

The Shenk's Ferry People: A Site and Some Generalities

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*Reprint from Pennsylvania Archaeologist, Bulletin
of the Society for Pennsylvania Archaeology,
Vol. XXXIV, April, 1964, No. 1.*

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ABSTRACT

A description of one portion of the Shenk's Ferry component at the Blue Rock Site, Lancaster County, Pa., is used as the basis for a general account of the Shenk's Ferry culture and its place in the Late Prehistoric period in eastern Pennsylvania. The site has five centers of occupation, portions of two of which have been excavated and one of which is described. Possible functions of the shallow pits characteristic of the culture are discussed. Use of supine extended burials with characteristic placement of one hand over the pelvic area is practically universal within the Shenk's Ferry series, but has no known counterparts in other cultures of the Lower Susquehanna Valley. Absence of child burials is also characteristic and unlike other cultures of the period and area. Trade sherds indicate that the site, or the portion excavated, is contemporary with the late Castle Creek culture of the Upper Susquehanna, and similarities of some of the pottery to the Albemarle series of the Shepard Site in Maryland are pointed out. The site is considered representative of the final stage of Shenk's Ferry culture before the onset of Susquehannock acculturation.

THERE are no recognizable references to the Shenk's Ferry People in historical records. This is true mostly for the obvious reason that they were essentially a prehistoric people. But since there is some archeological evidence that remnants of the culture survived into the very early historic period, it may also be true that there are such references buried in the ambiguities and mispronunciations of the tribal terminology used by European observers.¹

The name Shenk's Ferry People, therefore, is a laboratory invention demanded by an accumulation of archeological evidence and not supported by any historical data. The evidence adds up to a distinctive complex of material traits,

but the origins of the people as well as their linguistic and ethnic affiliations are unknown, and no obvious close relationships in the area are indicated by a comparison of trait tables.

Until the late 1940's much of our evidence for the culture was literally an embarrassing by-product of Andaste-

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¹ Early European observers had very little direct contact with the inhabitants of the Susquehanna drainage. The confusion in names, therefore, arises at least in part from the fact that the names given to the peoples in the interior were those used by the coastal groups with whom the Europeans had their contacts. Thus the English used the word Susquehannock, which they probably had from the Powhatan group. The Swedes used the name Minquas which they had from the Lenape. These are just two of the many names used in reference to the inhabitants of the Susquehanna valley at the very beginning of the historic period. The coastal peoples spoke a language not used by the people living on the Susquehanna river at the time. Thus the names used were Algonkian terms for an Iroquoian people. The terms seem to have been descriptive (in an uncomplimentary manner) rather than generic. If a people has a right to choose its own name, there probably never were any Susquehannocks.

Within this confusion there are certain curious, persisting suggestions such as the Swedish insistence on a distinction between Black and White Minquas. In the journal kept by the Jesuit missionaries to the Huron, an Iroquoian nation related and allied to the peoples in the Susquehanna valley, we are told that the Andaste live surrounded by twelve other peoples. Andaste, apparently, is the Huron (and therefore Iroquoian) name for the Iroquoian people we know as the Susquehannocks. The other peoples that surrounded them remain forever nameless. There are also repeated morphological descriptions which do not seem to apply to the Susquehannock physical types. Within these tantalizingly incomplete suggestions it may be there are hidden references to the people whose material culture we refer to as Shenk's Ferry.

Susquehannock archeology. In one instance it was accommodated into "the rich variety of Andaste Indian Material."² In other instances the Shenk's Ferry material was described, rather vaguely, as an Algonkian influence lingering on the Susquehannock sites where it was illogically turning up. Amateurs had done sporadic work on scattered Shenk's Ferry sites even earlier than the work referred to above. But this we can only presume, since even when such work was reported, it was done only in fragmentary fashion; cultural names, if any were used, seemingly were coined by whim and now have no standing in archeological or ethnological terminology. Locations of the sites were usually kept secret. Trait lists were not presented with any degree of completeness, and some traits that are considered diagnostic today were ignored entirely. Consequently it was impossible to verify or synthesize such reports.

Shenk's Ferry and Susquehannock trait tables contrast widely, but as long as the Shenk's Ferry evidences were considered piecemeal they could be dismissed as aberrations or intrusions on the Susquehannock sites. The result was that many of the data from some of the early work were the wrong data. They did not recognize one of the critical problems, which was the encounter and subsequent relationship of the two disparate cultures. This criticism is made with the advantage of hindsight. Actually, local archeology was at least as unfortunate as it was inept—unfortunate

in that it had to deal with the dually occupied sites before it recognized one of the cultures with which it was dealing. But perhaps that does not mitigate the criticism.

It remained for Witthoft's analysis and interpretation of materials recovered earlier from the Susquehannock-Shenk's Ferry sites (Witthoft, 1959; pp. 19-60) and his and Farver's excavation of two pure Shenk's Ferry sites in Lebanon County (Witthoft & Farver, 1953) to establish the fact that the Shenk's Ferry people constituted a distinctive Late Prehistoric cultural enclave in Central Pennsylvania. Since that time a number of previously unrecognized sites have come to light. From a comparison with those sites which obviously predate Susquehannock contact, it becomes clear that Shenk's Ferry traits at such dual-component sites as Shenk's Ferry and the Schultz Site had become partially acculturated. There are also on these sites, in addition to the formally described pottery types of both cultures, categories which intergrade. We have such interesting entries as copies of Susquehannock vessels in Shenk's Ferry paste. We have presumed that such oddities were the work of Shenk's Ferry captives. But in recent years a number of Shenk's Ferry sites with acculturated pottery styles have been recognized. On some of these sites there is no direct evidence of Susquehannock presence. Thus we seem to be suggesting a situation where groups of captives go off to live in villages by themselves.

With the exception of the sites which indicate contact, direct or indirect, with Susquehannock influence, Shenk's Ferry sites present a somewhat puzzling uniformity of traits, with little in the way of apparent trends to indicate origins, sequence or direction of development.

² Anonymous, "Rich Variety of Andaste Indian Material Yielded by Excavating Longhouse Sites in Clinton County, Pennsylvania"; *Penn. Arch.*, 4:13-15 (1934).

This work apparently dealt with materials which became known as the T. B. Stewart Collection, now in the Waynesburg College Museum, Waynesburg, Pa. The pottery in this collection is characteristic Shenk's Ferry pottery and is so described by Witthoft (Witthoft, 1954).

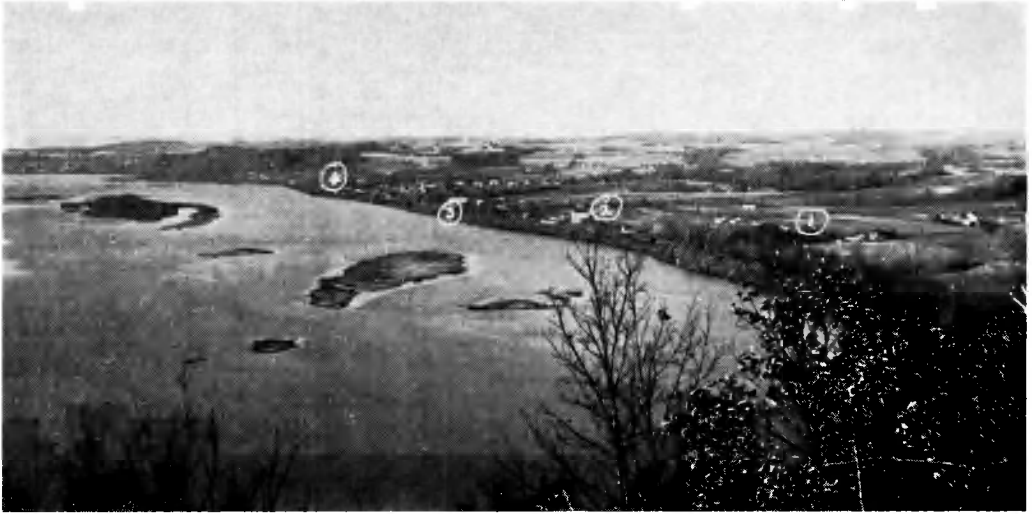


Plate 1—The Washington Boro Basin, Lancaster County, Pa., showing locations of principal sites: (1) Strickler Site; (2) Schultz Site; (3) Blue Rock; (4) Washington Boro.

The number of such sites keeps growing. Our recognition of the Shenk's Ferry culture has come only recently, comparatively. On-site work has been inadequate, and most of what has been done deals with a culture in process of acculturation and perhaps assimilation. It is the purpose of this report, therefore, to emphasize certain traits which seem to be diagnostic of the culture before its encounter with the Susquehannocks.

THE BLUE ROCK SITE

The site is at Blue Rock, in the Washington Boro Basin, Lancaster County, on the east bank of the Susquehanna River (Plate 1). It is in the heart of the Susquehannock-occupied areas, overlapping partially the Schultz Site (Susquehannock), and is not far from the Strickler, Washington Boro, a paleo, and several small Archaic sites. Perhaps no spot in Pennsylvania is surface-hunted quite so persistently, and we do not quite understand how the significance of this manifestation has been overlooked. But

Shenk's Ferry sites are relatively unrewarding places for relic hunting. About all that is to be found on them are a few small, weathered potsherds and a very occasional triangular point. Small, weathered sherds do not make dramatic relics. The points are difficult (but not impossible) to distinguish from those made by the Susquehannocks. Perhaps the nearness and profusion of Susquehannock debris has tended to obscure the older manifestation.

Two small sections of the Blue Rock Site have been excavated. The first section consisted of fifteen five-foot squares. It was in a front lawn (that was to be regraded anyway) boxed in by a highway, a paved driveway, a house and two large trees. Although evidence of the occupation continued up to all of these obstructions, it was impossible to expand the plot. On the southwest corner of the plot the driveway was cut, and there Shenk's Ferry features proved contiguous with a Susquehannock cemetery (Heisley & Witmer, 1962). This plot is on the

second terrace above the river, about one hundred yards from the water's edge.

The second plot—the one with which this report is mostly concerned—is on the first terrace and on the river bank, but is separated from the water's edge at present by a railroad embankment. The terrace is to some extent artificial. It has been extended toward the water's edge in modern times. The railroad embankment, an abandoned roadbed and a fence row have trapped large amounts of silt washed down from above. As much as two feet of over-burden was removed with power equipment, and in some places another twelve inches could have been removed safely. Although the modern surface appears to decline evenly toward the river, the subsoil line showed a break in profile and a fairly steep bank on the lower side of the area (Figure 1b). This subsoil contour we assume to parallel the true surface at the time of the Shenk's Ferry occupation. The soil belongs to the Wheeling series and is a light sedimentary silt. In this area it is underlaid with water-carried glacial gravel or pebbles.

Starting from a pin marking the intersection of the railroad right-of-way and the Blue Rock Road, a line was carried southward to a concrete marker marking the boundary of the right-of-way and two Witmer properties. Squares were numbered southward along this line and tiers were lettered eastward. A procedure designed to take into account possible stratigraphy was at first considered but soon abandoned. The area has not been a flood plain in the conventional sense at least since glacial times. It has been subject to severe erosion in modern times. Undoubtedly other peoples lived or camped on the site, as evidenced by the presence of Archaic point forms. But

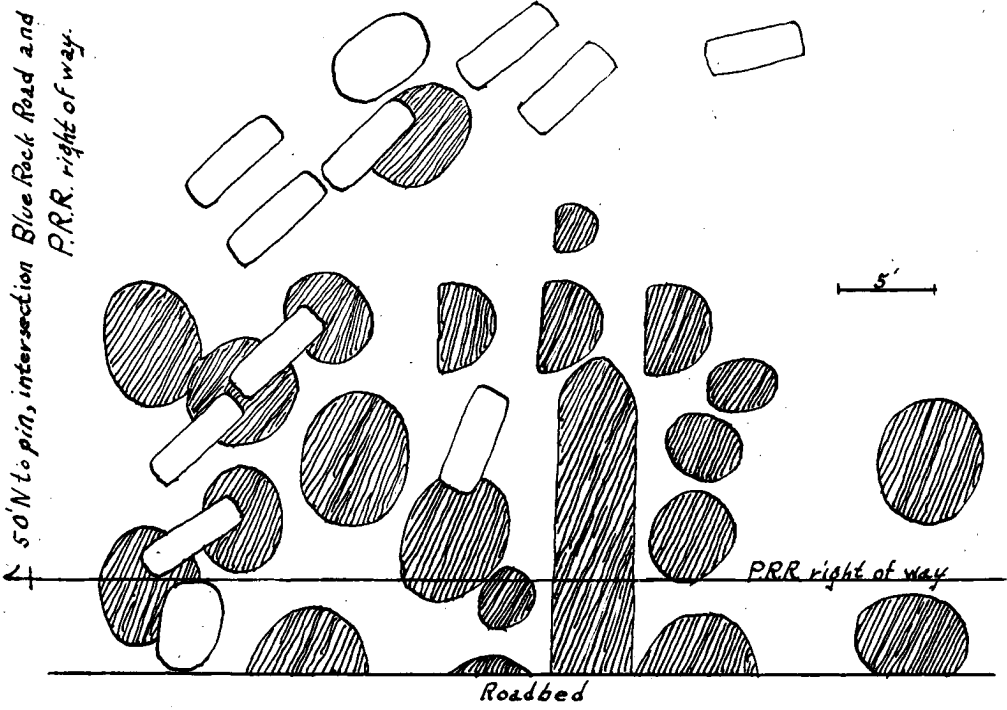
since erosion has been the major modifying process, this material is in the plow zone and in the over-burden, with an exception to be explained later. Furthermore, the subsoil proved to be so churned up by a profusion of pits and graves that any attempt to describe the materials recovered by levels would almost certainly be misleading. The topsoil was therefore removed, and all the material to be described subsequently is from the pits and grave-fill below the subsoil line.³

FEATURES

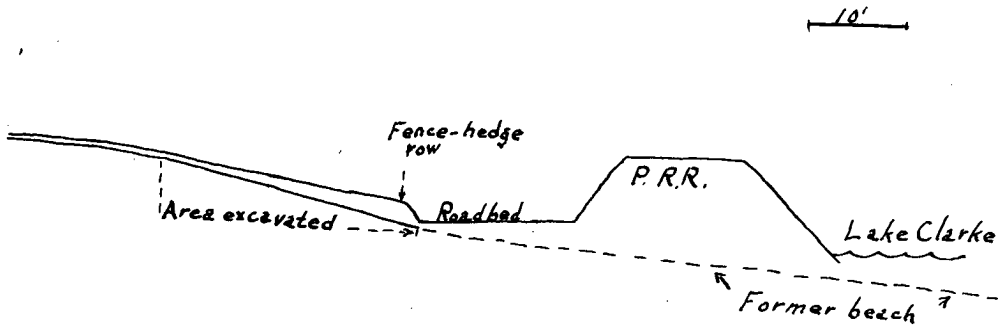
The chief feature on the site is an abundance of pits. These are irregular in dimensions, contour and depth. They vary from about five feet across at the plow sole to about two feet. They are irregularly saucer-shaped to sub-conical in vertical profile and usually roughly elliptical in horizontal profile. They are often contiguous and sometimes more or less in a line. This creates the impression that the pits may have been a moving feature; that is, as one pit filled, another was dug a little farther on. The pit bottoms do not show a clean profile, but seem to retain some churned-up soil that was not removed from the original excavation.

The well-defined pits show three distinct zones, and it is the composition of these zones that leaves the original and complete function of the pits unclear. The bottom zone is a dark layer heavily laden with a residue of organic decay.

³ Both manual and cerebral assistance with this project and report are acknowledged gratefully from the following persons: Prof. Charles H. Holzinger of Franklin and Marshall College; Barry Kent and David Hally; W. Fred Kinsey, then Chief Curator, Pennsylvania State Museum, now Director of North Museum, Franklin and Marshall College; and John Witthoft, Pennsylvania State Archeologist. Their interpretations greatly influence our own—properly so, we believe, since mostly we are unable to find satisfactory alternatives.



a



b

Figure 1—(a) Horizontal distribution of features on the River Bank Plot, Blue Rock Site. (Open figures are graves; shaded figures are pits.) (b) East-West vertical profile of the River Bank Plot, Blue Rock. Upper line—present surface. Lower line—subsoil contour.

It has a suggestion of greasiness in its texture. This layer feathers out and disappears at about the plow sole. A saucer-shaped pit full of organic waste would leave such a residue—deeper in the cen-

ter and thin along the outside. Artifacts are not plentiful in this zone.

The middle zone is a lens from which, excepting graves, came nearly all excavated material: fragments of worked

bone and stone, pottery sherds, garbage bones and fire-cracked stones. It is a garbage layer. There is some ash, but it is not conspicuous. The rimsherds in a single pit may represent as many as twelve or more different vessels. There is rarely, however, a large portion of any single pot. The pits at this stage were obviously used for the disposal of broken pottery in the process of "house-cleaning."

The top layer is a nearly horizontal layer that is cut off on top by the plow sole. In this layer there is a great deal of ash and fire-reddened soil. It is compacted—whether by trampling, fire, or chemical action is not clear—and under wet conditions is harder than the surrounding subsoil. The compacted area sometimes extends for some distance beyond the pits, suggesting hearth floors. There are no artifacts in this zone.

Zoning in the pits is much more clearly defined on the Second Terrace Plot than on the River Bank Plot. There seems to be a complete absence of post molds on the River Bank Plot. The degree of slope makes dwellings in this locality improbable, and it seems to have been used exclusively for garbage disposal and burials. The zoned pits on the Second Terrace Plot, however, were either inside or very near "the house." Since the plot could not be expanded, it is impossible to determine the house pattern.

The organization of pits on the river bank, including a long midden-filled trench and a compact, curving band of burials, suggests the nearness of a dwelling area (Figure 1a). The logical place would seem to be above the bank on the first terrace. However, the first terrace is a terrace only by comparison with the slope of the river bank. It has been cultivated for a long time and has been severely eroded. We checked the

plow sole, which is on the subsoil in this area, as it was being plowed. There are a few thin, dark lenses that seem identical with the bottom zone of the zoned pits. Erosion and the consequent lower and lower shearing of the plow have all but destroyed this part of the site, but it is doubtful that the erosional process has gone far enough to obliterate post molds completely. In any case, there is no evidence of post molds on this terrace.⁴

The character of the pits seems to be identical with that described by Witt-hoft for the two Lebanon County sites.

Pits on Indian sites used to require appended terms for their description. They were "fire pits" or "storage pits" or "midden-filled pits" or "rubbish pits." Those terms have pretty well disappeared from current literature. It is perhaps just as well that they have, because even when they seemed apt in some cases, they were based on assumptions that could not be supported by the archeological evidence. Now these features on Indian sites are generally referred to as just "pits." They are reported and described, but usually no attempt is made to explain them. There seems to be an assumption that pits just naturally go with Indians, and it doesn't seem to bother us that we don't understand what they are.

The imaginations of archeologists are inhibited by the limits of their own experiences and perhaps by their educations. Now that it is too late, we wish we had spent more effort on procedures designed to shed light on the purpose and

⁴ The possibility of the pits containing post molds must be admitted. Certain pits with one vertical wall aligned in a row at right angles to a long, straight trench suggest this possibility. Such post molds would be impossible to identify and would be unlike the post molds on the second terrace or any other Shenk's Ferry site.

function of the pits at Blue Rock and perhaps less on descriptions of individual items of their contents. To begin with, and almost up to the end of the project, we held certain assumptions that proved to be handicaps, and the data preserved in relation to these pits tend to prove little more than that the assumptions were not sound.

We have already stated that an abundance of pits is the conspicuous feature of the Shenk's Ferry site at Blue Rock. Their contents have been described. Charcoal samples have been preserved for radiocarbon dating. This will yield an answer in the form of a date (right or wrong), but it will not help much with an understanding of the village, family, or house life of a Shenk's Ferry community. On the other hand, pits comprise and contain the bulk of the evidence for that life and certainly demand, if not an explanation, at least some speculation as to their purpose and function. Following, therefore, is a list of possible purposes for constructing these pits. Those functions which were most strongly assumed are not well supported by the actual evidence.

1. Fire pits. The evidence is that the pits were never used to contain fires. The ash that is in them is mixed with soil and midden that is not charred or calcined. There is no soil reddening in or around the pits, as would be the case if they had repeatedly contained fires. Furthermore, the lowest ash content is in the bottom zone, where the clearest evidence of their original purpose would be expected. What fire-reddened soil and ash the pits do contain is usually concentrated in the upper zone, is mixed with unburned soil, and appears to be "hearth-floor" sweepings.

2. Storage pits. Underground storage for edible seeds or dehydrated fruits or

vegetables would provide precisely the worst conditions for the purpose. Roots could be stored in such pits. Potters would probably store their prepared stock underground for aging and to prevent drying out, and there is some evidence of this practice. However, such usage would not account for the zones or the composition of the first or bottom zone in the typical pit at Blue Rock. While a few may have been used for storage, there are simply too many pits with evidence to rule out this function as their original purpose.

3. Rubbish pits or midden-filled pits. This they obviously are. But in those cases where zoning is well-defined, it is also obvious that this does not explain their original purpose, since there is little or no midden in the bottom zone.

4. Beds. Suggesting this usage is the generally elliptical outline of Shenk's Ferry pits. The extent of the zone of residue of organic decay on the bottom of the pits could be accounted for, if they were used for a relatively long period of time, by the process of adding new bedding on top as that underneath dampened and decayed. Weighing against this possibility is an assumption in logic that a people who could build wooden houses would have no need to dig holes in the ground for beds. But by the process of eliminating other offered explanations on the basis of the archeological evidence, this one survives as a possibility. It is considered seriously.

5. Latrines. This suggestion has already been greeted with derision (along with the preceding suggestion). Social anthropologists reject the idea, which probably means it is outside what they have been taught and/or what they have experienced. But whatever else the Shenk's Ferry people were or did, they lived in communal houses in concen-

trated communities, with perhaps hundreds of people living on as little as an acre or less, and their problems were not the same ones encountered on a Twentieth Century reservation. We cannot speak for the sanitary or esthetic concepts of cultures other than our own. We have only to see Africans using dung as a cosmetic to be reminded of this.

The physical characteristics of Shenk's Ferry pits, therefore, suggest usages 4 and 5, especially in those instances where zoning is marked. The bottom zone contains, and therefore the original function of the pits left, a concentration of residue from organic decay, not ash, not midden or rubbish. These latter materials are in the upper zones. The facts seem to rule out functions 1, 2, and 3 as the original purpose for constructing most of these pits. One other function which the pits at Blue Rock served in a number of cases—a starting point for digging graves—was incidental and had nothing to do with the original purpose. In winter these pits, because of their high debris and humus content, would not freeze as deeply nor as hard, and in summer, also, they would be less hard from drying out than the surrounding subsoil. This is still true. The people seem to have used sticks as digging tools. Probably no other explanation needs be sought for the fact that so many graves—which are as deep as five feet from the surface—are partially or wholly under pits. Another rather far-fetched suggestion, though, would recommend itself if usage 4 was the real purpose of the pits. Perhaps individuals were buried under the beds in which they slept.

It is impossible to eliminate possibilities 4 and 5, or even to distinguish between them, on the basis of techniques available to us. Techniques capable of greater refinement probably do exist, and

this problem needs more field and laboratory work.

BURIAL COMPLEX

Nineteen burials have been excavated on the two plots. The graves are narrow, trench-like, with perpendicular walls, and are nearly rectangular. The walls show many small cuts and appear to have been dug with sharpened sticks rather than with stone tools. The normal position of burial is extended supine (Plate 2); fifteen skeletons were in this position. Since the graves are often slightly inadequate in size, one shoulder is often slightly higher than the other, and the skull is sometimes tilted slightly forward. Four exceptions to the extended position included both sexes.

Without exception the graves were dug on a northwest-southeast axis. In eighteen instances the skull was in the southeast end of the pit. The one exception was that of a flexed male, in which the orientation of the skeleton was reversed. While orientation of the burials, with the one exception, was in the range between south and east, those on the Second Terrace Plot tend to the south while those on the river bank tend to the east. If position of the sun had any relationship to Shenk's Ferry burial traditions, this fact might indicate a seasonal difference between the occupations of the two positions. More will be said on this idea subsequently.

The Shenk's Ferry people, at least in the period at Blue Rock, had no strong tradition of burial offerings. One small, atypical pot, a bone scraping tool, a cache of five antler-tip and two jasper points, and possibly a bone awl complete the inventory of grave goods for nineteen burials (Plate 3). In three burials numerous shell and bird-bone beads were found. Plate 4 illustrates one such lot.

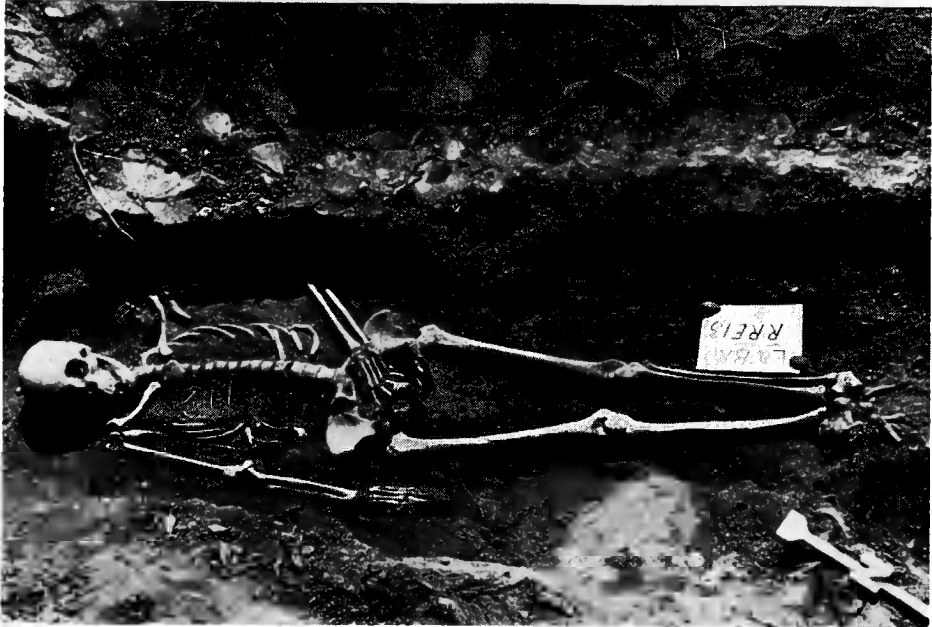


Plate 2—Typical Shenk's Ferry burials. The position shown accounts for more than seventy per cent; exceptions were tightly flexed. The burial pot is unusual.

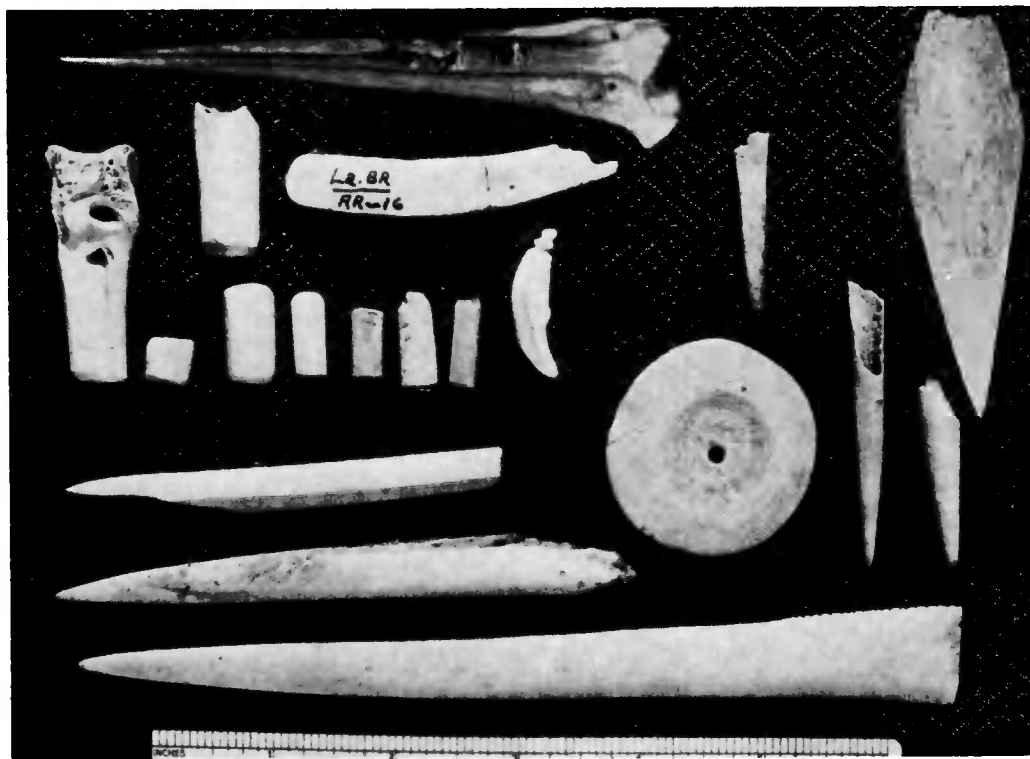


Plate 3—Bone artifacts from Shenk's Ferry graves at Blue Rock.

The types in this lot include all the types found on the site. Discoidal shell beads in all three instances where they occurred were worn as a choker. The bone beads, the shell pendants, a few of the *Marginella* shells, and, in this case, three box turtle femora were worn as a belt or girdle at the waist. Most of the *Marginella* and all of the small discoidal beads were part of a headdress. These represent adornment or apparel at the time of burial and not a funeral offering.

Anthropologists consider the flexed posture to be the normal position of sleep among primitive people and therefore the normal position of death. Even if this were not true—and disregarding a suggestion of fascination with the foetal position—it is highly unlikely that many individuals would die in such a precisely aligned supine position (see

Plate 2) with one arm extended and one over the abdomen or pelvis. This means the Shenk's Ferry people performed a "laying out" of the corpse in their funeral ceremony. This had to be performed before rigor mortis developed. It could have been done in the grave but certain evidence indicates that it was not. The graves are so narrow (as little as 16 inches) that they are often slightly inadequate. In such cases one shoulder and arm are pressed into a corner of the grave and the other shoulder and arm are wedged against the opposite wall. Even though the skeleton is thus slightly tilted from the supine position, the precise alignment of limbs still prevails. This would appear to be possible only if the limbs were rigid when deposited in the grave.

Burials illustrated in Cadzow's work

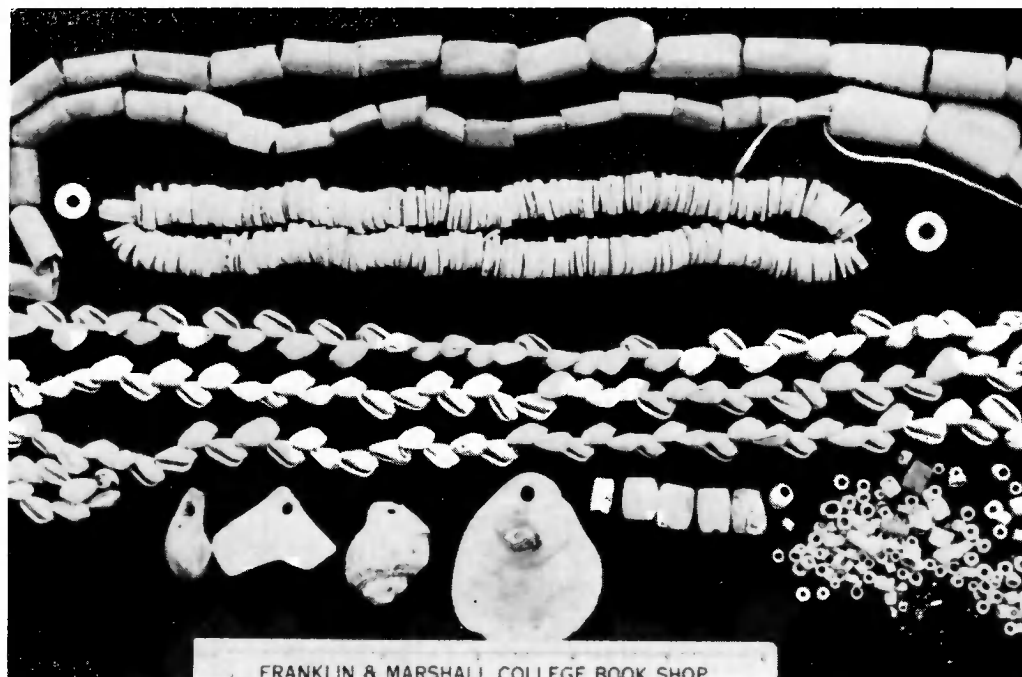


Plate 4—Shell and bone beads from single grave at Blue Rock.

at Shenk's Ferry and the Frey Farm site, and described for the Schultz Site (Cadzow, 1936), conform to the pattern described here but are not identified in the work as Shenk's Ferry burials. Photographic evidence of burials at the Rice, Breneman, and Rock Hill sites also conforms closely to the pattern at Blue Rock. This burial pattern is therefore considered one of the most consistent and diagnostic traits of the Shenk's Ferry culture. It is also one of the three significant traits that create difficulties in relating Shenk's Ferry to other manifestations in the near temporal and spatial area.

Four of nineteen burials at Blue Rock were exceptions to the pattern described and were flexed burials. Such exceptions are also reported from nearly all other Shenk's Ferry sites. What these exceptions mean is not clear, but they are not haphazard variations. When a flexed

burial was made, a flexed burial had been planned. That is, the more familiar bathtub-shaped grave rather than the slit-trench was prepared to receive such burials. We believe the flexed burials represent nothing more mysterious than deaths that were not discovered until after rigor mortis had developed.

Only one of the nineteen Shenk's Ferry burials at Blue Rock was that of a sub-adult individual, and even that exception was in the borderline twelve-to-thirteen-year-old area. Such a distribution of death by age groupings is so at variance with what we would expect normally in a primitive population, and also with what we actually find in Susquehannock cemeteries in the same area, that we suspect an explanation other than coincidence. Witthoft reports one child burial from the Miller Site. Cadzow reports none from the Shenk's Ferry site and two from the Schultz Site which

may or may not have been Shenk's Ferry. This, with the exception of one adult Shenk's Ferry burial at the Ibaugh Site (Kinsey, 1960), covers the extent of published descriptions of Shenk's Ferry burials. All the published descriptions, therefore, yield one Shenk's Ferry child or infant burial that cannot be questioned. An investigation of pertinent unpublished works turned up one other instance of a burial of a borderline twelve-to-thirteen-year-old individual. The evidence, therefore, at least suggests that the Shenk's Ferry people may have had burial practices for children and infants other than those described here.

Much discussion and some argument have centered around the origins and ethnic and cultural relationships of the Shenk's Ferry people. Much more work needs to be done, but everyone who has worked with Shenk's Ferry skeletal remains agrees that the physical types are more robust and larger than the gracile Owasco and Iroquois types. Adequate Shenk's Ferry material is now available to make a more precise and meaningful comparison of physical types, but so far this has not been done. Until it is done, much of the discussion and argument about origins and relationships is futile. Physical anthropology may not be able to fix positively the origins or relationships of the Shenk's Ferry people, but it might eliminate rather conclusively some possibilities that are being propounded. If impressions mentioned above were born out of anthropometrics, a morphological correspondence closer to the Middlesex and Point Peninsula peoples than to the Owasco, Iroquois or Eastern Algonkian peoples might be suggested.

Most of the graves were dug partially or wholly through midden-filled pits. In some cases parts of the pits remained

beside the graves. In others the pits were wholly destroyed, but the midden was in the grave-fill. All of these in-pit burials were made after the pits were formed and filled. These Shenk's Ferry burials at Blue Rock conform closely with those described by Witthoft for the two Lebanon County sites, except that both extended and flexed burials include both sexes. Together, the work on the Lebanon County sites and at Blue Rock establishes the distinctively saucer-shaped pit, in-pit and under-the-hearth burial complex as a diagnostic trait of Shenk's Ferry culture. A re-examination of Cadzow's findings at Shenk's Ferry and at the Schultz Site⁵ proves that this trait remained constant even after the Susquehannock conquest.

WORKED STONE

The people on the site seem to have had no highly developed stone-working industry. A few crude hoes made from

⁵ Cadzow (1936, pp. 44-52 and 156-160) describes burials in pits at both Shenk's Ferry and the Schultz Site. Other burials described, in which the finding of sherds was reported, had probably obliterated pits. At the Schultz Site he describes these burials as "probably intrusive," presumably because they did not conform with traditional Iroquoian practices. Cadzow, however, failed to indicate that two important ceramic traditions, Schultz Incised and Funck Incised, are mingled in his material from the pits on the Schultz Site. Funck Incised, while para-Iroquoian in form, is distinctly Shenk's Ferry in paste and treatment and not Susquehannock in form, paste or treatment. It was clearly made by a Shenk's Ferry group living with the Susquehannocks on the site. The burials on the Schultz village site, therefore, should not be considered intrusive. Shenk's Ferry burial traditions remained constant even after the Susquehannock encounter. Burials continued to be made in the village and under the hearth, while the Susquehannocks in the same village had out-of-the-village cemeteries. One such—at Blue Rock—was intrusive into the older Shenk's Ferry site. The number of Funck Incised sites that have come to light since then suggests that the Susquehannock-Shenk's Ferry encounter resulted in a *modus vivendi*—Susquehannock domination rather than extermination of the Shenk's Ferry groups.

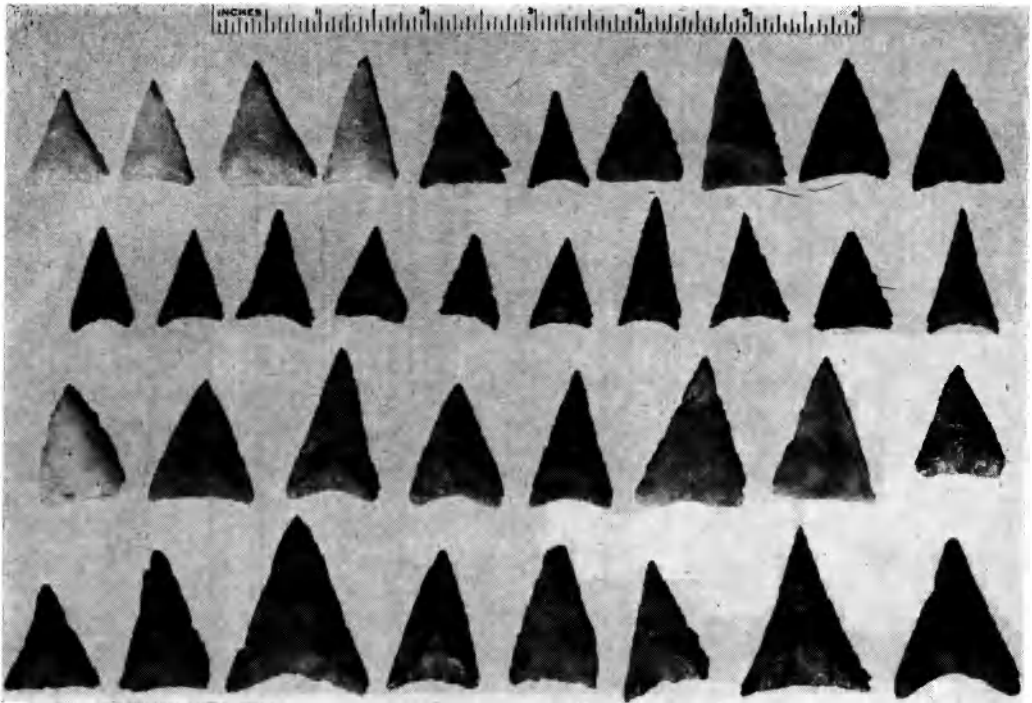


Plate 5—Comparison of Susquehannock and Shenk's Ferry points at Blue Rock Site. Two upper rows—points from Susquehannock graves. Two lower rows—points from Shenk's Ferry pits.

dolomite limestone, showing little wear, were found in the pits. Parts of a slate gorget, three serpentine pipe fragments, plus projectile points, complete the inventory in this category.

The pits yielded fifty-three projectile points. Of these, nineteen are of stemmed or corner-notched types which the Shenk's Ferry people did not make. Their number, however, as well as their inclusion in the pottery-bearing zone of the pits indicates that the Shenk's Ferry people collected and used them. The triangular points are variable in workmanship but are for the most part rather crudely made. Most of them are made from split flint pebbles. On at least one-quarter of these points the flat surface of the fracture is unworked, and only the opposite side is flaked down to the edge.

In general, the base is wider and has more concavity when compared with points from Susquehannock graves on the same site (Plate 5). The relative scarcity, and perhaps the quality, of stone projectile points is partially explained by the common use of antler-tip projectile points.

POTTERY

The pits and the grave-fill on the two plots yielded 801 sherds. Body sherds were not counted, but on the basis of a sampling technique, are estimated at about 7,200. When rim sherds from the same vessel were combined, the number of units was reduced to 605. The collars on some Shenk's Ferry pots are variable. For this reason the unit count may still contain a few duplications. Although the

pottery, except for a few trade sherds, falls into the two conservative types,⁶ Shenk's Ferry Cordmarked and Shenk's Ferry Incised, there are differences in the percentage composition of types in the samples from the two plots. This may mean a difference in time of occupation. The following description, therefore, deals only with the sample from the River Bank Plot. This sample contains 418 rim sherd units (418 separate pots).

The Blue Rock sample represents a complex ceramic tradition. While all of it, except the trade sherd group, falls into the two conservative Shenk's Ferry types, and the later para-Iroquoian types (Lancaster Incised and Funck Incised) are not represented, these types must be interpreted broadly to accommodate the variations in the sample. There is evidence of experimentation in vessel forms as well as in decorative design. There are bowl forms represented, as well as collarless, neckless sub-conical forms, bag-shapes, and modified bottle forms. In general, however, two other forms predominate. The form represented by the largest group of vessels has a low, vertical to out-flaring rim, with an added strip forming a collar. The neck is short and sharply constricted. The body is usually egg-shaped with a rounded base but is occasionally elongated-globular. This form is well illustrated in Christopher Wren, Plate No. 3.⁷ The vessels average between 9 and 10 inches in diameter at the rim, and there are many specimens in this range, although size varies from 18 inches in diameter at the rim down to toy pots of 2 to 3 inches.

⁶ The term "conservative" is used throughout to indicate classic Shenk's Ferry styles, as distinguished from the later para-Iroquoian, Susquehannock-influenced styles.

⁷ Other conservative Shenk's Ferry motifs are illustrated in Wren (1914): Pl. No. 9, Fig. 4; Pl. No. 19, Figs. 1, 2, 7; Pl. No. 22, Fig. 3.

The second most prevalent form is illustrated by Sherd No. 68, Plate 11. It tends to have a vertical to slightly out-flaring rim but has a longer, less constricted neck and an elongated-globular or egg-shaped body.

The general character of this ware should not be judged on the basis of what is most obvious from sherd illustrations. While the incising generally appears to be inept and the collars somewhat variable and poorly welded at the base, the vessels are carefully and symmetrically formed. The forms are regular and graceful. The ware is hard and durable. Although there appears to be a great deal of stylistic variation in the sample, the differences are more visual than basic. Even more striking than the variability of detail is the consistency of basic treatment. The ware was constructed by the paddle-and-anvil technique. The exterior is uniformly and regularly shaped; the interior is sometimes faceted from anvil impressions. The interior is sometimes wiped, but ineffectually; particles of temper are dragged to the surface, and the faceting is not completely obliterated. The paste is uniform and is fired to a uniform hardness between 2.5 and 3. Temper is a gneissose rock, rather coarsely crushed. An abundant source of this rock is available in the river hills south of Blue Rock. Even the quartz in the quartz-tempered group seems to have been segregated from the gneiss. There are a few sherds tempered with calcite. This may have been mistaken for quartz.

The character of the incising is diagnostic. Most of it is uncertain and wavering, with uneven and unequal distances between lines. Horizontal lines never encircle the pot continuously but are done in a series of short strokes, resulting in bands of diffused or open rectangular

TABLE I
TYPE AND SUBTYPE COMPOSITION OF CERAMIC SAMPLE
(River Bank Plot, Blue Rock Site)

<i>Temper</i>	<i>Gneiss</i>	<i>Quartz</i>	<i>Limestone</i>	<i>Total</i>	<i>% of Sample</i>
Shenk's Ferry Cordmarked					
Collarless	20	2	2	24	5.7
Plain	99	8	3	110	26.3
P. E. I.*	45	4		49	11.7
				183	43.7
Shenk's Ferry Incised					
Simple	43	3		46	11.0
Multiple Banded	128	12		140	33.2
Complex	36	7		43	10.2
				229	54.4
Trade Sherds				6	1.4

* Paddle Edge Impressed; includes dentate-stamping and pointille work.

plats. Most lines are wide and shallow with striations on the bottom, but in some instances the lines are sharp and undercut slightly. This distinctive character of incising varies very little from site to site or from early to late in the Shenk's Ferry sequence.

An internal trend in the Blue Rock sample should, however, be noted. There seems to be a direct relationship between design and technique. In general, the rule seems to be the simpler the design attempted, the cruder the techniques applied; conversely, the more sophisticated the design attempted, the defter the technique applied. This trend will be obvious even from the sherd illustrations if the incising on the Simple Incised group (Plate 9) is compared with that on the Complex Incised group (Plate 12). The degree of vessel surface finish also increases with the complexity of design and precision of incising. A few vessels in the Complex Incised group were slipped or floated before the design was applied. The lips were sometimes sharply

cut rather than flattened or rounded as was the usual practice.

The Complex Incised pottery subtype of the Blue Rock sample is not unknown but is not common from other Shenk's Ferry sites in the lower Susquehanna Valley. In some respects it resembles more closely the wares from the Stewart Site (Witthoft, 1954).

Shenk's Ferry pottery types are described by Witthoft (1958, pp. 16-22) and the full descriptions will not be repeated here. However, since the two conservative types occur on all but one or two late Susquehannock-accultured sites without any clear trend, except possibly in the percentages of composition and details of treatment, these two types are here broken into subtypes in the hope that future comparisons on the basis of subtype percentages may demonstrate trends.

This is not intended as a comprehensive treatment of Shenk's Ferry pottery. It deals only with the Blue Rock sample. Witthoft has in progress such a compre-

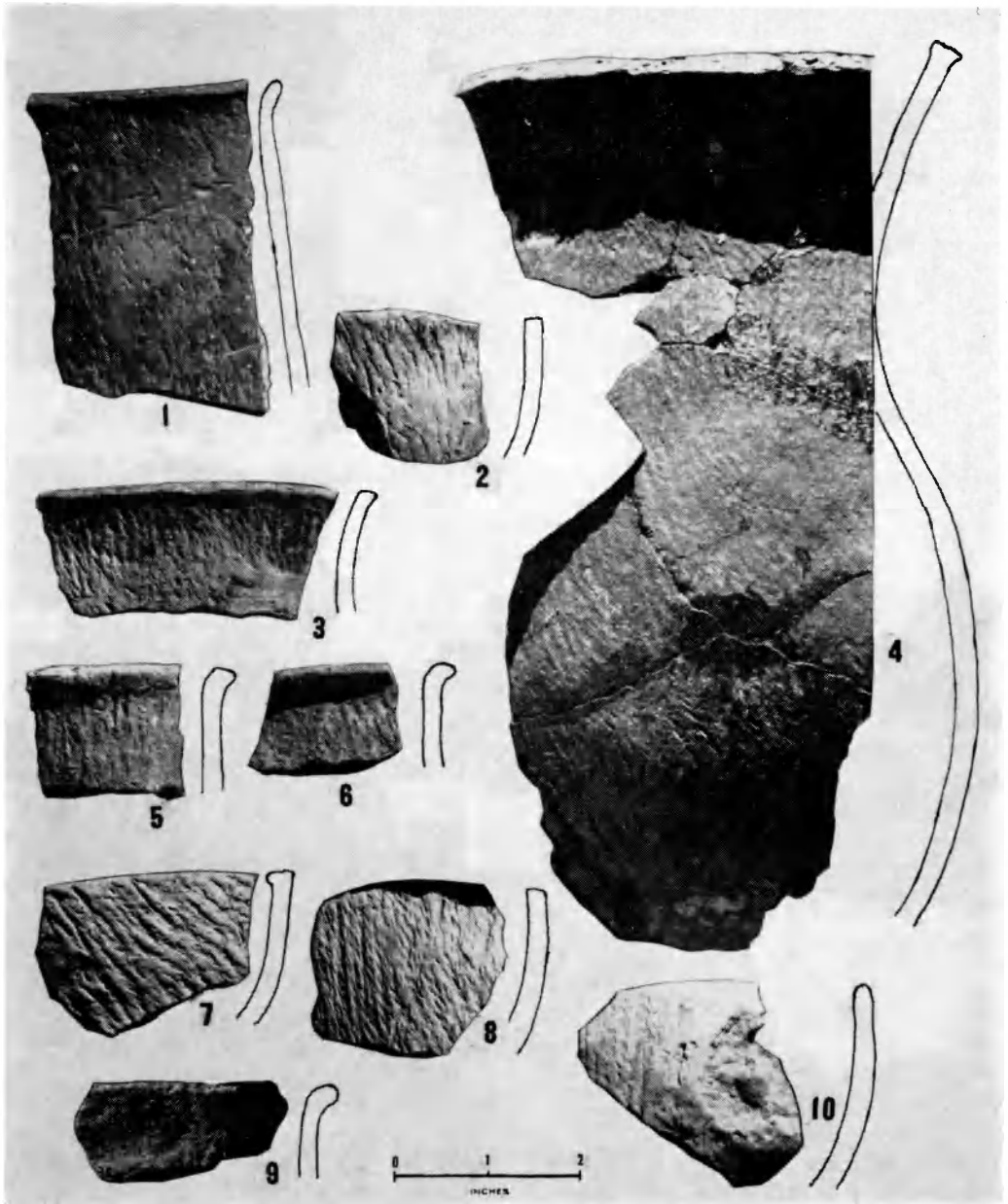


Plate 6—Shenk's Ferry Cordmarked rimsherds (Collarless subtype).

hensive work. He will have at his disposal all known samples, including the sample from the Second Terrace Plot which is not considered here. It may be

that over-all incidences will not justify the groupings we have used. However, this group divides rather naturally along the lines suggested.

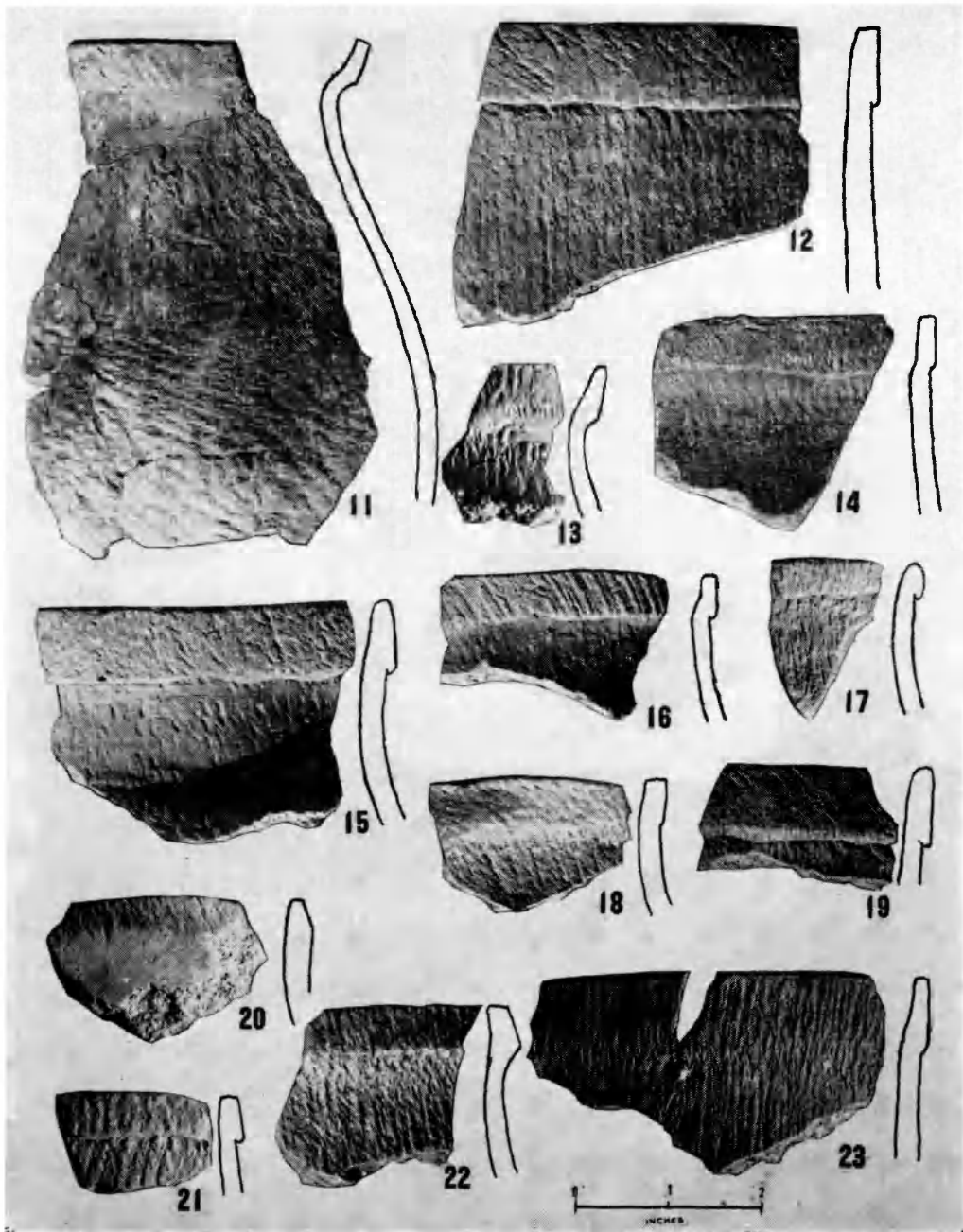


Plate 7—Shenk's Ferry Cordmarked rimsherds (Plain subtype).

SHENK'S FERRY CORDMARKED

Collarless (Plate 6, Nos. 1-10):

Has no thickening of the rim area, except occasional flattening by paddle

blows. Profile variable, everted with neck constriction, flush vertical, flush inverted. Some bowl and sub-conical forms are indicated.

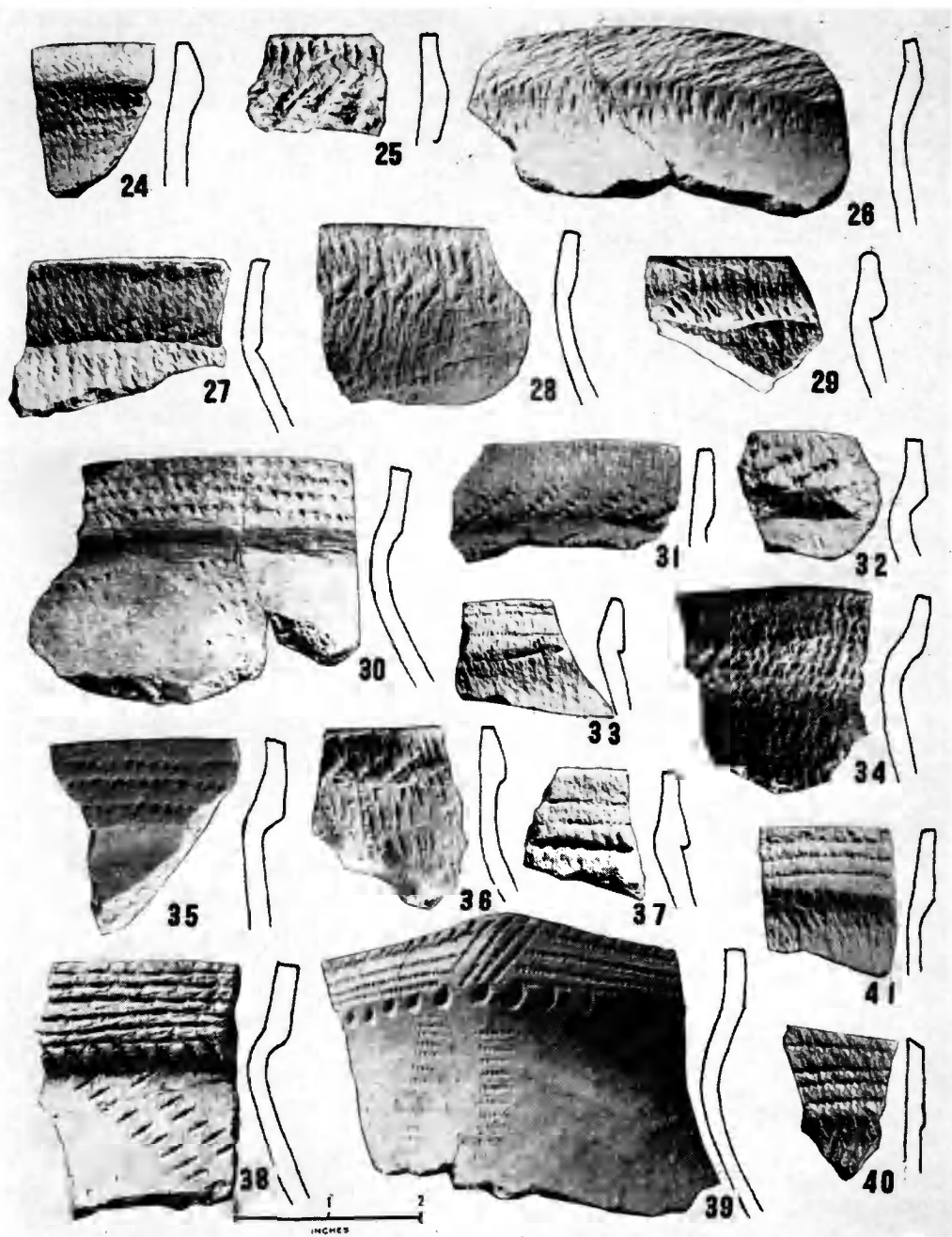


Plate 8—Shenk's Ferry Cordmarked rimsherds (Paddle-Edge Impressed subtype). Nos. 38-40 are trade sherds.

We find no evidence of this subtype reported from other Shenk's Ferry sites, and while its significance in this sample is not clear, we suspect it rep-

sents a vestigial form of a tradition evolving into the following subtype, or onto which the features of the following subtype are grafted. Similar-

ities to Jack's Reef and Levanna manifestations in the Point Peninsula-Owasco series are recognized.

Plain (Plate 7, Nos. 11-23):

No decoration other than the cord-marking, but has a folded-back or added rim strip. The rim strip is always smoothly welded at the lip, but sometimes poorly welded at the base. Form of vessel is usually of majority type, vertical to out-flaring rim, sharp neck constriction, wide shoulders, and egg-shaped body with rounded base.

Paddle-Edge Impressed (Plate 8, Nos. 24-37 and 41):

Same as Plain, except that the rim strip is welded to the wall at the base with paddle-edge blows or impressions. Sometimes the paddle edge is used to create simple or elaborate designs on collar, neck, or shoulder. Included in this group are a few sherds with simple designs which may be dentate-stamped and/or pointille work executed with a stylus.

SHENK'S FERRY INCISED

Simple (Plate 9, Nos. 42-50):

Decoration consists of simple horizontal bands of vertical, oblique or horizontal lines or slashes on neck or collar, but does not include more than one of these elements.

Multiple Banded (Plates 10 & 11, Nos. 51-74):

Decoration is a combination of uninterrupted bands of horizontal, oblique, or occasionally vertical lines. Bands usually alternate between horizontal and oblique. Sometimes paddle-edge impressions substitute for one of the incised bands. A stereotype, this subtype accounts for the largest group in the sample.

Complex (Plate 12, Nos. 75-87):

Decorated with horizontal bands crossed by oblique or vertical bands, or combinations of triangular or rectangular platts on neck or collar or both. The weakness of this division is that without the whole vessel it cannot always be determined that lines were not crossed on the missing parts. Thus, in a few instances, two parts of the same rim might fall into different subtypes. While this subtype begins to show some of the plating and motifs of the later high-collared types, Lancaster Incised and Funck Incised, the platts are on the neck rather than the collar and the vessels are still conservative Shenk's Ferry in form.

TRADE SHERDS

There are only six rimsherd units in the sample that are distinctly not Shenk's Ferry. Five of these are late Castle Creek, Oak Hill Corded, or Proto-Mohawk (depending on the identifying expert). Perhaps all of these identifications are relevant. This group is small but quite distinct from Shenk's Ferry in paste and treatment. The paste is smoother, more thoroughly mixed and malleated. The color is blue-gray. The clay apparently is devoid of iron salts, or was fired with a different technique. The interiors are floated to a finish approaching a glaze. (The floating treatment is present on only one Shenk's Ferry sherd unit.) The vessels in the trade sherd group are castellated, while only two units in the Shenk's Ferry group are so designed. The tradition represented does not seem to have a direct or developmental relationship to Shenk's Ferry, but is considered significant because of apparent Shenk's Ferry attempts to imitate it. The group is illustrated with the Paddle Edge Impressed sub-

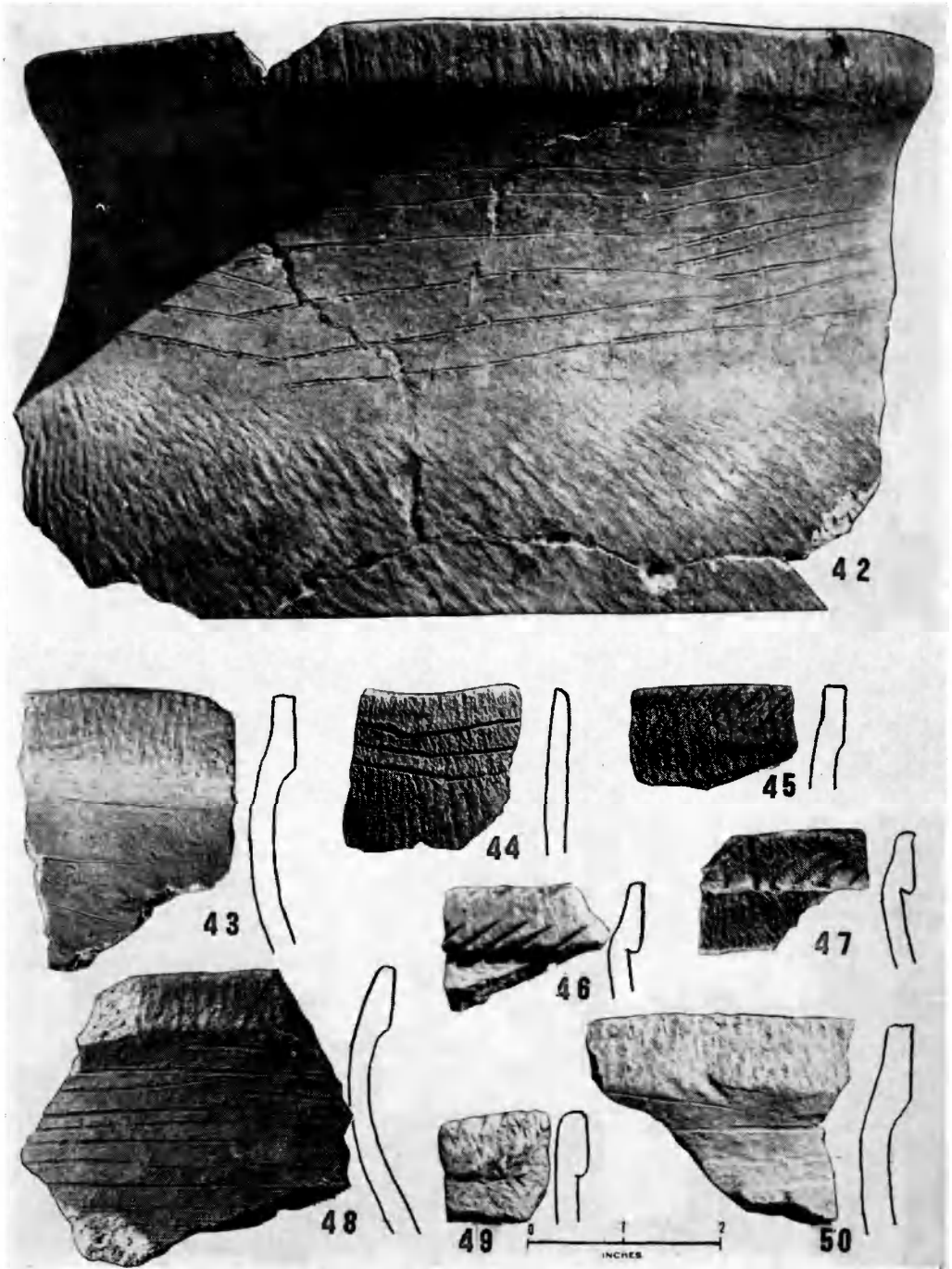


Plate 9—Shenk's Ferry Incised rimsherds (Simple Incised subtype).

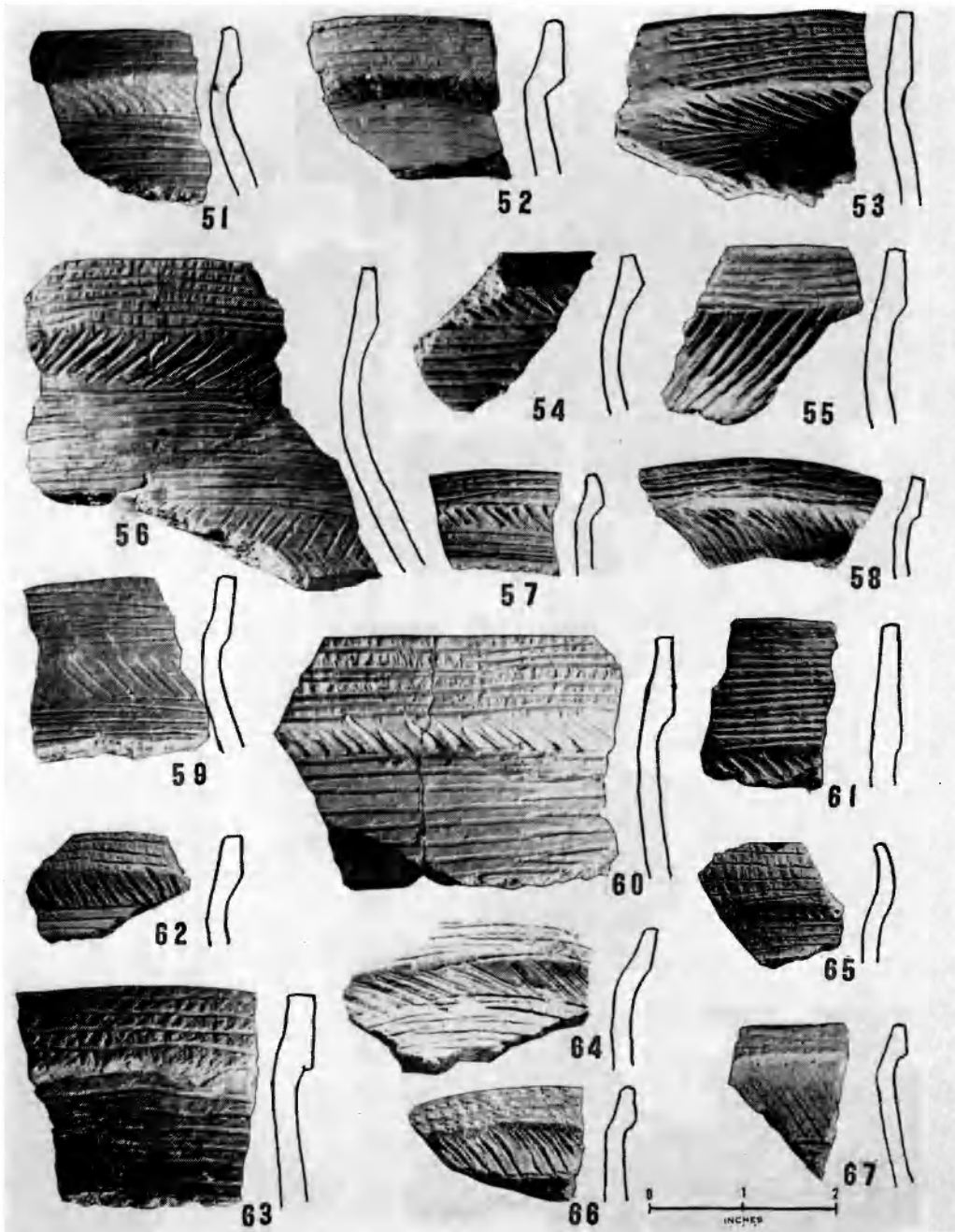


Plate 10—Shenk's Ferry Incised rimsherds (Multiple Banded subtype).
See also Plate 11.

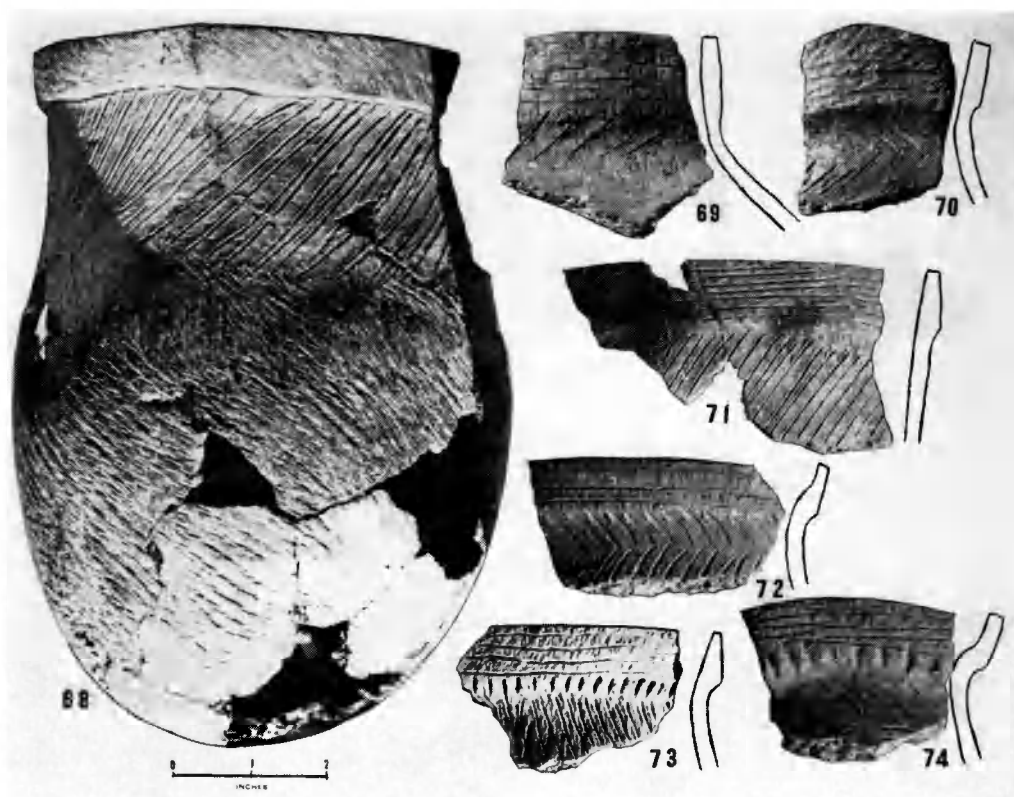


Plate 11—Shenk's Ferry Incised rimsherds (Multiple Banded subtype).
See also Plate 10.

type because of obvious similarities (Plate 8, Nos. 38-40).^s

The trade sherds are, without exception, decorated with paddle-edge impressions, dentate-stamping or pointille work, but they are easily distinguished from the Shenk's Ferry imitations. The paddle edge is sharper, the cording is more refined and finer, the pointille work is more precise and regular. Incising is not combined in the patterns.

If it is assumed that these trade sherds are a clue to the time of occupation at

Blue Rock, it would seem that incising was a well-developed technique in Shenk's Ferry before it was a strong tradition in the Northeast generally. It is possible that because Shenk's Ferry has been only lately recognized and is still poorly understood, its relationship and contribution to Northeastern ceramic development has been underestimated or overlooked. What, for example, is the relationship, if any, between Shenk's Ferry Incised and Iroquois Linear? The differences are of course obvious, but they are not greater than the differences between the trade sherd group at Blue Rock and the paddle-edge-impressed imitations.

^s An aberrant sherd unit from the Stewart Site, described by Witthoft (1954; pp. 24-25 and Plate 2, W), seems to be identical with sherd unit 38. A sherd from this unit, not illustrated, has a chevron pattern on the rim.

CONCLUSIONS

In spite of the nearness of the Schultz Site and the actual intrusion of a Susquehannock cemetery into the Blue Rock Shenk's Ferry site, there is no example of Susquehannock materials in the materials recovered from the Shenk's Ferry features. There is nothing in the pottery sample that can be described as an Iroquoian influence. The Susquehannocks were probably not yet an entity at the time of the Blue Rock occupation.

The burial offering trait is inconsistent in Shenk's Ferry. Nevertheless, the only grave pot recovered (illustrated only in situ, Plate 3) is considered significant. It belongs to the cordmarked type and is the only example so far reported of this type as a grave pot form. It has been assumed that the cordmarked type represents an older tradition than the incised types and that a site's relative position in sequence might be determined by percentages of sample composition. If these assumptions are valid, then Blue Rock is the oldest site with an adequate sample so far reported. A possible exception is the Breneman Site (Fenstermaker, 1937), but no adequate sample from that site is available for comparison.

If our interpretation of the trade sherd group is correct, the occupation at Blue Rock was contemporaneous with, but not closely related to, late stages of Castle Creek Owasco. It probably represents the most advanced development of pure Shenk's Ferry traditions. At least we have at present no evidence for any further development. Therefore, the occupation was probably not long before successive waves of Iroquoian influence began to corrupt the Shenk's Ferry ceramic tradition.

The nearest ceramic relative to the Shenk's Ferry tradition (at least, this

appears so on paper) seems to be the Albemarle Cordmarked series, particularly that from the Shepard Site (MacCord, Schmitt & Slattery, 1957) on the Potomac River. The similarity is apparent primarily in the Shenk's Ferry Simple Incised and Paddle-Edge Impressed subtypes. These are rather minor groups in the Shenk's Ferry assemblage. Incising, which is the predominant technique in Shenk's Ferry, is conspicuously absent from the Albemarle series. In the other direction, Shenk's Ferry Cordmarked, a major group in the Shenk's Ferry assemblage, would appear to be more primitive than the Albemarle series. The Albemarle series therefore seems to be bracketed within the Shenk's Ferry series, and the relationship, if any, is hardly a sequential one.

There is a rather dramatic shift in pottery styles from conservative types on early sites to the para-Iroquoian types, Lancaster Incised and Funck Incised, on later sites. This has led to some confusion in interpretation. Clearly, Lancaster Incised and Funck Incised do represent some kind of Iroquoian influence, and it has been suggested that these types represent a separate manifestation, not Shenk's Ferry and not Susquehannock. The whole table of Shenk's Ferry traits, however, is remarkably consistent throughout all stages, early and late. The pits, in-pit and under-the-hearth burial complex, weak or inconsistent burial offering tradition, pipe forms, bone and shell bead forms, bone tools and antler-tip projectile points are indistinguishable from site to site regardless of position in sequence, and this is true even on sites occupied contemporaneously with the Susquehannocks. Paste, temper, treatment and motifs remain constant in the pottery. The collar is elevated on the later types and decora-

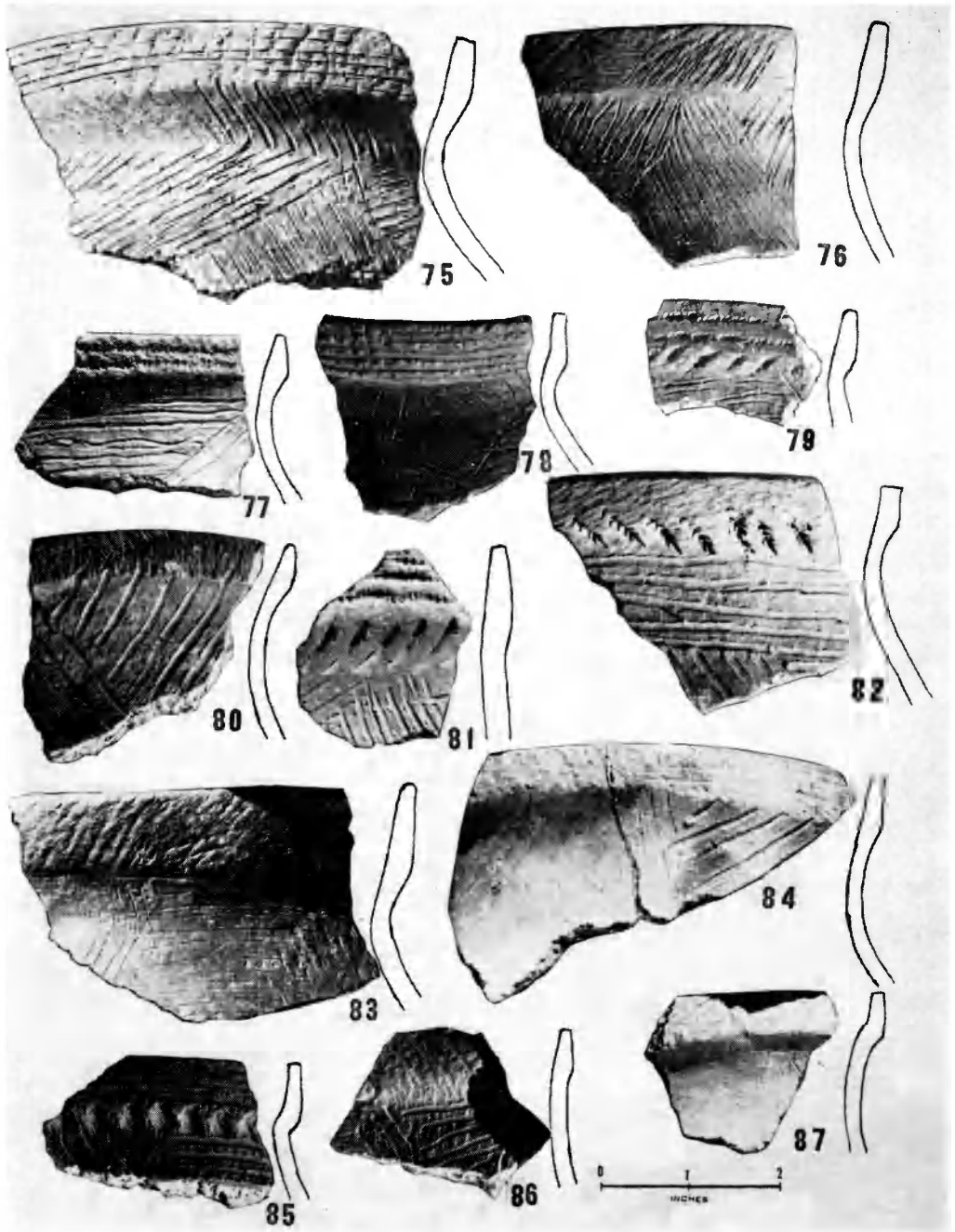


Plate 12—Shenk's Ferry Incised rimsherds (*Complex Incised subtype*).

tion is transferred from neck and shoulder to collar. The result seems to be an imitation of the visual aspects of Iro-

quoian styles, but all the details of craft are Shenk's Ferry. In other words, the case for an interpretation of Lancaster

Incised and Funck Incised as a separate manifestation would, on the basis of present knowledge, seem to rest solely on the height of pot collars within a trait complex otherwise indistinguishable. A true exception to Shenk's Ferry trait quiescence does perhaps occur in stone projectile point forms. There is a progressive refinement of points between Blue Rock and the late sites, so that points occurring with otherwise Shenk's Ferry traits at the Rice Site are delicately and finely finished and appear more like Susquehannock points on the Schultz Site than the Shenk's Ferry points at Blue Rock.

Blue Rock is the most extensive area of Shenk's Ferry cultural debris known in the Lower Susquehanna Valley. By comparison, other known sites are small back-country hamlets. The site is situated at the foot of a series of terraces and would be notably indefensible against landward attack. It seems reasonable to assume that the people were unchallenged in the area during the occupation.

While the site is large, there are within it at least five separate centers or clusters of debris. What this clustering means is not clear. Only two of these clusters have been sampled, and it is impossible at this time to make a detailed comparative analysis.

However, at least three of these clusters are in an untenable position for year-around occupation. While the area has never been a flood plain in the conventional sense, at least since glacial times, the local topography is such (with the projection of Turkey Hill sharply constricting the river bed just below Blue Rock) that the lower part of the site would have been devastated periodically by ice jams. There is no reason to be-

lieve this was less true in Shenk's Ferry times than it is at present.

The subsoil line is not parallel with the present surface, as noted before, but declines steeply. In other words, this area was the original river bank. As such, it is so steep as to make dwellings improbable. There was only one post mold in the whole plot excavated. Above this bank on the first terrace, where according to our preconceived idea there should have been a dwelling area, the subsoil is sterile of post molds as far up as the second terrace. The features, pits and graves, were dug into the bank from a horizontal as well as a vertical approach. Some graves have no vertical walls on the lower side below the top soil.

Below the bank at the present time is the railroad embankment. It was built on the landward side of what was formerly a rather wide beach area. The impounded waters of Lake Clarke cover the rest of what was the beach. The river is so wide at this point (2.5 miles) that high water rarely, if ever, covered the beach in recent centuries (before the dam) except in conjunction with the ice jams. The pits and graves extend down the bank and on to the beach area at least as far as the railroad embankment, and of course we can go no farther in that direction.

The facts seem to leave us with a choice of two interpretations, neither of which is entirely satisfactory. Either this debris was transported down from the second terrace and buried on the river bank, or the center of dwelling for this cluster of debris was below the bank on the beach. The River Bank Plot differs from the Second Terrace Plot in that there are no post molds among the features, zoning in the pits is not as well defined, and the soil is not compacted

around the features to suggest the trampling of hearth floors. If the dwelling area was actually on the beach, it follows that the people could not have been completely sedentary.

In the Washington Boro Basin there are three riverine Shenk's Ferry sites representing, according to pottery types, different periods. They are Blue Rock (conservative), the Frey Farm in Washington Boro (Lancaster Incised), and the Schultz and Murray sites (Funk Incised). In the Conestoga drainage there is a complex of small sites, Breneman, Rock Hill, Shenk's Ferry, Shenk Farm, and Rice, with ceramic correspondence to the riverine sites. The Conestoga sites are secluded locations, usually on southern slopes. They are all well back from any major stream, but the whole area is hilly terrain with many small, short, streams. It is not the most favorable area for agriculture but is ideal for hunting or trapping.

The fact that these back-country sites have been known has led to the impression that they are typical Shenk's Ferry sites. This is probably an erroneous impression. After realization of the scope of the occupation at Blue Rock, an investigation of two other riverine sites was made. The sites are the Frey Farm Site in Washington Boro and the Brandt Site at Bainbridge. The investigation was superficial but nevertheless made obvious the fact that these riverine sites dwarf in size the back-country sites. This suggests a course for further investigation. A tentative sequence for these riverine sites, which are considered here the major Shenk's Ferry sites, is offered as follows: Blue Rock, Frey Farm Site (Washington Boro), Brandt Site (Bainbridge),⁹ and Schultz Site.

Evidence gathered so far from Shenk's Ferry sites presents a picture of small

groups with common traditions, only loosely knit, if at all, into an over-all social and political framework. While the occupation at Blue Rock was an extensive one, the evidence does not seem to contradict the picture of a loose federation of smaller groups. There are at least five centers or clusters of debris separated by areas of undisturbed subsoil. Two of these clusters have been sampled. There are slight differences in the two samples, but it is not clear whether these differences represent differences in time or only of preference within groups. The sample from the Second Terrace Plot is narrower and more conservative in stylistic range, but any temptation to conclude that therefore it is older is restrained by the fact that the River Bank Plot sample ranges further in both directions.

We have not solved the problems of Shenk's Ferry at Blue Rock. The site abounds with obstructions of modern development. The Second Terrace Plot with its hearth floors and unresolved patterns of post molds seems to indicate a sedentary people. The River Bank Plot is barren of post molds. If the dwellings for this cluster were on the beach,

⁹ Holzinger conducted a limited test excavation on the Brandt Site. He encountered immediately a profusion of post molds and a mingling of Susquehannock and Shenk's Ferry pottery. The Susquehannock ware is shell-tempered Schultz Incised. The Shenk's Ferry ware is conservative, but falls later than Blue Rock. It contains incipient suggestions of Lancaster Incised. Unlike the situation at Blue Rock, large parts of what appeared to be whole Shenk's Ferry pots smashed in situ were found scattered without relation to pits. At Blue Rock the sherds are mere fragments and were garbage disposed of in pits to begin with.

The Brandt Site is a small mesa-like plateau elevated from the river and the surrounding land. It is inconvenient to reach from the water but is ideal as a fortress. Occupation was extensive and perhaps repeated. The soil is stained to an unusual degree and depth. The smashed pots and the unusual amounts of charcoal and soil stain suggest that the Susquehannocks may have overrun and sacked this site, but this suggestion is based only on impression.

they could not have been permanent and were probably not substantial. It may be that the beach groups gathered there from the Conestoga sites at the beginning of the growing season and the shad run.

The center of occupation with the highest concentration of visible superficial evidence is on the first terrace about 200 feet upstream and back from our River Bank Plot. It would probably be assuming a too highly developed sanitary concept to suggest that our sample was possibly transported from there, especially since we have committed ourselves to the proposition that under-the-hearth, inside-the-house (or just outside) burials and disposal of garbage is a consistent Shenk's Ferry cultural trait. But we do not mention this merely to confuse the problem further. The area mentioned is the least obstructed part of the site. So far as we know, it has never been touched archeologically. If it ever is, we wish to express our disapproval in advance—unless it is undertaken with trained personnel or supervision, preferably with a grant and the prestige of institutional backing. For when this part of the site is destroyed, there will be nothing but items for collectors: The Shenk's Ferry culture has been underestimated. It cannot be lumped with anything else. It has no known close relatives in the region. It seems to have succeeded the Clempson's Island culture but from where it came is not known.

Nor is it entirely clear what became of it. Answers to the problems we have only compounded must come from Shenk's Ferry sites studied by personnel who know what the problems are.

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