

THE BULLETIN

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IROQUOISIAN "BUSHY HEAD" CORN
HUSK MASK



MILLER FIELD SITE SANDSTONE MASKETTE

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ARCHAEOLOGICAL EVIDENCE FOR A POSSIBLE MASKING COMPLEX AMONG THE PREHISTORIC LENAPE IN NORTHWESTERN NEW JERSEY

Herbert C. Kraft

Metropolitan Chapter

On July 16, 1969, F. Dayton Staats of Oxford, New Jersey, excavated his 455th pit on the Miller Field site. The upper portion of the deep, bowl-shaped pit had produced small but diagnostic rimsherds of Clemson Island and Bowmans Brook pottery and a portion of a miniature corded vessel together with three notched flat pebble netsinkers, three trimmed rectangular netsinkers, teshoa and assorted flakes. The pit bottom appeared at 56 in. below surface and there lay two small soil-colored fragments of a fine sandstone pendant and two small pieces of decorated pipe bowl. As Staats brushed away the silt from the pendant fragments, incised lines and holes appeared. This was no ordinary pendant! It is the subject of this report, and if the conclusions presented here are acceptable, this pendant may provide evidence for the prehistoric use of corn-husk or "bushy head" masks in the Upper Delaware Valley, thereby providing yet another culture trait shared by both the Lenni Lenape and Iroquois peoples.

Description of the Site

The Miller Field site is one of the most extensively excavated prehistoric sites in New Jersey. Staats has systematically dug here for ten years, and the author has conducted more than two full seasons of excavations on this site, supported by grants from the U.S. National Park Service and Seton Hall University. The site is multi-component and manifests an intensive and prolonged occupation from Archaic into European contact times. The Archaic and Transitional periods have already been reported (Kraft 1970:1970a) and the insights gained from this study have altered some of our views with respect to the Frost Island and Orient phases as previously defined by Ritchie (1969:150-78). The much more extensive Late Woodland manifestations from this site now suggest the need for rethinking many of our Owasco-"Munsee"-Mohawk relationships as well.

The Miller Field site is located on an extensive river flat 10 mi. north of the Delaware Water Gap in Warren County, New Jersey. Its varied geographical assets have been detailed elsewhere (Kraft 1970:1-11; 1970a:1), but in light of what is to follow it is important to emphasize the conditions which, in aboriginal times, may have encouraged contact with the peoples of New York State and, simultaneously, may have discouraged intensive contact with the so-called "Unami" Delaware area below the "Gap". The map (Fig. 1) shows the Miller Field site located between the Delaware River and the Kittatinny Mountains. These same mountains become the Shawangunk Mountains in New York State and extend almost to the Hudson River near present day Kingston. Across the river in Pennsylvania are the Pocono Mountains which feed into the Catskills. On the southwest we find the Kittatinny - Blue Mountain chain, severed by the sheer cliffs and rapids of the Delaware Water Gap. In earlier times this natural constriction may have been a formidable barrier that inhibited regular traffic to the south, although cultural influences from the coast and as far west as the Lower Susquehanna are in evidence.

Given these geographical features, the constriction at the southwest, and the funneling affect of opposing ridges on either side of the Upper Delaware Valley, it would seem that the Lenape peoples of northwestern New Jersey and the peoples of the Mohawk-Mahikan areas of New York State would have established some cultural contacts. This proposition is strongly supported by similarities in pottery styles, lithic artifact types and other behavioral traits suggesting a cultural province in which both groups participated.

The Question of Identity

Before we can seriously discuss the maskette, effigies, and similar cultural manifestations

COVER ILLUSTRATION: Iroquoisian Mask from Seton Hall University Museum; probably early 20th Century.

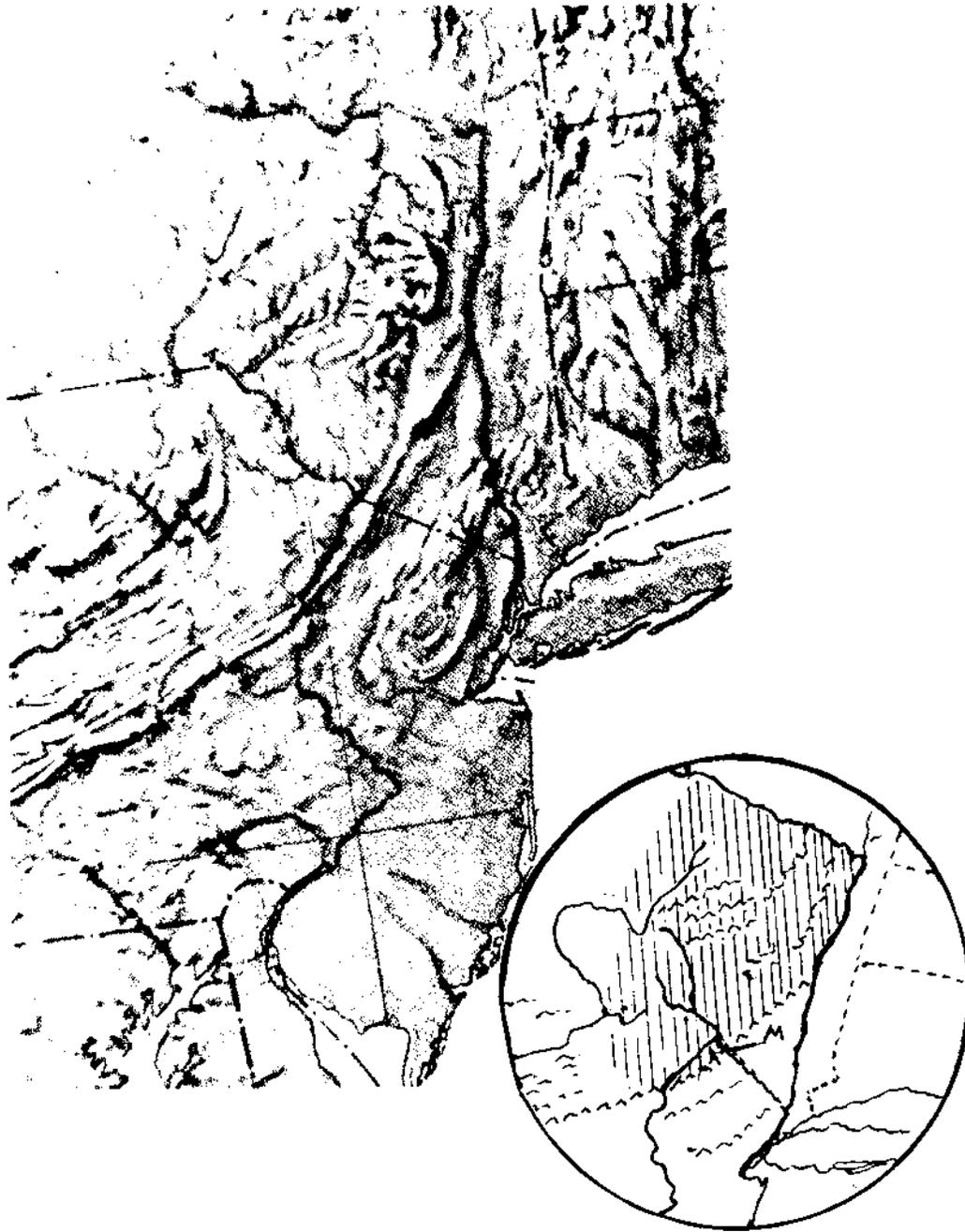


Fig. 1, Physiographic map of the Tri States area showing the Blue - Kittatinny-Shawangunk mountain chain and the suggested Lenape-Mohawk Cultural Province.

shared by the prehistoric peoples of the Upper Delaware Valley and of Iroquoia it is necessary that we reexamine the nomenclature and beliefs concerning the so-called "Delaware" or Lenni Lenape. The archaeological literature of the Upper Delaware Valley and the Tri-States area contains numerous references to "Owasco", "Iroquois", "Iroquois-like", "Munsee" "Minsi" and more recently "Owasco-Tribal" (Kinsey 1972:373, *passim*). Some of these designations derive from a recognition of obvious similarities in ceramic and lithic artifact styles, while others are predicated upon what are assumed to have been the local cultural affiliations or groupings.

It is my feeling that the Indians in and about the Upper Delaware Valley region in the Late Woodland period were among the ancestors of the Algonkian speaking Lenni Lenape, who were later given the English appellation "Delaware". However, the varying cultural assemblages found on so many of the archaeological sites, and the paucity of reliable ethnographic information about the Indians who lived in the Valley, make it necessary to exercise extreme caution in ascribing any tribal or sub-tribal identities to these aborigines. It is, I believe, far more likely that the various peoples who occupied New Jersey and adjacent areas in protohistoric and early historic times were living as bands or as familial groups in small hamlets rather than tribes (see also Wallace 1947:301-21; Rutenber 1872:71; Trelease 1960:2,7). There is at present no archaeological evidence for large village communities among the Lenni Lenape; instead houses appear to have been individual, small, dispersed and unfortified (Kraft 1970c:1-11).

Furthermore, the term "Munsee" or "Minse", so often associated with the peoples who lived above the Blue -Kittatinny-Shawangunk Mountain chain, seems inappropriate when used with reference to the late prehistoric and early historic peoples of the Valley. Similarly misleading is the term "Unami", which has been used by Hodge (1907:386) Swanton (1952:48-55) and others to designate the aboriginal people who lived south and east of these mountains in prehistoric and protohistoric times. Anthony F. C. Wallace (1947:11) and others are of the opinion that such terms as "Munsee" or "Unami" are recent historic designations for certain remnant communities that had formed loose coalitions after being forced from their ancestral lands by the encroaching whites. As a matter of fact, it is believed that the so-called "Munsee" or "Minsi" did not even exist until about 1694, when a group of Shawnee combined with remnants of local bands on the Upper Delaware (Wallace 1947:14-16), while the name "Unami" does not appear in the literature until 1757 (Newcomb 1956:7). Moreover, terms like Unami, Minsi or Unalachtigo seem to have no meaning to the Lenape or "Delaware" Indians of today (Personal correspondence: Nora Thompson Dean, February 25, 1969; July 26, 1972). Until such time as we have better information concerning the true identities of these peoples it is perhaps wiser to recognize the tenuousness of many of the extant designations for these Lenni Lenape cultural areas. My colleagues and I are now reevaluating the entire question of "Delaware" Indian identities and will deal with this problem in much greater detail in an article now in preparation.

Given the present lack of knowledge, and to avoid the confusion that now attends the extension of specifically New York State culture terms (for example, Owasco) into the Tri-States area, I am proposing alternative terms that are more appropriate to the Upper Delaware Valley, namely "Pahaquarra phase" and "Minisink phase" of the Late Woodland period, or Minisink Indians of the contact and historic periods. By way of explanation, it is noted that Pahaquarra is the name of the township in which Tocks Island, the Miller Field, Harry's Farm, the Pahaquarra sites and other important archaeological sites are located. The name Minisink is taken from the historic Minisink bands, for which there is good documentary evidence (Rutenber 1872:96; Trelease 1960:7), and who are known to have occupied large sectors of the Upper Delaware Valley at the time of European contact.

The term Pahaquarra phase recognizes certain basic affinities with the Owasco culture of New York State: ceramic forms and decorations, horticultural activities, burial practices, house patterns, stone projectile points, and certain features such as pits and hearths. Among the differences between the Owasco and Pahaquarra phases are: the relative abundance of bone and antler tools, weapons, and ornaments on Owasco sites and the near total absence of such artifacts on sites relating to the Pahaquarra phase in the Upper Delaware Valley. It is unlikely that soil acidity can be held totally accountable for such a privation. Secondly, it is noted that teshoa and elongated pebble tools (Kraft 1966:1-6) are exceedingly numerous on sites of the Pahaquarra phase in the Upper Delaware Valley, but have not been reported from Owasco sites in New York State. This may be the result of non-recognition or improper sampling, but it may also be a case of non-occurrence. Perhaps the most significant distinction is the fact that historically there is a fundamental linguistic difference between the New York State Owasco-Iroquois region and the people of the Upper Delaware River Valley and southeastern New York State.

The former spoke Iroquois; the latter are of the Algonkian linguistic stock.

The term "Minisink" is intended to delimit the latter phase of the Late Woodland period, characterized by collared and incised pottery vessels and other cultural traits which in the

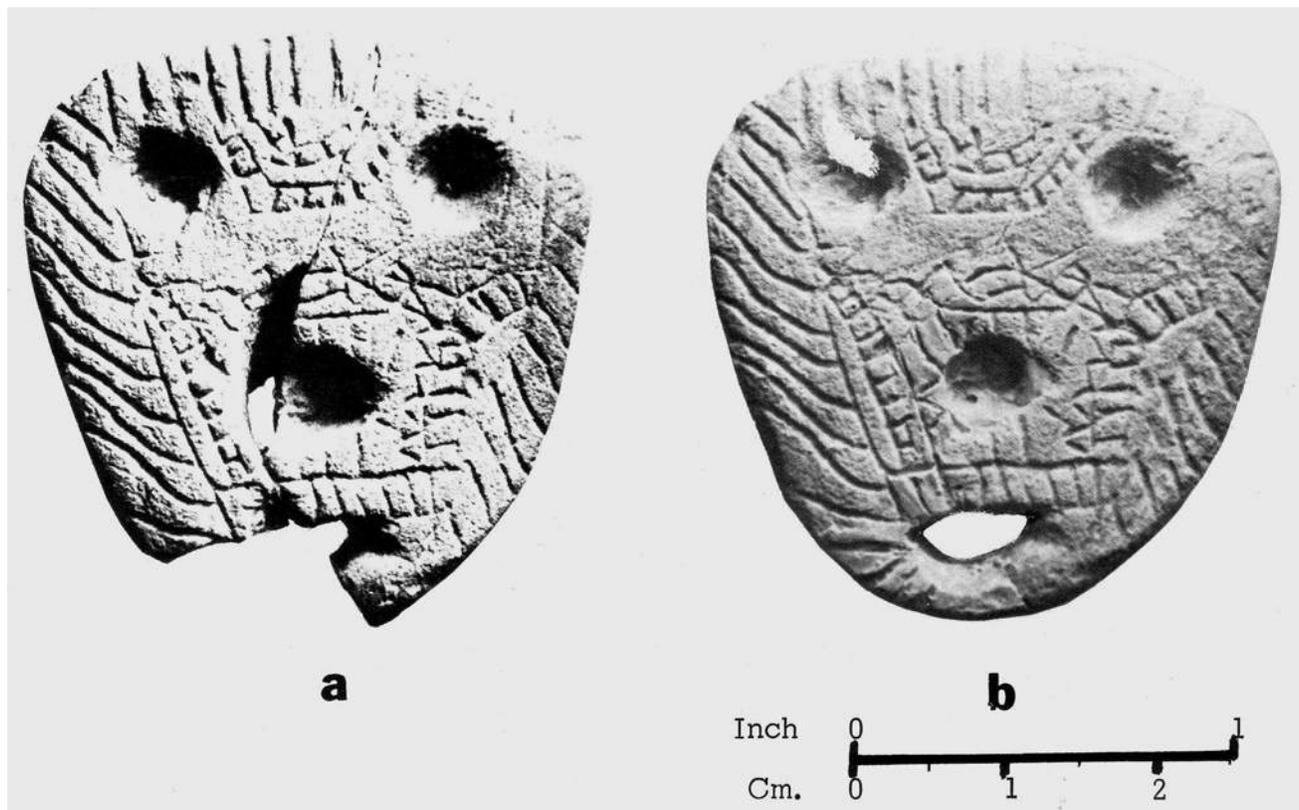


Fig. 2. Effigy pendant maskette from the Miller Field site. Two fragments joined as found (a) and in plaster cast restoration (b). Staats Coll.

Upper Delaware Valley have a striking resemblance to the ceramics of the Mohawk-Seneca area of New York State. Moreover, the term Minisink phase is again employed to emphasize the linguistic distinctions and to discriminate among certain stylistic motifs peculiar to some of the later ceramics of the Valley, as well as distinctivenesses in house and settlement patterns and other features not representative of the Iroquois culture area.

Description of the Effigy Pendant

The maskette-like pendant (Fig. 2) which is the primary concern of this article, is carved out of a very fine-grained yellow sandstone the edges of which are slightly reddened, presumably from heat. The carving is confined to one side, the back being entirely smoothed. The three holes that form the face are gouged out to a depth of 3 mm. Such effigies are not uncommon on pottery vessels of the Minisink phase of the Late Woodland period in the Upper Delaware Valley (cf. Figs. 4 a-d). The ornamentation on the face of this pendant is quite unusual, however, and to my mind, at least, suggests a "Bushyhead" or corn-husk mask such as the Iroquois (Fenton 1940) and Lenape (Speck 1931:45; 1950:45) still use in theurgic ceremonies. The perforation from which this maskette was once suspended is broken, and a portion of the rim is missing. A crescent-shaped chip is also lost from a center break near the nose. Figure 2 shows the pendant as it appears now, and in a reconstruction of its presumed pristine condition. An early twentieth century "Bushy-head" mask is illustrated for comparison on the front cover. The restored pendant measures 4.2 x 4.2 x 0.7 cm.

The Miller Field pendant image differs from the usual Iroquois "Bushy-head" in three respects: (1) the nose is indicated by a hole or depression instead of being raised or projected, (2) the incised lines on the face do not realistically portray the braiding or twining techniques

employed in constructing real corn-husk masks and (3) suspension is from the base of the maskette, causing the face to hang upside-down. Nevertheless, it is my personal belief that these differences are more apparent than real. Dr. William N. Fenton agrees that this pendant resemble a corn husk mask, but suggests that it might also be a portrait of a "genre of supernatural beings that are revealed in dreams and celebrated in ceremonies of curing and renewal" (Fenton, personal correspondence, February 1, 1972). Dr. Elizabeth Tooker, a Huron-Iroquois scholar, having seen a photograph of this maskette inclines to the view that the incised lines ". . . are not crosshatched lines which is how [she] . . . would represent the braiding or weaving of the husk masks. . . [instead] these lines on the face suggest. . . face painting" (Tooker, personal correspondence, March 7, 1971). She is, therefore, disinclined to accept this pendant as a mask or a false face, at least at this time.

It is, of course, necessary and desirable to weigh many opinions in the interpretation of this pendant, because "Bushy-heads" are generally thought to be post-contact innovations and, further, because such evidence might indicate the use of corn-husk masks farther south of the Iroquois than had previously been known. I will discuss these implications further on after commenting on the three stylistic differences noted above.

The use of depressions or holes to indicate an effigy face is consistent with a decorative tradition that may extend back a half-millennium before European colonization. Maskette-like stones bearing such depressed features have been found in the Hunters Home phase, radiocarbon dated at A.D. 905 (Whitney and Gibson 1966: Pl. V; Ritchie 1969:254, 257). Furthermore, they are not uncommon on Minisink phase pottery vessels from the Upper Delaware Valley (Fig. 3). As a matter of fact, one such effigy vessel (Fig. 3b) was found in the area of the pit which yielded this pendant masquette.

For the artisan to have rendered a raised nose, such as is found on most surviving corn-husk masks, would have required modeling or sculpting in high relief, an artistic expression which was known and practiced at least in late precontact times, but of which we have but a single example from the Miller Field site (Fig. 4). It is possible that the raised nose found on human effigy pipes and, subsequently on masks represents a later artistic evolution of facial portraiture.

The second consideration, namely the manner of incising, may be explained in terms of what we would today call artistic license. Surely we need not expect that a prehistoric artisan, intending a carved stone reproduction of a corn-husk maskette, would feel any compulsion to faithfully incise all the lines like braiding or twining. In my opinion the artist succeeded admirably in conveying the impression of braiding around the nose and mouth and on the forehead. And the incising around the perimeter convincingly frames the visage in a fringe like that of corn shucks. Aesthetically I feel that the artist approached the limits of his possibilities; anything more, as for example incised lines around the eyes, would only have cluttered and obscured. I cannot accept the idea that these lines imply face paintings. They are far too complicated and would suggest an intricacy of decoration that I, at least, have never encountered on either false face masks or in Lenape or Iroquois body painting (*cf.* Speck 1931 Plates 1-4).

The final point, namely that of suspension, is perhaps best resolved by considering the way in which pendant miniature corn-husk masks or wooden maskettes were employed. Before doing this however, it ought to be noted that corn-husk masks or "Bushy heads" are part of the ritual paraphernalia of the Iroquois Husk Face Society and they thus played a significant role not only in the Iroquois Midwinter Festival (Fenton 1940:416-421), but also in the "Delaware" or Lenape Corn Harvest Ceremony (Speck 1931:44; 1950:33-4). Harrington notes that the "Minsi tribe" usually associated in the literature with the Lenape Indians of northwestern New Jersey and environs had two special organizations; one of these was the Witches, while the other, comprising twelve benevolent shamans, was known as the Masks. The later society was, according to Harrington, "quite similar to the False-face company of the Iroquois" (Harrington 1913:217; 1921:36-7).

Among the Lenape who settled in Oklahoma, the corn husk mask was used by two heralds in announcing and preparing the way for the coming of the *Messing' hollikan* or Mask Spirit in the Corn Harvest Ceremony. Dr. Frank Speck described this ceremony and the use of the cornhusk mask as follows:

The Delaware celebrated the conclusion of the corn or maize bearing season with a festival of thanksgiving in which acknowledgement was made to mother Corn for the blessings of abundance, and an appeal made for the continuation of health... A particular feature appears in the manner in which the corn anniversary is announced among the people a week or so before it takes place. This feature amounts to a formalistic procedure. In this performance two messengers dressed in suits of corn-husk clothing and wearing masks with corn-husk "hair" ride through the Delaware settlements as a signal that the ceremony will soon occur. But they enact a strange symbol. Carrying a small quantity of excrement in a side pouch they smear the substance upon the person of those they encounter en route who do not offer them at once a gift no matter how trifling. . . The purpose of this punishment for disregard of the obligation toward the messengers seems to lie in the motive of enforcing obedience. . . to religious duties among the Delaware. . . The individuals whose duty it is to enact this part are hence called "excrement daubers" and their identity. . . is kept in the dark. (Speck 1937:79-90).

Nora Thompson Dean, a very knowledgeable Lenape Indian living in Oklahoma today, refers to these messengers as *Mwehemwihaiewwessak* or "feces smearers". These messengers and their corn-husk masks were observed by her father when he was very young, but the practice of "feces smearing" has long since been abandoned (Nora Thompson Dean, personal correspondence, March 25, 1971). Miniature corn-husk maskettes, at least among some Iroquois peoples like the Canadian Cayuga, are made and attached to large corn-husk masks when a dream impulse or a fleeting vision of a husk-face spirit has been experienced by the maker (Speck 1950:17). Such masks are also made as personal charms or are hung on the larger masks to "ride along" in the ceremonies (Fenton 1940:412). David Zeisberger, a noted Moravian missionary among the Lenape Indians, commented about a "Wsinkhoalican, that is . . . an image cut in wood, representing a human head, in miniature, which they always carry about them either on a string around their neck or in a bag." (Zeisberger 1910:141). The historic manifestation may be an explicit continuance of a prehistoric Delaware practice. Several examples of such pendant images of human heads are known from the Upper Delaware Valley (Ritchie 1949:255; Kraft 1968:52) and from the central and southern parts of New Jersey (Volk 1911:186; Abbott 1881:398). A few such effigies from the Upper Delaware Valley are illustrated for comparison in Fig. 5.

Pendant effigies were sometimes suspended right side up. Many, however were suspended upside-down, presumably to affect a closer intimacy between the wearer, as he looked down, and the image that constantly looked back at him.

If my interpretations of this effigy pendant, as a representation of a corn-husk mask, are correct, then we may well have evidence to indicate a greater antiquity for the use of corn-husk masks than was previously suspected. Fenton notes that archaeological evidence indicates that the prehistoric Iroquois probably had conceptions of supernatural beings like those which their historic descendants associate with the False-faces (Fenton 1940:412). He documents historic sources indicating that the False-face rituals may have come to the Iroquois "relatively late in the seventeenth century considerably after their observance among the Huron"; however he believes that the "behavior of the actors is older than the form of the masks" (*ibid* 413). Speck also cites accounts suggesting that "in the history of their ceremony the images and the Mask Spirit episode were formally introduced into the rite shortly before or about the time of the arrival of Europeans" (Speck 1950:36; 1931:39).

There is no doubt in my mind that the effigy pendant described herein is prehistoric and pre-European contact. It was found at the bottom of a deep bowl-shaped storage type pit. The extensively excavated area surrounding this pit yielded Owasco, Clemson Island and Bowman's Brook pottery, and collared vessels of the Chance and "Munsee" types, but not a single item of European trade goods. Parenthetically, I wish to note that the Miller Field site did yield important evidence of Indian-white man contacts (ca. A.D. 1650-1700) but all of these trade goods

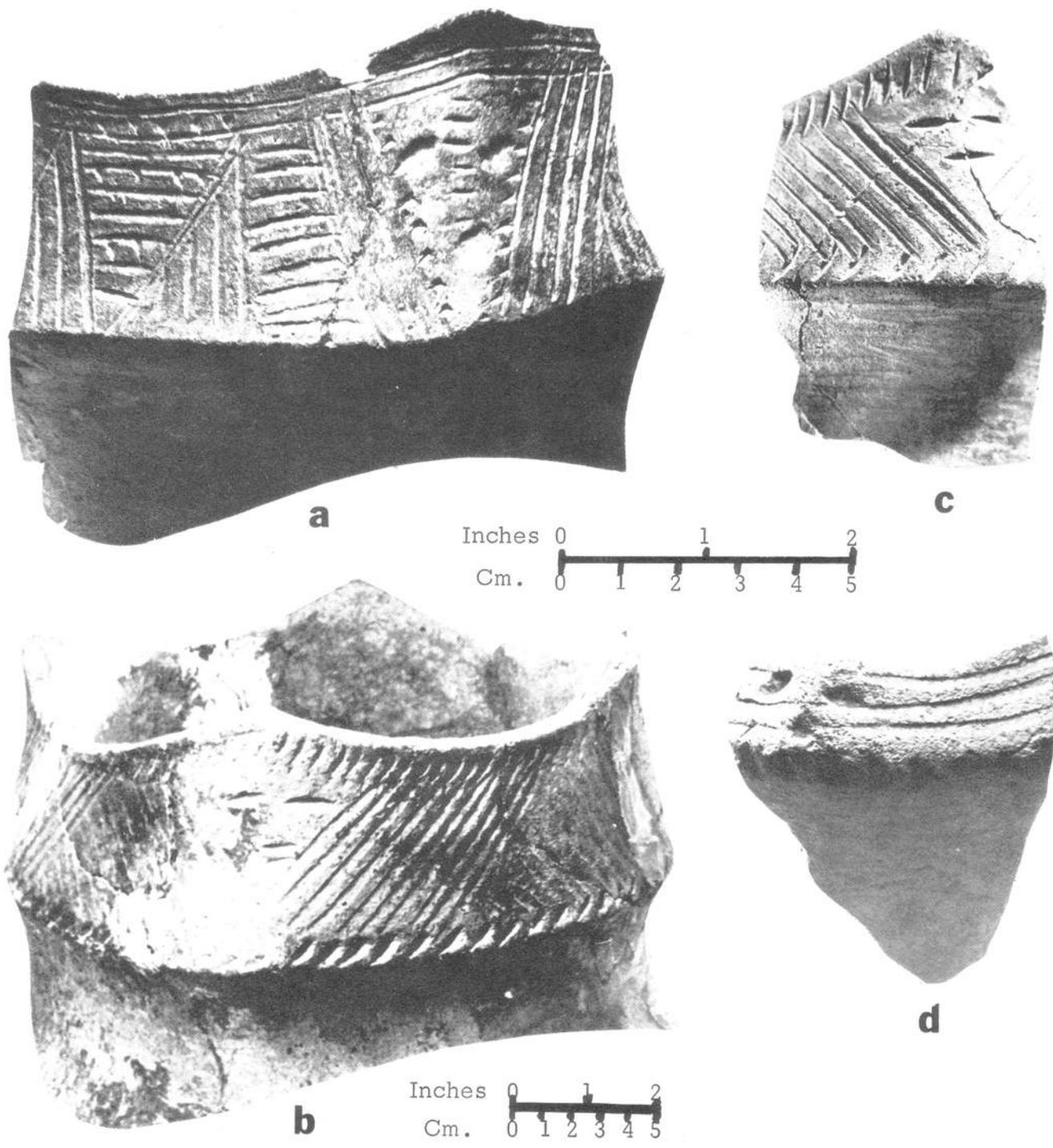


Fig. 3. Munsee Incised effigy pottery (a, b, c) and possible Iroquois Linear effigy rim (d) from the Miller Field site. a & c Seton Hall University Museum collection, b & d Staats coll.

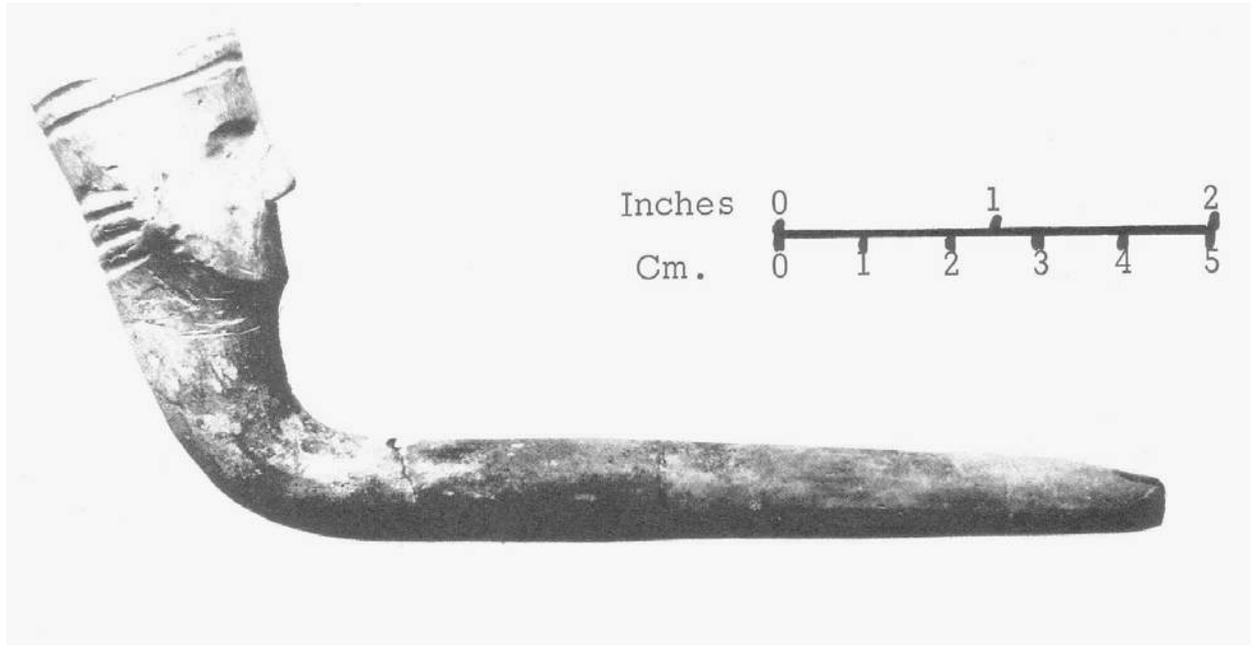


Fig. 4. Effigy pipe, Miller Field site. Staats coll.

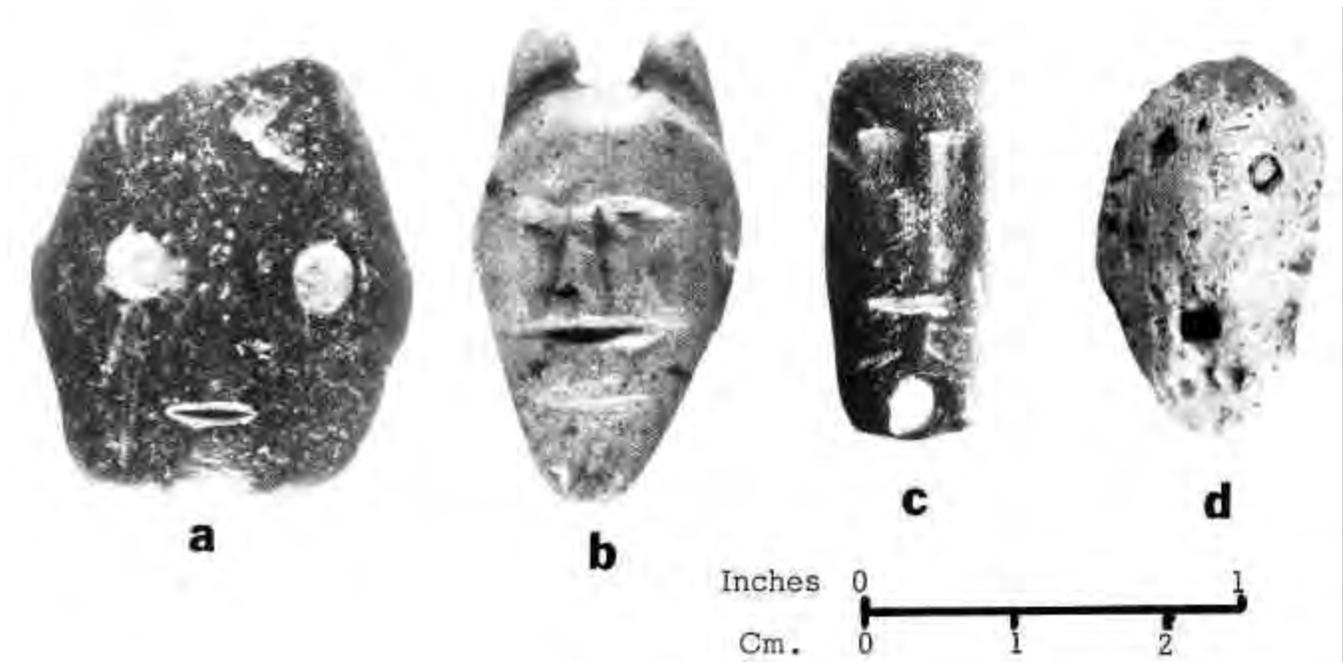


Fig. 5. Maskettes or effigy faces. (a) Steatite bead, (b) siltstone face; Davenport site, Milton Monks coll. (c) steatite pendant, (d) clay pottery node; Miller Field site, Staats coll.

were located in an occupation area confined to a relatively small sector at the southeastern corner of the field some 1000 ft. distant.

The fact that the mask was found on the floor of a deep pit may be significant. Speck informs us that "a mask must be disposed of in a ceremonial manner. . . [and] tradition requires the mask in this case to be buried. . . lest the effects of neglect of the mask be handed down. . ." (Speck 1931-43). It is reasonable to suppose that this maskette, having been broken, was disposed of in the prescribed manner.

Trying to arrive at a reasonable date for this pendant has been most frustrating. The pit from which the pendant came, and most of the pits and squares within a 200 ft. radius, produced pottery diagnostic of the Pahaquarra to Minisink phases of the Late Woodland period. Chronologically these span a period from approximately A.D. 1150 to 1650. The fact that no incised wares were found superimposed above the pendant tempts one to relate the pendant to the earlier end of this temporal range. However, the two associated *Pointille* decorated pipe bowl fragments suggest a later provenance. But again we experience uncertainty because Ritchie (1969:295) clearly indicates that *pointille* decorated tobacco pipes are associated with his Owasco culture, *i.e.* with our Pahaquarra phase. If only there had been associated charcoal!

To further complicate matters we realize that no wooden masks, let alone the even more perishable corn-husk masks, have ever been found in New Jersey. Ethnographic records relating to any form of masking ritual practice by the Lenni Lenape or "Delaware" Indians, while they were still resident in New Jersey, are similarly non-existent. There was little sympathy for, or interest in, the lifeways of the aborigines who occupied New Jersey at the time of European contact. From the beginning the Lenape were mercilessly harassed, decimated by disease and liquor, and finally defrauded of much of their land. Later, as many of the indigenes sought refuge among friendly bands in Pennsylvania, remnant groups were contained on what was then one of the earliest Indian Reservations in the United States, the Brotherton Indian Reservation in Evesham Township, Burlington County, New Jersey. Such conditions were certainly not conducive to objective, unbiased and reliable observation. Before, during and following the exodus of the Minisink and other bands from their ancestral lands these people came into contact with the Iroquois, Shawnee, Susquehannocks and other people, many of whom also had masking complexes and ceremonies. In consequence of these conditions it is difficult, if not impossible, now to ascertain the extent of culture borrowing of one from the other.

One thing is certain, however, The peoples of the Upper Delaware Valley had intimate and prolonged contacts with the Owasco-Iroquois peoples far into New York State. This fact is incontrovertibly documented by Ritchie's excavations at the Bell-Philhower site (Ritchie 1949) and by my six seasons of extensive excavations on the Miller Field site, Harry's Farm site, Pahaquarra site and other explorations throughout northwestern New Jersey. The question to be resolved is which way the influences went. I am certainly not prepared to accept the suggestion that New York State was necessarily the fountainhead from which cultural innovations emanated. Instead I perceive a vast cultural province in which both the Owasco-Iroquois and Lenape of the Pahaquarra and Minisink phases participated to mutual advantage. This belief is borne out by the fact that our radiocarbon assays from both the Miller Field site and the Harry's Farm site are contemporaneous with those from deep within New York State. For example charcoal from inside a broken, but complete, Owasco Herringbone pot from the Miller Field site yielded a date of A.D. 1190± 100 years (Y-2591; Kraft 1970b:39-40). By comparison the Sackett and Bates sites in New York State provided dates of A.D. 1130 ± 150 (M-1076) and 1190 ± 100 (Y-1174) respectively (Ritchie 1969). Similarly, we have radiocarbon dates from the Harry's Farm site on Chance Incised and Durfee Underline pottery associated with charcoal from a pit within a round-ended longhouse. This assemblage was dated at A.D. 1400 ± 90 years (I-4749; Kraft 1970c). The comparable Chance phase at the Getman site in New York State is dated at A.D. 1398 ± 150 years (M-763, Ritchie 1969). In view of the foregoing, and additional evidence now awaiting publication, I envision a very free and dynamic cross fertilization of ideas and influences between the Minisink and other Lenape bands and their more northerly neighbors. We should, therefore, expect these people to share such traits as masking and the preoccupation with their own images and those of their supernaturals.

This single pendant, which I tentatively identify as a representation of a corn-husk mask

or Bushy-head, will not decide the issue of the origins of the masking complexes or the area of priority. It is, however, another important link in the cultural chain that binds the Owasco-Iroquois of the Mohawk Valley to the Minisink bands that inhabited the Upper Delaware Valley. Linguistic and socio-political differences notwithstanding, there was most assuredly one vast culture province in which both peoples participated to mutual advantage, until the white man interfered.

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AN ARCHAIC CAMP SITE IN THE UPPER SUSQUEHANNA DRAINAGE*

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Introduction

Otter Creek type points were named and described by Ritchie (1961), who had long recognized them as a distinctive and relatively old preceramic form. He placed this large, side-notched type in the Vergennes phase of the Laurentian tradition, largely on the basis of John H. Bailey's (1939) work in Vermont and his own researches in that state and in New York (Ritchie 1944:253-257; 1965:84-87). The points were to remain several years without acceptable radiocarbon dates despite attempts to date what appeared to be hearth charcoal from Vergennes components at the KI site, Vermont (Ritchie 1968; 1969:86), the Parrish site in Washington County, New York (Weinman and Weinman 1970), and the Allumette Island site in Quebec (Crane and Griffin 1965). The dates for these sites were all too late for the Archaic components, and the discrepancies probably resulted from either contamination of old charcoal by more recent carbon, as from forest fires, or the intrusion of much later (Middle and Late Woodland) hearths into loci of Vergennes occupation.

Ritchie (1965:87) initially suggested an age of 2500-3000 B.C. for the Otter Creek point and, by extension, the Vergennes phase, an estimate based on the deep stratigraphic position of such points at Lotus Point near Catskill (Ritchie 1958:25-34) and at the Brewerton sites in Central New York. Later, after subsequent researches by the senior author and others in the Hudson Valley, which confirmed Ritchie's suspicion that the Vergennes phase was older than the Vosburg complex of the Laurentian tradition, C-14 dated between 2780 and 2500 B.C. (Funk 1965; 1966), Ritchie revised his estimate to 2500-3500 B.C. (Ritchie 1969:89).

Funk's excavations at the stratified Sylvan Lake Rockshelter near Poughkeepsie produced scanty pre-Vosburg materials dated at 4030 B.C. \pm 120 years (I-2599) and 4610 B.C. \pm 100 years (Y-1655). Among these artifacts were three side-notched points strongly reminiscent of some Brewerton forms but also displaying key attributes of Otter Creek points, such as squared tangs

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and rubbed notches. On the basis of these finds and data from a small group of other sites, Funk (1965:153, 158; 1966; n.d.) suggested that Otter Creek points (and the Vergennes phase) should be older than 3200 B.C. and may even have an age in excess of 4000 B.C. The lower-level items at Sylvan Lake were hypothesized to reflect a lower Hudson Valley occupation related to, but not equivalent to, the Vergennes phase of northern New York and Vermont.

The first seeming breakthrough occurred when human bone from a burial at Allumette Island was dated at 3290 B.C. \pm 80 years (Sask. No. 509) (Clyde C. Kennedy, personal communication). Slightly later, an Otter Creek point found on the stratified shell midden site at Dogan Point, Westchester County, was assigned a date of c. 3200 B.C. by the excavator, Louis A. Brennan, but the picture is somewhat confused by similar dates for several other point styles (Brennan 1971). A comparable age determination of 3120 B. C. \pm 210 years (I-6349) is now available for the Otter Creek No. 2 site in western Vermont, a Vergennes component currently under investigation by William A. Ritchie and the discoverer, Richard Passino.

The geographic range of Otter Creek points is known to have extended to the Finger Lakes region of central New York (Ritchie 1961). Occasional specimens are found on surface sites in the Upper Susquehanna Valley. Two examples were excavated from basal levels of the Gillingham Rockshelter, near Otego, by F. J. Hesse, in association with Brewerton Side-Notched points.

Of great significance to elucidation of the chronological and cultural contexts of Otter Creek points was the discovery by Howard Hoagland in 1969 of a small Archaic camp site along Charlotte Creek, near Davenport Center. This camp, the McCulley No. 1 site, is the subject of the following report.

Setting, Description, Excavation

The McCulley No. 1 site is located on the north side of Charlotte Creek in Davenport Township, Delaware County, New York. The creek, a major tributary of the Susquehanna River, empties into the parent stream just opposite the city of Oneonta, several miles downstream. The rolling country of the district (average elevation between 1500 and 2000 feet) has acquired its character through the dissection and glacial scouring of the underlying shale and sandstone bedrock, now largely mantled by drift deposited by the receding Wisconsin glacier. In the valley bottoms, alluvium of recent age covers the drift to a thickness sometimes exceeding six feet.

The sides of the valleys, including that of Charlotte Creek, have a terraced appearance due to the presence of extensive, thick, kame deposits. These border on the edges of the flood plain. The McCulley No. 1 site is located at the extreme northern, or inland, edge of the flood plain near the higher ground and several hundred yards from Charlotte Creek.

The situation is unusual and not a little enigmatic. Flood plain sites are usually located on or close to stream banks. In this case the site is not only well back from the creek, but located in a field between a slough (old creek channel?) on the south and a narrow, winding swale on the north. The distance between the two drainage features is about 75 ft. The occupied area seems to cover this distance and also runs approximately 70 ft. east and west, as indicated by excavation and test-pitting. Some 150 ft. farther west are surface traces of an unidentified occupation. About 500 ft. west of the McCulley No. 1 site is McCulley No. 2, another surface station at the base of the adjoining hill, which represents a small, isolated component of Genesee points (Ritchie 1961:24-25) and associated tools, discovered by Florence and Howard Hoagland in 1970.

Spring freshets in 1970 caused partial erosion of the central part of the McCulley No. 1 site, exposing hearths buried well below plow zone. Hoagland partially excavated one large feature (later designated Feature 2) in which he found two Otter Creek points. Realizing the potential importance of the site, he established a grid system of five-foot squares with the permission of Donald McCulley, the owner, and asked Funk to provide guidance and to participate in the excavations. Work started in the summer of 1970 and continued intermittently through the spring of 1971. Hoagland was assisted by his wife, Florence; James and Vera Groves and their daughter Penny; Mr. & Mrs. Calvin Behnke and family; and Jeffrey and Stephen Walsh. Funk worked at the site on three occasions, assisted by Beth Wellman, Laboratory Worker in the New York State Museum and Science Service, and Garrett W. Cook.

The method of excavation was as follows: the plow zone, devoid of occupation debris, was

removed by shovel; the underlying sterile zone was carefully troweled out, exposing the sealed living floor, which was then excavated. The average depth of excavation was about 15 in. Records were kept of features and the provenience of artifacts. Debitage and cracked stone were saved in each excavation unit, and later counted. These counts were not recorded for some squares due to oversights on the part of some excavators. At the conclusion of the work, 47 five-foot squares with a total area of 1175 sq. ft. had been excavated. This total does not take into account a number of test pits and partial squares dug in various parts of the site, especially in the vicinity of Feature 2. These were largely sterile of cultural materials.

Natural and Cultural Deposits

The plow zone, still containing decaying remnants of corn from the crop of the previous year averaged 7 in. thick, ranging up to 9 in. thick. It was dark brown in color and its primary constituent was silt, accumulated during inundations which followed the Indian occupation and disturbed by cultivation subsequent to European colonization of the region. (The first farms were established in the Charlotte Creek Valley by the early 1800's). No prehistoric refuse occurred in this zone except near the slough bank, where, in some places, the plow had intruded through the underlying sterile silt into the occupation level.

Immediately below the plow line was undisturbed, homogeneous, yellow-brown to light brown silt, lacking in cultural remains. In certain parts of the excavated area this zone continued without interruption down to its juncture with a mottled, brown clayey silt at a depth of about 12 to 16 in. below ground surface. In most sections, however, a prehistoric living floor could be discerned 3 to 5 in. beneath the plow line. This floor or occupation zone was rather thin, roughly 1 to 3 in. thick. It displayed considerable variation in color and in the content of charcoal flecks,debitage, cracked rock, artifacts, etc. All of the features were associated with this floor. There was an obvious tendency for the refuse deposits, artifacts, and dark-stained earth to be concentrated at or in the vicinity of hearths. The places where this horizon was most clearly visible and contained the most refuse were the locales of most intensive aboriginal activity.

Between the occupation level and the clayey silt were 2 or 3 in. of yellow to light brown silt similar to that just below plow line. Evidently, then, the cultural deposit represents an interruption of the normal, natural sequence of accumulation of flood plain silt.

A test pit dug by the senior author encountered - the water table at 53 in. in gray sandy silt, well below the occupation floor. There were no traces of habitation in the intervening deposit.

Features

The great majority of identified features (see Figure 1) were simply patches or lenses of burned earth, oval or even amorphous in outline, which contained varying quantities of charcoal granules, bits of burned bone, cracked pebbles, flint chips, and artifacts. Some features were lacking in one or more of these items, but all in this group of 18 share the attribute of fire-reddened earth. They appear to fall in the category of hearths, used for cooking and warmth. A small number, including the highly productive Feature 2, appear to have been in shallow basins. Most, however, seem to represent fires built on the ground surface. In horizontal dimensions these features varied from 12 to 60 in., and in depth or thickness from .5 to 9 in. Two features, Nos. 9 and 11, were small, round patches of dark charcoal-stained and ashy fill and cracked rock fragments. The third category, of which Feature 17 is the sole example, was a mass of fragments of calcined bone several inches in overall diameter. Tight concentrations of many flint flakes were noted in some squares, but these were not numbered separately. The most important excavated feature was Feature 2, oval in outline, 5 ft. across and about 4 in. deep. It was roughly saucer-shaped. The bottom, sides, and fill were intensely fire-reddened. The contents included many fire-cracked stones, burned bone fragments, flint chips,

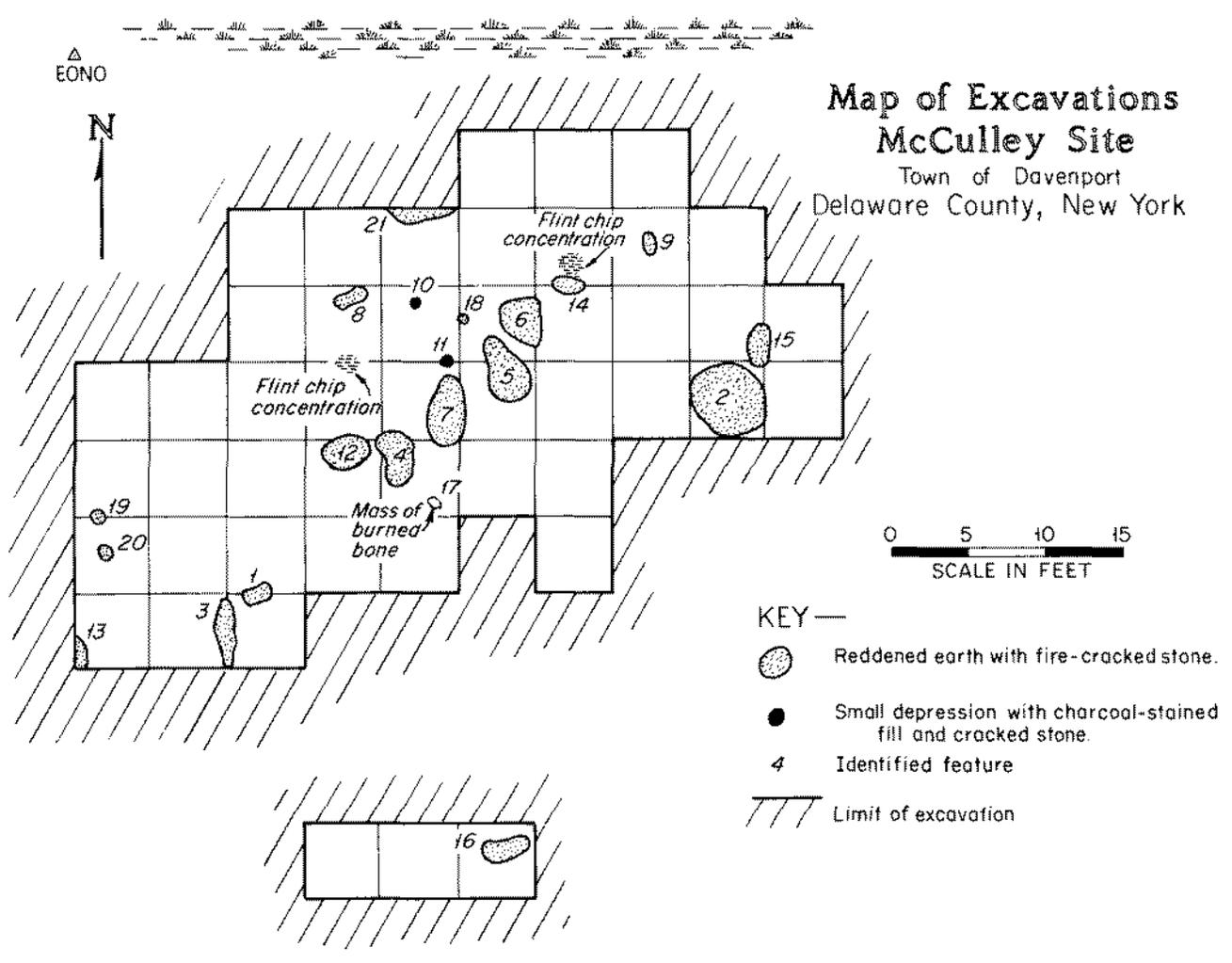


Fig. 1. Map of excavations showing features and chip concentrations, McCulley site.

and charcoal specks. Seven artifacts were found in or at the edge of the hearth, including three Otter Creek points (Plate 1, Figs. 1-3), a Brewerton Side-Notched point (fig. 7), two netsinkers (fig. 26) and a utilized flake.

Artifacts

A total of 65 identified artifacts are in the collection from the site. These include the traditional categories of chipped and rough stone, but polished stone is lacking and there are no artifacts of bone or other perishable materials.

The most culturally diagnostic trait comprises five whole or fragmentary Otter Creek type points (Plate 1, figs. 1-5). The largest complete specimen (fig. 1) is a good example of the type, except for the absence of rubbing on the base. The notches are ground, however. Two other whole points (figs. 2, 3) and the basal half of a third (fig. 4) are all smaller than the general run of Otter Creek points from northeastern New York and Vermont. Also, the broken point has some resemblance to the Brewerton Eared-Notched type with regard to its slightly projecting tangs, although the tangs are more squared than is usual in this type. But this group of points compares very well with Otter Creek points of similar size from the upper Hudson Valley illustrated by Ritchie (1961: Plate 21, figs. 2, 3, 7). Unquestionably from an Otter Creek point is the basal fragment, consisting almost entirely of a tang, shown in fig. 5.

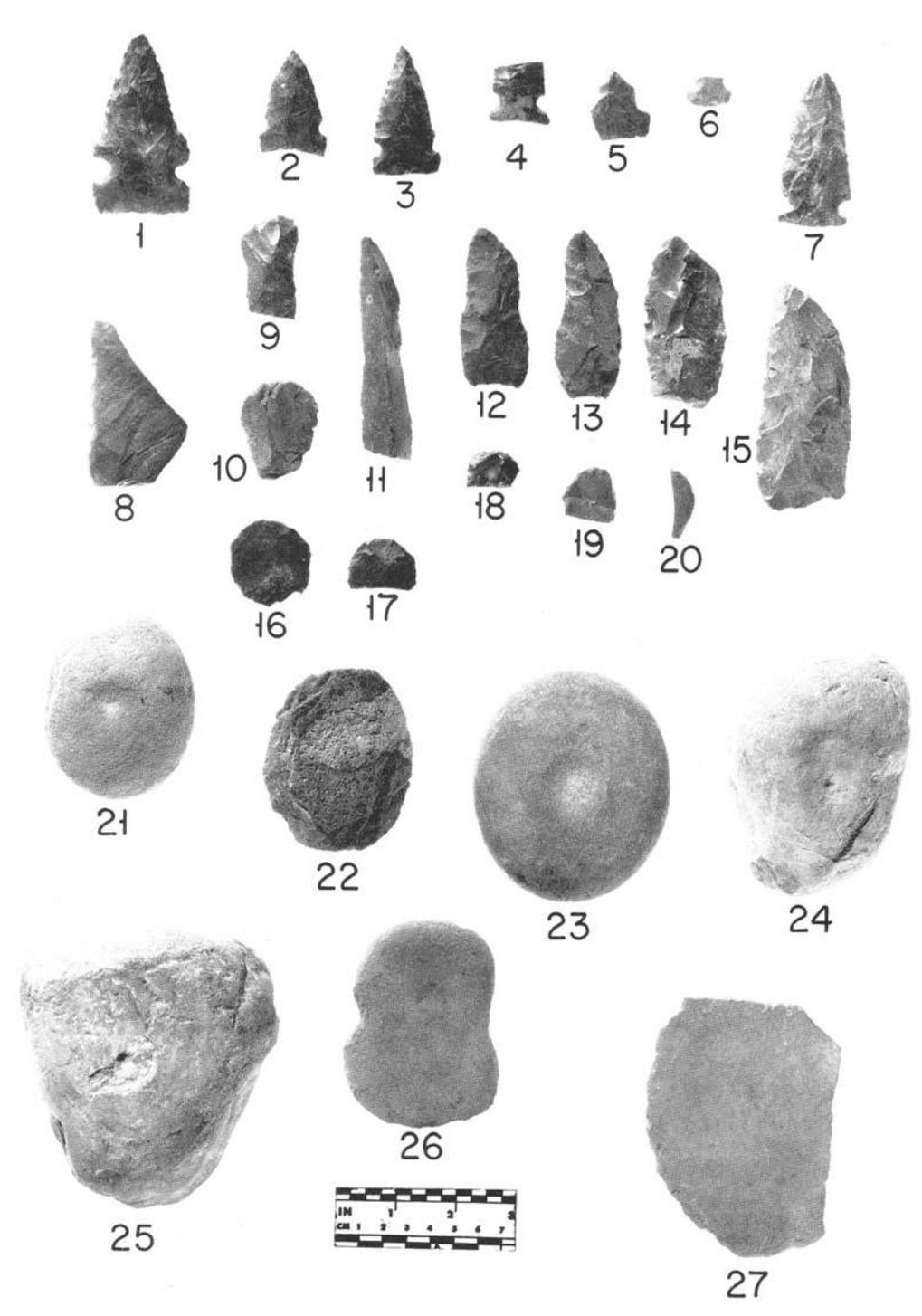


PLATE 1 ARTIFACTS FROM THE McCULLEY SITE

Figs. 1-5, whole or fragmentary Otter Creek points; 6, base of small side-notched point; 7, Brewerton Side-Notched point; 8, side scraper; 9, bifacially retouched flake knife; 10, 16-20, end scrapers; 11, utilized flake; 12, 13, lanceolate knives; 14, 15, biface preforms; 21, bipitted "nutting" stone; 22, ovate bifacially chipped "chopper"; 24, single-pitted "nutting stone"; 23, 25, anvilstones; 26, netsinker; 27, crescentic edge "chopper". Materials: 1-20, eastern Onondaga flint; 21, 23, 26, 27, sandstone; 22, 24, 25 graywacke.

A complete side-notched point, not of Otter Creek type, is probably assignable to the Brewerton Side-Notched category (fig. 7). See for example a point illustrated by Ritchie (1961: Plate 7, Fig. 13). Not placed in any existing classification but of definite Laurentian cast is the basal part of a small side-notched point rubbed on base and notches (fig. 6). Metrical data for all of these points are given in Table 1.

A broad, thin triangular point with excurvate edges and slightly concave base, bearing a small ear at one basal corner, may be a Brewerton Eared Triangle from the same component as the Otter Creek points. It was found on the surface near the bank of the slough. One point tip was found.

Two probable knives are of lanceolate form, the sides narrowing slightly forward of mid-point before converging to the tip. One (fig. 12) has fine secondary flaking along one edge, possibly for resharpening. The other (fig. 13) has a slightly crescentic upper blade and is the only one displaying signs of edge wear (blunting and polish along high points of one edge). Four bifaces (examples in figs. 14, 15) appear to be preforms, as they are relatively thick, crude, and asymmetrical. They bear unmodified areas of cortex, and show no evidence of utilization.

Possibly a true biface is an unusual piece consisting of a long flint flake with a slightly strangulated midsection, chipped all over the ridged, or dorsal, surface and chipped only along the edges of the ventral surface (fig. 9). This tool could have been a specialized knife, to judge from shallow edge angles.

Scrapers are relatively numerous in the collection. They include six plano-convex end scrapers, whole or fragmentary, of trianguloid, trapezoidal, or oval outline (figs. 10, 16-20) and two side scrapers, one on a modified core and the other on a large flake (fig. 8). One end scraper (fig. 10) exhibits wear in the form of polish along the right-hand part of the working edge; this suggests use by a right-handed person in working hides (cf. Semenov 1964:88). Most of the other scrapers evince edge-crushing, or the removal of tiny flakes along the working edge under pressure, probably as a result of use on hard materials. Measurements of the end scrapers are presented in Table 1.

A flake knife was bifacially chipped along one edge, and the opposite edge was heavily utilized.

A final chipped stone category comprises utilized flakes, eight in number (fig. 11). Most of these appear to have been knives, but one core fragment served as a side scraper.

The rough stone complement predominated heavily on the site. These objects fall into three technological classes: those which were intentionally modified by flaking ("chipped rough stone"), those modified at least partly by gouging, drilling, or reaming, and those modified incidentally as a consequence of use in their natural form.

Flaked rough stone tools, of graywacke or sandstone, include a small side-notched netsinker measuring 85 mm long, 65 mm wide, and 14 mm thick (Plate 1, fig. 26); a fragmentary notched netsinker; a possible netsinker, crudely worked, with two shallow notches on opposite edges, rather large for such a tool; a possible "chopper" on a thin rectanguloid slab, bifacially chipped at one end; a rudely chipped oval slab, also possibly a "chopper"; a "chopper" with a thin, bifacially flaked crescentic working edge (fig. 27); and a symmetrical oval disk, 76 mm by 62 mm by 11 mm, bifacially chipped around its circumference (fig. 22). There is no evident wear on the disk or "choppers" to provide clues as to function, but such objects are now generally believed to have served as hide-working tools.

A majority of the remaining tools fall into the category of anvilstones. Generally speaking, these are pebbles, sometimes split cobbles, with at least one fairly flat side or facet used as a base for support, which exhibit characteristic battering or scarification on one or more surfaces. This scarification is almost always concentrated in a small area, though on some specimens there are two closely adjoining depressions on one or two surfaces. Most of the scars are oval or circular, and range from 7 to 27 mm across and up to 5 mm deep. They give the appearance of multiple pitting where many small bits of rocks have been dislodged by pounding. Two anvilstones exhibit larger than usual scars forming broad depressions, in one case 42 mm in diameter and 5 mm deep, in the other 46 by 27 mm in horizontal dimensions and 3 mm in maximum depth.

This description also applies to hammer-anvilstones which, however, in addition to displaying surface scars, are battered on at least one end or edge.

TABLE 1
Metrical Data for Projectile Points and End Scrapers

Item	Measurements (in mm)			
	Length	Maximum width (blade = b tang = t)	Hafting width	Thickness
Otter Creek point	75	40 (b)	27	10
Otter Creek point	43	29 (t)	21	7
Otter Creek point	55	29 (t)	22	8
Otter Creek point (basal half)	-	26 (t)	15	7
Otter Creek point (part of base)	-	-	-	7
Brewerton Side-Notched	65	29 (b)	20	10
Untyped side-notched (base only)	-	-	13	6
End scraper, trianguloid	43	34	-	7
End scraper, oval	35	34	-	6
End scraper, D-shaped (on broad flake)	22	29	-	8
End scraper, trianguloid (broken lengthwise)	30	-	-	7
End scraper (on thick flake, widest at base; possibly broken)	23	24	-	7
End scraper, D-shaped (on small broad flake)	17	23	-	8

In the inventory are 6 simple anvilstones bearing one scar on one face (Plate 2, fig. 25); 3 anvilstones with single pits on two opposite surfaces (fig. 23); 2 anvilstones bearing two adjoining pits on each of two opposite faces; 4 hammer - anvilstones with one or two pits on one surface; and 1 hammer - anvilstone with two pits on each of two faces.

A very important category is that of pitted stones, also referred to as "nutting stones." These are distinguished from anvilstones by the shape of the pits, which are distinctly conical and usually have a small, secondary pit or depression at the base, which appears to have been intentionally produced by drilling. The pits on these tools range in diameter from 6 to 25 mm, in depth from 3 to 8 mm. The mean diameter is 15.2 mm, the average depth is 3.8 mm. This group includes 2 examples bearing just one pit (fig. 24); 1 cobble of irregular shape bearing single pits on each of 3 faces; 2 specimens displaying two adjoining pits on the upper surface (one of these evinces battering at one end); and 1 oval pebble with a conical pit on one face and a shallow anvil-pit on the other (fig. 21).

Only one simple pebble hammerstone is in the inventory.

Two unusual objects can be called "scratched stones." One is a small flat siltstone fragment, which bears fine scratch marks, multiple and parallel, up to 50 mm long, on each face. The other is a cobble with multiple, fine scratches on the upper (convex) surface, up to 38 mm in length. One end is battered from use as a hammer. The functional correlates of the scratches remain a mystery.

It is of interest that there are definite limits to the ranges in size and weight for the anvilstones, hammer-anvils, and pitted stones. These are shown in Table 2.

The heaviest implement, a pitted stone, weighs 5 lbs., whereas the lightest at .5 lb is an anvilstone. All of these tools are modified pebbles or cobbles from glacial drift, some whole, others split. For the most part they were used in a stationary position, probably resting on the ground with the flattest side down. The hammer-anvils were picked up and wielded for pounding or hammering at some time in their useful life, not necessarily while functioning as anvils.

TABLE 2

Measurement and Weight Data for certain Rough Stone Tools
Measurements in millimeters

	Length		Width		Thickness		Weight	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Anvilstones (11)	66-153	107.0	56-112	81.1	32-67	45.3	.5-2	1.41
Hammer-anvils (5)	97-127	115.4	58-89	72.6	28-52	41.2	.75-1.5	1.15
Pitted stones (6)	87-127	117.4	61-102	81.8	37-90	53.3	1-5	2.00

Pitted stones tend to be not only heavier, but larger than the other classes of tools. However, in the whole group the individual items can be picked up and carried in one hand. All were therefore readily transported from nearby sources of till. Larger, heavier cobbles and boulders were not selected. Medium sized pebbles and small cobbles were highly portable and presented surfaces of adequate size and shape for the tasks at hand. They were all of clastic rather than hard rocks simply because these were the materials which predominated in local glacial deposits.

Lithic Utilization

Eastern New York Onondaga flint, of dull homogeneous gray to tan-mottled gray, was exclusively employed in the manufacture of chipped stone artifacts. This flint was probably obtained from cobbles in the local till deposits, as suggested by small core fragments with remnants of the rind. The source of these cobbles is the Onondaga limestone formation of which outcrops are located some 30 mi. north of the site.

In the collection of several hundred pieces of debitage the preponderant morphological type comprises splinters and flat flakes on which striking platforms are either lacking or have been broken off (roughly, 70 percent of the total). These flakes vary considerably in size (length for a sample of 82 varies between 7 and 35 mm, with a mean of 16.0). Their frequency here is rather difficult to explain. In most lithic industries the prevalent form is the expanding ovate, trianguloid or irregular flake of moderate size, with prominent striking platform and bulb. On this station, however, these secondary flakes (length range 21-50 mm with a mean of 27.6 mm in the small sample of 16 examined) constitute a mere 6% of all debitage. The second most common form is the small flake (possibly a retouch product) with weakly developed striking platform (range in length 7-22 mm, and a mean of 13.4 mm, for a sample of 42) (about 16%), followed by core fragments (6%) and secondary flakes. Only 4 pieces can be identified as biface retouch flakes, and two others as rather indeterminate "worked" flakes, i.e., flakes evincing flaking on both faces.

The high percentage of splinters and broken flakes may relate to the working of flint pebbles and cobbles. Many of these items display portions of large bulbs of percussion and heavy ripple marks. Clearly percussion was the major technique employed, although soft hammers such as antlers may have been used after initial smashing and coarse reduction of pebbles by means of stone hammers.

Only 801 flakes were reported for the site, of which less than 350 were saved. The analyzed sample is therefore not fully representative, though it covers widely spaced parts of the site. The density of flint wastage was evidently rather low, a fact to be further considered in later pages.

All of the rough stone tools are of locally available sandstone, graywacke, or siltstone.

Settlement and Subsistence Patterns

On the site map (Figure 1) the features appear to be largely grouped in a line oriented southwest-northeast, although three features are situated off this axis. The distribution of features was limited by the bank of the swale just north of the grid, and indeed no features and very little refuse occurred near the bank in three squares opened on the S10 line. More features may have existed in the unexcavated area between the S50 and S30 lines but this area was subjected to much erosion by the flood of 1970. No features were discovered in testing both east and west of the grid.

As noted earlier, most features were hearths. The presence in them of burned bits of mammal bone (probably of deer, as judged from the thickness of the fragments) and, in some cases, of charred butternuts, suggests that they were used for cooking food. They doubtless also provided warmth. Cracked stones, though not abundant on the site (only 442 reported), were most frequent in features and probably reflect the practice of stone-boiling in wood or bark containers.

That the calcined bones provided evidence of hunting is supported by the projectile points in the assemblage. The probable biface knives could have been butchering tools, and some of the flake tools may also have had this function, though probably used in a variety of tasks.

Charred butternut fragments, recovered from several locations on the site, reveal the exploitation of this particular resource at the time of fall abundance. Acorns and other nuts may have also been gathered, though direct evidence of this is lacking. The deeply pitted "nutting stones" were, it is proposed, used in cracking the nut shells preparatory to the processing or immediate consumption of the meat.

Two definite and one possible netsinkers suggest that fish were caught in the creek by means of nets, but this cannot be confirmed, in the absence of fish bones.

It seems highly probable that hunting was the predominant and most productive subsistence pursuit, with gathering of secondary importance in the diet, and fishing last. This estimate is founded on the relative incidence of food remains in the refuse and on the frequencies of artifact items assumed to have been concerned with specific food-getting activities. Also, of all subsistence resources in the regional environment, the white-tailed deer would have provided the most protein relative to the expenditure of human time and energy.

A fall (October-November) occupancy is suggested by the presence of butternuts (Yarnell 1964). The site was, it seems likely, a very briefly utilized, temporary seasonal camp, perhaps occupied only once by a small band on its way to winter hunting grounds in the backcountry. This interpretation receives support from the extremely low densities of artifacts, flint wastage, and fire-cracked rocks within the excavated area. For those squares with adequate data, the densities in items per square foot are as follows: artifacts, .06; debitage, 1.0; and cracked rock, .5.

In addition to hunting, gathering, fishing, and food preparation (butchering, nut-processing, and cooking), certain other tasks are indicated by tool typology. The end scrapers and side scrapers may have been applied to the working of wood or bone, since wear on working edges usually reflects contact with hard objects. But one end scraper bears polish on part of the working edge which, according to Semenov (1964), is characteristic of the hide-working activity. Other tools which may have been employed in currying hides are the chopper-like chipped sandstone objects.

Flint debitage, anvilstones, hammer-anvils, a pebble hammer, and bifaces in process all demonstrate that flint-knapping was a basic activity on the site. It appears that the principal end products were bifaces, both hunting points and knives. Yet there seems to be an unusually large number of anvilstones and hammer-anvils in proportion to debitage (the ratio is roughly 1 to 47, but it must be remembered that this is a bit too low, since some chippage was not counted in the field or saved). Some of these tools may have served functions other than flint-knapping, for example the splintering of animal bones to obtain marrow. A few of the tools with shallow, basin-shaped pits which we have classified as anvilstones may in reality have been incipient nutting stones.

Study of the distributions of artifacts, features, and refuse failed to elicit any localization

of different tasks or activities within the excavated area. There was a clear tendency for all items to cluster in the vicinity of hearth features. Over 71 percent of artifacts occurred within 3 ft. of features and 84% occurred within 4 ft. Only one feature was without artifacts in its vicinity. All projectile points and netsinkers, and nearly all scrapers and utilized flakes, were found in, or close to, the hearths. Debitage, both dispersed or in concentrations, was heaviest near features. In 15 squares containing features, with associated data on lithic refuse, the density of chippage was 2 to the square foot; in the other squares, also 15 in number, without features, the density was only .3 per square foot. Similarly, in 20 squares containing features, with counts of cracked rock, the density of this item was .8 to the square foot; in 15 squares without features the figure was .08.

Evidently then all of the activities postulated for the site tended to center around hearths. This is not surprising, in view of the repeated occurrence of the phenomenon on other Archaic sites and the impressive body of data on hunters and gatherers of the ethnographic present, for whom fires were a nexus of social, ritual, and industrial behavior.

The fact that there is little evidence known to the senior author from his experience in northeastern archeology, for localizations of specialized activities (apart from burial practices) on Archaic sites, including McCulley's, further suggests that the fires represent the locations of nuclear family domiciles, where the economic tasks of both sexes were carried out.

Notably absent from the inventory are woodworking tools of ground stone. This has also proved to be the case on several other Archaic sites excavated by the writers or known to them in the Upper Susquehanna Valley. A transitory camp, very briefly occupied by people on the move, would logically not be expected to produce such items, due to the investment of time and labor required in their manufacture and the lack of need for the construction of houses or other structures apart from lean-tos.

The distribution of features, artifacts, and lithic debris on the site encourages postulates as to the number of family units represented. The features and associated materials seem to form distinct clusters (Figure 1). Features 2 and 15 seem to constitute one cluster at the east end of the grid, fairly well isolated from the larger central constellation of Features 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 17, 18, and 21. This sizeable group covers an area over 20 ft. long and 15 ft wide. The higher number, greater variety, and broader distribution of features in this group may denote the traces of two families rather than one, a hypothesis supported by the presence of heavy chip concentrations (presumed workshops) at each end of the cluster. Or, the cluster may represent a communal cooking and workshop area. Two clusters are apparent at the west end of the grid; and there is an isolated hearth to the south in section E25S55. Thus simultaneous occupation by four to six nuclear family units is suggested. The average size of the family is assumed to have been 5 persons; therefore the population of the site can be estimated as approximating 20 to 30 persons. This corresponds to the size of some hunting groups (segments resulting from the fissioning of bands in fall and winter) recorded by Rogers (1969; 30) for the Northern Algonkians.

Radiocarbon Dating

A sample of wood charcoal, composed of combined samples from Features 2 and 6 was submitted by Funk to Teledyne Isotopes for radiocarbon dating in July, 1971. The date, received in September, is 5730 ± 110 C-14 years (I-5524).^{*} This determination tends to confirm the hypothesis of Funk (1965: 153; 158) that Otter Creek points (and by implication the Vergennes phase) should date from 3200 to 4000 B.C. or older. It is some five or six centuries older than the C-14 dates assigned to the Allumette Island component by Clyde C. Kennedy, to the Otter Creek point from Dogan Point by Louis A. Brennan, and to the Otter Creek No. 2 site by Ritchie, but conforms reasonably well to estimates based on the dates of 4030 B.C. and 4610 B.C. obtained by Funk for lowest cultural levels at the Sylvan Lake shelter. There are difficulties, however, in applying the term "Laurentian" and "Vergennes" to the McCulley assemblage, as will be discussed in subsequent paragraphs.

^{*}See NYSAA Bulletin 55 on reporting C-14 dates.

Discussion

The McCulley No. 1 site was a small, seasonal camp probably utilized for a short period of time in October and November by a little band or hunting group of Archaic Indians whose diagnostic stone artifact was the Otter Creek type point. This group exploited the game, fish, and butternut food resources of the Charlotte Creek environment at a time reckoned by radiocarbon dating at about 3780 B.C. They were organized in four, perhaps five nuclear family units whose activities were focused around hearths or hearth complexes. These activities included the butchering of game, processing of nuts, cooking of food, production of bifaces and probably the working of hides. Hunting, fishing, and gathering were conducted, of necessity, beyond the borders of the camp, although some nut trees may have existed on the spot.

The assemblage from McCulley's presents a classificatory problem. In the chipped stone congeries there are undeniable affinities with the Laurentian tradition, specifically the Vergennes phase as defined by Ritchie (1968; 1969; 84-89; 1971). The Otter Creek point type is a diagnostic of the Vergennes phase, but some of the points from McCulley's are smaller than the general range of points from northern New York and Vermont. Further, the ground slate points, ulus, plummets, gouges, rod-shaped objects and other traits of the Vergennes phase are absent from the McCulley site and are either uncommon or not found in the Upper Susquehanna drainage. Shared by the McCulley site and Ritchie's trait list are such non-projectile point items as end scrapers, lanceolate knives, choppers, and rough stone tools. These are really generalized Laurentian traits, not phase diagnostics. The date of 3780 B.C. is considerably older than Ritchie's estimate for the Vergennes phase in its heartland.

Both Ritchie (1965:79-83; 1968: 4) and the senior author (Funk 1965: 158; n.d.) have proposed that the Laurentian tradition developed out of a simpler, older cultural horizon of broad geographic distribution, in which some Laurentian chipped stone elements, including broad, notched points, were present, but not associated with the classic traits such as gouges, plummets, and ulus. This old Archaic substrate should have an age greater than that of the Brewerton, Vosburg, or Vergennes expressions. As Ritchie (1971) has noted, the lower-level artifacts at Sylvan Lake may represent such a culture complex, equivalent in chronological position to Middle Archaic groups of the Southeast. This, then, would mean that the McCulley component shared in the postulated Middle Archaic, but pre-Laurentian, manifestation. Funk, observing continuity of certain chipped stone traits into established Laurentian phases, prefers the term "proto-Laurentian" for the hypothetical culture.

But the question of the status of the McCulley materials with respect to the Laurentian tradition remains open. The absence of gouges, ground slates, etc. on a small, transitory fall camp does not necessarily mean that these traits were missing from the cultural inventory of the group who occupied it. As previously noted, ground stone tools have rarely been found in excavation of Archaic sites on the Upper Susquehanna, though present in surface collections. Most excavated sites are small camps. It is likely that such items are more abundant on large spring-summer camps along major rivers than on small fall-winter camps on tributaries. This pattern of distribution has been established for the Hudson Valley (Funk n.d.). The same is known to be true of Brewerton sites in the Seneca River-Oneida Lake drainages (Ritchie 1965:98). The senior author has proposed that the Brewerton and Vergennes phases are of greater antiquity than generally believed (Funk 1965; n.d.). The complexities attending this problem are discussed in a recent paper by Ritchie (1971). It seems possible that the McCulley site, while perhaps not precisely an expression of the Vergennes phase, represents a closely allied branch of the Laurentian tradition in the Upper Susquehanna drainage on the same general time level.

We fully expect that data relevant to this problem will be obtained by future investigations in the Upper Susquehanna Valley, where a multi-season program of archeological research by the New York State Museum and Science Service, under Funk's direction and in collaboration with a State University at Albany field methods class, commenced in July-August 1971.

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REPORT ON THE EXAMINATION OF FOUR WHITE KAOLIN PIPES FROM THE RYDER'S
POND SITE, BROOKLYN, KING'S COUNTY, NEW YORK

H. G. Omwake

[This paper is an appendix to, and completes, The Ryder's Pond Site report by Julius Lopez and Stanley Wisniewski, Part I of which appeared in Bulletin 53 and Part II in Bulletin 55.]

Through the courtesy of Julius Lopez four white kaolin pipes recovered by Roy Latham at the Ryder's Pond site, Brooklyn, King's County, New York, reportedly a historic Canarsee location, were submitted for examination. The four specimens, presumed to have been found on the surface of the site, bore the catalogue numbers 1-197, 1-198, 1-1999 and 22943a.

1-197. The specimen consists of about half of a badly broken pipe bowl of the effigy type, representing the head of an unrecognized military man. The delicacy of the facial features, whiskers, hair, etc., and the smoothly finished surfaces bespeak an excellent quality of craftsmanship in the manufacturing process. To the fragmented bowl is attached a short length of stem the bore of which has a diameter of 5/64ths in.

To the French is generally given the credit for manufacturing a vast array of effigy type pipes during the latter part of the 18th century and throughout the 19th (Fairholt, 176). Persons prominent in the political, social and especially the military life, not only of France but of other countries, were most frequently represented. Without doubt the competitive pipe-makers of many nations also made effigy pipes and did not restrict their representations to their own citizens. Thus it is evident that recognition of the subject of the effigy does not insure identification of the point of origin of a given specimen. It may, however, be noted that because most representations were of persons prominent at the moment, recognition sometimes does point to the approximate period of manufacture.

The damaged condition of 1-197 precludes identification and, hence, a clue as to date. One may surmise that the specimen was made about the middle of the 19th century when, it is thought, effigy pipes reached their peak popularity. If it may be accepted that pipemaking techniques and customs had become pretty well standardized in all centers of the industry, an even more tenuous dating might be based on the 5/64th in. diameter of the bore through the stem, a size which was on the wane by the beginning of the 19th century (Harrington, chart).

1-198. The bowl of this specimen, although damaged and representing only about two thirds of the original, is sufficiently intact to permit an estimate of its period of manufacture. Dependent beneath the point of juncture of bowl and stem is a low, flat, oval base, the short diameter of which is slightly larger than the diameter of the stem. On the bottom of this base appears a figure X, of exaggerated size, the crossed lines extending from outer edge to outer edge of the base, diagonal to the long axis of its oval shape. It is not readily determinable whether the figure was impressed by the careless application of a wedge-shaped tool while the clay remained malleable or whether it was incised by some other tool after the clay had been fired.

There remains a short section of stem 1 3/8 in. long, measured from the bowl. Beginning at a point 3/8 in. from its broken end, the stem has been carefully whittled down as if for insertion into a reed or into a hollow, wooden secondary stem.

1-198 most closely resembles in size and shape a type of pipe manufactured in England during the period from c.1640-1670 (Oswald, 157, fig. 5a). It may be noted here that by the middle of the 17th century the size of the base, or heel, had generally been reduced to approximate the diameter of the stem of the pipe.

Although no representation of the X mark which exactly duplicates that on the base of 1-198 is known, a pipe recovered during excavations at Hull, England, had a somewhat similar mark on an oval base (Sheppard, fig. 31). The Hull specimen was attributed to the latter part of the 17th century.

1-199. The bowl of this specimen is complete and undamaged. A low, not-quite-round, unmarked heel of medium size (i.e. diameter of the heel approximately equal to the diameter of the stem) depends beneath the bowl and a section of stem 1 3/4 in. long survives. At a point 1 1/4 in. from the bowl, encircling the stem, is an impressed embellishment made indecipherable by wear and age. Close to the broken end of the stem some former owner had whittled a tooth hold.

1-199 most closely resembles a type of pipe which was popular in England during the period c.1620-1650 (Oswald, 157, fig. 4a). In as much as no maker's mark is present either on the heel or in the stem embellishment, dating by that means is impossible.

22943a. Although the stem of this specimen has been fractured longitudinally in such a manner as to destroy any maker's name which may have been stamped into it, leaving only the numeral 73, the pipe otherwise duplicates a second specimen, catalogue number 22943, provenience unknown, in Mr. Latham's collection, which the writer has been privileged to examine. Into one side of the stem of the second specimen (22943) was impressed "73 W. White" and into the other "Glasgow". On one side of the stem of specimen 22943a the letters GOW remain discernible. It is assumed that they were part of the word "Glasgow" and that on the opposite side had been impressed "W. White" in addition to the numeral "73".

Upon the highly decorated bowl of 22943a, as well as upon that of 22943, are ornamentations which appear to be of Masonic significance unknown to the writer.

In 1805 William White acquired from the Corporation of Tobacco Spinners of Glasgow the pipemaking branch of their business and became the founder of the firm of W. White and Sons (Gallie). In 1908 W. White and Sons absorbed the rival Davidson and Company which had, itself, in 1862 or 1863, taken over the Murray and Company pottery works. In 1955 the firm of W. White and Sons finally closed its doors.

The numeral "73" undoubtedly identifies a particular pipe style, one of the more than 700 which W. White and Sons are known to have produced. If it may be assumed, as is logical, that style numbers were assigned consecutively, the numeral 73 probably was issued during a fairly early period of the company's activities.

Conclusion. It is clear that specimens 1-197 and 22943a could not have been items traded to the Indians who once lived at the Ryder's Pond site. Specimens 1-198 and 1-199, on the other hand, manufactured much earlier, may very well have been trade pipes.

Only the Glasgow source of 22943a is certain. Specimen 1-197 may have had a French origin. Although specimens 1-198 and 1-199 have been compared with types of pipes made in England at certain periods, they might also have been made in Holland, where the original pipemakers were English refugees.

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AN EXCAVATION TECHNIQUE FOR SHALLOW WELLS

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The Peter Whitmer farm site is located in Fayette Township of Seneca County in the state of New York. It is situated 2.1 mi. southeast of Waterloo near the north end of Seneca Lake between Cayuga and Seneca Lakes. These lakes are two of New York's Finger Lakes which are typical glacial troughs. U-shaped, they parallel the direction of the Pleistocene ice flow.

A number of important historical events took place on the Peter Whitmer farm which pertained to the growth of the Church of Jesus Christ of Latter-day Saints ("Mormon"). It was there that a substantial part of the Book of Mormon was translated by Joseph Smith, Jr.; where some of the first baptisms of the Church were performed; and, in particular, where the Church was organized on April 6, 1830.

On the farm there now stands a large frame house of Greek revival architectural style which appears to have been modified several times through the years. Extensive historical research leaves little doubt that the Mormon Church was organized in a log house on the farm and not in this most recently constructed house. The log house had been destroyed sometimes before 1888.

The Mormon Church wanted to locate the log house on the Whitmer property and recover any artifacts that might be associated with the family. Therefore, archaeological investigations were conducted in 1969. They did not reveal remains of the log house, but distribution of the artifacts provided an estimate of its former location. On the farm is a 3-ft. diameter well, rock lined in the tradition of the 19th century, which had been capped with cement after the destruction of more recently constructed buildings in 1959.

In 1970 we were employed by the Mormon Church to investigate the well to determine if it had belonged to Peter Whitmer. The well was partially clogged with debris. It had been capped for many years, wherefore we estimated that it would take about a week to clean it out to bedrock.

Bedrock in the area is generally 9 to 25 ft. below ground surface or deeper, depending on the slope of the water-bearing limestone formation. On the farm we found the bottom of the well at 19 ft. below ground surface which we assumed to be the top of bedrock. The soil is mostly a rich clay which absorbs and holds rain water. The geology of the immediate area consists of Paleozoic formations of the Hamilton group. At the Peter Whitmer Farm, two Middle Devonian formations are present. These are the Moscow and Ludlowville Formations which are respectively shale and a thin limestone.

Water held by the soil made it dangerous to remove the debris at the bottom of the well because of the possibility of rock and clay caving in. The hydraulic pressure of 14 ft. of standing water produced about 9600 lbs. of force in the well, and partially accounted for the fact that it has remained intact until the present day. Once this water, and consequently the hydraulic pressure were removed, then the well would be subject to collapse. We considered shoring the sides with timbers but this would have taken longer than time allowed, and we were not sure there would be room left to work within the well.

We also considered removing the stones lining the well but after removing the first couple of feet we saw that this was not practicable. The soil was extremely loose around the outside of the well and would have surely slumped in.

We had originally planned to use a piece of metal culvert pipe in several sections to slide into the well to give the sides adequate support when the water was removed. Culvert pipe is very expensive and was hard to obtain locally without ordering it in special unassembled form.

It is difficult to handle, being very inflexible, and riveted together. If culvert pipe is ordered too large or too small in diameter, there is no simple way of modifying it to fit the well.

To solve the problem of fitting support pipe into the well, we purchased 10-gauge, cold-rolled steel plate, of 80,000 P.S.I. tensile strength, and had it made up into welded cylinders, 33 in. in diameter, by 5 ft. long. Holes were cut in the top end of each pipe to facilitate handing with a chain.

We lifted the first steel cylinder or pipe section into position over the well with a tripod



Fig. 1. Lowering the first section of pipe into the well.

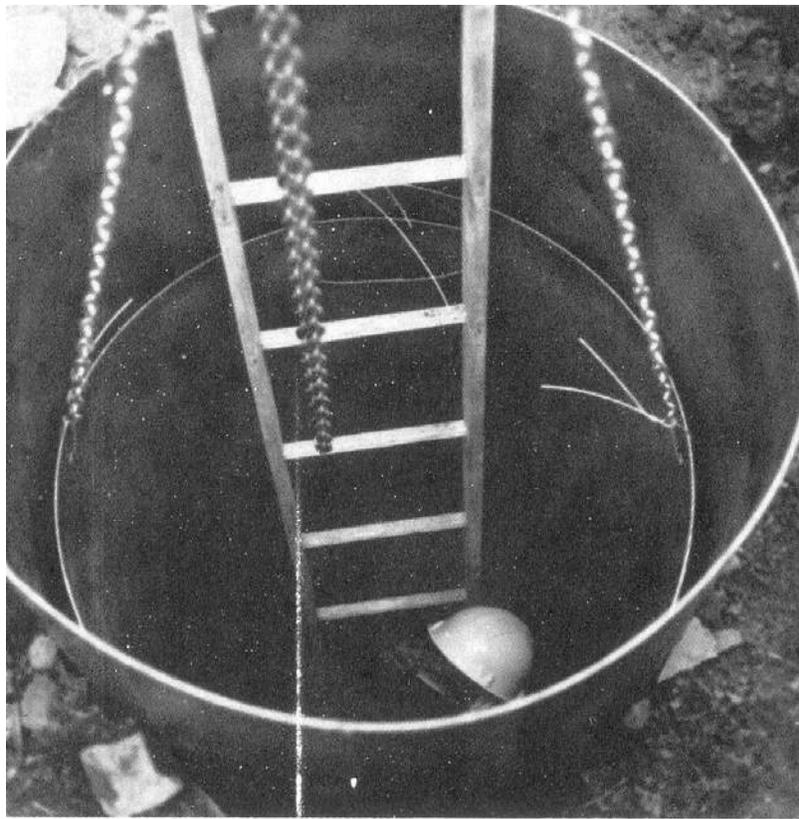


Fig. 2. Telescoping second section of pipe through the first section.

and chain hoist. As we lowered the pipe into the well (Figure 1) it became wedged in places by protruding rocks. Many of these rocks were hammered back on the wall of the well and broken off with a chisel which allowed the pipe to slip past. Half way in the upper part of the well, the pipe became firmly wedged, so we decided to leave it in place since it was solid and would prevent any cave in of the loose surface rocks and soil.

We cut the welded seam on the other two joints of pipe, reduced the pipe diameter by coiling the cut seam edge inside the pipe, and telescoped them through the first piece (Figure 2). When the second piece had reached the end of the first pipe, we then drove a rod through the pipe and into the wall of the well between rocks. A third pipe was subsequently lowered through the second section of pipe which did not initially reach bottom, but as we dug out the bottom of the well, it lowered itself automatically. This third joint could be held up off of the bottom, if desired, in the same fashion as the second joint.

We rented a gasoline engine-powered water pump which would flow over 500 gals. of water per minute and could lift water at least 22 ft. from the bottom of the well. (It is important to obtain a pump that will lift water some height). One pump which we tried would not lift water over 4 or 5 ft. A shelf was cut on the edge of the well in order to lower the pump an additional 2 ft., which gave the pump some advantage in lifting water from the well bottom. The pump discharge, which consisted of a 50-ft. piece of woven cotton fire hose, was placed far enough away from the well to prevent surface seepage. The exhaust gases from the gasoline engine were directed away from the well on the down-wind side by a 10-ft. section of drainage pipe. A gasoline engine-powered pump close to the well could asphyxiate those working in the well. The pump engine was run long enough to clear out water to the bottom of the well, then a worker would descend and was able to work for 15 minutes at a time until incoming water rose too high.

Muck coming out of the well was a black organic ooze consisting of soil, bones of rodents, humus, and artifacts. A man in the well scooped up the ooze with small scoops and shovels with handles sawed off into buckets which were raised by hand on a rope. In order to remove the artifacts, we dumped buckets of the muck on .25 m. screens and washed it through with water. We required anyone digging on the bottom to wear an industrial hard hat and rubber waders.

There are several methods in which the pipe can be handled using this technique. The diameter of the pipe can be increased or decreased as desired and still be sturdy enough to preclude the possibility of a cave in. The seam could be welded for added strength by using portable welding equipment. Ten-gauge pipe of 80,000 P.S.I. steel is fairly rigid though. It has to be reduced by overlapping the two edges and constricting the diameter. When it is small enough to go inside the other pipe or the well, it is then tied. When it is located in its proper position, the tie is released causing it to expand.

Inside the well the pipes can be hooked together and welded. We found it convenient in our dig to cut holes in the top and drive rods through the holes into the well walls in between rocks. This procedure fixed the pipe sections for depth where they could not slide down farther than desired.

The 10-gauge pipe is also flexible enough that it can be contracted and retied for removal and use in some other well. It can be used in wells where diameters are not precise and vary in size. In all cases the pipe will be wedged securely against the walls of the well allowing a maximum of space to work in.

It must be cautioned that this method is applicable only for shallow wells not over 20-25 ft. deep, and usable only where soil conditions are reasonable stable. The steel liner that we designed for the Whitmer well excavation was calculated for the specific conditions there; other wells would have to be evaluated on the basis of actual conditions present.

Deep wells having a high column of water providing high hydraulic pressure which hold the well walls intact, may require a steel-reinforced concrete liner for safe entry. All wells are potentially dangerous to excavators and some means of adequate protection must be devised. In our case at the Whitmer farm the thin steel liner sufficed.

The results of the excavation did not provide the data we were seeking. The limited artifactual evidence does not suggest that the well was used by the Whitmer family during the 1820s and early 1830s. On the other hand, there were no clusters of artifacts which would indicate that the well was in constant use during any specific time period.

The well was located approximately 75 ft. northeast of the log house. If it were part of the Whitmer farm in 1830, it may have been used for watering livestock and little or nothing was dropped in which was datable.

The well had at one time been located within a large barn on the property built in the late 19th Century. It may have been positioned inside the barn to water the livestock. After the barn was destroyed in 1959 the well was capped.

The majority of the materials recovered from the well were rodent bones, straw and nails. These artifacts are consistent with the use of the well within the barn. The rodents probably foraged within the barn; occasionally one would fall into the well and drown. Straw also found its way into the well possibly by feeding horses. Conditions of the nails indicated that they had been in a fire, most likely as a result of the barn being burned in this century.

It does not seem likely that if this was an open well, since hardly anything was lost in it. Possibly the well was covered and water was retrieved by some type of pump.

A REVIEW

Onondaga Iroquois Prehistory - A Study in Settlement Archaeology by James A. Tuck, Syracuse University Press, Syracuse, New York 1971, 255 pp., 44 plates, 8 figures, 21 tables, \$13.50.

This welcome addition to the growing number of publications on New York State archeology contains one of the most forceful arguments to date for the *in situ* theory of Onondaga Iroquois development. It has taken a long time to refute some of the misconceptions of earlier investigators who claimed that the Iroquois of central New York came from the St. Lawrence River region. This detailed and explicit account should reinforce other professional archeological work in progress in the Northeast and serve to acquaint non-professionals and the general public with an integral part of the Indian history of western New York.

In terms of content there are chapters on the ethnohistoric background of the Onondaga from A. D. 1600-1795. The main substance of the book, of course, relates to the regional sites of the Castle Creek, Oak Hill, Chance and Garoga phases as defined by William A. Ritchie from ca. 1300-1500 A. D. Each site is methodically described with easily interpreted maps, charts and photographs. Of particular interest are the settlement pattern descriptions which add a new dimension to the analysis of the more traditional archeological data. One obtains the feeling that there has been a total approach to the village complexities. These structural accounts along with the many others derived from other settlement pattern excavations also in the mid 1960's are finally beginning to become useful on a comparative scale throughout the State. Finally there are excellent artifact analyses which have been summarized from the author's thesis manuscript.

Theoretically one cannot argue with this report because it's straight forward lucid presentation of factual data. It is the kind of volume which will become a standard reference on the Onondaga and from which comparative data on the Iroquois can be derived very easily. At first this reviewer was concerned that there were not enough comments on relationships to the Oneida and Cayuga areas to the east and west. Actually with the recent proliferation of Iroquois archeological reports, both large and small, such detailed comparisons will require separate attention.

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