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ADENA AND BLOCKED-END TUBES IN THE NORTHEAST

By

DOUGLAS F. JORDAN

One of the most important prehistoric cultures of eastern North America is that known as Adena. Centering on the Ohio River, it acted as a source of influence extending from the Great Lakes on the northwest to the Atlantic seaboard on the east and into the middle south. The Adena culture was situated along the middle and upper Ohio River valley, in southern Ohio, northeastern Kentucky, and northwestern West Virginia, reaching into southeastern Indiana and western Pennsylvania. It was one of several prehistoric cultures at one time lumped together as “Mound Builder”, and represents the stage called Burial Mound 1 or Early Woodland, when the making of pottery, the burial of the dead beneath imposing sepulchral mounds, and the cultivation of certain plants had just begun. In terms of absolute time, the Adena culture flourished around 500 B.C.

According to present knowledge, the culture of the Adena people may be characterized briefly as follows: while the hunting of game animals all the way from elk to squirrels, and the collecting of mussels to turtles and wild plant foods furnished a large percentage of the diet, it is believed by students of Adena archaeology that horticulture had appeared, with the raising of sunflowers, goosefoot, squash or pumpkin, and gourds for containers, but there is no evidence for corn at this time. Adena houses are quite distinctive: they were circular in plan, over 35 feet in diameter, and the walls posts were arranged in tandem pairs, leaning slightly outward and probably supporting a conical roof [Fig. 1A]. These houses were not clustered in villages, but apparently were scattered in small hamlets of two to five houses—implying peaceful conditions.

The Adena people chipped flint into cache blades and atlatl dart points of characteristic form [Fig. 1B]. They manufactured a number of objects of soft stone—such as celts and hoes, expanded-center and reel-shaped gorgets [Fig. 1C], boatstones [Fig. 1D], hemispheres and tubes—and also of various minerals such as galena and copper. Bone, shell, and copper beads were made in large quantities, and animal jaws were perforated for suspension. The Adena folk also made rectangular tablets of soft sedimentary rock sculptured in low relief in striking bird designs [Fig. 1E].

The Adena people were also the first in their area to make pottery. This ranges widely from a crude, thick, grit-tempered, cord-marked type, Fayette Thick, which is very similar to Vinette 1 (the earliest pottery in the northeast), to a sophisticated and well-made limestone-tempered type, Montgomery Incised, whose barrel-shaped body was smoothed and tastefully decorated by an all-over incised pattern of nested diamonds [Fig. 1F]. These people also wove textiles by finger-braiding, by plain and twilled plaiting, by plain and several varieties of twilled twining, and by the lattice or tee technique. They also wore moccasins, used spear-throwers, and fastened their children so tightly to cradle-boards as to permanently deform their skull shape.

However, it is the religious and mortuary complex for which the Adena people are most widely known. In the vicinity of Adena hamlets, large earthworks and smaller “sacred enclosures” were constructed for some now unknown purpose. Upon the death of certain individuals, burial mounds were erected which are one of the hallmarks of the Adena culture.

The primary grave was begun by first burning down the man’s house. Then a rectangular pit was dug through the former house floor, or a log tomb was built upon it. Such structures vary from a rectangular frame of four logs, to a complicated tomb of horizontal log cribbing with vertical supports for a log roof—even including covered passageways. The floor was made of clay, bark, or poles; sometimes there was a puddled clay basin, or log head and foot rests. In this tomb, one or more bodies were placed, either extended on the back, or in the form of cremations. With the burials were placed grave goods—artifacts of many types—whole, intentionally, mutilated, or destroyed by fire, and occasionally in large quantities—and ample amounts of hematite or red ochre. Occasionally

1. This paper is a slightly revised version of one delivered at the 19th Semi-Annual Meeting of the Massachusetts Archaeological Society, Salem, Mass., April 12, 1958.

2. For general descriptions of Adena, see: Martin, Quimby and Collier 1947; Morgan 1952; Webb 1952; and Smith 1957. For more comprehensive and detailed treatment, see Webb and Snow 1945; and Webb and Baby 1957.
there were isolated “trophy” skulls, or decapitated burials. The grave was then covered over by a small primary mound, formed by scraping up the nearby topsoil—therby picking up a certain amount of village midden material. The mound was added to, periodically, by basket-loads of clay subsoil, sometimes from “borrow pits” excavated for the purpose near the mound, or from adjoining swamps, until—in the case of the Grave Creek Mound—the height reached a maximum of 69 feet. Additional secondary burials of all types continued to be made on and into the mound.

The wide variety of mortuary practices is difficult to interpret, but while it may—in part, at least—represent the change in burial customs over a period of time, it probably also indicates the varying social status of the individuals. In any event, it is generally conceded that the primary, major burial represents that of a shaman (“medicine man”), who functioned not only to control disease and various evils, but also probably assumed a certain amount of social and political leadership. This is somewhat supported by the occasional incidence of physical deformity—since, in the large area of North America and Asia where shamanism existed, individuals frequently became shamans on the basis of some physical or mental peculiarity.

BLOCKED-END TUBES

One artifact is very characteristic of Adena and is frequently present in graves, and elsewhere is certainly diagnostic of some relationship to Adena. This is the so-called “blocked-end tube”—the subject of this paper [Fig. 2 A–D]. This is a thin-walled stone cylinder, one end of which is partially closed by a constriction of the inside diameter—the outside usually belling out at the blocked end. Blocked-end tubes should not be confused with ordinary stone or pottery cigar-shaped tubular pipes, nor with atlatl weights, both of which have a more-or-less uniform inside diameter. In spite of variations and some border-line specimens, this class of artifact is generally quite distinctive and easily distinguishable.

HISTORY OF BLOCKED-END TUBES

Blocked-end tubes have been known to American investigators for over a hundred years. Probably their first excavation from a mound, as well as their first mention in print, was in connection with activities at the Grave Creek Mound, Moundville, West Virginia. This very large mound on the upper Ohio River was dug into sporadically starting before 1838, and at least three tubes were removed (Tomlinson 1848; Schoolcraft 1845, 406; Norona 1958).

In the middle of the nineteenth century, when interest in “antiquities” began to rise, scores of mounds in the Ohio area were plundered solely for their contents, and numerous blocked-end tubes began to appear from the Adena province, and from adjacent areas as well. Squier and Davis reported two specimens from the vicinity of Chillicothe, Ohio (Squier and Davis 1848, 224), and in 1876, Prof. E. B. Andrews removed several specimens from mounds on “Wolf Plain”, near Athens, on behalf of the Peabody Museum at Harvard (Andrews 1886, 61 ff.). Before this, as early as 1869, graves containing blocked-end tubes had been found in Massachusetts (Willoughby 1895, 83), Vermont (Perkins 1874), New York (Frey 1879), New Jersey (Abbott 1881, 332), West Virginia, and western Pennsylvania (Thomas 1894, 495).

Among the first to give particular attention to the characteristics and distribution of blocked-end tubes was Beauchamp [pronounced “Beech-um”] who noted finds in New York state, and compared these with the Swanton, Vermont and Grave Creek discoveries (Beauchamp 1897, 52). Another was Wilson who, in his Prehistoric Art published a plate of seven specimens from several states (Wilson 1898, Plt. 74). (Fowke’s earlier survey, Stone Art . . . , had ignored the usual variety of blocked-end tube in favor of the rarer but more striking flaring-mouthpiece variety (Fowke 1896, 128): McGuire’s later study of pipes did likewise, on the basis that the blocked-end tube was not a true pipe (McGuire 1899, 383).)

The turn of the century marked the turning point of American archaeology, and saw the pioneering systematic excavation of the Adena mound (Mills 1902). The latter became the type site and namesake of the Adena culture, and, appropriately, yielded three specimens of blocked-end tubes. By 1932, enough was known of the Adena complex to permit Greenman to assemble a list of traits common to the culture, and “tubular pipes”
FIG. 2. Varieties of blocked-end tubes. A. Usual form. B. Straight variety. C. Bevelled variety. D. Flaring-mouthpiece variant. This unique specimen is of cold-hammered copper (Peabody Museum of Archaeology and Ethnology, Cambridge, no. 8993).
were a significant member of this list (Greenman 1932, 454). In Greenman's tabulation, 18 out of 70 mounds yielded a total of 44 blocked-end tubes, but half of these came from the Beech Bottom Mound, West Virginia—very typical in this respect (Bache and Satterthwaite 1930, 140).

After the excavation of numerous Adena mounds in Kentucky, a second synthesis appeared in 1945 (Webb and Snow 1945). Blocked-end tubes are specifically discussed (ibid., 85, trait #117)—the flaring-mouthpiece variety as well (ibid., 87, trait #118). An appendix volume has recently appeared adding the traits of stone and pottery open-ended “pipes” (Webb and Baby 1957, 21-2).

**VARIETIES OF BLOCKED-END TUBES**

As noted above, there is one very characteristic form of blocked-end tubes and some minor variants of this, and another rare, distinctive but clearly related type. The common type is a cylinder, about 9" long and just over an inch in diameter, carefully drilled for almost all of its length to form a thin-shelled stone tube. This major, “large caliber” bore-hole (nearly an inch in diameter) stops just short of completion, thereby leaving a thin wall across the end of the tube. This septum or partition is however, perforated by a relatively small hole (about ~⅛" in diameter [see inset]. This partially-blocked end, also referred to as the rear or the base, and generally considered to be the mouthpiece end, shows several variations of treatment. The most usual is a slight but definite belling of the blocked-end [Fig. 2A].

Occasionally, the blocked-end does not bell out, leaving the tube a plain cylinder [Fig. 2B], and some of these bear two oblique facets or bevels—the whole resembling the mouthpiece of a clarinet [Fig. 2C]. This has been interpreted as reworking to obliterate breaks or chips, or toothmarks. A few specimens taper or contract on the outside, and become difficult to separate from ordinary tubular pipes (particularly when judging from poor photos and inadequate descriptions in published works).

One other clearly related variety of tube is somewhat dissimilar and yet so distinctive that it gained early notice even before the more common blocked-end types—in spite of being quite rare (Squier and Davis 1848, 224; Andrews 1886, 61, 73; Putnam 1887, 108; Fowke 1896, 128; Hodge 1910, 2, 830). This is the type referred to as the “flaring-mouth-piece” type (Webb and Snow 1945, 87). This is generally similar to the other blocked-end tube types in the shaft, and is the same in material, manufacture, and cultural associations, but the base or mouthpiece is quite different. Instead of being cylindrical, the closed end flattens and widens—something like the juncture of blade and shaft of a canoe paddle. This closed flaring end terminates in a wide, thin edge, in the center of which a small-bore hole connects with the large bore hole on the shaft. Much less common than the other tube varieties, I have found references to only seven or eight, and all those with known provenience came not only from within the Adena province, but apparently from major centers in it. Most specimens of this type are of “Ohio pipestone”, but one unique example is carefully and ingeniously constructed of beaten native copper [Plt. 2D] (Andrews 1886, 61; Putnam 1887, 108; and Peabody Museum of Archaeology and Ethnology, no. 8993).

It should be noted here that one of the three tubular “pipes” which Mills excavated from the Adena mound is a unique effigy type (Mills 1902, 475; Baby 1958, 11-3). This specimen, the famous Adena pipe, is a blocked-end tube, upon which is sculptured in very high relief—practically in the round—the figure of a man, representing a dwarf suffering form rickets and goiter. This could be the portrait of an actual person, and possibly a shaman.

**RAW MATERIALS**

While there is considerable error in the identification of the raw materials of blocked-end tubes, inasmuch as the majority of the specimens were examined by people untrained in geology and unfamiliar with the range of materials encountered, it would be safe to say that nearly all are made of some variety of sedimentary rock.

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To the northeast in western Pennsylvania, banded slate was used in addition to fire-clay (Carpenter 1950, 314; Mayer-Oakes 1955, 58) and Ritchie identifies many of the New York state specimens as limestone (Ritchie 1937, 186; Ritchie 1944, 193). Fine sandstone also appears to have been used farther northeast in Massachusetts (Howes 1942, 15), and the two specimens from the Mason site in Maine appear to the writer to be of a banded slate or fine sandstone. The material of one early specimen was identified as quartzite, but this seems very unlikely (Fowke 1896, 128). Tubes of pottery have come from Adena mounds (Kercher 1949, 61) and the specimen of hammered copper is referred to above.

However, while many specimens were probably of local manufacture and of local materials, a few specimens in Ohio pipe-stone and of superior workmanship have been found as far northeast as Seneca County, New York (Carpenter 1950, 305), Lancaster County, Pennsylvania (Kinsey 1957, 149), the Cambridge ossuary, Dorchester County, Maryland (Mason 1953, 6; Webb and Baby 1957, 77-9), and even New Hampshire (Moorehead 1931, 55; Willoughby 1935, 96). Therefore, these specimens were probably direct imports from Ohio, and could easily have served as models for the locally-made specimens.

Mayer-Oakes reconstructs the procedure of manufacture from a number of unfinished specimens from the upper Ohio valley (Mayer-Oakes 1955, 60). First a rough blank of material was sawed (stone saws are known from Adena) and pecked roughly to shape. The outside was carefully ground to shape and then polished. Next, contrary to expectation, the small perforation from the blocked-end was made. Then the major hole was drilled, using a "conical drill". Finally, the large hole was reamed out longitudinally, removing most of the rotary drill marks. Mayer-Oakes adds that, "No tubes which reverse this order of drilling have been noted in the Upper Ohio Valley" (ibid., 63).

A SUGGESTED PROTO-TYPE

Since the belling-mouthpiece blocked-end tube is a rather unusual geometric form, and apparently appears in developed form rather suddenly, the question arises, from what did it develop? Whenever there appears to be no developmental sequence leading to a particular form, and no model avail-
Mound (Solecki 1953), and the Half Moon site (Fetzer and Mayer-Oakes 1951) and with the recent excavation of the Welcome Mound, Welcome, West Virginia, the area continues to furnish important information on Adena (Anonymous 1958). The outer limit of continuous distribution of Adena mounds is marked by the Watson Farm site in northern Hancock County, West Virginia (Dragoo 1956), but an outlier exists as far northeast as the Pittsburgh area—the second stage of the McKees Rocks Mound (Carpenter 1951, 330; Mayer-Oakes 1955, 145-53; McMichael 1956). Beyond this area, other Adena traits are still strong but are progressively diluted with increasing distance (Dragoo 1955).

The continuing strength of Adena influence throughout western Pennsylvania is attested by finds from Armstrong, Crawford, Mercer and Washington counties (Mayer-Oakes 1953, 119-20; 1955, 58, 96). Carpenter reports "several hundred" tubes and fragments from the upper Allegheny area (Carpenter 1950, 314) and records specimens from Warren and Forest counties (Carpenter 1942, 22-23) and over the line in Chatauqua County, New York (Carpenter 1950, 314). Four specimens were excavated from two sites in Somerset County (Butler 1939, 37, 62), but these present a problem since the sites were believed to be Late Woodland Monongahela.

The only specimens from the north and west of the Adena area which I was able to locate were cited by West, and they were two from southern Michigan (West 1934, Plt. 33, no. 1; Plt. 36, no. 4) and one from Kewaunee County, northeastern Wisconsin (ibid., Plt. 14, no. 5). I am, however, skeptical of the reliability of their provenience.

Blocked-end tubes have frequently been found to the east of the Adena province. Specimens are reported from interior Virginia (Wilson 1898, Plt. 74, nos. 8 and 4) and from the west side of Chesapeake Bay in Maryland (MacCord 1957, 34; Webb and Baby 1957, 79). On the Delmarva peninsula —on the east side of Chesapeake Bay—the famous Cambridge ossuary is an astonishing outpost of Adena influence (Weslager 1942; Mason 1953; Webb and Baby 1957, 77—9). Still another tube-bearing site was located on the southern tip, in that misplaced bit of Virginia (Weslager 1942, 147).

In central Pennsylvania, a number of finds have been reported. Stewart cites a fine specimen, of fire-clay, from Mill Creek in Huntingdon County (Stewart 1938, 84). Murray reports an unusual specimen from Bradford County, but her description is too inadequate to permit proper assessment (Murray 1945). She further reports that Moorehead excavated some sort of "tubular pipe" from near Towanda in the same area (ibid., 16).

Witthof notes blocked-end tubes as diagnostic of Early Woodland cremation burials in eastern Pennsylvania (Witthof 1949, 10), and a fine specimen, of Ohio fire-clay, was recently reported from Lancaster County in the southeastern part of the state (Kinsey 1957, 149).

Other tubes have come from sites in northern Delaware (Weslager 1942, 147), and nearby in southern New Jersey (Abbott 1881, 332), and in northern New Jersey, the Rosenkrans cemetery in Sussex County yielded at least six specimens (Carpenter 1950, 298-303).

A number of sites yielding blocked-end tubes cluster about the Finger Lakes in central New York. The Vine Valley site, Yates County, was composed of a number of graves which contained at least three complete unfinished tubes of limestones, and the Amber site, Onondaga County, also produced three specimens of "greenish white slate" from graves (Ritchie 1937, 166; 1944, 187, .93). A third, the Kipp site, consisted of nine graves from which a tube of Ohio fire-clay and one of gray limestone were taken (Carpenter 1950, 303). Ritchie mentions another site of graves with blocked-end tubes in Ontario County which was destroyed almost unrecorded (Ritchie 1944, 200).

A second cluster of blocked-end tube producing site is located on the lower Mohawk River. At Palatine Bridge, Montgomery County, a group of graves was encountered and partially destroyed, but some seven graves were excavated, two of which produced two limestone (?) tubes apiece (Frey 1879; Ritchie 1937, 186; 1944, 193-7). A similar isolated grave was discovered near Hoffmans, Schenectady County, which produced a single blocked-end tube; and other examples (of "gray green slate") came from a group of graves near Scotia, in the same county (Ritchie 1937, 186; 1944, 197-8). These last three sites are all quite similar, situated on the north side of the river, in the first two cases on high knolls. Ritchie also notes a surface find of a tube in Stillwater, Saratoga County, which is not too far away—a short distance up the Hudson above its junction with the Mohawk (Ritchie 1937, 187; 1944, 200).

Another small concentration of finds is at the head of the St. Lawrence River in the Thousand Islands—partly in New York and partly in On-
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... Here, three specimens came from Wolf Island (Wintemberg 1928, 180-1), one from the foot of Grindstone Island (Ritchie 1937, 187; 1944, 200), and one from the head of Grenadier Island (Wintemberg 1928, 181).

Other surface finds in New York have come from near the junction of the Beaverkill with the Delaware River, Delaware County (Ritchie 1944, 200), and from Dennings Point, Duchess County (Beauchamp 1897, 52).

BLOCKED-END TUBES IN NEW ENGLAND

A third cluster of sites yielding blocked-end tubes lies on the east shore of Lake Champlain in Vermont. A large cemetery of "at least twenty-five graves" was opened near Swanton, Franklin County, in 1872, from which "about a dozen" tubes were taken (Perkins 1874). Perkins also reports a fragment from a similar grave near Burlington, Chittendon County (ibid., 100), and another from an unspecified island in Lake Champlain (Perkins 1879, 734). A second cemetery of 19 graves in Orwell, Addison County, yielded some 13 stone and clay tubes (Willoughby 1935, 85-6; Ritchie 1937, 187; 1944, 199). Still a third location, the Bennett site in the same township, contained at least five tubes (Ritchie 1944, 199-200, fn. 3).

The fourth cluster of sites containing tubes is situated along the lower Connecticut River in Massachusetts and Connecticut. In Holyoke, on the west bank of the Connecticut, a cemetery of around 20 graves was destroyed about 1868, from which at least three blocked-end tubes came (Willoughby 1935, 84; Howes 1942, 15-6). Two more isolated finds were later discovered in a grave to the northwest yielding two tubes (Willoughby 1935, 84; Howes 1942, 14-5), and another possible grave to the south giving up a single specimen (Howes 1942, 16). W. J. Howes excavated a pair of tubes from a fourth site in nearby South Hadley Falls across the river to the northwest (Willoughby 1935, 84; Howes 1942, 13-4). A stray find is reported from Turner's Falls somewhat upstream (Willoughby 1935, 96), and the Peabody Museum, Cambridge, has on exhibit a specimen from Wendell Depot, Franklin County, Massachusetts. (PMAE 94339 and Howes 1942, Fig. 2, no. 4).

Downstream in Connecticut, specimens are reported from Windsor Locks (Willoughby 1935, 87) on the west bank, and Warehouse Point (Howes 1942, fig. 3) and East Windsor (ibid., 16) across the Connecticut on the east bank. One more specimen is reported from the vicinity of Plainville in the adjacent hinterland (Howes 1942, 16).

Blocked-end tubes from the remainder of New England are scarce but a few finds are known. Wilson illustrates a tube in the U. S. National Museum which is recorded as having come from near Woodstock, Windsor County, in interior Vermont (Wilson 1898, 581 and Plt. 74, no. 1). A well-made specimen was found in the Weirs—at the outlet of Lake Winnipesaukee—Belknap County, New Hampshire (Moorehead 1931, 55), and the writer agrees with Willoughby that it could have originated in Ohio (Willoughby 1935, 96). Another find in New Hampshire is reported from Amoskeag Falls—the present site of Manchester (idem).

Two short cylindrical blocked-end tubes of banded slate or fine sandstone were excavated by Moorehead from three cremation graves in an otherwise "Red Paint" cemetery on Lake Alamoosook, Hancoc County, Maine (Moorehead 1922, 46). Convinced of the remote antiquity of the "Red Paint" culture, Moorehead described these burials as later and intrusive, but the report contains no evidence of their temporal relationship to the "Red Paint" graves.

The most remote occurrence of Adena-type blocked-end tubes is in Halifax County, Nova Scotia—more than a thousand airline miles from Chillicothe, Ohio, geographical center of Adena (Dixon 1914, 69). Dixon's identification is surely correct for not only is his description accurate but he compares the type with representatives from Ohio, Vermont and Ontario. Unfortunately, no details of the circumstances of the find accompany the specimen, and not even the number of specimens is clear.

ASSOCIATED ARTIFACTS

I have ignored the nature of the traits that have often been found directly associated with blocked-end tubes, but the majority show a close relationship to Adena in that they are occasional or frequent components of the Adena artifact inventory. Such Adena-related traits are: extended supine burial or cremation, association of artifacts—often intentionally "killed" or damaged by fire, and the copious use of red ochre; and the following artifacts: gorgets, birdstones, boatstones, bar amulets, celts, beads, copper "awls", cache blades and projectile points, and soapstone vessels. While interest is directed toward the problem of mortuary disposal, just as in Adena, the method has shifted away from that of mound-building, often to that of acquiring elevation by hill-top burial. On the...
whole, however, the trait list is a close parallel to Adena.

FUNCTION

The problem of what function block-end tubes served has fascinated all who have considered this class of artifact, but the answers are almost as numerous and varied as explanations for the flute on fluted points. Schoolcraft interpreted block-end tubes as "telescopic devices"—not optical but serving to shade the eye from extraneous light (Schoolcraft 1845, 406). Howes considered them to be paint containers, fitted with pistons for squeezing out the pigments mixed with grease—somewhere between a lipstick and a greasegun. Some have considered them to be drinking tubes, others, nasal inhalers (Read 1879), still others, horns or trumpets (McGuire 1899, 383) of whistles (Andrews 1886, 63; Moorehead 17, 135.)

Probably the majority have considered them to be smoking pipes. In favor of this view is the fact that several specimens, notably from Swanton and Orwell, Vermont as well as some from Beech Bottom and Natrium, have been found with a small pebble "plug". This has been interpreted as a filter, to permit only the tobacco smoke to pass through. (If so, the tobacco industry may take note; here was the first filter tip!) Furthermore, since the Adena people are believed to have been the first in the area to practice horticulture, and the use of wild tobacco is attributed to them (Smith 1957, 71), smoking at this time would not be inconsistent, and the appearance of this new form at the same time is suggestive. Several excavators have attempted to obtain evidence one way or another by an analysis of whatever residue remains in the tube interior, but nothing conclusive has ever resulted (Bache and Satterthwaite 1930, 153; Solecki 1953, 362).

On the other hand, there are some telling arguments against the pipe interpretation. One is that there are so few—51 specimens from 23 out of 90 Adena mounds—67 mounds having none at all. Certainly, unless their use was supplemented by examples in a perishable material (and the Irvine Mound specimen shows this to be possible), their use was not a consistent and widespread feature of Adena culture. This argues instead for some rather esoteric use. A second argument against their use as pipes is put forward by Webb and Snow. They suggest that fire would ruin the polish and increase the tendency to fracture. Moreover, they point out that any copper specimen, such as the flaring-mouthpiece variant in the Peabody Museum, Cam-

bridge, would soon become impossibly hot if used as a pipe (Webb and Snow 1945, 87). Furthermore, it may also be objected that true pipes are sometimes found associated with block-end tubes. Therefore, there is much to be said for the interpretation of block-end tubes as shaman's tubes—for the "ritual" sucking out of disease. This would account for the small number of tubes, and for the important social position of the man with whom they were buried.

It would not account for the uniquely large number of tubes (22) in the Beech Bottom mound. Some special circumstance must account for this situation. Perhaps in this case, an artifact type of only modest importance in the Adena culture was made in large quantities for the export trade to the "barbarians" to the northeast.

ANALYSIS OF DISTRIBUTION

An analysis of the geographic pattern of the distribution of block-end tubes provides certain information, and will suggest further problems for inquiry. The distribution of the tubes outside of the Adena province is distinctly to the northeast—from Virginia to the Maritime Provinces. Assuming that the trait moved, which direction did it take? If cane sections are truly prototypical of block-end tubes, then the trait must have originated where the cane grew—in the southern part of the Adena area. Consequently, it would appear that the trait moved from the Adena area northeastward.

Why was this trait "exported" to the north and east, and not to the south and west? Were there certain factors which made contact to the north and east more attractive? Were there cultural similarities—in speech, in religious beliefs, in philosophical outlook, in basic economy? Were there more favorable trade opportunities in that direction? Was Adena so culturally superior that the "barbarians" to the northeast absorbed many aspects of Adena culture—as the Romans absorbed Greek culture, or as the culture of the historic Indians was swamped by European culture?

What was the means of movement? Note that the distribution of findspots is strongly associated with waterways—the Allegheny, the Finger Lakes and their associated river systems, the St. Lawrence, the Mohawk, Lake Champlain, the Connecticut, the Merrimac. While this could mean only that the intensity of present-day activities in these areas has resulted in a spurious concentration of finds, or that it represented, in fact, the pattern of distribution of the indigenes to whom the tubes
were diffused, it could also imply that Adena influence spread by water, and suggests that its carriers were traveling by some kind of boat. This early use of water transportation should not be surprising since Witthoft and Ritchie both infer the use of boats in a still more remote period (Witthoft 1953, 25; Ritchie 1958, 100).

What was the nature of the contact—the diffusion of ideas, the transportation of objects, or the migration of peoples? Since some of the northeastern specimens of blocked-end tubes are of Ohio fire-clay, more than the diffusion of ideas is involved. Whether tubes functioned as smoking pipes or as sucking tubes, they were clearly a part of the mortuary complex, as indicated by their repeated association with burial mounds and graves. But did this burial complex diffuse as a unit to and among an indigenous Archaic or Early Woodland people, or was it carried by an invading Adena group? If the latter, were they traders, raiders, missionaries, or settlers? Much more information is needed before any answers to these questions can be attempted, but the answering of any one will cast considerable light on the prehistory of the northeast.

In any event, undoubted Adena artifacts and traits occur repeatedly in the northeast, and demonstrate the certain effect of this culture far from its point of origin. This phenomenon should also demonstrate that the prehistory of New England can scarcely be considered without reference to the adjacent areas—as remote and unrelated as they might at first appear to be.

CONCLUSIONS

In summary, the distribution of blocked-end tubes in the northeast is strongly suggestive of influence from the Adena culture of the Ohio Valley. The picture would appear as follows: The Adena people made use of sections of native cane for some uncertain purpose—shaman's tubes, smoking pipes or other—and this form was translated into imperishable but easily worked fire-clay. This artifact type, in company with many other Adena traits moved decisively northeastward from the Adena homeland. The nature of the contact between the Adena and the “barbarians” is unknown, as is also the identity of the people who actually carried the trait (and, in several cases, real specimens), but they probably travelled by boat into and throughout the northeast on the network of natural waterways. The rare finds of blocked-end tubes in New England firmly relate New England’s prehistory in a yet undefined manner to one of the prehistoric “high cultures” of the Midwest.

I must express my gratitude to the Robert S. Peabody Foundation for Archaeology, Andover, and to the Peabody Museum, Salem, for permission to examine their collections, to the Peabody Museum of Archaeology and Ethnology, Cambridge, for permission to illustrate the copper blocked-end tube specimen, and to David L. deHarport for his fine photo of the latter, to Eugene C. Winter for his skillful line-drawings, to several members of the Massachusetts Archaeological Society who brought other possible specimens to the writer’s attention, and to Dr. William A. Ritchie, Allan Bryan, John Ives and Mrs. N. C. R. Roney for their reading of the manuscript and helpful suggestions.

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SOME INDIAN BURIALS FROM SOUTHEASTERN MASSACHUSETTS

PART 2 — THE WAPANUCKET BURIALS

By

MAURICE ROBBINS

During the past seven seasons the Cohannet Chapter has excavated a series of Indian sites on the north shore of Assawompsett lake in Middleboro, Massachusetts. These sites have been called by the local name of Wapanucket and numbered in the order in which they were excavated. A full report of the archaeology of these sites will be prepared upon the completion of the work. The burials which have been found to date (May 1, 1958.) are described in this paper.

Two burials from the historic period were found at Wapanucket 1. Plans and profiles of these are shown in Fig. 1. In both instances the skeletons were too badly disintegrated to be removed for study.

BURIAL #1

The presence of this burial was first recognized at a depth of sixty-five centimeters from the present surface. The plan of the shaft is a small oval one hundred two centimeters by ninety centimeters and was orientated a bit west of southwest. The skeleton of a child lay at a depth of eighty-five centimeters, tightly flexed on its left side, head to the southwest facing east. The bones of the hands were beneath the skull. The epiphyses of the long bones...
FIGURE 1.
Burials and grave goods at Wapanucket 1. Assawompsett Lake, Middleboro, Massachusetts.
were separate from the shafts. No grave goods were found within the shaft proper. The shallowness of this grave leads one to suspect that the upper portion of the disturbance was not recognized until the bark lining of the lower portion called attention to its presence. A cover of bark had also been placed directly over the body.

Immediately west of the burial and in contact with it was a small pit forty-five centimeters in depth and forty centimeters in diameter. At the bottom of this pit was a deposit of red paint containing five rough tools. (A small celt, two scrapers, one of white quartz and one of felsite with a short tang for hafting, a chipped axe, and a larger implement which could be either an axe or spade.) It is altogether possible that the relationship between this pit and the burial was purely fortuitous as several similar pits were found at this site without the accompanying burial.

BURIAL #2

About twenty-five centimeters northeast of Burial No. 1 and at thirty centimeters from the present surface a second disturbance was noted. The distinct outline of the grave shaft did not appear until a depth of fifty-two centimeters was black outline of a bark lined grave was found. At a depth of one hundred seventeen centimeters the bark cover of the deposit was seen. The plan was oval two hundred twenty-four centimeters by one hundred seventy-four centimeters with its long axis in an east-west line. At the eastern end of the grave lay a bundle of bark containing the disarticulated bones of an adult. This skeleton also was in poor condition and was left in situ. Neither age nor sex could be determined. At approximately the center of the shaft twelve glass beads were found (six white and six brown or red), and at the western end were the sherds of a clay vessel and a broken copper spoon.

The spoon (shown in Fig. 1) is a hand made artifact, possibly of native manufacture. It was made from a flat piece of stock (1.5 mm in thickness). Its overall length is twelve centimeters, of which five is handle. The handle is two and one half centimeters in width while the widest part of the bowl measures five and one half centimeters with a depression about one centimeter in depth. The upper portion of the handle, which ends in three rounded projections, is set off by four parallel lines or scratches which appear only upon the upper side. This spoon had been intentionally broken into two parts as indicated.
The restored clay vessel is shown in Fig. 1. This is a small vessel, its greatest diameter being thirteen centimeters and its height, fifteen centimeters. The temper is shell and the paste moderately compact. The thickness of the sherds is about 5 mm. The interior surfaces have been scraped smooth as is also the exterior, no traces of a smoothing implement can be seen. The vessel is globular with a flaring collar and one castellation. Viewed from above, the flare of the rim appears greatest in the vicinity of the castellation. The body of the pot is undecorated save for a series of radiating incised lines about the base of the collar. This collar ends in a rim of applied clay which has been pinched so as to appear as a flat ribbon-like band. Between the rim and the body, the collar is decorated by a line and scratch motif in a diagonal pattern. The most striking feature of the decoration is the treatment of the single castellation. Viewed from the front two fillets of clay have been applied so as to form a V. These fillets have been incised so as to represent ears of corn. A second V appears within the corn decoration formed by bits of clay also applied externally. Viewed from above the ends of these fillets appear as rectangular surfaces the inner two having been decorated by three triangular punctuates so that they appear as tiny faces peering over the rim of the vessel.

It is of interest to compare this vessel with those of the Shantock ceramic tradition as described by Carlyle S. Smith in the “Archaeology of Coastal New York” (Vol. 48: Part 2 Anthropological Papers of the American Museum of Natural History, New York; 1950). Vessels of this description with one castellation are known from the Pantigo Focus on Long Island.

Prior to describing the four burials from Wapanucket 6 it seems necessary to introduce the reader to the two features shown in Fig. 2. These pits were found at Wapanucket 2 and 5 but their function remained a mystery until the discovery of the secondary cremation burials at Wapanucket 6. A similar pit was found at the Titicut Site by Gerald C. Dunn some years prior to the work of the Moorehead Chapter at that site.

These features are simply large pits some three meters in diameter, edged by flat slabs of stone set upright. The pits are paved by flat slabs and rounded cobbles from the nearby lake shore. At Wapanucket 2 an association of five small hearths or deposits of charcoal were noted. These were arranged symmetrically about the northern periphery of the large feature. At Wapanucket 5 a previously excavated area had been filled with fine beach sand prior to placing the stone pavement in position. Several wheelbarrow loads of charcoal were removed from both pits in the process of excavation. A few charred scraps of human bone and a number of badly burned stone implements were taken from the pit at Wapanucket 5. It seems apparent that these are cremation hearths where the primary phase of the mortuary complex was carried out. Attention is called to the similarity between this trait and the puddled clay crematory pits reported at some Adena and Hopewell sites.

An unpublished manuscript in the writer’s possession by Gerald C. Dunn (Maine Chapter M.A.S.) describes the excavation of a similar feature at Titicut as mentioned above. In view of the secondary cremations found at this site this report is of importance. Dunn describes the location of a mass of charcoal and burned stone at a depth of “two or three feet and more than six feet in diameter”. From this pit, which he later calls a grave, Dunn recovered a large number of implements including stemmed projectile points as well as larger implements. Some of these implements are said to have been fractured by the intense heat.

The four secondary cremation burials found at Wapanucket 6 Figure 3, were located upon a flat bluff approximately thirty feet above mean water level in the lake. Wapanucket 6 is the site of an Archaic village, insofar as the writer is informed, the first such village to be located in New England. Six lodge floors and some six thousand stone implements have been recovered from this site and to date no clay pottery, trade goods, or implements considered diagnostic of the Woodland period have come to light. The grave goods associated with these cremation burials are from the same archaic category as are the implements from the village proper. Carbon samples from one of the lodge floors and from these burials have been submitted but the results are not yet available.

BURIAL #1

This was the smallest of the graves found at Wapanucket and was not recognized as a human burial when first discovered. The shaft is nearly oval, one hundred forty centimeters by one hundred twenty centimeters, orientated in a southwest-northeast line. It first appeared at a depth of sixty centimeters below the present surface. The soil above this grave was wind deposited material and was undisturbed. A mass of calcined bone was found in the southwest quadrant of the pit. The
PART 2—THE WAPANUCKET BURIALS

FIGURE 3.
Cremation burials at Wapanucket 6. Middleboro, Massachusetts.
balance of the fill was coarse sand containing charcoal in granular form. However, there was not sufficient charcoal in this grave to impart as dark a color to the fill as was noted in subsequent burials. As some of the bone fragments appeared to be from a human crania they were submitted to Peabody Museum at Harvard University for examination. Dr. Howells kindly examined the material and was able to identify some of the fragments as human. It is worthy of note that some of the fragments are of animal origin.

**BURIAL #2**

The area in which these burials are located has been used in recent times by summer residents as a convenient place to dig pits for the disposal of trash. Two of these recent pits were superimposed over this ancient pit but fortunately had not interfered with its contents. This burial appeared as an oval, one hundred sixty centimeters by one hundred forty centimeters at a depth of sixty-two centimeters below the present surface. Except for the modern refuse pits mentioned above, the soil above this burial was undisturbed. The fill of the pit contained such a large amount of granular charcoal that it appeared as a dense black mass against the surrounding white sand. A few sticks of charcoal were present and were retained as a possible radiocarbon sample. The calcined human bone in this burial was also concentrated in the southwestern quadrant. A small amount of red paint was noted intermixed with the black fill. Almost in the center of the pit, surrounded by sand and red paint, lay a plummet. This implement, shown in Fig. 4 is of an unknown material (stone) and was in an advanced state of disintegration. It was necessary to immerse it in alvar immediately to prevent it from crumbling. Possibly this implement was in contact with a fire-making set as spots of iron oxide are attached to two of the gouges from this burial. Beneath the mass of calcined bone was a thin layer of pure, bright red oxide and in this were found two of the gouges shown in Fig. 4 (Nos. 2 and 4). Beneath this layer and in the extreme southwestern extremity of the grave was a layer of nearly pure sand similar in fineness and color to the clay from Cay Head. In this fine sand were found two additional gouges Fig. 4 (Nos. 1 and 3), an unworked pebble with a gritty surface whose flattened surfaces proclaimed its use as a sharpening stone, and a pencil-like fragment of slate which bore similar marks of use. One of the gouges (4) appears to be a remnant of a much larger implement which has been reworked and used in its present form.

**BURIAL #3**

Again modern refuse pits (not shown in the illustration) were present above the ancient pit but had not intruded upon it. This was a large grave, oval in shape, two hundred twenty-five centimeters by two hundred sixty centimeters. The disturbance became apparent at a depth of seventy-two centimeters below the present surface, the fill being the same dense black as in the previous burial. The familiar orientation of southwest-northeast was repeated and again the mass of calcined bone appeared in the southwest quadrant of the grave. No red paint was encountered within this grave but grave goods were present in and just below the bone deposit. Fig. 4 No. 9 shows a double-crescent ulu from this burial. This implement is made from grey slate containing black material in lines across its small dimension. This is a highly polished implement with one sharpened edge and one rounded or blunted edge. The cutting edge is somewhat scarified apparently by use. Adjacent to the ulu was an unmodified, gritty stone similar to, but slightly larger than, that found in Burial No. 2. Facets at various points on the surface of this stone indicates its use as a polishing agent.

**BURIAL #4**

Once again intrusions in the form of modern trash pits failed to intrude upon an ancient burial. This pit appeared at a depth somewhat greater than in the previous instances at this site, at eighty-six centimeters below the present surface. The plan is oval, two hundred twenty by two hundred centimeters with its slightly longer axis in a southwest-northeast line. The calcined bone in this grave was concentrated as expected in the southwest quadrant of the pit. No grave goods were found in this instance. Sufficient solid charcoal was collected from Burial No. 4 to combine with that from Burial No. 2 for a radio-carbon sample.

Certain questions arise from the data recorded in the excavation of these burials. It is difficult to understand the reason for excavating such a large pit, especially in the case of Burial No. 2, to receive such a small quantity of bone. The repeated orientation of the burial pits along a southwest-northeast line and the placing of the calcined bone in the southwestern quadrant was without doubt intentional and had some meaning to the aborigines who made the interments.

It is expected and indeed hoped that continued excavation in the immediate area may reveal additional burials which may throw further light upon this interesting and probably ancient mortuary complex.

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**FIGURE 4.**

Grave goods from Burials #2 and #3, Wapanucket site, Assawompsett Lake, Middleboro, Mass. 1-4 Gouges, (4 broken but reworked and used), 6—Plummet, 5-7 Polishing Stones. 9—Slate, Semi-Lunar Knife, 8—Polishing Stone.
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THE FIRST CONNECTICUT VALLEY ARCHAEOLOGICAL CONFERENCE

Was held at the Museum of Natural History, Springfield, Mass. on Sunday, June 14, 1959. Purposes were: 1. To coordinate archaeological activities in the Valley, including salvage work on new roads being built; 2. To reconstruct the Valley's pre-history by pooling the knowledge of all areas in the Valley; and 3. To improve methods for recording, finding and interpreting archaeological artifacts and sites in the Connecticut Valley.

A business meeting was followed by talks on various areas in the Valley by Howard Sargent on New Hampshire and Vermont; William R. Young on the Springfield area; Andrew Kowalsky on the Hartford area and Dr. Irving Rouse on the Connecticut Valley.

A LESSON IN PRUDENCE

In 1626 the Dutch bought the island of Manhattan by giving the Indians $24 worth of glass beads. White man has been congratulating himself ever since on perpetrating the greatest real estate swindle of all time. But were the Indians really gypped?

Suppose they had invested their $24 and kept it invested, never allowing it to revert to non-productive cash. Over the years let us assume they received a return of 6%, compounded semi-annually. What would they have today? $42.7 billion, or an amount equal to almost twice the assessed valuation of all real estate and improvements in present-day Manhattan!

If, flushed with the success of their investments, they had continued to put $24 in each year at the same interest rate they would now have the staggering sum of $657.8 billion, or an amount larger than three times the assessed valuation of Manhattan plus twice the entire national debt.

The Indians were not swindled, they were just imprudent.

George N. Morris
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