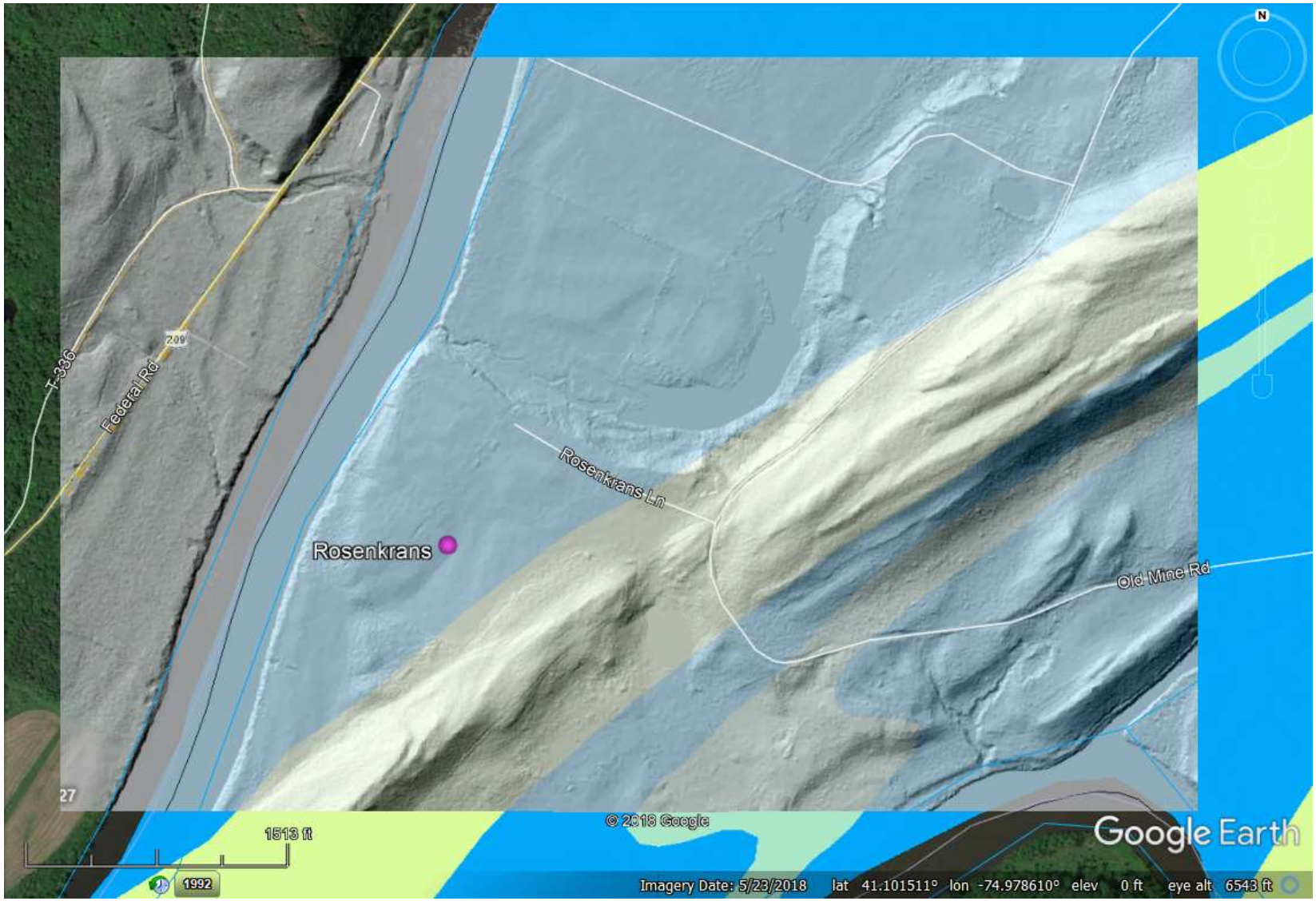
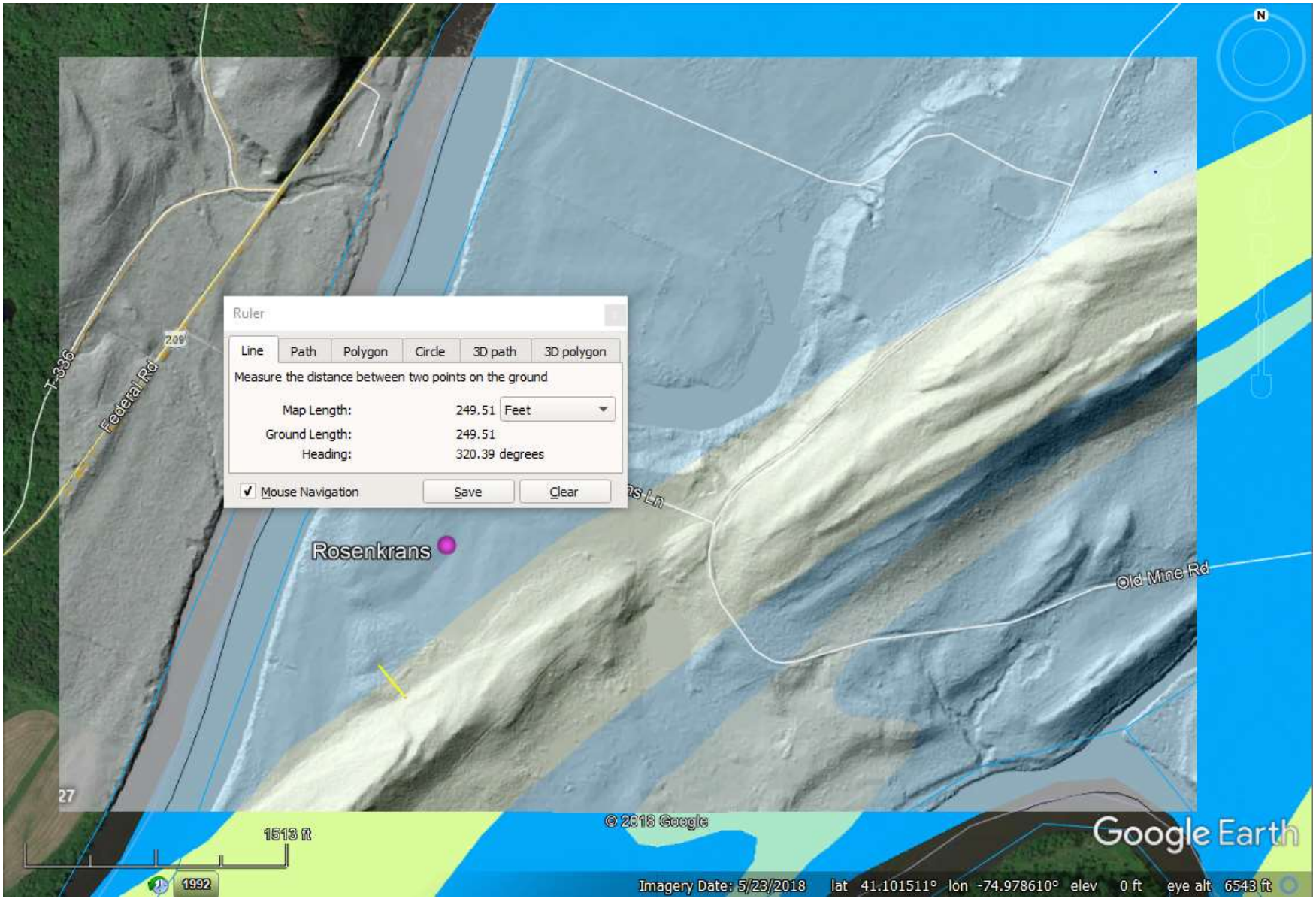


The Rosenkrans Adena Site, Wallpack Bend, NJ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THE ROSENKRANS SITE, AN ADENA-RELATED MORTUARY COMPLEX IN THE UPPER DELAWARE VALLEY, NEW JERSEY

Herbert C. Kraft

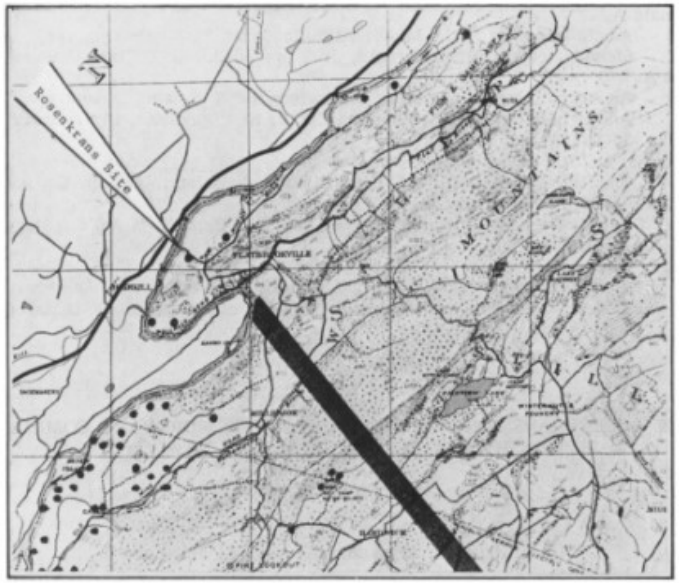
Geographic Location and General Environment

The Rosenkrans site is situated in the Upper Delaware Valley on a peninsular area known as the Wallpack Bend, at the southwesternmost tip of Sussex County, New Jersey, at 41° 06' north latitude and 74° 59' west longitude. On the New Jersey Geological Survey maps traditionally used to fix archaeological sites, the identifying numbers are 21-23-7-8-8,9 (Schrabisch 1917:70-72; Cross 1941:132). Until 1960 the property was more generally known as "Rosenkrans Ferry", because a cable controlled barge was in operation to convey horse-drawn wagons, and later automobiles, to and from Bushkill, Pennsylvania, almost directly opposite.

The Delaware River flowing in a generally southwesterly direction through the Ridge and Valley Province of the Appalachian Highlands (Braun 1967:492-3), makes a sharp S-shaped curve just below the Rosenkrans site, and cuts through the Wallpack Ridge to join the Flat Brook at the base of the Kittatinny Mountains (Fig. 1; Map 1). Here the Devonian shales of the Wallpack Ridge merge with the Silurian rocks that constitute the Blue-Kittatinny-Shawangunk Mountain chain that stretches from northeastern Pennsylvania across northwestern New Jersey and into southeastern New York State. This Appalachian barrier, broken here and there by gaps, undoubtedly provided a measure of selection and control over the direction and movement of early migrating peoples. The soils in the area consist primarily of stratified Wisconsin drift—actually Chenango gravelly fine sandy loam (Fletcher *et al* 1975:12 and map sheet 25).

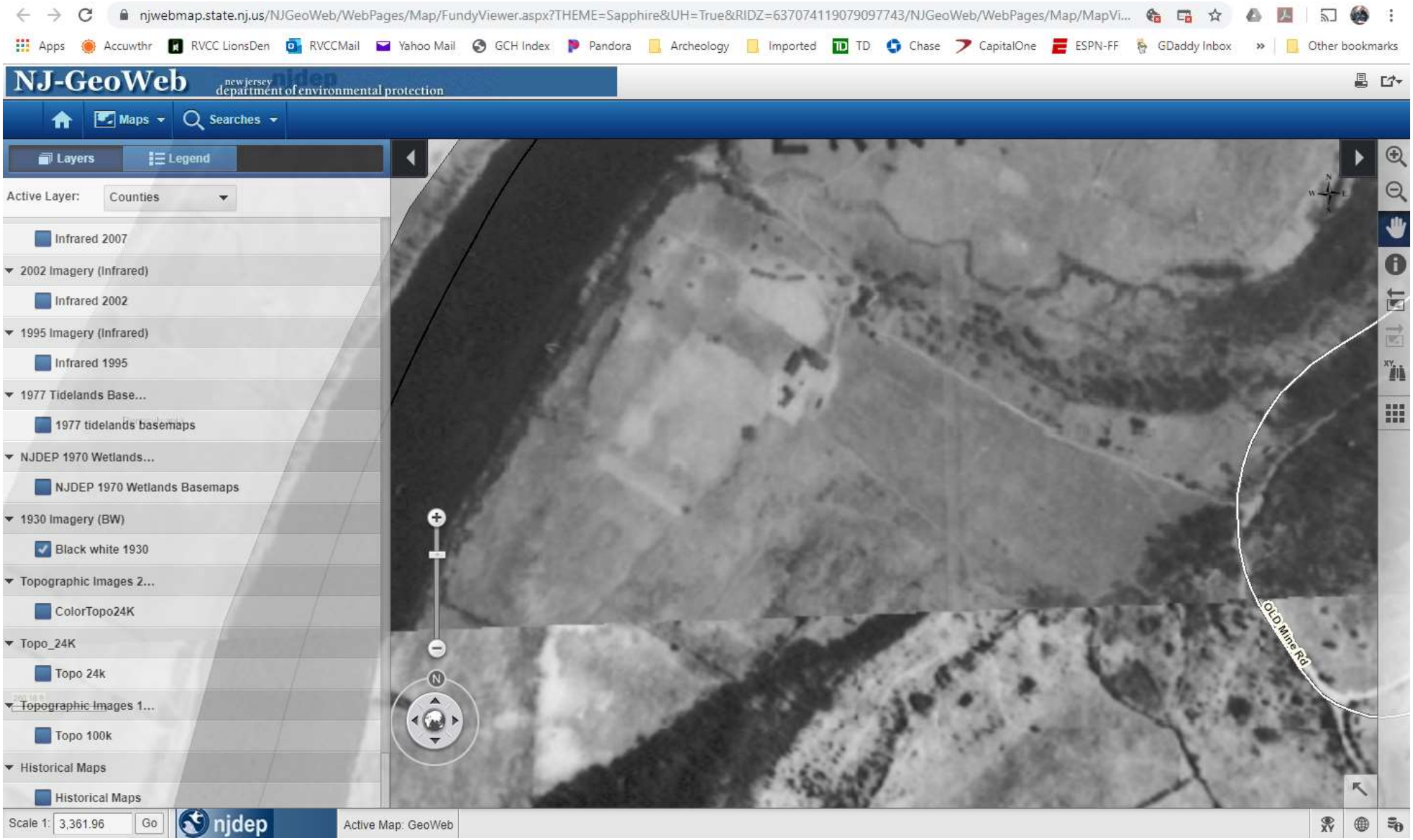
Today this environment is somewhat modified by farms and reforestation, especially along the river terraces and flood plains, (Fig. 1). The foothills and mountainsides, consisting largely of mixed forests, including oak, hemlock, white pine, pitch pine, red maple, basswood and white ash, probably reflect conditions as they may have been in aboriginal times. Nut trees such as the black walnut, butternut, shag bark hickory, chestnut and red oak among others, provide edible and storeable foods. Wild grapes and wild plums, as well as berry bushes such as blackberry, raspberry, wood strawberries and elderberries are relatively abundant.

Before the white hunters gunned some of the animals into extinction, the white tailed deer, elk, wild turkey, black bear, beaver, raccoon, porcupine, rabbit, and occasional predators such as the wolf, "panther" and a wide variety of birds, reptiles and amphibians lived in the woods, fields and marshes. The river sustained fish year round—perch, sturgeon, sucker, catfish. During the spawning seasons such anadromous fish as the shad, herring, alewives and



MAP 1: U.S.G.S. map of the Upper Delaware Valley showing the Wallpack Bend and the location of the Rosenkrans Site.


ROSECRANS
FERRY
FLATBROOKVILLE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2002 Imagery (Infrared)
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1995 Imagery (Infrared)
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eel, provided a prodigious aquatic food resource (Miller *et al* 1974:63, 105). Additionally, the river could always be depended upon for a meal of fresh water mussel (*Ellipsio complanatus*) (see Kraft 1975:156-7).

In precontact times, the valley presented a very favorable environment for aboriginal peoples. Food and fuel were varied and abundant, the climate was not terribly rigorous, and raw materials could be easily procured for the manufacture of tools, weapons, containers and shelters. For these and other reasons, man occupied Upper Delaware Valley sites, like the Rosenkrans site, more or less continuously from Paleo-Indian into Historic times (Cross 1941:132-143; Kraft 1970; 1975).

The nameless people who are herein identified by the cultural-archaeological term "Middlesex", as well as their predecessors and successors, doubtless selected this high terrace for several reasons. The plateau has an elevation of 40 ft. above the normal flow of the river, safely above inundation, with easy access to the river. About 300 ft. to the north, and some 800 ft. to the south of the cemetery site, the land falls away and emerges as a floodplain, occasionally covered by high water. This elevation may have been selected to provide a vantage point for the observation of human and/or animal activities to north, south and west.

The plateau—a natural mound—may also have suggested itself as an ideal burial site. The sandy soil on this eminence is observably different from the stiff silt on the floodplain and could be more easily dug for the interment of the dead. Fortunately for us, it also provided a favorable environment for the preservation of skeletal, faunal and floral remains. Additionally—and there is as yet no substantiating evidence—the people of the Middlesex phase may have selected the well drained soils as a base upon which to establish the abodes of the living.

Historic Background of the Rosenkrans Site

The general area of the Wallpack Bend has been known to local "Indian relic" collectors at least since the turn of the century. Max Schrabisch, who conducted an archaeological reconnaissance for the Geological Survey of New Jersey, identified the area as "Flatbrookville" and said "The peninsula. . .was a favorite resort of the Indians, as is fully attested by the numberless remains to be found on river, shore and hillside" (Schrabisch 1915:34-5). He identified two "village sites" in this vicinity.

The first systematic excavations were conducted on the "Rosenkrans Ferry site" by Dr. Dorothy Cross for the Indian Sites Survey of the Division of Professional and Service Projects of the Works Projects Administration and the New Jersey State Museum. This work, from July to October, 1938, resulted in the test exploration of selected portions of the plateau and the more intensive excavation of the "Peters Section" closer to the point of the peninsula. Details of these investigations are briefly recounted in Cross (1941:132-143). No evidence of Middlesex culture burials or artifacts were encountered or suspected during these endeavors.

On May 11, 1941, Dr. Lewis M. Haggerty, a dentist from Hackensack, New Jersey, found a two-hole gorget at the site. On October 26, and November 9, 1941, he found, in approximately the same spot, four additional gorgets and a pendant, a cache of 7 projectile points and miscellaneous artifacts associated in a pit with Burial No. 1. (Fig. 2).

Two years later, in August, 1943, Dr. Haggerty discovered copper beads and projectile points in an area that had undergone recent excavation by Kenneth Gleason and Gustave Dumont. The latter had encountered both tubular and spherical copper beads in what was subsequently reported as a "cremation burial" (Cross 1945:4, 5). Although the recovered copper artifacts were divided by the finders, they have been made available to the author for study, and are described under Burial No. 2 (Fig. 3).

No further work was undertaken until August, 1947. From then until August, 1948, Dr. Haggerty removed and recorded the remaining 11 burials which constitute the subject matter of this report. Realizing the unique importance of his find, Dr. Haggerty repeatedly asked for assistance from Dr. D. Cross and the New Jersey State Museum. Regrettably neither help nor advice was offered. He therefore undertook the recovery unaided, keeping records and sketches of the individual finds as best he could.

Early in 1948, Dr. Haggerty contacted Edmund S. Carpenter who was, at the time, engaged in the excavations of the Bell-Philhower site under the direction of Dr. William A.

Ritchie. Carpenter took immediate interest in the site and its mortuary remains and hailed it as ". . .one of the most notable finds made in eastern North American" (Carpenter, letter dated March 31, 1948).

Carpenter studied the artifacts and burials and reported the findings in *American Antiquity* (Carpenter 1950:298-303). In the meantime Dr. William A. Ritchie, newly appointed New York State Archaeologist, became interested in the discoveries and assigned them to the "Middlesex culture" which he said "is related to the Adena of the Ohio Valley and elsewhere. . ." (Ritchie, letter dated December 20, 1949). Dr. Ritchie was also instrumental in getting Yale Radiocarbon Laboratory to provide a C14 date on charcoal from Burial No. 9. The resultant date of 2560± 120 years B.P. (Y-1384) "is equivalent to 610 B.C. ± 120 years and is quite a bit earlier than we had anticipated. . ." (Ritchie, letter dated September 14, 1964). A brief mention of the Rosenkrans site is included in his *The Archaeology of New York State* (Ritchie 1965:203; 1969: 204).

In the quarter of a century since the appearance of Carpenter's description, the collection has remained in Dr. Haggerty's custody. Impressed by the quantity and quality of the mortuary remains, we deemed it to be both necessary and desireable to reexamine and publish, in somewhat greater detail, the unique artifacts and mortuary remains from this site. Dr. Haggerty was most cooperative and consented not only to the reexamination of his records and specimens but also to the shipping of the skeletal materials and certain artifacts to various specialists at the Smithsonian Institution and at the State University College at Buffalo, New York, among other places.

A modest grant from the New Jersey Historical Commission helped to defray some of the expenses. Seton Hall University also lent its support. The remainder of the expenses, as is so often the case in archaeological investigations, simply came out-of-pocket. The many individuals and institutions who helped in this endeavor will be credited in appropriate areas of the ensuing report. Suffice it to say that I am deeply indebted to one and all, and fully appreciate and acknowledge the help that was so freely given.

The Middlesex Component on the Rosenkrans Site

The Adena-like burials from the Rosenkrans site were all located in a relatively confined area about 250 ft. from the bluffs overlooking the Delaware River, and near the chicken coops that once stood east-northeast of Trench 5, dug by the Indian Sites Survey in 1938 (Cross 1941: 133; Plan 41). Dr. Haggerty's field notes indicate that the entire area encompasses little more than 500 sq. meters, about 1/7 acre. The field map (Map 2), drawn from paced-off measurements, is a rough approximation of the site. Most of the burials are located with a fair degree of accuracy, but a few (Burials 2, 6 and 8) are imprecisely positioned. This is simply a statement of fact and is not intended to be a criticism. Considering the lack of professional interest and advice received during the initial stages of excavation, it is remarkable that the notes are as thorough as they are.

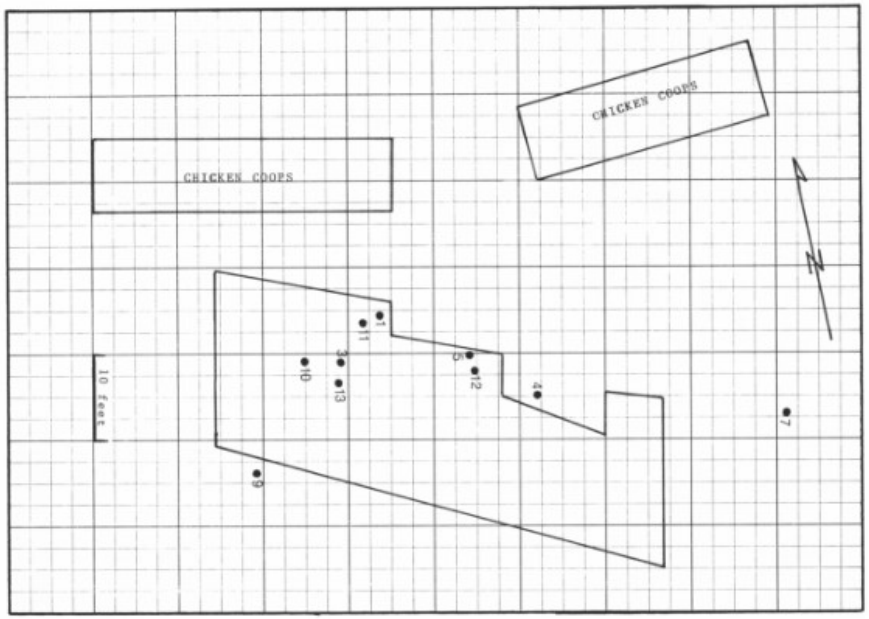
It is noted that certain of the burials are in close association, as for example 1 and 11; 3, 10, 13; and 5, 12. Others are more widely separated. To facilitate comparison with the earlier report by Carpenter (1950) and to correlate the references with the skeletal analyses by Drs. Clabeaux and Ubelaker (Appendixes I and II respectively) I will adhere to the numerical designations originally assigned by Dr. Haggerty.

The following descriptions will attempt to interweave pertinent information from the original field notes and observations, artifact descriptions and analyses, and the results of investigations concerning the burials—their age, sex, and such pathologies as have been discerned. In all, 13 features have been identified. Some interments contained the remains of two persons. Eleven features yielded 15 individuals and 2 features have been reported to contain burials, but the remains, except for a few teeth, are no longer available; hence there may have been a minimum of 17 cremated and/or inhumated burials in this Middlesex component.

BURIAL #1 was discovered in May, 1941, as a result of the surface exposure of two slate gorgets (Fig. 2 c, d). Subsequent excavation at this spot in the fall of the year yielded a pit of

The Rosenkrans Adena Site, Wallpack Bend, NJ

- 1938 Dorothy Cross NJ State Museum
- 1941-48 Dr. Lewis Haggerty, dentist, Hackensack, NJ
- 1948 Edmond S. Carpenter working elsewhere under William Ritchie NYS Archeologist
- 1950 American Antiquities publication, Carpenter
- Ritchie radiocarbon date of charcoal from Burial No. 9: 2560 $\pm$ 120 years B.P. (~610 B.C.E.)
- Collection remains in the possession of Dr. Haggerty but skeletal remains shipped to the Smithsonian and to SUNY Buffalo



MAP 2: Sketch map from Dr. Haggerty's field notes indicating the approximate area of excavation and the locations of most of the burials.

unrecorded diameter, at a minimal depth of 66 cm. Below the surface, at 2 to 4 cm, lay a third gorget (Fig. 2 e) and some projectile points. At 9 cm, a pendant (Fig. 2 f) and a fourth gorget (Fig. 2 b) emerged, to be followed by a fifth (Fig. 2 a) at 50 cm. The pit fill from a depth of about 22 to 66 cm was interspersed with the scattered skeletal remains of an adolescent human, the cremated bones of a dog or wolf, charcoal, additional projectile points, a roughed out and partially drilled pendant (Fig. 2 l), a crude pebble adze (Fig. 2 k) and lithic debitage.

Burial No. 1 has been identified as an adolescent of indeterminate sex about 10-15 yrs. old at death. From an examination of the surviving bones, Dr. Douglas Ubelaker has identified 5 categories of incineration, ranging from uncremated post cranial fragments to completely calcined skull bones that may have been subjected to temperatures in excess of 1472° F. or 800° Celsius (see Appendix II). Ubelaker has further ascertained that this individual was first buried, or possibly reposed in a charnel house until the flesh had decomposed, after which the denuded and presumably dry skeleton was subjected to cremation, probably at some locus other than the pit. Subsequently, the remaining fragments of more or less fire-consumed bones were gathered together, apparently with some of the charcoal, and then redeposited in the burial pit together with the grave offerings.

Calcined bone fragments of a dog or wolf jaw were found among the human skeletal remains in this burial pit. The distinction between a dog and wolf is not easily made even when the skeleton is well represented (Olson 1973:17-18); it is even more tenuous when the remains

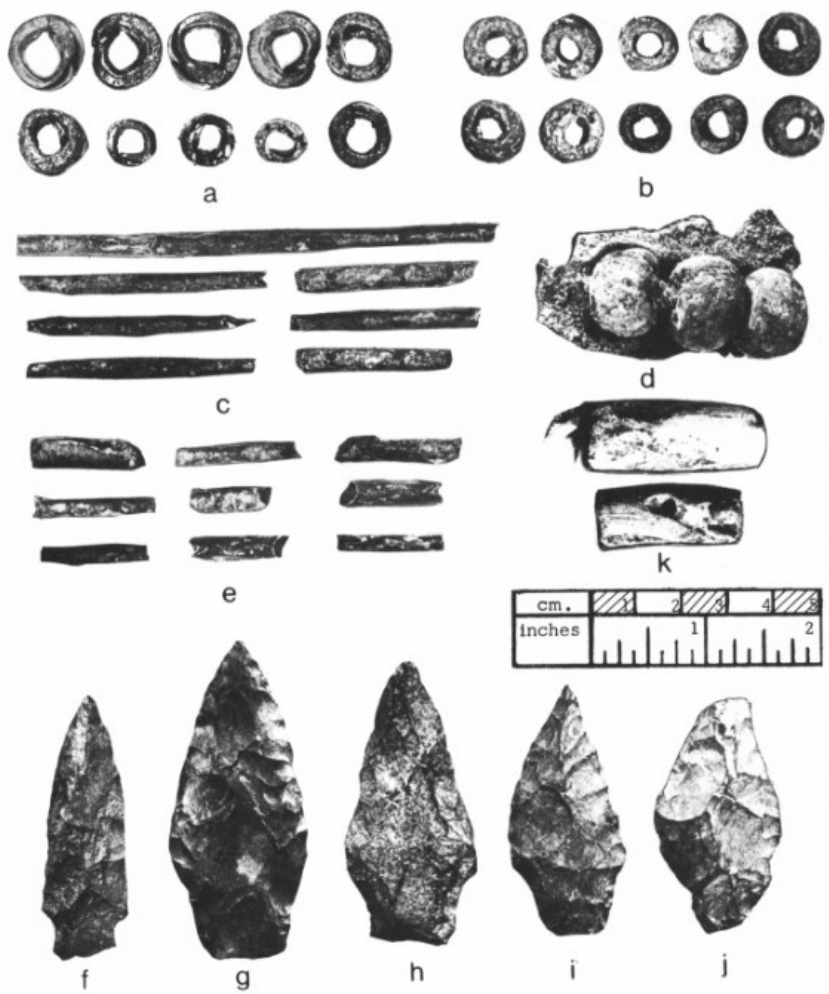


FIGURE 3: Burial #2. a, copper "ring beads"; b, copper ball beads; c, e, copper tubular beads; d, copper "nugget" beads nested in leather fragment with string preserved. Projectile points: f-i, Cresap-like points; j, preform; k, conch columella beads from Burial #3. Note central perforation.

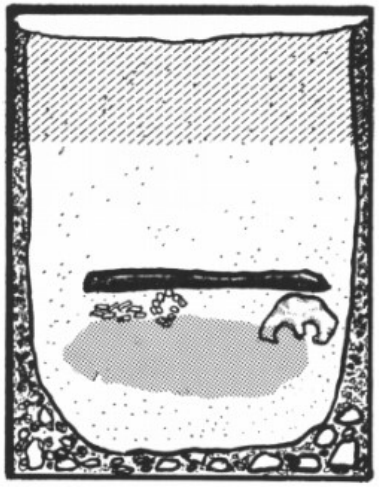


FIGURE 4: Profile of Burial pit #3 showing large slab over skeletal remains and grave goods.

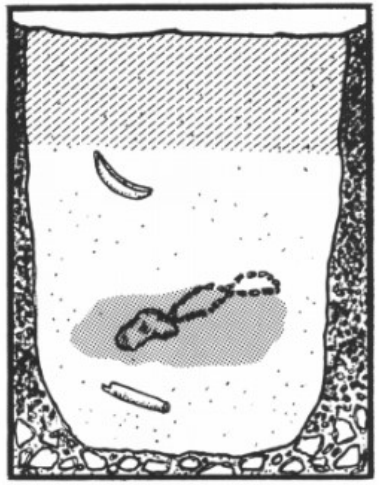


FIGURE 5: Profile of Burial pit #4. Note charcoal stained mass surrounding artifacts. Copper Boatstone above, blocked-end tube below.

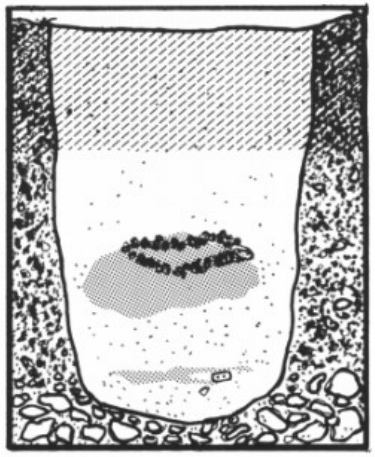


FIGURE 6: Profile of Burial pit #5. Note two charcoal masses containing human and artifactual remains.

FIGURE 7: Profile of Burial pit #10. Charcoal "bundle" contains human remains and grave goods.

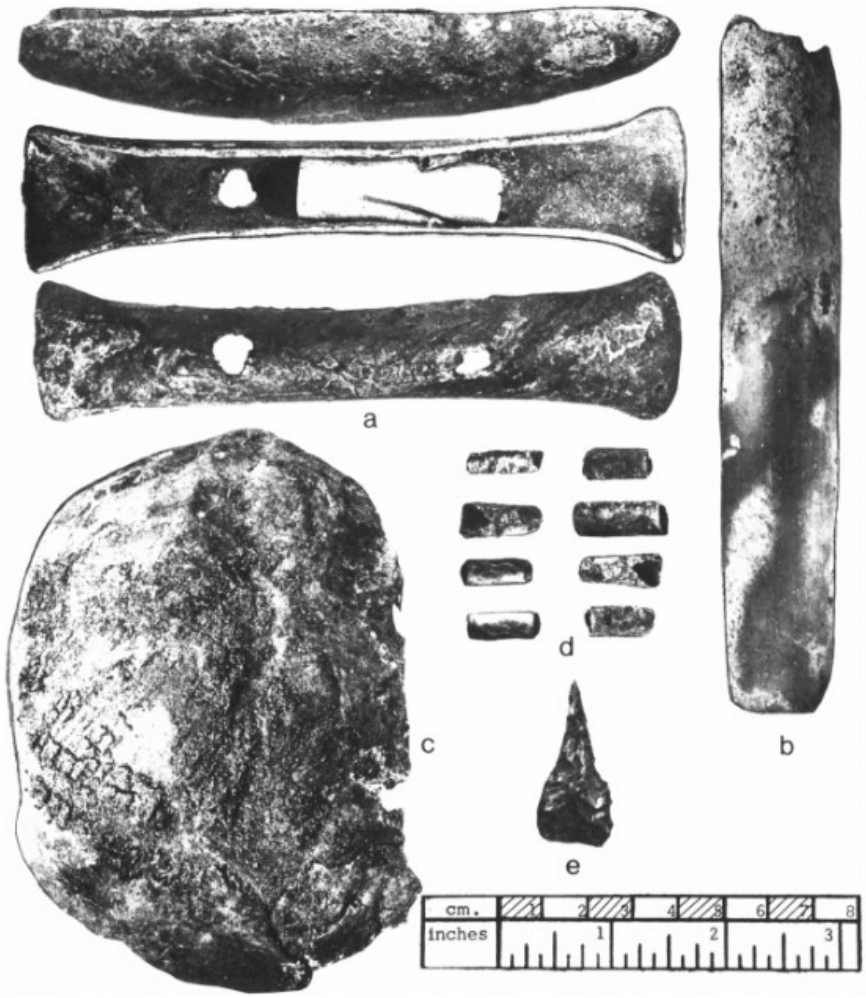


FIGURE 8: Burial #4. c, cranium of adult with impressions of beaded or fabric design on left parietal. a, side, top and bottom view of copper boatstone with conch columella bead wedged in place; b, limestone blocked-end-tube with cremation damage; d, copper tubular beads; e, jasper drill.

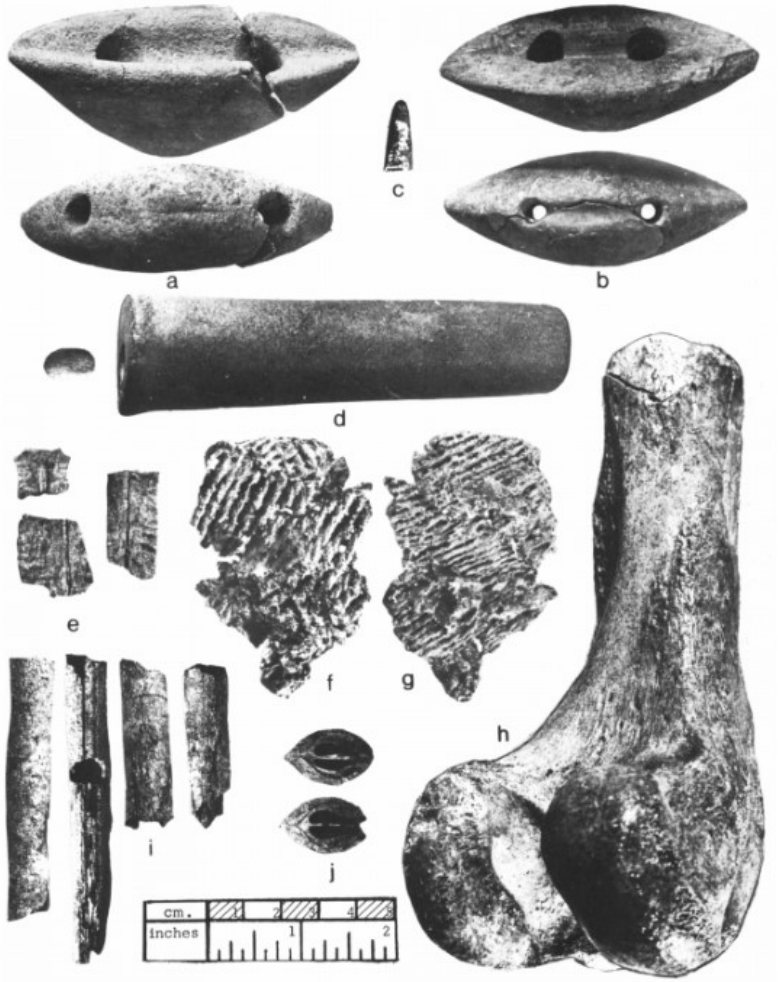


FIGURE 11: Burial #7. a, b, sandstone boatstones—top and bottom views; c, antler tine projectile point; d, blocked-end tube of sandstone with associated plug; e, incinerated turtle shell fragments; f-g, obverse and reverse of charred twined fabric; h, fragment of elk femur; i, charred hollow reeds, possibly a pan pipe or whistle; j, charred hickory nuts. (Fig. 2x the scale).

FIGURE 15: Burial #10. a, side, top and bottom views of banded slate boatstone. b, x-ray of this banded slate boatstone. c, probable knife; d, e drill; f, antler tine projectile point; g, biface. Projectile points: j-n, Cresap-like point.

Possible panpipe or whistle (Fig. 11 i). At least 5 charred and broken hollow reeds may be remnants of a pan pipe. The longest of these measures 85 mm and has an outside diameter of 12 mm and an inside diameter of 8.2 mm. The ends on some of the reeds are clearly cut straight across. One of the reeds has a square opening cut into its side. Alternative uses for these reeds might have been spear shafts or whistles.

BURIAL #8. This may be one of the most interesting burials from the Rosenkrans site, but details concerning the burial pit and its location are regrettably sparse. From Dr. Haggerty's notes it is evident that the pit had to be at least 76 cm in diameter and approximately 86 cm deep. The upper level of the pit apparently consisted of sand. Beneath this and extending from about 60 to 76 cm in depth was a dense bed of charcoal measuring 60 to 76 cm in extent and 15 to 25 cm in thickness. At the top of this mass, at a depth of about 60 cm, were the skull, mandible and a few fragments of the cranial bones of an adult male about 40-50 years old at death. Two large irregular stones were placed over the bones in a manner similar to that of Burial #3. All of the bones are heavily stained with copper; yet no copper of any kind was found in the pit. Only three projectile points—one Kittatinny point (Fig. 12 g) of black flint measuring 42.7 x 21.2 x 7.6 mm and two corner notched points of Onondaga chert accompanied this burial.

Both Drs. Clabeaux and Ubelaker have done a very competent analysis of this burial (Appendices I and II), and have described the pathology of the skull in detail. I propose to go beyond their findings to speculate whether the bone trauma in the maxilla and nasal cavity might not have important ritual overtones or shamanistic implications.

It is apparent that the skull of this middle-aged male has all of its teeth in place except the upper medial and lateral incisors. His teeth are sound, although very much worn; there are no cavities nor evidence of abcess and, curiously, the left lower third molar supports a dental pearl (Fig. 12 b). The square opening in the maxilla, below the nasal cavity, is unusual not only in the removal of the 4 incisors and upper left canine, but in the complete breaking away of the alveolar margin up to the nasal cavity, thereby forming an almost straight plane from the palate out (Fig. 12 a).

Oral pathologists and a radiologist have ruled out treponemal infection such as yaws or syphilis (Appendices I and II). Trauma with subsequent infection and bone remodeling is evident. The question we must try to answer is how, or for what reasons the trauma may have occurred.

It is certainly possible that this individual could have been hit squarely in the mouth, resulting in the loss of his four upper incisors and left canine tooth. However, the bone that supported the incisor roots, reaching up to the nasal sill, also had to be broken out. This condition would have had to occur late in life because the lower incisors are worn to the same level as the canines and molars and, curiously, these do not appear to have been damaged or removed by the postulated blow. However, it is noted that some of these did shatter in the process of excavation and have been restored for the photograph (Fig. 12 a).

Another, more intriguing and equally reasonable, hypothesis is that this mutilated skull may be an eastern manifestation of the "wolf man" or shaman's mask reported from the Wright Mound No. 6, Montgomery County, Kentucky; the Ayers Mound, Owen County, Kentucky; and the Wolford Mound, Pickaway County, Ohio (Webb and Baby 1957:61-71). In these mid-western instances a wolf maxilla with the first premolar, canines, and incisors in place and supported by the central portion of the wolf's palate carefully spatulated and ground thin, was found in an association suggesting insertion into the squared space provided by the removal of the upper incisors of the living shaman (Fig. 12 h, i). In describing the Ayer's Mound "wolf man", Webb and Baby (1957:69) state:

> *. . .a part of the wolf jaw was found in the mouth of the skull. Furthermore, it should be remembered that the upper incisor teeth of the skull had been removed and that the cavities had healed. It is significant that the portion of the wolf jaw in the skull fit in the space created by the removal of the incisor teeth.*

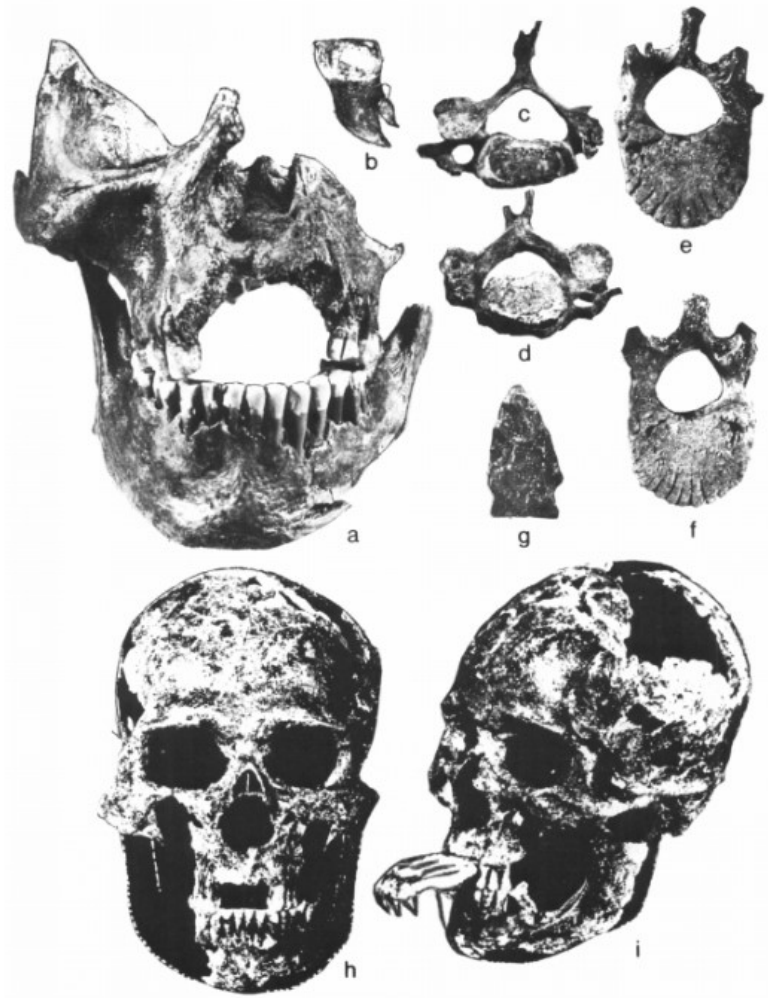


FIGURE 12: Burial #8. Adult male skull with upper incisors and left canine extracted, and alveolar ridge battered away to form a squared opening suggestive of the "wolf man" skull from the Ayers Mound, Ky. (Figs. j, i below). b, molar tooth with dental pearl (twice size of vertebrae and point). c-f, vertebrae of Burial #8; g, Kittatinny point. h, i, Ayers "wolf man's" skull with and without spatulated wolf mandible inserted (after Webb and Baby 1957:64-65).

It may be speculated that the loss of the upper teeth was no accident, but that they had intentionally been removed in order to make the wolf jaw artifact fit as perfectly as possible in the shaman's mouth. This would enable the shaman, covered with the head and skin of the wolf, to add to the realism of his wolf mask by actually exhibiting the upper teeth of the animal and manipulating the jaw in the course of his ceremonial incantations and gyrations. . .

When it is remembered that the Middlesex and other Adena-related phases in the east shared many features with mid-western Adena sites, then it is not unreasonable to suggest that the "wolf man" may represent such a shared trait. Having carefully examined the surviving portions of the skull, particularly the well-preserved facial and mandibular portions, I find it difficult to accept an explanation of occurence by accident. Why were only the upper incisors affected, and how do we explain the modification of the alveolar ridge?

It is my belief that this dental gap was deliberately effected by an extraction of the 4 healthy incisors and the upper left canine tooth followed by a battering away of the bony root-support areas of the alveolar ridge, until an unobstructed passage was created from the lips to the rear of the palate. Such an extensive mutilation of the maxillary-nasal area probably would account for the severe infection, trauma and remodeling of the oral-nasal cavity. It is important to note, however, that the affected area of the skull was completely healed over, and the individual was able to live with this condition for some time.

Our argument in support of a "wolf man" would be much stronger if we had the spatulated wolf jaw to accompany the modified skull. Nevertheless, other telling circumstances need to be considered before this hypothesis can be rejected. We note, for example, that Burial #8 was not cremated and the bones are in excellent condition. Yet few of the skeletal remains were interred in the pit, and almost no grave goods. Even more perplexing is the fact that every one of the bones is stained a rich, green color attesting to the fact that the body had at one time been associated with massive amounts of copper. But there was no copper in this burial pit, not even a bead. Moreover this burial, like most of the other burials interred or reinterred here, was located in or on top of a mass, or bundle of charcoal, and incinerated remains, yet it was not cremated.

Several explanations must be considered. First, the individual may have been originally interred elsewhere, together with lavish amounts of copper grave goods (the association of which stained the bones), the wolf jaw spatula and, possibly, other grave items. Subsequently, when the group moved, they may have exhumed portions of the revered bodily remains for transportation to a new burial site, where they were then reinterred as a bundle without the grave furnishings Alternatively, the body may have been similarly accoutered and placed in a charnel house from which it was subsequently removed and interred, again without the copper artifacts or the wolf jaw spatula. A third possibility is that such a wolf jaw and other shamanistic paraphernelia may have been passed on to another surviving shaman, and thus escaped burial with the subject.

BURIAL #9 consisted of the cremated remains of a young adult about 20-30 years old at death. The burial pit was oval and measured approximately 90 cm to 120 cm at oral diameter and at least 100 cm in depth. The upper part of the pit was filled with sand. At about 15 cm charcoal became noticeable, but the principal mass of charcoal and ash which included all of the cremated bones and grave goods, was situated at a depth of 90 to 115 cm below the orifice. In turn, this mass had been placed on top of a pile of charred sticks and twigs. Piled on top of the charcoal mass were 3 stones about the size of a human head (Haggerty, field notes).

Near the center of the large charcoal concentration were 9 corner-notched points, most of eastern Onondaga chert, the base of a crude biface and some jasper chips. Off to one side were the calcined fragments of the human burial along with a finely wrought keeled boatstone of red-purple Peach Bottom slate, a steatite cone, a square copper awl, three tubular copper beads and a small fragment of twined cloth. In 1963 Ritchie submitted charcoal from this burial for radiocarbon analysis. The test date was 2560 ± 120 radiocarbon years ago (610 B.C. ± 120,

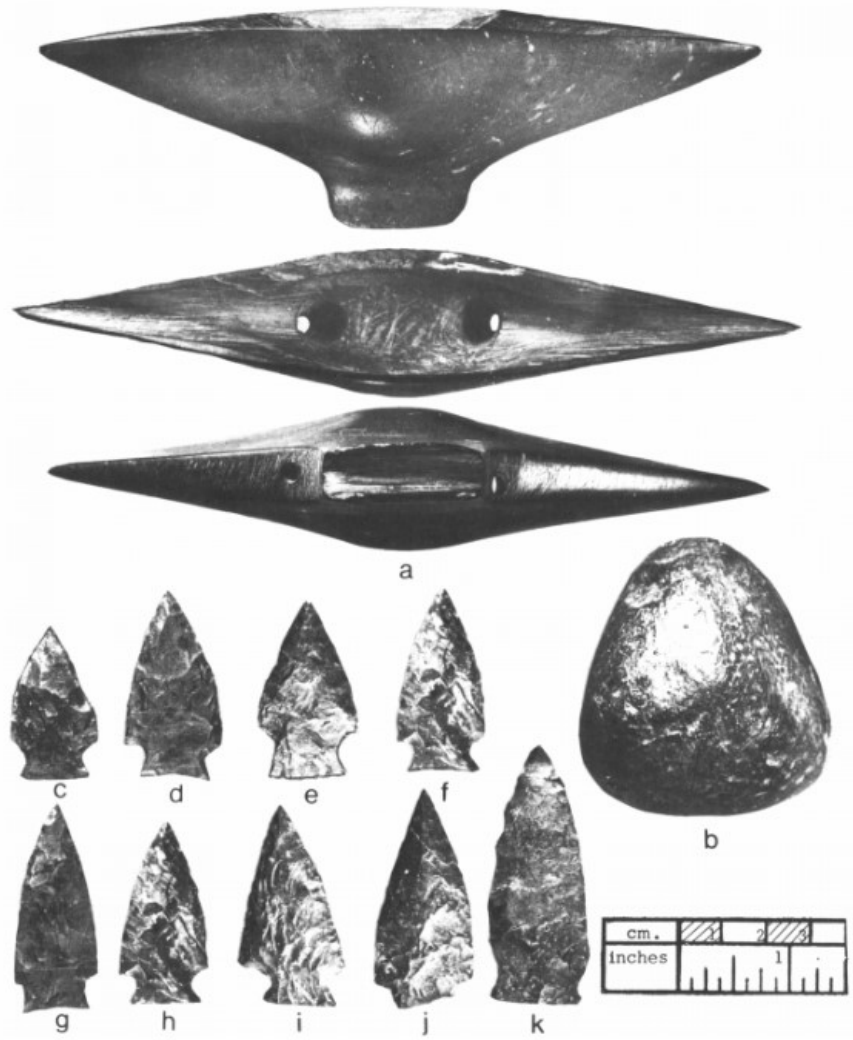


FIGURE 13: Burial #9. a, top, side and bottom view of keeled boatstone; b, steatite cone; c-k, cache of untyped corner-notched points.

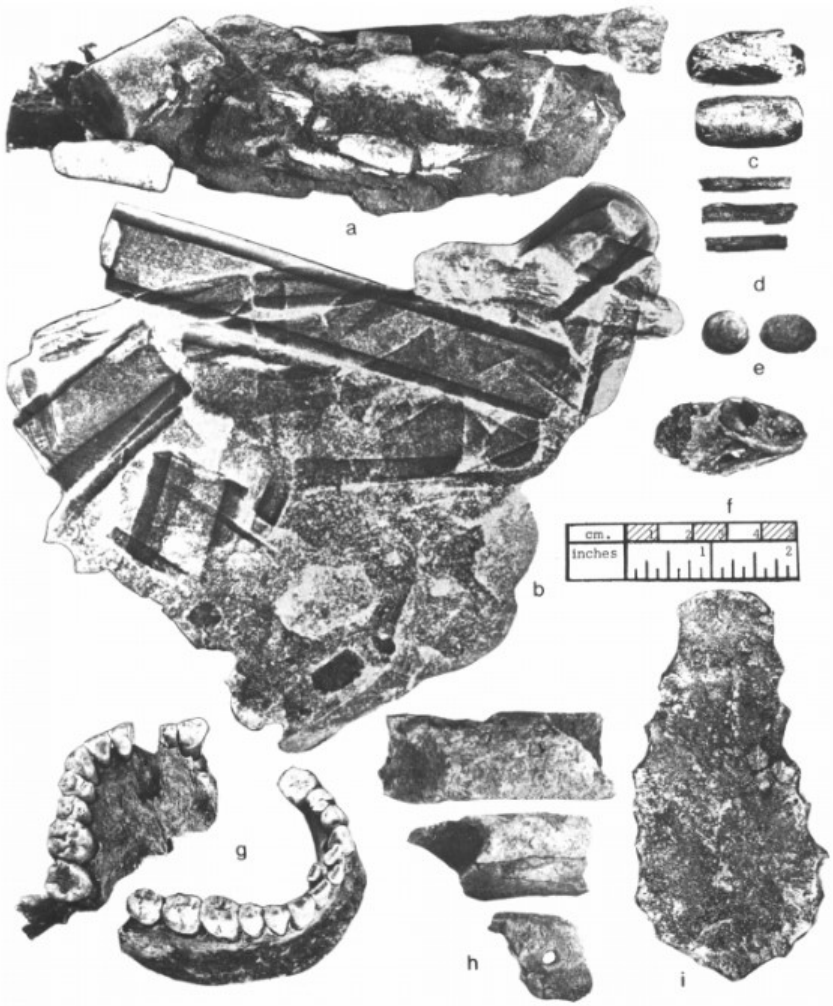


FIGURE 16: Burial #10. a, mass of cremated blocked-end tubes, columella shell beads and human bones on a bed of red ochre. b, x-ray of mass "a" showing blocked-end tubes, conch columella beads et cetera. c, conch columella beads; d, copper tubular beads; e, blocked-end tube "plugs"; f, weasel skull; g, upper and lower jaw showing misalignment and crowding of lower incisors; h, cremated fragments of block-end tubes; i, sternum of Burial #10.

of the others,was not cremated. Pit dimensions were not preserved, but Dr. Haggerty's field notes do indicate that "the beads were at a depth of 11 inches [28 cm] in a small clump of charcoal." Some were also discovered 5 to 8 cm below the surface in an area which had been "disturbed previously or by soil erosion." In all there were 14 short tubular beads of thin sheet copper and 25 small, ring beads with overlapped ends. A sherd of interior-exterior corded, Vinette I-like pottery was also discovered in this grave.

CONCLUSIONS

It is evident that there are significant similarities as well as differences between the materials from the Rosenkrans site and those from the typical Midwestern Adena sites. *In The Eastern Dispersal of Adena,* Ritchie and Dragoo list 33 "Diagnostic Adena Traits" in the Middlesex Complex. They cite the Rosenkrans site as sharing in 18 of these traits—more than any of the other 19 sites used in their survey (ibid, Table 3). In a comparison of "Less Diagnostic Adena Traits in the Middlesex Complex" the Rosenkrans site is said to have 6 such traits, being outnumbered only by the Cuylerville and Kipp Island sites (ibid, Table 4).

In reassessing the material remains from the Rosenkrans site it is fairly obvious that such a check list is inadequate for purposes of evaluating the degree of Adena-relatedness. For example: Rosenkrans is identified as having leaf-shaped blades; true, but there are precious few of them and they are not the diagnostic Adena type. Moreover, the Rosenkrans site has absolutely no "Adena" or "beaver-tail" points and no true "Robbins" points (Dragoo 1963:111, 113). The gorgets are not typical; neither are the boatstones and, most obviously, no mounds are related. On the other hand, there are some very strong relationships—the blocked-end tubes, the copper artifacts, and, if my interpretation is valid, the "wolf man" skull.

Ritchie circumvented the "Adena" problem by defining a "Middlesex complex" (Ritchie 1937). He postulated affinities with the Adena culture of Ohio *on the grounds of certain shared traits, particularly a diagnostic tubular pipe form, "The blocked-end tube."* It was concluded that the *Middlesex "focus" in New York and New England represented infusions of elements of the Adena culture of Ohio into regional native cultures of the Northeast* (Ritchie 1938: 100-3; 1944:112-115, 186-187; 1951:131-133). Later Ritchie and Dragoo (1959: 1960) saw Middlesex as *essentially Adena in the north, the locally varying products of contact metamorphosis of actual splinter groups of Adena people and already resident groups, rather than random trait diffusions from the Ohio center.* (ibid and Ritchie 1965:201).

The purpose of this presentation is to create a greater awareness of Adena and/or Middlesex related sites in the East and the Northeast. We are all aware of the many problems of identification and interpretation. We realize that much more information and study is needed before we can understand the people and the phenomena represented by their sites. There can be no denying the common thread that runs through all of these mortuary complexes from Ohio and West Virginia to the Delmarva Peninsula and north through New York State into Vermont and New Brunswick. Even more tantalizing is the trade or culture contact relationship that is attested to by the metal artifacts made from Lake Superior copper, the olivella and marginella shell from the Carolinas—south to the Gulf of Mexico, and the lithic materials from Labrador, Montana, Arkansas, Ohio and elsewhere. These are a most colorful people, who have left us with far more problems than answers. Following are a few of the problems and observations that have impressed me concerning the Rosenkrans site.

The location on a sandy bluff above the Delaware River (Map 1, Fig. 1) is interesting, but the site itself is not particularly impressive. It could be duplicated or bettered at a number of spots up and down the river. One wonders why this site was chosen for the cemetery, and whether the houses of the living were close-by. No evidence has yet been discovered to identify a homestead or settlement of these people in the Upper Delaware Valley. If the people did live close-by, how many years might have passed between the first and last burial? Where did these people come from and where did the survivors go? There is a similarity among certain

of the artifacts with those from the Boucher site in Vermont and with some of the Delmarva sites. Does this imply migration, trade or visitation? (see Table 2).

Among the more perplexing aspects of the burials on the Rosenkrans site are:

1. The pits contain uncremated, partially cremated and completely incinerated remains of individuals ranging from new born infants to senile adults. Yet none are represented by more than a small number of bones—far from the complete skeleton.

2. None of the corpses seems to have been originally cremated or interred in the pit in which they were found. All appear to have been redeposited, usually in a large charcoal or charcoal-and-ash-stained mass situated about 40 to 50 cm deep inside the burial pit. Many of the burials in this burned and ashy matrix are "green", uncremated bones. Some corpses were cremated in the flesh, but others were burned after the bones had been defleshed and dried. We can only speculate concerning the disposition of these deceased individuals before their reburials on the Rosenkrans site.

Some of the corpses could have been placed in a charnel house or given temporary burial elsewhere. This would in a measure account for interments such as Burials Nos. 8 and 10 which are stained almost jade green in color—indicating an association with massive amounts of copper—yet there was almost no copper associated with either of these uncremated reburials (see pp. 29, 32, Table 1). What happened to the copper artifacts that once surrounded them? Why were these uncremated bones bundled up and reburied in an incinerated mass of charcoal and ash? Where are the rest of the bones that formerly constituted these individuals?

4. Given this enigmatic mortuary complex, where only a very limited sample of cremated or uncremated bones represents an individual in a redeposited burial—with or without all of the grave goods that once accompanied him (her)—is it possible to establish confidently the hierarchy, prestige or status of the particular individual? Why, for example is Burial #5, a neonatal infant, so lavishly endowed—348 copper beads, a copper celt, an incised gorget, and conch columella beads among other things—while Burial #8 an adult, and possibly a shaman (if the "wolf man" interpretation is correct), is reburied without a single item? For what reason were 5 gorgets, 2 pendants and 11 projectile points placed with Burial #1, for example, while others, like Burial #7, have all the whetstones and celts, and yet others have nothing?

What is the significance of the cache of straight stemmed Cresap-like points in Burial #1 and #10, while Burial #9 is endowed with a cache composed entirely of 9 corner-notched points? Had these contrasting point types been found in a surface collection or in an unassociated context, we might well assume a considerable time differential between them. Some who have seen these caches have explained them as "heirlooms". Is it not possible that such diverse points may be contemporaneous and reflect individual preferences in design?

6. What was the role of the people represented by these burials? Were they traders? If so, what were they trading, and for what? The Olivella shell, copper beads, conch columella, Laurentian shale gorgets, Peach Bottom shale boatstone and certain of the projectile points are certainly exotic to New Jersey. But, one might ask, what desirable natural resource or other feature did the Upper Delaware Valley have to entice these people to stay and rebury their dead?

There is much that we do not know about these people who lavished such attention on the dead. These were craftsmen whose artistry and technology surpassed what went before, and which was not sustained by those who followed.

The few comparable sites in New Jersey—the Beesley's Point site near Ocean City, Port Elizabeth, in Cumberland County, and possibly the Abbott Farm Site—have been devastated and (excepting the Abbott Farm site) their artifacts and burials have been sold and lost without record. This same vandalism and wanton destruction has marked similar sites from Delmarva to Canada and from the Atlantic Ocean to the Mississippi River.

It is ardently to be hoped that the publication of these Adena-related sites will create an awareness among researchers, and that they in turn will make every effort to contact one or another of the authors so that such sites may be more professionally excavated, studied and recorded in the future.

Table 2: Artifacts and Associations Among a Selected Number of Eastern "Adena-like Sites"*

	Rosenkrans	Augustine	Long Sault	Boucher	Swanton	East Creek	Cambridge	St. Johns	West River	Killins Pond	Fredericks
Mound		x	x								
Commanding view	x	x	x	x	x	x	x	x	x	x	x
At Confluence of streams		x				x					
Extended inhumations				x			x				
Disarticulated burial	x	x									
Cremated in situ											
Redeposited Cremation	x	x	?	x	?	x	x	x	x	x	x
Animals included with burial	x	x		x							
Unburned artifacts with burial	x	x	x	x	x	x	x	x	x	x	x
Burned artifacts with burial	x	x					x	x	x	x	x
Mutilated artifacts with burial		x		x			x	x	x	x	x
Use of red ochre	x	x	x	x	x	x	x	x	x		x
Use of fire near area	x	x		x			x	x	x	x	x
Cresap points	x						x				
Beaver tail (Adena) points				x			x	x		x	x
Robbin blades		x	x	x		x	x				x
Corner-notched points	x										
Leaf-shaped blades		x	x	x				x			x
Drills	x		x								
Scrapers		x		x	x	x					
Birdstones					x	x	x				
Boatstones	x			x		x	x				
Blocked-end tubes	x	x	x	x	x	x	x	x	x	x	x
Adze	x	x		x							
Celt (chipped & ground)	x	x		x	x						
Celt (pecked & polished)				x		x					
Abradingstones	x	x		x							
Rectangular gorgets	x		x		x		x	x	x	x	x
Reel-shaped gorgets		x					x	x			x
Elliptical gorgets		x					x				x
Quadriconcave gorgets							x				x
Pendants	x			x	x		x		x	x	x
Geometric artifacts (cones)	x						x	x	x	x	x
Geodes			x	x		x	x				x
Hematite				x			x	x	x	x	x
Bone, wood or antler handles	?	x		x							
Bone or antler tools	x		x	x				x			
Pottery	x	x	?	x		x					x
Copper ornaments (excl. beads)	x						x	x			x
Copper beads	x	x	x	x	x	x	x	x	x	x	x
Copper tools	x		x	x	x	x					x
Fossils		x					x		x		x
Olivella shell beads	x			x							
Marginella shell beads				x							
Shell disk beads				x				x			x
Shell pendants		x		x							

*Compiled in consultation with Ronald A. Thomas and Louise A. Basa.

Note Concerning the Assay of the Copper Artifacts from the Rosenkrans Site

A number of copper beads from Burials #2 and #5 were submitted to the General Electric Company Materials and Processes Laboratory in Syracuse, New York, for analysis. Mr. Henry Wemple, a metallurgist who arranged for the assay, sent along control samples of verified Michigan copper obtained from the University of Wisconsin, and copper from Tennessee. The Michigan copper contained 50 parts per M of Ag; so too did the beads from the Rosenkrans site. Slight traces of silicon and aluminum found on the beads were attributed to ground contamination. The resultant assay indicated that "There is no question that the source of the copper was the Michigan mines, as there was no percentage of Pb or Au as is found in the copper ore from other mines" (Personal communication, Henry Wemple, 8 July, 1976).

Table 2: Artifacts and Associations Among a Selected Number of Eastern "Adena-like Sites"*

	Rosenkrans	Augustine	Long Sault	Bouchet	Swanton	East Creek	Cambridge	St. Joans	West River	Killins Pond	Fredericks
Mound		x	x								
Commanding view	x	x	x	x	x	x	x	x	x	x	x
At Confluence of streams		x				x					
Extended inhumations				x			x				
Disarticulated burial	x	x									
Cremated in situ											
Redeposited Cremation	x	x	?	x	?	x	x	x	x	x	x
Animals included with burial	x	x		x							
Unburned artifacts with burial	x	x	x	x	x	x	x	x	x	x	x
Burned artifacts with burial	x	x					x	x	x	x	x
Mutilated artifacts with burial		x		x			x	x	x	x	x
Use of red ochre	x	x	x	x	x	x	x	x	x		x
Use of fire near area	x	x		x			x	x	x	x	x
Cresap points	x						x				
Beaver tail (Adena) points				x			x	x		x	x
Robbin blades		x	x	x		x	x				x
Corner-notched points	x										
Leaf-shaped blades		x	x	x				x			x
Drills	x		x								
Scrapers		x		x	x	x					
Birdstones					x	x	x				
Boatstones	x			x		x	x				
Blocked-end tubes	x	x	x	x	x	x	x	x	x	x	x
Adze	x	x		x							
Celt (chipped & ground)	x	x		x	x						
Celt (pecked & polished)				x		x					
Abradingstones	x	x		x							
Rectangular gorgets	x		x		x		x	x	x	x	x
Reel-shaped gorgets		x					x	x			x
Elliptical gorgets		x					x				x
Quadriconcave gorgets							x				x
Pendants	x			x	x		x		x	x	x
Geometric artifacts (cones)	x						x	x	x	x	x
Geodes			x	x		x	x				x
Hematite				x			x	x	x	x	x
Bone, wood or antler handles	?	x		x							
Bone or antler tools	x		x	x				x			
Pottery	x	x	?	x		x					x
Copper ornaments (excl. beads)	x						x	x			x
Copper beads	x	x	x	x	x	x	x	x	x	x	x
Copper tools	x		x	x	x	x					x
Fossils		x					x		x		x
Olivella shell beads	x			x							
Marginella shell beads				x							
Shell disk beads				x				x			x
Shell pendants		x		x							

APPENDIX I

Analysis of the Human Skeletal Remains From the Rosenkrans Site

by

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I. Catalogue *

Burial 3: Adult, (possibly mid-older) probably male: Fragmentary skull including right temporal and parietal, and fragments of the occipital and frontal bones. (Frontal bone possibly affected by cremation.). Child, about 1-2 yrs. old: Proximal half of a right femur, manubrium, right clavicle without sternal end, two ribs, glenoid-acromial area of right scapula, and vertebral fragments.

Burial 4: Neonate: Both radii. Copper staining.

Burial 5: Neonate: Glenoid-acromial area of right scapula, ribs and vertebral fragments, proximal two-thirds of left femur, right clavicle. Copper staining.

Burial 6: Young adult, probably female: Mastoid and petrous portions of left mastoid and parietal fragments, all of which are very well incinerated. A small ulnar fragment and a rib fragment.

Burial 7: Adult: Patella, fibular fragment, distal ulnar and humerus fragments all very well incinerated.

Burial 8: Young adult, probably female: Skull including mandible but missing most of vault. Superior portion of right scapula, lateral half of right clavicle, head of right humerus, left femoral condyles, fragment of right femur from area of patellar surface, vertebrae from first cervical through second thoracic.

Burial 9: Subadult (9-10+ yrs.): Skull vault in very small fragments, left and right mandibular condylar fragments, left and right occipital condylar fragments, left and right temporals, atlas, axis and portion of another cervical vertebra, humerus fragment from level of the nutrient foramen, small proximal femur fragment, rib fragment, two other (?) small fragments. This material is very well incinerated.

Burial 10: Young (25-30?) adult: Maxilla and mandible, manubrium, sternum, right radius and ulna, both without the proximal end. Juvenile (6-8 yrs. old): Manubrium and one sternebra, two ribs, three thoracic vertebrae. Copper staining.

Burial #?: Adult: Proximal portion of left femur without head and greater trochanter, left tibia, distal third of left humerus without articular area, proximal end of left humerus, occipital fragment.

II. Demography

This material contains the remains of 6 adults and 5 juveniles. With one exception the adults appear to be in the young adult age range (approximately 25-35 yrs.). Burial 3 may be older. Of the subadults, two are neonates, one an infant (1-2 yrs.), 2 in mid-childhood (6-8 yrs., and 9-10+ yrs.). The fragmentary nature of the remains makes age estimates highly tentative.

There is insufficient material to definitely determine the sex of any of the remains. However, based on the limited material, it appears that Burial 3 is probably male, and Burials 6 and 8 probably female.

*(Fewer bones and teeth were submitted to Dr. Clabeaux, than were subsequently gathered together for analysis by Dr. Ubelaker [Appendix II]. Therefore, her analysis reflects in part, this more limited sample). Author's note.

AGE	MALE	FEMALE	?	
neonatal			2	
infant			1	
child			2	
adolescent			0	
young adult (21-35)		2(?)	1	
mid adult (36-55)	1(?)		0	
old adult (55 +)			0	
adult?			2	
total	1	2	8	11

III. Anomalies: the following anomalous conditions were noted:

Burials 3 and 6: A "seam line" is apparent at the tympanic plate/glenoid fossa margin.

Burial 10: There is an ossification defect in the distal articular surface of the right radius measuring about 2 mm in diameter.

Burial 8: The sixth cervical vertebra has a double foramen transverarium on the right side.

IV. Dentition: Teeth were present in the remains of two individuals.

Burial 10: Maxillary dentition: the upper left central incisor has been lost premortem; the root area is well-healed. Attrition is slight.

Mandibular dentition: the incisors are crowded so that the right central incisor lies between and behind the left central and right lateral incisors. Attrition is slight. There is a moderate amount of alveolar recession.

Burial 8. Maxillary dentition: the anterior teeth, including the central and left lateral incisors, the left canine and possibly the left pre-molar and right lateral incisor have been lost premortem. This loss appears related to a pathological process occurring in the oral-nasal area (see Pathology, below). Molar attrition and alveolar recession are both slight.

Mandibular dentition: there is slight molar attrition and alveolar recession.

Pathology

Burial 8 is the only specimen that is definitely pathological. A series of inflammatory and reactive changes have occurred in the oral and nasal cavities. Sheet-like small osteopthytes extend from the surface of the palate from near the palatine foramen to about the mid region. Some are arranged in a line running medially in the posterior portion. The anterior portion of the palate appears eroded, but this effect could be due to ground wear.

In the incisive region of the maxilla, the teeth have all been lost and the supporting bone destroyed up to almost the floor of the nasal cavity. The inferior nasal margin is indistinct and the anterior nasal spine has been destroyed. The floor of the nasal cavity is very rough, showing a combination of erosion and reactive growth. All trace of the vomer is gone. The right lateral portion of the nasal cavity communicates with the maxillary sinus via a large (about 2 cm) rounded opening with relatively smooth margins. A similar process appears to have occurred on the left side, but most of the upper left portion of the facial skeleton is not present for observation. The turbinates appear to have been destroyed.

It is possible that this reaction is the result of a treponemal infection (e.g. syphilis). The skull was examined by an oral pathologist and by a radiologist, neither of whom would support this diagnosis.

Burial 3. There are surface irregularities on the frontal bone fragments, but because of the condition of the material it is impossible to determine if these alterations occurred pre-or post-mortem. They may be the result of cremation, though the other skull bones are not similarly affected.

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CONCLUSIONS

We believe that it is more than mere coincidence that the eastern, northeastern and southern extensions of Adena occurred at approximately the same time during the middle Adena period. The wide scattering of Adena traits from the homeland in the Ohio Valley cannot, we think, be explained as the wandering of traders in search of new markets or raw materials. The finding of typical Adena objects made from Ohio Valley stone materials, and in the context of the Adena ceremonial burial pattern, at these farflung outposts, can best be explained by the actual presence of Adena people. Why would groups of Adena people want or find it necessary to leave the Ohio Valley, which had been their home for at least 600 years? The apparent answer to this question is that internal strife or outside force, or a combination of both these factors, drove them from the Ohio Valley. When we seek the cause of disruption in Adena, a movement of Hopewell people into the area appears to provide the logical clue.

Although Adena would seem to be definitely older than Hopewell, recent radiocarbon dates indicate that Hopewell was thriving in Illinois and western Indiana before the end of the early Adena period. The Hopewell Mound at Havana, Ill., has been dated at 336 B.C. ± 250 years (C-152, 2336 ± 250 years. B. P., 1950, Arnold and Libby, 1951, p. 115) (Webb and Baby, 1957, p. 124). At the annual meeting of the American Anthropological Association in Chicago, during December 1957, James B. Griffin reported that yet unpublished dates will push the Hopewell occupation of Illinois even further back in time.[5]

The radiocarbon dates for Hopewell in Ohio and the upper Ohio Valley suggest that Hopewell began its eastward encroachment on Adena during the middle Adena period. The dates for the Hopewell Mound 25 in Ohio range from 335 B.C. ± 210 (C-137, 2285 ± 210 yrs. B. P., 1950, Arnold and Libby, 1951, p. 115) to 1 B.C. ± 200 yrs. (C-136, 1951 ± 200 yrs. B. P., 1950, Arnold and Libby, 1951, p. 115). A date of 173 B.C. ± 200 years (M-345, 2130 ± 200 yrs. B. P., 1957, Crane and Griffin, 1958, p. 1119) has recently been reported for the Georgetown site in western Pennsylvania (Mayer-Oakes, 1958, p. 13). This date was from a charcoal sample removed from a hearth that contained two Watson Cordmarked and two Fayette Thick ("Half-Moon Cordmarked") sherds. The hearth was located at the lowest level in which the Hopewellian Watson Cordmarked pottery occurred and at the top of the level containing Fayette Thick sherds. Fayette Thick sherds continued to a depth of 18 inches below the dated charcoal sample.

[5] Griffin's paper (1958) appeared in print after this manuscript had gone to press.

These early dates for the presence of Hopewell in Ohio and western Pennsylvania, considered in connection with the dates previously stated for the farflung Adena sites in Maryland, suggest to us the dispersal of some Adena groups to the Northeast, East Coast, and Southeast as the direct result of a Hopewell intrusion in the central and upper Ohio Valley.

We suspect that the arrival into the Adena heartland, encompassing the central Ohio Valley, of Hopewell groups from the Illinois area, precipitated a state of social and cultural turmoil within Adena. It would seem, from the radiocarbon and cultural evidence for late Adena in the Ohio Valley, that a sizable portion of Adena people remained in the area under the domination of the new Hopewell overlords.

In northern Kentucky and southwestern West Virginia some groups, less affected by the Hopewell invasion, were able substantially to preserve Adena culture for several hundred years longer, as attested by the radiocarbon dates. Still other groups, especially those in the Adena social and religious hierarchy, would probably have found the situation intolerable and would have chosen, or perhaps been forced, to leave the area. The two Adena sites in Maryland appear to be excellent examples of the presence there of ceremonial leaders who gathered their wealth of prized possessions when they fled the Ohio Valley. Deprived of sufficient common labor and perhaps of the authority necessary for the erection of large mounds and public works, these, and related groups that pushed on into the Northeast, were no longer able to maintain the more conspicuous elements of Adena mortuary culture.

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