly, the hypothesis of the manufacture of clothing or hides will cause utilized flakes, bifaces, and other categories to be reexamined for function. Experimental duplication of the proposed industries can give clues to wear patterns and refuse to be expected from the site.

Environmental Reconstruction: the Seasonal Round

Finally, if Oaldman's Harbor site represents a summer campsite, what or where were the other camps in the seasonal round? The expectation would be that the winter campsite would be in a sheltered inland spot near

a body of water. Use could then be made of edible barks, tubers, stored nuts and berries, and deer and turkey. Muskrat stores could be raided in times of need and, perhaps, freshwater ice-fishing would be possible. Expected industries in addition to hunting would be woodworking and possibly hide-tanning. Antler and bone would also be available raw materials. In the spring the camp would shift to streamside, to take advantage of runs of anadromous fish and sprouting greens. Sap beg-ins to run and can be tapped; also the spring migration of waterfowl takes place. Expected industries would include fishing and making vessels of bark and baskets. Bark for houses can be slipped off the trees at this time. Summer would be spent on the coast. Fall could be spent again on the riverside. It is here that the bulrushes and cattails grow which were used for mats and baskets. The addition of agriculture during the Late Woodland, which was probably not practiced at the Oaldman's Harbor site, would make only minor adjustments in the seasonal round, perhaps decreasing it to two camps winter-spring and summer-fall. The corn and other cultivated plants would be grown in gardens beside the coastal camp, much as was reported by Champlain for Plymouth Harbor and by early colonists remarking on the planting fields around Oyster Bay Harbor.

The differential activities as well as food resources between the various seasonal camps would help to explain why so many inland sites are reported as mere "hunting camps" rather than villages, and why attention has concentrated on coastal sites. Besides the readily apparent shellfish middens which preserve bone amongst the shell, much stone working was done there. Wood, antler and bone, the raw materials of the inland camp industries are perishable and leave little clue to their existence beyond the wear patterns on the tools that worked them. An understanding of the environment within which these cultures lived and adapted, then, is crucial to our understanding of the cultures themselves and to our attempt to explain the functions of the sites and of the tools themselves. Harbors change, streams change, and plant and animal communities change as well. It is necessary to go beyond the limited inferences we can draw from modern environments and the incomplete accounts from historic writers (Thompson 1962, Bayles 1962). They are useful but inadequate. Only when they are combined with every other tool we have with which to reconstruct paleoenvironments will we begin to have the knowledge which we need.

ACKNOWLEDGEMENTS

I would like to express my grateful thanks to Dr. C. Lavett Smith of the American Museum of Natural History for his identifications of the fish remains from the Oaldman's Harbor site and to Dr. Ralph Solecki of Columbia University who read the original draft of this paper and suggested the importance of canoe travel.

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PEARL STREET SITE SALVAGE

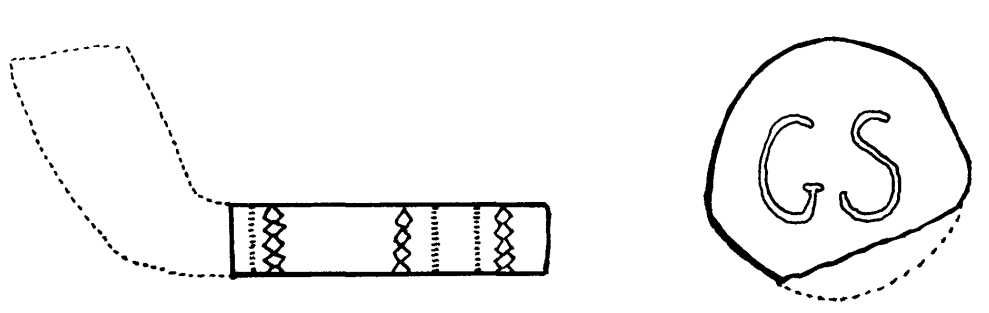
Robert Apuzzo
 Michael Cohn

Metropolitan Chapter

In the summer of 1980 a contracting firm began laying a water pipe along Pearl Street between the Stadt Huys site (1) and the Fraunces Tavern museum. In digging the pipe trench artifacts were scattered along both sides of the ditch. Word about the existence of the site was spread by one of the collectors who works in an office in the vicinity who contacted members of the Metropolitan Chapter, NYSAA. On the next two evenings a mixed crew of collectors, amateur archeologists and professionals salvaged as many of the exposed artifacts as possible and troweled along the faces of the excavations. All artifacts were made available for study and photography.

All the material apparently was derived from one refuse heap of a tavern, either the Stadt Huys itself or the Lovelace tavern near-by. The material seems to have been deposited some time between 1660-1690. How long the dump was in use cannot be determined but its size makes it likely that this particular dump existed for only a relatively short time. Oyster and clam shells were extremely common at the site. We found pig teeth and the jawbone of a cow but no evidence of sheep or goats. A fragment of deer antler is evidence that hunters brought in carcasses of deer with hide and hoof still attached. The antler is also evidence that part of the site was in use in late summer or fall since deer shed their antlers in spring. A fragment of the carapace of a diamondback turtle is another proof of the role that hunting and gathering played at the time.

Even at this early date the trade of New Amsterdam/New York was widespread and the artifacts illustrate this. There were pieces of East Anglian flint (ballast stones?) and a crown conch shell from the West Indies, Dutch delft tiles (2), combed ware from Bristol, England, and fragments of Westerwald wares from the Rhineland. There were numerous pieces of heavy yellow, orange and brown wares with feet or ring bases (3). One base of heavy orange-and-yellow glazed ware carries the thumbprint of a male potter. There were fragments of delft or tin-glazed ceramic vessels which might come from either Holland or England. All the bricks found were of the small "Dutch" type. The single bottle seal recovered bore the initials "GS" (4) and there was also a base of a kick-up bottle that can be dated between 1660 and 90 (5). No fragments of fine drinking glasses were recovered.



Roulette-and-diamonds stem of Dutch manufacture re-covered from Pearl St.

Bottle seal recovered from Pearl St. site. Probably of British origin.

Building material and ceramics are suspect when used for dating a site since such material may continue in use long after the date of manufacture, particularly in a frontier society. We do have, however, clay pipes which give us more trustworthy dating and which tend to confirm the dates obtained from the ceramics at this site. Clay pipes are cheap and fragile, and their shapes and stems can be used for dating on a statistical basis. When the pipe fragments are decorated, like some of the ones found at Pearl Street, the dating can be quite precise. The EB pipe can be attributed to Edward Bird, an Englishman working in Holland whose pipes are found in New York State on sites dating 1655-75 (6). Another pipe marked HG is presumably made by Heinrich Gerds, active 1670-1685. The earliest pipe we have seems to have been made by Jane Wall who was active between 1641 and 1661. All of these pipes have also been noted at Ft. Orange and Ft. Amsterdam. The stem design from the Pearl Street specimens are also similar to the ones from the two Dutch forts and are attributed to Dutch manufacturers (7). A pipe type not listed for the other sites is marked TIP on the heel and is assigned to Robert Tippet 1713-1720, which would place this pipe later than any other material found at the site. We have not done any statistical or distributional studies at this site of either ceramics or pipe stems since it seems that such statistics are meaningless at such a disturbed salvage site.

What we have here is an archeological confirmation of the picture presented by the written documents of life when New Amsterdam was becoming New York.

At the end of the 17th century the Stadt Huys and its neighboring tavern was a place where men met to discuss politics and business. Then, as now, the two were often the same thing. There was heavy smoking and drinking, with imported Madeira wine supplementing the tankards of locally made beer. Merchandise came from Europe, the West Indies and from local sources. The table furnishings of the tavern were crude, both here and in Holland (8). However hunting and gathering supplied food here that was available only to the very rich in Europe. Sanitation was rudimentary and the smell of the piles of garbage near the shore must have made the smoking of pipes almost a necessity.

NOTES

- (1) Nan Rothschild and Diana Rockman, THE STADT HUYS BLOCK EXCAVATION. Interim reports presented at the Met. Chapter, NYS Archeo. Soc. and the 1980 meeting of the Council for Northeast Historical Archeology, Session 1, Oct. 18.
- (2) We have based the identification of the tiles and some of the ceramics on the work of Ivor Noel Hume (see bibliography).
- (3) Detailed chemical analysis would be able to give the exact locale where the ceramics were made but such analysis was not available to us. It can be noted that similar wares are found not only in America and England but were also recovered from the Swedish warship "Vasa."
- (4) Jane Shadel Spillman, Curator of American Glass, Corning Museum wrote that the only listing of this seal she knew of occurred in Sheila Ruggles-Brise, SEALED BOTTLES, Country Life, London 1948, where it is dated 1699.
- (5) Illustrated in Helen McKearin and Kenneth M. Welson, AMERICAN BOTTLES AND FLASKS, P. 207.
- (6) Pipe dates are based upon Peter Davey, The Archeology of the Clay Tobacco pipe 11. USA.BAR Int. Series 60, Oxford 1979, and Adrian Oswald CLAY PIPES FOR THE ARCHEOLOGIST, British Archeological Reports 14, Oxford 1975.
- (7) John McCashion and Theodore Robinson, THE CLAY TOBACCO PIPES OF N.Y. STATE UNDER THE SIDEWALKS OF NEW YORK. NYS Archeo. Bull. #71, Nov. 1977. pp. 2-17.
- (8) See the paintings of Jan Steen (1629-1679) and Peter de Hooch (1629-1680) of taverns in Holland at the time.

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**SIXTY-FIFTH ANNUAL
ARCHEOLOGICAL CONFERENCE
OF THE NEW YORK STATE ARCHEOLOGICAL ASSOCIATION
APRIL 24, 25 and 26, 1981
THE HOWARD JOHNSON MOTOR INN NORWICH, NEW YORK
FRIDAY, APRIL 24, 1981**

2:00 P. M.

NYAC Board Meeting

3:30 P. M.

NYAC General Meeting

5:00-8:00 P.M.

Welcome and Registration

7. 00 P. M.

NYSAA Standing Committee Meetings

8:00 P.M.

NYSAA Executive Committee Meeting

SATURDAY, APRIL 25, 1981

8:00 A. M.

Registration

8:20 A. M.

Business Meeting, Elizabeth Dumont, NYSAA President

8:50 A.M

Welcome and Announcements, Richard G. Bennett, President Chenango Chapters

Morning Session-Symposium on Historic Archeology

Chairman, Gordon C. De Angelo, Beauchamp & Chenango Chapters

9:00 A.M.

A 19th Century Glassworks at Ellenville, New York.

Elizabeth Dumont, Ph.D., Orange County Chapter

9:45 A.M.

Cultural Mitigation of a 19th Century Cobblestone House and Farm Complex at Sommerset, New York.

Marjorie K. Pratt, Beauchamp & Chenango Chapters

Peter P. Pratt, Ph.D., Beauchamp & Chenango Chapters*

10:15 A. M.

Suspected Origins of Peter Dorn's Clay Tobacco Pipes.

John McCashion, Chenango & Van Epps-Hartley Chapters

*Fellows of NYSAA

10:45 A. M.

Building and Rebuilding a Castle.

Paul Malo, Prof. at Syracuse University-School of Architecture

11:15 A.M.

In Search of a Fort: Preliminary Investigations at Erie Canal Village, New York.

Ellis McDowell-Loudan, Ph.D., Beauchamp & Chenango Chapters

12:00-1:30 P. M.

Lunch Break, Place of your choice.

Afternoon Session-Symposium: Pro vs Amateur or Professional plus the Amateur Archeology for the 80's.

Chairman, Elizabeth Dumont, Ph.D., Orange County Chapter

1:30-4:00 P. M. Participants include:

Louis A. Brennan, Lower Hudson Chapter, Representative, E.S.A.F.*

Dolores N. Elliott, Triple Cities Chapter*

Robert E. Funk, Ph.D., New York State Archeologist, Van Epps-Hartley Chapter*

Charles F. Hayes III, Ph.D., Research Director-Rochester Museum, Morgan Chapter*

Kingston Lerner, M.D., Van Epps-Hartley Chapter

Theodore Whitney, Chenango Chapter*

6:00 P.M.

Social Hour-Howard Johnson Motor Inn

7:00 P.M.

Banquet

Invocation-Rev. Robert Webster, Chenango Chapter

Announcements

Award Presentations

Keynote Address: *The Lenape and the Trader: Late Prehistoric & Early Historic Indian/White Relationships in New Jersey and Southeastern New York.*

*Herbert C. Kraft, Ph.D., Director of the Archeological Research Center, Seton Hall University Museum, New Jersey. **

SUNDAY, APRIL 26, 1981

Morning Session-Chairman, Albert D. La France, President of Beauchamp Chapter

9:30 A.M.

Paleo Indian and Early Archaic at Dutchess Quarry.

Dr. John S. Kopper-C. W. Post University.

10:00 A.M.

The Magic of Glass Beads: Glass Beads as Crystals, (An Alternative Explanation for the Indian Acceptance of European Trade Goods).

George R. Hamell, Senior Museum Exhibit Planner at Albany, Morgan Chapter.

10:30 A. M.

On Cartier, Scurvy, Vitamin C, and the Annedda Tree.

Richard E. Hosbach, M.D., Chenango Chapter

11:00 A.M.

Wampum

Gilbert Hagerty, Chenango Chapter*

*Fellows of NYSAA