Purpose

The purpose of this paper is to present a preliminary report on the progress of some of our investigations into the prehistoric societies of the central James River Valley in Virginia, particularly the Early Woodland association we have termed the Elk Island Tradition or Complex. Our selection of the term Tradition is meant to imply that we are dealing with a variable trait complex with persistence and perceptible development through time. Materials related to the Tradition are known from over forty components, mostly sites surveyed by us since the beginning of 1978 in the floodplain of the James River between the Fall Line at Richmond and the mouth of the Hardware River, some sixty miles upstream. A small number of surveyed sites east of the Fall Line contain Elk Island and similar materials, but the Piedmont escarpment seems to form a relative barrier to the distribution of major components of this association.

In this paper we will present a minimal description of the material association, its variability—so far as is known—and its spatial and temporal distributions. We will also present information concerning the development of the complex from preceding cultural phases and will partly detail the transformation of the complex into succeeding phases. Models of possible social forms are presented with deductions concerning social structure, exchange and demographics. These are discussed in light of the archaeological data concerning the James River Piedmont as well as some comparable or contrasting observations on coeval societies of the coastal plain and basins of neighboring major drainages. We also suggest directions for a synthesis which will lead to a more complete understanding of regional social development among the tribal societies of the Middle Atlantic river systems.

Research Orientation and Methods

Our primary goal in conducting surveys in the middle James River valley has been to investigate the origin and nature of a social boundary known to exist at the Fall Line in the seventeenth century, and to explain the differential development of regional societies on either side of this boundary. Our scope has been limited to a study of Late Archaic through Late Woodland societies found on the floodplain terrace of the river, although ancillary studies have frequently taken us into the uplands, or along the terraces of both major and minor tributary streams. Over three years we have made systematic collections and observations on approximately 300 prehistoric sites in the inner Coastal Plain and outer Piedmont sections of the basin. We have also studied materials from major site excavations by VCU field school crews and from contract-related work in the area.

We have attempted to define archeological phases which, we believe, represent the remains of a single social group whose interactions form a coherent regional association of archeological data, and which is arbitrarily bounded by as small a time span as we can feasibly delimit. We have attempted to minimize variation in our samples related to environment and to focus on associations of traits which we feel represent the material remains of actual social groups. While these ideals have remained through-
The inset area is shown as Map 2.
out our investigations, we are, of course, hampered by sampling problems, dating limitations, and the lack of sufficiently well developed social variation models for tribal societies. These are deficient at both the level of culture theory and at the mid-range ethnoarcheological level from which the relationships between material culture and social form must ultimately be worked out.

Field work has included the collection of small, plowed, but non-deflated sites. Whenever a site was found to be larger than a few meters across, it was divided into smaller collection units, such as quadrants, so that site structure might be detected. This method has been used on small sites, very sparse sites, and only on sites from which a representative surface sample would probably be reproduced after subsequent plowing. A total surface sample was always the ideal in these collections, although it seems likely that some number of smaller shreds, flakes or other materials were probably not collected, causing a bias in artifact ratios.

On larger, denser and/or deflated sites, which were generally investigated following one of three major floods, a graded grid or exact provenience survey of all surface exposed artifacts and features was made. From these surveys, we have obtained good data from which to draw inferences on site size, structure, multicomponency, etc. For our work on the Elk Island Tradition, we have also carried out limited excavations at one stratified site, Stoneman West (44 Go 40). Map 1 illustrates the sites within our survey area having components of the Elk Island Tradition.

Analysis of materials from all these sites remains to be done, but a preliminary classification of ceramics, points and other potentially diagnostic materials (gorgets, ground and chipped stone axes or celts, ratios of certain lithic raw materials etc.) has been completed for these and numerous other sites in the survey. The resulting data have been reduced by a principle factoring method with orthogonal rotation. Inventories from over sixty sites were reduced to thirteen basic factor dimensions. Before the factor analysis could be carried out, data from a number of single component Elk Island Tradition sites had to be culled due to very strong linearity in the data. This linearity caused the SPSS Factor procedure to fail to be able to invert the correlation matrix. Even with data from several large, basically single component, sites removed, the first factor extracted represented the artifact association we had already subjectively come to know as the Elk Island Complex. We intend to further factor the variation within the complex and thus to support or modify the phase descriptions presented herein.

Representative sites (See Map 2)

An initial attempt to determine the possible extent of multicomponency at the Scott #2 site (44 Go 25) utilized a basic typological classification of ceramic varieties and point varieties found on the site. The site was collected in approximately seventy-five 10 meter squares and chi-square tests on a 20% systematic sampling of artifact associations in these units revealed the following information: 1) a small Marcy Creek phase campsite which had been detected in the field through exact provenience flagging of diagnostics was confirmed by significant associations of Savannah River tradition points, Marcey Creek pottery and soapstone fragments; 2) two small areas of superimposed later Woodland debris were also resolved by a significant association of triangular points and Woodland pottery other than that assigned to the Elk Island Complex. The concentrations are restricted to two small house middens near the western extreme of the site, and one scattering of latter artifacts to the north of the main, Early Woodland occupation.

The results of the other tests showed there to be no spatial clumping among a series of five projectile types and three
variants of Elk Island ceramics, which suggests that all types were distributed throughout the site. This has confirmed our field observations and the subsequent results of the multivariate analysis. The basic component of the Scott #2 site is a large village occupation which we now have assigned to the Elk Island 2 phase. Much of the material discussed in the paper comes from this site, although the basic artifact association has been repeated in a large number of collections. The Scott #2 site is a dense, linear scatter of debris along the levee of the main channel of the James on Elk Island in Goochland County, Virginia. The site is approximately 200 meters in length and 30 meters in width. Pottery was very common with average sherds densities of approximately 10/m². Points were very common, but other lithics were sparse. Debitage was small in size and low in density, reflecting the economical nature of the small tool industry we have come to associate with the Elk Island Tradition. A number of pit features had been washed out by flooding, resulting in some portions of partly restorable vessels. Nearly 20,000 shreds and several dozen diagnostic points were recovered from this site.

The Haystack Site (44 Go 27) is situated on the same levee a little less than 1 km. east of the Scott #2 site. It is also a linear village with continuous and dense occupation debris along the levee, but only half the length of Scott #2. An initial "grab" sampling of this site was done prior to its being flood deflated in 1979. After deflation, a portion of the site was collected by exact provenience methods. Subsequent flooding reburied the site before the collection could be completed. This site, like the previous one, contained a small Savannah River component on the levee with the major Elk Island component. There was also a later Woodland component on the levee with the major Elk Island component. There was also a later Woodland component, but this also tended to be back from the levee, north of the main occupation.

The Stoneman West site is one of a series of village occupations along the north channel of the James, on the north bank. The site is at the confluence of a small tributary named Black Branch. The surface of the site, deflated following a flood, showed dense remains of Late Middle Woodland and Late Woodland components, including washed out human burials and animal bone. The westernmost half of the site is in pasture and no surface materials can be seen. Eleven 2 meter squares were excavated in the eastern half of the site, five through an undisturbed buried soil horizon. Besides materials and features relating to the later components, a large number of artifacts of the Elk Island Tradition were found in the buried soil. A series of systematic shovel tests was placed in the pasture portion of the site, revealing Early Woodland materials from 35 cm to approximately 150 cm. The buried soil zone became deeper toward the river's edge. (Figures 1 & 2)

Six two meter squares have been excavated in a block on this part of the site revealing several large pit features, two stone fire hearths of the Early Woodland period, and a child burial which is possibly part of the early component. Early Woodland materials of four components have been found in stratigraphic relationship. These are the Marcey Creek phase; an intervening (?) phase or phases of material similar to Seldon Island; a large major occupation of the Elk Island 1 phase; and intrusive components from the flood disturbed upper levels of late Elk Island and Middle Woodland materials. (Figure 4)

A round pit which measured over 1 meter in diameter and slightly less than a meter in depth contained a large portion of a single Elk Island pot, a medium straight stemmed point of the Savannah River Tradition and large quantities of charcoal which have been dated to 895 BC +/- 150 (UGa 3347). Two additional small Savannah River points have been found in these excavations, along with a single medium Rossville-like point. Large
fig. 1

fig. 2

44 Go 40

(Area A)

west wall of sq. K4 W24

1 - plowed alluvium (all, see and * 0% silt)
2 - plowed alluvium
3 - unixoned alluvium (slight silt)
4 - loam with charcoal (10-15% silt)
5 - lens of pole wood
6 - darker with more charcoal (passage marks)
7 - possible pit (slightly decomposed, and slightly greasy, with 5% charcoal residue)

Munsell

soil

[Soil description details]

10 cm
Elk Island Pottery and Late Savannah River Variant Point. All from feature 7, 44 Co 40
Middle Woodland Pottery, cord marked rimsherd, all from Go 40
quantities of Elk Island ceramics were found throughout the midden, along with numerous other concentrations of charcoal which, when funding is available, will be used to more firmly date the Elk Island 1 component. (Figure 3)

The Scott Pit Site (44 Go 77) contains a very late component of the Elk Island Tradition, as well as spatially distinct Late Woodland materials. The site is on the bank of the north channel of the James directly opposite the Scott #2 site. It consists of a small, but moderately dense scattering of artifacts, and the remains of at least one large pit. The pit was discovered following slight flood deflation. A small section was cut through the pit, which was over 1 meter in diameter and over 1 meter in depth. We could not complete the excavation of this feature, or any other portion of this site prior to its being plowed and planted. Two quite different varieties of ceramics were found, although both are interpreted in the Elk Island Tradition, and both are found on other sites in association with other Elk Island diagnostics. These will be discussed below. In addition, three polished small quadrangular celts have found on or near the site. These, and the "advanced" nature of the ceramic complex, suggest one or more later phases of the Elk Island Tradition, possibly assignable to the early Middle Woodland.

The Wright #1 site (44 Go 53) is a multicomponent habitation also situated along the James River on Elk Island, approximately 3 km upstream from Scott #2. The site was only partially deflated by flooding at the time of study. It was divided into levee and interior zones for the purpose of making a collection. This was not a very systematic collection, but once again the differences between the levee and the area just to the north were clear. Later Woodland materials were found behind the levee, while Elk Island Tradition occupation was apparently fairly dense along the levee itself.

The materials from this site have not yet been adequately studied, but it is our interpretation that this may represent a very late phase of the Tradition. The ceramics are mostly thick and cordmarked. As a group they are suggestive of what we believe is typical of the earlier part of the Middle Woodland time period. Due to the manner in which the levees were breached by flooding, the sizes of the Wright site and the Scott Pit site cannot be accurately estimated. It is possible in both cases that only a portion of each site was revealed by deflation. If these sites are not much larger than the evidence now indicates, they cannot have contained more than one or two large houses. Until further testing can be carried out, we will assume that these are the true sizes of the sites.

Numerous other Elk Island Tradition sites are known, and some will be mentioned below. However, these sites have been discussed because they are representative of what we feel is a progression from Marcey Creek through a temporal development of the Elk Island Tradition. This sequence probably spans a little more than six hundred years. Once dates have been run which adequately bracket these Early Woodland phases, factor scores will be calculated on the various components. We hope this will have both chronologically and functionally diagnostic qualities. By plotting these on a three dimensional time series map, we can hope to approximate the development of regional structure in an Early Woodland society from its inception through its transformation into something, at present, less well understood.

Description

The Elk Island Tradition, because it varies in its characteristics through time, is not easy to describe in modal terms. However, the most typical manifestation is what we have termed the Elk Island 2 Phase, and we will use this as a descriptive basis.

Ceramics (Figures 5-10)
Elk Island Pottery, rimsherds.

58
fig. 6

Elk Island Pottery, rim sherds
Elk Island Pottery showing typical curvature
Elk Island Pottery, Go 25
a. and d. fine net impressed, b. and c. cord marked
Late Elk Island Pottery,
a-c, coarse net, d, coarse cord marked
fig. 10

Elk Island Pottery, a. lug, b.-d. basal sherds
The ceramic assemblage is very uniform, consisting of an easily recognized type we call Elk Island pottery. The paste is very friable and fragile, and typically contains a very large proportion of inclusive matter, usually fine sand. The vessels are fired under poor draft control at a low mean temperature, leaving a soft, unconsolidated clay body which typically exhibits ferric iron coloring. It is assumed that pots are fired in an open bonfire. The typical ferric color dominates the exteriors, interiors and cores of the sherds, although frequent grey to black patchiness indicates reduction conditions in a poorly drafted fire. A sizeable amount of oxidized or calcined organic matter is found in the inclusive material giving the impression that clay was excavated from the midden and used uncleaned. In fact it is expected that fired samples of midden soil from Elk Island sites would produce a very similar paste.

Vessels are usually large, and are thin walled. The mean sherd thickness is probably in the range of 5 to 8 mm. Bases are flat, rounded or conoidal, although rounded to slightly flattened bases appear to be more common. Construction is by patches or coil segments. Fired and unfired coils have been retrieved. The typical sherd is trapezoidal and measures between 8 and 10 cm long and about two thirds that in width. Pots were malleated on the exterior with a paddle wrapped with very fine, often untwisted, cord closely wrapped; or alternately, by a fine meshed net. The earliest phase shows that the majority of surfaces are finished plain, smoothed over fine cord or fine cored. The Elk Island 2 phase has a respectable minority of the fine mesh net marked variety, however.

Later phases of Elk Island contain a majority of sherds showing changes in technology which include: a tendency towards a more reducing atmosphere in firing, a higher proportion of coarse net impressed surfaces, coarser and less closely wrapped cord impressions, higher firing temperatures, and a generally cleaner, less fragile paste. Vessel thickness increases considerably, although vessel size may decrease. Sherds show clear breakage along coil lines in one late cord marked variety, although other varieties still break in trapezoidal or triangular patches. These sherds tend to be much larger due, no doubt, to the greater thickness of the vessel walls.

Throughout the majority of the period in question, ceramic vessels show little evidence for having been used as cooking pots. The large size and thin walls of the typical pot suggests that they were storage pots used in pits. Most Elk Island pots do not appear capable of standing under their own weight, and must have been substantially supported.

One feature common to all but the latest varieties is the coating of sherds on all surfaces, including breaks, by a fine grained, light colored precipitate. The sherds are highly porous, and it is assumed that this coating represents unconsolidated and possibly unfired silt and clay from the interior which has percolated to the surface due to the action of ground water. This coating occasionally tests alkaline, suggesting that calcareous material included in the clay has dissolved and been deposited on the surface.

Projectile points and other lithics (Figures 11-14)

The Elk Island Tradition sites typically contain a large number of small stemmed and side-notched points. These have tentatively been subdivided into a number of types, some of which may be chronologically diagnostic, but most of which are assumed to vary with function. The vast majority of points are very small lobate, or sometimes straight stemmed points very similar to those called Piscataway by Stephenson (1963). Also common are small foliates and "teardrop" shaped points. Less common, but clearly associated are small, broadly side-notched points which could conceivably be
fig. 11

44 Go 25 Early Woodland Stemmed points (lobate base)
fig. 12

44 Go 25 Early Woodland Points.
a. trianguloid, b. and c. straight base stemmed,
d. and e. foliate
44 Go 25 Early Woodland Side-notched points
(all quartz)
Ground and Polished stone objects from Elk Island Tradition sites
considered fishtail varieties similar to Stephenson's Vernon type (1963; Plate XXIV). Less common, and so far restricted to the Scott #2 site, are a variety of other types of notched and stemmed points. These points, in approximate order of their abundance, are illustrated in figures 11-13. The Elk Island 1 phase alone is characterized by small Savannah River Tradition variants (figure 3).

The majority of the points are manufactured on vein quartz, or, much less commonly, on pebble quartz. They are also found on cryptocrystallines, such as jasperoid opal, chert, silicified slates, silicified tuffs, metarhyolites, and other fine-grained rocks. The percentage of these other stone types is much higher for projectile points than for the lithic assemblage as a whole. By and large, the stone tool complex is a quartz small tool industry which demonstrates highly economic use of material, a preponderance of bipolar technique, and a large percentage of multi-use small tools. These latter often combine scraping edges, cutting edges, graver tips and spoke-shaves on a single small piece of quartz.

Lithics are far less common than ceramics on all sites studied to date, and finished tools, retouched flakes or chunks, or small shatter showing use wear are together more frequent than unused debitage. Large tools, such as chipped axes, mauls, etc., are found on some Elk Island Tradition sites, but it is not certain yet whether these belong in the tradition or with Savannah River components on the same sites.

Development of the Elk Island Tradition

The Early Woodland Period in the Middle Atlantic is traditionally seen as beginning with the advent of Marcey Creek pottery. For the James River Basin, this appears to be realistic in the Piedmont section, less so in the Coastal Plain. Circa 3000 years ago, or slightly earlier, the same groups of people who had been utilizing the soapstone quarries of Albemarle, Nelson, and Amelia counties in order to acquire material for stone bowl production, began to make Marcey Creek pottery. All in all, Marcey Creek is a fairly homogenous type in our area, characterized by hand modeled flat-bottomed vessels. Often these appear to have been scraped, both inside and out, after the pottery was leather dry, or even after it was fired. This is revealed through the striations which appear on the soapstone temper particles, as well as on the clay walls. The vessels appear on the soapstone temper particles, as well as on the clay walls. The vessels appear to be shallow, straight-sided bowls, usually with lugs. (Figures 15 & 16)

Following the Marcey Creek phase are one or more phases characterized by small to medium size, thick-walled vessels which are partly hand-modeled and partly coiled. Bases are rounded and lugs are present. Surface finish is scraped, sometimes cord-marked, and usually plain or smoothed over. Temper consists of large particles of crushed stone, including quartz, granite, schist, and steatite (Figure 17). The closest known cognate is Seldon Island plain and cord marked. This pottery is not common in our area, and may be intrusive. This latter is suggested due to the occasional evidence of a direct relationship between the succeeding phase, Elk Island 1 and Marcey Creek.

The Elk Island 1 phase, like those which come before it, appears to be characterized by Savannah River Tradition points. However, one site (44 Go 33) has several Susquehanna Tradition points—small fishtails made on local quartz. This site also has one base of a flat-bottom, mat-impressed, crushed quartz tempered vessel and one coil segment of Elk Island paste material with steatite fragments in the temper (Seldon Island?). The remaining pottery is typical Elk Island.

Elk Island 1 contains fine cord impressed, plain, or paddle-edge impressed pottery. One large sherd of
40 Go 40 Marcy Creek Pottery, all from 50-55 cm.
44 Go 25 Marcy Creek Pottery from "Marcy Creek Surface Feature"
Reconstruction of Selden Island Like Vessel from 44 Go 40, c. 50 cm.
coarse fabric impressed pottery is known, and a few sherds appear to have been decorated with the edge of a paddle wrapped with coarse warp fabric. Flattened and nicked lips are very common.

Elk Island 2 phase sites are the most common of the sites we have studied so far. These contain a wider variety of Elk Island ceramics, although they are almost always very large, thin vessels. Fine cord impressed surface treatments predominate, followed by plain surfaces, which are followed in turn by fine-mesh net impressed treatments. A wide variety of points is known, but almost all are very small, with maximum length of 3 to 5 cm. Gorget fragments are common. Sites tend to be larger than those which are either earlier or later, and are also more common. Later Elk Island phases have yet to be well defined. Some apparent trends are: a decrease in site size; an increase in projectile size with the larger Rossville-like points becoming dominant; an increase in pottery vessel wall thickness; a tendency towards reduction and better control in the firing method, etc. Ground stone adzes or celts are used in the later phases, while we have no evidence of the continuance of other ground stone items, such as gorgets.

Since we seem to be dealing in a most unfashionable way at this time with points, potsherds, and their various permutations across the dimensions of space and time, it is perhaps wise to enter some cautionary notes. What we have been trying to do with the Early Woodland data is, in fact, to create multi-dimensional seriations. However, since our analysis is at the level of the archaeological phase, and not at the assemblage or sherd level, we are forced to deal with non-synchronous multivariate change.

We do believe that a seriation approach is adequate for ordering what we perceive to be a fairly homogenous series of artifact and attribute associations over a short period of time, say, five or six hundred years, and within the regional span of what we believe to be a single developing society. The ordering of our Elk Island Tradition is based on two foundations. First, the excavations at the Stoneman site have revealed a substantial Elk Island component without the array of small projectiles found on other Elk Island Tradition sites. The points instead are identical to those generally associated with Marcey Creek pottery and stone bowls. The single date for this component of ca. 895 BC places it in temporal proximity to the Marcey Creek Phase of the Savannah River Tradition. There is also stratigraphic evidence of the relationship between Marcey Creek, Selden Island-like, Elk Island 1, and some very late Elk Island materials.

The second ordering criterion is a series of social development models we have been working from. These have implications for site size, density, etc. However, it is possible that some of the seriation trends could be turned around. It is possible that we should expect the largest sites, the largest vessels and the smallest points— all indicative of what we have called the Elk Island 2 phase—to occur together at one end or the other of the seriation. Instead, we find them in the middle. Our ordering of Elk Island materials must be taken as hypothetical, and will only be confirmed after a larger series of radiocarbon dates is available. While some may well accuse us of putting cart before horse for working from a theoretical base before having a firm hold on a chronological sequence, we can only politely disagree. If our sequence proves to be out of order, then the assumptions of our model will likewise require rethinking. This, we submit, is the most effective way we can proceed with regional survey data.

Discussion

While Marcey Creek is widespread throughout the Middle Atlantic, the short subsequent period which Wise (1975) described as experimental in terms of ceramic development does appear to show localization. Still there is a widespread horizon of basic ceramic technological
evolution in which we can trace the development of each and every one of Brennan's (1975) Woodland pottery attributes from each and every one of his Marcey Creek attributes. There can be no doubt of the development of Woodland ceramic technology in the Middle Atlantic States, and especially in the interior drainages.

By the time of the Elk Island 1 phase some 2900 years ago, well-developed local social regions are in evidence. While some materials resembling Elk Island pottery have been found as far away as the mouth of the Potomac, a social boundary at the falls of the James appears to have been well-established.

While a wide variety of lithic materials can be found in Elk Island Tradition sites, these may all be materials which could be found somewhere in or very near the James Basin in the Piedmont. What's more, since most of the "exotic" materials are made into projectile points, it seems fair to infer that the widest networks with regard to lithic resources were available mostly to hunting parties. The vast majority of lithic materials on Elk Island sites represent the fine vein quartz deposits which outcrop on uplands throughout much of this stretch of the James. We may be witnessing some long-distance trade in the ground slate gorgets found on some sites. These often have evidence of repair holes and were apparently regarded as valuable items worthy of conservation.

Within the regional scope of the Elk Island tradition there is a remarkable homogeneity of ceramics at any given time period. The Stoneman West site has produced ample evidence of pottery production in the form of unfired and underfired sherds or vessel fragments, amorphous lumps of fired clay [possibly used as supports or spacers,] or simply manufacturing waste. We would like to avoid the assumption that all ceramics were locally produced and eventually test the ceramics for petrographic and mineralogical homogeneity as well. We should not be surprised to find ceramic exchange at this early date among people who, just three or four hundred years earlier, were supplying stone bowls through trade networks that extended for hundreds of miles.

By way of comparison, the pattern of Early Woodland society and settlement in the Piedmont of the James River valley seems altogether different from that found to the east in the Coastal Plain. The earliest dated ceramics from the coastal plain are the flat bottom vessels of the Currituck site. Similar vessels have been found up river, we do not believe that these are the earliest ceramics in the region.

Just below the Falls of the James at the Maury Street site, Perlman and Hunter have excavated stratified Early and Middle and Woodland floors in test trenches which reveal a pottery type which might be technologically similar to some later Elk Island materials. It is round bottomed and net impressed, very thin, and the paste is uncleaned marine sediment clay. Some Marcey Creek pottery has been found at this site as well, although Marcey Creek and its cognate forms are very rare east of the Fall Line.

Early Woodland materials similar to Accokeek Cord Marked and Popes Creek Net Impressed are found throughout the lower drainage. Sites tend to be small, frequently revisited camps along the upper and lower reaches of the drainage, although there may be some larger, more permanently inhabited sites in the salt/freshwater transition zone. Our surveys of the Inner Coastal Plain suggest that there are hundreds of campsites dating to the earlier Woodland periods, with the largest sites all having signs of multiple, ephemeral, occupation. There is no evidence as of yet for large, permanently settled villages like those of the Piedmont. We suggest that the greater patchiness, zonation and higher productivity of the natural environment of Tidewater selected for a continuance of basic hunting and gathering patterns long into the Woodland. We hypothesize that
higher population densities, smaller local group sizes and transhumance characterize the adaptation of this region, in contrast with low densities, large group size and sedentary intensive floodplain harvesting in the Piedmont.

Conclusions

We have certainly not written the last word on the Early Woodland societies of the Piedmont James River Valley. To this point we have only suggested the outlines of a material culture history. In another paper, we have sketched the outlines of the theoretical approaches we have been using to understand the archeological data of our region of study (Mouer and Ryder 1980). Even this is in need of more serious refinement, so that theory and data can meet more effectively.

We do feel that we have isolated successfully a recurrent association of archeological materials which have limited space-time distributions. They also exhibit sufficient internal variation to point the way towards future studies of structure, function and change in the Elk Island Tradition. We will frankly be appalled if our colleagues working in Maryland or North Carolina begin to identify Elk Island materials in their own areas. Our purpose has not been to clutter the air with new names for others to latch on to, but rather to give a descriptive background to some local or regional data which we will continue to interpret in the future.

By carrying out repeated, intensive surveys of a relatively small area, we have begun to work out distinctions in site size, structure and content which we hope will allow for a fine-grained analysis of the development of individual social systems. We have found, through our work, that Late Archaic and Early Woodland sites tend to be found in clusters. Our first season's work led to the definition of a particular Late Woodland phase, for which several sites were found in a single five mile stretch of the James. Two of these village sites were found within 200 meters of each other, on opposite sides of a narrow cutoff channel. This pattern of observations was repeated for Elk Island Tradition sites during our second season's work.

As we more closely analyze materials from our survey, we find that certain differences in ceramics, lithic raw materials or other traits can be found within these site clusters. The Elk Island Tradition sites described earlier all differ from each other in important ways, while remaining similar enough to allow them to be grouped apart from the dozens of other archeological phases represented in our survey. We cannot help but believe that these various sites represent the different generations of the same social groups. We imagine that village locations periodically moved because houses needed rebuilding, the garbage was beginning to stink, the spring dried up, or new fields across the creek were cleared.

While we cannot prove this, we feel that the assumption that these sites represent changes within a society over a period of a few hundred years will lead us to a better understanding of evolving local and regional demography, adaptation and structural response. We strongly believe there is much to learn from the combination of regional social models and such fine-grained archeological observation.

NOTES

1. Data from this and other analyses will be presented in future papers, as well as in a doctoral dissertation presented by Mouer to the Department of Anthropology, University of Pittsburgh in the Winter of 1981. A presentation of the typological classifications used in this preliminary study, and their associations into data factors, is beyond the scope of this paper. Interested persons may contact the authors.

2. For readers who are not familiar with this method of data analysis, the factoring procedure is a tool for determining whether or not some under-
lying variable or factor can explain the repeated association of other variables: in this case, pottery and point types, gorgets, lithic raw materials, etc. These factors may reflect cultural or functional associations, but they could represent the co-occurrence of artifacts of different groups on the same sites.

3. The chi-square test was used to determine whether or not the co-occurrence of certain artifact types in the site could have been a random event. Inferences about the non-random association of artifacts were made from chi-square scores which could have occurred less than five times out of a hundred by random chance alone.

4. Subsequent to the initial writing of this paper, we have reviewed ceramic collections from Early Woodland context recovered by James Madison University in the headwaters of the James region, as well as collections from the Corral Site on the South Fork of the Shenandoah. Very similar ceramics were noted in these collections. Dr. William Gardner has informed us that he refers to these ceramics as belonging to the Accokeek series or ware. This pottery type is found in distinctive plain and cord-marked varieties in Tidewater and Piedmont sections of the Potomac Valley, as well as in the Northern Neck and, perhaps, the lower Delaware Valley. Net-impressed varieties are absent from the Potomac and Shenandoah collections. Elk Island or Accokeek pottery is very rare or absent in the Tidewater section of the James Valley. Our reading of the type description for Accokeek Cord-marked pottery by Stephenson (1963) does not convince us that the pottery he describes is cognate with Elk Island pottery.

References

Brennan, Louis

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