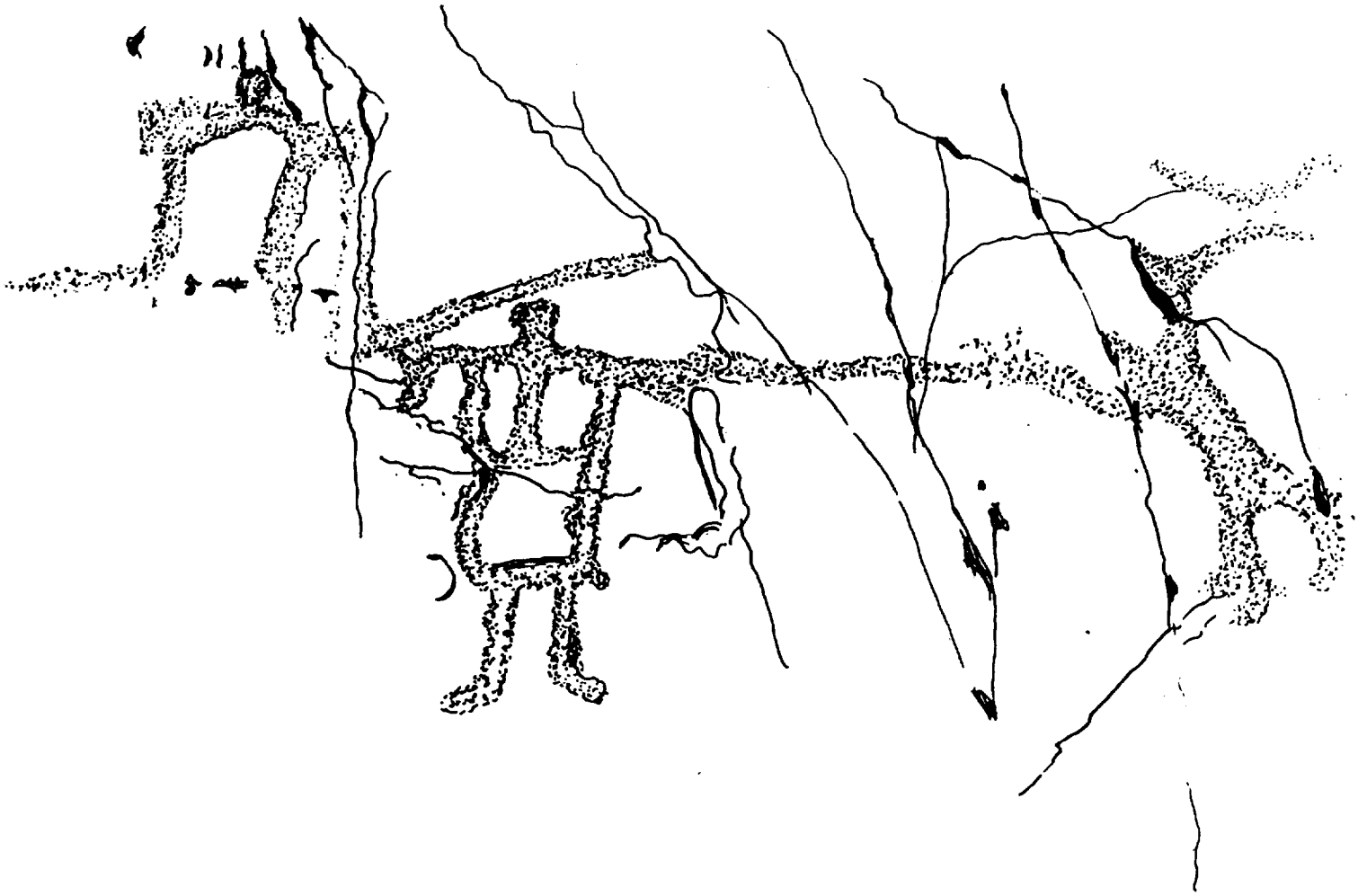
MAINE ARCHAEOLOGICAL SOCIETY INC. BULLETIN



Volume 24
Number 2
Fall 1984

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THE MAINE ARCHAEOLOGICAL SOCIETY BULLETIN

CONTENTS

Volume 24, Number 2, Fall, 1984

Comments on Cover Design for MAS Bulletin Fall, 1984

The three figures represented on the cover are the most patinated of a scattered group of petroglyphs recorded near Clark Point, Machiasport. The body outline slightly constricted at the waist and line from head to midsection are traits that place the central figure stylistically between rectanguloid body outlines on the eroded outer ledge and other figures described below, on the main ledge inshore at Clark Point. The central figure appears to be in the act of casting a lance or dart possibly with the aid of an atlatl or spearthrower towards a somewhat ambiguous shape to which he is connected by a line from his shoulder to one outstretched leg (or arm?) of the target. The ambiguous shape can be seen either as a) a human figure with arms raised, or b) a game animal of obscure species. To the upper left of the central figure an outlined ghostlike shape with head and slightly constricted waist can be seen, connected by faint but perceptible dinting to the throwing arm of the central figure. The connecting lines and visible signs of weathering through patination and spalling suggest that all three figures are contemporary and are of some antiquity. This sense of age is reinforced by the stylistic features described above and the implied use of an atlatl, a short stick with a hook or socket designed to engage the end of the dart and give it greater velocity when cast. Atlatls were still in use among Aleutians of Alaska, Eskimo of Greenland, and Aztecs of Mexico at the time of European contact but had been supplanted in most of North America by the bow and arrow before ca. 1,000 A.D. The probable period of change-over can only be inferred from a gradual decline in the use of heavier projectile points (which are not practical for arrows) in the New England area beginning around 2,000 years ago in favor of lightweight triangular stone points and points of bone.

The line separating the upper and lower torso and vertical bisection from head to midsection are features that appear on two petroglyphs from the middle panel at Clark Point. Both figures occur near to a design that has been identified as a representation of the atlatl with a stone weight in petroglyphs of western United States. This consists of a perpendicular or nearly perpendicular line that bisects an oval near the middle or upper third of its length (cf. Grant, et. al., 1968). Outlined figures with a distended lower torse are identified as Ojibwa shamans called Jesuka by Schoolcraft (1851: I, 386, 408, Pl. 53 #42, Pl. 58 #27). The full belly expresses their ability to bring in game.

The act of casting a spear or dart also suggests that the central figure represents a visionary shaman whose primary function was to aid the hunter in times of scarcity. The Ojibwa Jesuka, performing at night concealed alone in a small circular enclosure open at the top called the "shaking tent", chants to summon the spirits (Manitous) to tell him where to find game (or to answer other questions). His audience, usually the whole village, sit around the enclosure which shakes violently during the periods the Manitous visit, and listen to the shaman's harangue - usually conducted in three voice ranges to represent respectively, the shaman, his spiritual aides, and the Manitous whose aid he seeks. At the end, the shaman or his interpreter outside the tent, announce what guidances the Manitous had given and a small feast of thanksgiving to the spirits follows. If the hunt is successful, a more elaborate celebration called the "eat-all" feast ensues in which the participants are required to devour completely the game offered or risk offending the Manitous whose grace had made it possible.

Visionary shaman performances involving a circular "shaking tent" open at the top were found among Algonkian-speaking groups from the Canadian shield as far north as Labrador and Hudson Bay to Maine and westward into the Mississippi watershed. The Prairie Sioux practiced similar performances into the 19th century (Schoolcraft, 1851-7: V: 435 ff.). In the Siouen version, the shaman draws a representation of the desired game before retiring to the circular enclosure. Closer to Maine, Chrestian Le Clerq in the 17th century received the medicine bag of a Micmac shaman which contained "a fragment of bark, wrapped in a delicate and very thin skin, on which were represented some little children, birds, bears, beavers, and moose. Against these the... (shaman), using his little bow, shot his arrows at pleasure, in order to cause the death of... some... thing of which the figures is represented upon this bit of bark..." (LeClerq,

1910: 222. For other citations from Jesuit and other early sources see Hoffman, 1896: 138 ff.).

It is not clear from the petroglyph whether the target was a game animal or a person. The action, however, seems clear. The petroglyph seems to document a belief among Maine Indians that the powers of the visionary shaman were sufficient to bring his prey down and were as well, perhaps, a necessary pre-condition to a successful hunt.

Le Clerq, Chrestian
1910. A New Relation of Gaspesia. The Champlain Society, Toronto

Grant, Campbell, J. W. Baird and J. K. Pringle.
1968. Rock Drawings of the Coso Range. Maturanga Museum Publication #4, China Lake.

Hoffman, Walter J.
1896. The Menomini Indians. B.A.E. Annual Report #14, Washington.

Schoolcraft, Henry R.
1851-1857. History of Indian Tribes in the United States..., Volumes I-II. Philadelphia.

NOTE: The fieldwork on which the cover drawing and these comments are based was originally undertaken with the aid of the Maine State Museum in 1977 and 1981 and research sustained with the help of the Maine Historic Preservation Commission and the Maine Archaeological Society which the author gratefully acknowledges.

Mark H. Hedden
August, 1984

Lancaster Farm Bifaces and Ground Slate Points:

an Exercise in Attribute Analysis

Alice N. Wellman, Bangor
and
The Abbe Museum, Bar Harbor

INTRODUCTION

This study is a description and analysis of twenty-two selected chipped bifaces and ground slate artifacts in the Moorehead collection at the Bangor Historical Society. These items are among those purchased by Dr. Thomas U. Coe from Dr. Moorehead following the excavation of the Lancaster Farm cemetery, Winslow, Maine during the summer of 1919. All these artifacts are presumably from grave lots, since they are so accessioned in the Society records and so cited in Moorehead (1922). See particularly the plot of the Lancaster site on p. 95).

Citations for the site or collection in Moorehead (1922) are as follows: 31, 53, 95 plot, 97, 98 photo of mill, 99 drawing of spears, 100 drawing, 101, 108, 112, 124, 127, 133; 105, 122, 123 photos of artifacts possibly.

This study was undertaken in conjunction with undergraduate studies in the Anthropology department at the University of Maine in Orono in 1973. The intent was to submit a collection of twenty-three artifacts to careful scrutiny for descriptive and attribute analysis purposes. (This collection was not included in Bourque [1971]. Data retrieved will contribute to the Moorehead "burial tradition" (Sanger, 1973:8) regional file. Assistance and much moral support was generously offered in preparing this report by University of Maine at Orono Anthropology Department members Dr. David Sanger, Mr. Robert G. McKay, lab assistants and co-students. I am grateful to Paul La Pierre for identifying lithic materials used in the manufacture of these artifacts, and to the Bangor Historical Scoiety for the long-term loan of the artifacts while they were under study.

HISTORY OF THE LANCASTER FARM COLLECTION

Aboriginal graves were unearthed accidentally in the summer of 1919 during construction of a sawmill by Fred Lancaster on his Lancaster Farm property in the town of Winslow, Maine, on the east bank of the Kennebec River, opposite the city of Waterville. The site is located on the south bank of the Sebasticook River not far from its outlet into the Kennebec. The cemetery occupied a space about thirteen by seventeen meters on a knoll one-hundred meters from the Sebasticook River and not more than seven meters above the river elevation. The ground of the site was very hard and stoney (Moorehead, 1922: 95). The state site designation for the Lancaster Farm site is #53-1.

Local amateurs removed eight graves before Warren K. Moorehead arrived to supervise the remainder of the excavation. However, Moorehead's part in the excavation needed financing. Apparently, Dr. Thomas Upham Coe, a prominent Bangor resident, underwrote Moorehead's work in the name of the Bangor Historical Society. In return, once Dr. Moorehead's cursory analysis of the materials had been completed at the Phillips Andover Department of Archaeology, Dr. Coe purchased the collection and turned it over to the Bangor Historical Society (1921). It resided in

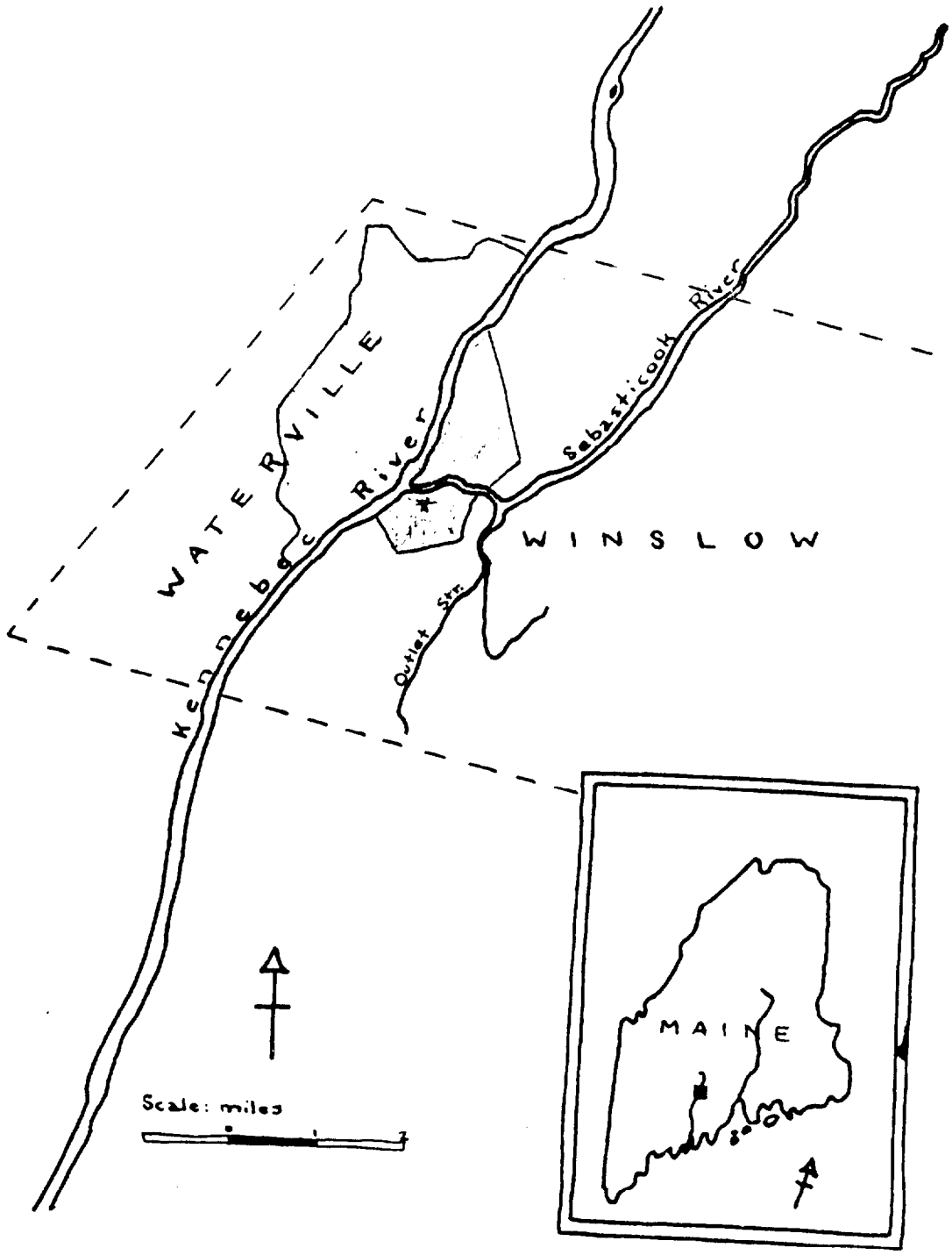


Figure 1

Location Map of Lancaster Farm Site, Winslow, Maine

the Bangor Public Library until 1952 when it was transferred with other Bangor Historical Society possessions to the present upstairs location at 159 Union Street, Bangor, Maine.

The Lancaster Farm collection came to my attention when I began sporadic work as recording secretary for the Historical Society. I wished to re-organize exhibits, but was delayed since none of the material had permanent numbers or any descriptive catalogue, other than sketchy accession records. Thus, there was danger of mixing the material and losing what fragile context or documentation remained. Before removing the pieces from the building, all of them (and their fragments) were numbered with india ink, a series letter added where necessary, and the number protected with nail polish. A museum catalogue card was filled out for each artifact including a rough sketch and dimensions in millimeters.

ARTIFACTS

Twenty-three artifacts are under study. They consist of eight long ground slate points, two short ground slate points, and thirteen chipped bifaces. The long slate points have been variously known as "daggers", "bayonets", "spears", and "ceremonial blades". This group of twenty-three items represents a small segment of a larger collection of grave goods from the Lancaster Farm site. The remainder of the Lancaster Farm collection, mostly ground and polished woodworking tools, also deserves analysis but is beyond the scope of this work.

These pieces have a modicum of documentation. They were given grave lot numbers in the field, evidently. Some of these artifacts are described and pictured in Moorehead's 1922 Archaeology of Maine, and later in W. B. Smith's The Lost Red Paint People of Maine, 1930.

The quality of Moorehead's excavation techniques is dubious, and field notes pertaining to his excavations a bit haphazard. They are said by Dr. Frederick Johnson, Director Emeritus, Robert S. Peabody Foundation for Archaeology, Andover, Massachusetts, to be difficult to decipher and to be discouraging. He also suggests that lot numbers may have been revised several times (personal correspondence, December 27, 1972).

Moorehead was generous, often distributing excavated material to interested parties around New England. Thus, in this paper primary emphasis is given to each piece as a separate find, not to grave lots.

For what it may be worth, a list of complete grave lot contents is reproduced from Bangor Historical Society accession records as Table 1.

STUDY METHOD

The artifacts were measured with metric calipers and weighed in grams on balance scales. The worked surfaces were inspected visually with a hand lens and under a binocular microscope for signs of manufacturing techniques, wear polish, retouch, unusual details, decoration, hematite stains, and the like. The lithic material was classified, but exact sources of raw materials were not identified. All this information, plus a tracing of each item was entered on an appropriate attribute sheet supplied by the UMO archaeology lab.

No chemical or physical tests were run on these samples.

Citations and illustrations were checked in Moorehead (1922). Other authors were scanned for mention of similar classes of material, among them, Bourque (1971), Dincauze (1968), Fitzhugh (1972), Sanger (1971), W. B. Smith (1930), and Snow (1969).

LITHIC MATERIALS

Chipped Bifaces

One group of five of the thirteen chipped bifaces are made of what has been variously called Labrador Stone, Ramah chert, translucent quartzite, translucent chalcedony, or sugar quartz (see Figure 3).

The materials used in all eight remaining specimens appear to be felsites. Most of these felsite materials can be recognized in other area collections, but no specific geologic formations or source locations can be identified for any of them. Two are patinated, dark gray, fine-grained felsite. Two are gray felsite, one mottled, one not mottled. Two points are of felsite with

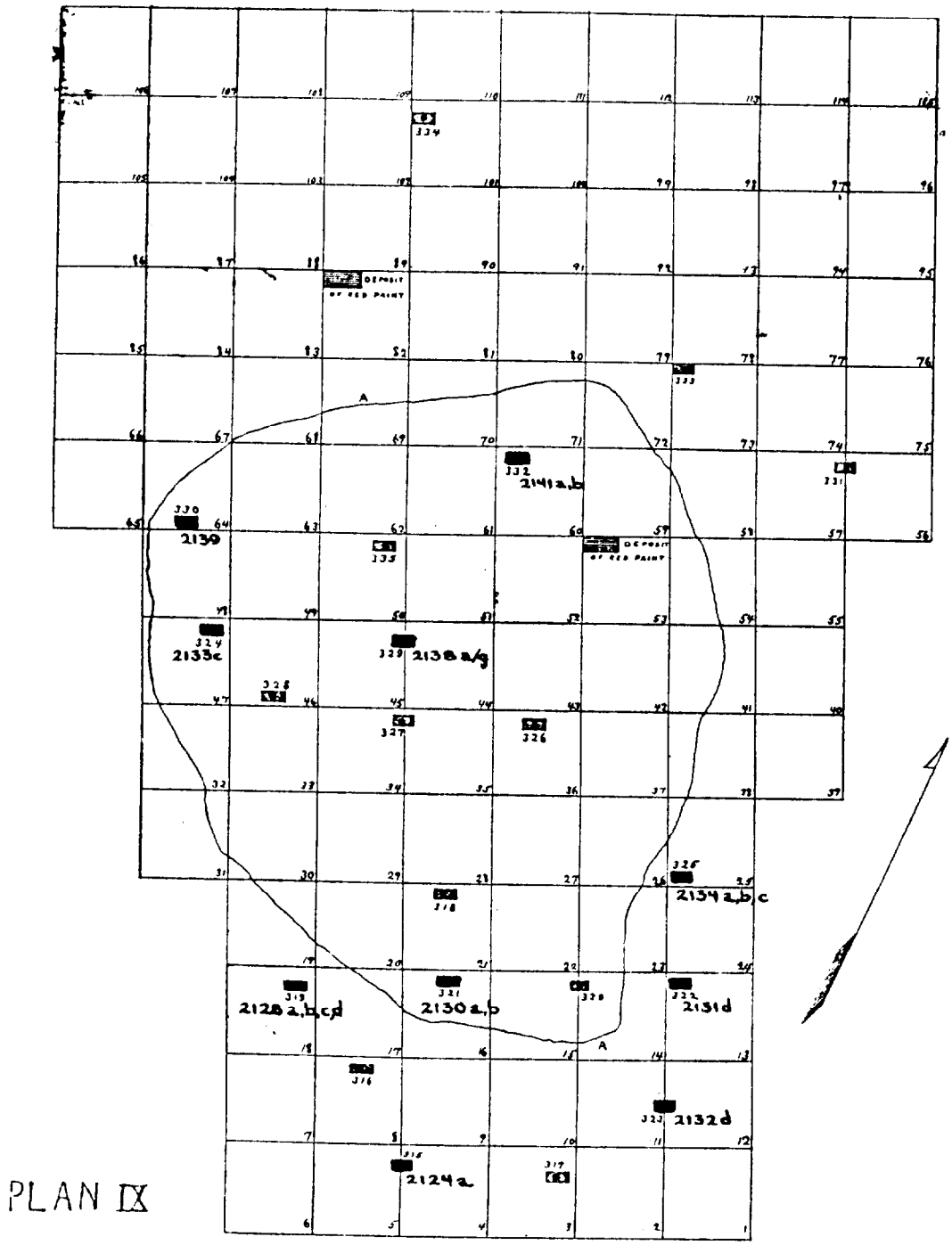


Figure 2.

Plan of Lancaster Cemetery, Winslow, Maine as it appears in Moorehead's Archaeology of Maine, 1922, page 96.

Darkened grave locations have artifacts discussed in this paper. Accession numbers of artifacts are given beside the grave from which they presumably came. The unusual Ramah chert items came from graves 332, 325, 319; cluster of slate bayonets from 329; single slate bayonet from 330; wide slate point from 321; small slate point from 319.

TABLE I

Accession Records for Lancaster Farm, Winslow, Maine,
grave goods, held by the Bangor Historical Society
Dr. Thomas U. Coe

"The following numbers 2124 ff constituted the entire results of the excavations conducted by Phillips Academy, Andover, under direction of W. K. Moorehead at the Lancaster Farm in Winslow, Maine, summer of 1919. A few other objects were found and removed by the searchers before the arrival of Professor Moorehead. The entire collection comprises perhaps the most remarkable single group of Red Paint relics ever found. Purchased by Dr. Coe and presented to the Society."

2124	1 spearhead 1 adze blade slightly hollowed like a gouge, with flaring, almost grooved top.	[Grave 315]
2125	1 long fine adze blade 1 mass of red ochre	[Grave 316]
2126	2 large celts, one highly polished 1 miniature celt with sharp edge	[Grave 317]
2127	1 rough spearhead fragments of broken and decayed human bones	[Grave 318]
2128	1 spearhead of clear Labrador stone 1 arrowhead of clear Labrador stone 1 spearhead 1 small slate spear 1 plummet covered with iron deposits	[Grave 319]
2129	1 large plummet 1 small plummet 1 small gouge 1 rough hatchet blade 1 adze blade grooved on the side red paint	[Grave 329]
2130	1 chipped spearhead 1 ground axe polished spearhead of very very fine banded slate	[Grave 321]
2131	1 large gouge 1 small gouge 1 celt 1 spearhead	[Grave 322]

TABLE I (Continued....)

2132	1 celt 1 hammerstone 1 broken knife 1 spearhead lump of pyrites	[Grave 323]
2133	1 celt 1 gouge 1 quartz arrowhead mica small portion of red paint	[Grave 324]
2134	2 spearheads 1 arrowhead	[Grave 325]
2135	1 large hatchet blade battered at tip and edge 1 adze blade, large and colored by red paint (especially fine specimen) some mica fragments	[Grave 326]
2136	1 decorated stone ornament	[Grave 327]
2137	1 very fine adze blade, highly polished on edge, angular and grooved on each side with four grooves; flat on top mica	[Grave 328]
2138	7 slate ceremonial blades 13 to 16 inches in length. Some show old breaks, others broken in finding. All repaired.	[Grave 329]
2139	1 broken slate blade fragments of pyrites	[Grave 330]
2140	1 plummet grooved at each end 2 celts on hatchet blades, one rough	[Grave 331]
2141a	1 remarkable spearhead of Labrador stone	[Grave 332]
2141b	5 arrowheads of Labrador stone 1 small gouge 1 rough, weathered hatchet 1 large, wide, sharp hatchet, 1 blade	
2142	1 celt or hatchet blade broken at each end 1 hammerstone 1 round lucky stone 2 rubbing stones	[Grave 333]

TABLE I (Continued....)

2143	3 rubbing stones, one worked out like a knife	[Grave 334]
2144	1 adze blade 1 round rubbing or hammerstone red paint	[Grave 335]
2145	a specialized implement: gouge at one end, hatchet at other	
2146	4 gouges found during explorations	
2147	4 plummets, lucky stone, scrubbing stones (strays)	
2148	large sandstone objects used in manufacture of tools, 3 broken objects, 3 rough celts, rubbing stone (strays)	
2149	5 hatchet blades (strays)	
2150	11 chipped implements: some perfect, others broken (including one of red jasper and one of quartzite, found in course of exploration)	
2151	broken objects, fragments of slate spears, and odds and ends (strays), 23 pieces	

phenocrysts, one of which might be classed as rhyolite. Two points are of a poor quality flow-banded felsite. One of them is roughed out, the other weathered, and the surface spalling.

The Labrador Stone (henceforth called Ramah chert) specimens are exotic to Maine. This is the stone that Moorehead calls "translucent quartzite, that peculiar unidentified material which is common in Labrador but has never been found in a natural state, a ledge or boulder, in the State of Maine (1922: 97)". In Moorehead (1922: 105, Figure 48) there is an illustration of translucent quartzite specimens. None of the ones pictured are under study here, but they exhibit strong similarities. W. B. Smith (1930: 12) refers to translucent quartzite also, and illustrates 2128a of the Lancaster Farm collection. Snow (1969: 89, Plate 48) pictures two remarkably similar points (#3, #4) which he calls banded quartzite. Both these points came from the Hathaway Site in Passadumkeag and are in the Robert S. Peabody Foundation (Andover, Massachusetts) collections.

The five specimens of Ramah chert in the Lancaster Farm study are vitreous and translucent. They display varying amounts of impurities. Two of these pieces are off-white with a dense sprinkling of black flecks throughout. Three pieces are smokey, two with black streaks, one with mossy-black stains permeating the stone in addition to black flecks. All five specimens have red ochre residues on broken surfaces. On the two clearest specimens, faint yellow stains are present. One smokey specimen has bolder yellow stains which penetrate the rock along

TABLE II

Catalogue of Artifacts Under Study

Chipped Stemmed Bifaces (13)

Number	Grave Lot	Dimensions (mm.)	Material
2124a	315	85x28x 8	felsite
2128a	319	112x39x10	Ramah chert
2128b	329	68x34x 7	Ramah chert
2128c	319	96x39x12	rhyolite
2130a	321	142x28x 6	felsite
2131d	322	130x43x12	felsite
2132d	323	92x27x 9	felsite
2133c	324	101x39x10	felsite/rhyolite
2134a	325	136x36x11	felsite
2134b	325	104x36x 8	chert/felsite
2134c	325	68x28x 8	Ramah chert
2141a	332	157x50x 7	Ramah chert
2141b	332	65x27x 7	Ramah chert

Long Ground Slate Bifaces (8)

2138a	329	337x22x 6	argillite
2138b	329	327x23x10	argillite
2138c	329	325x25x 9	argillite
2138d	329	320x25x10	argillite
2138e	329	348x23x 9	argillite
2138f	329	365x20x 9	argillite
2138g	329	338x25x 9	argillite
2138?/2139	330?	417x22x 8	argillite

Short Ground Slate Bifaces 2

2128d	319	66x21x 4	argillite
2130b	321	140x39x 6	"bedded" argillite

The confusion over 3138?/2139 from grave lot 330? arises when the listing at the Bangor Historical Society is compared with Moorehead's description of the finds from grave 329. He mentions seven slate points from that grave and one from grave 330. In the exhibit case the longest point was lying separate from the others. I arbitrarily assigned it to grave 330, and have assumed that whoever did the original accessioning made an error in numbering.

fracture lines and via surface impurities.

Fitzhugh (1972: 41) describes Ramah chert as follows:

This granular appearance and rough texture, unlike most flints and cherts, is a distinctive feature of the Ramah chert; in addition, freshly broken pieces of the stone have a glassy, vitreous appearance resulting from a smooth clear silica matrix in which individual crystals are bonded. Grain size varies considerably.... Color is equally distinctive, as noted by previous observers. Most common is a translucent clear form; however, there are often linear black streaks or smears running through the rock, apparently from graphite staining (S. A. Morse, personal communication). Some specimens assume a jet black color. In addition, it frequently contains small flecks of brown rust-colored material....

Fitzhugh compares Ramah chert to other similar Labrador-Quebec materials and points out that "the Ramah is usually limited to the coast. The Eskimo term for Ramah chert is tunnuyakh, meaning "like caribou back fat" which it resembles in color and texture (1972: 41). He also describes its weathering characteristics. "Weathered samples of Ramah chert patinate to a milky white, or brownish gray if fire-burnt or exposed for a long period to the elements. The surface, however, retains its vitreous character and never becomes chalky or soft, or subject to spalling, as does most chert or flint (1972: 41)."

Contrary to Fitzhugh's generalization, the Lancaster Farm specimens do show signs of spalling as if the material suffered surface dehydration.

Ground Slate Points

Ten ground and polished specimens were identified for me as argillite, or argillaceous slate.

Moorehead wrote, "There were numbers of beautiful, long slate daggers or spears, seven being found in Grave 329 and a single one in another (Moorehead, 1922: 97)." Moorehead's helper, Mr. Sugden, illustrated four of the spears. From left to right on Moorehead (1922) page 99, Figure 46, they are 2138a, 2138f, 2138c, 2139 from Grave 330, and 2138d.

W. B. Smith's accurate rendering of seven of the eight Lancaster Farm spears, (1920: 15, Figure 7) shows from left to right, 2138c, 2138a, 2138e, 2138f, 2138g, 2138b. The only specimen omitted from his drawing is the unusual decorated specimen 2138d. Smith discusses these points, calling them "hexagonal slate spearheads" (1930:13). The smaller ground slate points he calls "lenticular slate spearpoints" (1930: 17), one of which (2130b) is illustrated (1930, 18: Figure 9).

The smallest, incomplete almost unifacial ground point and six of the long points are light gray. The longest (417 mm.) point is medium gray and slightly mottled. The single decorated long point (320 mm.) is dark gray and grainy. The 140 mm. broad, lenticular stemmed specimen is of a distinctive alternating pale and dark gray banded material.

Slate occurs abundantly in many locations in Maine, so aboriginal people presumably had access to many source locations. A number of quarries were in use historically, while some operate on a marginal economic basis even today. The differences in color and texture among these specimens might indicate that more than one source was used. To pinpoint exact sources, however, would be extremely difficult even with sophisticated lithic analysis. Moreover, it is possible that these points were imports into the region.

ARTIFACT DESCRIPTION - CHIPPED BIFACES

The general morphological descriptions are given with specimens placed ventral face down (as best it can be determined) distal or tip end away from the reader.

Stem and base forms vary considerably: one straight stem and base, one straight stem with convex base, four contracting stems with round bases, two contracting stems with straight bases, three expanding stems with convex bases, one expanding stem with concave base, and one expanding stem with a convex base (conjectural since one ear is missing). The two last mentioned

expanding stem specimens are wide side-notched (one's notch measuring 5 mm., the other's 9 mm.). All the others are wide corner removed with a range of 5-34 mm. in notch length, and 3-8 mm. cut in from margin towards axis.

There is considerable variety in shoulder form, wide rounded to narrow angle, and short barb. Most pieces are vaguely asymmetrical. It is hard to guess exactly what end-result the maker had in mind, and what is happenstance. The nature of the material perhaps made exact symmetry unattainable in most instances. Two pieces are distinctly asymmetrical; in one case the material has eroded and the original outline is obliterated. The other specimen appears to have been broken and retouched on one shoulder.

Stem grinding is visible on four pieces, three of them Ramah chert. Surface and edge wear occurs on flake ridges of four out of five Ramah chert specimens, and on two felsite specimens. Edge retouch is present on almost every piece, bifacially on both blade margins, with edge retouch being most pronounced on the Ramah chert specimens. One in particular has tight, right angle, steep (45 degrees) retouch on both margins of the ventral face, shallow retouch on the dorsal face (Fig. 3, second from left).

Striking platforms are discernable on the proximal end or base of six artifacts.

Four of the five Ramah chert specimens are nicely thinned in proportion to their overall size. The largest specimen is proportionately the thinnest (157 mm.: 7 mm.) with long, narrow, flat flakes removed perpendicular to the long axis and no need for extensive margin retouch to produce a sharp edge and point. Flaking techniques in the other Ramah chert pieces vary from perpendicular or oblique to random. Hinge fractures leaving knobs occur on the dorsal faces of three specimens, one on the neck area, two midway up the blade. The two specimens with contracting stems and straight base at first glance would appear to have platforms on the base, but they are merely fractured surfaces.

Two specimens of felsite (2134a, 2124a, Figure 4),show evidence of troublsome hinge fracturing. Flakes are generally fan-shaped and

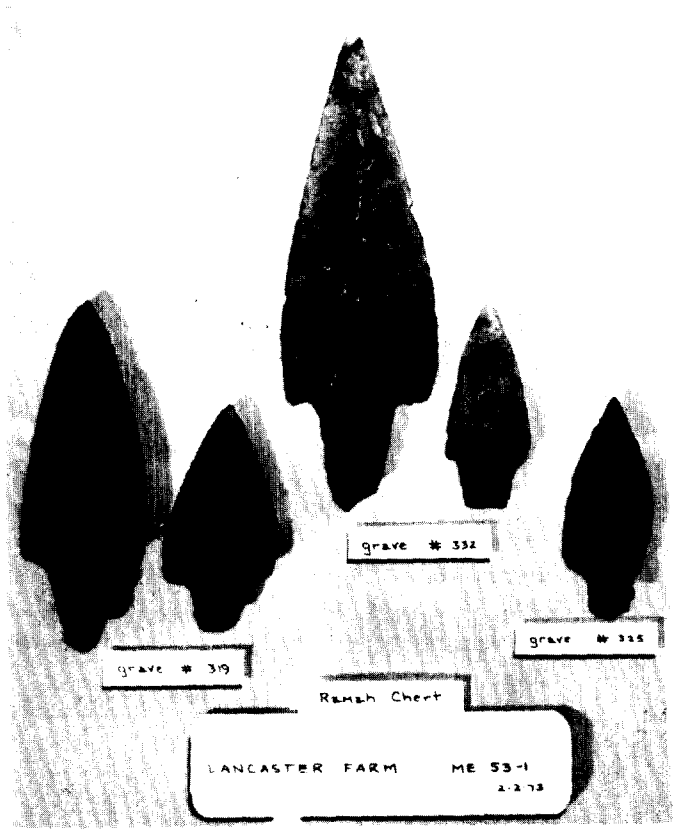


Figure 3. Ramah chert bifaces arranged by gravelot.

shallow, and leave a series of ridges along the margins parallel to the longitudinal axis. It is possible that these pieces were ground, but more likely worn smooth on the elevations. Both are retouched bifacially on both margins. Cortex remains on the base of the smaller point. The stem of the large piece is created by corner notching, the stem of the smaller piece by a side notch 2 mm. deep and 5 mm. long. The basal edge is concave and thinned. The base of the larger piece is somewhat bulbous, and one tang broken off.

Of the two specimens 2132d and 2134b, number 2134b is more carefully shaped and finished with bifacial retouch on both margins, a fairly distinct arris on the dorsal face, a minimum of retouch on the ventral face. The stem and base are straight edged. It was worked from a curved preform and has a concave ventral surface. Specimen 2132d is roughed out. The stem is abbreviated, hardly more than a bulb, marginal retouch

TABLE III

Felsite Specimens (n=8)

Attribute	Range	Median Specimen	Mean
length (mm.)	85-142	101	110.8
width (mm.)	27- 43	36	34.5
thickness (mm.)	6- 12	9	9.5
width of neck (mm.)	5- 27	18	18.0
weight (grams)	21.7-63.7	36	39.3
ratio-length:width	2.4:1-5.1:1	3.0:1	3.3:1
	Ramah Chert Specimens (n=5)		
length (mm.)	65-157	68	94
width (mm.)	27- 50	34	35.5
thickness (mm.)	7- 17	8	9.6
width of neck (mm.)	14- 21	14	15.8
weight (grams)	10.8- 56.2	15	27.4
ratio-length:width	2:1-3:1	2.4:1	2.6:1

is minimal. Neither piece has hinge fracture knobs. Excavation damage is apparent on both pieces.

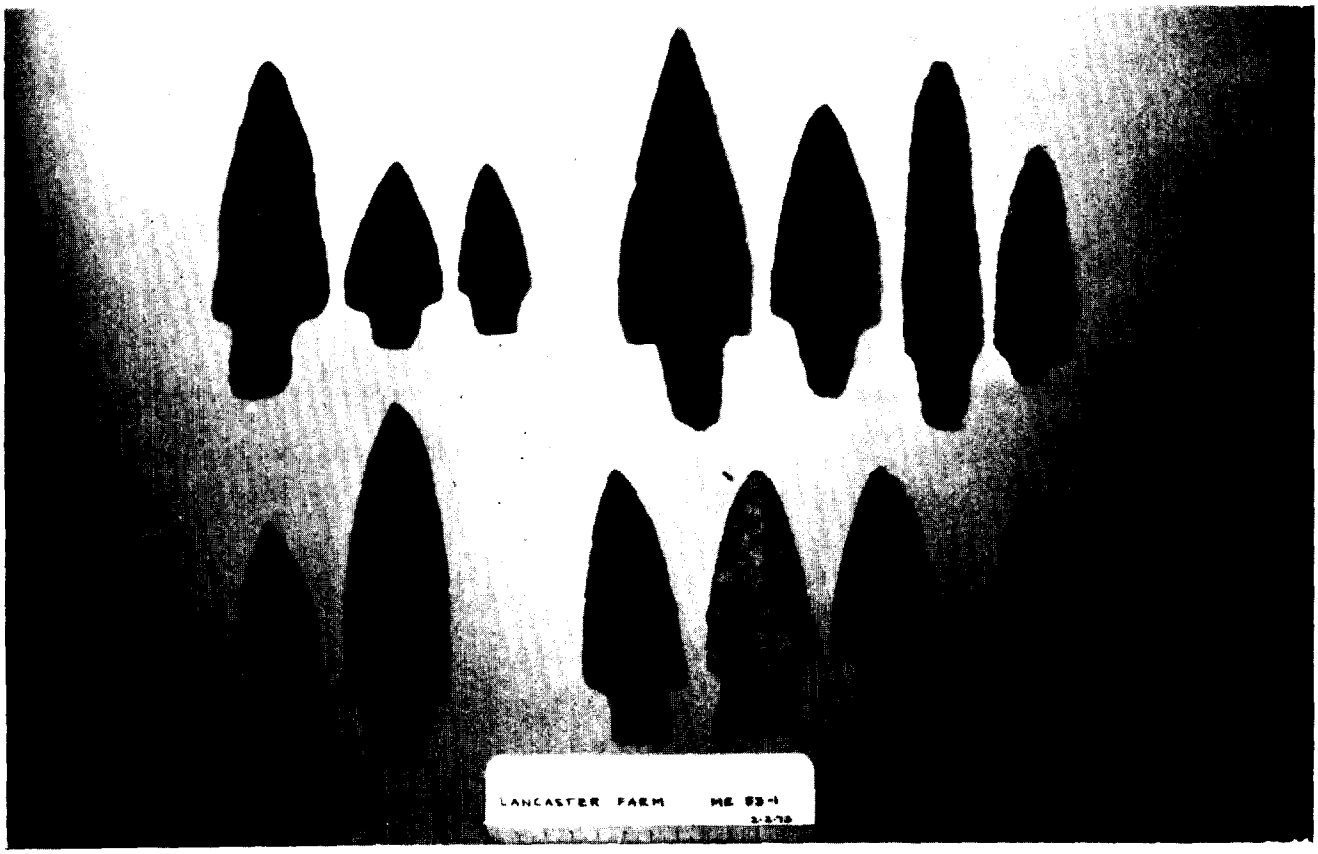
The two felsite or rhyolite specimens, 2133c and 2128c exhibit random flat flaking, some bifacial marginal retouch, hinge fracture knobs, and irregularities on both blade faces. Striking platforms are visible on their bases. The site notches of 2133c break into the edge at 90 degrees, where the blade is widest, about 72 mm. from the distal end. The notch runs 18 mm. and the right tang is broken. There is basal thinning. Bifacial marginal retouch is visible on stem and blade with special emphasis on the ventral face. Traces of cortex are visible on the ventral surface. Weathering is heavier on the dorsal surface. Specimen 2128c is cornernotched with a flaring rounded base. The craftsmanship is reminiscent of 2133c.

The final two points of felsite, 2130a and 2131d, are not identical to any of the above raw materials. Specimen 2130a shows shallow, half-moon flakes on a thin, almost parallel-sided preform. There is a shattered look to the margin, evidently the result of bedding in the rock. The end product looks crude even though the general outline is symmetrical. A trace of cortex remains on the rounded base. The other specimen, 2131d (Plate I, #1) has eroded. Its technqiue of manufacture is obscure. The general outline follows the layering of the stone, however. Chipping quality of both these materials rates poorly.

Comparing the felsite with Ramah chert bifaces, the felsite specimens tend to be longer, heavier and with wider necks, but having approximately the same widths and thicknesses as the Ramah chert points.

All thirteen chipped bifaces have convex sides spreading from pointed distal ends, with the maximum width occurring at the shoulders in all but three specimens. In those three, the widest measurement is approximately one-third of the way up the blade in two and one-quarter of the way up the blade in the other.

I wonder if there is correlation between raw material and angles attainable on tips, shoulders



Key tc Figure 4 - Thirteen chipped bifaces arranged by stem form, including Ramah chert specimens.
(approximately 1/2 size) upper left to lower right.

	accession no.	grave lot no.	material
Upper Row	2131d	322	felsite
	2128b	319	Ramah chert
	2141b	332	Ramah chert
	2141a	332	Ramah chert
	2128a	319	Ramah chert
	2130a	321	felsite
	2132d	323	felsite/chert?
Lower Row	2134c	325	Ramah chert
	2134a	325	felsite
	2134b	325	felsite/chert?
	2133c	324	felsite/rhyolite?
	2128c	319	felsite/rhyolite?
	2124a	315	felsite

and notch forms. In this series, Ramah chert specimens have the most variable tip angles, 40 degrees, 50 degrees, 60 degrees; the dense felsite tips are 50 degrees, 55 degrees; felsite/rhyolite run 50 degrees; finer felsite runs 35 degrees, to 40 degrees; poor grade felsite 30 degrees, 35 degrees.

GRAVE LOT COMMENT - CHIPPED BIFACES

Looking at this variety from the point of view of grave lots is also bewildering. The three chipped pieces presumably assigned to grave 319 (Figure 5, left 3 specimen) have similar blade shapes but different stem and base forms. Two are of Ramah chert, one of felsite/rhyolite. One small, incomplete stemmed slate specimen came with the 319 lot and it bears no resemblance to the other three points.

Grave 321 provided a long, slender, thin, roughed-out felsite point and a lovely, ground and polished stemmed point of banded slate the same length but nearly twice as wide with very different stem treatment (Figure 6.

Grave 325 yielded three stemmed points of roughly similar general outline and proportions each of a different raw material, each of a different size, with faintly similar stem treatments.

Grave 332 yielded two Ramah chert points of virtually the same run of material with great size differential and different shoulder and stem treatments.

It is apparent that grave lots need to be analyzed in their totality with pecked and ground stone tools included. The points alone, especially in a sample this small, offer few data suggestive of limited stylistic treatment within each gravelot. Their inconsistency is mystifying.

ARTIFACT DESCRIPTION - GROUND SLATE POINTS

Seven points were retrieved from grave 329 (Figure 9) and one from grave 330 (Figure 10). (Two shorter bifacial points come from grave 319 (Figure 5), and from grave 321 (Figure 6).

Figure 5. Points from grave 319. Right hand specimen is ground slate.

Grave 329

All seven slate points are broken in two or more pieces. "Several of them show old breaks and others were broken by Mr. Valiant's (George Valiant) shovel. He did not know he was coming on this find, hence the accident. However, the breaks are clean and they can be (and have been) restored (Bangor Historical Society records, 1921)."

All seven slate points are ground, and polished to some degree. Starting from a pointed tip, diamond shape in cross-section, they widen gradually becoming hexagonal in cross-section, the bevelled edges being of fairly constant width the full length of the blade. The lateral edges are straight. The flat face widens gradually and is continuous onto the stem of the point. Maximum width is reached at the shoulder in six out of seven specimens. In the exception (2138f), maximum width is 30-60 mm. above the shoulder notch. Maximum thickness is in all cases in the mid-section of the blade. All points and all stems are thinned gradually. The thickness is remarkably uniform. In fact, all dimensions and symmetry are extraordinarily true. There are no indisputable hafting scars on blades or hafting elements, and no serrations.

One specimen (2138d) is decorated(Figure 9, middle specimen). On the right margin it has two lengthwise parallel lines and right oblique incised lines from the shoulder barb to within 10 mm. of the tip. The grooves average twelve per centimeter, and they intersect the parallel lines. On the left margin the parallel line closest to the margin is omitted. The right oblique incised lines are fifteen to a centimeter. The decoration runs 152 mm. along the 280 mm. blade from the barbed shoulder. The opposing face is undecorated except for two irregular lengthwise scars on the left bevel.

This point has other distinctive qualities. The tip may have been reground. The shoulders are barbed and the narrow stem is contracting. The edges of the stem are ground, the base convex, the cross-section of the stem a rounded rectangle. The material is a dark gray argillite with faint lengthwise banding. Red hematite has settled into the decoration and is imbedded in one of the breaks (possibly a pre-excavation break). This decorated point is the shortest of the grave lot, the heaviest, and one of the widest and thickest.

The hafting element and stem treatment of the remaining six specimens vary. The ratio of

Figure 6. Grave 321 points.

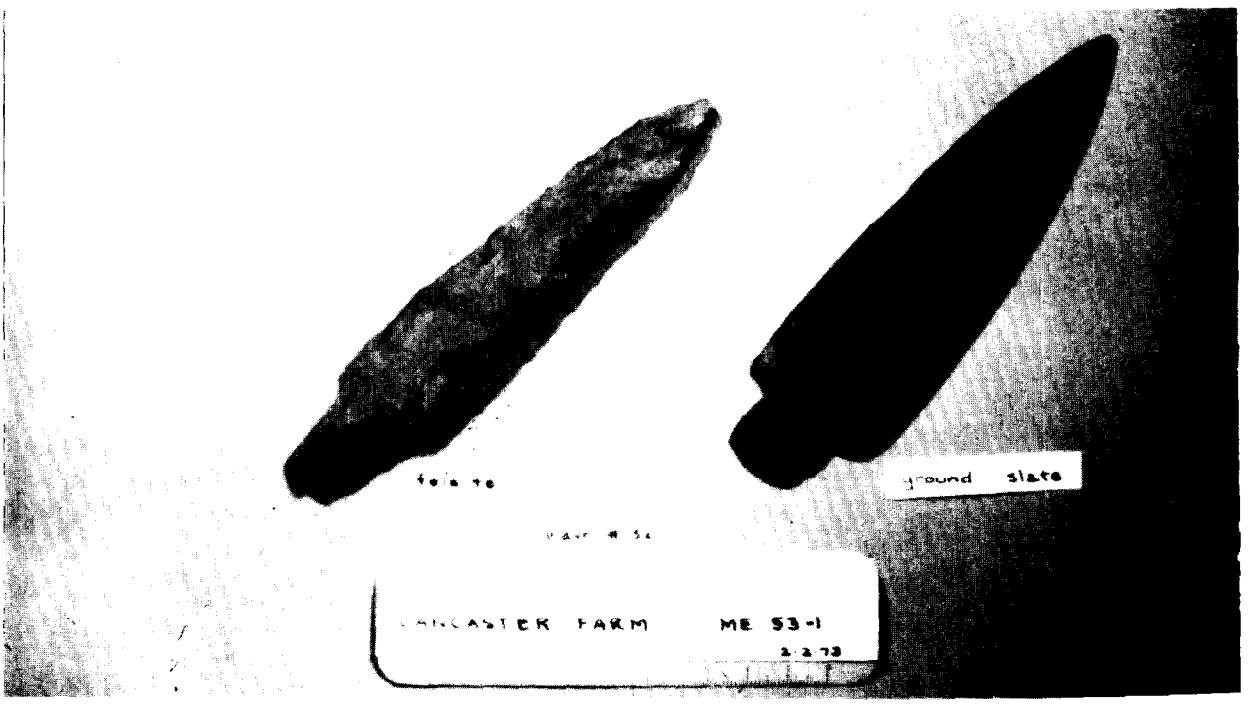


TABLE IV

Dimensions for Group of Seven Ground Slate Points, Grave 329

Attribute	Range	Median Specimen	Mean
length (mm.)	320–365	337	347
width (mm.)	20– 25	23	23
thickness (mm.)	6– 10	9	8.8
weight (grams)	80– 96.8	89.1	89.2
haft to overall length (%)	6– 12.5	9	9.6

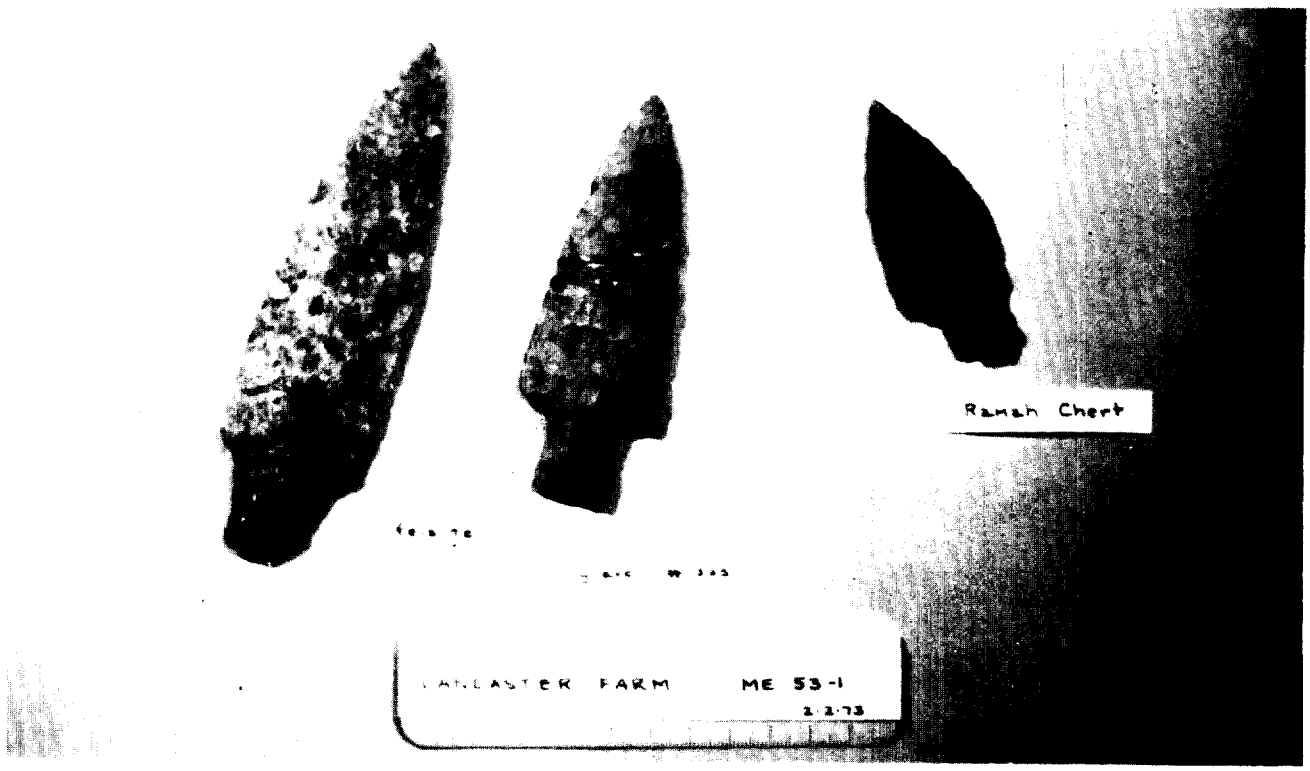


Figure 7. Grave 325 points.

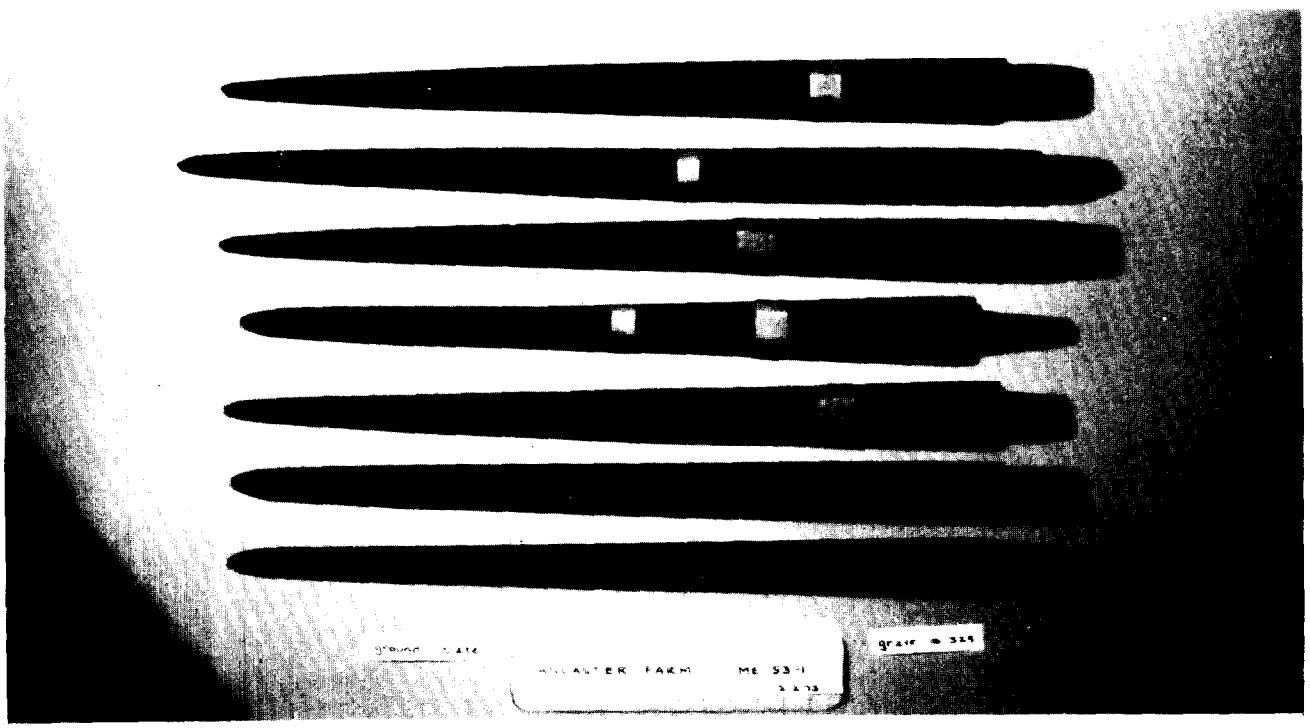
Figure 8. Grave 332 Ramah chert points.

hafting element length to overall total length ranges from 6%–14%. The length of hafting element ranges from 24–50 mm. Shoulder treatment of one specimen is a continuous taper to a straight base. Two pieces have shallow shoulder notches and an assymetrically tapering stem with some lateral roughening. One specimen has distinct right angle shoulders with straight sided tapering stem, the rounded edges terminating in a straight edged unfinished base. One point has rounded right angle shoulders with a bulging, ground stem ending in an unfinished convex base. Those three points having the least definitive shoulders have the blade edge bevel remaining on the hafting element. In the others, the bevel has been cut into or ground off. The cross-section of the hafting elements are lozenge-shaped or rounded rectangular, for all six pieces.

Grave 330

The single specimen from grave 330 is the longest of the slate points (417 mm.). It is 22 mm. wide at the shoulder, 8 mm. thick and weighs 101.1 grams. Its cross-section, general form,

Figure 9. Ground slate points from Grave 329.



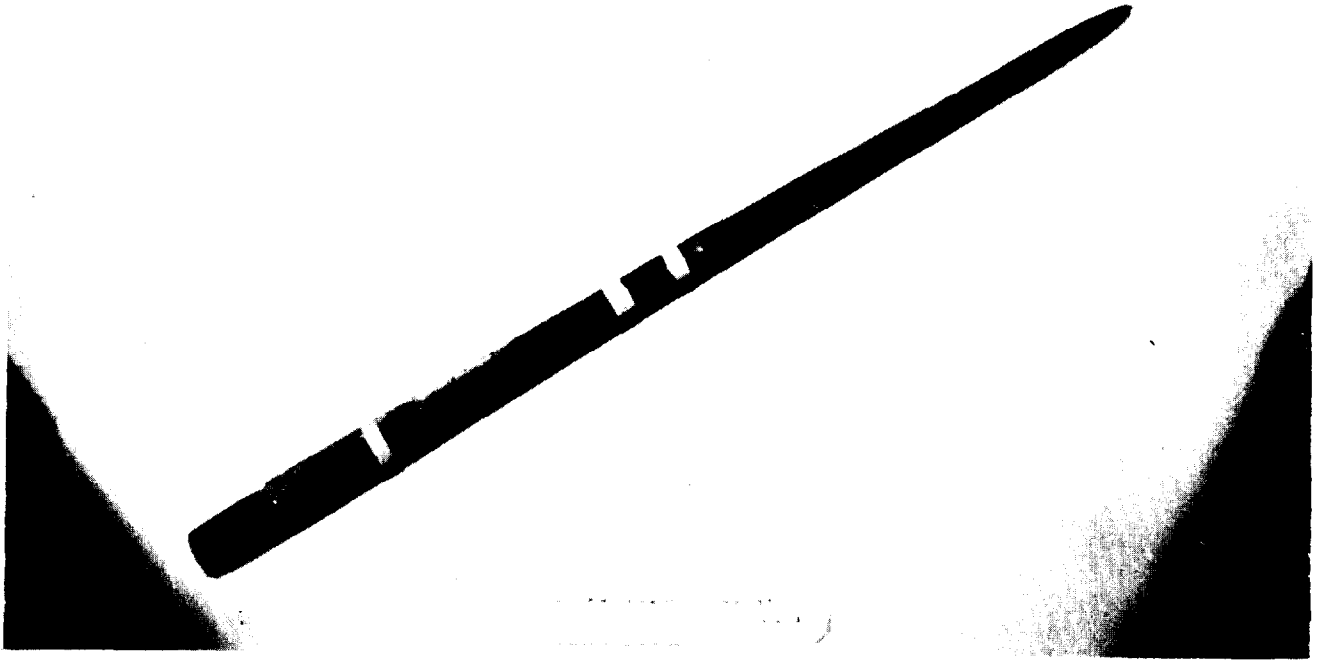


Figure 10. Ground slate point from Grave 330.

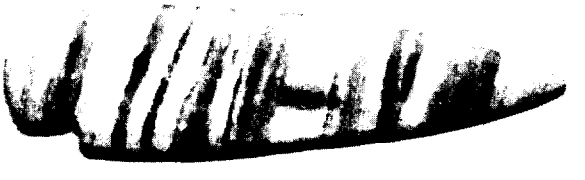
and manufacture are similar to the points from grave 329. The material is a dark gray shaded argillite. The specimen is broken obliquely to the long axis into four pieces. The breaks appear to be recent. The hafting element, 37 mm. long, 20 mm. wide and 6 mm. thick, is 10% of the total length of the piece. The shoulders are shallowly cut in at right angles, the stem edges are ground but not polished. The stem edges contract and terminate in a convex ground and polished base. In cross-section the stem is rectangular. The longitudinal section shows gradual symmetrical bevelling or thinning towards the base. This specimen has an encrustation of limonite 90 mm. from the tip; evidently, there were nodules of pyrites recovered with it.

Whether any of these points were "ritually killed" is problematical. Excavators' shovels and weight of overburden seem more likely agents of breakage.

Grave 321

Specimen 2130b, from grave 321 (Figure 11), is a medium size, convex sided, sharp shouldered, stemmed point. It is 66 mm. long, 21 mm. wide at

Figure 11. Artifact 2130b from Grave 321, ground slate.



the shoulder and 4 mm. thick. The cross-section is bi-convex. Lateral bevelling is blended into the rest of the surface treatment. The longitudinal cross-section shows gradual thinning towards point and base. There are no hafting scars nor serrations. The stone itself, a bedded argillite with alternating bands of light and dark gray, is itself decorative. No further purposeful decoration of surfaces is evident. Rounding of the tip is continuous with the lateral edge. The lateral edges flare to a sharp shoulder cut at 90 degrees, 10 mm. into the blade to form the stem. The hafting element is approximately 10% of the overall length of the point. The lateral edge configuration is slightly bulbous ending in a rounded base, lozenge shaped in cross-section. Surface grinding and lateral edge grinding are visible on the stem.

Grave 319

The final slate point, 2128d, from grave 319 (see Figure 5) is small, possibly retooled from a larger specimen. One face is ground and polished, the edges faintly rounded, the obverse is unaltered and looks as though it had sheared off lengthwise from a larger fragment. Dimensions are 66 mm. long, 21 mm. maximal width at the shoulder, and 4 mm. thick. The lateral edges are convex. The shoulders are rounded. The stem contracts irregularly ending in a base of undetermined outline. In cross-section this point is plano-convex, the longitudinal section being bi-convex. The tip has some minor bevelling. A chip had been spalled off the ground flat face of the tip. The hafting element comprises 40% of the total length. This crude specimen accompanied three Ramah chert points.

Grave Lot Comment - Slate Points

It is interesting to note that all the finest lithic items were in graves within a five meter radius of the seven slate point lot which itself was positioned near the center of the area. Whether this pattern had any social importance to the makers of the cemetery is disputable; and without considering the entire roster of grave contents, the observation could be misleading.

DISCUSSION

Charles C. Willoughby's Prehistoric Burial Places, 1898, details burial excavations at Ellsworth, Maine. Artifacts retrieved from local collectors included "sixteen finely polished and gracefully shaped lanceheads, typical forms of which are shown in Figure 16" (1898: 401, 402). They are of compact green slate, with cross section either lenticular, lozenge-shaped or hexagonal." He described may other artifacts generally similar to forms retrieved at Lancaster Farm which he excavated either at Ellsworth, Orland, or Bucksport. He believed that there may be a connection with "now extinct Beothuks" of Newfoundland and suggested careful comparative analysis be done. He stated that these grave goods antedate Algonqian presence in the Northeast, "the burials in these old cemeteries cannot be attributed to that people" (1898: 434).

Warren K. Moorehead's rambles in Maine unearthed several sites containing lithic material and forms comparable to those discussed in this paper. Ramah chert appeared in more than one site (1922: 112, Figure 48, p. 105), and slate bayonets or lanceheads either singly or in clusters, were excavated at Hathaway cemetery (1922, Figure 31), Emerson Cemetery on Lake Alamoosook (1922: 34, Figure 24), Haskell's Cemetery, Blue Hill (1922: 67, Figure 40).

He credits these burials with great antiquity, and attributes them to a people "separate and distinct from other tribes of the New england region. Their culture is peculiar and cannot be correlated with any known tribe either historic or prehistoric" (1922: 259).

Walter B. Smith's descriptions and illustrations of the Lancaster Farm artifacts have already been mentioned. His title "The Lost Red Paint People of Maine" surely contributed to the legend which has subsequently been perpetuated publicly, but he posed good questions and he did not jump to conclusions, being a thorough and careful person.

Wendell S. Hadlock's 1939 The Taft's Point Shell Mound describes and pictures a clutch of ground slate artifacts (7, Plate 4) which were all fragmentary or possibly reworked. They came from aceramic lower horizons in this coastal

site. The cross-sections of most pieces are hexagonal. There is bevelling on some. In his conclusions, Hadlock states that "he does not regard the artifacts found in the pre-pottery horizons as having been made and used by those people known as the Red Paint people of Maine" (1939: 29), thus, he was unwilling to give any cultural designations to the lower horizons.

At about this same time Douglas Byers and Frederick Johnson were excavating in Blue Hill at the Nevin shellheap. Slate bayonets and some chert items were recovered there. The site has both burial and habitation features.

John H. Rowe published the findings of his work in 1940, "Excavations in the Waterside Shell Heap": It contains a reference to "long 'bayonet' points that have been broken and reworked" (1940: 11). They came from the first and lowest occupation zone. The cross-sections are the familiar diamond and hexagonal, illustrated in his Plate XI. Rowe introduced the "Moorehead complex" designation. His dates are conservative, and he associates his Moorehead complex with pre-pottery ancestors of "Norridgewocks" and "Tarratines" (1940: 18).

More recently, Dean Snow, in his Summary of Excavations at the Hathaway Site in Passadumkeag, Maine, 1969, describes and pictures stemmed, banded, "quartzite" points which resemble several of the Lancaster Farm Ramah chert points in outline and dimensions. Several other projectile points illustrated in Snow's report are similar in outline to Lancaster Farm specimens, also (Snow, 1969: Plate 37.1, description on page 75; Plate 45, 4 and 5, page 86: Plates 47, 48, 49). Snow would place the use of the Hathaway Site as a cemetery.

Snow's 1970 paper to the Society of American Archaeology established a seriation based on assemblage types. He states that the remains from Archaic stage cemeteries in Maine are related to complexes throughout the Northeast (1970: 2). His seriation is "dependent upon the presence or absence of eight artifact classes" coupled with a more precise focus on projectile points for trends in attribute details (1970: 7, 8). He discusses the stylistic and technological trends in slate points and hypothesizes that the long, hexagonal forms are "early"; simpler, broader forms came later (page 9). He ends up with six assemblage types based on his seriation (page 12).

Bruce Bourque's dissertation (1971) reaches for seriations of Moorehead cemetery complex material by way of grave lot analysis. He remarks upon the Smith Farm (1971: 46, 47) finds, Ramah chert (page 68, 88-92), and ground slate points (68, 261) among them. He notes that in Maine Archaic assemblages Ramah chert is found only in association with graves, while no debitage is found. Bourque proposes a date ca. 2000 B.C. for Ramah chert usage. Tuck (1970: 119) suggests dates of 1800-2300 B.C. for the Port au Choix component which included slate blades. The Goddard Site component which included a Ramah chert point and a slate bayonet dates at about 1980 B.C. (Bourque, 1971: 80).

Bourque sees "consistent typological variations within the cemetery complex" which will contribute to a definitive seriation (1971: 37). He is painfully aware of the "magnitude of variation", and asks whether it is because of a long-lived development or short-lived phenomenon with a "very diverse artifact inventory (65)."

More recent investigations by James Tuck, David Sanger and William Fitzhugh in the Canadian Maritime provinces present new data which indicate strong cultural relationships existing between Maine coastal inhabitants and Maritimes inhabitants during the Moorehead burial tradition timespan. The lithic raw materials, the forms, and the burial traditions all exhibit strong similarities. Ever radiocarbon dates correlate properly. They find Ramah chert artifacts and ground slate forms with attributes strongly reminiscent of Maine material in southern and northern Labrador, and Newfoundland.

Sanger theorizes that Moorehead burial tradition artifacts are from a "highly specialized burial cult, which extends from the Kennebec River in Maine, through New Brunswick, Nova Scotia, and thence to Newfoundland. The cult was part of a Laurentian Tradition way of life which was carried into this area" from the west around 3000 B.C. (1973: 7-10).

In addition, Fitzhugh (1972: 40-41) suggests considerable trade and possibly movement of people in the coastal regions. He feels that Ramah

chert artifacts could prove to be valuable clues to inter-cultural dynamics, and group movements on the Northeast coastline.

Sanger's 1971 Cow Point report includes attribute analysis of ground slate points of which he recovered seventy-nine specimens, an unusually large number. All seven Lancaster Farm points were over 300 mm. long, while Sanger's sample ranged from 112 to 370 mm. long (1971: 38). Sanger does not record any Ramah chert chipped points. In fact, only seven chipped points occurred in the entire Cow Point collection.

Continued extensive grave lot analysis may eventually develop a clear seriation for the Moorehead burial tradition. Habitation site work should enumerate details of the daily life for these people, including adaptation to coastal living and marine resources. It is hoped that greater use will be made of "obscure" collections in these analyses, such as the one reported here from the Bangor Historical Society.

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An Accelerator Radiocarbon Date on a Red Paint Feature

Arthur Spiess, Michael Brigham and David Cook

INTRODUCTION

This is a small scale archaeological success story involving the best of luck, co-operative effort between avocational and professional archaeologists, and a brand new laboratory technique.

In the summer of 1983 Michael Brigham of Milo and David Cook of Winthrop and Milo located a patch of red-ochre-stained sand at site #106.23, on the east bank of the Pleasant River a few miles above Brownville Junction, Maine. The site had been stripped of loam or top soil for commercial purposes a few years before, and was a known location of artifact finds. This sandy river-bank area had also seen moderate use by off-road vehicles, and Brigham and Cook were afraid that the red ochre stained feature would be destroyed by their passage. During initial investigation of the feature, Brigham recovered a ground stone artifact from the surface of the red ochre stain. Spiess was urged to inspect the site on a visit to the Milo area in July of 1983, which he did. He realized that it was a necessary and feasible task to salvage the red ochre stained feature by simply digging out the feature fill in the afternoon that was available. No attempt was made to map the entire site or to locate the feature precisely on a map of the site, although the feature is locatable with a few meters precision on air photographs of the area. The only contents of the feature, besides the artifact recovered by Brigham were red-ochre-oil-stained sand and scattered flecks of wood charcoal. The charcoal was assiduously collected, but was not sufficient in quantity for a standard radiocarbon date.

In the spring of 1984, Beta Analytic Laboratories of Coral Gables, Florida, announced the commercial availability of a previously experimental accelerator radiocarbon dating technique which can handle very small carbon samples. The charcoal was submitted and the laboratory returned a date of 5,950 $\pm$ 230 years B.P.

SITE 106.23 DESCRIPTION

Site 106.23 occupies a river terrace some three meters above the summer water level of the Pleasant River. The geological origin of the terrace is unknown to the authors, but because it is fairly wide and contains sandy rather than silty sediment, we assume that it was in part created by fairly rapidly running water.

The subsoil of the site is a fine sand. The topsoil or loam of the site had been stripped within the previous five years, some of it being carted off and some it left on the site in large piles. Inspection of the remaining piles showed that there were a few pieces of prehistoric lithic left in the loam.

Formerly a farm building was located at the southern end of the site but it had been demolished before the 1940s. A few brick fragments remain as the principal material culture remnants of this farm. Judging by the quality of the soil and the flatness of the river terrace, it is likely that the area was plowed for agricultural purposes during the 19th century, and that the loam; which has now been removed; represented a shallow plowzone.

There is a large glacial erratic of granitic rock exposed in an erosional gully in the sand at

the south end of the site. This gully is the locus of the find of the base of a northeastern Plano or Eden-related Late Palaeo-Indian point, which is described elsewhere (Doyle et al., 1984).

The exposed sand of the site is sparsely covered with vegetation, and it "blows out" frequently. Flaked stone is exposed over much of the river terrace, up to 50 meters back from the riverbank. Currently the riverbank itself does have a steep bank, but it appears to be aggrading out into the river rather than eroding. No flaked stone is visible along the riverbank edge of the site.

In addition to the Plano point, one corner-notched Early Archaic point from the site is known from a private collection. To the authors' knowledge, there is no evidence of ceramic material from the site or of lithic artifacts diagnostic of the Ceramic Period. Thus it is probable that habitation at the site was entirely pre-Ceramic in age. It is possible that the circa 6,000 year old radiocarbon date on Feature 1 represents a late use of the site. Obviously the site deserves further professional attention.

THE FEATURE

During Spiess' July visit to the site, one and only one red ochre stain (Feature 1) was visible on the surface of the sand of the site. It was about 1.5 meters in diameter, and located about 100 meters north of the large glacial erratic mentioned above. Mike Brigham had recov-

Figure 1. 10 cm level of Feature 1, with red-ochre-stain boundaries clearly visible above the trowel as a darker gray. Auger hole visible inside red-ochre-stain, with shadow of D. Cook in upper left of photo.

ered a red- ochre-stained ground stone artifact on the surface at the margin of, but definitely within, the visible feature.

We salvaged the content of Feature 1 as follows. First we cleaned off the surface sand with a trowel to a depth of approximately 10 cm., and screened all the backdirt through 1/4" hardware cloth mesh. This operation exposed a sharply bounded stained sand elipse with diameters of 80x85 cm (Feature 1). The fill of the feature was a deep blood-red ochre powder, mixed with fine sand. It contained a few flecks of wood charcoal and small pieces of a yellow mineral (possibly limonite) scattered throughout the feature fill. As we hand-troweled the feature fill, cleaning out what turned out to be a shallow, basin-shaped feature, the charcoal flecks were picked with tweezers or by hand and placed in a plastic film canister.

The feature was revealed as a shallow, 20 cm. deep basin, but it may have been up to 20 cm. deeper if it had initiated on the ground surface that was removed during the commercial loam operations. Several small bags of feature fill were saved for possible chemical examination later.

There was absolutely no flaked stone, no fire-cracked rock, nor any other artifactual material visible in the feature fill either during the trowelling or during the screening. The charcoal flecks contained in the feature fill were neither concentrated horizontally nor vertically, and they were absent outside of the feature in the non-stained sand. The red ochre stain itself was extremely sharply bounded: in places along the feature margin one could almost envision a line-like boundary separating the red-ochre stained sand from the surrounding yellow sterile sand. This sharply bounded condition of the red ochre was reminiscent of an early Maritime Archaic red-ochre-stained grave that Spiess had helped excavate at Ballybrack Hill, Labrador (Fitzhugh, 1978). There the margin of the pit was accompanied by one or more dark brown or black organic-like stains which may have been some sort of organic pit lining.

We reconstruct feature formation and use as follows. First, a shallow 20-30 cm. deep basin was excavated by hand in the unfrozen soft sand of this river terrace. It probably was subsequently lined with some kind of organic material perhaps bark or skin, which helped to resist subsequent dispersion of the basin's contents into the surrounding sandy soil. The basin was then filled with a mixture of sand, red ochre, and charcoal that had been removed from some other location—possibly nearby on the same site.

We assume by analogy with red-ochre-stained graves of Maritime Archaic sequence in Newfoundland and Labrador, and the Moorehead Complex in Maine (Fitzhugh 1978, Snow 1969, Sanger 1973, Byers, 1978), that the basin contents also included human skeletal remains. The size of the basin indicates burial of a disarticulated skeleton, or perhaps some partial portion of a body, not a fully extended human being.

THE ARTIFACT

A single artifact recovered from Feature 1 can be best described as a edge-ground schist whetstone. One side of this artifact is heavily stained with red ochre. It is an elongated, thin, water-worn fragment of bedded micaceous schist. When recovered it had broken into two pieces which could be refitted exactly. Its maximum length is 21.4 cm., maximum width 5.0 cm., and maximum thickness 1.7 cm. (Figure 2).

The specimen had been broken proximally and distally. The proximal fragment (the narrow end of the schist tablet) is the refitted piece. Neither the proximal nor the distal break appear to be fresh, since they are as heavily soil stained as the rest of the artifact. Moorehead (later in time) whetstones are usually perforated at the narrow end (e. g., Snow 1969, Sanger 1973). We doubt if this specimen ever was perforated, since we possess the narrow end.

The only signs of wear on this piece, indeed the only indication that it was an artifact, appear on the long, narrow edges of the schist tablet (Figure 3). These long, narrow edges have been wear polished or ground deliberately into right and left facets. The total width of each working surface is about 1.3 cm., so each facet represents a flat surface of approximately 0.6 cm. width. The facets show a few longitudinal striations that run parallel to the long axis of the piece. There are also a few scratches that cut across the edge of one of these facets at a 45 degree angle to the long axis.

Figure 2. Red-ochre-stained whetstone recovered from Feature 1.

Figure 3.

Faceting and longitudinal striae visible on narrow edge of artifact from Feature 1.

We surmise that this tool was used as a whetstone to sharpen or polish the concave working edge of a channeled gouge, or to produce the channel of the gouge itself. Other uses are of course imaginable, but it was the narrow edges of the schist tablet that were utilized, and not the broad faces. For this reason we assume that the piece was designed for use in some sort of long, narrow space. The obvious pieces of material culture which fit that description of use which have survived in the archaeological record are channeled gouges.

THE RADIOCARBON DATE

The charcoal scattered throughout Feature 1 was mostly in the form of long, thin rhomboids, usually less than 5 mm. long, approximately 1 mm. thick, and 1-2 mm. wide. The material appeared to be a wood which had split into pieces along the thin annual growth ring margins and had further split longitudinally into thin fragments.

Under a hand lense it appeared to be densely enough packed to represent a hardwood rather than a soft wood.

The recovered sample of charcoal weighed 1.4 grams, and none of it was saved for identification because of the desire to obtain a radiocarbon date. The minimum for a conventional radiocarbon date is 4 to 5 grams. For both conventional radiocarbon dating and the new accelerator method a charcoal sample is cleaned chemically to eliminate carbon except those molecules bonded in the charcoal lattice. This step insures the removal of all, or most of, the contaminants from the soil or from handling.

In conventional radiocarbon dating the charcoal is converted to gasseous carbon dioxide or to benzene and placed in a lead-shielded chamber. The sample volume is measured, and from that figure the number of atoms of carbon is calculated. And then the number of electrons emitted by radioactive carbon-14 are counted for a span of time which can be up to several days. The number of electrons emitted by the sample is converted through the estimated decay rate of carbon-14 to a relative age estimate for the sample. For discussions of the details and problems of the method the reader is referred to Ralph and Michael (1974).

Because relatively large numbers of carbon atoms are needed to get statistically reliable counts of the rare Beta decay events of carbon-14, conventional radiocarbon dating is limited to relatively larger carbon samples. Accelerator dating approaches the problem of counting the carbon-14 versus the carbon 12 atoms on an entirely different basis. The carbon sample is cleaned and formed into a solid pellet which is mounted in an accelerator ("atom smasher"), that has been especially converted for this purpose. Individual carbon atoms are excited from the sample and accelerated around the accelerator ring in a stream of particles. At one place on the ring the carbon atoms' trajectory is changed by electromagnets, which are tuned to separate carbon-12 and carbon-14 nuclei into different streams of particles. The technology exists to count individual nuclei in these particle streams as they come out of the machine. The reader is referred to Muller (1974) for discussion of this new technique.

Since the accelerator counts individual atoms rather than waiting for the radioactive carbon 14 to decay, counting times can be much shorter (on the order of minutes rather than hours or day). However, the machinery involved is extremely expensive, basically being an obsolete accelerator which has been converted for this purpose. As currently practiced, conventional radiocarbon dates cost approximately $200.00, and accelerator radiocarbon dates cost approximately $450.00. Obviously, given enough charcoal and all other things being equal, it is still economically advantageous to use conventional radiocarbon dating.

The accelerator method has been experimentally used for several years. Accelerator dates done gratis during the experimental period for sites from the Northeast include dates on the Vail Paleo-Indian site (Gramly, personal communication), and the Whipple Paleo-Indian site in New Hampshire (Curran, personal communication). Because of the research interest of the senior archaeologist associated with the development of the accelerator radiocarbon dating laboratory at Arizona, many of the experimental period accelerator dates have been on Early Man sites or on Paleo-Indian sites. The new commercial aspect of the method now opens the possibility of dating small charcoal samples from the Archaic and (Ceramic) periods, or of dating small portions of perishable material. As far as we know the date on site #106.23 Feature 1 is the first commercially obtained accelerator date in the Northeast.

In any case, the date (Beta 8926) was reported as 5,950 $\pm$ 230 years B.P., and is perfectly acceptable to us.

DISCUSSION

Spiess had been hoping for a date of approximately 7,000 years on Feature 1 on the suspicion that edge-ground whet-stones, and red-ochre-filled burial pits containing relatively few artifacts that might be attributable to the Middle Archaic period. Site 106.23 contained Late Paleo-Indian and Early Archaic components, and contained no obvious Ceramic material, which led us to expect at least an Archaic age and hopefully a date earlier than the Late Archaic. Recent survey work in western Maine (Gramly 1981,

Spiess, Bourque and Gramly 1983) had located large numbers of sites with diagnostic Middle Archaic and Early Archaic points on them from which full channel gouges and other types of gouges were commonly recovered, along with unperforated whetstone-like rocks. Thus we were prepared to accept evidence that full channel gouges and (what we hypothesize as associated tablet) whetstones extend back at least into the Middle Archaic period (and could be therefore associated with Neville and Stark-like points).

Moreover, we know that the Maritime Archaic burial tradition in Labrador extends back to at least 7,000 years B.P., and that it is associated from the earliest time with red-ochre-filled pits. Spiess had participated in the excavation of early Maritime Archaic Tradition burial pits filled with red ochre, but accompanied by scant or low quality stone tool inclusions. At least in Labrador and Newfoundland, the rich furnishing of red ochre graves (with many, ground stone and chipped stone tools) do not occur until the Late Maritime Archaic, possibly after 4,200 B.P.. Thus, we were willing to accept the fact that 106.23 Feature 1 might be earlier than the Moorehead Complex burial practices in Maine, although it was clearly analagous in size and construction to their graves.

The actual date itself, 5,950 B.P., we might expect to be associated with the Vergennes Phase (Ritchie, 1979), or some other "Laurentian Tradition" aspect.

Thus, we have strong evidence from Maine that the practice of producing shallow, red ochre-filled pits, presumably for interment of human remains, and accompanying them with limited numbers of stone tools, extends back to the Middle Archaic/Late Archaic boundary circa 6,000 B.P. Based on the presence of a similar behavior pattern in Labrador on the earlier end of the Maritime Archaic sequence, we speculate that shallow red ochre-filled pits with limited numbers of stone grave goods are a culture trait common to the far Northeast beginning perhaps by 7,000 B.P. For reasons beyond the scope of this paper, elaboration of the number and style of lithic artifacts included as grave offerings was a common practice toward the end of the span of this burial behavior circa 4200-3700 B.P. in Labrador, Maine and the Maritimes. We are beginning to see glimmerings of the development of this tradition in the 7000-6000 B.P. millenium, but the details of 7th millenium culture-history elude us at present.

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Birch Bark Canoes and Munsungun Cherts

By David S. Cook

CANOES AND CANOEING

This is an introduction to the topic of birch bark canoes and the intricate system of canoe routes that the Indians of Maine devised. Maine has thousands of rivers, lakes, streams, ponds, bogs and swamps that provide prehistoric people with difficult problems and unparalleled opportunities. In meeting the challenge of the northeastern forest environment, the Indians created a watercraft that modern man has not improved in form, just in construction materials.

The birch bark canoe "...was the most complex and intricate product of native mechnanical genius in the north" (Speck, 1940). No one knows when birch bark canoes were invented or who should get the credit for their development. The Penobscot tribe gives credit for the "agwiden" or "floats lightly" to "Gluskabe", their culture-hero and demi-god (Speck, 1940). The word "canoe" is of Carribbean origin, was applied to Indian dugouts, and misapplied to include birch bark craft (Adney and Chappelle, 1964).

We can learn valuable lessons about prehistory from canoes, even if they are made of aluminum or fiberglass. Canoe travel over the old canoe routes imposes ancient limitations that dictate our behavior. Water levels (related to season and recent precipitation), the comparative difficulties of a great variety of possible routes, and the availability of food along the way all "shaped" prehistoric behavior. Canoes, when used to their fullest potential, require a range of physical skills that we can re-learn and use to re-create the travel strategies of prehistoric people.

Human beings, with a pressing need for mobility, arrived in Maine about 12,000 years B. P. (Bonnichsen, et al., 1980; Gramly, 1982). The other key ingredient in the history of "floats lightly" the "canoe birch" tree (Betula papyrifera)moved into the region about 9,000 years B. P. (Davis, et al., 1980; Davis and Bradstreet, 1975).

The birch bark canoe may have been invented locally or it may have been adopted from some other people. Siberian tribes used birch bark canoes in the 16th and 17th centuries but adopted more durable watercraft from settlers from the east (Levin and Potapov). Edwin Tappen Adney, the best known authority on the topic, thought that the first people came to North America in canoes, but this view is not widely held by contemporary anthropologists (Clarke, 1968).

Whatever their origin, birch bark canoes conferred great advantages and were in no small way responsible for the complex cultural organization of the prehistoric Northeast. It is safe to assert from the archaeological record that birch bark canoes have been used in Maine since, at least, terminal Late Archaic time (Cook and Spiess, 1981).

Maine's vast number of rivers and lakes, left in the wake of the last glaciation, we the highways of prehistory; and they can be our highways back into the past. A canoe can be a "time-machine" used to re-create an ancient mode of travel. When I carry my canoe past a particularly sharp set of rapids or falls, I am usually following an old track first made centuries ago; when I camp, I often choose a spot that other canoe people found appealing, judging from the archaeological material which they left behind.

Aborigines of North America made dugouts of logs and crude canoes of hickory or spruce bark. Moosehides were used to make temporary limited-use canoes, but nothing equalled birch bark (Ad-

ney and Chapelle, 1964). The Iroquois made elm-bark and oak-bark canoes for use on large lakes and some were said to carry up to thirty men (LaHontan, 1703). Unlike birch bark these barks absorb water rendering them only temporarily useful (Adney and Chapelle, 1964). LaHontan noted in 1700: "the canoes the Iroquois provide themselves are so unwieldy and large that they do not approach the speed of those made of birch bark. They are made of elm bark, which is naturally heavy and the shape they give them is awkward; they are so long and so broad that thirty men can row in them, two-by-two, seated or standing, fifteen to each rank, but the freeboard is so low that when any little wind arises they are sensible enough not to navigate the lakes" (La Hontan, 1700).

The Indians of many tribes laboriously hewed dugout canoes from large logs. Called "pirogues" on the St. John River (Florida), these craft were used on calm and deep waters but were not suitable for swift rivers or for portaging long distances. Compared to birch bark canoes, dugouts are rather unwieldy and very heavy.

The Micmacs and Malecites built rough canoes out of moosehides. These boats were used to descend from winter hunting grounds to where the Indians had left their birch bark canoes the previous fall (Adney and Chapelle, 1964; Gyles, 1746). "Bull boats", as they were called by the Europeans, would be sewed and waterproofed with pitch during the winter and were efficient when travelling downstream. The Indians, however, had just as much need to travel upstream, and the birch bark canoes filled that need unlike anything else.

How does one figure the advantages that light, portable canoes gave to the Indians?

One way is to travel on foot and by canoe through the same terrain and then make a subjective comparison based on how you feel when you finish. You may also measure the speed of both methods and the load you were able to carry. When one does this, as I do quite frequently, the advantages of canoes becomes very apparent. Even dugout canoes, where they can be paddled, are very efficient when compared to walking.

A recent study of dugout canoe travel through the slack waterways of Florida has quantified the energy savings of water travel. The University of Florida study has shown that when four people use a dugout to travel fifty miles, they save some 25,000 calories compared to foot travel; this is the equivalent of approximately one day's supply of food ("Early Man", 1982).

Birch bark canoes, because of their greater versatility, paid Maine Indians greater energy savings dividends. The time and effort they saved in travel and food-gathering may have been invested in other cultural activities, such as trade, long distance travel and warfare.

The waterways of Florida are flat and currentless in comparison to the turbulent rivers, windy lakes and choppy coastal bays of Maine and the Northeast. The various canoe designs the Indians created allowed them to exploit the waterways in an intricate and ingenious manner.

The birch bark canoes were the most efficient means of water travel because they could navigate shallow and rapid streams so common to Maine, and they could also be carried to connect with adjacent watersheds.

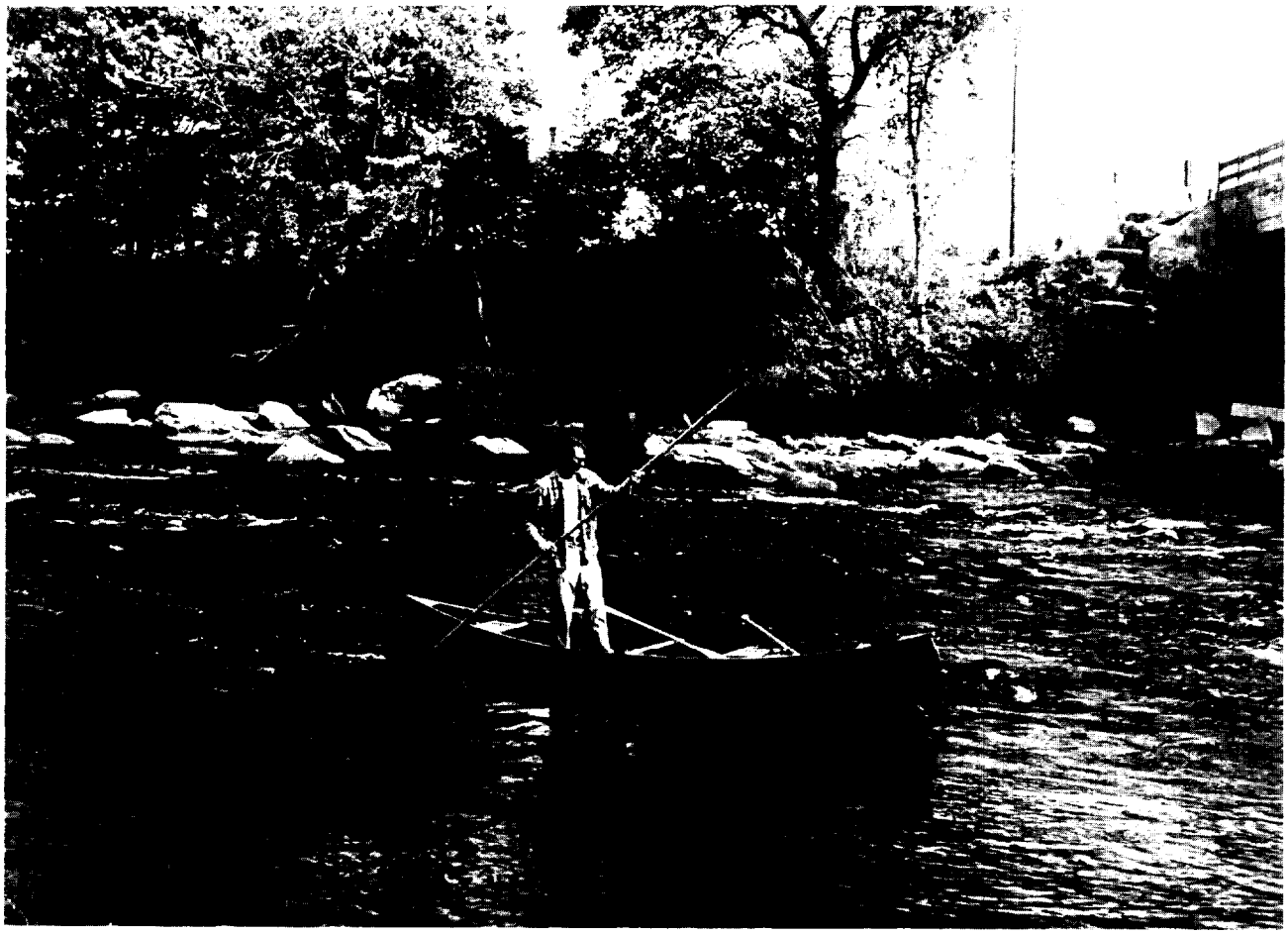
Upstream travel over shallow streams, impossible in dugouts or "bull boats", is easy in a canoe. A setting pole ("gikque'mkwahque" or "prods under the water" to the Penobscots), made of spruce or ash and ten to twelve feet long, was used to push a canoe upriver when paddling was impossible due to shallow and swift conditions (Speck, 1941).

Another great quality of the birch canoe was its portability. Even large canoes of eighteen to twenty feet are light enough to be portaged great distances. In Maine there are innumerable carrying places; some are only a few feet long, while others wend their way for many miles. Carrying a light canoe over a carry trail is, at best, difficult. Can you imagine trying to lug a dugout canoe over such a carry?

These last two qualities of birch bark canoes: upstream navigability by pole and portability, allowed the Indians to canoe into every corner of their habitat. They must have developed specialized routes and alternative short-cut routes in conjunction with the great seasonal fluctuation of the water levels common on Maine rivers. (For additional discussion on canoe travel see Cook and Spiess, 1981.)

The birch bark canoes of the Northeast can be divided into three general categories, with tribal variations being expressions of taste and adaptations to the specific function the canoes were to fulfill. Modern canoes generally conform to ancient specifications and reveal ancient advantages and disadvantages when they are used.

The largest canoes were ocean canoes eighteen to twenty-two feet long. They were used in the waters of the Maine and Canadian coasts where



large waves and cold water make travel dangerous. Jacques Cartier, the first European to report about canoes, in 1535 saw two bark canoes in the Gulf of St. Lawrence carrying a total of seventeen men (Cartier, 1914). These were undoubtedly large ocean canoes.

River canoes were usually sixteen to eighteen feet in length and had a more rounded hull than their ocean-going counterparts. A round bottomed canoe is easier to handle in the shallow and swift waters. A round-bottomed canoe is also much easier to pole upstream than a flat-bottomed version.

The smallest type of canoe was the "woods" or "pack" canoe, eleven to fourteen feet long. These were used by hunters and trappers to scour the remote bogs and ponds for food and fur. Pack canoes are light and easy to portage through the woods but are of limited use on large, exposed lakes and bays.

Small canoes also require more water for flotation that larger models. While they are fine in bogs or during high water, small canoes are of little use during low water.

All of the different types of canoes were easily repaired because the basic materials (birch bark, spruce roots and pitch) are common throughout Maine's forest.

Birch bark canoes, and the system of canoe routes, were ancient at the time of European contact. Reports by such early French and English explorers as Cartier in 1535, Champlain in 1632, Denys in 1635, Rosier in 1605, and LaHontan in 1703 all describe and discuss canoes and the great advantages of the small, strange craft. "Their canoes are made without any iron, of bark of the birch tree, strengthened within the ribs and hoops of wood in so good fashion, with such excellent ingenious art, as they are able to bear seven or eight persons far exceeding any seen in the Indies (Rosier, 1605)." (Rosier was comparing birch bark canoes to dugout canoes similar to those now under study in Florida.)

These reports also describe food procurement activities using canoes: fishing, gathering, moose hunting. Denys asserts that the Indians

hunted and killed whales with bow and arrow in the Gulf of Maine from canoes, apparently being an eyewitness to one such incident.

Three types of canoe routes evolved during the prehistoric era.

Major routes connected distant places, such as Penobscot Bay and the Bay of Chaleur or Norridgewock with Quebec, for example. Usually they followed the major rivers. These routes were probably well known during prehistory and much used during the colonial period by explorers, soldiers, priests, and messengers. Some writers such as Montresor, Druillettes and Chadwick left valuable reports of canoe travels over the major routes between Quebec, Maine and New Brunswick.

Short cuts, via tributaries, were used when water levels permitted. Often they were part of major routes and provided advantages over the big river itself such as a direct route, speed, ease, or good hunting.

The last category of canoe routes is the "hunter's route" along a canoeable stream that may not lead anywhere except to good hunting, trapping, or fishing grounds (Cook, 1984).

Alternative routes in each category provided several ways to travel to a particular place. Canoe routes were/are ephemeral and vary in value or accessability with water level and the need to obtain food on the trip. A canoe trip planned for the middle of the summer may take longer than the same trip if taken earlier in the spring aided by high water caused by rains and the melting of winter snows. In mid-June, 1760, Colonel John Montresor made a low-water trip from Quebec to the Kennebec. The expedition, guided by Abenaki canoemen, left Quebec via the Chaudiere, was severely hampered by low water. After spending five days travelling just fifteen miles in the rough territory at the head of the Chaudiere/Penobscot drainages, Colonel Montresor wrote:

> "On the melting of the snow it is no uncommon thing to go from the forks or crotch of the Chaudiere to the carrying place [of the Penobscot] in two days, though the stream must then be so rapid and the channel so full of rocks that it cannot but be very difficult and dangerous (Montresor, 1760)."

This was painfully slow travel during the height of "bug season", and they were harassed by mosquitos and black flies.

The Indians were used as couriers by the French and English, and the Jesuits have recorded that messengers from Quebec reached the mouth of the St. John River, four-hundred-thirty miles, in four days. Such speed was only possible during the spring flood travelling in a downstream direction (Ganong, 1913).

THE ARCHAEOGICAL RECORD

The archaeological record indicates that canoes were used to aid lithic procurement, the obtaining of rocks suitable for weapons and tools (Cook and Goldberg, 1983). A thorough study of this important activity may unlock some of the secrets of birch bark cance age and use. Artifacts made from Kineo felsite and Munsungun cherts are found across the northeast and raise the issue of their transport from the place of origin to the archaeological sites where they are found.

In studying the problem of lithic procurement and transport, I make the following assumptions and propositions:

1. At some time people began using canoes to get to and from resource areas,
2. Drainage topography was important in determining access to any resource,
3. Canoe access to resource areas was limited by the annual freeze-up which lasts from November until May during most years.
4. The nature of the drainage, that is, the pitch or steepness of the streams, the number of headwater reservoir lakes, and the propinquity of neighboring watersheds, was a determining factor in their use as canoe routes for travel, trade, or barter.
5. Rivers and streams that were major prehistoric canoe routes are characterized by a high frequency of archaeological sites that may show evidence of use by several ethnic groups during the same period.
6. Canoe routes that were used for local access to hunting and lithic sources show evidence of local adaptation, reflective of the idea that the major routes were known to many different Indian groups, but the smaller and more obscure routes were known and used only by people indigenous to the region (Cook and Goldberg, 1983).

One of the goals of Maine archaeology is to reconstruct the travel strategies used by hunters and gatherers of the past. Birch bark canoes, and the variables that govern their use, produce a fairly narrow range of behavorial options that

can aid in such reconstruction. When an ancient route is recreated, one learns about the stream itself and how it compares to the alternatives. Is one stream better for travel in one direction than all of the other options? Are the carries more difficult along one stream than another? Where are the best camp grounds?

The Munsungun Lake Archaeological Project, conducted by the University of Maine's Institute for Quaternary Studies and the Center for the Study of Early Man, has shown that the lithic resources of Norway Bluff and Round Mountain in Aroostook County were quarried and used by Paleo-Indians and subsequent groups of prehistoric people from 10,000 to several hundred years ago. The chert outcroppings are near major canoe routes; and hence the distribution of the chert may hold clues regarding he age of birch bark canoes.

Unlike the Moosehead Lake region, where the Indians obtained felsite for weapons and tools from Mount Kineo and the Blue Ridge, the Munsungun Lake region has been little disturbed by modern man. The very remoteness of the place has protected its fragile archaeological resources. The Munsungun Lake Project provides new knowledge of the geological, ecological and human sequences of Northern Maine from glacial times forward.

My chief interest in Munsungun is in what may be revealed of the age of birch bark canoe travel. As stated above, at some point, people began to visit the region in birch bark canoes to quarry the chert. Can we, from the archaeological data, fix the earliest date for canoe travel?

ACCESS ROUTES TO MUNSUNGUN

The Aroostook River was the major east-west canoe route from the middle St. John into the interior of Maine and the headwaters of the major river systems of Maine (Ganong, 1915). This river, and its larger tributaries, such as Big and Little Machias Stream, Beaver Brook from the north and St. Croix, Squa Pan, LaPomkeag and Millinocket streams from the south, gave canoe travellers easy access to the Munsungun region from all directions.

The Aroostook is similar to other tributary rivers that were segments of major canoe routes. Waterways, such as Sabattus, Piscataquis, Passadumkeag, and Matawamkeag rivers all flow at east-west angles to the north-south direction of their main rivers; the Androscoggin, Kennebec, Penobscot, and St. John. These main rivers were dependable routes that canoe travellers used at any season, but the navigability of the tributaries varied with the amount of rain and snow during the year. In a wet year the smaller routes remain open and canoeable, giving canoeists the full range of options; in a dry year the options are narrowed to the larger rivers.

The easiest canoe approach to the Munsungun region is by way of the Aroostook River. Aroostook means "beautiful river" and, from a canoeman's point of view it is certainly that. The river winds its way east from its mountainous headwaters in Munsungun, Millinocket, and Millimigasset Lakes, and joins the St. John at Andover, New Brunswick, just downstream from Fort Fairfield, and just across a major canoe route to the Bay of Chaleur via Tobique River.

The lower Aroostook valley, from Oxbow down, is wide. The river sweeps through a series of long bends with occasional rapids that are easy for prudently handled canoes. The potato fields along the banks often incorporate the old river bank and farmers have frequently plowed up artifacts many thousand years old. The channels have "migrated" back and forth through the valley over time leaving alder choked, swampy swales to mark fossil channels. Old Indian campgrounds, once on the river bank, are now sometimes part of an Aroostook County potato field. A preliminary archaeological survey was conducted in 1981 by Drs. David Sanger and Arthur Spiess along the Aroostook near Ashland. The findings suggest rich archaeological components that could reach back 9,000 years B.P. (Spiess, personal communication). Most of the artifacts that were observed either in collections or from actual finds were of Munsungun chert, as expected.

While the Aroostook River provides the easiest canoe route to Munsungun, not all Indian people came from the east. Good connections with the Allagash Lakes via the "Portage Ponds" were reached by the Osgood Carry from Chase Lake. Travellers from the West Branch/Penobscot came over this same route, but those coming from the East Branch/Penobscot carried from Matagamon Lake up into Millinocket Lake or from Grand Lake Seboeis over to La Pomkeag Stream. The Robert Abbe Museum excavated several sites on La Pomkeag and found archaeological material from the Ceramic Period as well as some items that may have been obtained from Europeans after contact (Wellman, 1964). On the Little East Branch, the Penobscot River above Matagamon, the "Millinocket Portage"

connected with Moose Brook and Pond which are in the Aroostook drainage upstream from Millinocket Lake. These routes have certain advantages and the Indians used them accordingly.

ARCHAEOLOGICAL DATA

In 1983 Larry Goldberg, a graduate student at the University of Maine at Orono, and the author studied the canoe routes to and from Munsungun and the artifacts from several archaeological collections from along the length of the Penobscot River. Larry's goal was to quantify the amount of Munsungun cherts in collections from Matagamon Lake (about fifteen river miles from Munsungun), Hirundo near Old Town (150 miles), Kidder Point on Penobscot Bay in Searsport (180 miles), and the Turner Farm on North Haven Island (200 miles) in the mouth of Penobscot Bay. The limitations of our study are obvious. We had a very small sample to draw from but it did produce some interesting data (Table below).

Percentages of Munsungun Chert in Lithic Collection

Matagamon	35.3%
Hirundo	13.0%
Kidder Point	5.8%
Turner Farm	4.2%

Not surprisingly, the closer to the source, the more abundant the Munsungun material. Most of the Munsungun chert studied was associated with Ceramic Period assemblages, especially those from the coast.

One other observation of this study hints at a prehistoric trade in chert: the farther from the source of the chert, the better its quality.

Munsungun chert comes in several colors and varies in its flaking qualities. Artifacts from Matagamon Lake were of coarse chert that produces fairly rough tools, while the distant coastal sites produce mostly the finest quality chert, a red and green variety, nicknamed "Christmas tree chert". According to Rob Bonnichsen, a flint-knapper himself, the "Christmas tree chert" is the easiest to work into weapons and tools and may have been the most valuable to prehistoric flint-knappers (Cook and Goldberg, 1983).

Archaeological collections from other parts of Maine, and the northeast, should be re-examined to detect Munsungun chert. Such a survey would record the levels of Munsungun chert exploitation and trade over time, which is important for understanding how widely prehistoric people travelled and what routes they used.

We ought not to think that because the Indians did not have agriculture or manufacturing beyond their personal needs that travel and trade was not important to them. The volume carried might not be great but may have been very important socially.

"The very easy conveyence between the lakes, rivers and streams so interspersed in this country, they can easily take their women, children and baggage where ever their interest, curiosity, or caprice may lead them, and their natural propensity for roving is such that you will see families in the course of a year go through the greatest part of this extent" (Kidder, 1867).

Any study of the Indians of the last several thousand years must be extremely sensitive to the importance of birch bark canoes and the role they played in Maine history.

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Society Business

Notice of the Fall Meeting

The Fall meeting of the MAS will be held at Winthrop High School on Sunday, October 21, 1984. Members are invited to display collections beginning at 10 a.m. A 1-hour videotape "Martin's Hundred" by Ivor Noel Hume will be shown at 11 a.m. Lunch will be 12 noon to 1:30 p.m., followed by a Business meeting of the membership. At 2 p.m. Arthur Spiess will present a lecture on Recent Archaeological Survey Results in the Kennebec Valley.

Elections. Slate of Officers

Elections will be held at the Fall Business meeting, with the following slate of officers nominated by the Directors:

For President:	David Cook
First Vice President:	Mark Hedden
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Treasurer:	Margaret Cook
Editor:	Eric Lahti
Assistant Editor:	Arthur Spiess
Directors (terms expire 1987):	Henry Lamoreau
	Martha Spiess

New Constitution

For the past year the Directors have been working to update the MAS Constitution to bring it into conformity with current practice. Copies of the proposed new Constitution will be distributed with the Bulletin, and will be available at the Fall meeting. The substantive changes involve 1) changing the dues categories while leaving the setting of dues rates up to the Directors; and 2) adding the Assistant Editor's position to the list of elected voting officers, rather than an appointive, non-voting position.

The membership will be asked to suggest further changes in the Constitution or to accept it by a vote.

Emeritus Membership

The Directors have voted to create a new membership category: Emeritus membership. Emeritus membership in the Society is by election of the Board of Directors, and will generally be limited to one or none such elections per year. Election will be for meritorious service to Maine archaeology and to the Maine Archaeological Society, and carries the benefit of a free lifetime membership.

Emeritus Membership Election 1984

The Directors of the Maine Archaeological Society are pleased to announce that Bob and Jean MacKay have been elected as the Society's first Emeritus members, and that we wish to recognize their selfless hard work and contributions to the Society and the MAS for the last two decades.

Publications Available Through the
Maine Archaeological Society

1. "Early and Middle Archaic Site Distribution in Western Maine" by Arthur Spiess, Bruce Bourque and R. M. Gramly. Reprinted from North American Archaeologist, 4(3):225-244.
2. The Young Site, by Christopher Borstel. Occasional Publications in Maine Archaeology, Number 2. (A scientific report on a site near Orono, Late Archaic and Ceramic Period in Age.)
3. "Pentagouet, First Look at Acadian Settlement in Maine", by Alaric Faulkner. (An article on the first season at a 17th-century fort site in Castine, reproduced by permission.)
4. Kidder Point and Sears Island in Prehistory, by Arthur Spiess and Mark Hedden. Occasional Publications in Maine Archaeology, Number 3. (Report on excavation of several small shell heaps in Searsport, accomplished in 1982.)
5. Back issues of the Maine Archaeological Society Bulletin, available as follows:

1976 Vol. 16:1	1980 Vol. 20:1
Vol. 16:2	Vol. 20:2
1977 Vol. 17:1	1981 Vol. 21:1
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1979 Vol. 19:1	1982 Vol. 22:1
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