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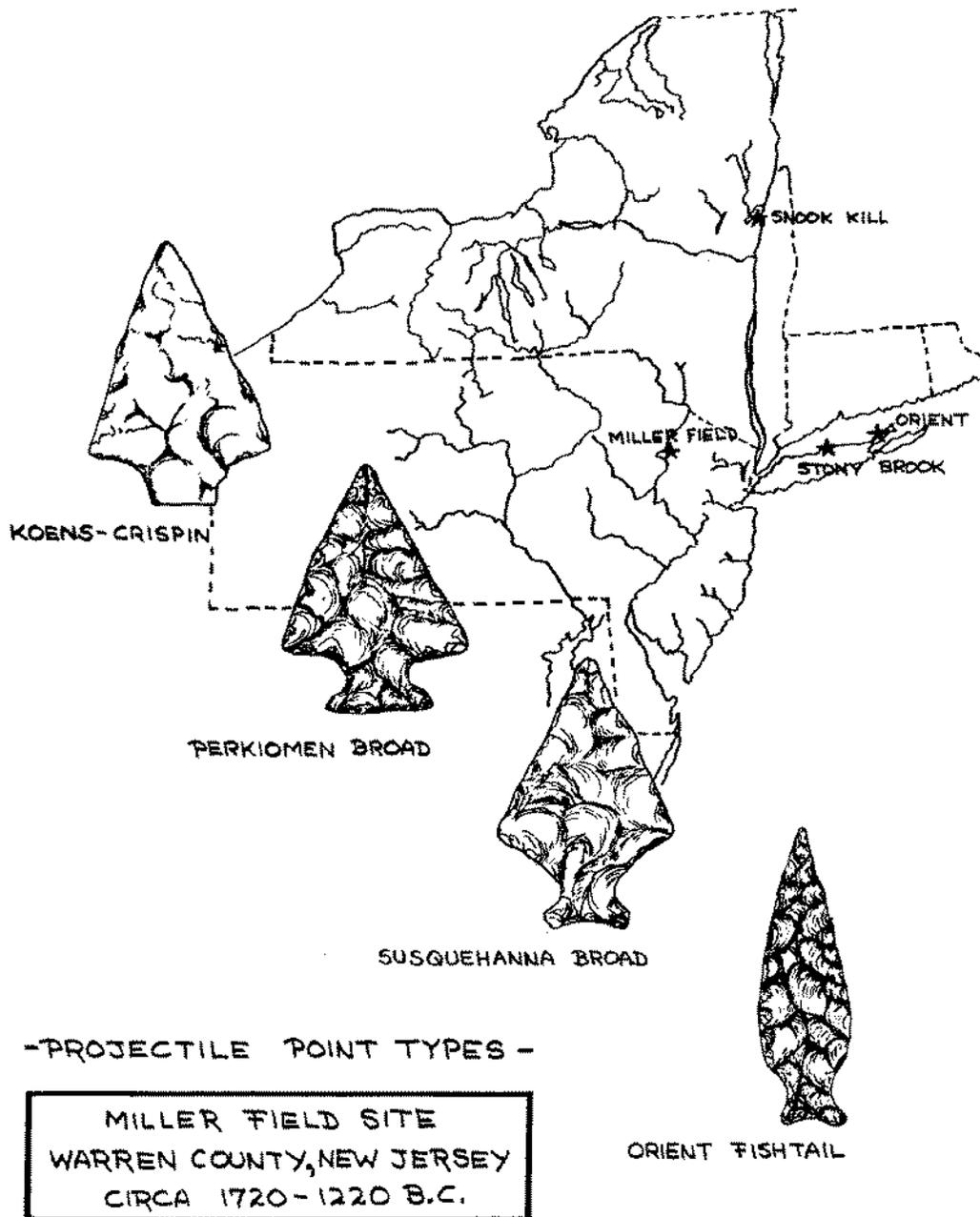
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THE BULLETIN

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THE MILLER FIELD SITE IN NEW JERSEY AND ITS INFLUENCE
UPON THE TERMINAL ARCHAIC AND TRANSITIONAL STAGES IN
NEW YORK STATE AND LONG ISLAND.

Herbert C. Kraft

Metropolitan Chapter

Damming up a river is not the ideal way to foster archaeology, but the proposed construction of the Tocks Island Dam and Delaware Water Gap National Recreation Area have stimulated renewed interest in the prehistory of the Upper Delaware River Valley. The work conducted in this area to date has profoundly altered our views of the archaeology not only of New Jersey and Pennsylvania, but especially of Long Island and New York State.

The U. S. Corps of Engineers has developed plans for the construction of an earth-filled dam 160 ft. high to span the Delaware River from the Kittatinny Mountains in New Jersey to the Pocono Mountains in Pennsylvania. The water level behind the dam (to be located about six miles north of the Delaware Water Gap) is expected to rise to a height of 110 ft. The resultant lake will shoal off near Port Jervis, about 37 miles away. In some parts this man-made lake will be one and one half miles wide, and the National Park Service expects to have about 100 miles of shoreline for a variety of recreational and conservational purposes.

The flooding of the Upper Delaware Valley will destroy numerous historic houses, inns, forts, and much of the Old Mine Road, one of the nation's oldest highways. The prehistorian will lose a great deal because numerous significant Indian sites are located on the flats and terraces of this beautiful valley. These Indian sites run the entire chronological gamut from Paleo-Indian to historic times.

The Miller Field site is one of the archaeological sites threatened with inundation. It is located 10 mi. north of the Delaware Water Gap Bridge and about 1 mi. northeast of the presumed early Dutch copper mines at Pahaquarra. The site is ideally located. A silted knoll, having an average elevation of 9 ft. about the surrounding terrace and 20 ft. above the normal flow level of the river, extends across the field in a north-south direction. Van Campen's Brook, meandering through a forest on the eastern edge of the site, is easily accessible and must have provided the Indians with cool, clear, potable water. The Delaware River, flowing about 800 ft. to the west, undoubtedly furnished a variety of freshwater fish and mussels. It probably also served as an important means of canoe travel to north and south. Nearby forests provided firewood and materials for the construction of houses and tools. Edible nuts, such as butternut and hickory, wild grapes and berries, and numerous herbs, roots and tubers, could seasonally be gathered here. Food and fur-bearing animals were probably hunted or trapped in the immediate environment.

Some 2000 ft. east of the site the land rises sharply into the Kittatinny Mountains. Outcroppings of black flint are found in the Kittatinny lime stones, and this flint was extensively exploited to provide materials for tool manufacture. These same mountains, known as the Shawanqunk Mountains in New York State, extend almost to the Hudson River at Kingston. Together with the Catskill Mountains further west, they may have been sufficiently confining to influence trade and cultural contact. Pottery styles and artifact types suggest that the Indians in the area above the Delaware Water Gap interacted more intensively with the people in New York State than with the people down-river, at least in Late Woodland times.

The Miller Field has been known as an archaeological site for more than 30 years. The New Jersey State Museum conducted two limited excavations on the site in 1959 and 1965, but no reports have ever been issued. The most intensive and prolonged excavations on this site have been carried on by F. Dayton Staats, an amateur archaeologist from Oxford, New Jersey. In eight years he has dug more than 500 features. He has recorded the configuration and stratigraphy of each feature and has numbered, catalogued and preserved all artifactual and dietary evidence. Likewise, in his removal of the overburden in search of pits, he has been careful to record whatever post-molds appeared.

Mr. Staats and I became acquainted in the summer of 1965. At that time he gave me permission to examine his collection and his records. Three significant facts manifested themselves during this preliminary investigation. First, there were post-molds in abundance, and some suggested patterns. The significance of these subsurface features rested in the fact that postmolds and settlement patterns had consistently eluded archaeologists in New Jersey; the literature at least makes scant reference to them (Cross 1941:43, 138; 1956:197). Second, there was Contact Period trade material in some of the pits and burials, together with artifacts of Indian manufacture. Such trade material as had been found in New Jersey heretofore was located, for the most part, in the plow zone or under circumstances that were less than ideal. The glass bottle and beads, iron hoes and nails, copper sheet artifacts and gun flints found by Mr. Staats promised to shed important new light on this critical trade period. Third, the ceramic remains, both vessels and tobacco pipes, indicated a temporal range from early Point Peninsula to Late Munsee. Spatially, the ceramic influence embraced an area from the Mohawk Valley in New York to the Overpeck region in Bucks County, Pennsylvania, and the Abbott Farm below Trenton. Distinctive tulip bowl pipes and diagnostic high collar vessels also pointed to the Susquehanna Valley in the west while Bowman's Brook pottery suggested an eastward extension to the Atlantic Ocean. Numerous diagnostic sherds promised a fair evaluation and identification of pottery types, and a correlation of such types with known ceramic tradition in New York State and Pennsylvania.

The site is owned by Mr. Edgar A. Miller, a gentleman farmer and industrialist from Cranford, New Jersey. He gave the author and a Seton Hall University Museum team permission to investigate a sizeable section of the field that was still unexcavated and undisturbed except for minor plow damage. A proposal for a grant to excavate the site was subsequently prepared and submitted to Dr. John L. Cotter and the National Park Service. The grant was issued, and in June 1967 the author and a crew of 18 students and faculty members from Seton Hall University began systematic excavations on the southwestern end of the knoll. A bulldozer was employed to remove a dense growth of weeds and about 4 in. of root-bearing topsoil. However, the remaining 4 to 6 in. of humus above the plow sole was cleared by hand and screened. This soil proved to be the repository of Early-to-Late Woodland artifacts. The plow sole was carefully towed in order to ascertain the presence of postmolds, pits, or other evidence of cultural disturbance. Suspected postmolds were sectioned to determine their shape and to eliminate rodent burrows. Storage and refuse-filled pits were similarly sectioned to expose leaf mold layers, lenses, and other types of stratigraphic detail. Good stratigraphy was not evident and acid soil conditions prevailed throughout the excavation with pH values ranging from 4.7 to 6.0. This negative soil condition helped to account for the poor preservation of organic materials.

After two weeks of work the excavation had produced the first complete house patterns ever discovered in New Jersey. Three longhouses were found. These were similar to those from the Maxon-Derby and Bates sites of early to middle Owasco provenience in central New York (Ritchie 1965, 1969:281-6). The post mold patterns indicated that the structures had rounded ends and an entrance on the long side. One house measuring 60 ft. long by 20 ft. wide had three internal partitions and deep, silo-shaped storage pits at each end, indicating year-round occupancy.

The Late Woodland and proto-historic components on the site are of great interest when compared with similar cultures in New York and Pennsylvania. However, it is not my purpose to discuss these Late Woodland discoveries here. This material is still under study and will be the subject of a separate report, although an Eastern States Archeological Federation *Bulletin* abstract is published (Kraft 1969: 12-3).

What I do wish to present in this paper is a discussion of three components that underlay the Late Woodland manifestations alluded to above. These are a Terminal Archaic (Koens-Crispin) component and two Transitional stage components: the Perkiomen, Miller Field phase, and the Orient fishtail phase. These components from the Miller Field site, and evidence from other sites in Upper Delaware River Valley, have necessitated a re-evaluation of the "Susquehanna Soapstone Culture" (Witthoft 1949:171; 1953:4-31), the "Frost Island Phase" (Ritchie 1965:155-63; 1969:156-64) and the "Orient Phase" (Ritchie 1959; 1965:163-77; 1969:164-78). The majority of the evidence for these determinations came out of the 1968 excavations of the Miller Field

site which were a continuation, in depth, of the 1967 excavations referred to above.

Before embarking upon a description of these cultures or traditions I would like to clarify my position concerning the Transitional stage. The term "Transitional" was introduced into archaeological literature by John Witthoft (1953), but it has not received wholehearted acceptance because technically all cultures are in a state of transition. Some scholars prefer instead to recognize a subtle metamorphosis of the archaic stage into the Woodland stage (Willey and Phillips 1958; Willey 1966: 265-7). Others, like James Griffin (Jennings and Norbeck, ed. 1964:235) use the term, but see it linked with some sort of burial complex. I find the term to be useful and will; therefore, employ "Transitional stage" in the same way that Witthoft and Ritchie have used it, i.e. as a cultural and temporal bridge that spans Late Archaic to Early Woodland times as these stages are defined in the Northeast. There is a very obvious change between the Late Archaic and the Early Woodland. The problem is how and where to draw the line across this cultural shatter belt. Because the problem on the Miller Field site, and in the Upper Delaware Valley generally, is somewhat different from that in central New York State, Long Island, or even southern New Jersey, an attempt will be made to present the situation as it manifests itself in terms of cultural affinities and radiocarbon dates.

The relatively early C-14 dates (1720-1640 B.C.) that we have obtained for our Koens-Crispin and Perkiomen components suggest two alternatives: (1) on the basis of early dates, absence of pottery, and presumed continuance of the hunting - gathering way of life, we might attribute these cultures, and the related Lehigh, Snook Kill, Perkiomen and Susquehanna cultures to the Late Archaic stage; or (2) we can use the presence of steatite cooking pots as an important criterion and (a) retain the Koens-Crispin and related Lehigh and Snook Kill cultures in a terminal Archaic stage, because there is as yet no demonstrable stone bowl association with these cultures in New Jersey, New York or Pennsylvania, and (b) assign the Perkiomen culture to a Transitional stage, since stone cooking pots are an important diagnostic trait for this culture. At the present time I prefer the second alternative.

The Orient fishtail tradition in our area provides similar problems. Our C-14 dates of 1220 B.C. \pm 120 years and similarly early dates from other sites in the Upper Delaware River Valley show that this component is earlier than previously reported, although it is half a millennium later than the Perkiomen and related broad spear cultures (see Table 1). Because of this later date and the occasional associations of early pottery vessels with artifacts of the late fishtail tradition, some archaeologists favor an Early Woodland attribution. I will, however, regard the Orient Fishtail component, at least on the Miller Field site and in northwestern New Jersey, as belonging to the Transitional Stage. My reasons for doing so stem from the realization that despite the more recent dates, and the more gracile projectile points, the general mode of living had not changed significantly from that practiced by the people responsible for the Perkiomen, Susquehanna Soapstone and Frost Island cultures. Hunting and gathering were still the primary forms of subsistence, and the steatite bowl continued to play an important culinary role throughout the Orient phase. We recognize, and herein document the fact, that pottery vessels were introduced in upper Orient times, but we cannot at this time draw that fine line which separates the ceramic-using people of the late Orient tradition from their non-ceramic antecedents. Undoubtedly the earliest pottery vessels continued to co-exist with the steatite kettle prototypes and, until we can clearly demonstrate the threshold separating the pre-ceramic phase from the pottery phase representative of the Early Woodland stage, I find it more reasonable to regard the Orient fishtail tradition as belonging to the Late Transitional stage.

The Terminal Archaic Koens-Crispin Component (Probably earlier than 1720 B.C. \pm 120 years)

The Koens-Crispin point derives its name from the type site located in Medford, Burlington County, New Jersey, which was excavated by Hawkes and Linton in 1916 and in the late 1930 by Dorothy Cross. The Koens-Crispin point is common on Late Archaic sites in central and

southern New Jersey; Joffre Coe and others see affinities between it and the "Savannah River Stemmed" point found in the Carolina Piedmont and other Middle Atlantic and Southern states. Important though the Koens-Crispin point is in New Jersey archaeology, it was never formally described (but see Kraft 1970:55-8) nor are there any C-14 dates for this projectile type, except from the Miller Field site. Joffre Coe (1964:45, 118) does have a date of 1944 B.C. \pm 250 years (M-524) for the related Savannah River Stemmed Point.

The significance of this projectile point lies in the fact that the specimens excavated from the Miller Field site indicate the presence of such artifacts farther to the north than was previously supposed. The author has recently seen such Koens-Crispin points from Orange County, New York, and some of the points illustrated by Ritchie from the Weir site appear to be of this type (Ritchie 1965 and 1969 Pl. 49 #3, 4, 12, 13).

The Koens-Crispin point (PL. 1, Figs. A-E) has a large, broad blade, triangular in shape, with slightly excurvate sides. A few specimens have incurvate sides, but these suggest resharpening. Although large and heavy these boldly flaked blades are relatively thin and possess a slightly biconvex or nearby flat cross section in our sample. The shoulders are more or less angular, some being acute, others obtuse, depending upon the degree and type of curvature on the blade edge and the degree to which the shoulders project from the stem. The majority of specimens present an obtuse angle between shoulder and stem, rarely a right angle.

The stems of the Koens-Crispin points excavated by us were tapered and trapezoidal, rarely square or rectangular, and never constricted. Bases are straight to slightly convex and form rounded corners with the sides. The complete specimens range from 2 in. to 2.9 in. long, 1.25 in. to 1.6 in. wide and .25 in. thick. The majority are 2 in. - 2.15 in. long and 1.25 in. - 1.5 in. wide. The length-width ratio is 1.5:1 to 1.8:1.

All such projectiles from the Miller Field site are made of purple argillite. The majority of these points found in the Koens-Crispin site were also made of argillite (Cross 1941:86). Probably earlier than 1720 B.C. \pm 120 years (Y-2587). (See explanation below), it is related to the Savannah River Stemmed point of the south and is, I believe, ancestral to the Lehigh Broad and Snook Kill points.

Thirteen Koens-Crispin points were excavated on the Miller Field site in 1968. Additional specimens were excavated by us at the Harry's Farm site directly north of Tocks Island in 1969. Of particular interest is the fact that the majority of specimens from the Miller Field site came from a rather concentrated area at and below the Perkiomen component. One undoubted Koens-Crispin point was found in a refuse-filled pit (Feature C-F42 in our records) together with five Perkiomen Broad points, a polished pointed-poll celt or adze (PL 1, Fig. FF) and hickory nuts. The charcoal from this feature provided a C-14 date of 1720 B.C. \pm 120 years (Y-2587). Given the preponderance of Perkiomen Broad points in this one small feature, I find it reasonable to suppose that the Koens-Crispin point had been included with the old dirt at the time the pit was back-filled. If this hypothesis is valid the Koens-Crispin point could conceivably be even older than the C-14 date would indicate. Even if it were no older than 1720 B.C., it would still be as

A-E Koens-Crispin points of argillite; F-G Snook Kill and/or Lehigh Broad points of flint; H-N Perkiomen Broad spear points of jasper; O,P Perkiomen Broad points bifacially rechipped into scrapers; Q Perkiomen type knife, R,S Perkiomen Broad spear points rechipped into gravers, T Blade of a Perkiomen Broad point with tip and base broken off and with one wing bilaterally notched for indeterminate use; U, V cruciform drills with broken bits; w ladle or scoop made from the side and bottom portion of a steatite bowl sherd; X soapstone sherd showing corrugations or chisel-marks typical of the Perkiomen and later Frost Island phase stone bowls; y utilized flake convex scraper; Z utilized flake with concave scraper and fine graver tip in center of the projection on the right; AA utilized flake knife or side scraper; BB-DD unifacially chipped utilized flakes; EE chipped celt or adze (6.2 in. long); FF polished, pointed poll celt or adze (6.15 in. long). This celt or adze was heat shattered and is here shown reassembled. It was found in a pit with 5 Perkiomen Broad points and a Koens-Crispin point. The pit and its contents are dated at 1720 B.C. \pm 120 years (Y-2587).

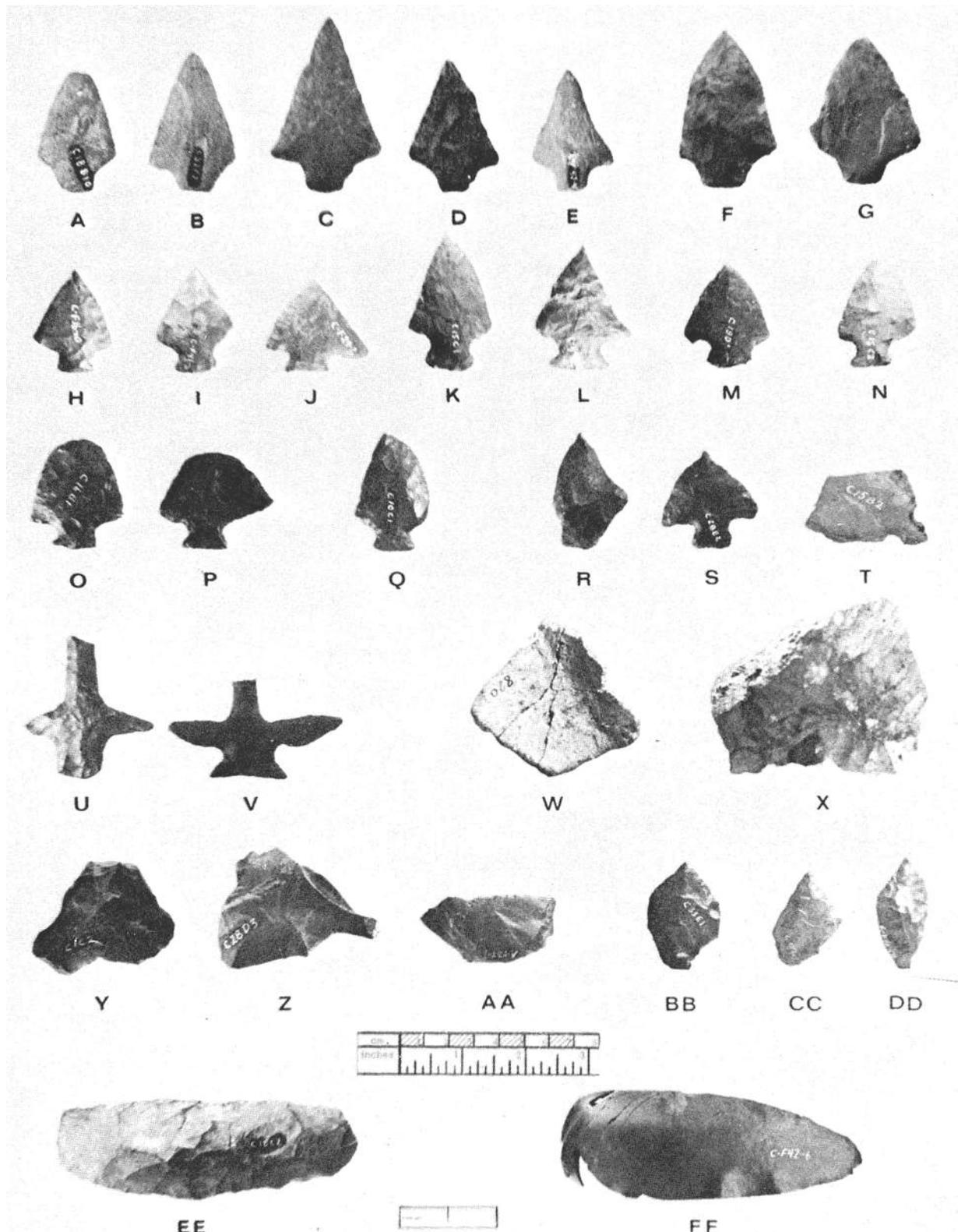


Plate 1. Koens-Crispin (A-E and F, G) and Perkiomen - Miller Field Phase Component (H-FF):

old as the date obtained by Kinsey on a Lehigh Broad point, i.e. 1720 B.C. \pm 100 years (Kinsey 1968:245-7). Furthermore, this date is 250 years older than that attributed to the stylistically similar Snook Kill point, which has been dated to 1470 B. C. \pm 100 years (Ritchie 1965:135; 1969: 136). This is, however, to be expected, considering the much more northerly position of the Snook Kill site. Apropos of this latter judgment I feel very strongly that the Lehigh Broad and Snook Kill points are really nothing more than slight variations of, or translations of, Koens-Crispin points into jasper or flint. The design configuration of these three point types is essentially the same, although the contour details on the flint and jasper Lehigh and Snook Kill Points are usually more crisp than those of the normally argillaceous Koens-Crispin points described above. This is especially true where the argillite has deteriorated because of soil conditions. (Compare PL 1, Figs. A-E with F-G).

Both John Witthoft and William A. Ritchie (1961:47; 1965:152; 1969:153) state that the Lehigh Broad and the Snook Kill points are probably related to the broad stemmed points of the Savannah River forms (Claflin 1931; Caldwell 1952:312-4), and Joffre L. Coe also identifies the Savannah River stemmed point with the Koens-Crispin point (Coe 1964:45). In view of these beliefs I prefer to associate the Lehigh Broad and Snook Kill point with the Koens-Crispin type, since it is the type of priority in the New Jersey-Pennsylvania area (Hawkes and Linton 1916; Cross 1941: 81-90).

The Miller Field site, incidentally, yielded four Lehigh Broad spear points of fire-reddened jasper and two Snook Kill points of typically New York State chert. Ritchie relates the Snook Kill culture to the terminal Archaic stage in New York State because, except for a single stone pot sherd, there is no demonstrable association of steatite pots on any Snook Kill phase site (Ritchie 1965:137; 1969:138). It is for the same reason that I also view the Koens-Crispin and Lehigh cultures as terminal Archaic.

The Transitional Stage

Perkiomen Component - Miller Field Phase (Pl 1, Figs. H-FF)

When Ritchie elucidated the Frost Island phase after his 1961-62 excavations on the O'Neil site in Cayuga County, New York he concluded that this phase, C-14 dated at 1250 B.C. \pm 100 years, was "essentially a central New York manifestation" (Ritchie 1965:155, 1969:156). The genesis of this Frost Island phase was, he thought, in a "still unrecognized complex in New York, and a very poorly defined one in Pennsylvania, containing the Perkiomen Broad point" (Ritchie 1965:162; 1969: 163). The Miller Field site contained a well defined Perkiomen component that is ancestral to the Frost Island phase by more than 400 years. The dates for this component: 1720 B.C. \pm 120 years (Y-2587) and 1640 B.C. \pm 100 years (Y-2588) are, incidentally, the oldest recorded dates for the Perkiomen complex.

Because of the comprehensiveness of our Perkiomen component, because of the striking similarities of artifact types with those of the Frost Island phase (excluding only the Susquehanna Broad spear point characteristic of the latter phase), and because that Perkiomen component is temporally antecedent to the Frost Island phase, I have postulated this Perkiomen component as the Miller Field phase (Kraft 1970: 62, 130). The people associated with the Perkiomen culture were apparently quite at home in the Upper Delaware River Valley, and for a considerable radius around. The origin of this culture is obscure, although it has been suggested that it developed regionally out of a wide-spread eastern Late Archaic broad-blade tradition such as the Savannah River tradition. More specifically the point type appears to have evolved from the more local Koens-Crispin and Lehigh Broad type antecedents.

The Perkiomen people had a predilection for fine stone, especially Pennsylvania jaspers. Every Perkiomen point found on the Miller Field site was made from brown jasper, except one, which is of high-grade chalcedony, (PL 1, Figs. HN). The spears or knives were apparently quite large to begin with, and were frequently resharpened and reformed. Broken points were seldom discarded as long as their bases were intact. The points or ends were frequently retouched

bifacially to form different tools; knives, scrapers, and at times even a fine graver tip was isolated from the blade (PL 1, Figs. O-S). Drills or reamers were sometimes made from broken or excessively resharpened blades, but the exquisite cruciform drills (PL 1, Figs. U,V) appear to have been separately conceived. Aside from repair holes drilled into steatite pots and into steatite beads, nothing has survived to indicate the purpose for which these elongated drills were employed.

Witthoft (1953:11) has stated that "no utilized flakes of any type, or any tools based on flakes" are associated with these broadspear traditions. This belief is also set forth by Ritchie (1965:150; 1969:151) who cites no evidence of such implements in his Frost Island phase. This may quite possibly have been the case on their respective sites, but we have found ample evidence to indicate that naturally sharp percussion flakes removed in the process of point manufacture were often used as knives without further modification. This is evident from the crushed edges found on some flakes. The Miller Field site was especially productive of deliberately modified utilized flake tools; numerous snub-nosed scrapers, side scrapers, concave scrapers, scraper-graver combination tools, and knives were found. Such utilized flake tools had not been reported with the Perkiomen complex heretofore. Their discovery on the Miller Field site consequently gives these people a considerably embellished tool kit. (PL 1, Figs. Y-DD)

Milling stones and mullers are associated with the Perkiomen component. An unusual feature of such Transitional stage milling stones is that they have their bottom side boldly flaked off. I have the feeling that this practice not only reduced the carrying weight of the milling stone considerably, a decided advantage for migratory people, but at the same time gave the milling stone a "grab" on the floor while food was being ground. Several simple mullers, as well as pitted mullers, were found in the excavation. Anvil stones and hammerstones were relatively common.

Cooking was presumably carried out in two ways: with pebble-potboilers and with steatite or talc kettles. Several areas of the excavation produced clusters of river pebbles with scaled-off surfaces, and many showed heat discoloration. Some of the stones still had adherent charred organic matter, thus supporting this contention. The Perkiomen people also had fireproof pots made from steatite or soapstone. Most of these pots are flat-bottomed and are corrugated, or show chisel marks on the outside (PL 1, Fig. X). Ritchie found similar steatite vessels associated

Table 1
Some radiocarbon dates from the Upper Delaware River Valley
compared with similar sites in Central New York and Long Island

Upper Delaware River Valley Sites		New York State and Long Island Sites	
<u>Lehigh Broad Points:</u>		<u>Snook Kill Points:</u>	
Peters-Albrecht Site (Kinsey)	1720 B.C. \pm 100	Weir Site (Ritchie)	1470 B.C. \pm 100
<u>Koens-Crispin Points:</u>			
Miller Field Site (Kraft)	ca. 1720 B.C. \pm 120 *		
<u>Perkiomen Broad Component (Miller Field Phase)</u>		<u>Frost Island Phase:</u>	
Miller Field Site (Kraft)	1720 B.C. \pm 120 1640 B.C. \pm 100	O'Neil Site (Ritchie)	1250 B.C. \pm 100
<u>Orient Fishtail Components:</u>		<u>Orient Phase Sites on Long Island:</u>	
Miller Field Site (Kraft)	1220 B.C. \pm 120	Sugar Loaf Hill Site (Ritchie)	1043 B.C. \pm 300
		Stony Brook Site (Ritchie)	974 B.C. \pm 250 944 B.C. \pm 250
Pennsylvania sites in the area of the Miller Field site yielded comparable dates.		Orient No. 2 Site (Ritchie)	950 B.C. \pm 250
		Jamesport Site (Ritchie)	763 B.C. \pm 220

* This Koens-Crispin point may have been intrusive and hence even earlier than this date.

with his later Frost Island phase. As a matter of fact, the steatite pot sherds from the Miller Field site are scarcely distinguishable from those which Ritchie illustrates on Plate 52 of his *The Archaeology of New York State*. A ladle made from the sherd of a side-and-bottom portion of a soapstone vessel with chisel-marked exterior was also found (PL 1, Fig. W).

A number of refuse-filled pits and hearths were associated with the Perkiomen component on the Miller Field site. Most important of these was pit C-F42, already alluded to on page 4. This feature measured 42 in. long, 32 in. wide and 16 in. deep. It was first encountered 7 in. below the plow sole. The fill was very dark and heavily laden with charcoal. Portions of twigs, and almost two dozen pignut hickory nuts (*Hicoria glabra*) were found. Artifacts within this feature included the Koens-Crispin point already mentioned, 5 complete Perkiomen Broad spearpoints all of brown jasper, a polished, pointed-poll celt or adze, numerous jasper flakes, and small lumps of red ochre and calcined bone too small for identification. The celt must have been introduced into the pit at the time that a roaring fire blazed within it, since it was heat-shattered and bits of it had exploded to every corner of the enclosure. All but a few fragments of this celt or bi-convex adze were found, and the implement is now restored (PL 1, Fig. FF). Charcoal from this hearth was submitted to Dr. Minze Stuiver at the Yale Radiocarbon Laboratory and was subsequently dated at 1720 B.C. \pm 120 yrs. (Y-2587). Another pit (feature C-F60), located in the same stratigraphic level and less than 10 ft. distant, also had Perkiomen points in the adjacent environment. Charcoal from this feature assayed at 1640 B.C. \pm 100 years (Y-2588). These two C-14 dates and others from the Upper Delaware River Valley not only provide the earliest dates for the Perkiomen complex, but also indicate the need for revising and moving the Transitional stage chronology back, at least in New Jersey, to something like 1700 to 1800 B.C. to 1000 B.C., rather than the 1300-1000 B.C. span that Ritchie ascribes to this stage.

Eight additional celts or adzes were excavated in a rather circumscribed area associated with Perkiomen points. Most of these are chipped and a few have their bits honed as well. Many of the remaining stone tools are indistinguishable from those which Ritchie illustrates from the Frost Island phase (Ritchie 1965, 1969: Pl. 53).

Three atlatls, or spear-thrower weights, were found on the site, although I am not certain whether to attribute them to the Perkiomen or to the Orient component, since points of both types were in the immediate environment. Two of these atlatl weights were of the notched, simple winged types. These were presumably lashed across the centrum. One had an expanded centrum and was drilled. (PL 2, Fig. X, Y)

The spearpoints and atlatl weights attest to a hunting and gathering economy, while the steatite bowls and milling stones give insight into food preparation. What was eaten is moot. Except for charred hickory nuts nothing has survived the consuming acidity of the soil.

Life on a campsite located between the Delaware River and Van Campen's Brook must have been based on the utilization of some sort of food derived from the river: sturgeon, shad, eel or the like, and mussel, but we found only two net sinkers that we can confidently assign to the Transitional stage. This does not rule out the possibility that these people made fish weirs or used nets; the net sinkers may have been deposited closer to the river or outside our area of excavation. Then too, Van Campen's Brook may at that time have presented a different ecological environment from the present. Even today beaver occasionally dam up the brook, causing it to back up and flood out the lowlands around the knoll. A considerable lake or marsh would have resulted from such an effort, and numerous species of animals, turtles, frogs, marsh birds, as well as beaver, might have been attracted to such an ecological niche.

The Transitional Stage - Orient Fishtail Component (Pl 2)

The Orient phase, or fishtail point complex, is best known through the writings of William A. Ritchie (1959, 1965:149-77, 1969:150-78). John Witthoft first described the distinctive fishtail point as a Transitional stage projectile (Witthoft 1953:23), but in *The Stony Brook Site and its relation to Archaic and Transitional Cultures on Long Island*, Ritchie redefined the culture as an essentially Long Island manifestation, with some spill-over into adjacent states. The Miller

Field site excavated by the author, and others in the Delaware River Valley, specifically W. Fred Kinsey and David Werner, have shown this complex to be more extensive than was once believed. It now appears that Long Island was not the source of innovation, but was instead the recipient of an already mature and fully developed Orient culture that came by way of New Jersey. Almost everything associated with the Orient phase on Long Island sites has been found on the Miller Field site, and some of the artifacts we excavated were not previously reported for the Orient phase. Most importantly, C-14 date for charcoal associated with a feature attributable to the Orient component on the Miller Field site provided us with a date of 1220 B.C. \pm 120 yrs. (Y-2589). This date, and others from the Upper Delaware River Valley, are several hundred years older (Table 1) than those reported from the Long Island sites.

One hundred and forty-one classic Orient fishtail points were found in the excavation of the Miller Field site, and such points have been collected from many sites on the Upper Delaware River. We were able to separate statistically two types of fishtail points: an elongated fishtail point and a shortened fishtail point (Kraft 1970:66-9). Both types were present on Long Island as well (Ritchie 1969: November 3, personal correspondence). Whether this distinction existed in the mind of the aboriginal flint knapper is a moot point. However, the former is decidedly more gracile and may have represented the ideal construct. (PL 2, Figs. A-F) The shortened fishtail form may represent points that have been resharpened or repointed (PL 2, Figs. G-K). We collected 70 of the former and 35 of the latter, and consider the remainder to be intergrades. Every point was made either from Pennsylvania jaspers or from local black flint. Not one point was fabricated out of quartz or quartzite, the prevailing material on Long Island.

The Miller Field site provided a fine assortment of artifacts which were made from broken fishtail points, or which were deliberately developed with fishtail-like bases. In this respect we see the continuance of a tradition already well established during earlier Perkiomen times, as noted previously.

The various tools derived from these fishtail points are of great interest in assessing the lifeways of these people. Except for an occasional fishtail-based drill and strike-a-lights, such derivative implements were unreported heretofore. The fishtail knife, Type 1 (PL 2, Fig. T,U) has many of the characteristics of a paring knife: a keen point, a flat back upon which thumb pressure might be exerted, and a blade set at a very acute angle. The more or less excurvate fishtail knife, Type 2, has similar characteristics, but appears to be less well designed (PL 2, Figs. V, W).

Fishtail-based drills were quite numerous on the Miller Field site and fall into two separate categories: those in which an actual projectile point was pressed into service, the evidence of wear being a thorough polishing and rounding of the point, and those in which the sides were deliberately constricted to produce a narrower bit (PL 2, Figs. P-S). We have evidence of the use of such drills in the perforation of steatite bowls (PL 2, Fig. DD). Gorgets and steatite beads were similarly drilled. However, it seems reasonable to expect that such drills were used for many other purposes as well. The finding of 10 fishtail drills in a relatively small excavated area suggests a rather intensive use. Wooden implements must have had wide use among such people, and holes might have been drilled into these for purposes of suspension, or in order to join one piece to another. Regrettably, nothing has survived to substantiate such conjecture.

Two fishtail scrapers have come from our excavations. These, like the Perkiomen scrapers, were bifacially trimmed across the blade in one case, and very delicately across the base in the second case (PL 2, Figs. L, M). Such artifacts might simply represent instances of broken points pressed into scraper service. Of great interest, too, is the fact that almost three dozen utilized flakes were found in this excavation. These are of convex, concave, and of specialized design (PL 2, Figs. N, O). Such utilized flake implements have not been reported from Long Island, with possibly one exception (Ritchie 1959:47).

The people who made and used the fishtail spearpoint cooked their food in much the same way as did the Perkiomen people. They seem, however, to have favored a more or less oval, round bottom steatite vessel from which all traces of the quarry pick or chisel were smoothed away. Lugs at the ends of the pot facilitated the carrying of the pot and its contents. These soapstone

bowls were probably highly prized and when a crack developed in such a vessel holes were drilled on opposite sides of the fracture in order to lace the pieces together and thereby prevent further cracking. Occasionally, however, a bowl would fracture completely. At such time a section would be saved, the severed ends would be rounded, and the scoop-like remnant would continue in use. Such reused partial steatite bowls were found at the Jamesport site and Sugar Loaf Hill site on Long Island, at the Raccoon Creek site in Salem County, New Jersey (Kier and Calverly 1967:85) and at the Miller Field site (PL 2, Figs. BB, CC). That such bowls continued in use for cooking is attested by the fact that charred organic matter still adheres to the bottom and edges of the reused half pot from the Miller Field site excavation. When such steatite bowls were beyond repair the resultant fragments were occasionally formed into gorgets or beads. One unusual steatite bead (PL 2, Fig. AA), notched instead of drilled, was found in association with fishtail points. A similar bead type was found on the Lackawaxen site in Pike County, Pennsylvania, by Vernon Leslie.

Steatite pots appear to have been part of a mortuary complex on Long Island. On the Miller Field site we uncovered some evidence of a possible mortuary complex consisting of four horseshoe-shaped ovals of fire-cracked stone. (Kraft 1970:47). However, no evidence of bone remained, although it must be noted that the soil within the stone crescents had higher traces of phosphate than surrounding soils. There was no evidence of grave offerings in the immediate surroundings. A postmold pattern emanating from about 9 in. above the horseshoe-shaped configurations suggested a superstructure, possibly a charnel house or memorial structure, but the evidence is tenuous. Such a situation would be unique in the Orient phase if our postulated reconstructions are valid.

Numerous small fire pits and refuse-filled pits can be associated with the fishtail component on the Miller Field site. Hearths are also an important part of this culture. Some of the hearths consisted of a massing of river cobbles atop the living floor. These hearths might be from 2 ft. up to 6 ft. in diameter, although one hearth was 15 ft. long and over 8 ft. wide. This may have been a food-drying or food-smoking area. Other hearths appear to have been superimposed upon shallow pits. In most of these fire places the combustion was so complete that little in the way of charred wood, bone, or vegetal matter survived. Possible strike-a-lights in the form of flint spalls, often of exotic Onondaga chert, were found, but neither pyrite nor limonite was found.

A number of milling stones (PL 2, Fig. EE) were discovered together with mullers, both simple and pitted. Anvil stones, hammerstones and possible teshoas were also found, the latter in the upper level, though well below the plow sole that distinguished the Transitional stage from the Woodland stage components.

On the basis of what we have excavated on the Miller Field site it is evident that many of the interpretations set forth by Ritchie and others concerning the Orient phase are no longer adequate. For example, the statement that the Orient fishtail point occurs only "sporadically in eastern New Jersey" (Ritchie 1959:10, 49, 90; 1965:165; 1969:166), needs to be revised in view of the large numbers of these points occurring in northwestern New Jersey and northeastern Pennsylvania. I can agree with the statement that the "Orient phase conveys the distinct impression of having achieved its climax on Long Island" (Ritchie 1965:173; 1969:174) if by "climax" is meant the final

A-F elongated Orient fishtail points; GK shortened Orient fishtail points; L,M scrapers made from fishtail points; N,O utilized flakes associated with the Orient component; P,Q fishtail points reshaped as drills; R, S unmodified fishtail points with ends worn from use as drills or reamers; T, U fishtail knives, Type 1; V,W fishtail knives, Type 2; X broken wing of a drilled spearthrower weight; Y notched spearthrower weight of Perkiomen or Orient phase provenience; Z ground bit of chipped celt; AA notched soapstone bead; BB bottom view of a reused half of a soapstone bowl showing small lug; CC upper view of same reused half of a steatite bowl; note that the broken edges have been ground smooth. (This half bowl measures 6.5 in. in length, 7.75 in. in width and 4 in. in height); DD broken sherd of an Orient type steatite bowl with drilled repair holes; EE milling stone (length 12 in.)

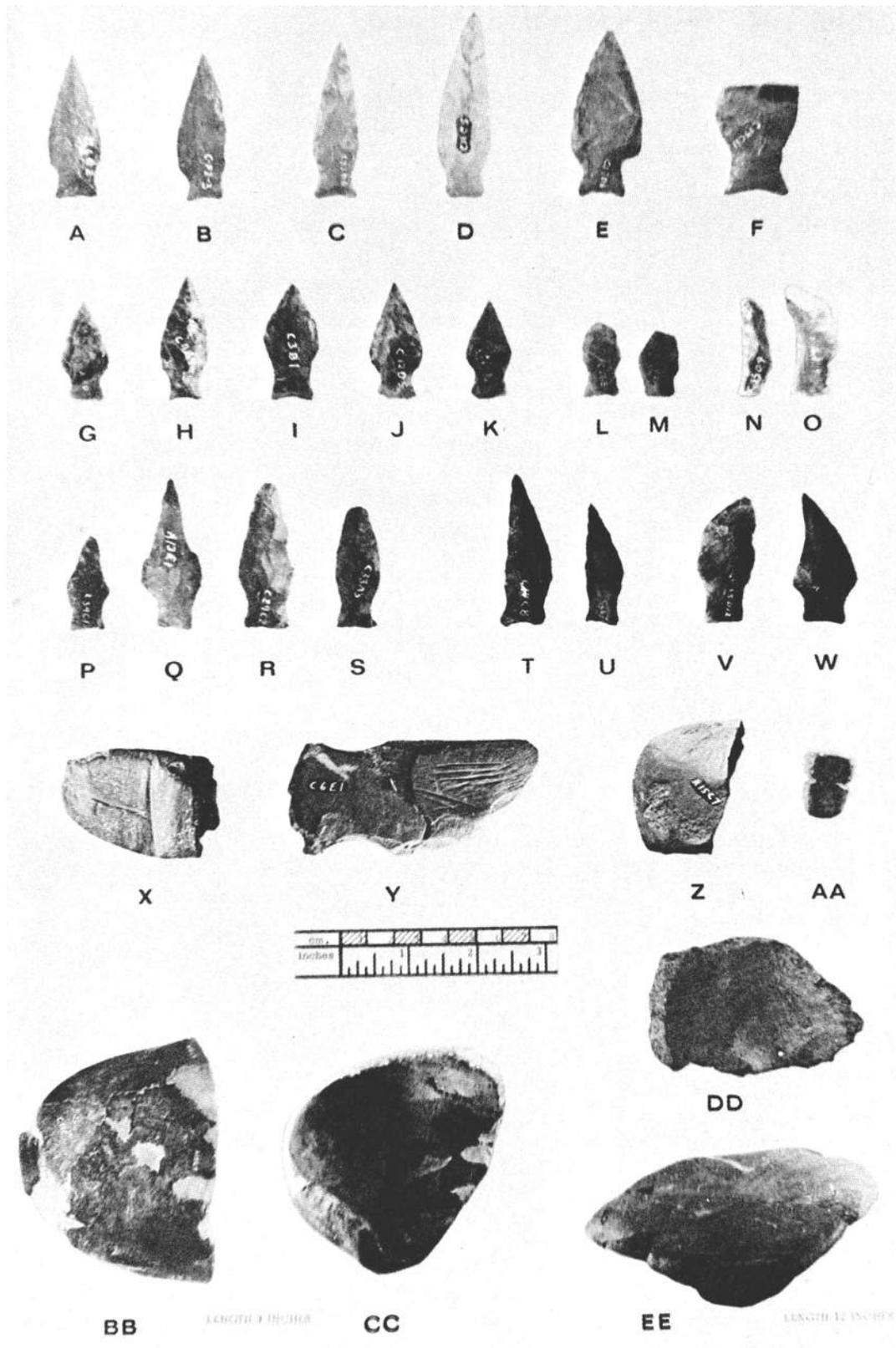


Plate 2. Orient Phase:

flowering and demise. It is no longer "unequivocal that the Orient culture was native to Long Island" (Ritchie 1965:164, 1969:165). It has not been demonstrated that there were any antecedent cultures on Long Island from which the Orient focus could have developed, nor is there any such evidence from southern New England (Rouse, 1969 November 18, personal correspondence). It is, however, possible to demonstrate such antecedent traditions in the Upper Delaware River Valley, where the Perkiomen - Miller Field phase has similar tool forms and steatite bowl prototypes for the later culture and vessels. Furthermore, the Miller Field site C-14 date of 1220 B.C. \pm 120 years (Y-2589), and other C-14 dates from the Upper Delaware River Valley, are at least 200 years earlier than those from Long Island. I would like to suggest that our present evidence shows a derivation of the Orient phase culture from the Perkiomen (Miller Field phase) complex and/or Susquehanna Soapstone culture (Frost Island phase) of the New Jersey-Pennsylvania areas.

The Introduction of Pottery

Long before the steatite bowl fell into disuse a new cultural innovation, pottery, made its appearance on the Miller Field site, on many sites from the Potomac Valley and from Virginia north into central New York, and throughout the Susquehanna Valley. How or where pottery was first introduced into the Northeast is still being investigated and discussed. It is known that the earliest ceramic pottery in our area imitates the general form of the steatite bowls. Even more interesting is the fact that this pottery, called Marcey Creek Plain, is tempered with crushed pieces of broken steatite bowls.

Steatite might have recommended itself quite naturally as temper for this early pottery. It is heat conducting, and most of the crushed steatite so employed was itself once part of a stone cooking vessel. Pottery makers undoubtedly experimented with many forms of tempering material, and once it was discovered that crushed quartz, granite, limestone, or even coarse sand, produce as good or better results, the technological break with the soapstone prototype vessel was complete. Henceforth all vessels would be fabricated from local clays and harder grits. The form of the vessels, however, continued in use for some time after grit temper was substituted for steatite. Lugged, flat-bottomed vessels made with grit-tempered paste and having plain surfaces (Ware Plain Pottery) or cord-marked surfaces were also found on the Miller Field site in an environment containing Orient fishtail points. A similar association of Orient fishtail points with both Marcey Creek Plain and Ware Plain Pottery has been recognized by Fred Ashman on a site in the Millstone River near Rocky Hill in Somerset County, New Jersey. (Kraft 1970:113-9).

As the archaeology in New Jersey matures, and as more sensitive excavations are carried out, I am confident that still closer archaeological affinities will manifest themselves at least between northern New Jersey and New York State and Long Island.

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AN UNUSUAL NEUTRAL IROQUOIS HOUSE STRUCTURE

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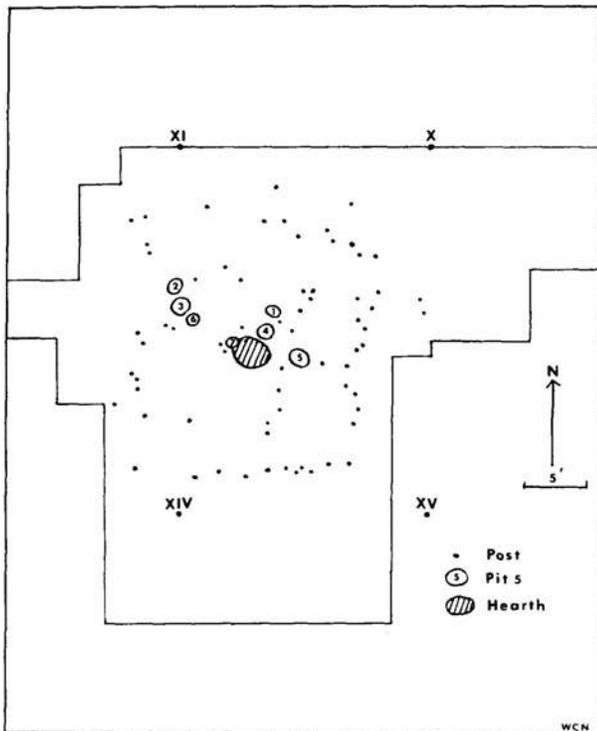


Fig. 1. The Christianson house structure

During May 31 to June 26, 1969, the author conducted excavations with ten McMaster University students at a historic Neutral Iroquois village on the farm of Dr. N. Paul Christianson. This 4-acre site lies 12 miles NW of Hamilton on Lot 34, Concession 6 of Beverly Township in Wentworth County, Ontario. A tributary of the Spencer Creek flows along the steep western slope of the site. Work conducted in 1968 under Mr. C. E. Stortroen established the presence of a double line of palisade pickets along the village's northern perimeter.

Excavation of over 3,000 sq. ft. in 1969 revealed rich midden deposits and various segments of longhouse walls. Unfortunately, many of the latter could not be followed extensively due to adverse clay subsoil conditions. However, one complete house structure was uncovered (Fig. 1), and it is unusual. Nearly square, 20 ft. N-S by 19 ft. E-W, the Christianson house is bounded by a single staggered line of closely-spaced pickets averaging 2 to 3 in. thick. An entranceway is not clearly demarcated: poor preservation of post moulds, particularly along the west wall, inhibits such identification.

Within the structure a single hearth 3.5 ft. wide is centrally positioned. It is ringed on the north side by a series of small 1.5 to 2 in. thick posts, presumably used during cooking activities. Other post moulds appear to form a single interior line running 5 ft. out and parallel to the east wall of the house structure. It seems probable that this interior post line served to support upraised sleeping platforms. Additional posts are more randomly distributed throughout the house.

Seven small circular pits lie entirely within the north half of the structure. Averaging between 10 to 18 in. in diameter, they produced scant refuse of habitation nature only - broken bone and fragmented pottery.

On the basis of recovered European trade goods, ceramics and geographic location, the Christianson site represents an early historic Neutral village dating around 1615 A.D. The Neutral people were but one of the four historic tribes of the Ontario Iroquois Tradition (Wright 1966). In contrast to other house structures excavated on Ontario Iroquois sites, the Christianson example is atypical in size. It neither conforms to the classic longhouses of the historic Huron (Emerson 1954; Noble 1968: 267-269), nor to the roughly-plotted 80-ft. longhouses recorded by Wintemberg (1939: Fig. 3) at the prehistoric Lawson Neutral village, c. 1500 A.D. The central hearth and presence of internal bunk posts at Christianson, however, is common to many historic and prehistoric Iroquois longhouses. Presumably, the inhabitants of the Christianson house comprised no more than two nuclear families of an extended kin group.

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THE OATMAN SITE: A SINGLE COMPONENT OF

THE LATE ARCHAIC IN WASHINGTON COUNTY, NEW YORK

Roger Ashton

Van Epps-Hartley Chapter

While surface hunting for new sites along the Batten Kill in the spring of 1967 the writer found a few chips and three projectile points of the Genesee type (Ritchie, 1961) in a plowed field on the flood plain of the creek. Suspecting that the discovery represented a single component of the makers of the large, straight-stemmed points, he decided that excavation was in order. Permission was graciously granted by the owner, Mrs. Lewis Oatman of Shushan, New York, for the investigation. This work was undertaken in July and August, 1967, with the following objectives: the recovery of a sample of artifacts sufficient to establish a definable culture or phase, and the collection of charcoal suitable for C-14 dating to pinpoint this culture in absolute time. The writer consulted with Dr. Robert E. Funk of the New York State Museum and Science Service with regard to excavation methods. He is indebted to Dr. Funk for advice and suggestions concerning the organization of this report.

The Oatman site lies to the west of Route 313 between Cambridge, New York, and Arlington, Vermont, approximately three miles from the Vermont State border. The location is approximately 200 yds. from the existing bank of the Batten Kill, a fairly large stream originating in Vermont and flowing through central Washington County to its juncture with the Hudson River just north of Schuylerville, New York.

The actual locus is on a very slight rise (4 ft. above present bank level) in a rather large cultivated field. This site is flanked on the south by a small tributary stream, on the west by the Batten Kill, on the north by a narrowing flood plain, and on the east by a tiny swamp adjacent to the road. On the other side of the highway are some peaks of the Taconic range.

As previously mentioned, this site lies on the flood plain of the river. The soil is of an alluvial type and can be described as a damp, sandy loam. The stratigraphy (PL 1) consists of a dark, humus stained plow zone 10 to 12 in. in depth, designated Stratum 1; a 9 to 12 in. layer of brown silt lacking the darker color of the plow zone (Stratum 2); and Stratum 3, a clay hard-pan starting at a 21 in. depth.

The total site encompassed an area of 15 ft. by 20 ft. gridded in five-foot squares. The plow zone or Stratum 1 was worked by the writer with a hoe, since it obviously had been disturbed. Stratum 2 (the main artifact-bearing zone) was very carefully excavated with a small trowel. Stratum 3 (clay-hard-pan) was sterile of artifacts.

Stratum 2 was mildly acid, with a pH of 5.9, which accounts for the complete absence of bone refuse. The pH of Stratum 1 was nearly neutral (6.5), the result of recent applications of agricultural limestone for crop needs.

The total number of artifacts recovered was 64; 19 from Stratum 1 and 45 from Stratum 2. The chipping debris totaled 916 pieces, with 112 from Stratum 1 and 804 from Stratum 2. The only feature encountered was a fire-stained area of approximately 2 sq. ft.; 19 fire-cracked stones were positioned in a small circle 2 in. to the east of the burned soil. All artifacts were measured in horizontally and vertically, and each put in a marked individual envelope. Artifact distribution was then plotted on graph paper. It is of considerable significance that the habitation area was almost totally below the plow zone, with just a small number of the artifacts churned over by the plow. There was a clear-cut habitation zone in the top 6 in. of Stratum 2, protected



Plate 1. Oatman site, Washington County, New York. Photograph of a typical stratigraphic profile showing stratum 1 (plow zone) and stratum 2 (undisturbed silt), with two Genesee points *in situ* at the base of stratum 2. Trowel points to fire-cracked stones.

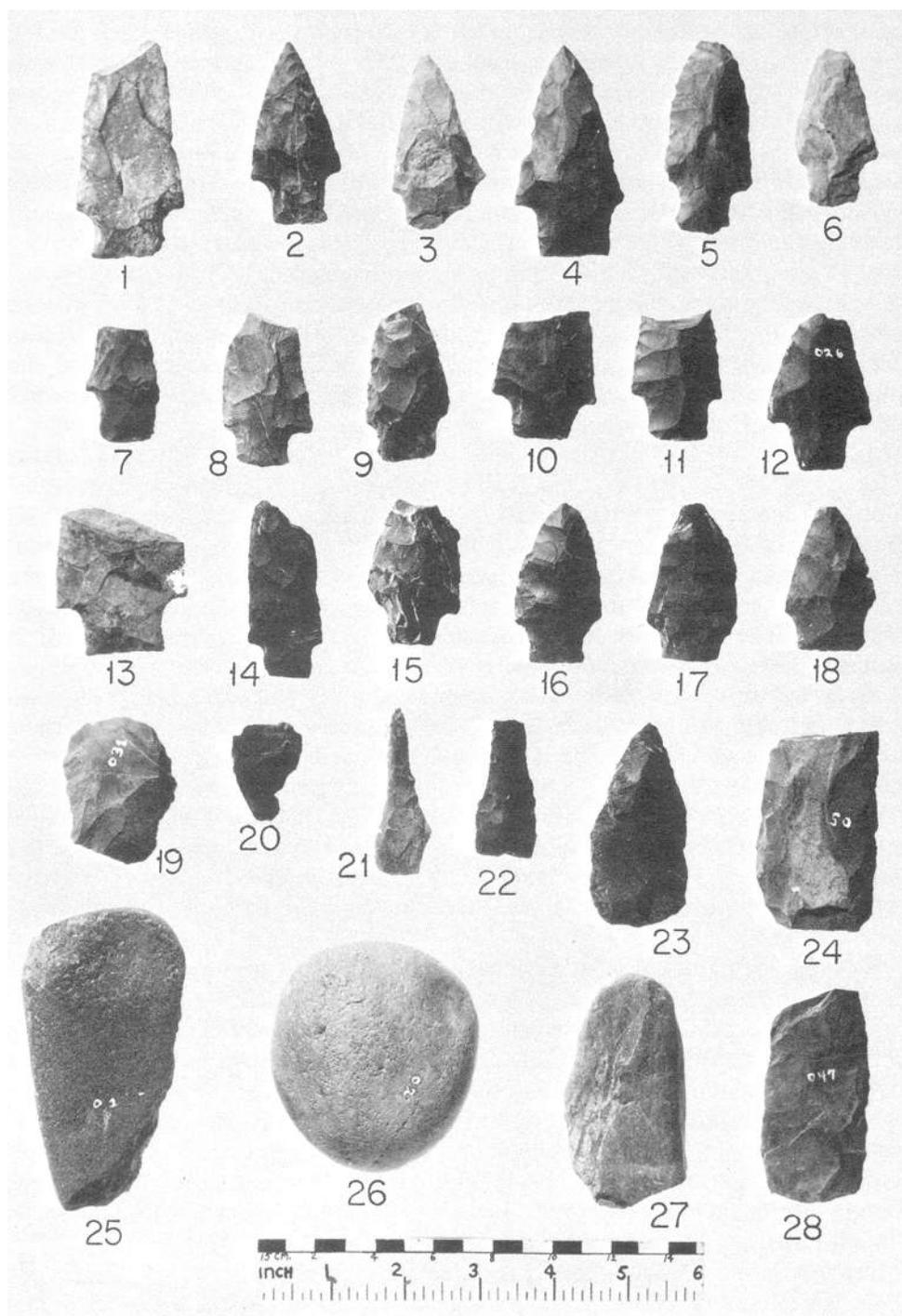


Plate 2 Oatman site, Washington County, New York. Fig 1-4, 7-12, 13-16, Genesee points; 5, 6, 17, 18, broad stemmed variants; 19, crude scraper on spall; 20, utilized flake; 21, 22, expanded base drills; 23, ovate knife; 24, 28, point blanks; 25, anvilstone; 26, pebble hammerstone; 27, whetstone.
Materials: Fig. 1-14, 16-28, Normanskill flint; 15, Fort Ann flint; 25, diorite; 26, quartzite; 27, slate.

by overlying soil deposited by repeated inundations.

The limits of the site were determined by heavy testing of the deposits surrounding the gridded area. The occupational traces abruptly terminated just outside the excavated perimeter.

All but three of the chipped stone artifacts are of Normanskill flint; the exceptions, all points, are of Fort Ann flint. Diorite, quartzite and slate were used for rough stone tools.

The following is a list of the artifacts recovered: 21 broad stemmed projectile points (enough of base and midsection to identify); 3 midsections; 2 broken tips; 2 expanded base drills; 5 broken drill tips; 4 unknowns; 19 utilized flakes; 2 hammerstones; 1 anvilstone; 1 whetstone; 3 biface blanks; and 1 ovate knife. Most of the collected items are illustrated in Plate 2.

The points, all except five closely conforming to the Genesee type, show the typical broad chipping scars, save for one specimen. The norm in length of the points is 62.3 mm with a mean shoulder width of 33.6 mm. The average for stem length is 38 mm, and of stem width 21 mm. Their function seems to have been as dart or spear points, with one possible knife. The other artifacts seem to have served mainly to butcher game (ovate knife, utilized flakes), work wood and bone (drills), and chip flint (hammerstones, anvilstones).

Although a few small specks of charcoal were scattered through Stratum 2, the total quantity was insufficient for C-14 dating.

The best reference for relative dating of the Genesee points comes from the stratified Dennis site near Albany (Funk, n.d.). There the Genesee type was found in stratigraphic sequence above artifacts of the River phase and below a Transitional (Orient Fishtail) horizon. Further evidence has been recovered from the John Himmer Rockshelter in Greene County by Thomas and Paul Weinman (this issue of NYSAA Bulletin). In Archaic levels of the shelter, several Genesee points overlay a small group of Normanskill points.

River phase sites have been C-14 dated between 1930 and 1350 B.C., but the probable span is c. 2000-1500 B.C. (Ritchie, 1965, p. 126; Weinman, Weinman and Funk, 1967). The Transitional period has been dated in the range of c. 1250-760 B.C. (Ritchie, 1965, pp. 156, 164).

The only broad stemmed point that occurs regionally that may be related to the Genesee type is the Snook Kill, dated 1470 B.C. \pm 100 years (Ritchie, 1965, p. 135). Funk (personal communication) suggests a probable Genesee dating within the 1600-1300 B.C. time span. The precise temporal relationship of Snook Kill and Genesee points remains to be determined. Ritchie (1961) has proposed that Genesee points may ultimately derive from the Savannah River type of the Piedmont.

Funk (n.d.) believes the evidence now indicates that Genesee points do not pertain to the Laurentian tradition, but to a later Archaic tradition having affinities to the Susquehanna Tradition which, as Ritchie (1965, pp. 149-155) pointed out, must have ultimate roots to the south. On the basis of the data from the Hudson Valley, Funk (n.d.) assigns Genesee points to a tentatively defined "Batten Kill" complex, so far known mainly from lithic traits.

The Oatman site was probably chosen by the Indians because of its convenience to a large stream (water supply and route of travel by canoe). It was almost certainly a seasonal camp, representing single occupation by a small group who hunted deer and other animals in the surrounding countryside. Nuts, acorns and other plant food may have been collected if, as the writer suspects, the site was utilized in summer and fall.

The disappointing aspects of the excavation were the absence of post molds, datable charcoal, or bone refuse. On the plus side, there were enough artifacts to isolate a specific phase in the late Archaic. These artifacts were concentrated in a very small area. It is hoped that with continued explorations more knowledge will come to light regarding late Archaic manifestations in the period of 1600-1300 B.C. in the Hudson drainage.

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THE JOHN HIMMER ROCKSHELTER

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Auringer-Seeyle Chapter

Auringer-Seeyle Chapter



The John Himmer Rockshelter (Cox 31) is located 2 mi. north of Coxsackie in Greene County, New York and 1 mi. west of Rattlesnake Island's northern tip in the Hudson River. The site faces west beneath a small overhang that forms the major part of an isolated outcrop of Normanskill Shale. Coxsackie Creek, about 25 ft. wide, flows northward at this point, approximately 12 ft. in front of and 8 ft. below the shelter. The overhang projects out 2-4 1/2 ft. over a 16 ft. long living area, which was only 6 1/2 ft. wide from the rock wall to the steep talus slope. Before excavation, the ceiling was 3-4 ft. above the floor at the back and 7 ft. at the face.

Despite the seemingly uninviting physical nature of the area, we were able to excavate 125 sq. ft., uncovering 2 soil strata with evidence for 3 distinct occupations by Indians. We wish to express our gratitude to John Himmer for giving us permission to trowel away at his land, and to Diana and Mark Weinman and Ann Finch who assisted.

We found Stratum I to be a brown-black soil, rich in humus content and interspersed with fragments of shale which had broken away from the overhang. The deposit was most likely formed by soil creep and wash from the north edge of Plate 1: The John Himmer Rockshelter, Cox the living floor where a sharp trough-like incline 31 rose to meet the flatlands some 35 ft. above the shelter. This upper level was 14 in. thick along

the back wall, diminishing regularly to 4 in. in thickness at the edge of the talus slope. Although a kaolin pipe stem fragment (fig. 4), several rifle shells, sea clams and a modern hearth were found at the top of the stratum, there seemed to be little evidence for disturbance of the underlying Indian material.

The occupation in Stratum I was sparsely represented by a single Levanna projectile point (PL 2, Fig. 3), a utilized flake (both Normanskill flint) and 46 fragments of pottery from a middle Woodland vessel. Seventeen of the sherds were decorated along the neck and shoulder with a "push-pull" dentate stamp (PL 2, Figs. 1-2); the body sherds were smoothed. The five rim fragments evinced fingernail impressions at 1/4 in. intervals along the outside edge of the everted, rounded and slightly pinched lip. The blackened interior of the marked, and several of the plain, sherds showed vertical incising. Manufacture was by the coiling method, using medium-sized fragments of a flinty shale as temper. Thickness of the sherds averaged 9 mm.

Stratum II was a yellowish tan color that was easily recognized the moment it was reached. Excavated to 26 in., this layer gradually lightened in color and became more compact as we troweled downward. Like Stratum I, it probably accumulated from soil creep and wash, and from the disintegration of the shale which fell from overhead. Numerous thin, large slabs of shale were found throughout both strata.

Because of the varying thickness of Stratum I, we measured all artifacts in Stratum II from the junction of these soil levels. We found that 2 cultural zones were distinguishable within the zone, not only by the type of artifacts found, but by the relative paucity of flint chips between the depths of 4 to 6 in. into Stratum II, while the zones both above and below this contained numerous chips. The upper 4 in. yielded 5 complete Genesee points (figs. 5, 7-10) and a sixth with the base broken from the stem (PL 2, Fig. 6). These were quite large, the longest being 134 mm. long, the smallest 90 mm. Their width ranged from 36 to 65 mm. and the thickness from 11 to 19 mm. Two of the points showed smoothing on the stem and tangs, while a third showed smoothing along the base. Two large point tips (PL 2, Fig. 13), similar to those of the complete Genesees, were also found.

A thin, oval hammerstone and numerous large flint chips showed that flint knapping was carried on here. Further workshop evidence is a 5 in. long rectangular core of Normanskill flint and 2 preforms for points (Genesee?). These preforms were 127 and 120 mm. long, 63 and 48 mm. wide and 38 and 29 mm. thick. The bases of both had been worked into a stemmed shape like that of the Genesee point but neither of the blades or tips had been worked beyond the initial "roughing out."

Other artifacts from this zone were few in number, being represented by a large biface knife blade fragment, a large (PL 2, Fig. 17) and a small flake knife, 2 utilized flakes, and a large flake from which a 3/4 in. crescentic notch had been chipped, perhaps for trimming spear shafts.

The lower occupation zone of Stratum II was found to concentrate between 6 and 12 in. into the stratum. We found 2 Normanskill projectile points, one at 6 in., the second at 11 in. (PL 2, Figs. 11-12). A third Normanskill point (PL 2, Fig. 14) was found at 2 in. into Stratum II, obviously within the Genesee point zone. However, since it was found on one of the numerous small ledges that stuck out from the back wall, we believe that it may have been placed there above the contemporary living floor by an Indian. If so, it would have been buried along with material of younger age when the floor had risen with the accumulation of sediment.

Other artifacts excavated from this zone were a small, narrow triangular knife (PL 2, Fig. 15); a point blank (suggesting the Normanskill outline) (PL 2, Fig. 16); a single-pitted anvil-hammerstone of granite; a thin, crude end scraper; and 2 utilized flakes.

Except for the largest Genesee point, which was made of local Kalkberg flint, all flint objects were of Normanskill flint obtained from many outcrops throughout Greene County.

Although we continued to find random chips to the depth of 22 inches, no artifact was uncovered lower than 12 inches into Stratum II.

No features, bone, pottery, steatite, and only a single fire-cracked rock were found in Stratum

Discussion

Stratum I showed a very light occupation of Middle Woodland (600 AD) folk who probably stopped at the shelter for no more than a day or two. In itself, this is interesting since it provides evidence that a man and a woman (if the Levanna point is to be associated with man's hunting and the pot with

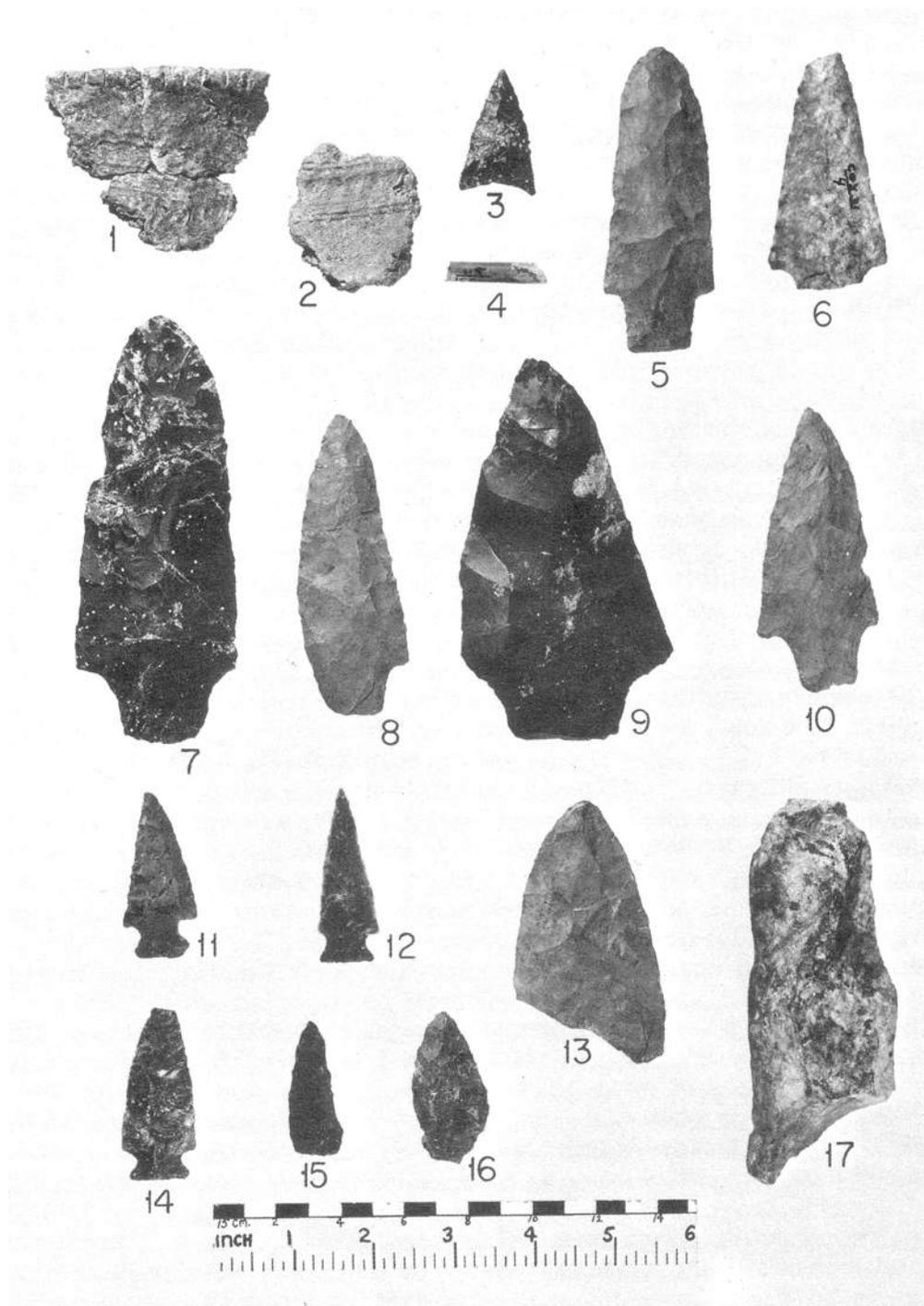


Plate II. John Himmer Rockshelter, Green Co., N. Y. Figs. 1, 2 potsherds; 3 Levanna point; kaolin pipe stem; 5-10 Genesee points; 11, 12, 14 Normanskill points; 13 point tip; 15 triangular knife; 16 point blank; 17 flake knife.

a woman's cooking) at least occasionally left the body of the band or tribe and went off together to hunt and/or fish, staying for short periods in protected spots such as under a small overhang. It is not common to find pottery or steatite in backwoods rockshelters like the Himmer station, probably because the pots were cumbersome to carry and because in some cases women may not have accompanied the men. It is possible that the John Himmer pot had been carried in a canoe which could have been used to travel navigable sections of Cocksackie Creek.

The occurrence of Genesee points in the upper levels of Stratum II above Normanskill points is of some significance. At the important stratified Dennis Site (Funk, n.d.) north of Albany on the Hudson River, Genesee points generally clustered above Normanskill points and definitely below Orient Fishtail points. The Orient phase is estimated to have occurred between 1043 B.C. and 763 B.C. (Ritchie, 1965, p. 164), while the Normanskill points, diagnostic of the River phase, were dated 1760 B.C. \pm 100 years at the Pickle Hill Site (Weinman, Weinman and Funk, 1967). A small number of Susquehanna Broad points of the Frost Island phase were dated 1250 B.C. \pm 100 (Ritchie, 1965, p. 156) at the O'Neil Site on the Seneca River. Points of this type also clustered above the Genesee points at the Dennis Site. However, the sample was not large enough nor the stratigraphy consistent enough to draw definite conclusions. Perhaps one of the point types closest in time and, possibly, in cultural affinity, is the Snook Kill type which has been dated at 1470 B.C. \pm 100 (Ritchie, 1965, p. 135). Unfortunately, a small number of Snook Kill points occurred in levels with Susquehanna, Genesee and Normanskill points at the Dennis Site, making it impossible to suggest the stratigraphic relationship of the Snook Kill to the others.

Ritchie (1961, p. 24-25) believes that Genesee points are a manifestation of a Middle or Late Archaic people in view of C-14 dates (2980 B.C. \pm 260 and 1723 B.C. \pm 250) from Frontenac Island where the points were found in the midden and as grave offerings. However, since Laurentian and Lamoka materials were also found in abundance at Frontenac, the associations could be questioned. Although Genesee points, relatively abundant in western New York, are sparse in their distribution throughout eastern New York, the most informative date on their provenience have come from sites in the east. And two of the sites, the Dennis and the John Himmer, suggest that they belong within the Late Archaic, possibly between 1500 and 1600 B.C. (Funk, n.d.).

In the fall of 1967 Roger Ashton excavated the Oatman Site, a single component with Genesee points (this issue, NYSAA Bulletin). This site, the first of its kind, was located on the flood plain of the Batten Kill in Washington County, New York. It is interesting to note that the Genesee points were smaller than those from the John Himmer Rockshelter. At Oatman the 18 points averaged 62 mm, in length, while at John Himmer they average 109 mm. The average width comparison is 34 to 44 mm; while in thickness the Oatman points averaged 11 mm. in contrast to 13 mm. at the John Himmer Site.

The 10 Genesee points from the Dennis Site averaged slightly longer (76 mm.) than the Oatman points, but the average width (35 mm.) and thickness (11 mm.) were almost exactly the same. Comparisons with the previously noted John Himmer points show that the Dennis Site Genesees are much smaller. Although the samples are not large in number, the differences in size seem great enough to be of significance. At this time, the only suggested explanation for the large size of the Genesees at John Himmer is that the points may have been used as spearheads for killing large fish in Cocksackie Creek.

In studying the points from Snook Kill, Genesee, and Frost Island sites, it was noted that each site had an admixture of at least one point from one or both of the other two phases, and that usually there were variations in the predominant point style from each site, which could easily have been classified as another type if found with different associations. For instance, several of the Genesees from the Oatman Site tend to look like Snook Kill points, while the outline of one could be mistaken for a slight variant of the Susquehanna Broad point. A few of the points from the Snook Kill Site have definite resemblances to the Genesee form (Ritchie, 1958, p. 95). One of the points found at the otherwise "pure" level of Susquehanna Broad points at the Frost Island Site was a Genesee (Ritchie, 1965, p. 157). Although typed as variant Snook Kills, at least 3 of the points from the Dead Sheep Site (Weinman and Weinman, n.d.) could have been variant Genesees. At the same site we also found 4 Susquehanna Broad points inter-mixed with the 25 Snook Kills.

And as noted, there was intermixture of Snook Kill, Genesee and Susquehanna Broad points in some levels in which they occurred at the Dennis Site.

In the Fred Young Site report (Weinman and Weinman, 1968), we briefly discussed the fact that two or more point types which are closely related in time and/or genesis are often found in differing percentages with each other on otherwise "pure" components. We suggested that instances such as these might be evidence for a transitional period between 2 related phases - at least so far as the point style is concerned. This same thinking might be used with sites such as those discussed in this report. This would apply not only to the occurrence of 2 distinct types on a site, but to the many variants within a style; for instance, those variant Snook Kills which could just as easily be considered variant Genesees. Perhaps when more evidence and study is forthcoming, closely related cultural phases will be pinpointed in time and stage of development by the percentages of different projectile points found on any given site.

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RESOLUTION ON HISTORIC SITES PRESERVATION

At the Executive Committee meeting of the New York State Archeological Association at Buffalo, New York, April 25, 1969 the following resolution was passed:

WHEREAS the New York State Archeological Association is concerned with the continuing destruction of archeological sites not only by construction but by increasing numbers of excavations conducted simply for educational purposes by primary and secondary school groups and clubs. Therefore be it

RESOLVED, that the New York State Archeological Association take steps to contact the State Board of Education, The Boy Scout Council and local and state organizations such as historical societies that may be involved. A letter detailing the hazards of such excavations and possible alternative teaching methods will be forwarded to the above organizations and to each chapter of the New York State Archeological Association.

The Letter is as Follows:

The New York State curriculum for seventh grade social studies has contributed greatly to public understanding of the prehistoric and historic cultures of New York State. As a result of this emphasis, the field of archeology is also receiving much greater public attention. Much of this interest is generated by seventh grade teachers who are seeking better and more interesting teaching methods. An increasing number of teachers have expressed the desire to use actual excavation of a site as a teaching device.

Though there is no doubt that the aims and accomplishments of the seventh grade curriculum are valid and essential, a note of warning is in order. Increasing public awareness and support are essential to more effective research and historic preservation. Those familiar with the problems of research on historic sites know that valid excavation plays an important part in the reconstruction and preservation of local and state history. The public, however, still has to be educated to the fact that excavation literally destroys the evidence and that an improperly excavated and poorly recorded excavation does nothing to further knowledge and to preserve history.

Excavation by untrained personnel, even for the sake of education, will cause as much damage as a highway or a housing development. We cannot overlook the long range effects of such activity, even though it exposes a large number of students to some aspects of archeological research. The science cannot be mastered on a week-end dig. The person untrained in archeological methods will recover only a small part of the evidence contained within a site and for this partial educational experience one or more historically valuable sites will have been sacrificed.

This does not mean that secondary school pupils should never be allowed to participate in valid archeological excavations. A number of legitimate programs utilizing such students have been conducted in the past. The principle danger lies in excavations merely for the purpose of classroom teaching, for such excavations are often initiated and directed by people untrained in archeological research methods.

Alternate teaching methods such as the use of films, "sand-box" excavations of artificially created classroom sites and excavation of post 1950's local dumps should be encouraged in place of actual excavation of historically valuable sites. Students should be taught that information about prehistoric and historic sites, especially those threatened with destruction by highway and housing construction should be reported to state and local institutions, such as museums and universities, which employ professional archeologists.

We therefore urge that all responsible organizations involved with education and with state and local history consider this problem and as much as possible discourage excavation by untrained personnel, even though the goal of such an activity may be educational. State and local organizations may well serve the cause of historic preservation best by serving as information centers for the public and by referring persons interested in archeology to institutions capable of dealing with site preservation adequately. Public support is badly needed for historic preservation. Indiscriminate excavation by well-intentioned but untrained personnel will hardly serve this purpose.

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BOOK NOTE

THE MILLER FIELD SITE, WARREN COUNTY, N. J.: A Study in Prehistoric Archaeology, Part I, The Archaic and Transitional Stages, Herbert C. Kraft, 152 pp, 14 Figs. 21 Pls. Seton Hall University Press. \$4.75. This is the full report on the Archaic and the Transitional periods of the Miller Field site of which the report on the Miller Field site in this issue of the *Bulletin* is a condensation. All that can be said against this publication is that the plates and the proof-reading are not as good as they might have been. Otherwise it is as fine a report as has been published in Seaboard states archaeology in a decade and is indispensable to serious students of New York archaeology for reasons that do not have to be explained to those who have read the lead article in this issue. All investigators of any breadth of experience in New York have come upon the Late Archaic and Transitional materials reported and discussed by Kraft. To these he contributes new definitions and perspectives. His theme of continuity and tradition from the Late Archaic Savannah River Point type to the Transitional Woodland Fishtail and his suggestion of movement of cultural influences from south to north is the first statement in what is the problem of the 1970's in eastern archaeology - the fitting of "complexes" and generations of cultural together through time and over space in related sequences. The notion of a series of sudden intrusions of new cultures from elsewhere has finally given way to a more rational view of regional evolution. Kraft has made the first contribution to an up-to-date prehistory of the Middle Atlantic and the Northeast.