EARLY WOODLAND PERIOD RITUAL USE OF PERSONAL ADORNMENT AT THE BOUCHER SITE

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ABSTRACT

The Boucher site is a prehistoric cemetery in northwestern Vermont. Radiocarbon dates, which range between ca. 700 B.C.–A.D. 100, and cross-dated artifacts from the site allow clear attribution of the site to the Middlesex burial complex of the Early Woodland period. Recent analyses of artifacts and mortuary practices at the site have produced unique data regarding burial ceremonials and, in particular, the ritual use of personal adornment in mortuary contexts during the Early Woodland period. Many interments included lavish amounts of native copper and marine shell, predominantly in the form of ornamental beads. The inclusion of the copper beads created unusual conditions of preservation which enabled recovery of other highly perishable artifact categories, including textiles, cordage, and animal hide specimens. Notably, several of the perishable artifacts can be confidently ascribed to specific forms, including items of clothing and bags. This paper emphasizes the artifact categories related to personal garmenture and ornamentation and the spatial relationships of these artifacts with individual interments. Taken in concert, these analyses are used to reconstruct site-specific mortuary practices and concurrent cultural patterns.

INTRODUCTION

The Boucher site (VtFr-26) is an aboriginal cemetery located in the Champlain lowlands of northwestern Vermont. It is one of four contemporaneous mortuary centers known from the lowlands east of Lake Champlain (Fig. 1). The cemetery is situated in the town of Highgate and lies on a glacial outwash formation immediately adjacent to the modern floodplain of the Missisquoi River approximately 8 km upstream from the lake. It was accidentally discovered and partially destroyed during the excavation of a house foundation in April 1973. Archaeological salvage operations were immediately undertaken by the University of Vermont (UVM) under the direction of Louise Basa. After the initial removal of the plowzone to expose the upper portions of intact features, the field crew excavated an area of 340 m² between April and September 1973 (Fig. 2). Many of the intact burials were removed en masse for subsequent laboratory excavation at UVM, the last of which was carried out in 1988. In total, 84 features are now considered to be burials. An additional 18 pits were devoid of preserved cultural

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Fig. 1.—Map of Vermont showing the position of the Middlesex complex cemeteries and major drainages of the Champlain valley. Note inset shows location of Vermont in New England.
Fig. 2. — Map of the Boucher site. Note the house cellar excavation area which led to original discovery of the site.
Table 1. — Uncorrected radiocarbon dates for selected Middlesex and Delmarva Adena sites. Sources: Custer, 1989:356–357; Fitting and Brose, 1970:32; Greenman, 1966:543; Klein, 1983:633; Kraft, 1976: 12, 22; M. Power, personal communication, 1989; Sanger, 1987:105; Spence and Fox, 1986:32; Thomas, 1970:76; C. Turnbull, personal communication, 1987. Note: Boucher radiocarbon dates which the authors believe do not accurately date burial features are denoted by (*). Feature 40 was redated, the new date is denoted by (**).

| Site             | Lab. no.       | Feature no. | Uncorrected radiocarbon date | Uncorrected calendar date |
|------------------|----------------|-------------|-------------------------------|---------------------------|
| Isle la Motte, Vermont | Beta-29181 | (fe. 40)       | 2930 ± 80                     | 980 B.C.                   |
| Boucher, Vermont  | PITT-0020     | (fe. 40)       | 3865 ± 70*                    | 1915 B.C.                  |
|                  | PITT-0025     | (fe. 94)       | 2665 ± 20                     | 715 B.C.                   |
|                  | PITT-0027     | (fe. 124)      | 2620 ± 45                     | 670 B.C.                   |
|                  | PITT-0034     | (fe. 167B)     | 2550 ± 195                    | 600 B.C.                   |
|                  | PITT-0032     | (fe. 156)      | 2415 ± 35                     | 465 B.C.                   |
|                  | PITT-0026     | (fe. 110)      | 2355 ± 50                     | 405 B.C.                   |
|                  | PITT-0028     | (fe. 129)      | 2185 ± 70                     | 235 B.C.                   |
|                  | PITT-0187     | (fe. 40)       | 2180 ± 130**                  | 230 B.C.                   |
|                  | PITT-0029B    | (fe. 131)      | 2075 ± 70                     | 125 B.C.                   |
|                  | PITT-0030     | (fe. 144)      | 2065 ± 25                     | 115 B.C.                   |
|                  | PITT-0031     | (fe. 146)      | 1960 ± 25                     | 10 B.C.                    |
|                  | PITT-0022     | (fe. 47)       | 1845 ± 95                     | 105 A.D.                   |
|                  | PITT-0021     | (fe. 45)       | 1240 ± 150*                   | 710 A.D.                   |
|                  | PITT-0019     | (fe. 30)       | 1000 ± 130*                   | 950 A.D.                   |
|                  | PITT-0033     | (fe. 167A)     | 705 ± 30*                     | 1245 A.D.                  |
| Mason, Maine     | Beta-4192     |              | 2410 ± 60                     | 460 B.C.                   |
|                  | Beta-4026     |              | 1960 ± 70                     | 10 B.C.                    |
| Minister’s Island, New Brunswick | Y-1293 |             | 2370 ± 80                     | 420 B.C.                   |
| Augustine Mound, New Brunswick | S-1655 |                | 2950 ± 75                     | 1000 B.C.                  |
|                  | S-1635        |                | 2670 ± 50                     | 720 B.C.                   |
|                  | S-1634        |                | 2625 ± 50                     | 675 B.C.                   |
|                  | S-1657        |                | 2490 ± 55                     | 450 B.C.                   |
|                  | S-1656        |                | 2350 ± 60                     | 400 B.C.                   |
|                  | RL-344        |                | 2330 ± 110                    | 380 B.C.                   |
| Killarney Bay, Ontario | M-194       |                | 2180 ± 300                    | 230 B.C.                   |
|                  | M-428         |                | 2040 ± 200                    | 90 B.C.                    |
|                  | M-1482        |                | 1930 ± 130                    | 20 A.D.                    |
| Morrison’s Island 2, Quebec | S-896   |                | 1985 ± 100                    | 35 B.C.                    |
| Rosenkrans, New Jersey | Y-1384 |               | 2560 ± 120                    | 610 B.C.                   |
|                  | DIC-407       |                | 2400 ± 60                     | 450 B.C.                   |
| Nassawango, Maryland (Delmarva Adena complex) | SI-2191 |                | 2735 ± 75                     | 785 B.C.                   |
|                  | SI-2188       |                | 2445 ± 100                    | 495 B.C.                   |
|                  | SI-2189       |                | 2190 ± 70                     | 240 B.C.                   |
|                  | SI-2190       |                | 2190 ± 100                    | 240 B.C.                   |
remains, but most, if not all, of these empty pits were likely burials as well. Thus, the cemetery probably contained over 100 interments.

Recent radiocarbon assays from samples of unburned organics have yielded 11 dates that appear to be reliable. These uncorrected dates range between an early date of 2665 ± 20 years B.P.: 715 B.C. (PITT-0025) and a late date of 1845 ± 95 years B.P.: A.D. 105 (PITT-0022). Cross-dated artifacts are consistent with these assays and the combined data allow for unequivocal attribution of the site to the Middlesex mortuary complex of the Early Woodland period. The radiocarbon dates from Boucher and elsewhere in the Northeast (Table 1) indicate that this mortuary complex is older and of longer duration than traditionally believed. The locations of the sites in Table 1 delineate the approximate boundaries of the complex as it is currently defined. The other three mortuary centers in the eastern Champlain lowlands are also attributable to the Middlesex mortuary complex based on cross-dated artifacts. Three of the four cemeteries, Boucher (VtFr-26), Swanton (VtFr-1) and East Creek (VtAd-26), all contained in excess of 25 burials, thus making them the largest Middlesex sites currently reported (Loring, 1985; Perkins, 1873). No precise record of the number of interments is available for the fourth site, the Bennett site (VtAd-298) (Loring, 1985:102–103; Ritchie, 1944:199–200).

Based on what he perceived to be Adena-related sites in New York state and elsewhere, Ritchie (1937, 1951) defined a “Middlesex focus.” He concluded that this complex, later referred to as the “Middlesex phase,” either reflected the infusion of elements of Adena culture (Ritchie, 1951:131–133; 1965:200) or involved an actual migration of Adena people into the Northeast (Ritchie and Dragoo, 1960). Early Woodland cemeteries from throughout the far Northeast have been commonly referred to as Middlesex sites since that time. The term Middlesex is used here to refer to a Middlesex mortuary complex, as it is almost exclusively known from mortuary components. The distribution of the complex is, for the most part, restricted to the far Northeast, here defined as east-central and eastern New York, New England, Quebec and the Maritime Provinces of eastern Canada.

This paper assumes that the Early Woodland cemeteries in the far Northeast do not represent the burial grounds of actual Adena people. Furthermore, we
argue that the stimulus for the dramatic burial ceremonialism characteristic of the Middlesex complex was not the infusion of elements related to the Adena "culture." As noted elsewhere (Seeman, 1986:566), distinctly Adena burial grounds are not recognized in the Ohio valley prior to ca. 500 B.C. Therefore, while Adena-related lithic artifacts occur at Boucher and Early Woodland sites in the Northeast, early radiocarbon dates from several Middlesex cemeteries (e.g. Augustine Mound, Boucher and Rosenkrans) indicate that the Middlesex burial complex was established well before the Adena artifacts became a part of an already existing trade network. Moreover, artifacts from the Boucher site show notable relationships to earlier assemblages from the region in terms of both local and exotic materials. The presence of copper and shell artifacts at Late Archaic period, ca. 4000-1000 B.C., sites in the far Northeast indicates that trade in these materials predates the Early Woodland period in this area (Ritchie, 1949, 1965; Sanger, 1975). Particularly noteworthy is the Isle la Motte cemetery, located on an island in northern Lake Champlain which contained copper and shell artifacts that can be related to the Late Archaic Glacial Kame complex centered in the Great Lakes region (Ritchie, 1965:132-134). Isle la Motte was recently radiocarbon-dated to 980 B.C. (M. Power, personal communication, 1989). Similar contemporaneous "Glacial Kame" sites are also reported from the northern shore of Lake Ontario (Ritchie, 1949:24-52; Spence and Fox, 1986:13-14).

In light of the radiocarbon dates from Augustine Mound, Isle la Motte and Boucher, it appears that extensive interregional trade, at least in copper, shell and some lithic artifacts, began in the Late Archaic period and continued throughout the Early Woodland period. Furthermore, based on these dates and material traits from cemeteries in the far Northeast, we argue that the impetus for the Middlesex mortuary complex can be sought more locally than the Ohio valley or Great Lakes region, probably in the well-established Late Archaic ceremonial complexes of the far Northeast (Tuck, 1975). Radiocarbon dates from Boucher and elsewhere also indicate that Middlesex cemeteries were still in use into the first millennium A.D.

The suggestion that Early Woodland mortuary ceremonialism is rooted in Late Archaic complexes of the far Northeast is not meant to downplay the ultimate importance of Adena-related lithic artifacts and midwestern raw materials in late Early Woodland exchange networks; both artifacts and raw materials are well-represented in the lithic assemblages of Middlesex sites (Clermont, 1976; Custer, 1989; Loring, 1985; Turnbull, 1976). However, two blocked-end pipes from feature 131 (Fig. 3), dated to 125 B.C., are the only classic Adena artifacts associated with a currently available radiocarbon date from Boucher and this may reflect use of such artifacts only during the latter part of the Early Woodland period. The relatively late arrival of classic Adena artifacts coincides with the suggestion that full-blown Adena is restricted to the late Early Woodland period, after ca. 500 B.C. Social complexity may have been evolving in the upper Ohio valley in a way which facilitated the profuse distribution of Adena resources toward the end of the Early Woodland period, but this topic is beyond the scope of this paper.

In addition to ties with the Adena "culture" of the Midwest, the Middlesex complex has strong affinities to several other mortuary complexes known from northeastern North America. The Delmarva Adena complex located in the Delmarva Peninsula and Chesapeake Bay area of the Middle Atlantic region is characterized by traits remarkably similar to those of the Middlesex complex. In fact, assemblages from the two complexes are often almost indistinguishable. The
duration of the Delmarva Adena complex appears to be similar to that proposed for Middlesex (Custer, 1989; Table 1). A similar relationship exists with the mortuary components of the Meadowood phase generally found in central and western New York and southern Ontario (Granger, 1978). The Adena mortuary complex can be more easily demarcated, albeit tentatively, because cemeteries associated with Adena populations usually included man-made mounds, whereas the cemeteries attributed to the other complexes did not, with several notable exceptions. Three mound sites are attributable to Middlesex: the Augustine Mound, New Brunswick (Turnbull, 1976); the Skora Mound, Nova Scotia (S. Davis, personal communication, 1989); and the Long Sault Mounds on the St. Lawrence River near the outlet of Lake Ontario (Ritchie and Dragoo, 1960).

Our analyses of Middlesex sites have indicated that notable differences exist between clusters of sites, for example, the Champlain valley sites compared to those in eastern Canada, and even between sites within these apparent clusters. It can be inferred that these clusters represent more closely related populations within the broader Middlesex complex. The extensive trade characteristic of the Early Woodland period throughout the broad Northeast, as well as what was likely some degree of shared ideology, tends to mask variation across the region. Therefore, the term Middlesex complex refers to a fairly broad mortuary phenomenon interconnected with neighboring complexes.

Various technological attributes and burial methods characteristic of Middlesex are present at the Boucher site. These include lithic traits such as blocked-end tubes, lobate-stemmed projectile points, leaf-shaped bifaces, pendants, gorgets,
flaked and ground celts and a boatstone. Early Woodland (Vinette 1) ceramics with characteristic interior and exterior fabric padding were also present at the site. The extensive use of native copper beads as personal adornment, commonplace in Middlesex burials, promoted favorable conditions for preservation of organics within the graves. This unusual degree of preservation is caused by copper ions released during oxidation of the metal, which kill fungus and bacteria that normally accelerate decomposition of organics (Janaway 1985:30). Due to the biocidic action of the copper, a rare assemblage of perishable artifacts, including perishable fiber, animal hide and wood artifacts, as well as unmodified organics, were preserved in many of the Boucher burials. In fact, the extant assemblage from this cemetery constitutes one of the largest collections of perishable artifacts of this antiquity known from anywhere in eastern North America.

This paper is primarily concerned with the description of artifacts of copper, shell, perishable fiber and hide from the Boucher site (Table 2). These have been generally categorized as objects of personal adornment and ornamentation. Some lithic artifacts, notably pendants and gorgets, and several bone artifacts, including a cut bear mandible, may also represent objects of adornment, but these are summarized in another paper dealing specifically with lithic, ceramic and bone artifacts.

The general summary of burial practices at the site is followed by brief descriptions of the artifact categories itemized above. In certain instances some of the original burial matrix consisting of unmodified organics and sediment was left attached to perishable artifacts to prevent undue attrition. Therefore, the counts and descriptions reflect final assessments of the assemblage available for analysis, but they do not necessarily represent counts of the complete collection. However, relatively few burials have portions preserved en masse and the counts and descriptions included in this paper are exact estimates of burial inclusions. The analyses are discussed in terms of their relevance for reconstructing intra-site mortuary practices and broader regional patterns of Early Woodland mortuary ceremonialism and social behavior in northeastern North America.

**Burial Features**

Burials at the Boucher site consisted of interments of both unburned and burned human skeletal remains (i.e. inhumations and cremations). A total of 43 unequivocal inhumations and 17 cremations was encountered at the site. At least one additional unburned individual is known from skeletal remains (labeled the “Hemenway” bones) collected at the site prior to the UVM excavations; the remains of multiple individuals were recovered from the piles of dirt excavated by the backhoe during the cellar excavation. Of the 43 inhumations, two were double burials and three of the cremations contained two individuals. Three composite burials, containing one cremated individual and one buried in the flesh, were also encountered. In sum, 63 burials with human skeletal remains were discovered and a minimum of 72 individuals are known from skeletal remains (Table 3).

An additional 24 pits had no human skeletal remains but did contain artifacts; in two of those burned bone was present but could not be positively identified as human. Twenty-one of these pits are considered to be burials because the type and quantity of material remains are congruent with the known burials from the site. Three of the 24 contained only lithic flakes which may or may not be intentional burial inclusions. Therefore, these three are included with 15 pits that were...
devoid of preserved cultural remains but, based on pit configuration and other inconclusive evidence, appear to be burials. This inference is based, in part, on the fact that in the absence of copper no organic remains would have been preserved and many interments rich in copper contained no nonperishable remains. Furthermore, calcined bone preserved extremely well in the absence of copper but unburned bone almost invariably did not; therefore, the 21 to 39 burials devoid of skeletal remains are assumed to have been inhumations interred with little or no copper. Soil analysis, which is under way, may reveal other features from the site that were burials or may cast doubt on the attribution of the 18 “empty” pits discussed above as burials. In any case, a minimum of 84 burial pits was encountered and over 100 burials may have been present at the site.

Inhumations at the site consisted of primary (buried in the flesh relatively soon after death), and secondary interments. Following Ubelaker (1978:19):

Secondary inhumations consist of non-articulated collections of bones. They may represent a complicated method of treatment of the dead involving two or more stages. The first is the removal of the flesh, which may be accomplished with tools or by allowing decomposition to proceed naturally above or below ground. The second stage is collection or disinterment of the bones. . . . The third stage is reburial. . . .

Of the inhumations in which the method of interment could be determined, the vast majority were primary burials. Only one definite and one possible secondary burial are known from the site, and these appear to have occurred after the body had naturally decomposed.

Individuals buried in the flesh were usually moderately to tightly flexed (Fig. 3 and 4) and placed on their side. In a few cases the individual was placed in the grave face down, in a sitting position or laid on his/her back. Some of the primary inhumations appear to have been enclosed in a bundle or bag of some kind, which in the case of feature 107 (a juvenile) was a textile bag or wrap. Several other inhumations were placed in bark containers or laid on bark mats. Another characteristic of many of the inhumations was the inclusion of unidentified grasses and humic materials, which in many instances have become consolidated masses over time. The one definite secondary inhumation is a bundle. Both bundled and nonbundled cremations were encountered. Based on the position of intact skeletons and overall pit sizes, it is unlikely that extended burials were present at the site. Individuals of both sexes and all age groups (infant to old adult) were buried at the site (see Table 3). No general patterns of preferential burial treatment by age or sex were discernable. No clear patterns of body or head orientation were recognized except for a general flexed position with hands usually placed on or near the neck and cheek of the individual. While no systematic placement of the burials was apparent, conditions of preservation, disturbance and recovery may have obscured any such patterns.

The actual burial pits extended from less than 1.0 m to over 2.0 m below ground surface. Pit shapes varied from bowl and basin shapes to deep funnel- and conical-shaped pits. Often a characteristic step or shelf was recognized in the deeper pits. Several of the graves were capped with one or more ritual fire hearths. The use of red ocher, either sprinkled over portions of the burial or concentrated in select areas, was quite common. In fact, over 50% of the 84 unequivocal burials contained red ocher or ocher-stained soil. Yellow ocher was also present at the site, but encountered in relatively few burials.
Table 2. — Distribution of copper, shell, hide and perishable fiber artifacts by feature at the Boucher site (VFr-26). Presence denoted by x. Abbreviations: Oliv, Olivella; Marg, Marginella; Quah, Quahog; Pend, Pendant; Unm, unmodified; Frag, fragment; OST, Open simple twined; CST, Close simple twined (* = with wrapping); OS/DT, Open simple and diagonal twined; CWT, Close wrapped twined.

| Feature no. | Copper Bead type | Shell Beads | Other | Hide | Perishable fiber Textile |
|-------------|------------------|-------------|-------|------|--------------------------|
|             | I    | II   | III  | Oliv | Marg | Whelk | Quah | Pend | Unm | Cloth | Bag | Frag | Th | Knot | Cordage | OST | CST | OS/DT | CWT | Braid |
| 2           | 8    | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 5           | —    | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 30          | 52   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 33          | 3    | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 35          | 124  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 37          | 565  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | x    | 1       | x   | —   | —     | —   | —     |
| 40          | 137  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 41          | —    | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 45          | 54   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | 1    | 1*      | —   | —   | —     | —   | —     |
| 47          | 433  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 50          | 32   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | x    | x       | —   | —   | —     | —   | —     |
| 51          | 29   | 2    | —    | —    | —    | —     | —    | —    | —   | 1     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 58          | 249  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | x    | x       | —   | —   | —     | —   | —     |
| 60          | 54   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | x    | x       | —   | —   | —     | —   | —     |
| 64          | 102  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | 2    | x       | —   | —   | —     | —   | —     |
| 65          | 25   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | x    | x       | —   | —   | —     | —   | —     |
| 66          | 82   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 70          | 6    | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 71          | 282  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 88          | x    | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | x    | x       | —   | —   | —     | —   | —     |
| 92          | 178  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | x    | x       | —   | —   | —     | —   | —     |
| 94          | 203  | —    | —    | —    | —    | —     | —    | —    | —   | 2     | 1   | x    | x  | 1*   | 1       | —   | —   | —     | —   | —     |
| 97          | 71   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 107         | 539  | —    | —    | —    | —    | —     | —    | —    | —   | 1     | —   | x    | 2  | 8    | 2       | —   | —   | —     | —   | —     |
| 110         | 389  | —    | —    | 212  | —    | 25    | —    | —    | —   | x     | x   | 1    | x  | 1    | 1       | —   | —   | —     | —   | —     |
| 115         | 26   | —    | 4    | 7    | 4    | —     | —    | —    | —   | —     | x   | —    | x  | 1    | x       | —   | —   | —     | —   | —     |
| 122         | 19   | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 124         | 164  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 125         | 107  | —    | —    | —    | 4    | —     | —    | —    | —   | —     | x   | —    | x  | —    | —       | —   | —   | —     | —   | —     |
| 127         | 401  | —    | —    | —    | —    | —     | —    | —    | —   | —     | —   | —    | —  | —    | —       | —   | —   | —     | —   | —     |
| 129         | 227  | —    | —    | —    | 13   | —     | —    | —    | —   | —     | x   | —    | x  | 1*   | 2       | —   | —   | —     | —   | —     |
Table 2.—Continued.

| Feature no. | Copper Bead type | Shell Beads | Other | Hide | Perishable fiber | Textile |
|-------------|------------------|-------------|-------|------|-----------------|---------|
|             | Bead type |          |       |      | Perishable fiber | Textile |
|             | I       | II       | III   | Other| Cord-age | OST | CST | OS/DT | CWT | Braid |
| 130 | 237 | - | - | - | - | - | x | x | - | x | 1* | - | - | - |
| 131 | 540 | - | - | - | - | - | x | x | - | x | 1 | - | - | - |
| 139 | 123 | - | - | - | - | - | x | x | - | x | - | - | - | 1 |
| 141 | 8 | - | - | - | - | - | x | x | - | x | - | - | - | - |
| 143 | 71 | - | - | - | - | - | x | x | - | x | - | - | - | - |
| 144 | 98 | - | 3 | - | - | - | x | x | - | x | - | - | - | - |
| 146 | 116 | - | - | - | - | - | x | x | - | x | - | - | - | - |
| 151 | 410 | - | - | - | - | - | x | x | - | x | - | - | - | - |
| 153 | 9 | - | - | - | - | - | x | x | - | x | - | - | - | - |
| 156 | 256 | 2 | - | - | - | - | x | x | - | x | - | - | - | - |
| 160 | 10 | 6 | - | - | - | - | x | x | - | x | - | - | - | - |
| 167 | 46 | 1 | - | - | - | - | x | x | - | x | - | - | - | - |
| xx | 17 | - | - | - | - | - | x | x | - | x | - | - | - | - |
| H | - | 9 | - | - | - | - | x | x | - | x | - | - | - | - |
| Unknown | 204 | - | - | - | - | - | x | x | - | x | - | - | - | - |
| Artifact total | 6706 | 19 | 4 | 3 | 559 | 40 | 73 | 236 | 1 | 3 | 2 | 3 | ? | ? | 12 |
| Feature total | 42 | 4 | 2 | 3 | 5 | 4 | 14 | 3 | 1 | 1 | 2 | 3 | 15 | 32 | 4 | 17 | 13 | 1 | 1 | 2 | 3 |
Table 3.—General characteristics of individual burials at the Boucher site. Burial mode abbreviations are: 1 = inhumation; D1 = double inhumation; C = cremation; DC = double cremation; I* or C* = composite burial. Demographic information is derived from Krigbaum (personal communication, 1989) and Pfeiffer (personal communication, 1989); 1 = infant (0–2 years); T = toddler (2–4 years); YC = young child (4–9 years); OC = older child (9–14 years); SA = subadult (14–19 years); YA = young adult (19–34); MA = middle adult (34–49 years); and OA = old adult (49+ years). In all instances, (?) denotes inconclusive attribution and (d) refers to partially disarticulated skeletal remains. Burial orientation refers to direction skeleton was heading (H) and direction skull was facing (F).

| Feature no. | Burial mode | Burial character | Burial orientation | Age | Sex |
|-------------|-------------|------------------|--------------------|-----|-----|
| 1           | 1           | Disturbed        | NA                 | A   | NA  |
| 23          | 1           | Flexed primary   | H = down, F = down| OC  | NA  |
| 30A         | I*          | Disturbed        | NA                 | MA  | M   |
| 35          | 1           | Flexed primary   | H = SW, F = W     | YA  | M   |
| 40          | 1           | Flexed primary(d)| NA                | YA  | F   |
| 45          | 1           | Disturbed        | NA                 | MA  | M   |
| 47          | 1           | Primary          | H = NA, F = N     | I   | NA  |
| 50          | 1           | NA               | NA                 | I   | NA  |
| 51          | 1           | Primary(d)       | H = NE, F = NW    | I   | NA  |
| 58A         | I*          | Primary(?)       | H = NA, F = N     | I   | NA  |
| 60          | 1           | NA               | NA                 | NA  | NA  |
| 63          | 1           | NA               | A                  | NA  | NA  |
| 64          | DI          | A-Flexed primary/B-NA | A–H = NA, F = N/B-NA | A–MA/B–YC | A–M/B–NA |
| 65          | 1           | NA               | A                  | NA  | NA  |
| 66          | 1           | Flexed primary   | H = up, F = NW    | YA(?)| M  |
| 67          | 1           | Secondary bundle | NA                 | YA(?)| M  |
| 71          | 1           | Flexed primary   | H = NW, F = SE    | OA  | M   |
| 86          | 1           | Flexed primary   | H = W, F = SE     | A(?)| M(?)|
| 88          | 1           | NA               | I                  | NA  | NA  |
| 92          | 1           | Flexed primary   | NA                 | YA  | M(?)|
| 94          | 1           | Flexed primary   | H = W, F = NA     | MA  | M   |
| 97          | 1           | Flexed primary   | NA                 | A   | NA  |
| 102         | 1           | NA               | NA                 | NA  | NA  |
| 106         | 1           | NA               | NA                 | NA  | NA  |
| 107         | 1           | Flexed primary   | NA                 | T   | NA  |
| 110         | 1           | Flexed primary   | NA                 | SA  | F   |
| 115         | 1           | Flexed primary   | NA                 | I   | NA  |
| 116         | 1           | Skull (w/atlas & axis) | NA                | MA  | M(?)|
| 122         | 1           | NA               | NA                 | NA  | NA  |
| 124         | 1           | Flexed primary   | H = NE, F = NW    | YA  | M   |
| 125         | 1           | Primary          | H = NA, F = down  | YA  | M   |
| 127         | 1           | Secondary(?/d)   | NA                 | I   | NA  |
| Feature no. | Burial mode | Burial character | Burial orientation | Age  | Sex  |
|------------|-------------|------------------|--------------------|------|------|
| 129        | I           | Flexed primary   | H = S, F = NW      | YC   | NA   |
| 130        | I           | Primary          | H = NA, F = SW     | OC   | NA   |
| 131        | I           | Flexed primary   | H = NE, F = SE     | YA   | F    |
| 137        | I           | Primary(?)       | H = SW(?), F = N(?)| OC   | NA   |
| 139        | I           | Flexed primary   | H = N, F = E       | YC   | NA   |
| 143        | I           | Primary          | H = back, F = NA   | I    | NA   |
| 144        | DI          | A & B = Flexed primary | A–YA/B–YA | A–M/B–F |
| 146        | I           | Flexed(?) primary| H = down, F = down | I    | NA   |
| 147        | I           | NA               | A                  | A    | NA   |
| 151        | I           | Flexed primary   | H = SW, F = SE     | A    | NA   |
| 156A       | I           | Flexed primary   | NA                 | NA   | NA   |
| 160        | I           | Primary          | MA                 | MA   | M    |
| 167        | I           | NA               | NA                 | NA   | NA   |
| xx         | I           | Flexed(?) primary| NA                | NA   | NA   |
| Hemenway   | I           | NA               | A                  | A    | F(?) |
| 2          | C           | NA               | NA                 | NA   | NA   |
| 5          | C           | NA               | NA                 | NA   | NA   |
| 8          | C           | NA               | NA                 | NA   | NA   |
| 26         | C           | Bundle(?)        | NA                 | NA   | NA   |
| 30B        | C           | NA               | NA                 | NA   | NA   |
| 33         | C           | NA               | NA                 | NA   | NA   |
| 37         | DC          | NA               | A                  | A/T  | NA/NA|
| 52         | C           | NA               | NA                 | NA   | NA   |
| 58B        | C           | Bundle(?)        | NA                 | YA or A | NA   |
| 68         | C           | NA               | NA                 | NA   | NA   |
| 98         | C           | NA               | NA                 | NA   | NA   |
| 100        | C           | Bundle(?)        | NA                 | YA   | NA   |
| 101        | C           | NA               | NA                 | NA   | NA   |
| 109        | C           | NA               | I                  | I    | NA   |
| 112        | C           | Bundle           | NA                 | A    | M(?) |
| 113        | DC          | Bundle           | NA                 | A/I  | NA   |
| 114        | DC          | Bundle(?)        | NA                 | A/YC | NA   |
| 121        | C           | NA               | NA                 | SA or C | NA   |
| 148        | C           | NA               | A                  | A    | F(?) |
| 156B       | C           | NA               | NA                 | SA or C | NA   |
| Backhoe    | I(C(?))     | NA               | NA                 | A    | NA   |
The variable modes of interment recognized at Boucher accord well with sites attributable to the Middlesex complex, as well as the related Glacial Kame, Meadowood and Delmarva Adena complexes (e.g. Ford, 1976:64–66; Funk, 1976:277; Granger, 1978:32; Keith, 1965; Kraft, 1976:12, 42–48; Loring, 1985:99–100; Olsen, 1934:411; Pfeiffer, 1977; Ritchie, 1944:186–200, 1949:24–52, 1955:61–65; Ritchie and Dragoon, 1960:29, 34, 40; Ritchie and Funk, 1973; Sanger, 1987:105; Spence, 1986:86–89; Spence and Fox, 1986:11–14, 22–33; Spence et al., 1978:39–41; Thomas, 1970:58–62, 1976:96; Turnbull, 1976:52–55). In fact, variable burial practices can be considered characteristic of the Middlesex and related complexes. It seems that the preferred method of interment was flexed primary inhumation. However, on occasion circumstances made it preferable to cremate or otherwise treat remains for secondary inhumation. The decision to cremate, bury in the flesh or bury the individual partially or entirely defleshed and disarticulated (due to decomposition and redeposition of the remains) was likely based more on practical reasons, such as season of death or distance from the cemetery, than on social norms. The mode of interment (i.e. primary inhumation, secondary inhumation or cremation) does not necessarily reflect differences in the status or prestige of the individual. As suggested for earlier populations in the region (e.g. Pfeiffer, 1977:143; Ritchie, 1965:123), those people who died at some distance from the burial place or during a time of the year deemed inappropriate for burial, for either ritual or natural reasons (e.g. frozen ground), were likely to be cremated. Such individuals also may have been stored for later inhumation, either in an above-ground area or in a temporary grave. Analysis of the Boucher cremations indicates that all bone was freshly burned, in other words cremated “in the flesh” (S. Pfeiffer, personal communication, 1989). The fact that approximately 70% of
the cremated individuals whose age can be determined are adults also adds some credence to the supposition that cremation facilitated transport, because it is more likely that adults would die at some distance away from the main group. Further, a fully grown adult would be a considerable burden to whoever might have to transport the body to the burial ground.

Likewise, variability in the types and quantities of burial inclusions are not considered here to be wholly reflective of social position. While it is assumed here that special attributes and achievements of individuals may be reflected by grave offerings at Boucher, artifacts do not necessarily reflect a hierarchical relationship of social positions among the people buried at the site. Instead it can be suggested that artifacts included with the burials were also important signalling devices used to mark group identity and affiliation and which promoted social integration. This position, as will be more fully elucidated below, is particularly relevant to those artifacts associated with personal adornment.

Copper Artifacts

Three categories of native copper artifacts were present at the Boucher site: ornamental beads, raw copper and manufacture scraps and a single utilitarian tool. One copper awl with an intact wooden haft (Fig. 5) was recovered from a cremation (feature 33) and is considered to be the only utilitarian copper artifact known from the site. The awl shaft is approximately 125 mm in length, extends through the handle, is square in cross-section and tapers to a point. Likewise, a very small number of specimens are believed to be raw copper and these were recovered from only two features. Feature 66 contained a single copper item which is apparently an unmodified nugget. Another example of unfinished copper is an exceptional composite specimen from feature 41 which consists of numerous consolidated copper scraps contained in a hide-lined textile bag (Fig. 6). Copper beads constitute the remainder of the sample of 6732 copper artifacts. These were strung with vegetal fiber cordage or hide thong into strands sometimes used to construct necklaces and bracelets and certainly other ornaments as well.

Based on technological attributes, three distinct types of native copper beads were identified at the site. The first, designated Type I, was rolled by turning a hammered strip of copper back on itself, presumably around an awl or similar tool, and overlapping one end over the other (Fig. 7A-D). In total, 6706 Type I rolled beads were present in 41 separate features. The beads range in size from very small (<1.5 mm) to rather large (>12 mm) in length and diameter. The sample can be roughly broken down into a small bead category (Fig. 7D), consisting of beads usually ranging between 1.5–3.5 mm in length and diameter, a medium-sized bead category, ranging between approximately 4.5–7.0 mm (Fig. 7B, C), and a large bead category which averaged between 7.5–9.5 mm in length and diameter (Fig. 7B). The large beads were recovered only from feature 144. The small and medium bead sizes are not exclusive. The beads grade from small to medium in size but in general fit into one or the other category.
Fig. 6.—Hide-lined textile bag containing native copper nuggets from feature 41.

The second bead variety, Type II, was rolled in a fashion roughly similar to Type I; however, the bead blanks were flattened sheets of copper rather than strips (Fig. 8). While these beads were uniformly small in diameter, between 3.0–4.0 mm on average, the length ranged from less than 10 mm to greater than 180 mm. Ten of the 19 rolled sheet beads were recovered from three features (feature 51, 156, and 160) and the other nine were retrieved from disturbed contexts. The rolled sheet beads were strung with vegetal cordage and hide thong. Some of the smaller specimens were interspersed with Type I beads in strands. The presence of preserved cordage within the longest sheet bead documents that the longer beads functioned as decoration and not as blanks for the manufacture of Type I beads.

The third bead type, Type III, consists of large nugget beads (Fig. 7E). It has
not been determined whether the bead blanks used to manufacture these beads were unmodified copper nuggets or strips of copper. The exact method of creating the central hole cannot be determined by macroscopic observation of these specimens. In one case it appears that the bead was made from a rolled strip (Fig. 7E, left), making it a very large Type I bead, and in another it is almost certain that the bead was made by some other means (Fig. 7E, right). Four beads of this type were contained in two features (features 144 and 167) and were likely used as centerpieces of rolled bead strands, as pendants or sewn onto garments. These beads occurred in features with Type I beads, but no clear association with the rolled beads was evident. In the case of the Type III bead from feature 167, a badly preserved cordage knot was apparent in its opening which suggests that it was not included in a strand of beads but rather was suspended.

Strands of Type I rolled beads were often draped around the head and neck and sometimes the wrists of the individuals buried at Boucher (Fig. 9). In some instances these strands were used as necklaces and bracelets; however, in other cases the strands were apparently wrapped around the head and it is not certain whether the ends were attached. In most instances the strands wrapped around the upper body appear to have functioned as necklaces. Based on position of the beads in relation to the skeleton and the numbers of beads within each feature, the function of the beads in many features can be inferred. The total number of beads per feature ranged from 3 to 565. In most instances it is reasonable to assume that fewer than 50 beads were not enough for a necklace and therefore they were used as bracelets or as some other form of adornment such as ornaments sewn onto a garment. Three actual bracelets are known from the position of the strand around the wrist. Following this logic, over 100 beads likely constitute one or more “necklaces,” unless multiple bracelets were interred with an individual or that individual was interred with a garment heavily adorned with attached copper ornaments. In no instance was a perishable artifact preserved with a copper ornament attached, however. If this was a usual practice of the people buried at
Boucher, it should have been evident given the excellent preservation of organics in direct contact with copper. If the practice of attaching copper beads to garments was employed at the site, it was likely done with only a few individual beads and evidence of it has not been preserved. In any case, 21 features contained over 100 copper beads. In at least 13 features the strands of beads were clearly wrapped around the head and neck. Several features clearly contained two long strands of beads and some strands were apparently constructed using a gradient of bead sizes. In several features copper and shell beads were used together to make composite “necklaces.”

As mentioned above, the strands of beads were strung together using a variety of materials, including spun and unspun hide thongs and twisted vegetal fiber cordage. These were often preserved within the copper and shell beads. At least 32 of the total 41 features containing copper beads also preserved evidence of stringing material. Hide thong was used in over 75% of these cases.

The use of copper beads as grave goods was by no means pervasive at Boucher. In fact, of the total of 84 unequivocal burials, only about 50% contained copper artifacts. This figure is greatly reduced when the possible burials are also included. Copper beads were contained in inhumations, cremations and nondescript burials, but copper was significantly more common in inhumations (37 or 82%) than it was in cremations (3 or 17.5%), or nondescript burials (4 or 19%). As will be discussed in more detail below, we suggest that the copper beads and other objects of adornment were significant markers of social identity expressed through personal decoration. Therefore, we believe the burned or otherwise unrecognizable remains of an individual were less likely to be lavished with articles of adornment.
A similar observation can be made for shell as no cremations contained shell artifacts. One notable exception was feature 37, a cremation which contained more copper beads than any other feature at the site. The beads in this cremation of one adult and one juvenile (3–5 years) were among the smallest at the site. Of note, several of the interred infants and juveniles contained similar quantities of minute beads. Thus, the exceptional quantity of beads in this feature may somehow be related to the fact that one of the individuals was an infant. Within the inhumations, copper beads were relatively evenly distributed between the sexes and across all age groups.

Copper beads are among the more common artifacts found in Early Woodland period burials and are ubiquitous in Middlesex complex sites. Where exactly the copper originated and where the beads themselves were manufactured is poorly known for Middlesex sites throughout the region, however. Trace element analysis has been conducted on copper from several sites and indicates that the Great Lakes region supplied much of the copper for the Northeast during the Late Archaic and Early Woodland periods, ca. 4000 B.C.–A.D. 1 (Cooke and Jordan, 1972:47; Goad and Noakes, 1978:335). Other more local sources are known but it is doubtful if these could have satisfied the copper demand beyond the immediate area. Trace element analysis of Boucher copper artifacts is under way.

The Type I beads from the Boucher site have particularly close correlates throughout the region (e.g. Ford, 1976:68, 71, 85; Kraft, 1976:17, 22; Loring, 1985:117–118, 123; Mounier, 1981:55; Ritchie, 1949:39; 1965:181; Ritchie and Dragoon, 1960:35, 51; Thomas, 1976:98), as do the Type II rolled sheet beads from Boucher (Kraft, 1976:17, 20, 37; Mounier, 1981:59; Perkins, 1873:82; Ritchie, 1949:39, 1965:181). The similarity of the beads in regards to method of manufacture and overall dimensions argues for a single area of manufacture, likely at or near the source of the raw copper. Exchange during the first millennium B.C. was characterized by movement of finished products, including copper (Custer, 1984:128; Stewart, 1989:58), and it is quite possible that copper was typically exchanged in finished form in the Northeast since its first appearance roughly 5000–6000 years ago. There was a notable shift in the types of native copper artifacts that were exchanged at about 1000 B.C., however. The utilitarian copper tools characteristic of Late and Terminal Archaic period sites in the Northeast (e.g. Kennedy, 1966:103–105, 110–114; Ritchie, 1940:45; 1965:101–148; Sanger, 1975:63) and which appear in several Early Woodland period sites (e.g. Loring, 1985:111; Ritchie, 1955:102, 109) were overshadowed during the first millennium B.C. by smaller copper ornaments which became quite common, at least in mortuary contexts.

It seems likely that much of the copper trade during the Early Woodland period was conducted through exchange of finished goods, but several compelling facts suggest that some of the beads were manufactured by local craftspeople. First, the presence of modified copper fragments and raw copper at the Boucher and East Creek sites documents that either local copper sources were being exploited or that raw copper was a component of interregional trade and suggests that at least some copper artifacts were crafted locally. Furthermore, we would be unlikely to encounter extensive amounts of raw copper if the primary use of copper was for personal ornamentation and the raw materials were exhausted during manufacture. Unfortunately, the extreme scarcity of known habitation sites clearly related to Middlesex cemeteries does not yet allow for evaluation of the presence or absence of copper in nonmortuary contexts.

Secondly, as noted elsewhere (Turnbull, 1986:18), there is a clear difference
between the beads recovered from sites along the main branch of the St. Lawrence River and in the Maritime Provinces of Canada, and those recovered to the south in New England and adjacent areas. The Type I beads from Boucher and correlates for the Type I beads from throughout the region were manufactured prior to stringing in all cases. However, the beads recovered from the far northeastern sites, including the Augustine and McKinley sites in New Brunswick (Turnbull, 1976:55; 1986:18) and the Sillery site in Quebec (Clermont, 1976:39), were manufactured by molding thin strips of copper (thinner on average than the Type I beads) and crimping the strips onto hide thongs. Copper beads from the Long Sault site (Ritchie and Dragoo, 1960:51) farther west on the St. Lawrence River are like Type I beads from Boucher, the type more typical of Middlesex sites in the northeastern United States. Beads similar in dimensions to the crimped variety are known from the Scott site in New Jersey (Mounier, 1981:55) and from the Sandy Hill site in Maryland (Ford, 1976:85), but to our knowledge no preserved hide was associated with these beads and they may have been strung and not crimped. The fact that the crimped beads were attached to hide garments, such as a headdress from Augustine Mound (C. Turnbull, personal communication, 1987), indicates that composite hide and copper artifacts were either being made elsewhere and traded as a unit or that the copper beads were being manufactured and attached to hide garments locally. One possible explanation is that the eastern Canadian sites were obtaining raw copper from sources closer than the Great Lakes, whereas other Middlesex beads were acquired in finished form. Local copper industries, using local as well as traded copper, may have been characteristic of other areas including the Champlain lowlands. If all the beads were being manufactured elsewhere, presumably the Great Lakes region, then there were distinctive bead types being traded exclusively to different areas. These alternatives will presumably be clarified once elemental and further technological analyses currently under way are completed and correlated.

### Shell Artifacts

Sixteen features at the site contained shell ornaments. Like copper, marine shell beads were frequently used as adornment by the people buried at Boucher and these beads were encountered in 15 features. At least four species of marine shell were used to manufacture the beads found at Boucher. These include: the Common Rice Olive (*Olivella floralia*); the Common Atlantic Marginella (*Marginella apicina*); the Northern Quahog (*Mercenaria mercenaria*); the Knobbed Whelk (*Busycon carica*); and possibly the Channeled Whelk (*Busycon canaliculatum*). The four species positively identified from Boucher are widely known from Early Woodland period cemeteries and are characteristic of Middlesex complex sites throughout the region (e.g. Ford, 1976; Kraft, 1976; Loring, 1985; Perkins, 1873; Ritchie, 1955; Ritchie and Dragoo, 1960; Spence and Fox, 1986; Thomas, 1970, 1976:105; Turnbull, 1976). The fifth species, the Channeled Whelk, may also be quite common, but Whelk beads were made from the central column of the shell and some of the beads made from thin columns may be either *Busycon carica* or *Busycon canaliculatum*. The more robust beads from Boucher, and likely other Middlesex sites, are definitely *Busycon carica*, however.

Of the four varieties of shell beads present at Boucher, the *Olivella* and the *Marginella* beads were manufactured in basically the same way. The *Olivella* beads were manufactured by simply lopping off the apex (upper whorl) of the shell and passing the stringing through this hole and out the aperture of the shell.
Fig. 10.—*Olivella* (A) and *Marginella* (B) marine shell beads from the Boucher site.

(Fig. 10A). A total of 559 *Olivella* beads was contained in five features, but only three contained enough beads to create a necklace. In one of those (feature 139), five strands occurred adjacent to one another in a very uniform manner. Given the regular spacing of these strands, which would be unlikely if they were hanging freely around the neck, this is the best candidate for ornaments actually attached to a garment, as is known elsewhere from the region (e.g. Tuck, 1976:55–56).

Forty *Marginella* beads were manufactured in roughly the same way, only the apex appears to have been ground, rather than lopped off (Fig. 10B). Only one feature (feature 94) contained a *Marginella* bead strand. The beads from the other features were used either with other types of beads or as sewn on or dangling ornaments. Both the *Olivella* and the *Marginella* are common shallow water species whose modern northern range reaches approximately to North Carolina (Abbott, 1974). While their range may have extended further north in the past, it is likely that the Southeast was the source of these shells.

The Quahog and the Whelk shells have a modern range extending at least to Cape Cod (Abbott, 1974). They were made by careful cutting and polishing. In the case of the Whelk shells, the beads were manufactured by first removing the central column or columella of the shell, presumably by cutting, and then drilling into the core of the columella, usually from both ends. The holes meet obliquely near the center of the bead (Fig. 11A and B). The ends of the beads were also polished on the cut ends. The size of these beads varied considerably in both length (15–60 mm) and thickness (8–20 mm), but there were two general size categories noted: wide (Fig. 11A) and narrow (Fig. 11B). As mentioned above, the wide beads and some of the narrow beads were certainly manufactured from *Busycon carica*, while some of the smaller narrow beads may have been made from either *Busycon carica* or *Busycon canaliculatum*. In total, 73 Whelk columella
Fig. 11. — Whelk and Quahog marine shell beads from the Boucher site. (A) Wide Whelk shell beads, notice the drill holes in the lower specimen. (B) Narrow Whelk shell beads, also notice drill holes. (C) Quahog disk shell beads, notice growth laminae on surface. (D) Whelk shell beads interspersed with Type I copper beads, notice intact cordage.
beads were recovered from 14 features. It seems that only one feature (feature 110) contained a Whelk shell necklace (Fig. 12), but it is evident in several other features that the Whelk beads were interspersed with Type I copper beads in strands (Fig. 11D). There is no preserved evidence that other types of shell beads were strung with copper beads into strands.

The Quahog beads were manufactured by cutting disks out of the valves of the shells and drilling holes through the center of the disk (Fig. 11C). The surfaces of these beads were polished, but the growth laminae are still visible in many of the specimens. The size of the beads ranges from 8 mm to 13 mm in diameter and 3.5 mm to 8 mm in thickness. A total of 236 Quahog beads was contained in three features. Only one feature (146) contained a sufficient number (n = 228) of beads for a necklace and in this feature there was clearly a necklace consisting of two strands draped around the individual’s neck (Fig. 13).

In all recorded instances shell beads were strung with twisted fiber cordage (see Fig. 10A and B, 11D), in contrast to the rolled copper beads which were usually strung with hide thong. In addition to shell beads, a shell pendant made from an unidentified bivalve or from the chamber wall of a large Whelk was recovered from feature 47 (Fig. 14) and several fragments of unmodified bivalves were recovered from a cremation (feature 5), the only one which contained shell. As noted for copper, the presence of unmodified raw material at the site raises the possibility that some shell beads were locally manufactured.

**Hide Artifacts**

In addition to the hide thong fragments, which were recovered from a total of 32 features, 12 knotted thongs (most are overhand and granny or square knots) were present in four features (Fig. 15). An additional 20 features contained hide artifacts other than thongs. Of these, 15 contained fragments of hide that preserved
Fig. 13.—Two strands of Quahog disk beads form a necklace in feature 146.

no clues as to the specific form or function of the artifact, but in all cases the hide appeared to be dressed and would have been quite supple. From the remaining five features, numerous individual specimens were recovered which relate to five distinct objects: two hide garments and three hide bags.

One of the bags is the hide liner of the textile bag containing copper fragments recovered from feature 41 (Fig. 6). As this bag is completely enveloped by the outer textile bag, few details about it are known. The second bag is a small pouch created by cinching a single piece of soft hide with a length of sinew (Fig. 16). This bag, from feature 45, contains unidentified vegetal remains and the disarticulated remains of a Black Rat Snake (Elaphe obsoleta). The bag, which is about 3 x 4 cm in size, is encrusted in red ocher pigment so completely as to suggest that it was intentionally colored. The third hide bag, from feature 94, contained a mass of ritually interred faunal remains (Fig. 17), minimally including: two articulated snakes, a Timber Rattlesnake (Crotalus horridus) and a possible Black Rat Snake (Elaphe obsoleta), pine marten (Martes americana), American mink (Mustela vison), red fox (Vulpes vulpes), raccoon (Procyon lotor) and unidentified small cervid and bird remains (A. Spiess, personal communication, 1989). The bag likely measured approximately 15 x 10 cm or greater when whole and was interred in the head, shoulder and chest area of a tightly flexed old adult male (Fig. 4). Certainly the bags from features 45 and 94 had special ritual significance and do have similarities to ethnohistorically-known examples of ritual pouches or “medicine bags” (Flannery, 1939). The exact character of these bags and how they and other ritual paraphernalia from the site may relate to the status and role of the people with whom they are buried certainly merits closer scrutiny.

The most spectacular hide artifact from the site, a tailored hide garment from
Fig. 14.—Shell pendant from feature 47.

Fig. 15.—Several knots tied from hide thong from the Boucher site.
feature 107, was positioned directly above the chest (intact rib cage) and beneath the folded arm of a young child (Fig. 18). The hide garment was the artifact most intimate to the body of the child and, considering the complexity of the specimen, there is no doubt it was a close-fitting tailored garment, likely a shirt. It consisted of several pieces of dressed hide sewn together with strands of sinew and thong. Two seams were preserved on two separate fragments of this garment. The seam on the larger fragment joined two distinct varieties of material, which represent either the hide or skin from two species or separate body parts (i.e. hide/skin and internal organ) of one species. This large fragment, roughly $15 \times 10$ cm, also preserves at least three hide thong knots (Fig. 18) which were a part of the garment. The second seam is clearly an overhand stitch which joined two pieces of similar hide (Fig. 19). Several strands of small copper beads were bunched up on the outside of the shirt and the hide, beads, rib cage and arm were all enveloped in a textile shroud.

A second feature (feature 151) preserved a similar arrangement of artifacts. Feature 151 contained an infant (0–1 year) who was likewise clothed in hide, draped with a copper necklace and wrapped in a textile shroud. While the exact configuration is less precisely known than in feature 107, hide fragments adhering to and completely covering the scapulas of the infant preserve both copper and textile impressions documenting the same pattern recognized in feature 107. Further, the extant textile enclosed much of the preserved body which indicates that it was a shroud (Fig. 20). Several other features (156 and 167) also preserved
textile fragments directly adhering to hide, but in these cases the position of the specimens in relation to the body is unknown.

The existence of actual hide artifacts that can be ascribed to specific form and function with some certainty is particularly significant given the paucity of comparable archaeological specimens from eastern North America. Moreover, to be able to reconstruct, however imprecisely, the types of garments that clothed aboriginal people in the first millennium B.C. is indeed extraordinary. The one unequivocal and one probable hide garment from Boucher have a single analog from the broad Northeast. At the Sillery site on the St. Lawrence River in Quebec, a single individual was interred with a hide garment that was made by weaving strips of hide together and this garment was also decorated with copper beads. This person was then wrapped in an animal hide shroud (Clermont, 1976:38). A beaver skin was used to wrap several copper celts at the Killarney Bay 1 site in Ontario (Greenman, 1966:545). It is the only obvious correlate for the hide bags from Boucher.

**Perishable Fiber Artifacts**

A total of 56 fragments of cordage was analyzed and are divisible into four varieties consisting of single, two, three and four ply constructions. All cordage is spun down to the left (\(\)\), or Z spun, and twisted down to the right (\(\)\), or S twist. An additional 99 fragments of textile or basketry were present in the assemblage and are attributable to at least 23 distinct woven objects. These 23
Fig. 18.—Tailored hide shirt from feature 107. Note seam through upper center of piece and knot to the left of the seam.
objects can be assigned to five structural types: open simple twining, S weft slant; close simple twining, Z weft slant; open simple and diagonal twining, S weft slant; close wrapped twining, Z weft slant; and braiding (Adovasio, 1977).

**Cordage**

The great majority (89%) of the cordage assemblage is two ply, Z spun, S twist cordage (see Fig. 10A and 11D). The cordage ranged in diameter between 0.3-2.4 mm, but on average the cordage was about 1.0 mm in diameter and was tightly twisted (Emery, 1980:12). It should be emphasized that in all instances multiple ply cordage is always Z spun and S twisted. This observation also pertains to all textile fragments in which cordage was used as an element of construction. All cordage is constructed of retted plant fibers.

While the absolute identity of the full range of fibers used in the extant cordage is not known, comparison with modern examples of common milkweed (Asclepias syriaca), Indian hemp (Apocynum androsaemifolium), basswood bast fiber (Tilia americana), and three genera of nettle (Boehmeria, Urtica and Laportea) indicates that both fine fibers from the stems of herbaceous plants, such as milkweed, Indian hemp and nettle, and the generally coarser bast fibers of woody plants like basswood, are present in the assemblage. In fact, six specimens from the site have been more thoroughly analyzed and identified as milkweed (3) and basswood bast (3) (F. King, personal communication, 1990). Most cordage and the majority of textile elements appear to have been made with the coarser bast fibers. This supposition is supported by several broad studies of raw materials used in aboriginal perishable fiber industries in the region (e.g. Browning, 1974; Jones, 1936; Whitford, 1941). Two fragments of cordage, one from feature 45 and one retrieved from the Hemenway collection, preserve probable intentional coloring, such as from pigment or dye. These specimens have a uniform bluish/indigo color (Munsell 10B 4/10) over their entire length. This color may have been produced by the copper salts, but this seems unlikely because no other remains from the site
Fig. 20. — Open simple twined fabric which enclosed much of preserved skeletal remains from feature 151. This fabric likely constitutes a burial shroud or cowl.
preserve this color whereas many are stained green by the copper. Additionally, many fragments of cordage are encrusted with red ocher, but this may be due to prolonged contact in the grave rather than predepositional treatment.

Textiles

Twenty-three individual woven objects were recovered from the site, 20 (87%) of which were twined textiles. Twining refers to weaves which are usually produced by passing moving (active) horizontal elements, referred to as wefts, around passive (stationary) vertical elements, called warps. It is employed in the manufacture of a diverse range of articles, including containers, mats, bags, clothing, hats and other objects (Adovasio, 1977:15). The remaining three objects were formed by three-element braiding, also known as oblique interlacing (Emery, 1980:62).

The majority of twined forms from the site, 80% or 16 forms, are open simple twined (Fig. 20–24). Five of the open simple twined fabrics contained a nonstructural element which was wrapped in a figure-eight manner around successive warps (Fig. 21). Two fabrics are classified as close wrapped twining, a technique that involves wrapping an active weft around a passive weft and warp, thus binding them together (Adovasio, 1977:19). One example each of close simple twining and open simple and diagonal twining are present in the extant assemblage.

Most textile specimens from Boucher, 18 (78%) of the 23 forms, were constructed using cordage or predominantly cordage elements. Four fabrics, including two braids and two open simple twined fabrics (Fig. 22A), were manufactured with unspun retted plant fibers, likely basswood or some other bast fiber due to the robusticity of the elements (1.5–3.5 mm). The fifth fabric was the close simple twined specimen (feature 110) in which unspun wefts were wrapped around cor-
Fig. 22.—Several varieties of twined textiles from the Boucher site. (A) Open simple twined specimen constructed with unspun warps and wefts, notice the clumps of red ocher. (B) Close simple twined specimens constructed with cordage warps and unspun wefts. (C) Close wrapped twined specimen constructed with cordage warps and passive wefts and animal hair active wefts. (D) Open simple twined specimen showing two weft rows with doubled wefts and two weft rows with trebled wefts, possible selvedge.

dage warps (Fig. 22B). Of particular note, the active elements of the close wrapped twined fabrics from features 110 and 124 (Fig. 22C) and the supplementary wrapping element on the five aforementioned open simple twined fabrics are unspun animal hair. In fact, in feature 124, the close wrapped twined form employed two varieties of hair, likely from two different species of animal, differentially across the fabric to create a geometric design. Although not positively identified at present, some of the animal hair elements look identical to specimens positively identified as moose (Alces alces) at the Augustine Mound site in New Brunswick (C. Turnbull, personal communication, 1987). Microscopic compar-
ison of the other variety with modern beaver (*Castor canadensis*) indicates gross similarity, but without more fine-grained analysis (Weir, 1983:132–137) neither identification can be considered conclusive.

As a final note about fabric structure, in all the twined specimens the wefts were doubled (two weft elements) except one fragment from feature 151 which preserved two weft rows of doubled wefts and two weft rows of trebled wefts (Fig. 22D). This may be a portion of a selvedge, but it is not the actual edge of the fabric and therefore may also be a structural variation within the fabric.

More rare than data on structural types, the function of several objects can be confidently inferred. Several features contained fabrics which, on the basis of their relative size and intimacy with the human remains as well as the overall quality of the fabric, allow suggestion that they represent some form of secular or ritual apparel. As mentioned above, it appears that the open simple and diagonal twined fabric from feature 107 (Fig. 23A), the open simple twined fabric from feature 151 (Fig. 20), and the open simple twined fabric from feature 94 (Fig. 24) served as upper body garments, most likely burial shrouds or cowls. Additionally, the wrapped twined specimen with a decorative geometric design from feature 124 was almost certainly a personal garment on the basis of the delicacy of the fabric and its intimate association with the individual. The use of soft animal hair and the overall delicate weave of this specimen would have made it an extremely supple fabric. In fact, the fabric was folded several times within the hand testifying to its pliant quality. This textile is directly adhering to the shoulder (scapula) of the individual and is also present at the base of the skull and in and around the hand bones, suggesting use as a shroud or cowl.

Several other specimens from the site can be ascribed to possible functions other than burial apparel. Two fabrics from feature 107 are positioned outside the shroud-wrapped body of the individual described above (Fig. 23B). The specimen closer to the body is constructed with robust unspun elements, likely bast fibers, and may represent a mat of some kind. The second fabric is very delicate and apparently enclosed the body and all other remains within the burial and therefore may represent a wrap which may have enveloped the entire burial package. Given that these textiles were only preserved beneath the body, it is impossible to ascribe a conclusive function to them, however.

Open simple twined specimens from features 41 and 131 (Fig. 3 and 6) clearly functioned as bags. The unequivocal bag from feature 41 is the hide-lined bag which encased the cache of copper scraps mentioned above. The bag is about 5 x 6 cm in size. The feature 131 bag was defined as such on the basis of textile fragments adhering to and negative impressions left on a large (10 x 12 cm) clump of oxidized and apparently pulverized red ocher (Fig. 3). The bag was interred over the chest area of an adult female. These two bags likely had special ritual significance or may have been related to craft specialties of the people they were interred with.
Fig. 24.—(A) Open simple twined probable burial shroud from feature 94. (B) Close-up view of the open simple twined fabric from feature 94.
Of special note, the use of decoration on the close wrapped twined fabric from feature 124 is truly unique. No other clearly decorated fabrics have been reported from Early Woodland period sites in the broad region, and from the far Northeast, decorated fabrics are not known from any prehistoric contexts. The decoration from this garment is similar to proto-historic and early historic aboriginal decorated fabrics from New England in terms of the use of linear geometric design rather than floral designs favored by native populations after prolonged contact with Europeans (e.g. Richardson, 1977:113–119; Willoughby, 1935:251–254). In the case of the Boucher specimen, preserved portions of the fabric retain black lines, approximately 0.5–1.0 cm in width, created by weaving successive rows of black hair against a brown hair background. The upper two lines, and likewise the lower two lines, meet to form two pointed V’s, which point in opposite directions (Fig. 25). In addition to this fabric, the wrapping elements of the open simple twined fabrics from features 41 (bag), 94 (garment), 129, 130, and 151 (garment) may have been meant to serve as decorative elements. The wrapping in all cases serves no necessary structural purpose, and in the case of the fabrics from features 41, 94 and 151 is clearly employed discontinuously over the fabrics in what appears to be geometric patterns. In at least these three cases, the use of wrapping is quite likely decorative because it is doubtful that the fabric structure would be preserved uniformly while the wraps would be preserved differentially.

The garment from feature 107 involves diagonal twining across six consecutive warps in an otherwise open simple twined fabric; this tends to open up the weave slightly and is probably an aesthetic embellishment as well.

Fig. 25.—Decorated wrapped twined specimen from feature 124. Note the V-shaped decoration in upper left corner of specimen.
The uniform nature of the textiles and the complicated techniques of manufacture attest to the fact that the Boucher population possessed a sophisticated perishable fiber industry. Rare structural varieties, such as wrapped twining and open simple twining with wrapped warps, are products of extremely refined non-loom techniques and the manufacture of these and other fabrics by Boucher weavers was undoubtedly accomplished by exceptional craftspeople. The regularity and delicacy of many of the structural elements and patterns further attest to the high level of competency of the weavers within this aboriginal population.

The vast majority of actual textiles from the Northeast has been recovered from mortuary contexts and in the far Northeast most of those are associated with the Middlesex and related complexes. While in general textiles and cordage are so rarely preserved that meaningful correlations to contemporaneous industries are difficult in the region, numerous correlates to the Boucher textiles are reported from the far Northeast (e.g. Loring, 1985; Petersen and Hamilton, 1984; Ritchie, 1955, 1965; Ritchie and Dragoo, 1960; Sanger, 1987; Turnbull, 1976) and the broader region (Adovasio and Andrews, 1980; Dragoo, 1963; King, 1968, 1974; Kraft, 1976; Mounier, 1981; Shetrone and Greenman, 1931; Webb and Snow, 1974).

When compared to other assemblages within the region, several notable similarities are apparent. First, the preponderance of S twist cordage and S weft slant textiles can be considered characteristic of noncoastal Early Woodland period populations in the far Northeast and Adena-related groups to the west as well (Petersen and Hamilton, 1984:430). It has been pointed out that cordage twist is rooted in the motor habits of a population and is resistant to change. Moreover, cordage twist can be a useful indicator of cultural affinity or relatedness (e.g. Adovasio, 1977:4–5; Petersen and Hamilton, 1984:430–438). The weaving techniques documented at the site also show notable similarities with contemporaneous sites. The apparent uniformity in cordage twist and weaving preferences throughout the region is further testimony of the widespread communication between contemporaneous populations in the Early Woodland period. While this may be related to the broad regional exchange patterns which are evidenced by the presence of exotic materials, it may also pertain to the movement of people through exogamous marriage patterns. The movement of women between groups in particular would have had the effect of homogenizing crafts manufactured by women, possibly including textiles and pottery. This may help explain wide regional similarities in ceramic wares (Vinette 1), textiles and cordage.

**Internal Correlations**

Our analyses have demonstrated that without the association of copper few perishable artifacts would have survived at the Boucher site. Consequently, meaningful discussions about the relative frequencies of artifacts within individual graves and across the site should be focused on categories of durable artifacts, including copper, shell, lithics and ceramics. The distribution of artifacts not related to adornment—"utilitarian" and ceremonial lithic, ceramic and bone artifacts—shows no visible pattern of differential treatment between cremations and inhumations. Furthermore, the complete inventory of durable artifacts shows that nonperishable artifacts were included in 11 of the total 17 cremations. If, as suggested above, most of the pits now devoid of skeletal remains were inhumations, many of the 18 "empty" pits were inhumations that lacked durable artifacts, most notably copper. These proportions of burials lacking durable burial inclu-
sions further indicate that the mode of interment does not relate to patterned differences in social position or burial protocol, except in regard to body adornment.

Of 54 features containing lithic materials only 19 also contained copper. This negative correlation may be due to the condition of the body when interred. Copper and shell were almost invariably restricted to inhumations, whereas other durable artifacts, especially lithic artifacts, were more evenly spread between inhumations (primary, secondary and nondescript) and cremations. As mentioned earlier, this occurrence was apparently related to the use of copper and shell as ornamentation, which was not as critical for individuals who had been cremated or were otherwise unrecognizable. However, other burial goods not related to personal adornment were included with cremations and secondary inhumations; the inclusion of artifacts not related to adornment does not appear to be dependent on the condition of the body at the time of final interment. In essence, the condition of the skeletal remains (articulated, disarticulated or cremated) is apparently not related to social position, age or sex, at least as far as social distinctions are reflected in the variability of artifacts not related to body adornment.

Therefore, the nearly one-to-one correspondence between primary inhumations and copper and shell ornaments, and hence preserved perishable artifacts, is undoubtedly not accidental. In fact, of the 44 features containing copper, only seven are either cremations, fully disarticulated secondary inhumations or burials without preserved skeletal remains; of those seven, five contain less than ten copper artifacts. Two of the three nonbead artifacts (the copper nugget bag and the awl) were contained in those seven features. Copper and shell beads and probably perishable garments were apparently used on recently deceased individuals as symbols of identity in a funeral ritual at the time of death. If the person was recognizable at the time of interment, the physical appearance of the body would have been an important consideration and the individual was likely adorned in a way that marked personal or group preferences, but the passage of time and/or loss of physical identity, as represented by cremation or secondary inhumation, made these distinctions less important.

In essence, if death occurred near an appropriate location for final interment and at a time considered appropriate for social or natural reasons (e.g. ground unfrozen), the individual was permanently interred with objects of adornment intact. If the person died at some distance from the cemetery or at an inappropriate time, for natural or social reasons, the body was likely cremated and/or stored in a temporary place, either above or below ground. These individuals were then redeposited at the burial ground, but under these circumstances the disposition of articles of adornment was considered less relevant to the deceased, their social group or the funerary ritual itself. This may account for the reduced absolute and relative frequencies of beads with cremations and disarticulated secondary inhumations. Artifacts not used as adornment, including copper, lithic, bone, ceramic and perishable artifacts, were allotted to individuals on the basis of other factors, as well as social identity and affiliation.

Artifacts associated with adornment are logically more intimate or personal to the interred individual than artifacts with potential utilitarian function, and therefore may yield valuable insight into social or individual identities that utilitarian objects might not. Minimally, it is safe to assume that there is a nonrandom relationship between the artifacts in a grave and the personal or social identity of the buried individual. Several possible explanations may clarify the relationship
between the deceased and the associated grave goods. The variable treatment of the dead could reflect a hierarchical relationship among the interred individuals (i.e. social ranking). The differences in burial inclusions may have been related to the preferences or position of a social group (i.e. family, lineage, moiety, local band, etc.) with the inclusions signaling social identity and affiliation. Following Wiessner (1983:257), this can be labelled as emblemic style. Status and prestige related to individual qualities and specialties of the deceased person in life undoubtedly would have an effect on the specific burial procedure. In fact, the bags containing faunal remains from features 45 and 94 are likely reflective of particular ritual behavior, suggesting that the people with whom they were buried may have had some ritual specialty in the community, such as that of a shaman. Likewise, the bag of red ocher (feature 41) and another containing copper nuggets (feature 131) may identify specialists of some kind. Lastly, it is possible that differential treatment of the dead only reflects stylistic preferences of the interred individual, what Wiessner (1983:258) calls assertive style. These stylistic expressions may or may not have been manifest in the everyday life of the living individual, but need not reflect important group identity markers. These alternatives can be grouped into two broad categories: (1) group attitudes, reflective of ascribed status (ranking), social group emblems, or achieved status; and (2) individual style.

These alternatives all relate to what Goodenough (1965:7) has labeled the “social persona,” which consists of the composite of social identities maintained in life and variably recognized at death (Binford 1972:225). As noted above, the condition of the body at the time of final interment, likely dictated by time and location of death, influenced the character of the burial. Binford (1972:227) notes that the actual circumstances of death (e.g. wound, disease, drowning, etc.) may also have an important effect on the overall burial program, but he notes that this distinction is not common among the non-agricultural societies (i.e. food foragers and simple horticulturalists) cited in his study (Binford 1972:231).

Some combination of these alternatives undoubtedly influenced the specific burial program for each interment. There is some indication that the ritual use of personal adornment is specifically related to the social identity of the individual and the condition of the body at the time of burial at the sacred burial place. Our analyses have indicated that the use of body adornment on people buried at Boucher is apparently not strongly patterned by age, gender or social differentiation within the population. People of both sexes and all age groups were endowed with copper beads in relatively equal proportions; there is some indication that women and children were buried with shell ornaments more frequently than men, however. The use of other lithic, ceramic, bone and other artifacts seems to be strongly patterned by age and sex, at least, and likely achieved status and wealth as well. The possibility that adornment is entirely a reflection of the assertive style of the individual has been ruled out since it is doubtful that infants or possibly even juveniles would have developed personal stylistic habits. It also seems unlikely that newborns and toddlers would have acquired widely known prestige within the community. Therefore, it is unlikely that infants, juveniles and perhaps adolescents would be lavished with exquisite artifacts in the same manner or for the same reasons as adults. Hence, we argue that articles of adornment do not necessarily reflect the status, wealth or idiosyncratic preferences of the individual and, given the relative equality of these goods between sexes and across age groups, may be used as an emblem of family or kin group identity.

Artifacts relating to body adornment are usually important exchange items and
likely carried important messages about identity, including acquired prestige, affiliation and well being, not only for the individual but also for the family or local group. As O'Shea (1984:251) notes for the Arikara of South Dakota:

The Leavenworth [Arikara] pattern is characteristic of a situation with a high degree of status blending—that is, where the relative standing of the primary social unit (probably the extended family in this case) was expressed in the burial of all its members. This is not to say that individual achievement was not expressed—it clearly was—but that a base level of wealth, representing the social unit, was expressed regardless of this.

Thus, the status of the family can be an important distinction in apportioning burial inclusions. This is especially true of articles of adornment at Boucher where the only apparent pattern in the use of adornment artifacts is their use with individuals buried “in the flesh” almost exclusively, whereas there is clear differentiation based on age and sex reflected in the variability of artifact inclusions not related to adornment. In short, it is likely that both the stylistic preferences, social position and wealth of the individual, as well as the identity, status and/or wealth of the family or other social group, were determinants of the types and quantities of grave goods.

Elements of the funerary rite are short-lived and are often ineffective as markers beyond the community involved in the ritual (O'Shea, 1984:287). However, in the context of the Boucher site and other Middlesex cemeteries, it appears that the funerary ritual may have been related to other social activities. Beyond the relief of anxiety among the local community caused by the death of a community member, the burial ritual may have offered an opportune time to display the social identities and affiliation of not only the dead but also the surviving members of the local group. In this way various social information could have been transmitted, including the perceived obligations and intentions of one group towards another, thus structuring interaction between the groups.

**DISCUSSION**

In a broad perspective, the interment of artifacts during the burial rite facilitated the movement of important trade items by removing some items from circulation, thus creating a continued demand for trade goods, which, in turn, helped maintain ties to other, sometimes distant, groups. The visible quantities of materials being exchanged are consistent with a system in which the primary motivation of trade was the circulation of goods rather than acquisition of a surplus. It is hypothesized that the trade of materials followed a pattern roughly similar to Renfrew’s “down the line trade” (1972:465). More specifically, like the chain model of trade proposed by Bray (1984:308), “each link, or cultural province, has its own identity but, at the same time, interlocks with its neighbors to form a continuous unbroken whole.” This form of interaction may explain the broad regional occurrence of similar exotic materials as well as the notable uniformity of artifacts of local manufacture, such as Vinette 1 ceramics and the preference for S weft/S twist perishable industries. The archaeologically visible manifestations of this network indicate a much broader interaction sphere based on balanced reciprocal exchange that likely included mundane and subsistence goods as well as exotic goods.

Antecedents of a trade network which reached its apogee in the far Northeast during the Early Woodland period lie in the Archaic period of the region. It is not necessary to look to distant areas for the origin of the Middlesex complex.
Copper and shell artifacts have been dated at the Boucher site throughout the entire reliable radiocarbon sequence (i.e. 715 B.C.–A.D. 105) indicating long-standing formalized exchange. When combined with the date of 980 B.C. for the Isle la Motte site which contained numerous copper and shell artifacts, it becomes clear that this exchange network was in place throughout the first millennium B.C.

The presence of at least four mortuary centers in the eastern Champlain lowlands, all within close proximity to Lake Champlain, is significant. These cemeteries occur in pairs, with Boucher and Swanton located less than 4 km apart in northern Vermont, and Bennett and East Creek similarly separated in the southern Lake Champlain area. This pattern is probably not fortuitous and may be indicative of temporal succession or some kin-based division of the society (Loring, 1985:105). If the Boucher site was indeed used for ca. 700–800 years, it seems that the dual cemeteries are probably manifestations of some social division. Fewer than 200 people were apparently buried at the Boucher and Swanton cemeteries and the same or fewer people were buried at East Creek and Bennett. These numbers are far less than would be expected for band level societies in this large area over a period of 700–800 years, however. There is a good chance that more cemeteries remain undiscovered on these rivers and in adjacent drainages. In fact, a diagnostic blocked-end pipe was surface-collected near the outlet of the Winooski River, a major river intermediate between the two cemetery groups (Haviland and Power, 1981). This and other scattered finds may relate to previously disturbed cemeteries that were used contemporaneously with the other Early Woodland mortuary centers discussed here.

In the absence of well-isolated Early Woodland habitation components in the Champlain valley (Haviland and Power, 1981), and throughout the interior of the far Northeast, conclusions regarding dramatic changes in subsistence, settlement and social or political organization must remain tentative. The proposition of a marked increase in sedentariness, efficiency in resource exploitation and social differentiation is at present based more on faith and the often imprecisely reported mortuary data than on hard data. In short, there is little concrete evidence that Early Woodland life in the Champlain valley was much different from the roughly egalitarian hunter-gatherer pattern posited for the Archaic period.

Our analysis of artifact variability across the site indicates that although burial treatment does not clearly indicate pervasive patterns of either vertical (rank) or horizontal (age/sex/social group) differentiation, there is a notable tendency for articles of adornment to be included only with burials interred “in the flesh.” This fact may explain the lack of covariance between lithic and copper artifacts and the underrepresentation of fully disarticulated and unburned individuals. Furthermore, it is suggested that the use of personal adornment was not strongly related to the status or wealth of the individual and may represent personal or group identity markers.

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