

The Bulletin

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CONTENTS

The Archaic Revisited, A Preface L.A.B	1
The Archaic in New York William A. Ritchie	2
William A. Ritchie: A Valediction Robert E. Funk	13
Comprehensive Bibliography William A. Ritchie	16
Witches Walk #1: A Preliminary Site Report Karen K. Noonan	22
Book Review: American Dawn Don W. Dragoo	38
Program, NYSAA Annual Meeting	40



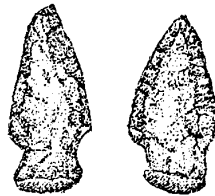
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GENESEE



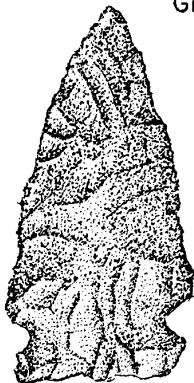
LAMOKA



WADING RIVER



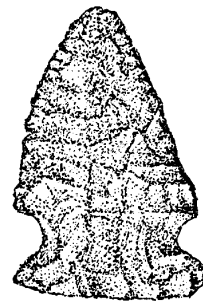
BREWERTON CORNER-NOTCHED



MIDDLE ARCHAIC
side-notched



OTTER CREEK



BREWERTON SIDE-NOTCHED

THE ARCHAIC IN NEW YORK

6Y6 1971

THE NEW YORK STATE ARCHEOLOGICAL ASSOCIATION

THE ARCHAIC REVISITED

A Preface

The announcement by Dr. William A. Ritchie at the NYSAA State Conference at Binghamton, April 16-18, that he was retiring on May 1 from his long held post as New York State Archaeologist took all of us at that assembly by surprise. Whatever his chronological particulars, Dr. Ritchie does not seem to have diminished in the least in the creative energy that has engendered for New York a volume and depth for regional prehistoric studies that exceeds that of any state in the Union with the possible exception of Alaska. But, whereas that part of entry for humanity has been under investigation for five decades by students from all over the United States and Canada, New York prehistory is a product almost exclusively of the work of New Yorkers, of whom Dr. Ritchie was and is, far and away, foremost.

NYSAA president Michael Ripton recovered his composure in time to purchase a large silver memorial bowl and to present it to Dr. Ritchie at the annual dinner. Though there had not been time to inscribe the bowl-it has since been done; it was appropriately festooned with sentiment. Despite the short notice Dr. Ritchie's well-earned departure was signaled by an appropriate recognition of its significance to Dr. Ritchie, who has happy plans for his leisure, and to NYSAA.

As editor of *The Bulletin* I had an inkling, perhaps premonition would be the better words, that something was in the wind when Dr. Ritchie wrote me early in January that he was planning "a brief article summarizing the main outlines of New York archeology as I see it today and probably to be entitled 'Early Man to Iroquois: A Synopsis of New York Prehistory.'" The length of the article, or the amount of the effort, exceeded his expectations (after all, this is what "The Archeology of New York State" is all about) and he later wrote to say that he was restricting the scope of the article to the Archaic. I had the feeling that this was a summing up of and a final statement on what has been his contribution to not simply New York but to American prehistory. The excavations which engendered the concept of the Archaic as a hunting-gathering pattern of subsistence, and as the period prior to the introduction of ceramics during which that was the kind of life most American aborigines lived, were conducted in New York. The continental validity of the concept has taken increasing hold on anthropology and if the key words used in the literature were ranked in the order of the number of times they appear, "Archaic" would certainly lead the list.

Like all great ideas, it was immediately convincing, once it had been articulated. But in those days archaeology was hung up on Ales Hrdlicka and Herbert Spinden and when a modest marker was put up in the 30's by the State of New York at the Lamoka Lake Site with Dr. Ritchie's guess as to its age, his colleagues snickered and gave each other the nudge. Dr. Ritchie's estimate was 1000 B.C. No reader of this publication has to be told that the Lamoka Lake Site is now firmly C-14 dated at 4,500 years ago or 2650 B.C. It is not too much to say that without the concept of the Archaic neither New York nor American prehistory could have achieved a synthesis and a system of chronological-anthropological order. It would have been a dreary reiteration of site reports and compositions of trait lists.

Had this editor been asked by Dr. Ritchie for his preference for a valedictory article from the Ritchie typewriter it would have been the statement on The Archaic that follows, which is in effect a description of the robust growth and flowering of a seminal idea he implanted forty years ago and lived to his prime to see it in its prime.

L.A.B.

THE ARCHAIC IN NEW YORK ¹

William A. Ritchie, State Archeologist, NYSAAF

New York State Museum and Science Service

The purpose of this paper is to restate, for greater clarity and emphasis, my current views regarding the major configuration of the Archaic stage in New York State, as published more fully in my 1965a and particularly in my 1969a volume. The Archaic stage encompasses by far the longest temporal segment of the area's prehistory, on present evidence at least 5000 years.

Since 1932 when, following my discoveries at Lamoka Lake site, I defined the Lamoka culture and attributed it to a preceramic, pre-horticultural Archaic level of Indian history in New York, the magnitude, complexity, and antiquity of the Archaic stage have slowly been realized through professional and non-professional excavations in many parts of the state (Ritchie 1932, 1936, 1938); and the concept of the Archaic and its multifarious manifestations have also been accepted and widely extended in the United States and Canada (Willey and Phillips 1958: 104-139; Willey 1966: 252-266; Jennings 1968: 114-130).

The most recently revealed traces of the Archaic are also the most ancient. Until these finds were made on Staten Island by a small corps of non-professional archeologists, beginning about 1968, evidence for an Early Archaic occupation of the eastern United States was confined to the region well south of New York. The Staten Island data come principally from four sites explored by Albert J. Anderson, Donald Hollowell, and Joseph Bodnar, with supporting evidence from two other sites excavated chiefly by Donald R. Sainz. Through the courtesy and generosity of these enthusiastic workers we have been able to study and report their results to date (Ritchie and Funk n.d.b).

The Staten Island materials occur in the deepest artifact-bearing zones of the several sites, but in no consistent combination. The artifact complexes comprise projectile points of the following types: LeCroy Bifurcated Base, Kanawha Stemmed, Stanly Stemmed, Kirk Corner-Notched, Kirk Stemmed, Palmer Corner-Notched, and Hardaway Side-Notched, variously described by Kneberg for Tennessee (1956: 27-28), Coe for the Carolina Piedmont (1964), and Broyles for the St. Albans site in West Virginia (1966). There are also end and side scrapers, some with graving spurs like Paleo-Indian tools; biface knives of ovate and triangular forms and a unique oblong variety; rare spokeshave scrapers and drills; numerous choppers of ovate or oblong shape; pebble hammerstones; anvilstones; abrading stones; bifacially chipped celts with ground bits and a fragmentary adz.

There is in every case a perplexing association in a single stratigraphic zone of several point types which occur only in separate horizons of the North Carolina and West Virginia sites described by Coe and Broyles. Moreover, these southeastern sites have not produced choppers, celts or adzes, or indeed any ground stone items such as occur on the Staten Island components. In the southeastern sites the temporal range of the point styles reported for Staten Island is as much as 2000 years on radiocarbon or estimated dates, or between c. 8000-6000 B.C. There are C-14 dates on charcoal for three of the Staten Island sites, also with a range of some 2000 years, but the dates are not consistent with the point types, as they appear in the Southeast. These Staten Island dates are as follows: 5310 B.C. \pm 140 years (I-4070), 6300 B.C. \pm 140 years (I-5331), and 7410 B.C. \pm 120 years (I-4929). Obviously, more excavation is in order to clarify the picture, but the presence on Staten Island, on the southeastern periphery of New York State, of Early Archaic point forms of the southeastern United States is unequivocal and significant. It is noteworthy that so far no evidence of this kind has been reported for neighboring Long Island.

Prior to the recent Staten Island finds the discovery of Early Archaic vestiges closest to the Northeast came from the deepest zones of the Sheep Rock Shelter in south central Pennsylvania where two Kirk Corner-Notched points were found in a level dated at 5100 B.C. \pm 250 years (M-1908), and a chipped celt with ground bit, having no parallels in the south-

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eastern Early Archaic lay still deeper in a horizon dated to 6920 B.C. \pm 320 years (M-1909) (Michels and Smith 1967: 863).

In New York State, I have called attention to the rare and random occurrence of several forms of the bifurcated base point (Ritchie 1961: 9, 115), some of them now identifiable as LeCroy Bifurcated Base (Plate 34, figs. 1-3, 6) and Kanawha Stemmed (Ibid., fig. 5). Figures 7-9 on the same plate resemble untyped specimens found on the Staten Island sites. It seems certain that upstate New York was infrequently visited by little bands of hunters from the south, who may have made brief seasonal incursions through the Hudson, Susquehanna and other major river valleys.

I have long suspected an unfavorable environmental milieu as the primary cause of our failure to find more than the slenderest evidence of Late Paleo-Indian and Early Archaic man in the Northeast, or from c. 7000 to 4000 B.C. The pollen spectra and other evidence suggest that around 7000 B.C. the forest composition was undergoing a marked alteration from spruce-pine to pine dominance, with a significantly lowered carrying capacity for game. Beginning about 4000 B.C., the warmer climatic conditions of the Xerothermic period were attended first, by an oak-pine, then by an oak-hickory forest succession, both highly favorable as habitats for the most valued game animals, especially the mast eaters, like the deer and turkey (Ritchie 1965a: 16-19; 1969b: 212-213). A similar explanation of the facts has been expressed by James E. Fitting (1968).

Staten Island lies at the northern extremity of the Carolinian biotic zone, which enjoys a higher average temperature and a somewhat different floral-faunal association than the Canadian biotic zone adjoining it on the north and including most of the Northeast (Dice 1943). The assumption, on current evidence, is that man in an Early Archaic level of cultural adaptation to a mixed deciduous forest setting, gradually spread northward from the central Appalachian region to the limits of the biotic zone to which he was adjusted and, only rarely, possibly in the most favorable seasons, pushed farther north on hunting or gathering forays into new territories where more propitious forest conditions were gradually replacing the dense stands of conifers.

A still largely unknown, weak and scattered occupation of later (Middle?) Archaic hunters, equipped with large, broad-bladed, side-notched points, seems to have followed the Early Archaic groups, probably from the same southern direction, since their slender

traces have been found in the lower Hudson Valley. Here, in the basal levels at the Sylvan Lake Rockshelter, Funk uncovered a small number and assortment of untyped projectile points. Two radiocarbon dates from this general zone are 4030 B.C. \pm 120 (I-2599) and 4610 B.C. \pm 100 (Y-1655) (Funk 1965).

Although Funk has remarked on certain attributes of resemblance in three of these points to the Otter Creek type of the Vergennes phase, Laurentian tradition (Ritchie 1961: 40-41), I would here emphasize my belief that the Laurentian tradition, as I have defined it (Ritchie 1938: 106-108; 1965a: 79-83; 1968) is a northern and later manifestation, unrelated to the finds from the deepest part of the Sylvan Lake Rockshelter, except insofar as certain elements of this vague and anomalous assemblage may have persisted, to later become assimilated to a Laurentian culture or cultures of Late Archaic times.

Still lower down river in Westchester County, radiocarbon dates of similar magnitude were secured on charcoal from the bottom level of a midden at Croton Point, 3900 B.C. \pm 200 years (X-1315) (Brennan 1962), and on oyster shell from the base of a deep shell stratum at Dogan Point, 3700 B.C. \pm 200 years (L-1038E) (Brennan 1968: 14; Newman et al. 1969). Unfortunately, diagnostic artifact associations were lacking at both sites.

As I have long and frequently stated, I regard the Laurentian tradition of the Late Archaic stage as having its immediate source in the Lake Forest belt lying adjacent on the south to the Great Lakes and extending eastward across lower Canada, with major centers in the Ottawa and St. Lawrence valleys, into the Canadian Maritimes and upper New England (Ritchie 1965a: 79-83). The Laurentian seems to have coexisted with the Shield Archaic to the north, with a zone of interaction overlapping the two provinces (Wright n.d.), and with the Maritime Archaic on the east, which is only now becoming known, chiefly

through the recent researches of Tuck at Port au Choix (Tuck 1970).

The Laurentian diffused southward from the St. Lawrence region into New England and New York, through primary routes which included the Richelieu River-Lake Champlain and Hudson Valley on the east, and the Oswego-Seneca and Oneida rivers in central New York. South of the areas adjacent to these waterways, evidence of Laurentian cultures becomes progressively weaker in southern New York and southern New England. In these areas, I believe, a completely different tradition, characterized by narrow-bladed projectile points, was predominant, coexisting in large part with the Laurentian on the north. Again, as in the case of the Laurentian and Shield Archaic of Canada, there was a considerable overlapping zone of interaction.

The time span of the Laurentian in southeastern Canada, New York and New England, on present limited C-14 determinations, falls between c. 3300 and 2000 B.C., with the oldest dates to the north, in the Ottawa Valley. Here two determinations have been made on samples, which appear to relate to separate phases of the Laurentian as recognized in New York. The older date of 3300 B.C., from human bone on the Alumette Island-1 site, is assigned by the finder, Clyde C. Kennedy, to the Vergennes complex (Kennedy 1970: 61-63 and by correspondence). The Vergennes phase, still undated in Vermont and northeastern New York, where it is best represented, is stratigraphically the oldest recognized Laurentian culture (Ritchie 1965a: 87; 1968; 1969a: 84-89).

The second date and cultural identification is Kennedy's 2750 B.C. \pm 150 years (GSC-162) for the Morrison's Island-6 site, also in the upper Ottawa Valley, which produced burials and artifacts apparently closely related to the Brewerton phase of central New York (Kennedy 1966; 1970: 59-60).

In New York State only a few radiocarbon dates have so far been obtained for sites of the Laurentian tradition. Two of these relate to the rather poorly defined Vosburg phase, found principally in the Hudson Valley (Ritchie 1965a: 83-84). These hearth charcoal dates are 2524 B.C. \pm 300 years (M-287) for the Bannerman site (Ritchie 1958: 67) and 2780 B.C. \pm 80 years (Y-1535) for the Vosburg level at the Sylvan Lake site (Funk 1965: 145-146).

Farther east, in southern New England, we have a hearth charcoal radiocarbon date of 2270 B.C. \pm 160 years (Y-1530) attributable to a weak Laurentian manifestation in Stratum 4 at the Hornblower II site on Martha's Vineyard (Ritchie 1969b: 52, 213, 220); another date of 2350 B.C. \pm 250 years (M-696) on charcoal from a cremated burial with a ground stone ulu at the Wapanucket No. 6 site in Middleboro, Mass. (Robbins 1960: 32); and a very similar date of 2390 B.C. \pm 120 years (Y-1664) for hearth charcoal from the Vosburg level of the Binette site in Naugatuck, Conn. (Thompson 1969).

For the Brewerton phase of central New York (Ritchie 1965a: 87-103) there are only two dates, both from hearth charcoal in the Brewerton horizon at the base of the stratified O'Neil site in Cayuga County. These dates are 2050 B.C. \pm 220 years (I-424) and 2010 B.C. \pm 100 (Y-1273) (Ritchie 1965a: 91; Ritchie and Funk, n.d.a).

A supporting figure of 1900 B.C. \pm 95 years (I-5266) for these approximately 4000-year-old Brewerton features was recently obtained on a sample of human bone from our excavations on the Frontenac Island site, also in Cayuga County. The extended burial which produced the bone, Number 78, was that of a young male who had been richly provided with grave goods, including such characteristic Laurentian traits as a ground slate point or knife and chopper.² A similar, adjacent, and apparently contemporaneous interment, Number 79, had, among other offerings, two stone plummets, also a good Laurentian trait (Ritchie 1945: 64, 137, 138; 1965a: 116, 122).

Two previously obtained C-14 dates on hearth charcoal from the Frontenac Island site, 2013 B.C. \pm 80 years (Y-459) and 1723 B.C. \pm 250 years (W-545), which I tended to regard as

² This grave also produced a bird effigy comb (Ritchie 1945: 111; 1965a: Plates 39, 40) which was unique for the Archaic until Tuck's 1968 discoveries at Port au Choix, Newfoundland, in a Maritime Archaic cemetery of about the same age (1880-1740 B.C.) as the Frontenac Island grave (Tuck 1970: 116, 118).

probably too late, are now seen as further proof of an approximately 2000 B.C. age for the site, which typifies the Frontenac phase (Ritchie 1965a: 107). This phase represents a composite culture resulting from the contact metamorphosis of the Lamoka and Brewerton phases (Ritchie 1945: 16-17, 21-22; 1965a: 103-104; Ritchie and Funk n.d.a.).

While the weight of the evidence, cultural and chronological, strongly indicates that the Brewerton phase was still extant in central New York around 2000 B.C., we have, unfortunately, no way of assessing the antiquity of the key sites of this phase at Brewerton, viz., the Robinson and Oberlander No. 1 stations (Ritchie 1940). Had charcoal been available from the deeper levels of these central-base campsites, I suspect it would have yielded an age determination congruent with that of the Vosburg phase in eastern New York. The Brewerton culture, then, probably constituted the dominant, and probably the sole Late Archaic occupation of northern and north central New York at around 2500 B.C., when the Lamoka culture flourished in the same role in south-central New York. The Brewerton phase is definitely linked with the St. Lawrence Valley; its primary territory, as shown by the distribution of numerous surface sites, and very rare subsurface sites, extended from the St. Lawrence region along the east side of Lake Ontario, with the Adirondacks as a backstop, into the Seneca River system, Oneida Lake and the northern Finger Lakes region. It is less intensively present in the lower Genesee Valley and in western New York.

To the south of this New York heartland Brewerton traces progressively diminish, in much the same manner as those of the Vosburg phase in southeastern New York.

This fact introduces a major point in my perspective of the Archaic cultures in New York, namely, that the most plausible explanation for this distributional picture of the Brewerton phase was the approximately concurrent presence in south-central New York of the Lamoka phase of the completely different narrow point tradition, which had its focus of dissemination somewhere south of this area. The chief route of entry into New York seems to have been via the Susquehanna and its tributaries, particularly the Chemung and Cohocton, leading northward to the smaller lakes of the Finger Lakes system-Lamoka, Waneta, Keuka, Canandaigua, Honeoye, Hemlock, Conesus-and the Genesee Valley. The principal markers for the Lamoka culture, the Lamoka type point (Ritchie 1961: 29-30) and what I have termed the beveled adz, clearly delineate this large core area (Ritchie 1965a: Figure 5).

A large site with approximately 200 pit features, some 13 used as graves, has recently been under excavation near the Genesee River in Livingston County, by the Rochester Museum and Science Center, under the direction of Charles F. Hayes III. The Cole Gravel Pit site lies only 1.5 miles distant from the much smaller Woodchuck Hill site (Ritchie 1936) and has produced similar stone and bone artifacts referable to the Lamoka phase. Two radiocarbon dates on Cole site charcoal are 2012 B.C. \pm 160 years (Y-2345) and 1922 B.C. \pm 120 years (Y-2346), about 500 years later than the Lamoka Lake site situated approximately 60 miles to the southeast (Hayes and Bergs 1969). The persistence of a regional variation of the Lamoka culture in the lower Genesee Valley to around 2000 B.C., and of the Brewerton phase in central New York to the same date, as shown at the O'Neil site, gives clarity and support to the approximately 2000 B.C. age for the Frontenac phase, a hybrid culture resulting from the interaction of both these cultures, at the Frontenac Island site in Cayuga Lake.

The Lamoka culture, which I have described in detail elsewhere (Ritchie 1965a: 36-79) is not traceable over most of New York State, but in eastern and southern New York points of the Lamoka type do occur in association with other narrow point varieties, e.g., Bare Island, Wading River, etc. It is important to note that, while these and other point forms of the narrow point tradition definitely overlie the Laurentian in eastern New York (Funk 1965) and in southern New England (Ritchie 1965b; 1969b), radiocarbon dates which unequivocally relate to assemblages with such points fall around 2200 B.C. At the unique central base camp of the Lamoka culture at Lamoka Lake seven hearth charcoal samples processed by three different laboratories securely date this site about 2500 B.C. An older figure of 3433 B.C. \pm 250 years (C-367), obtained by the solid charcoal method, is rejected as non-compatible and too early (Ritchie 1965a: 45). It therefore appears that the Lamoka was the

earliest known culture of the narrow point tradition to enter New York and that its route into the south-central region was at that time relatively unobstructed by Laurentian groups probably resident farther north and in the eastern part of the state.

The economy of the Lamoka people was based upon fishing, hunting, and heavily on the use of acorns, which were stored in fairly large pits, roasted in large beds of ashes, and processed into meal on an assortment of stone and perhaps wooden grinding implements (Ritchie 1965a: 48-62).

The Laurentian economy depended primarily on hunting, less on fishing, and very little on gathering of nuts and seeds, if we are correctly evaluating the artifactual remains and food debris (Ritchie 1965a: 91-96).

As I interpret the evidence, a zone of territorial overlapping of the Lamoka culture, centered to the south, and the Brewerton Laurentian culture, centered to the north, occurred in central New York, and is graphically recorded at the Frontenac Island site. This large, recurrently occupied primarily fishing station, became, through successive occupations by groups of these two major cultures, a veritable palimpsest, to which was added in later times minor traces of other cultures confined to an upper midden zone.

The 163 burials found in the midden covering the island in our several excavations occurred in a wide variety of modes and arrangements, and yielded skeletal remains and grave goods of singularly instructive character. There was one category of flexed burials with skulls of dolichocranic Lamoka form and offerings attributable to the Lamoka culture. Another series of interments held extended skeletons with brachycranial skulls and artifacts, both typical of the Brewerton culture. A third group of burials, all extended, had associated grave goods typologically assignable to both the Lamoka and Brewerton cultures, plus other artifact forms either modified from those of both contributing cultures or not known from either. Where the skulls of this group were measurable, an intermediate mesocranic form occurred.

A number of the skeletons bore wounds of various kinds, apparently attesting to a period of hostile contact between the two quite different physical and cultural peoples. Eventually, however, the contact situation resulted in a physical and cultural amalgamation, which I have described as the Frontenac phase (Ritchie 1945; 1965a: 103-124). The temporal period of the Frontenac phase is apparently late in both of the donor phases, around 2000 B.C., as already noted, or some 500 years after the settlement of the Lamoka Lake site and perhaps equally long, or even longer, than the initial occupation of the Robinson and Oberlander No. 1 sites at Brewerton. Search for comparable sites of the Brewerton phase, which might solve this dating dilemma, has so far been in vain.

As I have said, the Lamoka culture per se is not represented in eastern or southern New York or New England, but Lamoka type points are present in that area of New York as part of the Sylvan Lake complex, along with such other types of the narrow point tradition as Bare Island and Wading River (Funk 1965). In the type site the level with this complex (Stratum 2) is dated at 2210 B.C. \pm 140 (Y-1536).

On Martha's Vineyard, Mass., our excavations on the Hornblower II site, Stratum 3, produced what I have defined as the Squibnocket complex, very similar to Funk's Sylvan Lake complex, characterized by narrow points of my Wading River type (Ritchie 1969b:241-242), and radiocarbon dated at 2190 B.C. \pm 100 years (Y-1529). The lower level of Stratum 3 at the Peterson site on Martha's Vineyard, referable to the Squibnocket complex, was only slightly younger at 2070 B.C. \pm 115 years (I-3103) (Ritchie 1969b: 52, 192, 215-220). The persistence of the Wading River type point on Martha's Vineyard into post-Squibnocket times was clearly revealed by our discoveries, especially in Stratum 1B at the Hornblower II site, where it may have survived into an early ceramic level (Ritchie 1969b: 18-19, 27-32).

The Squibnocket complex appears to have been the predominant Late Archaic manifestation of southern New England, as was the contemporaneous and closely related Sylvan Lake complex of eastern and southern New York. A large site of this kind was excavated by the writer at Wading River on eastern Long Island (Ritchie 1959: 78-88), and recent excavations by Ronald Wyatt of the Nassau County Museum have confirmed the importance of

the "small stemmed point" complex on Long Island. On some of his sites Wading River points occur only in the lowest levels, on others they are present throughout the deposits, sometimes in association with other point styles (by conversation).

The vast majority of the "small stemmed points" of southern New England and eastern and southern New York are made from quartz, and less commonly, quartzite pebbles (Ritchie 1965b). This quartz pebble industry is environmentally related to the Coastal Plain and glacial outwash gravels, the principal sources of such raw materials. In the middle Hudson Valley the high-grade flint of the Normanskill formations substituted for the difficult to obtain quartz pebbles, and flint gradually came to replace quartz in the manufacture of the narrow-bladed point forms of eastern New York. This process of material substitution probably involved significant technological and motor habit changes, since both the stone represented-quartz, quartzite and flint-and the form of its occurrence, in shore or bank pebbles or in quarried strata, differed considerably. A careful study of the debitage of the quartz pebble and flint strata industries might yield some interesting data on this question.

In this connection it is important to add that, although a marked preference for a particular raw material can readily be observed in most of our prehistoric cultures, it is also clearly evident that groups moving into new locales in which the preferred traditional stone material was no longer readily available, discovered and utilized new substitutes. This fact, already remarked for the narrow point users of the middle and upper Hudson Valley, can be extended to include the substitution of Onondaga and Normanskill flints for rhyolite in the manufacture of the "broad points" of the Susquehanna tradition in central and eastern New York (Ritchie 1965a: 153, 156, 161); the change from the prevalence of argillite to the exclusive use of flint by the makers of the Fox Creek points (Funk 1968; n.d.), formerly termed Steubenville points (Ritchie 1961: 50-52) in the same areas; the occurrence of argillite points of a wide range of form, culture and time, in the Delaware Valley and elsewhere; and the indisputable fact that at such major quarry-workshop sites as Flint Mine Hill, near Cocksackie in Greene County (Parker 1924; Ritchie 1965a: 8), and Diver's Lake in Genesee County (Ritchie 1965a: 8, 182) point types made from these distinctive flints range from Clovis through most of the recognized categories to the Madison type of the Iroquois (Ritchie 1961).

In the upper Hudson Valley area another culture of the narrow point tradition, the River phase, succeeded the Sylvan Lake complex which is just barely represented in the next deeper stratum at the Bent site, Schenectady County, the key station of the River phase (Ritchie 1965a: 124-130; Ritchie and Funk n.d.a). This phase is typified by narrow side-notched points of the Normanskill type (Ritchie 1961: 37-38), well made winged and perforated atlatl weights and effigy pestles, and is radiocarbon dated at 1930 B.C. \pm 100 years (Y-1169) at the large, apparently central-base camp, on the Bent site, and at 1760 B.C. \pm 100 years (I-2401) at the small Pickle Hill hunting camp site in Warren County (Weinman, Weinman and Funk 1967).

The narrow point tradition clearly had its roots to the south of our area, presumably in the Middle Atlantic region. It seems to be widely spread throughout the Coastal Plain, piedmont and much of the Appalachian Highland province. For this reason I have questioned the appropriateness of the term "Taconic tradition," proposed by Brennan (1967:5) and the alternate term "Appalachian tradition" suggested by Funk (by conversation) (Ritchie 1969a: 144). I believe the Sylvan Lake and Squibnocket complexes, essentially the same, represent the introduction of new cultural groups, spreading northward along the Coastal Plain and up the major river valleys (Ritchie 1969b: 214, 219). Although our radiocarbon dates for these cultures in eastern New York and southern New England are around 2200 B.C., and stratigraphically they overlies components of the Laurentian tradition, dated between 2700-2500 B.C. in the same areas, I suspect that the antecedents of the narrow point tradition will prove to have an antiquity in the southern core area at least equal to that of the Laurentian. The 2500 B.C. date for Lamoka at the type site provides an age for a major culture of the narrow point tradition very close to that of the Vosburg phase in

eastern New York and Connecticut. Brennan's finds at the Twombly Landing site, on the lower Hudson, in Palisades Park, New Jersey, if confirmed by additional discoveries, suggest the presence of "small stemmed point" users in that area around 2800 B.C. (Brennan 1967: 10). More recently he has published a C-14 date of 3125 B.C. \pm 120 years (GX-1919) on shell overlying "square stemmed, narrow-bladed points" at Montrose Point on the lower Hudson (Brennan 1970: 22). In any case, the overlap of the narrow point tradition with the Laurentian at the lower end of the latter's temporal range, and with cultures of the terminal Archaic and Transitional stages at its upper end, is unequivocal on the evidence from Martha's Vineyard, Sylvan Lake Rockshelter, Long Island and at various sites in the Hudson Valley (Ritchie 1965a: 134-135, 149-155; 1969b: 219-223; Funk 1965; n.d.).

To the terminal Archaic belong two broad, stemmed point complexes, one characterized by Genesee type points (Ritchie 1961: 24-25), the other by points of the Snook Kill variety (Ibid.: 47-48), pertaining to the Snook Kill phase (Ritchie 1965a: 134-141).

At the Frontenac Island site the projectile point inventory included 104 broad, stemmed points, some clearly identifiable with the Genesee type, others equitable with the ruder and less well defined stemmed form found in the Brewerton assemblages at the Robinson and Oberlander No. 1 sites (Ritchie 1940: 29, 66) and at the Morrison's Island-1 site in Canada (Kennedy 1966: 105, 124).

Sixteen examples, most of them conforming to the Genesee type, occurred with other items of grave goods in 10 of the burials, including Burial 79, earlier referred to (Ritchie 1945: 48-80, Plate 7, fig. 16). This definite association with mortuary offerings of the Frontenac phase indicates the infiltration of this point style into the already composite Frontenac culture, probably relatively late, as it evidently persisted into the succeeding Frost Island phase, present in the upper level at the Frontenac Island site. At the O'Neil site, located only a few miles northeast of Frontenac Island, three Genesee points were found in the lower levels of Stratum 2, the Frost Island component, C-14 dated at 1250 B.C. \pm 100 years (Y-1274) (Ritchie 1965a: 155-163, Plate 51, fig. 22; Ritchie and Funk n.d.a).

The stratigraphic and chronological position of the Genesee point seems therefore well established in central New York, and there is supporting evidence in eastern New York, where this point type has a lesser representation.

At the Dennis site in Menands, Albany County, Genesee points occurred below a level, which produced Orient Fishtail points, and above a zone containing predominantly Normanskill points. At this site, however, Snook Kill, Susquehanna Broad, and some Normanskill points were present with the Genesee variety, obscuring to some degree their stratigraphic relationship (Funk n.d.).

Essentially the same sequence of Genesee over Normanskill types was found in the small Himmer Rockshelter near Coxsackie, Greene County, by Paul and Thomas Weinman (Weinman and Weinman 1970).

The clearest evidence that the Genesee point relates to a definite complex of Late Archaic times, and is not simply a widely diffused point style which infiltrated a number of different phases on the same temporal horizon, as was the case with Vnette 1 pottery in the Northeast (Ritchie 1969b: 223-224) comes from the recent discovery of a small single component site with Genesee points on the Batten Kill in Washington County, N.Y. The Oatman site, excavated by Roger Ashton, lies on a low rise of the flood plain of the creek, and produced a small inventory of obviously associated stone tools comprising, in addition to the Genesee points and a few variant points which resemble the less well-defined stemmed form of the Brewerton phase above referred to, expanded base drills, an ovate knife, a crude end scraper, a few utilized flakes, an anvilstone, two pebble hammerstones, and a simple whetstone (Ashton 1970). On the basis of this site, Funk has suggested the tentative recognition of a "Batten Kill complex" (Funk n.d.).

Some points resembling the Genesee type were found on the Snook Kill site in Saratoga County, N.Y. (Ritchie 1958: 91-98, Plate 28, figs. 18, 19). The "Batten Kill complex" may have been a weak resident culture in eastern New York when the terminal Archaic Snook Kill phase spread up the Hudson Valley into this region from an eastern Pennsylvania

center, as a probable derivative of the Lehigh Broad point complex, and the initial manifestation of the Susquehanna tradition to appear in New York (Ritchie 1961: 47-48; 1965a: 134-141). At the key site on the Snook Kill in the upper Hudson Valley, the phase is radiocarbon dated to 1470 B.C. \pm 100 years (Y-1170). At the Peters-Albrecht site near Bushkill, Pennsylvania, on the upper Delaware River, a presumed diffusion route northward into New York, the Lehigh Broad point has a predictably earlier date of 1720 B.C. \pm 100 years (Y1826) (Kinsey 1968). A similar date, 1720 B.C. \pm 120 (Y-2587), was obtained on charred twigs and nuts found in a pit feature on the Miller Field site, also in the upper Delaware Valley, in association with a number of Perkiomen Broad points and a "Koens-Crispin" point, which I would classify as a perfect example of a Snook Kill point (Kraft 1970: 32. Compare his Plate 3, figure b, with Ritchie 1961: Plate 27).

Only a single stone pot fragment has so far been reported from a site of the Snook Kill phase, which I have therefore attributed to the terminal Archaic stage (Ritchie 1965a: 135, Figure 1). The succeeding culture manifestations of the Susquehanna tradition pertain to the Transitional stage, characterized by the use of steatite vessels (Witthoft 1953; Ritchie 1965a: 149-155).

Cultures of the Susquehanna tradition directly follow and clearly overlap recognized complexes of the narrow point tradition in the Hudson Valley (Ritchie 1958; Funk 1965; n.d.), on Long Island (Ritchie 1959), Martha's Vineyard (Ritchie 1969b: 219-223), and elsewhere in eastern and southern New York and southern New England, and probably in the New Jersey-northeastern Pennsylvania region as well. In the Hudson Valley and on Martha's Vineyard, however, the component levels of the excavated stratified sites representing this period are usually thin and intermixed, making analysis and interpretation dependent upon discrete and larger components elsewhere.

In central New York it has been possible to define the Frost Island phase, C-14 dated at the O'Neil site at 1250 B.C. \pm 100 years (Y-1274) (Ritchie 1965a: 155-163). This phase is widely represented, mostly by surface sites along major streams, in central, eastern and southern New York and southward into Pennsylvania and New Jersey as a part of Witthoft's "Susquehanna Soapstone culture" (Witthoft 1953). It is also weakly represented in southern New England (Ritchie 1969b: 55, 85, 219, 222, 223, 230).

In eastern and southern New York, at least, the Orient phase, C-14 dated on Long Island between 1043 B.C. \pm 300 years (M--586) and 763 B.C. \pm 220 years (W-543), probably overlapped the Frost Island phase, from which it may in part have been a regional development in the New Jersey-northeastern Pennsylvania region, while apparently attaining its climax with an elaborate mortuary ritualism on Long Island (Ritchie 1959: 1965a: 163-177; Kraft 1970: 133-137). I suspect that the burial cult was a later addition to the culture after it became established on Long Island. The known cemeteries are all located in the eastern part of the island, and I believe the burial ceremonialism was adopted, as part of a religious ritualism, from southern New England groups, by Orient voyagers who crossed Long Island Sound for the purpose of obtaining steatite vessels made at the large quarry sites in Rhode Island and Connecticut (Ritchie 1959: 62-64; 1965a: 173). In southern New England mortuary observances comprising all or most of the attributes known for the Orient cemeteries had been well established since Late Archaic times (Dincauze 1966; Robbins 1968; Ritchie 1959: 76-77; 1965a: 173-177). Moreover, certain of the basic mortuary traits survived widely into Early and Middle Woodland cultures of the Northeast (Ritchie 1955; 1965a: 195-198).

Early Woodland pottery styles were diffused into the Northeast late in the Transitional stage. At the O'Neil site we found sherds of Vinette 1 ware (Ritchie and MacNeish 1949: 100) in the upper levels of the Frost Island zone (Ritchie 1965a: 158; Ritchie and Funk n.d.a). A small quantity of potsherds occurred in the Orient habitation and burial sites on Long Island, with paste and surface treatment for the most part bearing a general resemblance to Vinette 1 ware. Some of the pots had elongate oval bodies and lugs and were obviously modeled after the stone vessel prototypes (Ritchie 1959: 37-40, 66-67).

Terminologically, the Archaic stage came to an end with the stone vessel-using

Transitional cultures, but our evidence to date sustains the inference of a continuity in the major activity patterns pertinent to the economic, socio-political, and other aspects of life of the Archaic hunting, fishing and gathering groups, a subject considered in much detail elsewhere (Ritchie and Funk n.d.a).

My chief concern here is to reiterate succinctly and emphatically my belief that the cultures subsumed under the Archaic and Transitional stage categories and indeed, under the sundry subdivisions of the following Woodland stage, cannot properly be comprehended as a simple succession of discrete entities, each representing an instant in time and a definite range in space. While recognizing the validity of geographical centers of elaboration and dispersal, and climax periods in cultural development, I think we have unequivocal evidence for varying degrees of coexistence and interaction on time levels, encompassing centuries, among our established cultural manifestations, certain of which I have especially referred to in this paper, since my point seems not to have been sufficiently stressed in some of my prior writings, or has, in some quarters, been received with skepticism.

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WILLIAM A. RITCHIE: A VALEDICTION

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Upon his retirement from State service on May 1, 1971, William Augustus ("Bill") Ritchie will have concluded 47 years of continuous work in northeastern archeology. It seems impossible, within the space allotted here, to do justice to this long and extremely productive career. It is hoped that the reader will at least be able to obtain some overall perspective of Bill Ritchie's life and contributions from these brief pages.

Not surprisingly, the period best known to me comprises the 11 years, which followed my joining the staff of the New York State Museum and Science Service in June, 1960. In July, I assisted him in fieldwork in central New York as part of a four-man crew. The experiences of that summer were to set the pattern for all of our subsequent endeavors together. Those who have worked with Bill in the field can draw on a rich legacy of memories, probably typical in large part of any North American field party but indelibly colored by the force of Bill's personality. I remember, for example, the rest breaks during which we all sat alongside the excavations and listened to the usually hilarious, sometimes mind-boggling, anecdotes selected from Bill's infinite storehouse. Sometimes during the day we were treated to spontaneous orations, word for word, from the world's great literature, especially his favorite, the Rubaiyat of Omar Khayyam.

Even during the off-seasons in our State Museum office life could not be considered dull. There was an atmosphere of constant tension as we strove to maintain the breakneck pace of productivity to which Bill was accustomed. But the pressure was relieved by numerous and frequently unexpected moments of humor. Working for and with Bill Ritchie was a memorable experience, and indeed as one summer field assistant put it, Bill was quite literally the most unforgettable character he had ever met.

But I will not dwell at length on personal reminiscences. I shall go back to the beginning, in the hope that nothing important has been omitted from before 1960.

Bill Ritchie was born in Rochester, New York in 1905. Almost from his first days in school he displayed a consuming interest in science and a prodigious appetite for reading books. By his early teens he had acquired fine archeological, mineralogical, and zoological collections and had worked as a volunteer on the collections at the Rochester Municipal Museum. In 1924 he became a salaried member of the museum staff, and was successively Assistant Archeologist, Archeologist, and Curator of Anthropology through 1949.

In 1935 Bill met and married his wife Beatrice, then a student at the University of Rochester; three years later their son Galen was born. Like his father, Galen went on to earn the Ph.D. at Columbia University. He is currently teaching Russian and East European history in the University of the South at Sewanee, Tennessee.

From 1925 to 1945 the Director of the Rochester Municipal Museum (later to become the Rochester Museum of Arts and Sciences, and currently known as the Rochester Museum and Science Center) was Arthur C. Parker, pioneer in New York State archeology. Parker's theoretical and methodological views initially had a powerful effect on Ritchie's own thinking. Although by 1925 Ritchie was conducting his own independent field research, exemplified by the extremely important work at Lamoka Lake, he was using Parker's basic classification of New York archeological materials, which applied the historic tribal-linguistic terms "Algonkian" and "Iroquoian" to prehistoric cultures.

In the mid-1930's Ritchie participated in a series of conference symposia during which the Midwestern Taxonomic System was devised. This system made it possible to bring order to the vast quantities of archeological data accumulating under the WPA and other public works programs of the Depression era. Ritchie dropped the Parker scheme, already coming apart at the seams, and grouped his archeological cultures according to a strictly arbitrary classification, which almost entirely avoided the ethnic connotations of the old

scheme. He was the first archeologist to consistently adopt the new method, and was exceptionally successful in using it to show time depth. Also, his continued excavations on numerous sites were bringing to light new cultures and causing drastic revisions in older concepts such as Parker's "Eskimoan." Furthermore, he was the first worker to recognize and define a preceramic or Archaic level of culture, following his excavations at the Lamoka Lake site.

During this period, while working full-time at his job, Ritchie was attending afternoon and evening courses at the University of Rochester, where he received the degree of B.S. with distinction in 1936 and was elected to Phi Beta Kappa. He then continued his studies at the University, including the medical school, for two years, again on a part-time basis, receiving training, which proved valuable to his physical anthropological researches, including studies in paleopathology. His master's thesis was a synthesis of fieldwork up to that time; he was awarded the M.S. in 1938 and was elected to Sigma Xi. In that same year he published a synopsis of his thesis in *American Antiquity*, entitled "A Perspective of Northeastern Archaeology."

In this article he set forth the fundamental cultural framework, which was to influence profoundly all subsequent work in northeastern prehistory. Here first appeared such now familiar terms as Laurentian, Lamoka, Point Peninsula, Middlesex, and Owasco. The definitions of that time still stand, by and large, though modified by subsequent research. Some tentatively proposed entities (such as the Coastal Aspect) have been dropped, while other cultures have been added.

When Ritchie was granted a fellowship to attend graduate school at Columbia in 1941-42, he arrived with his doctoral dissertation completed; it was essentially an expansion and updating of his master's paper. Some important new sites had been dug in the interim, including Frontenac Island, type station of the Frontenac focus. Bill received his Ph.D. with publication of the dissertation in 1944. The "green bible," as it was subsequently dubbed, rapidly became a collector's item. The title was *The Pre-Iroquoian Occupation of New York State* (Memoir No. 1, Rochester Museum of Arts and Sciences). This work earned him the A. Cressy Morrison Prize of the New York Academy of Sciences in 1943.

In 1949 he moved from Rochester to Albany, where he became State Archeologist in the New York State Museum and Science Service, a position he has held until his retirement.

Through the years after the Second World War and publication of the "green bible," his work output has, if anything, increased. Prior to 1944 he had established the existence, trait content, relative chronology, and broader relationships of the principal cultures and traditions, which preceded the historic Iroquois. Much of his subsequent work has constituted a refinement and clarification of the basic concepts, aided by the new tool of radiocarbon dating. Nevertheless, changes in his own thinking have resulted in very significant theoretical and methodological advances. For example, his collaboration with R. S. MacNeish in development of ceramic typology for the Northeast led to tentative formulation of the in situ hypothesis of Iroquoian origins, later to be confirmed through fieldwork by him and other students. This typology, followed by his highly successful projectile point typology published in 1961, provided keys, which have since unlocked many doors in the mansion of northeastern prehistory.

In the early 1950's he synthesized his work on certain enigmatic burial sites with the formulation of the seminal idea of a "basic core of religiosity," which pervaded a variety of northeastern cultures at the dawn the ceramic epoch. This old "cult of the dead" was clearly affiliated, however remotely, with the more spectacular manifestations of Ohio and adjoining areas.

Publication of the Chance horizon report in 1952 and the Dutch Hollow report in 1954 demonstrated his continued interest in Iroquois cultural development. His contributions to this field were eventually recognized in 1966 by the award of the Cornplanter Medal for Iroquois Research, given by the Cayuga County Historical Society.

His concepts of the Archaic were undergoing revision as fieldwork continued. Impor-

tant shifts were clearly in process as revealed in his *Introduction to Hudson Valley Prehistory*, published in 1958. His crucial work on Long Island in the mid-1950's succeeded in delineating the domestic aspects of the stone pot-using Orient people who had created the elaborate burial ceremonialism long known from cemeteries on eastern parts of the Island. A growing dissatisfaction with traditional field techniques and the data resulting there from is also evident in a paper on northeastern settlement patterns which appeared in *Prehistoric Settlement Patterns in the New World*, edited by Gordon Willey (1956). This awareness that a comprehensive picture of whole cultural contexts could only be approached through the elucidation of settlement data-the "frozen" aspect of prehistoric social structure-motivated him to plan a multi-season project on sites of all types and periods. Supported largely by National Science Foundation grants, this project lasted from 1957 through 1965. As a matter of course, much of the present writer's fieldwork from 1960 to 1965 was devoted to settlement excavations.

A great deal of the information acquired by the settlement project was presented by Ritchie in a major synthesis on *The Archaeology of New York State*, published by the Natural History Press, the first edition of which appeared in 1965. This was the summation of a life's work, and in it were disclosed major changes in theoretical orientation, which stood in sharp contrast to the orientation, manifested in the "green bible." Ritchie had definitely abandoned the McKern system in favor of the more flexible terms and concepts proposed by Willey and Phillips in their *Method and Theory in American Archaeology* (1958). He was also using the historical-developmental stage classification still popular in North America. But more importantly, his total commitment to the ecological approach was obvious on nearly every page. He attempted to reconstruct past environments and to show how the prehistoric cultural systems were articulated with those environments. There were also important changes in his older classifications of some cultures, descriptions of newly defined complexes, and finally a concise discussion of the data favoring the *in situ* evolution of Iroquoian culture.

A revised edition of the book, incorporating new data, was printed in 1969.

As the settlement project was phased out, another grant-supported enterprise was started in 1964; a study of coastal ecology and adaptation, based on his four seasons of excavation of stratified shell middens on Martha's Vineyard, Massachusetts. This research, completed in the summer of 1968, was reported in the volume, *The Archaeology of Martha's Vineyard*, Natural History Press, Garden City, New York (1969). Using data from his own and others' researches, Ritchie had produced a statement on southern New England prehistory which clearly superseded all earlier efforts. Cross-ties with eastern New York and the Mid-Atlantic coast were evident. There was also a pattern of improving adaptation through time of successive inland traditions to a coastal environment.

But even this was not to be his last major opus. In the fall of 1970 we finished work on our collaborative effort, *Aboriginal Settlement Patterns in the Northeast*, of which the present writer is junior author. In this volume, expected to be in print late in 1971, we have presented our current views, stemming largely from Ritchie's earlier syntheses, on the development of Indian cultures within their total environment-physical, biological, and cultural. The emphasis is on the specific traces of settlements-houses, palisades, camp sites, quarries, etc.-and on their meaning in terms of activities, local resources, subsistence economies, seasonal rounds, and possibly even religio-ceremonial concepts.

Currently Bill has two articles in press; and the sum total of his published writings exceeds 150.

A partial listing of Bill's non-research accomplishments is as follows: He was Director of Research, Eastern States Archeological Federation from 1946-50 and President from 1950-54; President of the New York State Archeological Association from 1954-58 and recipient of Fellowship and Achievement Awards from that organization; Fellow of the American Anthropological Association; Fellow of the American Association for the Advancement of Science; Vice President of the Society for American Archaeology 1937-38, President 1956-57, and assistant or associate editor 1935-55. He has also taught anthropology or

archeology at Syracuse University, Harpur College, the State University of New York at Albany, Russell Sage College, and the University of Rochester. In 1950 he received the honorary degree of Doctor of Science from Waynesburg College, and in the same year, he was one of 13 graduates of the University of Rochester to receive a Centennial Award for achievements in various fields.

In addition to this distinguished record, Bill has made important contributions of perhaps a less tangible nature; viz., the training, encouragement, and support freely given to numerous students who have, at one time or another, worked with him in field or laboratory. Many of these younger archeologists have already carried out significant research in widely separated parts of the world, including France, Spain, Egypt, the Levant, the Far East, Kenya, Mexico, Peru, Alaska, Canada, Arkansas, Missouri, and last but not least, the northeastern United States. They cannot, as a group, be called "new" archeologists, but are characterized by the basic empirical, critical approach to archeological phenomena, which is the hallmark of Bill Ritchie's own orientation.

It would be a mistake to assume that, upon his retirement, Bill Ritchie will disengage completely from archeology. He expects to remain involved, on an ex officio basis, in some kind of research, though increasingly preoccupied with other matters, especially animal welfare and wildlife conservation. The call of the trout stream is also strong in his blood. Hopefully, then, we will see Bill Ritchie around for a long time; and it may even come to pass that once again he will find himself kneeling in a richly accoutered Indian grave, with red ocher on his hands.

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WITCHS WALK #1: A PRELIMINARY SITE REPORT

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INTRODUCTION

In the 1950's the United States Army Corps of Engineers proposed to dam the Allegheny River at Kinzua, Pennsylvania, to prevent downriver flooding and to control the navigation level of the river. Since the proposed dam would create an artificial lake in the Allegheny River Valley which might cover sites of archaeological importance, several institutions began to conduct archaeological surveys of the region to be flooded. These institutions included the Carnegie Museum, New York State Museum, and the Department of Anthropology, State University of New York at Buffalo.

During July, 1966, a field survey team from the State University of New York at Buffalo, Department of Anthropology, found and excavated two pits exposed by power equipment on the first terrace of the Allegheny River downstream from Salamanca, New York. Further west (500 ft.) from this area they also located cultural material eroding from the river bank. Since both of these sites lay below the proposed flood level of the river it was decided to excavate them before the completion of the dam.

The Witches Walk Sites, as they came to be called, are located on the north bank of the Allegheny River, on the first terrace, directly across from a stream tributary of the same name. The river flows in a northeast/southwest direction in this area, south of Salamanca, New York. The sites are located on the Seneca Indian Reservation, the property belonging to the estate of Carrie John. The elevation of the sites is 1325-1330 ft. and thus falls within the flood pool created by the dam at Kinzua.

The first area found and later excavated was called Witches Walk #1. This area had not been previously discovered due to the extensive overburden, which varied from one to two ft. deep over most of the site. The second area, along the river bank, was called Witches Walk #2. It was retested by the 1967 field crew, but due to the problems of overburden, lack of time and personnel, and lack of diagnostic artifacts, no major excavation was conducted in this area.

Once the initial pits were relocated at Witches Walk #1, a 100 ft. by 100 ft. grid was laid out in 10 ft. squares. The excavation strategy was simply to expose as great an area of habitation as possible in the limited field session. The 10 ft. squares chosen for excavation were those which it seemed would contain evidence of settlement pattern or habitation. No attempt was made to sample adequately the entire sites for two reasons. First, the exact limits of the site were unknown. Secondly, the nature of the terrain and frequent flooding made work possible only in those areas of the site which were farthest from the river or of the highest elevation.

Attempts to determine the limitation of the site during the 1967 field session were hampered by extensive rains, high water and the low elevation along the river banks. In the fall of 1969, when the water level had dropped, further testing was done. It now appears that the site borders on the edge of an old river channel and does not extend across it. The area originally excavated appears to be the western half of the site, with the eastern limits extending at least 150 ft. from the excavated area. The approximate area covered by the site is 250 ft. east/west and 200 ft. north/south.

The relationship between Witches Walk 1, Witches Walk 2 (indicated by the 2 test pits on the river bank in Plate 1) and the sites excavated by the Carnegie Museum must await further analysis.

The total excavated area included 42 ten-foot squares, 2 trenches, 2 five-foot squares and 5 test pits around the site. Of the 100 x 100 ft. area, 4300 sq. ft. were excavated. Since part of the site had been scraped by a commercial bulldozer prior to its discovery, depth was taken from a constant point. Each square was excavated in three levels: Level

1, surface and topsoil if present; Level 2, dark brown river deposited silt; Level 3, occupation layer and sub-floor features.

It is unfortunate that the field crew could not have excavated a large portion of the site, but periodic flooding during the field session seriously hampered the work. We attempted later in the field session to use a small garden tractor to expedite the removal of the extensive overburden, but soil and water conditions were such that the tractor was constantly bogged down. Most features could not be excavated during the 1967 field session and it was only in the Fall of 1968 that the water level dropped sufficiently to allow excavation of the features.

PHYSIOGRAPHY AND GEOLOGY OF THE ALLEGHENY PLATEAU

The site lies along the flood plain of the Allegheny River in Cattaragus County, New York, in the southernmost area of New York State in the Unglaciated Allegheny Plateau. The Allegheny Plateau is a highland area cut by various valleys, the site lying in one of these. The hills surrounding the site rise to an elevation of 2200-2300 feet. The sides rise very quickly from the valley floor which is only a mile at its widest point. The river flows in a northeast/southwest direction at this point between Red House and Cold Spring, New York.

The river has changed position from 1923 to 1961, as seen in the United States Geological Survey Maps. Thus, it is entirely possible that it flowed much closer to the site which is now 350 ft, from the bank. The depression noted on the map (Plate 1) would appear to be the remnants of the old river channel or oxbow.

The bedrock in this region is composed of sandstone and shale and the soil texture is medium to fine particles. The site rests on a sterile sand and clay subsoil. It is covered by 1 to 2 ft. of overburden which is the Middlebury silt loam series or Wheeland, from a lower and less well-drained terrace. It would appear that the overburden must have been deposited fairly rapidly (five to six successive floodings) since there is no layering of silt and organic material and very little organic material is scattered through the silt. The soil profile, as noted, is composed of three levels: Level 1, topsoil (a very thin level); Level 2, brown overburden, 1 to 2 ft, thick; Level 3, sand-clay subsoil and occupation level. The soil ph level varied from 6.5 to 7.0 across the site.

ARCHAEOLOGY OF THE ALLEGHENY PLATEAU

This region in southwestern New York includes Cattaragus, Chautauqua, and Allegheny Counties. In general, archaeological activities in this region were, until the 1960's, primarily directed toward the testing and excavation of mounds, earthrings, or earthworks (Parker 1922; Carpenter 1950; Guthe 1958). With the planning of a dam at Kinzua, Pennsylvania, and the possible flooding or destruction of sites along the river, much time and money have been directed toward survey and salvage operations, particularly in the Allegheny River Basin.

In particular, surveys and salvage have been conducted by the Carnegie Museum, New York State Museum, and the Department of Anthropology, State University of New York at Buffalo. Each of these institutions has issued reports or is in the process of reporting on their field work. Four sites have thus far been either totally or partially excavated. Two are located across the Allegheny River from Witches Walk (Witches Walk #1, Witches Walk #2), one is located in Onoville, New York, and one is located across the border at Kinzua, Pennsylvania.

A tentative analysis of the sites excavated indicates an occupation of the river valley from Salamanca, New York, to Kinzua, Pennsylvania, by a group of people participating in the general Northeast Iroquois culture pattern during the Late Woodland Period. Preliminary analysis of the survey material indicates that the river valley was also inhabited

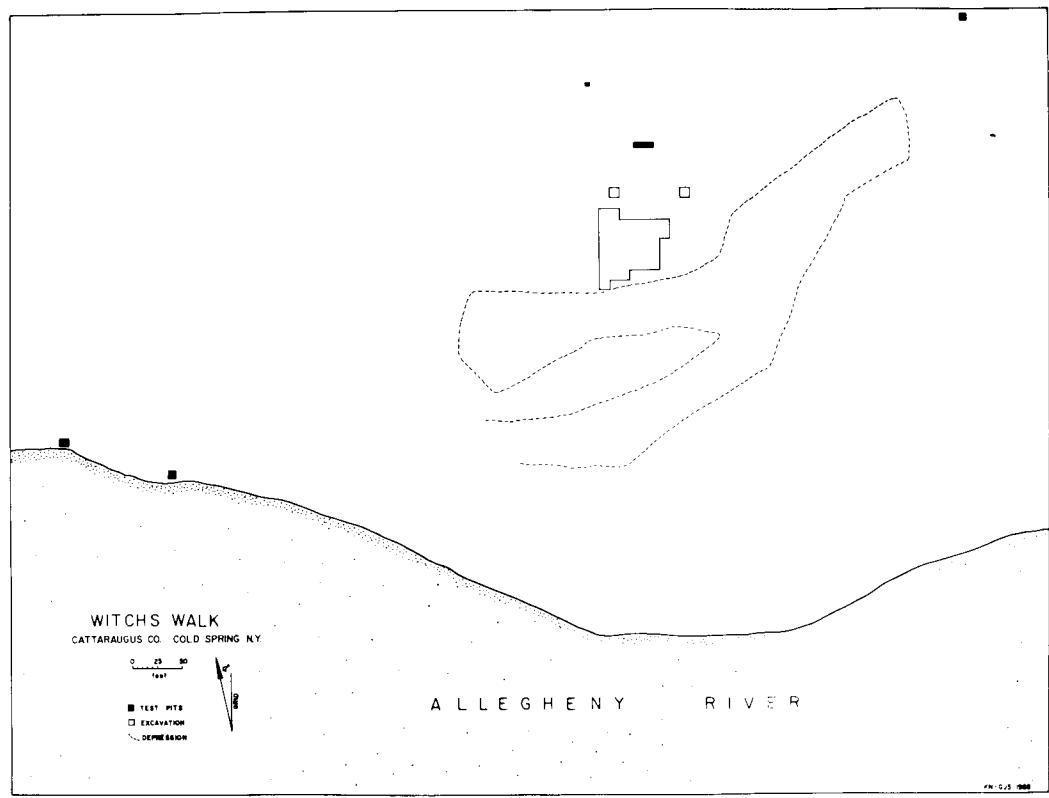


PLATE I. Dotted lines indicate old river bed.

during the Archaic, Early, and Middle Woodland Periods. Once the movement of these Late Woodland sites (either up or downstream) has been determined, and the nature of their contact with the Monongahela culture of Pennsylvania has been analyzed, we will have a clearer picture of cultural development in southwestern New York during the Late Woodland Period.

EXCAVATED FEATURES

The area excavated seems to indicate a very tight settlement with a northeast-southwest orientation. The features include post molds of house walls, of which two types were found: (1) a rectangular house and (2) a round or oval house. Various post molds were also found which indicate a wall surrounding the site. Finally, individual post molds were found which did not fit into any specific pattern. In general, most post molds were small, measuring from .18 ft. to .35 ft. in diameter. Fewer than 20 out of the 450 post molds recorded had diameters larger than .35 ft. The diameter of these larger post molds was usually .8 ft. It was impossible in most cases to determine how far the post molds penetrated the subsoil due to the previous bulldozer activity, but in general, the depth below the occupation level was .5 ft. Finally, numerous pits or hearths were also excavated. Since each feature was numbered according to the 10 ft. grid system, I have renumbered them in order to facilitate discussion (Refer to Plate II for the location of each feature). All designations refer to the Southwest corner of the 10 x 10 foot square.

Feature 1: This is a circular house located in 0N20E and 10N20E (Plate II). The diameter of the structure is 14.0 ft. north/south and 14.5 ft. east/west. The major portion of a dark discolored living area remains. A 4.0 ft. opening on the northeast may indicate a doorway, with a possible windbreak suggested by the post mold pattern in 10N30E. There is no evi-

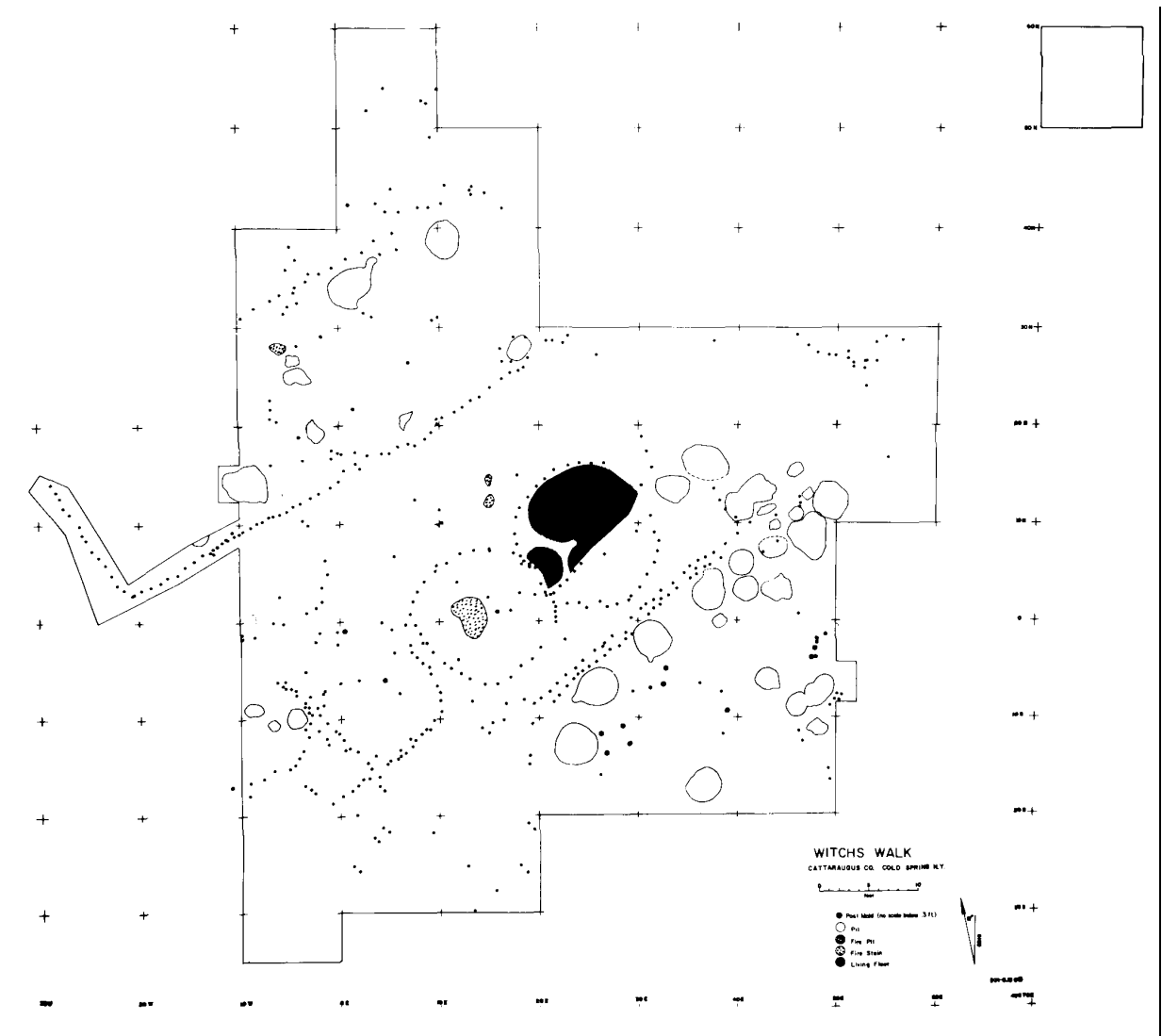


PLATE II. Witches Walk No. 1 settlement pattern.

dence of either interior posts or other features such as hearths or storage pits within the house.

Feature 2 This is a second circular house located in 0N10E. The diameter of this structure is also 14.0 ft. north/south and 14.5 ft. east/west. There appears to have been an extension to the northeast into 10N30E. However, the possibility of the extension and Feature 1 existing at the same time is improbable, since Feature 1 is so close to Feature 2. There may be an opening for a doorway either to the northeast as noted, or southeast. Inside the structure was a fire-stained area with little depth (Feature 41) and one large interior post mold which had a diameter of 0.8 ft.

Feature 3: This circular house is located in 10S0E. Its diameter is 14.5 ft. east/west and 14.0 ft. north/south. It contained one large interior post mold, which had a diameter of 0.8 ft. There appears to be a rectangular addition to the southwest which measured 9.0 ft. east/west and 7.0 ft. north/south. This feature is separated from Feature 2 by 1.0 ft. It is possible that a further addition (post mold pattern in 20S10W), or possibly two more structures

are oriented with these features (post mold pattern in 0N10W and 20N50E). All of the exterior post molds for the three features described are between 0.18 and 0.25 ft. in diameter and 0.8 ft. apart.

Feature 4: This feature is a wall of paired post molds which is oriented in a northeast/southwest direction and lies between Features 1, 2, 3, and the river. The wall is 24.0 ft. long and goes through 0N30E, 10S20E, and 30S0E. It ends in 10N40E, in what appears to have been a cooking and/or storage area (Features 29, 30, 31, 32, 33, 34). A search farther northeast did not indicate evidence for the continuation of the wall in this direction. To the southwest the wall disappeared in 20S10E, and then reappeared on 30S0E, a gap of 14.0 ft. It was difficult to excavate the square 20S10E due to flooding and it is possible that the post molds were lost. The post molds are between 0.6 ft. and 1.2 ft. apart in each row and between each pair. The diameter of the post molds is 0.2 ft. The function of this structure is unknown; it is not properly placed for a windbreak. Its use as a defense structure seems improbable unless further excavating were to indicate it surrounds the site.

Feature 5: This is a rectangular structure located in 0N20W, 0N30W, 10N10W, 20N10W, 30N10W, 30N0E, 30N10E, 20N0E, and 20N10E. This structure has not been completely excavated. At present its length is 51.0 ft. and width 18.5 ft. It appears that this structure was either divided in half or an addition added at a later date (post mold pattern in 10N10W, 20N10W). Within this structure were ten features, one of which showed evidence of a fire stain.

The present evidence indicates a village composed of three circular houses and one rectangular house, possibly surrounded by a wall of paired posts. It is possible that three other houses may be indicated by the post mold patterns on 20N50E, 20S10W and 0N10W. However, it has been impossible to continue excavation to determine whether these are in fact houses.

Features 6-44: These 39 features, commonly referred to as pits or hearths, seem to have been used for a variety of purposes; cooking, storage, and refuse containers. It appears that many of these features had multiple functions, first for storage, then as refuse containers, and finally as hearths. Thirty-seven of these features were excavated during the field sessions; one of these did not appear to be aboriginal. Features 20 and 30 were not excavated.

The 36 aboriginal multi-purpose features excavated varied in size from 1 to 5 ft. in diameter, in depth, from 0.2 ft. to 2.3 ft., with generally oval or circular outlines, and either bowl-shaped or straight sides and with flat bottoms in cross-section. The contents of these features included fire-cracked rock, pottery, flint flakes, decomposing shell, small fragments of bone, projectile points, and worked or unworked stone. While there appears to be a gradation in size and depth, a closer examination revealed that there were at least four classes of features using the criteria of size, depth, vertical profile, and contents.

Class 1: 15 large (2.0 - 5.0 ft. in diameter) oval or circular features varied from 0.6 ft. to 2.3 ft. in depth and contained both refuse material and fire-cracked rock. Very frequently these features would have the following stratigraphy: (1) fire stained level and (2) dark brown refuse fill and artifacts. It appears that these features were used as refuse containers and, when partially filled, were used as hearths. Viewed in vertical profile, these features had three shapes: (1) bowl shape, 4 features; (2) straight sides with a flat bottom, 9 features; (3) irregular, 1 feature. These features were probably first used as storage containers (charred kernels of corn and squash seeds were recovered from Feature 8); later for refuse and, finally, as hearths (Features #7, 8, 9, 12, 13, 14, 17, 21, 22, 23, 26, 35, 42, 43, 44).

Class 2: There were 6 large oval features with the same diameter as Class 1 but depths of 0.2 ft. to 0.8 ft. These features contained only fire cracked rock. (See Plate III). The soil surrounding two of these features was an orange color from intensive burning. These two had a bowl shape in vertical profile. The remaining 4, which had no evidence of orange



PLATE III. Feature #32, an example of the second class of features.

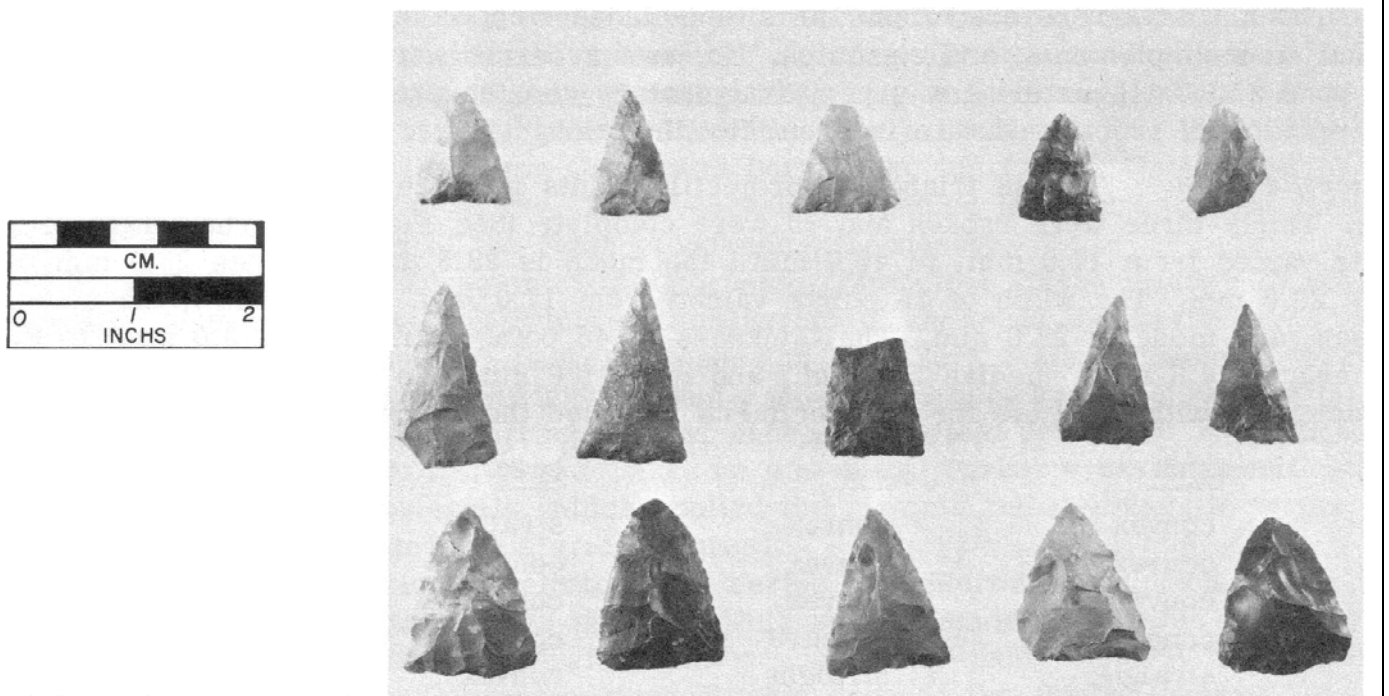


PLATE IV. Triangular projectile points.

discoloration were filled with a greasy black soil. They appear to be depressions which were filled with the debris from the two hearths (Features #16, 19, 20, 30, 31, 32, 41).

Class 3: There are 8 small oval features with diameters of 0.8 ft. to 2.0 ft. and depths of 0.2 ft. to 2.2 ft. These features contain both refuse material and fire-cracked rock. Four of these features are bowl shaped in vertical profile, three have irregular outlines, and one has straight sides with a flat bottom (Features #6, 11, 18, 25, 27, 38, 39, 40).

Class 4: There are seven small oval features with diameter of 0.8 ft. to 2.0 ft. which contain only fire-cracked rock or an orange soil discoloration. These features have a depth of 0.2 ft., in cross section, are irregular and appear to have been used for refuse dumping from the larger hearths (Features #10, 24, 28, 29, 34, 36, 41).

The placement of these 36 features in relation to the house and wall is particularly interesting. Ten features were recorded within the limits of the rectangular house. By contrast, only 1 of the 3 circular houses contained a feature (Feature 41). One of the possible houses in 20S10W contained 3 features. Between the rectangular house and the oval house are 2 small features. All of the other features are either placed on the south side of the wall or directly northeast of the first circular house.

In summary, the site is orientated in a northeast/southwest direction along an old oxbow of the river. There is evidence for a close community settlement pattern, with three circular structures adjacent to each other and the wall. The spacing of small posts suggests that these structures were covered with material which was probably 1 ft. wide and that strips of this material were lashed to the individual posts. The absence of large hearths within the circular structures would argue for a summer occupation. Apparently these circular features were utilized primarily for sleeping while other activities, such as food preparation and cooking, must have taken place behind the wall. The rectangular house, on the other hand, must have housed a large grouping, perhaps an extended family. It contains several hearths and storage facilities, and a differential use of space and activities is implied. The contrast between the two classes of structures and their associated features suggests the possibility of multiple components, though artifact analysis does not support this conclusion.

ARTIFACTS

The artifacts recovered from the site included chipped stone implements, rough and ground stone implements, and ceramics. No bone artifacts were recovered from the site. The bone and shell material was very fragmentary and the preservation of this material was very poor, probably due to frequent flooding along the river bank.

Projectile Points: The 48 triangular projectile points were recovered from the excavated area. Thirty-three were broken and 15 were complete (See Plate IV). The length of 17 points varied from 17.0 mm. to 46.0 mm.; the mean is 28.5 mm., median 28.0 mm., and mode 28.0 mm. The width of 25 points varied from 17.0 mm. to 28.0 mm.; the mean, median, and mode is 22.0 mm. The thickness of 46 points varied from 3.0 mm. to 8.0 mm.; the mean is 4.8 mm., median 5.0 mm., and mode 5.0 mm. An examination of the curvature of each side with the base for 16 specimens revealed the following frequencies:

<u>side</u>	<u>side</u>	<u>base</u>	<u>frequency</u>
convex	convex	straight	5
convex	convex	convex	4
convex	convex	concave	3
concave	concave	concave	1
straight	straight	convex	1
straight	convex	straight	1
straight	convex	concave	1

A convex sided type of point with either a straight, convex, or concave base represents 75.0% of the sample. A visual inspection of the flint utilized indicates that it is either of the Onondaga or Lockport Dolomite Formations which occur in the valley as glacial pebbles (Wray 1949: 24-48). These triangular projectile points are similar to the Levanna and Madison projectile point types as defined by Ritchie (1961:31-34). The primary distinctions between the two types are proportions (the Levanna type is larger) and temporal distribution. The Levanna projectile point type is common during the Late Woodland Period until 1350 A.D. when it is supplanted by the Madison (Ritchie 1961:31).

Stemmed Projectile Points: No stemmed projectile points were recovered from the excavated area. A Meadowood projectile point of the Early Woodland Period was found on the surface 200 ft. west of the excavated area and 350 ft. north of the river. The base of the point is broken.

Projectile Point Blanks: Two triangular projectile point blanks, both of Onondaga flint, were found.

Drills: One drill is a reworked projectile point of Onondaga flint. The other specimen is the broken tip of a drill.

Scrapers: The 2 backed scrapers are large, bifacially worked implements. Five of the 7 side scrapers are unifacially worked and 2 are bifacially worked implements.

Blades: The 3 blade fragments are all of Onondaga flint and bifacially worked.

Knives: The single specimen is bifacially worked but has wear marks only on one edge. It may have been hafted.

Utilized flakes: Over 1300 flint flakes were recovered, of which only 15 specimens appeared to have been utilized.

ROUGH AND GROUND STONE ARTIFACTS: The following rough and ground stone artifacts were found during the excavation: anvil stones, 10; hammer stones, 10; mortars 8; sinew stones, 4; celt or adze fragments, 4; mullers, 2; choppers, 2; pestles 2; pitted stones, 2; adzes, 1; whetstones, 1; netsinkers, 1.

Many of the anvils, mortars, and hammerstones show multiple use from grinding, poundings, and pecking. The one possible netsinker seems significant, considering the proximity of the site to the river. If fishing played a primary role in the exploitative technology, then one would expect to find netsinkers, fish hooks, etc. Unfortunately the possibility of a technique not based on netting is also possible, but the lack of fish hooks or other fishing equipment seems to invalidate this alternative (remembering that bone preservation is poor). It may well be then, that fishing or shell collecting was an important exploitative technique of which no technological evidence remains.

CERAMICS: The ceramic artifacts include 95 pottery vessels, 4 pipes, and 1 flat bottomed object, as yet unidentified.

Pottery Vessels: The analysis of the 95 vessels is based on 171 rim sherds and 1895 body sherds. Comments on vessel size and surface finish are based on two completely restored vessels and three partially restored vessels. The criteria used to analyze the pottery vessels are exterior surface finish, interior surface finish, tempering material, decoration technique, design motif, transverse profile of the lip, rim profile, collar profile, castellations, vessel size and shape.

Criterion 1: Exterior Surface Finish The exterior surface finish on the body sherds is as follows: cord roughened, 1365 body sherds; smoothed, 304 body sherds; smoothed with decoration, 203 body sherds; unidentifiable, 23 body sherds. The preferred exterior surface finish on body sherds is cord roughened, 72%.

There is a variety of combinations of exterior surface finishes on the rim, neck,

shoulder, and lip areas. The surface may be smoothed, cord roughened, smoothed over cord or any one of these combinations on one vessel. Unfortunately only 13 of the 95 vessels were complete enough to analyze the surface finish on the rim, neck, shoulder, and lip areas.

Lip	Rim	Neck	Shoulder	F
cord roughened	cord roughened	cord roughened	cord roughened	6
smoothed	smoothed	smoothed	smoothed	1
smoothed	smoothed	smoothed	smoothed over cord	1
cord roughened	smoothed	smoothed over cord	smoothed	1
smoothed	cord roughened	cord roughened	cord roughened	1
cord roughened	smoothed over cord	smoothed over cord	cord roughened	2
smoothed	smoothed over cord	smoothed over cord	cord roughened	1

It would appear that most, if not all, of the vessels were cord roughened at one stage of their manufacture and. latter certain areas were smoothed.

Criterion 2: Interior Surface Finish. The interior surface finish was smoothed on 90 vessels and cord roughened on 5, indicating a strong preference for smoothed interiors.

Criterion 3: Tempering Material. Ninety vessels had grit temper and 5 vessels had no tempering material. Shell and limestone do not occur as tempering material.

Criterion 4: Technique of Decoration. Sixty-four vessels were decorated on the rim, neck, and shoulder areas, 31 vessels were undecorated. The 31 undecorated vessels have the following surface finish (in some cases this only represents the surface finish on the rim): cord roughened, 20 vessels; smooth, 7 vessels; indeterminate, 2 vessels; smoothed over cord, 2 vessels.

The cord roughened vessels are probably most similar to Ripley Corded (MacNeish 1952:24-25). The smooth vessels may be similar to Ripley Plain (MacNeish 1952:25-26). It is entirely possible that some of these rims may represent decorated vessels of which the major portion of the vessel is missing. It would appear that these pottery types should no longer be restricted temporally to the late Late Woodland Period (Wright 1966:272).

The following techniques were used to decorate the exterior of 64 vessels; incising, punctating, dentate stamping, bossing, cord-wrapped stick impressions, or a combination of incising with the other techniques. The technique of decoration and its frequency for the rim, neck, and shoulder areas is as follows: incising, 53; incising and dentate stamp, 2; incising and punctating, 2; incising and cord-wrap stick, 1; cord-wrap stick, 3; punctating, 2; bossing, 1.

The prevailing technique is incising, which occurs on 55.5% of the total, or in combination with dentate stamping, punctating, and cord-wrapped stick on 60.90% of the total. The interior rim area was decorated on 8 vessels. Incising was the preferred technique on 7 vessels and punctating occurs once. The lip was decorated on 15 vessels either by incising or punctating. The preference is again for incising, 12 vessels; for punctating, 3 vessels.

Criterion 5: Design Motif. The interior design motif on the 8 decorated interior rims is as follows: oblique incising, 7 vessels, and elliptical punctate, 1 vessel.

The lip design motif on the 15 decorated lips is illustrated in Figure 1 with their frequency of occurrence. The punctated lips are decorated with an encircling row of impressions. The incised lips are primarily decorated with oblique impressions.

The design motif of the rim, neck, and shoulder areas is illustrated in Figure 2 and the frequency of each motif in Table 1. The design motifs a-f, h, j, k, l, and o are examples of the design motifs on Ontario Oblique pottery which MacNeish defines as ". . . , bands of oblique lines either parallel or opposed on the neck and rim on globular-bowled vessels" (MacNeish 1952:18). The frequency of Ontario Oblique design motifs is 45.4%. The design motif is similar to Middleport Criss-cross, which is defined as criss-cross incision on the exterior rim (MacNeish 1952:17). The motif is present on 4.2% of the pottery vessels. Plate VIII is an example of the design motif.

INCISED MOTIFS	FREQUENCY	PUNCTATED MOTIFS	FREQUENCY
	3		2
	3		1
	4		
	1		
	1		

Figure 1. Lip Design Motifs.

a	b	c	d ₁	d ₂	e
			erratic		
f ₁	f ₂	f ₃	g	h	i ₁
i ₂	i ₃	i ₄	j	k	l
m	n	o	p	q	r
s	t	u	v	w	x
y	z				

Figure 2. Exterior Design Motifs.

The remaining incised design motifs, t, u, v, y, z may be local varieties of Ontario Oblique which have as yet been undefined. These motifs represent 5.2% of the vessels recovered. The combination of Ontario Oblique, Middleport Criss-cross, and Ontario Oblique variant design motifs represent-54.8% of the total vessels recovered.

The design motifs a, m, n, p, s, w, x, which are produced by punctating, bossing, or cord wrapped stick impression, represent 6.3% of the total vessels and are characteristic of the Owasco pottery series (Ritchie and MacNeish 1949).

The design motif of g, q, r, w are unidentified and represent 6.3% of the decorated vessels.

Table 2 illustrates the distribution of the pottery vessels using the pottery types defined by MacNeish (1952), and Ritchie and MacNeish (1949).

Criterion 6: Transverse Profile of the Lip. The lip profile was as follows: flat lip, 60 vessels; rounded lip, 27 vessels; pinched lip, 3 vessels; and indeterminate lip, 5 vessels. The predominant characteristic is a flat lip, with a frequency of 63.0%.

Criterion 7: Rim Profile. The rim profile consists of two classes, vessels with collars and vessels without collars. There were 16, or 17.0%, collared vessels and 79, or 83.0%, uncollared vessels.

Two characteristics were used to describe the uncollared vessels. Characteristic 1 is the shape of the exterior surface rim in radial section: straight, concave, or convex. Characteristic 2 is the relationship between the exterior rim and interior rim in radial section: parallel, converging or diverging. The following combinations were observed on 66 vessels, and an additional 13 vessels were too fragmentary to classify with the most frequent combination being a concave interior with parallel sides, which occurs on 21 uncollared vessels.

	1	2	F
	straight	parallel	7
	straight	converging	8
	straight	diverging	4
	concave	parallel	21
	concave	converging	9
	concave	diverging	7
	convex	parallel	5
	convex	converging	2
	convex	diverging	3

The 17 collared rims were analyzed, using five characteristics as illustrated by White (1961:76-79). Characteristic 1 is the exterior surface of the rim in radial section; it is either straight, concave, or convex. Characteristic 2 is the shape of the interior surface of the collar and neck; it is either straight or concave. Characteristic 3 is the shape of the exterior collar to the interior collar in radial section; the 17 examples were all converging. Characteristic 4 refers to the shape of the neck as it approaches the collar in radial section; it is either straight or outcurving. Characteristic 5 refers to the contour of the angles which the exterior surface of the collar forms with the neck in radial section; it is either sharp or rounded.

The following profiles were observed:

	1	2	3	4	5	F
a	straight	concave	converging	straight	sharp	2
b	straight	concave		outcurving	sharp	1
c	straight	concave		outcurving	round	6
d	straight	straight		straight	round	1
e	straight	concave		straight	round	2
f	concave	concave		straight	round	1
g	concave	straight		outcurving	round	2
h	convex	concave		outcurving	round	2

TABLE 1
 FREQUENCY OF EXTERIOR DESIGN
TECHNIQUE

Design Motif	Incising	Incising Dentate	Incising Punctate	Incising CWS	CWS	P	B
a	9				1		
b	4						
c	3						
d ₁	1						
d ₂			1				
e	4						
f ₁		1					
f ₂	1						
f ₃			1				
g	3						
h	1						
i ₁	1						
i ₂		1					
i ₃	1						
i ₄	1						
j	1						
k	14						
l	1						
m						1	
n							1
o	1						
p					1		
q	1						
r	1						
s						1	
t	1						
u	1						
v	1						
w				1			
x					1		
y	1						
z	1						
TOTAL	53	2	2	1	3	2	1

TABLE 2
 POTTERY TYPES

Decorated Vessels	<u>f</u>	<u>%</u>
Ontario Oblique	43	45.4
Ontario Oblique variants	5	5.2
Middleport Criss-Cross	4	4.2
Owasco	6	6.3
Other	<u>6</u>	<u>6.3</u>
	64	67.4
Undecorated Vessels		
Ripley Plain	7	7.4
Other	<u>4</u>	<u>4.2</u>
	31	32.6



PLATE V. Ontario Oblique Vessel.



PLATE VI. Ontario Oblique Vessel.



PLATE VII. Ontario Oblique Vessel.

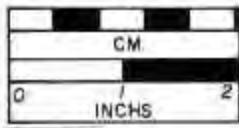


PLATE VIII.
Middleport Criss-cross.

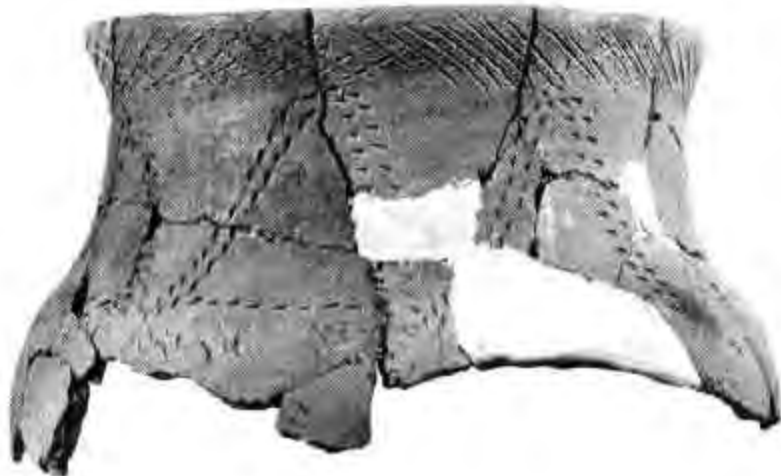


PLATE VIII. Middleport Criss-cross.

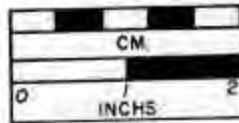


PLATE IX. Undecorated,
Cord Roughened Vessels.



PLATE IX. Undecorated, Cord Roughened Vessels.

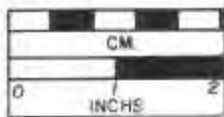


PLATE X. Pipe Fragments: 3

Criterion 8: Castellations. Only three vessels had evidence of castellations; two were rounded and one was pointed.

Criterion 9: Vessel Size and Shape. There are three vessels complete enough to describe as to size and shape. One is ovoid with a slightly rounded base. The height of the vessel is 353 mm., and the breadth 303 mm. The height of the body is 75 mm., neck 78 mm., breadth of throat 252 mm., and diameter of the mouth 243 mm.

The second vessel is similar in shape but smaller. The total height is 115 mm. The height of the body is 85 mm., height of the neck 30 mm., and diameter of the mouth 78 mm. The third vessel is round with a flattened base. The height of the vessel is 36 mm.

Criterion 10-11: Vertical-Horizontal Distribution. An analysis of both the vertical and horizontal distribution of rim sherds did not disclose a significant distribution pattern. It appears that the ceramic material is the result of a single occupation by a homogenous group of people whose ceramic motifs are primarily related to the Late Woodland period. Since there are two differing house structures at the site, it was assumed that differing ceramics would be associated with each; however, all types of decorated and undecorated vessels are found in both house types.

PIPES

Fragments of four ceramic pipes were recovered. (See Plate X.) Two pipes are represented only by their stems; one is decorated with two incised parallel lines around the lip and the other is undecorated. The remaining pipes are represented by (1) the stem and portion of the bowl, undecorated, and (2) the stem and bowl, which is decorated with two parallel incised lines encircling the rim. The pipes are characterized by their simplicity and lack of elaborate decoration.

UNIDENTIFIED OBJECTS

Two fragments of a flat bottomed ceramic object were recovered. The diameter of the object is 72.5 mm. One fragment has an opening in the side which is discolored from charring and suggests the placement of a pipe stem. The bottom of both fragments are decorated with three encircling incised lines and on one fragment oblique cord wrapped stick impressions. The sides are decorated with four rows of incised lines which encircle the object; between each row of incising is a row of oblique cord wrapped stick impressions. The height of the object is 27.5 mm. The use of this object is unknown.

ECOLOGY OF THE SITE

The ecology of this site is presently under investigation. Soil samples were collected from many of the features. These are being processed by water flotation. The result is a sample of the seed material which will be analyzed in order to determine, if possible, the seasonality and ecology of the site, and presence of domesticated plants. Agriculture is assumed to have been the dominant exploitive technique, charred kernels of corn and squash seeds having been present in at least one feature.

An analysis of the fauna is more difficult to undertake since bone preservation is so poor, and none of the fragments recovered are large enough to be identified. There is evidence that mollusks may have been an important dietary item, since many of the features contained flecks of decomposed shell, but none are sufficient for identification. The lack of netsinkers (previously mentioned) probably indicates that fishing was not an important exploitive technique or that fishing technology did not include netting.

Tentative analysis indicates that this was primarily a summer farming community.

CONCLUSIONS AND INTERPRETATIONS

The temporal and spatial articulation between Witches Walk and other archaeological components is based on a review of the current literature. Two reports have been released by the Carnegie Museum on related sites which have been excavated further down river in the Allegheny River Basin (Dragoo 1966, 1967). It is with these two sites, Onoville Bridge and Kinzua, that Witches Walk shares the greatest similarity.

The settlement location of each site is duplicated at the others, except for minor variation. All three sites are located on the flood plain of the Allegheny River, directly adjacent to the river and across from an island or shallow area. The structure of these settlements includes an encircling stockade, which is only suggested at Witches Walk, composed of either single or paired posts, with diameters ranging from 0.15 ft. to 0.3 ft., generally 0.6 ft. to 1.0 ft. apart. The structure at Kinzua and Onoville Bridge had multiple entrances which were protected by pits, hearths, or screens. Within the village large open spaces were lacking, and each site indicates a compact, dense settlement composed of several differing types of structures. These include rectangular houses from 40.0 ft. to 104.0 ft. in length and 16.5 ft. to 26.0 ft. in width; large circular structures 30.0 ft. to 32.0 ft. in diameter and smaller circular structures 14.0 ft. to 17.5 ft. in diameter. It is obvious that certain of these were used as living quarters since they contain hearths and storage pits, but the function of the others is less obvious; possibilities include sweat houses or storage facilities.

ACKNOWLEDGMENTS

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The photographs and field maps were prepared with the aid of Mr. Gordon Schmahl, Technical Specialist, Department of Anthropology, State University of New York at Buffalo.

Finally, I wish to express my gratitude to Dr. Marian E. White and my fellow students at the State University of New York at Buffalo who have assisted me in excavating and analyzing the site and its materials. Their interest in salvaging this site has been most encouraging and helpful.

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BOOK REVIEW

AMERICAN DAWN: A New Model of American Prehistory, by Louis A. Brennan, The Macmillan Co., New York 1970, 390 pp., \$8.95.

Louis A. Brennan's *No Stone Unturned: An Almanac of American Prehistory* was widely read and acclaimed in 1960 for its critical and perceptive view of American archeology. Many of the dogmas and sacred cows of prehistorians were brought into full view and appraised in relationship to the vast knowledge accumulated since the 1930's. The nonprofessional was given a fresh and lively approach to the study of man's entry and cultural development in the New World.

Many field investigations and new research have radically changed views since 1960. Louis A. Brennan's new book *American Dawn: A New Model of American Prehistory* tells the story of these discoveries and their impact upon the framework of New World prehistory. In this book Mr. Brennan demonstrates his fine talent as a writer and draws heavily upon his own experience as a participant in prehistoric studies.

The "standard model" of American prehistory with its simplistic story of a few people struggling across the Bering land bridge from Siberia to Alaska about 15,000 years ago seems to have little merit to Brennan and he raises the following questions:

Why have we been unable to trace the early cultures of the New World to a direct ancestor in Asia? Why are the typical Paleo-Indian projectile points and associated tools in interior America older than those along the corridor to Alaska? How do we explain the presence of crude, non-projectile point tool assemblages that seem unrelated to any known and datable New World cultures?

As answers to these questions, Brennan suggests that we must grant that man reached the New World long before 15,000 years ago and that his tool kit consisted of a much older and basic Paleolithic assemblage. The fluted points now generally considered as the marker for Early Man in America were a development from these earlier assemblages and thus an unique New World invention.

To document his case, Brennan reviews the development of man in the Old World and discusses the possible cultures that could have been ancestral to the early migrants of the

New World. He then describes some of the finds in North and South America that are marked by the presence of crude tools. Among the most important sites and cultural assemblages he lists the Lively Complex in Alabama, Calico site in California, Lewisville in Texas, Tule Springs, Nevada, Texas Street, California, Wells Creek, Tennessee, and his own work at the Prickly Pear site in New York. In South America he singles out the El Jobo site in Venezuela and the Cerro Chivateros site in Peru. Although he discusses the difficulties in dating some of these sites, he tends to accept the validity of all of them as part of the early New World cultural foundation. This reviewer would agree with Brennan's basic thesis of the underlying cultural assemblages in the New World, but I believe that serious doubts can still be cast upon some of these sites, such as Calico, as representing actual discoveries of these early complexes.

Brennan presents the many problems in dating remains of early cultures in an excellent discussion of the conflicts that often occur between carbon-14 dates and those derived from geological sources. He tells of his excavations of Indian shell middens along the Hudson River where C-14 dates for cultural remains were in direct contradiction to the postulated fluctuations of water levels in the lower Hudson Valley. This example and others in the book should be a warning to the reader that knowledge from different fields should be cross-checked before a firm conclusion can be drawn on the age of a particular site. He also cautions that the lack of a firm date for a cultural assemblage should not be used to deny the existence and importance of that assemblage. This reviewer would certainly agree with this position when it can be shown that these assemblages are distinctive and lack only proper dating. Would we deny the existence of dinosaurs if there were no dates? This has been done by some in archeology with the result that many important discoveries have been ignored or improperly identified.

The author takes particular note of the peoples who had spread out over the land by 10,000 years ago. At this time Brennan believes that many of these people were contemporaries of the big-game Paleo-hunters but they lived by a much different set of rules. These people, who he calls "usufructians" or "users of the fruits," were able to utilize all the food resources of a region and consequently they developed new tool assemblages to meet their problems during the next several thousand years. During this Archaic Period (10,000-3,000 years ago) many made remarkable progress and greatly increased in number. There were also many changes in social structure and beliefs as well as in the tool assemblages. This Archaic Period Brennan believes to have been "one of the most extraordinary cultural epochs in the history of the world."

Most archeologists who have worked with the remains of the Archaic Period would agree with Brennan's evaluation. As he presents in *American Dawn*, there has been a vast amount of new information gathered on the Archaic Period in recent years. It was undoubtedly a period of great diversification and innovation and a time when the foundations for the later complex cultures were established. The great importance and complexity of these Archaic Cultures are just beginning to receive the attention they so justly deserve and the next ten years will see our understanding of the Archaic even more enhanced.

In *American Dawn* there is a good discussion of the development of corn and agricultural practices. It is one of the most intriguing stories of man in the New World and the archeological and botanical research that tells this story makes fascinating reading.

In addition to the changes in subsistence patterns brought about by agriculture, Brennan discusses the development of religious beliefs, first noted in the Archaic Period, right up to the magnificent Adena and Hopewell Cultures of the Ohio Valley. In his chapter entitled the "Rise and Fall of the Shamans" he gives an excellent picture of prehistoric ceremonialism with its emphasis on the dead, the construction of burial mounds, and sacred centers.

Mr. Brennan gives the general reader a new perspective and appreciation of the rise of New World culture with an astounding amount of well illustrated information spiced with wit, humor, and constant reminders of the past's lessons for man today. The professional archeologist may criticize Brennan for sins of commission and omission and he may disagree with some of his interpretations and ideas. However, no one can read this book without seeing prehistoric America as alive, colorful, dynamic, and fruitful. There are new ideas and critical analysis of old ones that merit reading.

Don W. Dragoo
Carnegie Museum

PROGRAM NYSAA ANNUAL MEETING
S.U.N.Y. at Binghamton, 1971

- FRIDAY, April 16
- 3:00 p.m. Registration
- 4:30 Awards and Fellowship Committee Meeting
- 6:30 Committee Chairmen Dinner
- 8:00 Executive Meeting
- SATURDAY, April 17
- 7:30 am. Registration
- 8:00 Welcome:
- Michael NT. Horowitz, Chairman,
Department of Anthropology
State University of New York at
Binghamton
- 8:15 Business Meeting:
- Michael J. Ripton, President, New
York State Archaeological
Association
- Morning Session
- Charles F. Hayes, III, Chairman, Morgan Chapter
- 9:15 "The Bare Island Culture on Eagle Neck,
Orient, New York" Roy Latham, Long
Island Chapter
- 9:30 "The Laurel Hollow Site" Kathryn
Browning, Long Island Chapter
- 10:10 "Archaic and Early Woodland Site Along
Ellicott Creek" Edmund B. Mayer, Jr.,
S.U.N.Y., Buffalo
- 10:40 "The Tram Site" Charles F. Wray, Morgan
Chapter
- 11:10 "The Durham Site" Earl R. Sidler, III, S.U.N.Y.
Buffalo
- 11:40 "Digging Up Fort Orange: A Salvage Project in
Albany, New York" Paul Huey, New
York State Historical Trust
- 12:30 Luncheon-Speaker: Stanley W. Lantz,
Field Representative, Carnegie
Museum, Pittsburgh, Pennsylvania
"Iroquois of Kinzua Valley"
- Afternoon Session
- 2:30 "Site Surveying" Gordon C. DeAngelo,
Chenango Chapter
- 3:00 "Determining Cultural Levels in Unstratified
Sites" Philip H. Salkin, Triple Cities
Chapter
- 3:30 "The Osteology of Seneca Residence Pattern:
The Reservation Period" Audrey
Sublett, Florida Atlantic University,
Fredrick Al. Houghton Chapter
- 4:10 "A Stylistic Analysis of Iroquois Pottery"
William Engelbrecht, Frederick M.
Houghton Chapter
- 4:40 "Iroquois Village Movements and Population
Shifts Near Cayuga Lake" Marian E.
White, S.U.N.Y., Buffalo
- 7:30 Dinner-Susquehanna Room, University Union;
Address by N.Y.S.A.A, President,
Michael J. Ripton
- Presentation of Awards
Ceremonial Indian Dances with
Display of Ceremonial Dress,
presented by Order of the Arrow of the
Susquenango Council Boy Scouts of
America, Advisor, Jack L.
Shamberger, Triple Cities Chapter
- SUNDAY, April 18
- General Session
- Theodore Whitney, Chairman, Chenango Chapter
- 9:00 a.m. "The Rip van Winkle Site" Paul L.
Weinman, Auringer-Seeyle Chapter
- 9:30 "Some Rock Shelters in Green County"
Thomas P. Weinman, Auringer-Seeyle
Chapter
- 10:00 "Resolution on Historic Sites, 1969-1971: A
Summary and Open Discussion" Lilita
Bergs, Rochester Museum and Science
Center, Morgan Chapter
- 10:30 "Three Celt Caches from Wyoming Valley,
Pennsylvania" Leslie L. DeLaney,
King's College
- 11:10 "Implication of Two Carbon 14 Dates from
Montrose Point" Louis A. Brennan,
Metropolitan Chapter
- 11:40 "A Radiocarbon Date for Otter Creek and
Related Points" Robert Funk, Van
Epps-Hartley Chapter
- 12:00 Noon "A Stratified Rock Shelter in the Upper
Delaware Valley" George Walters,
Orange County Chapter